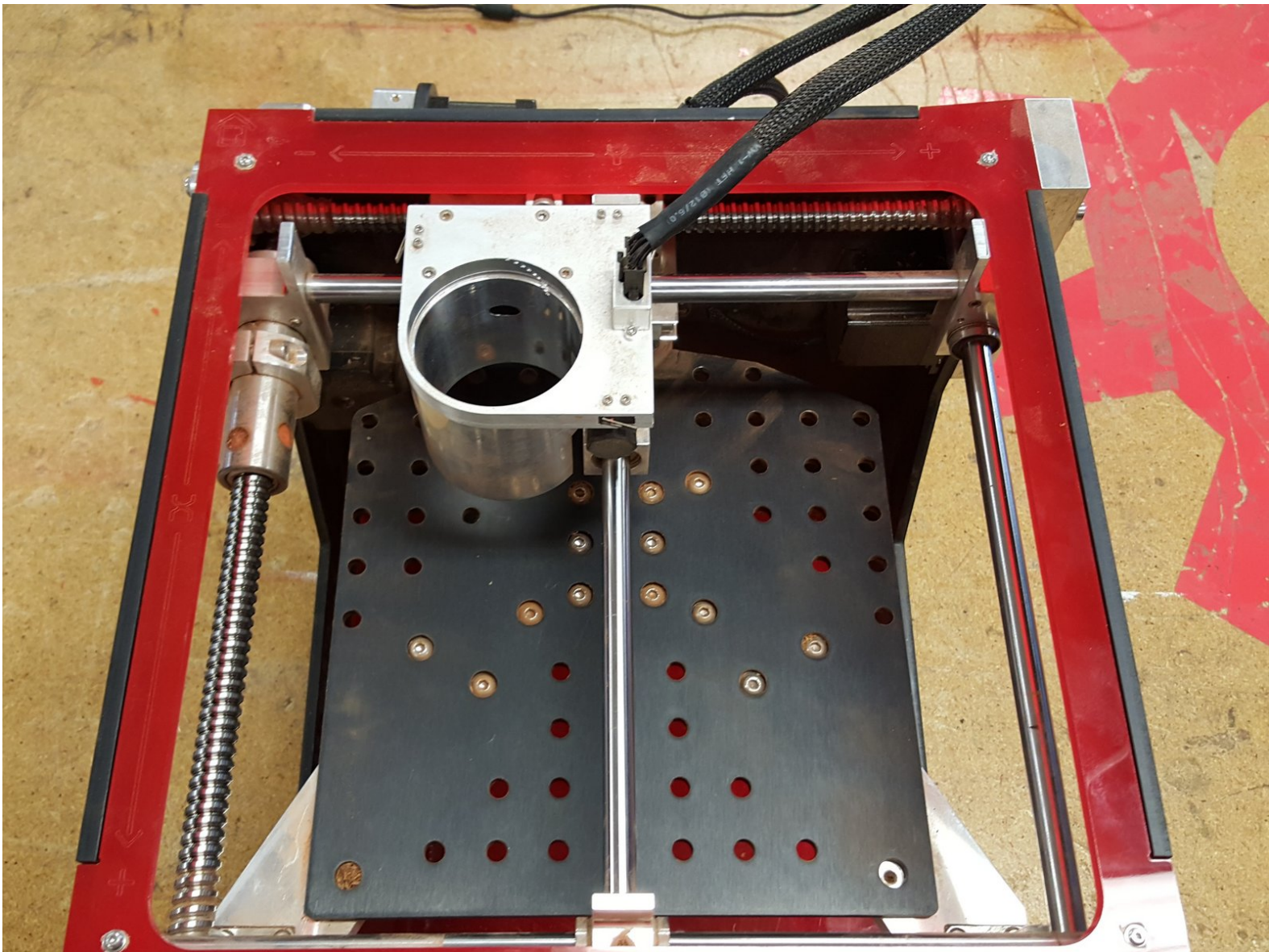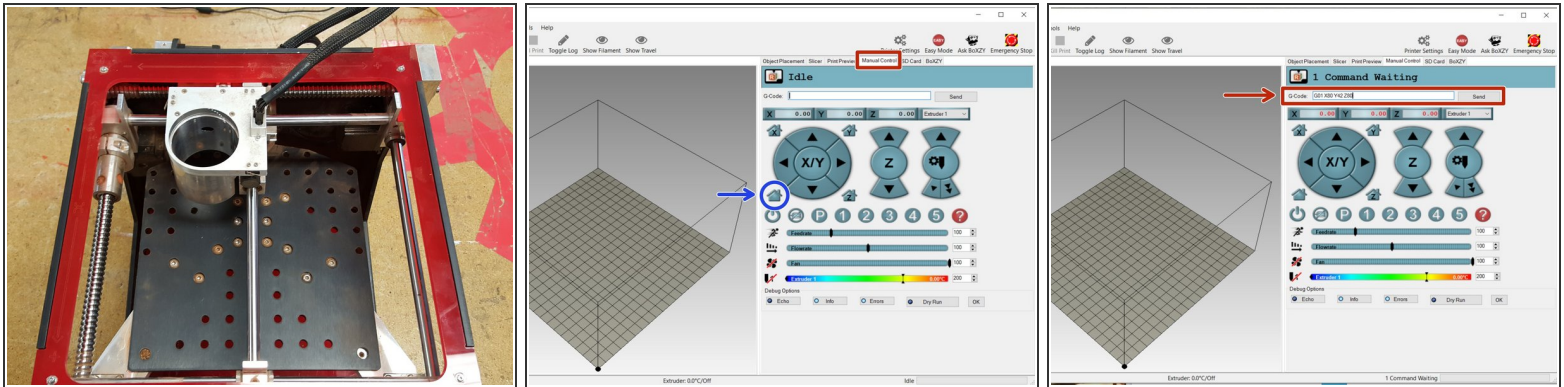# Disassembling your BoXZY X and Y axis Gantry

This guide will follow a procedure for disassembling the components of the BoXZY X and Y axis Gantry system. This is a precursor guide to greasing or replacing your Ball Bearings
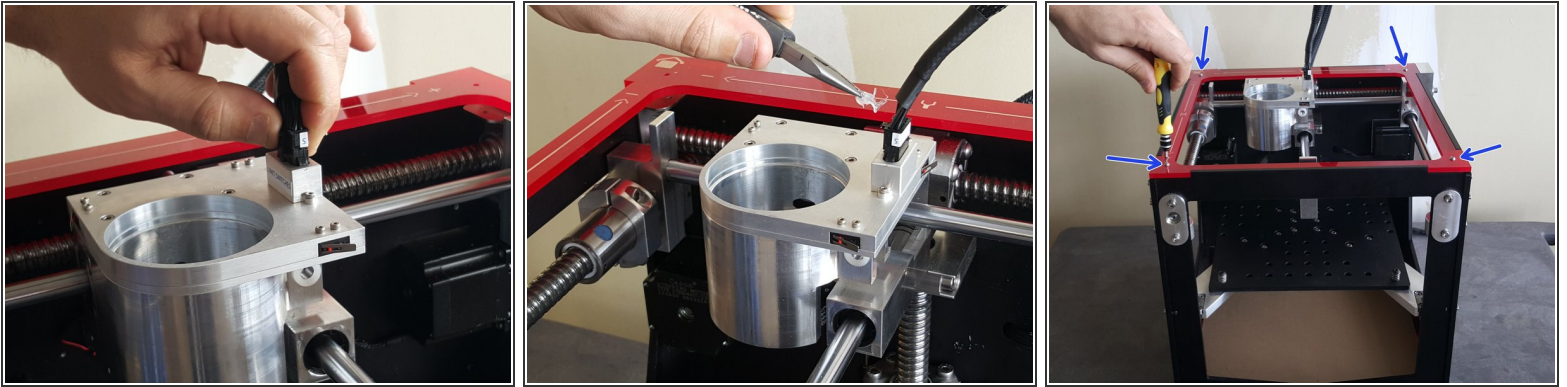
Written By: BoXZY

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Step 1 — First thing First

- **Plug** your BoXZY to your *computer* and your BoXZY *power supply*

  - **Remove** your *3D print head, Router head* or *Laser head* from your BoXZY Attachment head

  - **Open** your *BoXZY Interface*, select the *Connect* button and then select the *Manual Control Tab*

  - In your **Manual Control Tab** on the BoXZY Interface, *Select* the **Home All Button**, as indicated by the *blue arrow* in the second image

  - In your *Manual Control Tab* in your **G-Code sender line** type the following G-Code and Select *Send*, as indicated by the *red arrow* in the third image

  - **G01 X80 Y42 Z80**

  - In your BoXZY Interface, select **Disconnect,** *Press* the **E-Stop** on your BoXZY Power Supply and **disconnect the cables** from your BoXZY

- Now you are ready to work on the BoXZY hardware components

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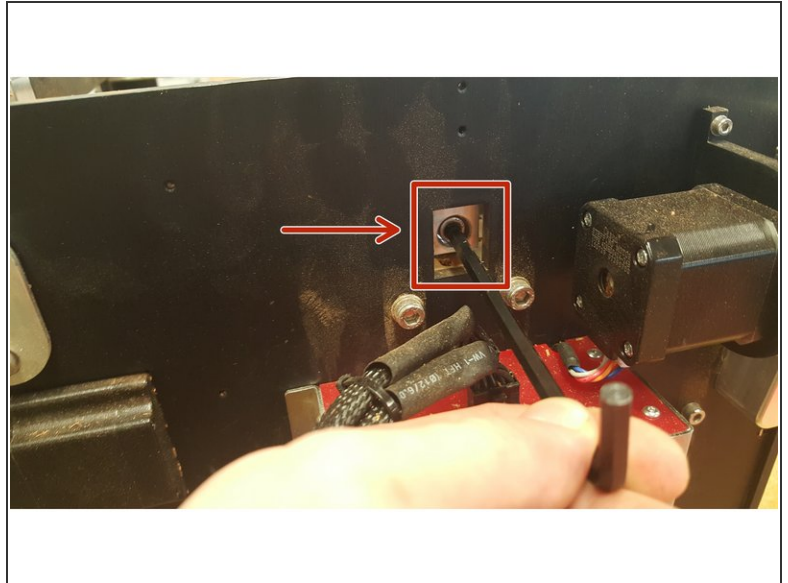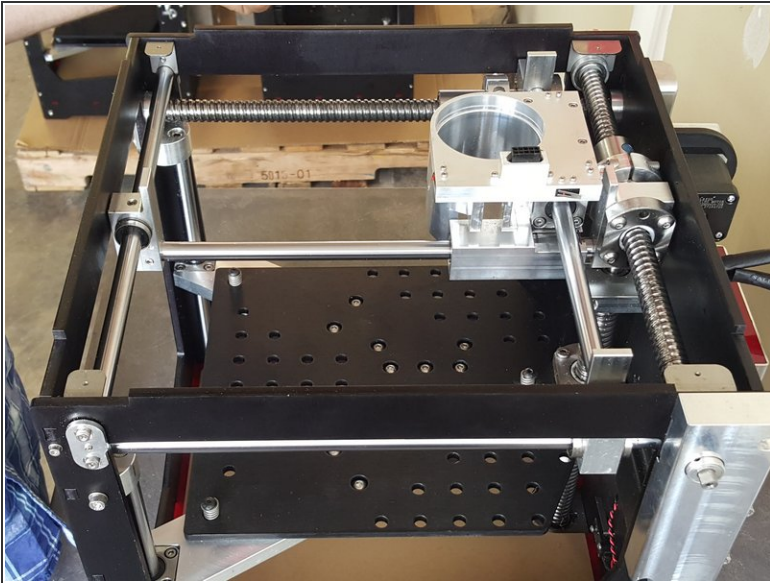© 2019   boxzy.dozuki.com/   Page 2 of 12

Step 2 — Removing your BoXZY's Acrylic Panel

- First remove your limit switch wires from your BoXZY's attachment head, as seen in the first image
  - If you receive your BoXZY with a glue on the limit switch wiring grip it with a pair of pliers and simply pull it off

- With an Allen Wrench **Remove** the four (4) screws from the top of your BoXZY so you can remove the Red Acrylic cover, as indicated by the *blue arrows* in the first image
  - Be sure that you organize the screws, bolts, nuts, washers and other components that you remove from your BoXZY throughout this guide
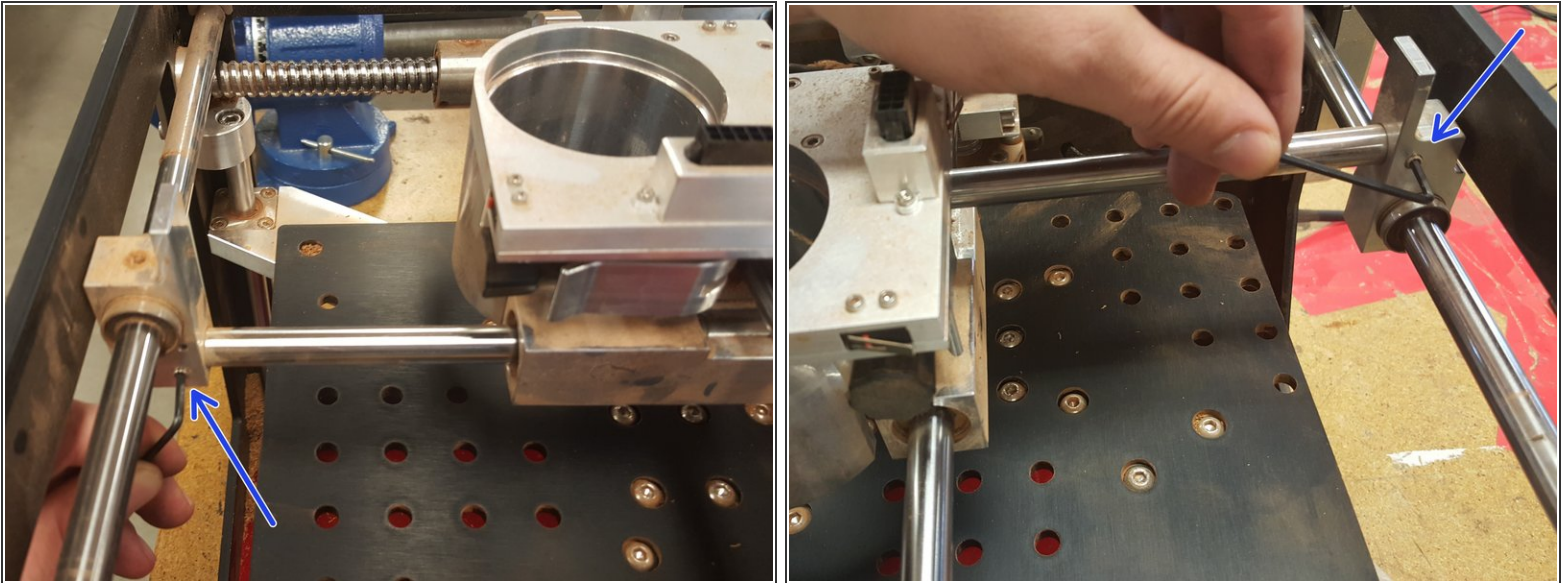
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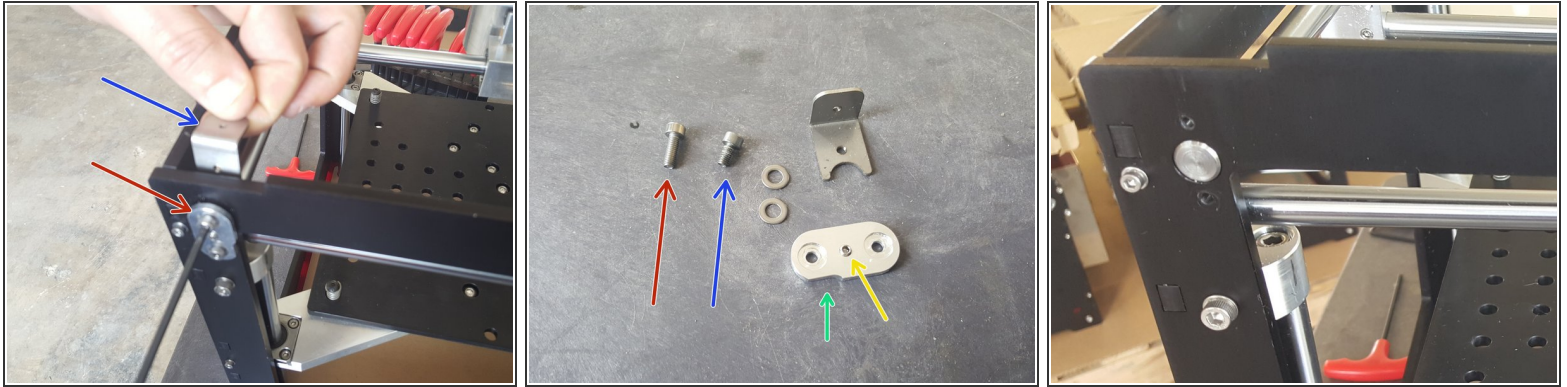
Step 3 — Removing an important bolt

- Turn your BoXZY around so that the back of the machine is facing you and **Remove** the *Bolt* through the *square hole* in the aluminum panel above the electronics box, as indicated by the *red box* in the second image
  - This bolt is going to be very tight, this is intentional, and you will need to apply a fair amount of force to turn this bolt
  - If you are not able to see the bolt through the square hole in the panel, manually turn the Ball Screw for the Y axis so that it is showing
  - If you cannot get leverage with your Allen Wrench, use a hollow metal tube to extend the Allen Wrench so you can gain more leverage

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Step 4 — Loosening the Set Screws

- Use an Allen Wrench to **loosen** the *set screws* for the X and Y axis bearings, as indicated by the blue arrows in the images

  - **DO NOT** remove these set screws, only loosen them

  - You will **not need** to turn them more than a full rotation to loosen the set screws

  - The set screws, are used to keep a small amount of tension on the bearing, over tightening the set screws may cause damage to the bearing itself, keep this in mind when replacing the set screws

  - Notice how the ball bearings are in an aluminum components that look a little different from each other.

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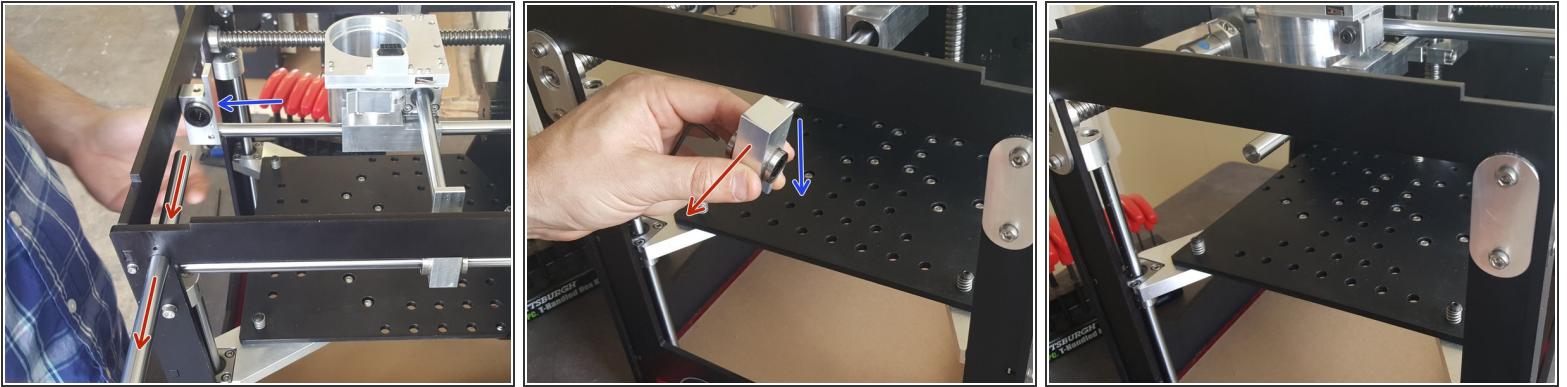
Step 5 — Removing the Y axis flange

- On the front right facing corner of your BoXZY there will be a *flange* (a piece of metal) on the side of your machine, as seen in the first image and indicated by the *red arrow*

- With an Allen Wrench remove the top bolt from the flange while holding the bracket on the inside of your BoXZY, as seen in the first image, and indicated by the *blue arrow*
  - Be aware that bracket is threaded onto the top bolt and that there are washers spacing the flange and your BoXZY aluminum frame

- Next, remove the bottom bolt from the flange and keep your removed pieces together, as seen in the second image
  - The **red arrow** indicates the top flange bolt, this bolt is longer because it threads through your BoXZY aluminum frame and threads into the bracket

  - The **blue arrow** indicates the bottom flange bolt, this is only threaded through the flange and into your BoXZY aluminum frame

  - The **green arrow** indicates the flange itself, take note that flange is shaped with a notch in it so that it may contour your BoXZY aluminum frame, this notch will be on the bottom of the flange

  - The **yellow arrow** indicates the set screw in the flange, do not turn this set screw, it may be needed later during the re-assembly of your components, just leave it alone for now

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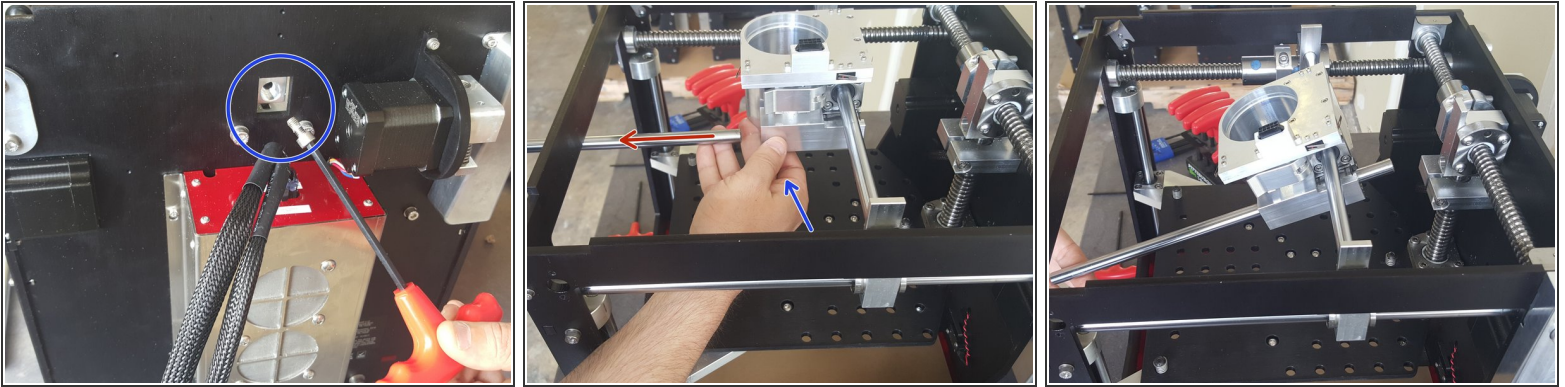
Step 6 — Removing the Y axis rod and bearing

- Now you can pull the Y axis rod out of your BoXZY frame, as shown in the first image and indicated by the *red arrows*
  - The Y axis bearing, indicated by the *blue arrow* may turn and hang downward when you remove your rod, do not be alarmed if it does
- Next turn your Y axis bearing, indicated by the *blue arrow* in the second image, so it is facing downward and simply pull it off of the rod, as indicated by the *red arrow*
  - If you cannot turn your bearing loosen the set screw on the bearing 1/8 of a full turn and try removing it again
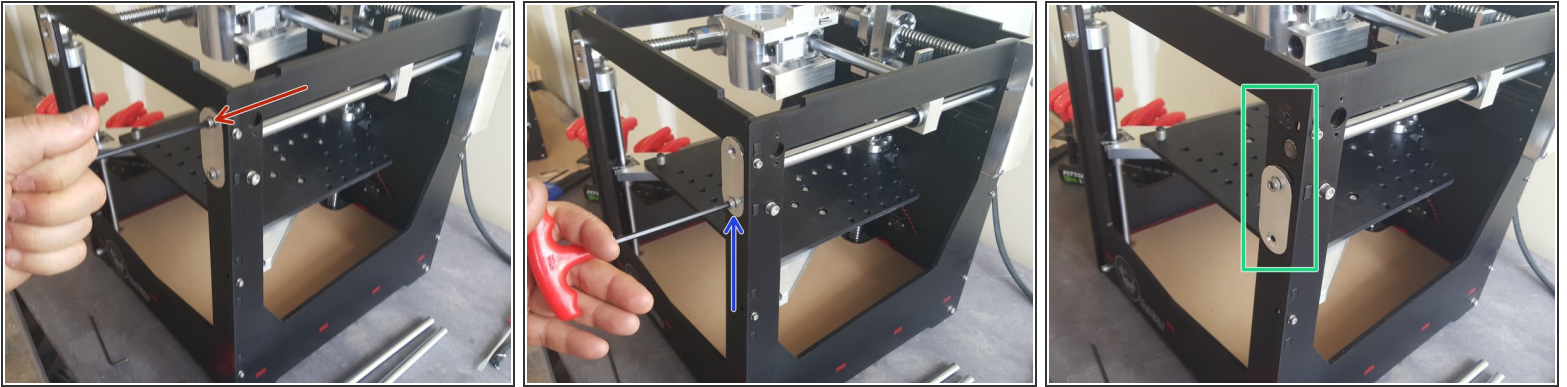
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Step 7 — Removing the attachmen head X axis rod

- First, on the back of your machine, fully remove the bolt that you loosened in the second step of this guide, as indicated by the *blue circle* in the first image

- Next, support your attachment head as indicated by the *blue arrow* in the second image, and gently pull the **X axis rod** out of the attachment head, as indicated by the *red arrow* in the second image

- If your attachment head rotates downward, as seen in the third image, do not be alarmed but also do not rotate it intentionally

  - This will *not* harm the ball bearings in the attachment mount but the ball bearings are not intended to rotate in this manner so please avoid doing so if you you are not greasing the ball bearings or replacing them

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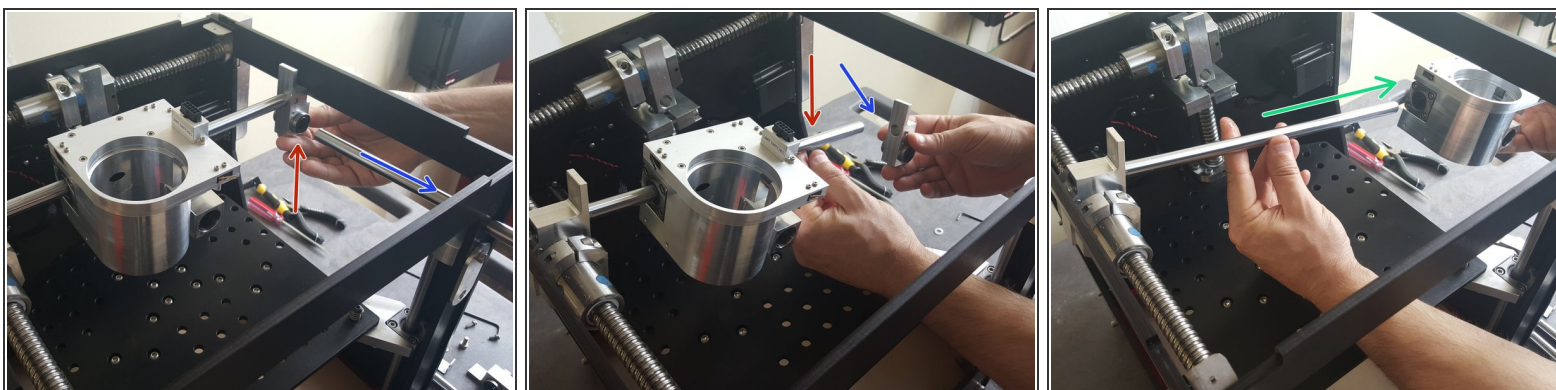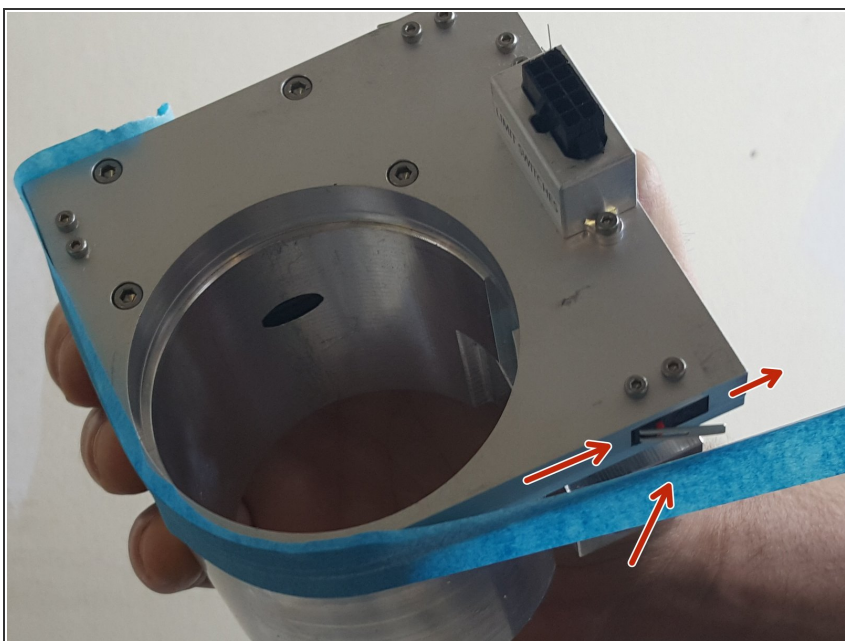
Step 8 — Removing the X axis Flange

- On the front of your BoXZY on the right side, **remove** the bolt attached to the X axis Flange and the washer behind it, as indicated by the *red arrow* in the first image

- Next, **loosen** the bottom bolt on the X axis Flange, as indicated by the *blue arrow* in the second image, **Do Not** remove this bolt

  - When you have loosened the the bolt the flange will rotate 180 degrees, as seen in the third image and indicated by the *green box* in the third image, it may do this on its own but you may also have to turn it manually

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Step 9 — Removing the X axis Rod and Attachment head

- **Support** the X axis Bearing with one hand and **remove** the X axis Rod with your other hand, as seen the first image and indicated by the *red and blue arrows*

- Next, **support** the Rod and Attachment mount with one hand and **remove** the X axis Bearing from the end of the rod with your other hand, as indicated by the *red and blue arrows* in the second image

- Now you will support the attachment head rod with one hand and **slide** your BoXZY attachment head off of the rod with your other hand, as indicated by the *green arrow* in the third image

  - Set the rod gently down on the BoXZY build platform

Step 10 — Taping the Limit Switches on your Attachment Head

- Every time you remove your BoXZY Attachment Head you will need to tape the limit switches to protect them from accidental damage during handling

  - We encourage you to use any brand of a *Painters Tape,* with a mild adhesive

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- Apply the tape to *each of the four (4) limit switches* individually making sure that you apply the

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tape from the *hinged end to the opened* end, as indicated by the *red arrows* in the first image

- You will remove the tape in the same direction that you applied the tape, feel free to draw an arrow on the tape so you can remember which direction to pull the tape from when you remove it

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