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04. Installation of the y-Belt

Written By: Caribou3d

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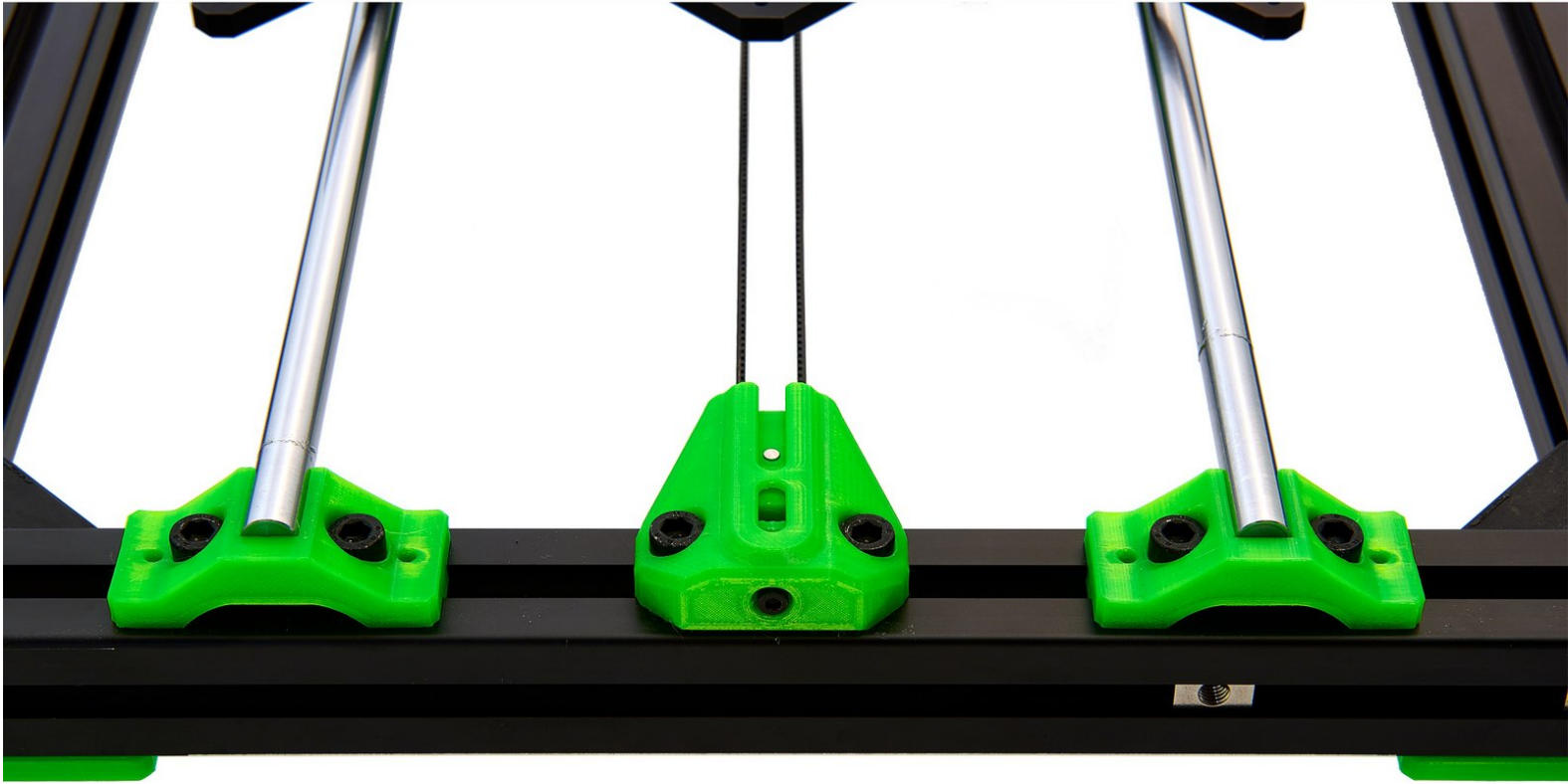
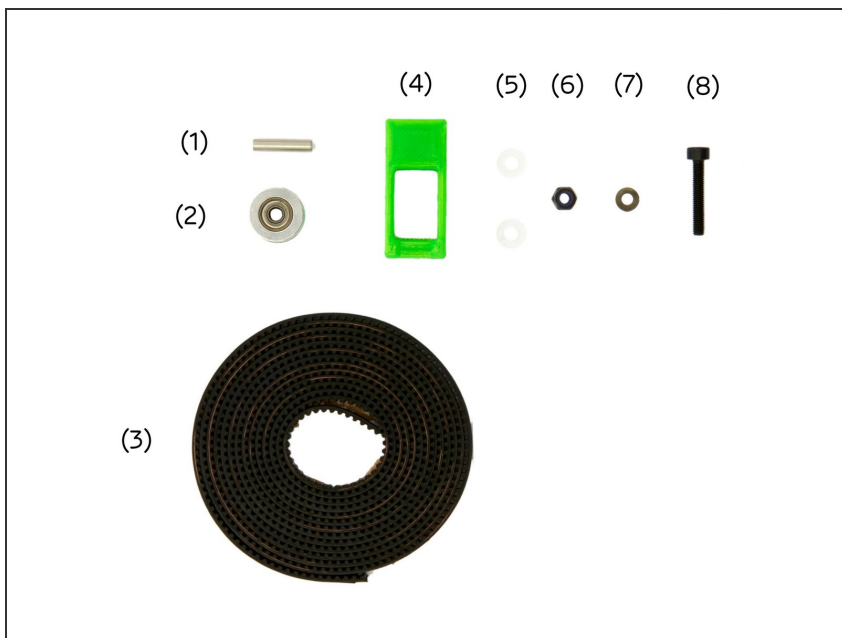## Step 1 — Assembling the Parts and Screws
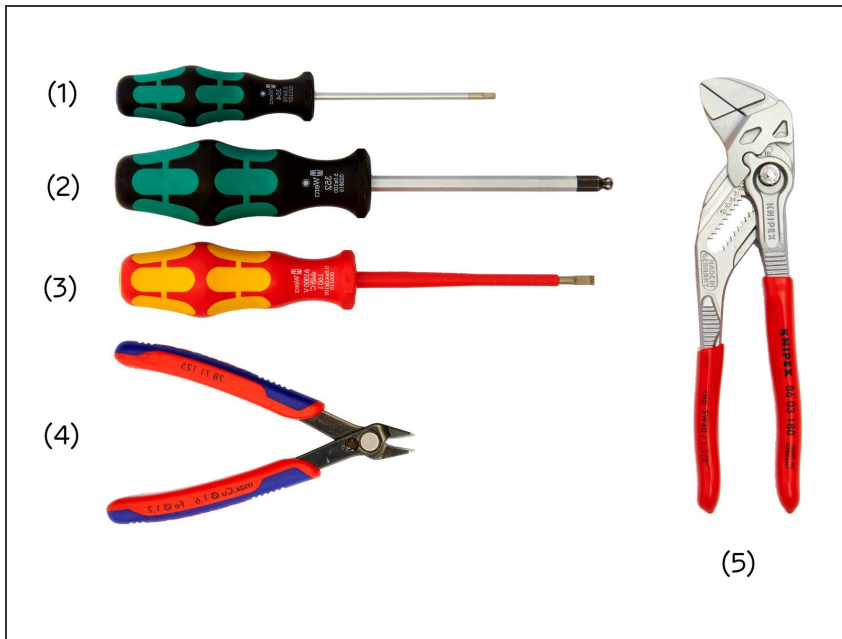
- (1)[2.5x75mm Hexagonal Screwdriver](#)
- (2) [5.0x100m Hexagon Ballpoint Screwdriver](#)
- (3) [0.8x4mm Insulated Screwdriver for Slotted Screws](#)
- (4) [Precision Pliers](#)
- (5) [Pliers Wrench](#)

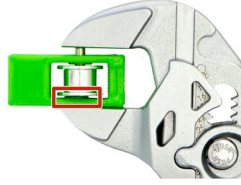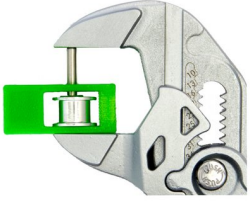## Step 2 — Assembling the Parts and Screws

- (1) [Dowel Pin](#)
- (2) [GT2 Toothless Pulley](#)
- (3) [GT3 Belt](#)
- (4) xy-Belt Tensioner Insert
- (5) **2x** M3 Plastic Washers
- (6) [M3 Self-Securing Nuts](#)
- (7) [M3 Washers](#)
- (8) [M3x18mm Hexagon Socket Head Cap Screws](#)

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Step 3 — Assembling the xy-Belt Tensioner Insert (1 / 2)
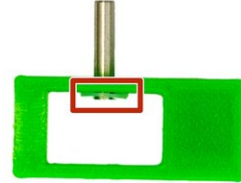
- Take the xy-belt tensioner insert and widen one of the two holes on its side (e.g. using a 2.5x75mm Hexagonal Screwdriver).

- Push a dowel pin through the newly enlarged hole. Push the dowel pin into the hole until it is only just visible inside the xy belt tensioner insert.

- Place a **M3 plastic washer** on the dowel pin.

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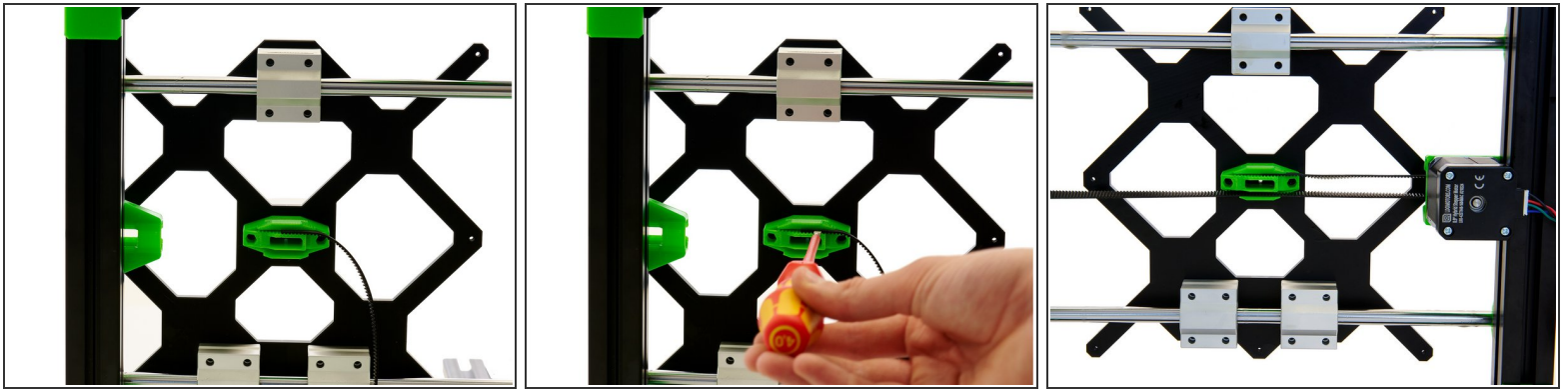## Step 4 — Assembling the xy-Belt Tensioner Insert (2 / 2)

- Now, place a toothless pulley onto the pin. Continue to push the dowel pin through until it reaches the end of the toothless pulley.

- Place a **M3 plastic washer** on the toothless pulley and, using the pliers wrench, push the dowel pin as far as possible through the opening of the xy belt tensioner insert (Fig. 2).

- Finally, place an **M3 Self-Securing Nut** into the designated slot. Press the nut completely into the slot.

⚠ Pay attention to the alignment. The blue circlip must point towards the pulley.

ⓘ The xy-belt tensioner insert is now fully assembled.

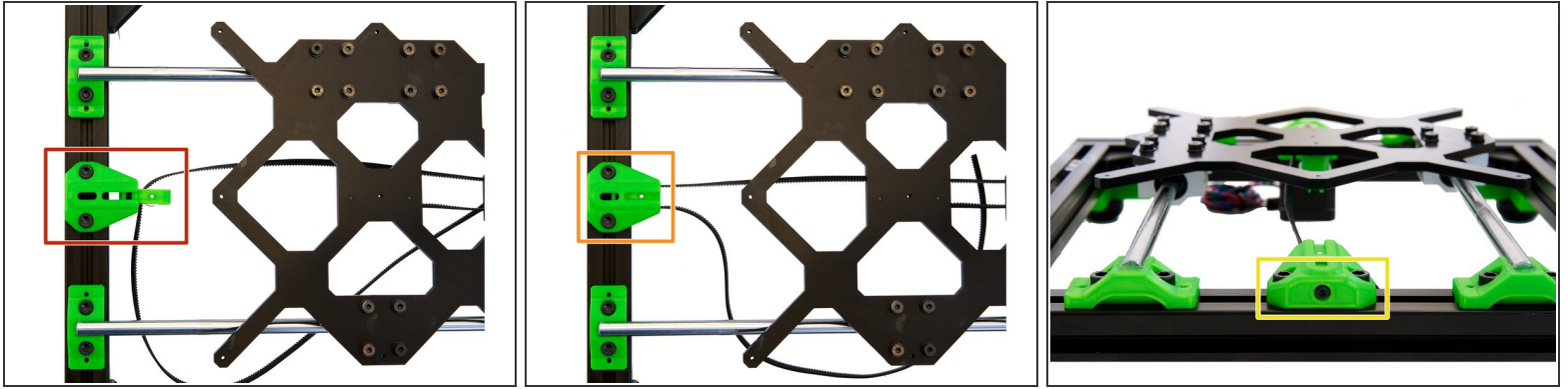ⓘ Since you will also need the xy-belt tensioner insert for the x-axis, you can build it a second time.

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Step 5 — Installing the Belt (1 / 4)

- Cut the GT3 belt with a clipper halfway through its length. Set aside one half of the belt, as it will be needed later when you're installing the extruder.

- Turn your frame over and press the belt into it on the *bottom* half of the belt holder.

  ⚠ Use a flat-blade screwdriver to *gently* push the belt in, as the belt holder may break under increased pressure.

- Wrap the belt around the pulley attached to the stepper motor and guide it further up through the belt holder.

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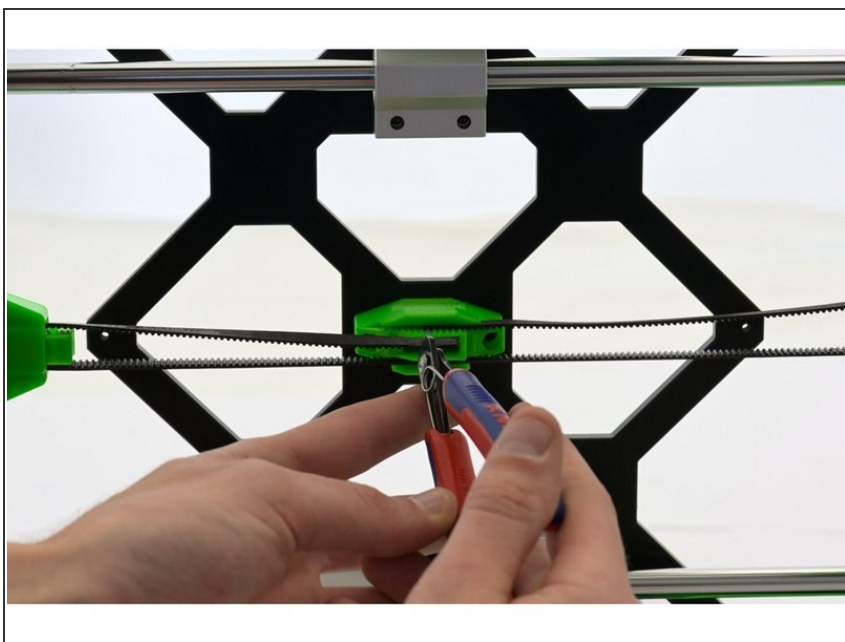
Step 6 — Installing the Belt (2 / 4)

- Place the xy belt tensioner insert with the **M3 Self-locking Hex Nuts** facing up, into the y belt tensioner. Pull the belt through the xy belt tensioner insert.

- Slide the xy belt tensioner insert all the way into the y belt tensioner so that both are flush at the front.

- Insert a **M3 washer** into the front hole in the belt tensioner and push a **M3x18mm cylinder head bolt** through . Screw the bolt in until the xy belt tensioner insert is reached and 1-2 turns are in the self-locking nut.
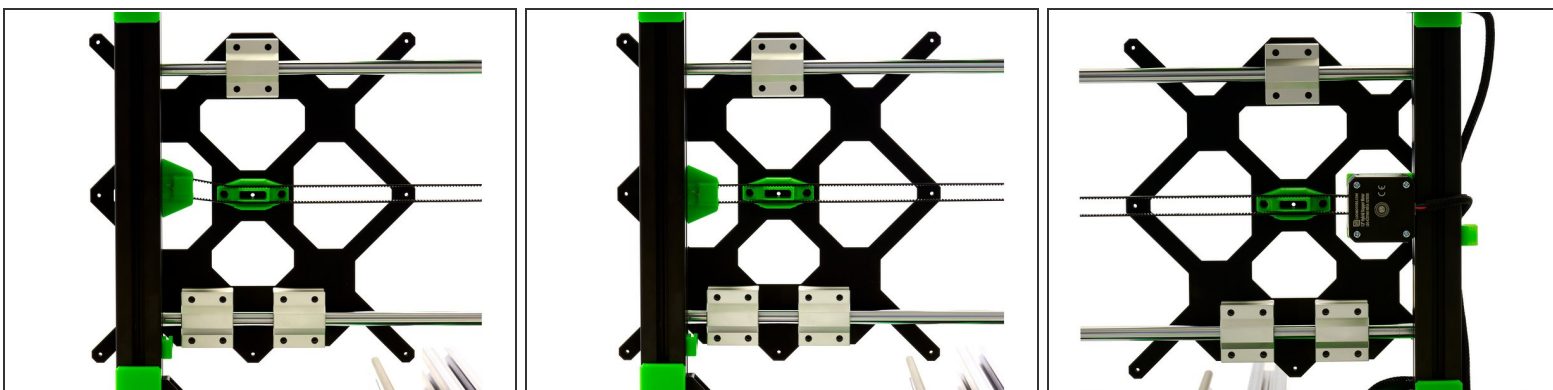
⚠ Do not pull the xy belt tensioner insert in any further.

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Step 7 — Installing the Belt (3 / 4)

- Now hold the belt against the belt holder to see how much of the belt you need to cut off.

- After cutting off the excess, put the belt into the belt holder.

Step 8 — Installing the Belt (4 / 4)

- Move the y-carriage forward and look at the alignment of the belt.

- Align the y-belt tensioner in such a way that the belt runs centrally through the opening in the belt holder. Then tighten the **2x M6x12mm Hexagon Socket Head Cap Screws** on the y-belt tensioner.

- Repeat the alignment procedure at the rear of the y-motor mount as well.

- If necessary, you can adjust the belt looser or tighter with the **M3x18mm Hexagon Socket Head Cap Screw** in the belt tensioner.

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Step 9

(i) The y-belt is now completely installed.

(i) Continue with instructions [05. Assembly of the z-Axis](#)

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