

J Tech ACRO DIY Machine Updates – V2

Overview

The mechanical instruction and the electrical instruction videos were done about 1 year ago and are in the process of being re-done to reflect several changes we have made to make the assembly of the machine easier and the machine more rugged. We will document the changes here so that it will not be confusing in the video when there are different parts. There are two main changes to the machine:

1. The Z stage plate has been changed. It will not look like the one in the video.
2. Z stage has been updated with 4 screw holes to make it easy to install on the X axis front plate. The X Axis plate is also been changed to only have these screw holes in addition to a couple of other holes.
3. The limit switch location for the X axis has move to the top of the rail. See the picture in this doc.
4. Electronics Plate has been updated. Check out the pictures for how it mounts.
5. The cable chains have been made to an “open” style making them much easier to put on. The cable chain mounts on the X axis, Y axis, and Y axis back plate have all changed.

Z Plate

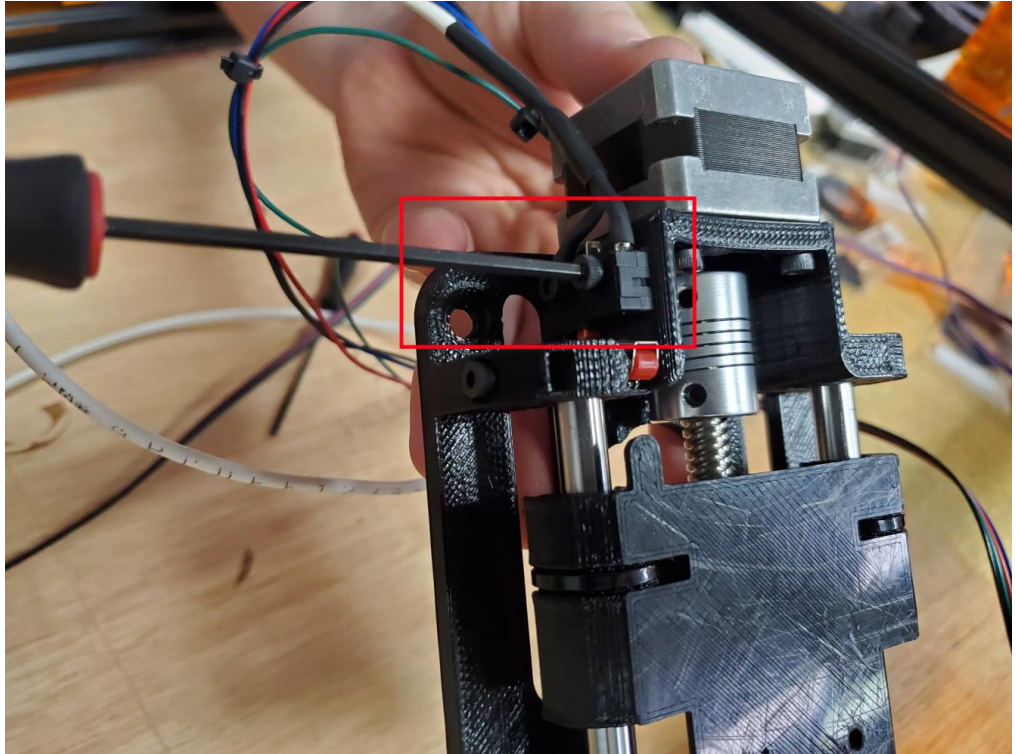
The front plate on the x carriage for the Z axis has changed. It now has holes for the 4 screws for the z stage and holes for the wheels. The long side slides are gone.



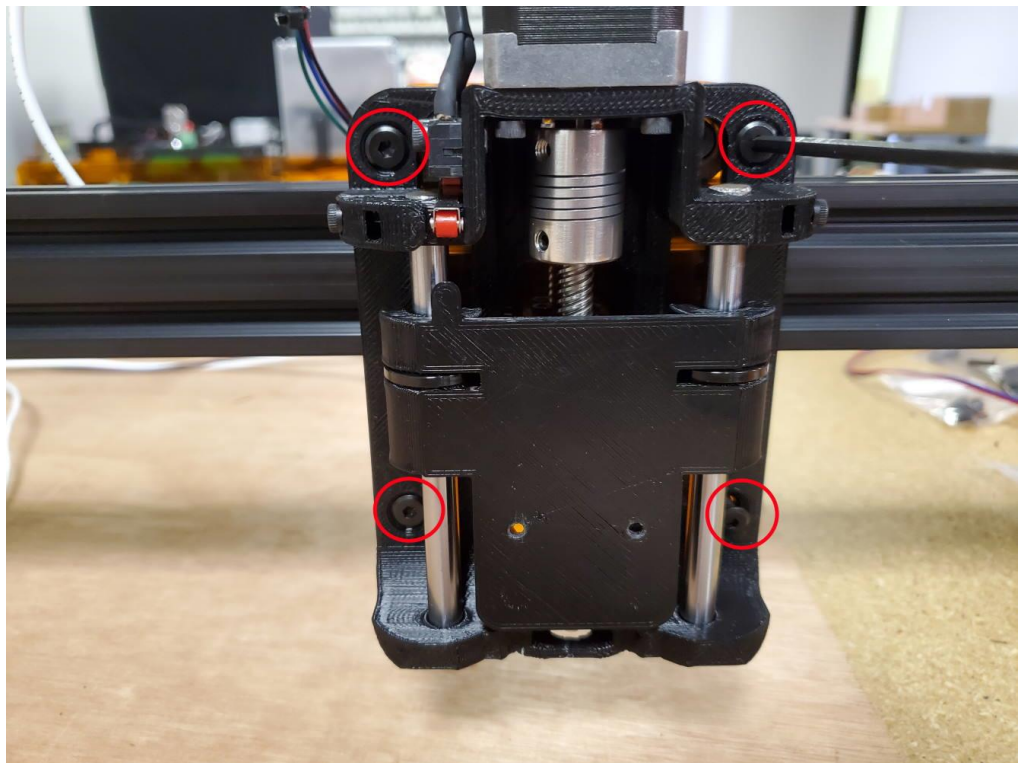
Z stage

Limit Switch:

The Z axis limit switch needs to be attached with the provided M3 screws.

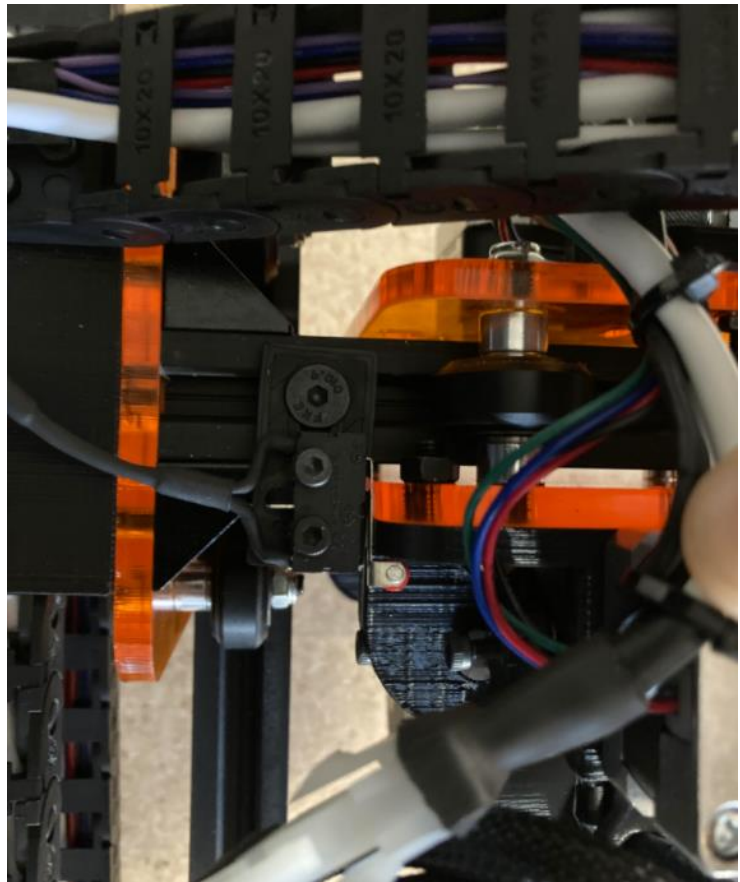


The new Z stage has four M5 15mm screws. They will attach to the X axis front plate.



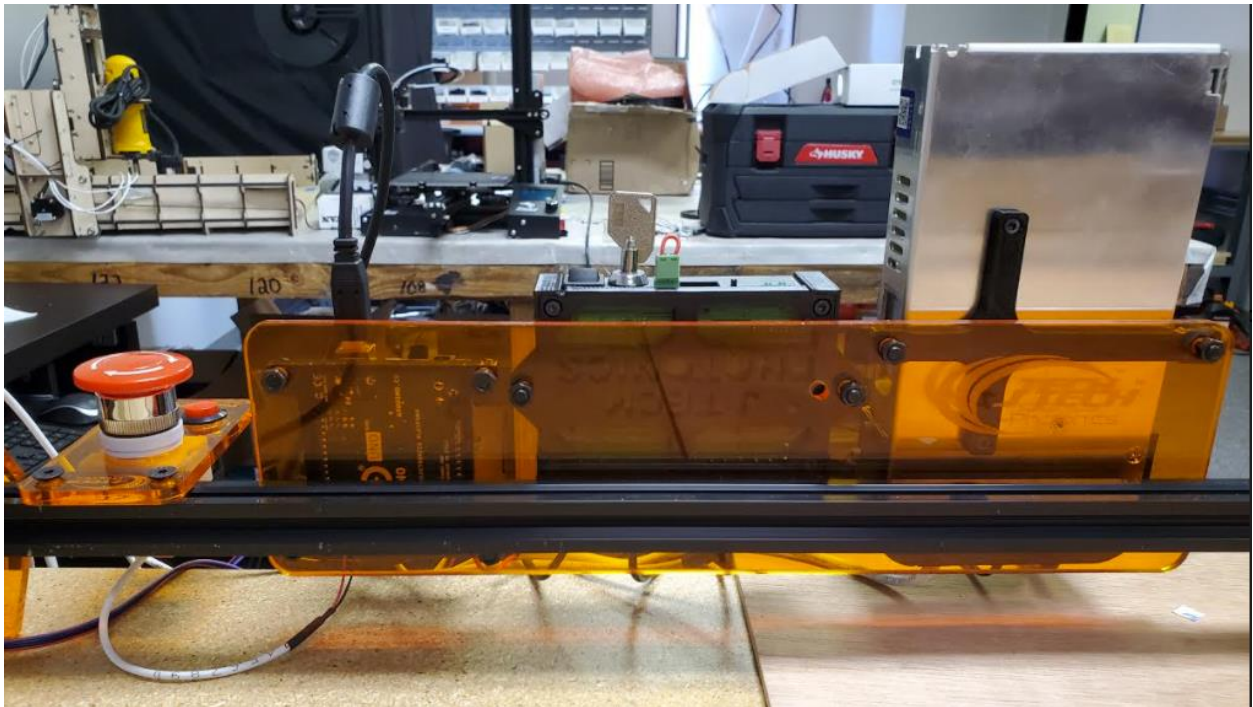
X Axis Limit Switch Location

The new cable chains make it so you need to put the X axis limit switch on the top of the x rail for it to work.

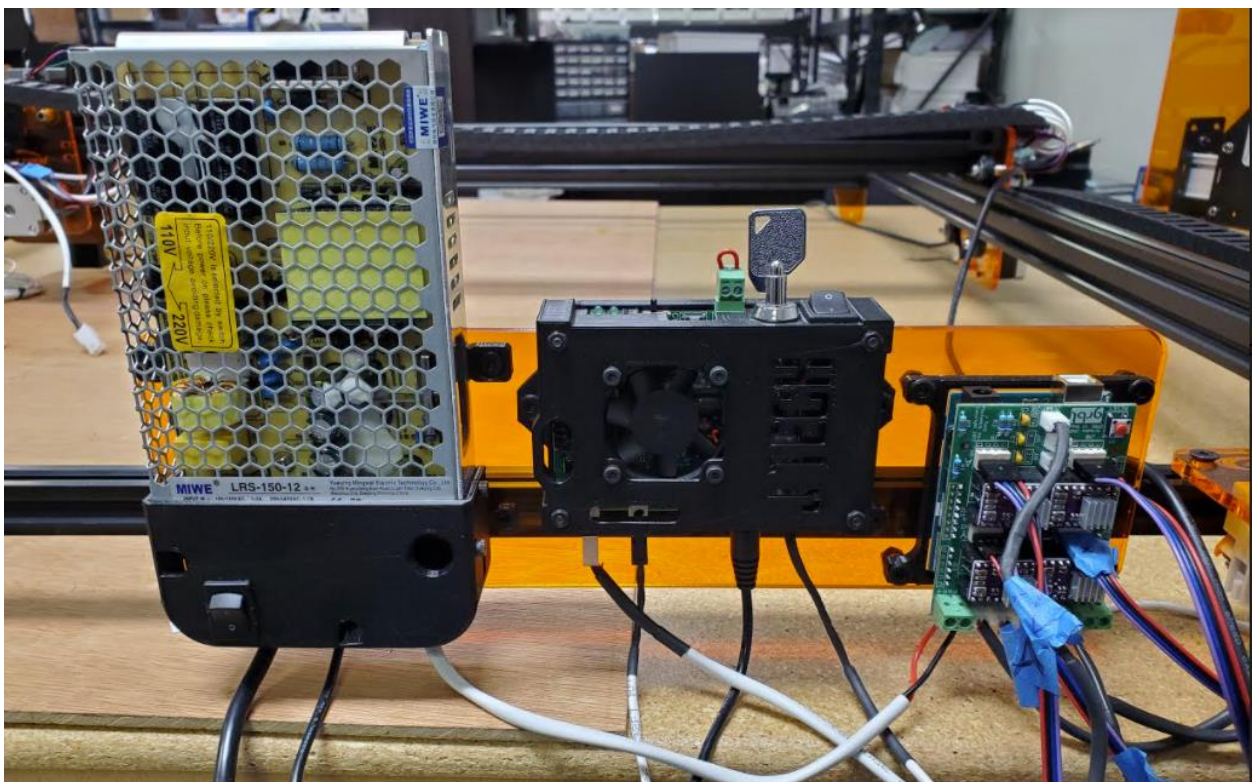


Electronics Plate

The electronics plate is mounted with M5 screws and drop in T nuts. The GRBL board, Driver, and Power Supply mount to the plate first. Then attach it to the rail using the M5 screws and drop in t nuts.



Note the Driver location has changed and the power supply has a new cover on it.



Cable Chains

The new “open style” cable chains will make the upgrade much easier to do. We recommend doing this in the following way versus the video:

1. Attach the end pieces of the cable chains to the plastic mount parts. **Do This BEFORE you attach the plastic pieces to the machine.**
2. Lay the cables into the chains.
3. Attach the chains to the end pieces.

We will now go over this in detail.

1. Put the end pieces onto the three plastic mounts.

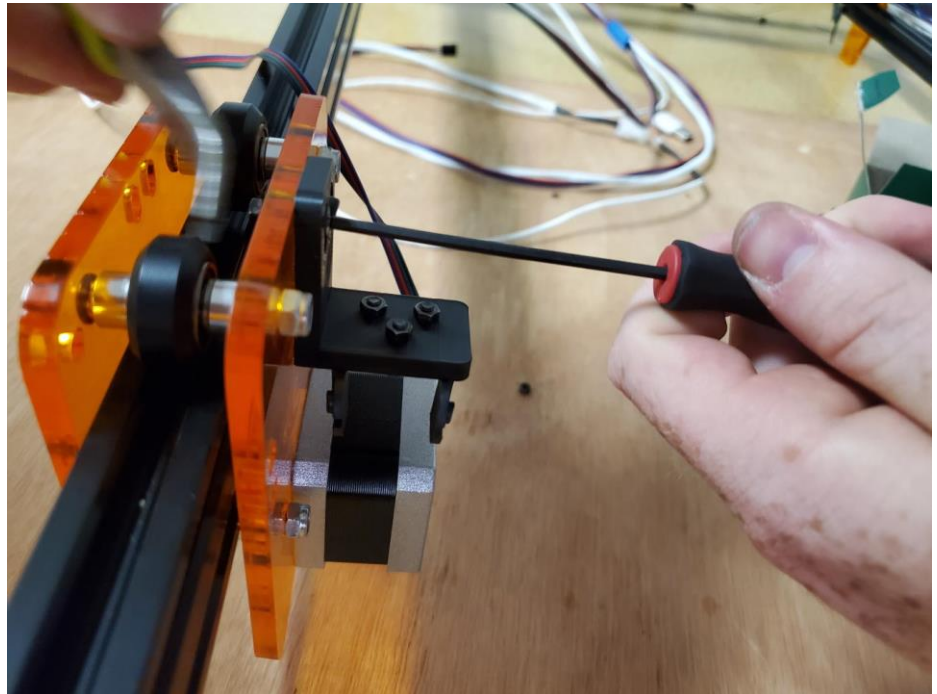
X Axis End Piece. Use the M3 10mm screws. Make sure you have the correct cable chain piece with the dot on the outside. This is done in the X Carriage Step.



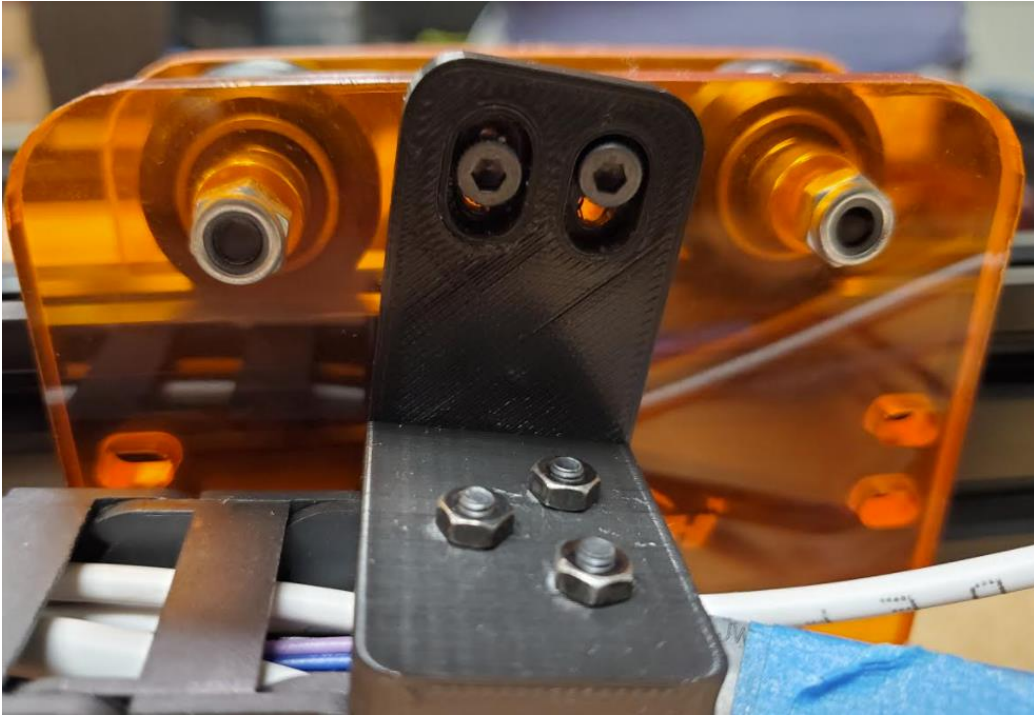
Attach the X Axis piece to the back X axis plate in the top M3 holes. Use the M3 12mm screws and nuts.



Tighten the M3 screws and nuts on the X Axis plate.



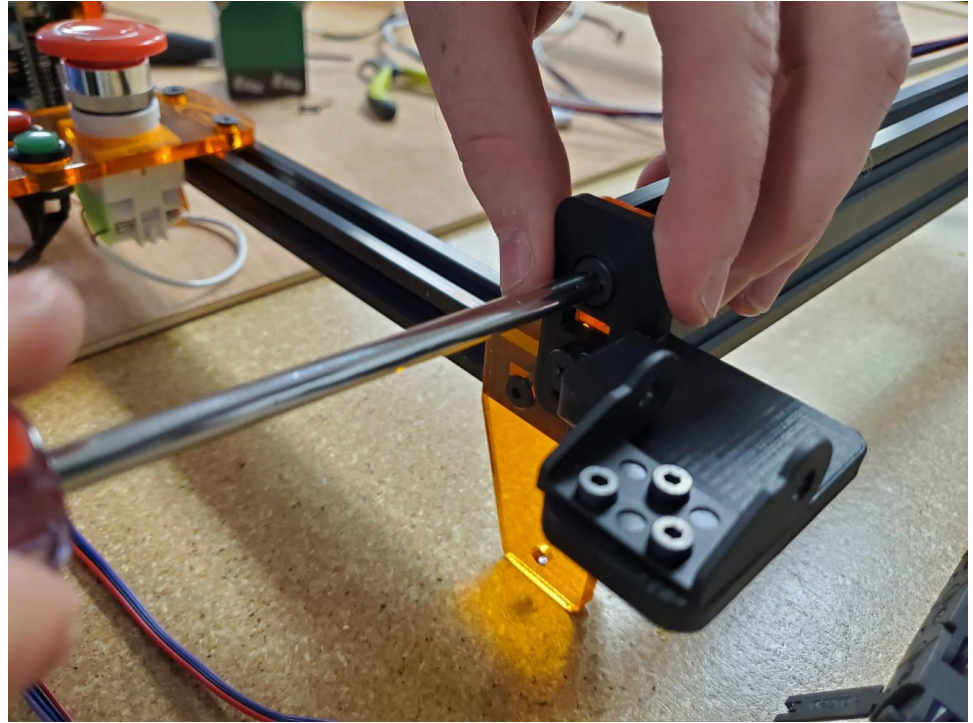
On the 40 x 40 machine, you will need to “tilt” the cable chain mount so the chain does not droop and hit the table. Here is an example of how much tilt you need.



Y Axis Back piece. Use the M3 10mm screws. Make sure the cable chain end piece has a hole in it (female). This is done in the End Plate Step.



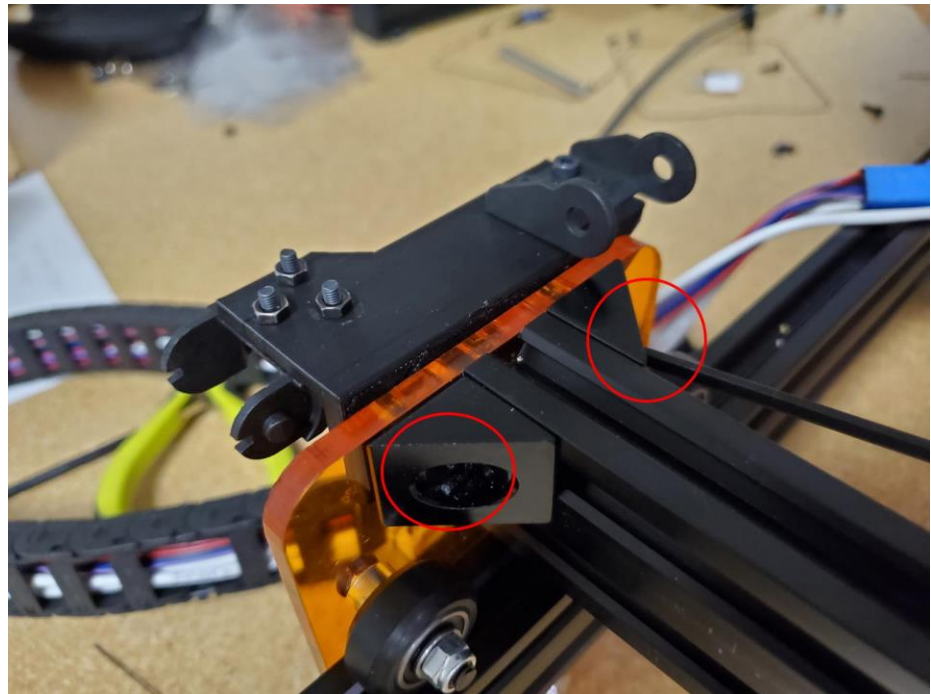
Attach the back Y axis plate with the self tapping screws.



Y axis middle piece.
Use the M3 10mm screws. Check the orientation. This is done in the Machine Frame Assembly Step.



Install the middle Y Axis Cable plastic piece with the two M5 screws and nuts through the right angle pieces.



In the next section we will:

1. Lay out the cable chains with the correct amount of chain and open the slots.
2. Place the wires into the chains.
3. Close all of the slots.
4. Orient the chains and then connect them to the brackets on the plates.

Lay out the two cable chains to get ready to install.

Length of chains:

20x20

Top(x): 33

Side(y): 33

20x40

Top(x): 63

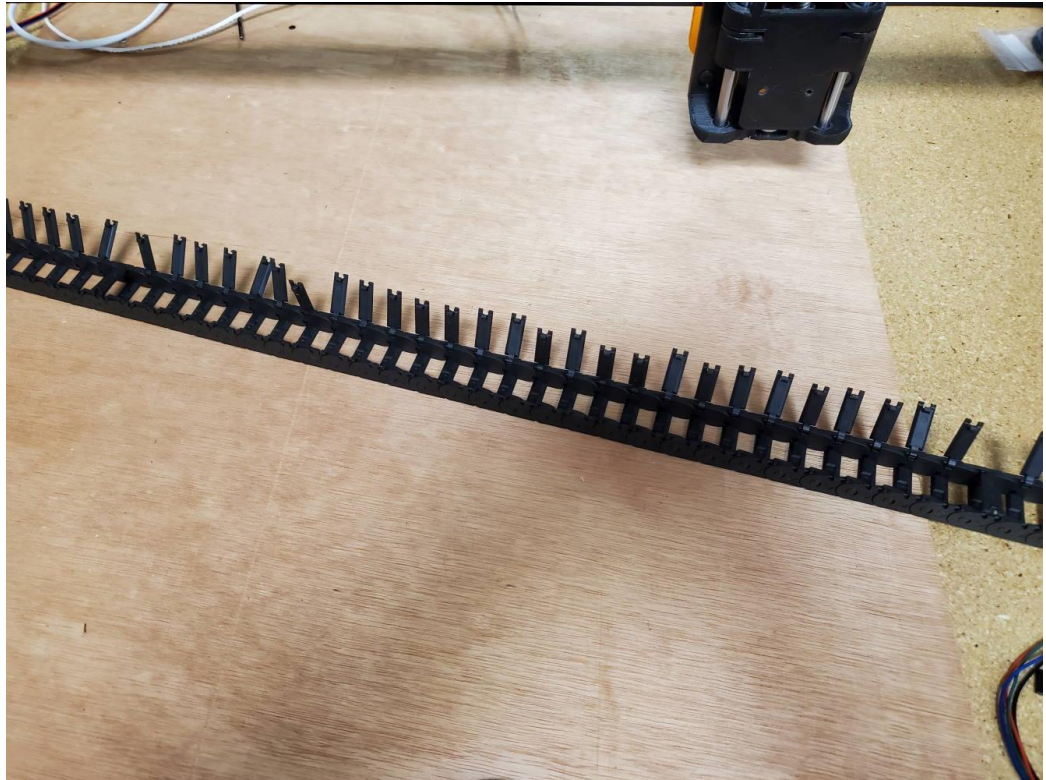
Side(y): 33

40x40

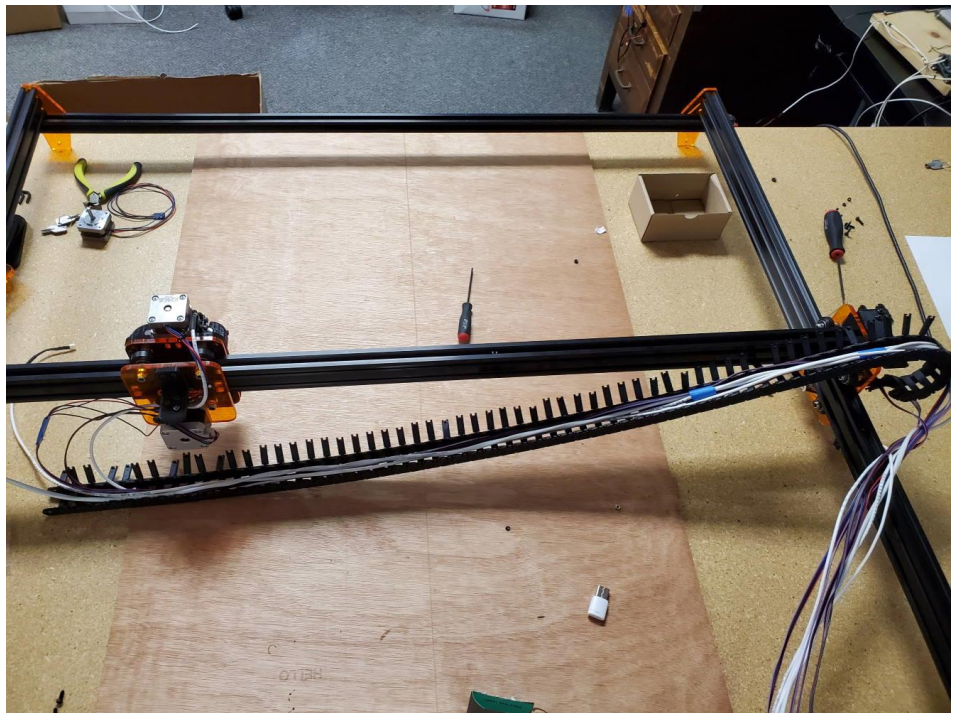
Top(x): 63

Side(y): 64

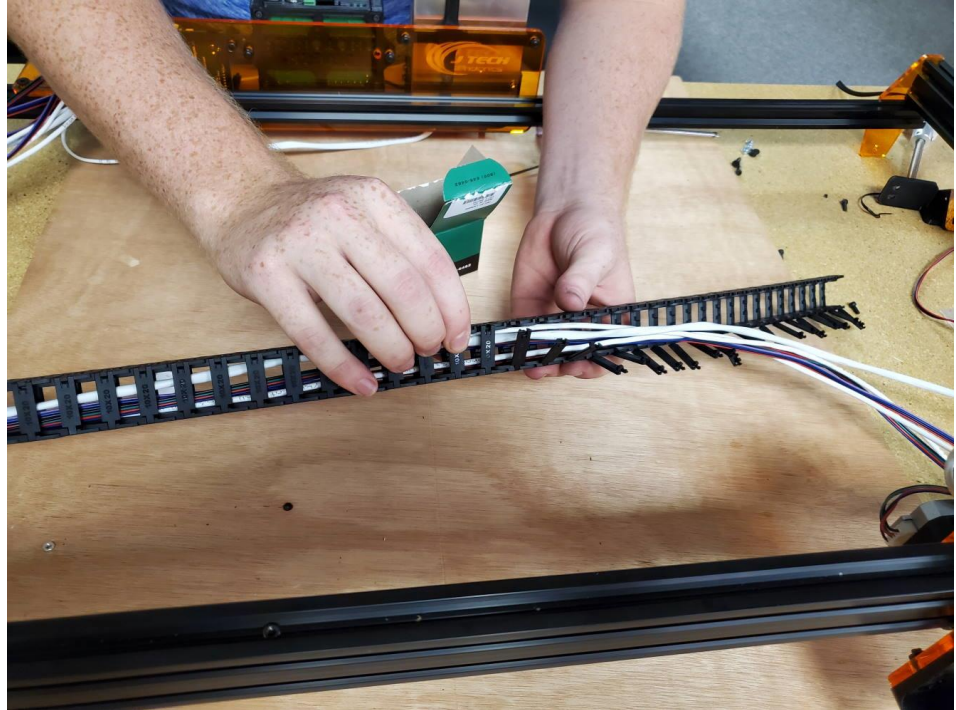
Get the cable chain for the X Axis ready by opening the slots.



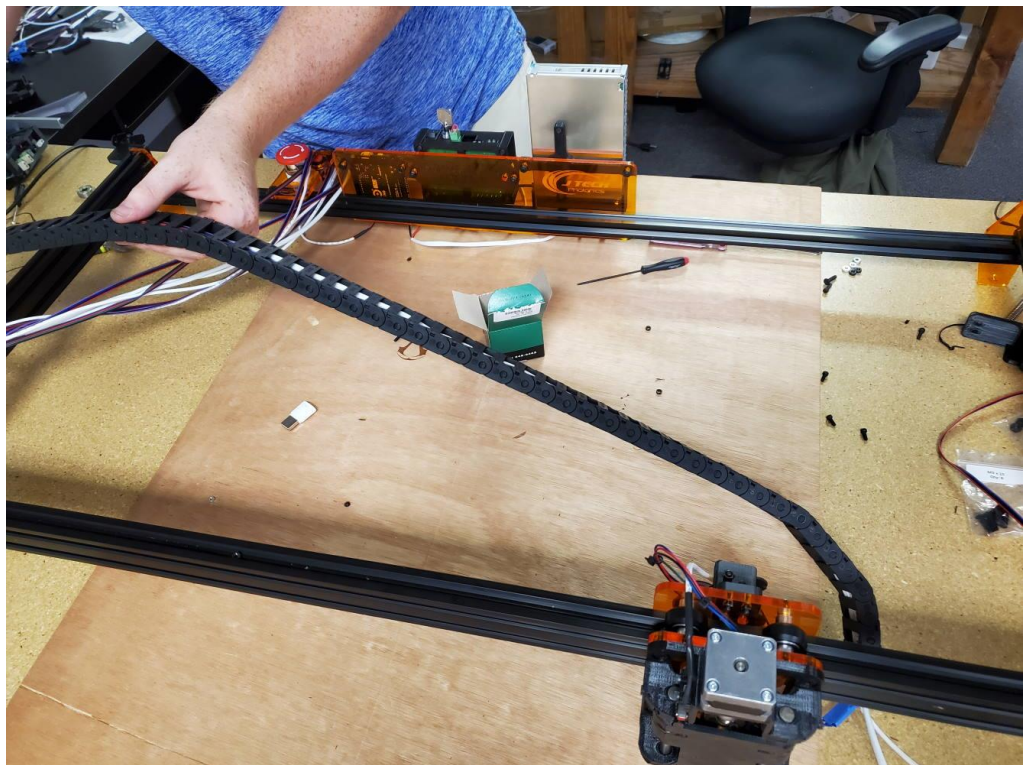
Put the wires from the Z carriage into the cable chain. Make sure the extension cables for the laser and fan are sticking out the end.



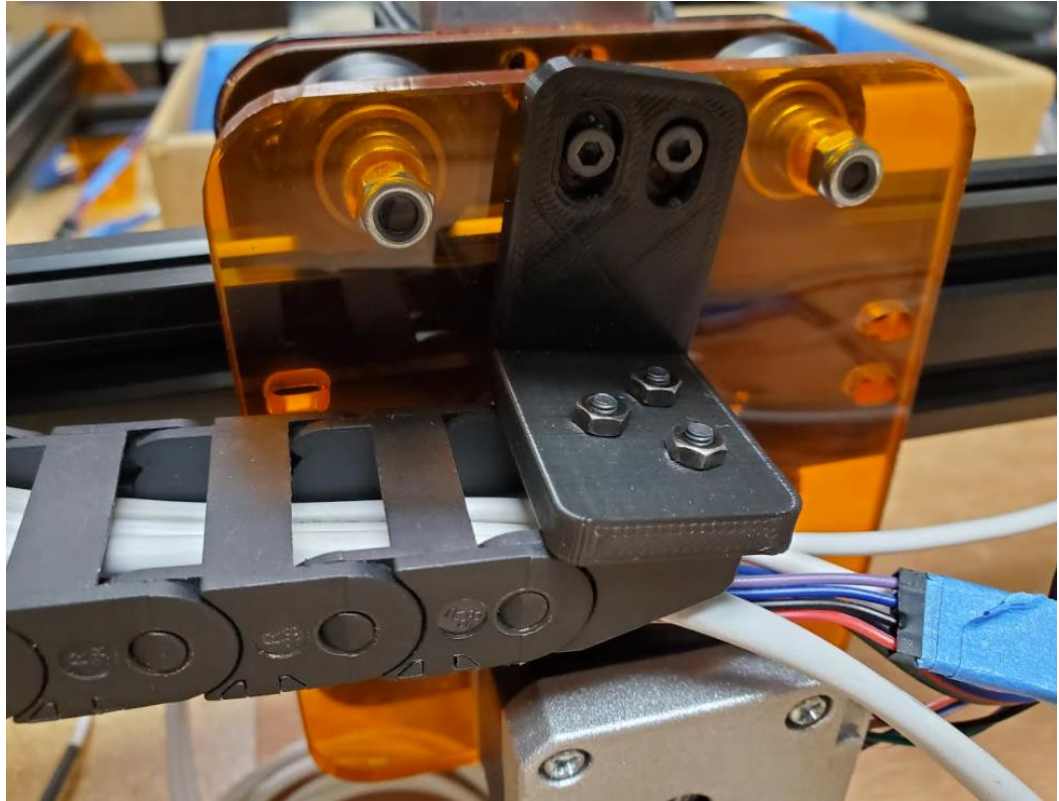
Close the slots in the chain.



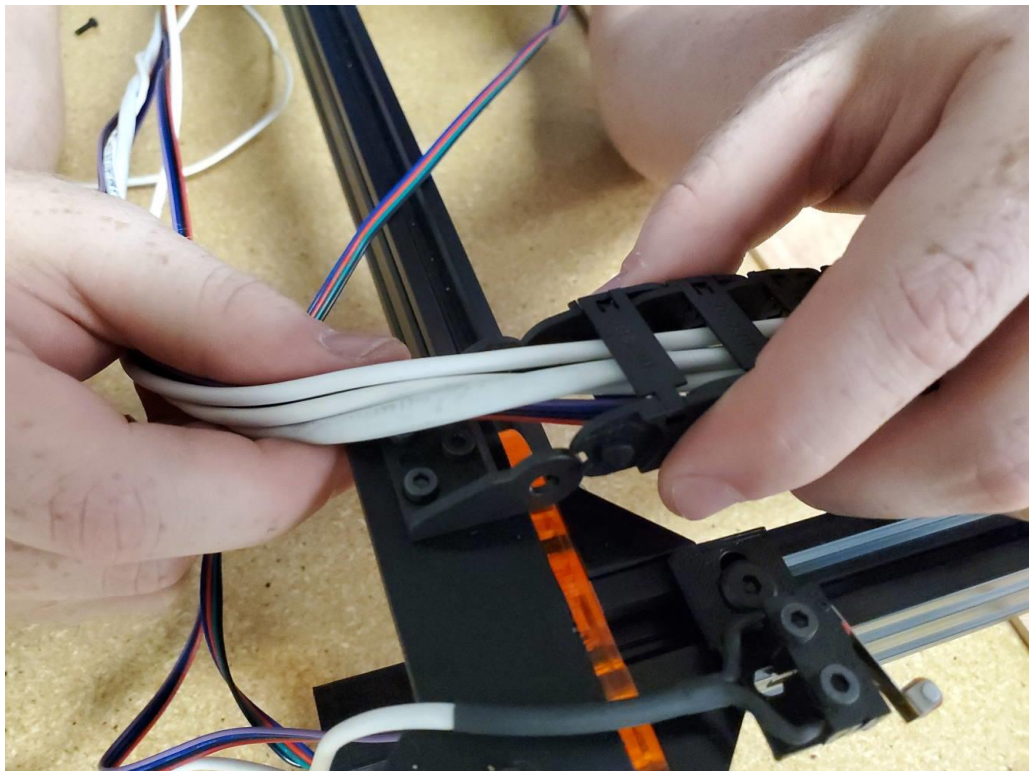
Align the chain to get ready to attach it to the sides.



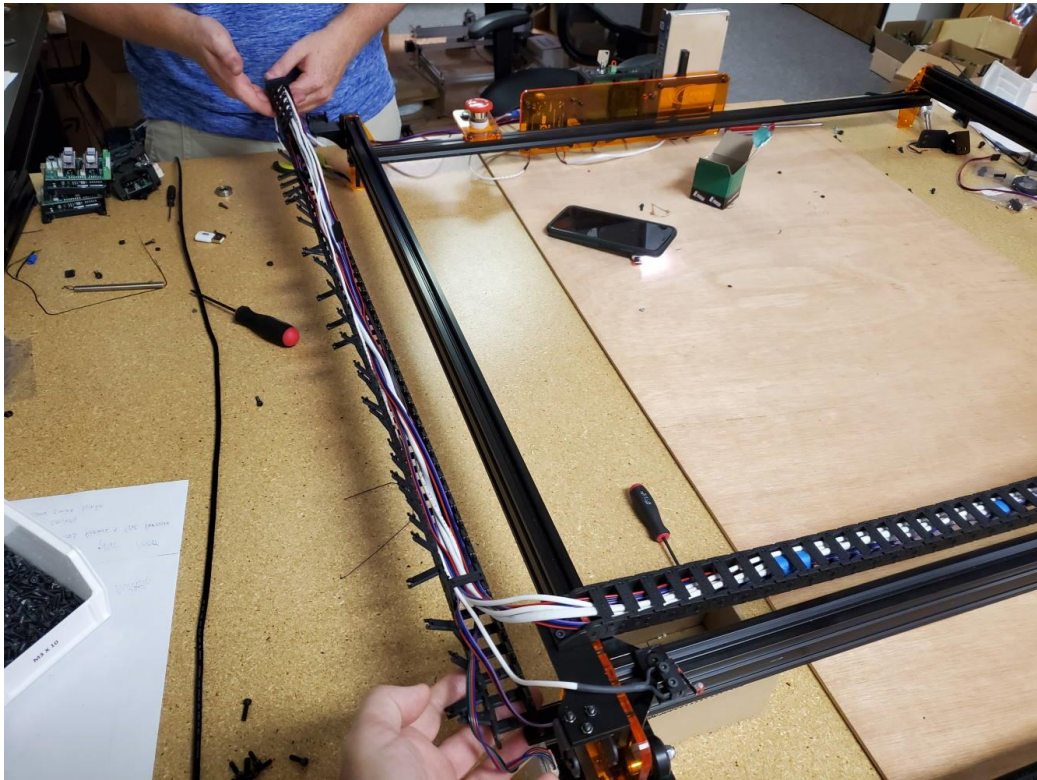
Attach the chain to the back of the X plate.



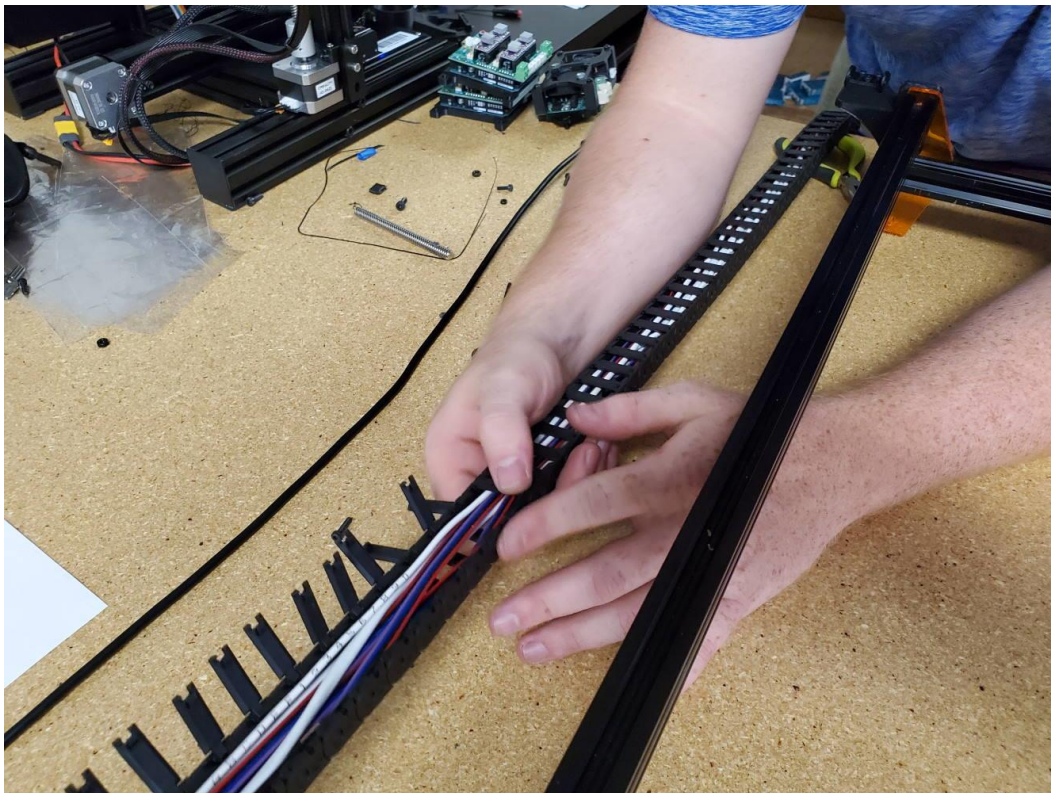
Attach the X axis cable chain to the y plate.



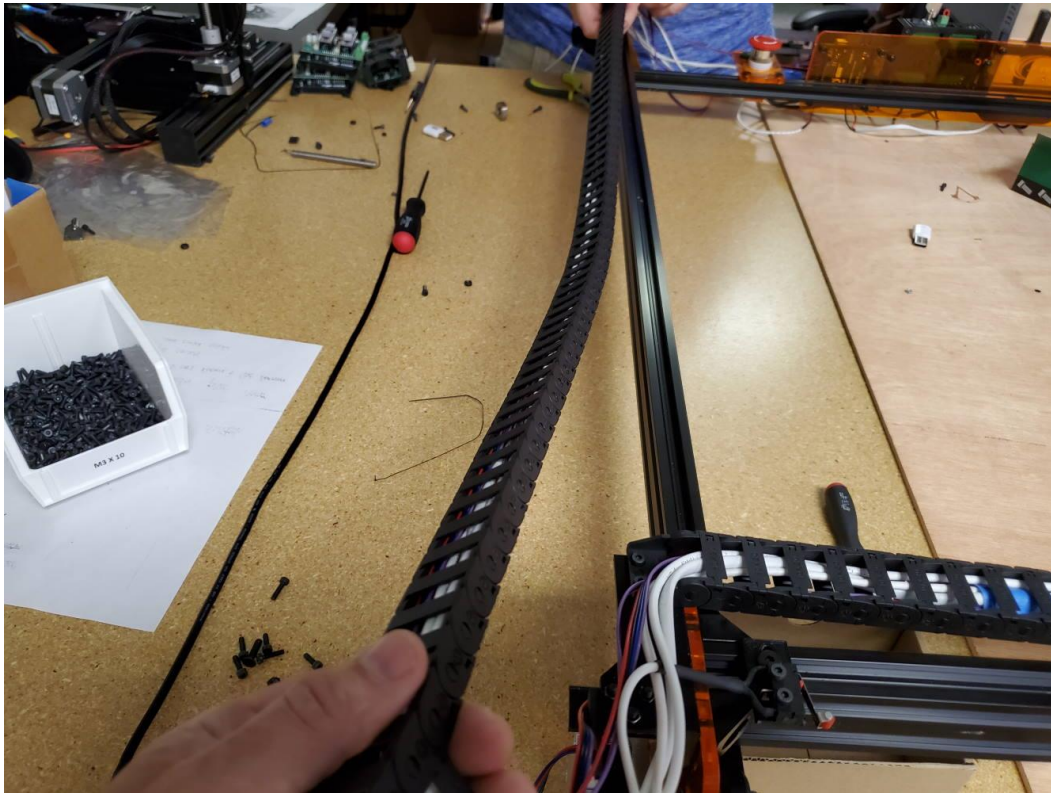
Open the Y axis cable chain slots.



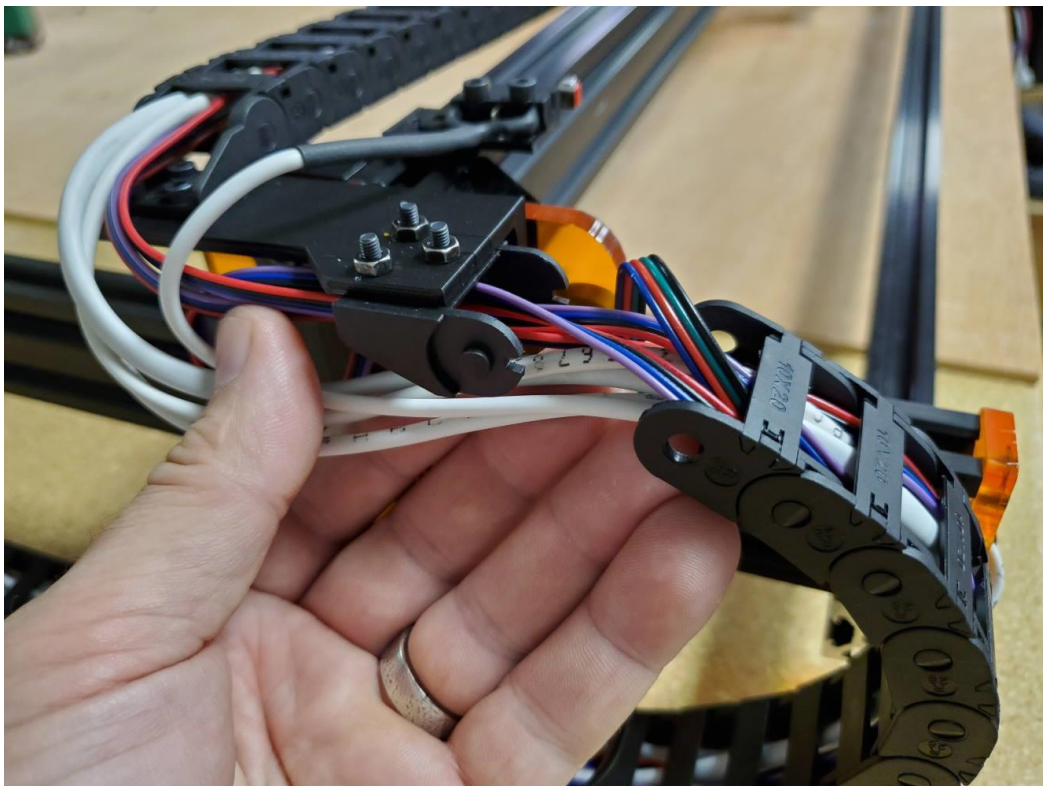
Lay the wires on the Y Axis into the cable chain and close the slots.

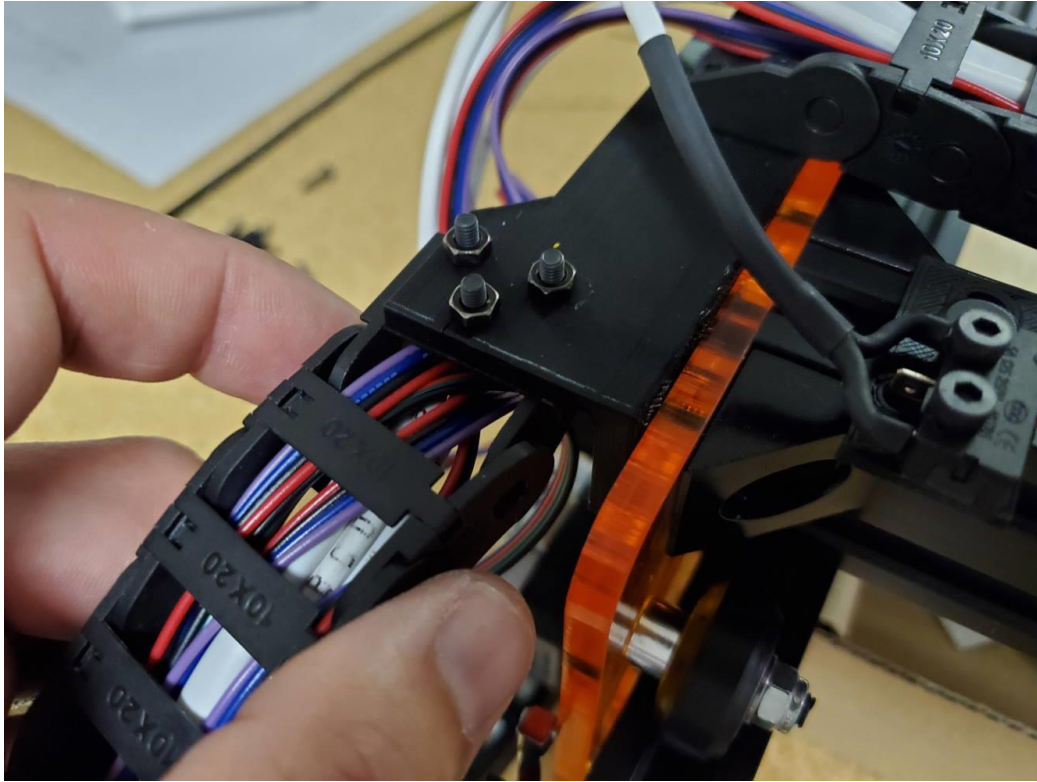


Orient the chain to attach it to the plates.

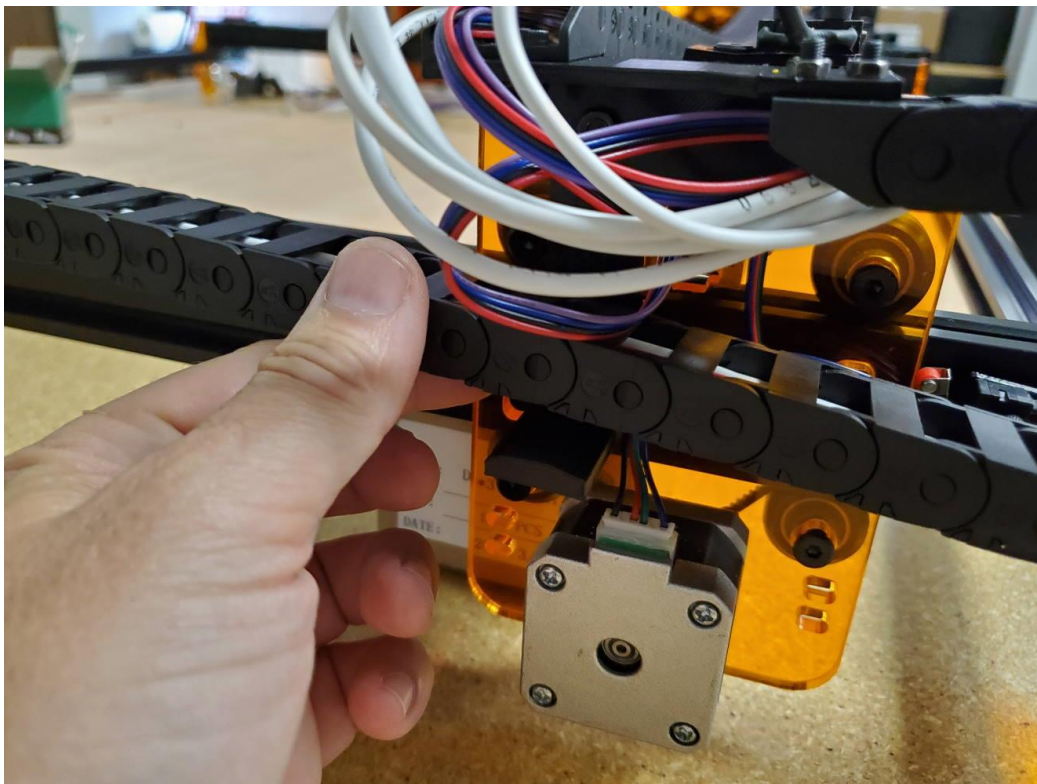


Push the wires under the Y plate and connect the chain to the bracket.





Make sure the cable chain goes through above the motor.



Attach to the back Y cable chain bracket

