

# SeeMeCNC Guides

## SE300 Whip Revision Installation (7-10-2018)

How to properly remove and replace the SE300 whip with the newer revision (7-10-2018) whip.  
This guide is written specifically for the Artemis 300.

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## INTRODUCTION

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### TOOLS:

- [small wire cutters](#) (1)
  - [Tape](#) (1)
  - [Some spare filament](#) (1)
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## Step 1 — SE300 Whip Revision Installation (7-10-2018)

### Introduction - Read Me First!

This document is your instruction manual for your new SeeMeCNC® 3D printer machine. Before using your new 3D printer, thoroughly read and understand this manual for safe and effective operation of the machine.

#### Warning

Personal property damage, serious injury, or death can result from not following instructions or warnings in the manual or misuse of the machine.

Automatic machine can start unexpectedly. Pay close attention and keep clear while power is connected to the machine.

Adult supervision required. Children under 18 years of age require supervision.



**DANGER** The machine power supply is connected to AC voltage and can be hazardous. Disconnect power before servicing this machine.



**CAUTION** The hot end of the machine can reach very high temperatures of 700F and cause serious burns. The heated print surface (heated bed) can also reach temperatures high enough to cause severe burns. Allow both to cool for 20 minutes after turning off power.



**CAUTION** Use caution near moving parts of the machine. Keep body and loose articles clear.



**DANGER** Risk of Fire. Do not leave machine unattended.

Use genuine parts manufactured or designated by SeeMeCNC.

Poisonous gas, smoke, or fumes could be omitted by some materials you could use with the machine. In such case, you should install ventilation.



**CAUTION** Choking Hazard. This machine contains small parts and can produce small parts which can be a choking hazard to children.

Keep a copy of this manual near the machine easily accessible to all operators.

Use of this machine is at your own risk.

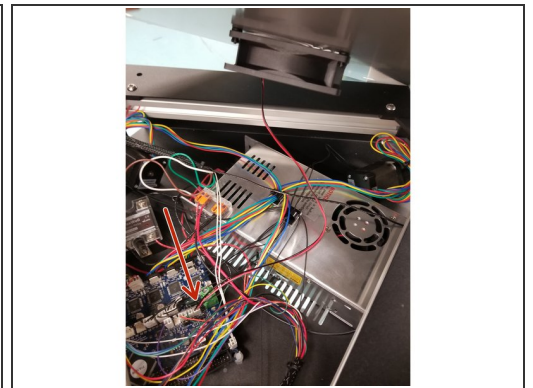
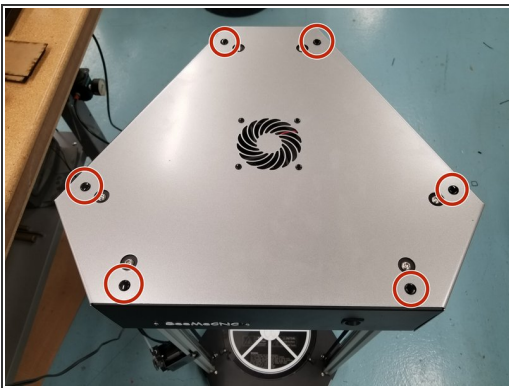
Visit [www.seemecnc.com](http://www.seemecnc.com) to contact us if you have any questions.

**i** [First, click here to read safety information](#) . This safety information may be updated at anytime so occasionally check for updates.

**i** **NOTE:** This guide is intended to be followed online in order to fully utilize the links and documentation found within.

- Open and inspect the contents of your shipment to ensure you have all the parts listed on the BOM.

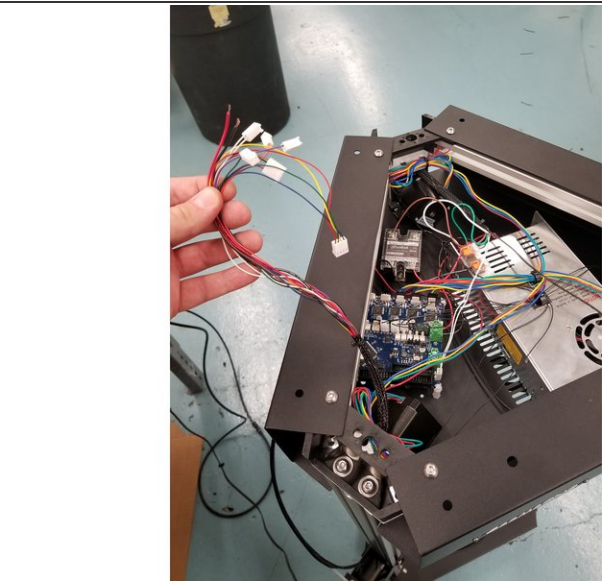
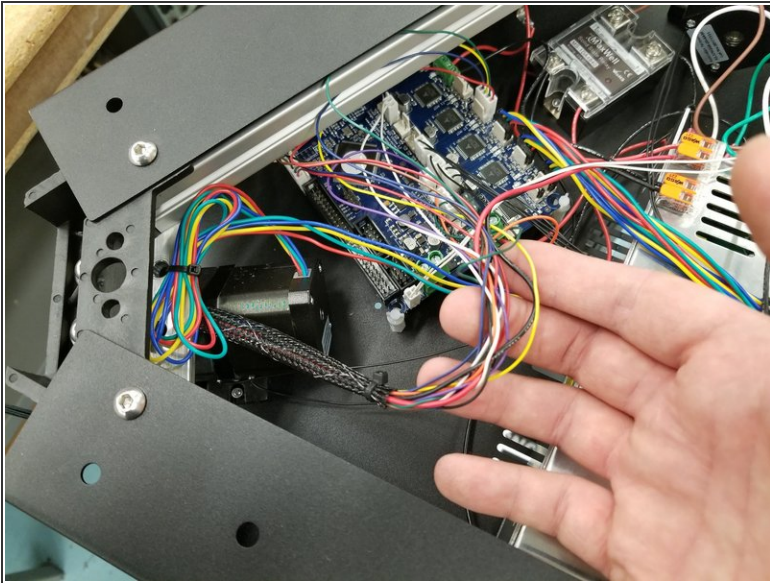
## Step 2 — Remove the top cover



- There are six plastic rivets holding the top cover in place. Use a sharp object (carefully) to pop the rivets up and remove them.
- When removing the top cover, make note of the position of the fan connector on the Duet board. Unplug the fan and set the cover aside for now.

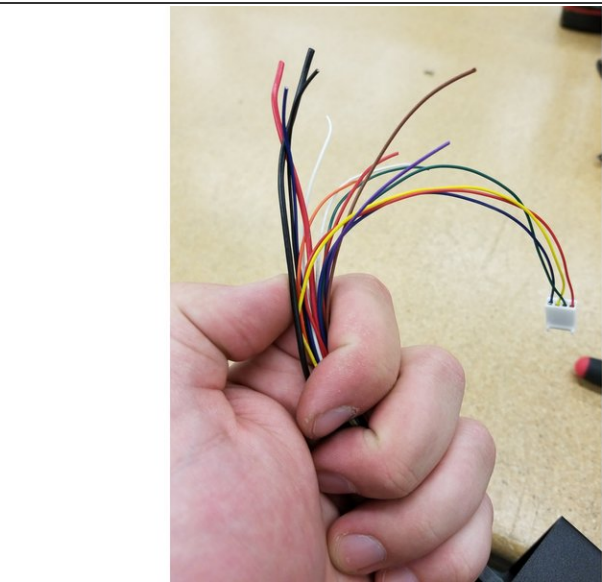
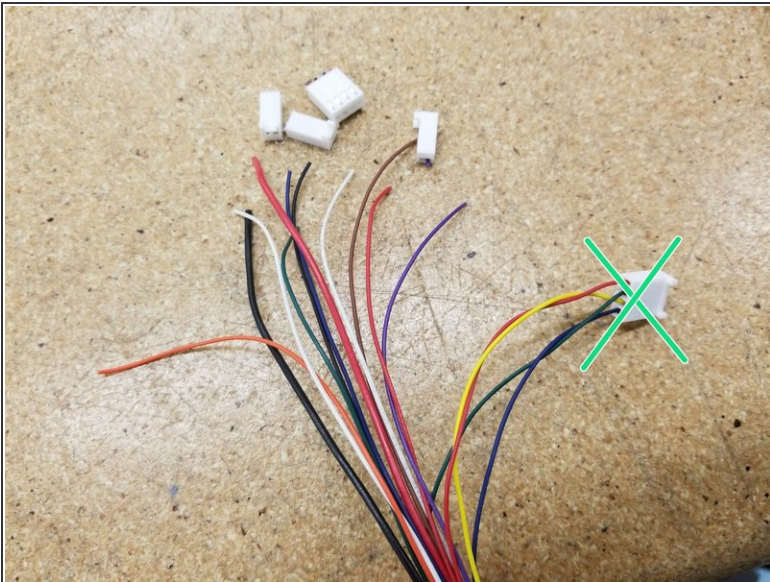


### Step 3 — Unplugging wires



- Coming from the X tower, a short section of mesh loom houses the hotend whip wires and the extruder wires. Disconnect all connectors on wires exiting this mesh loom.

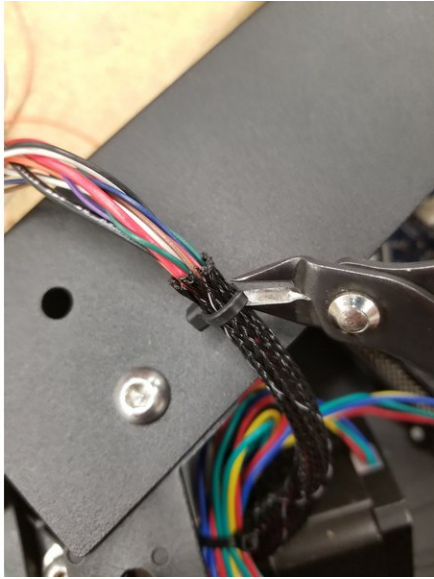
### Step 4 — Snipping terminals



- You will need to snip the terminals off the ends of all the wires you unplugged from the Duet. **Don't snip the extruder terminal!**

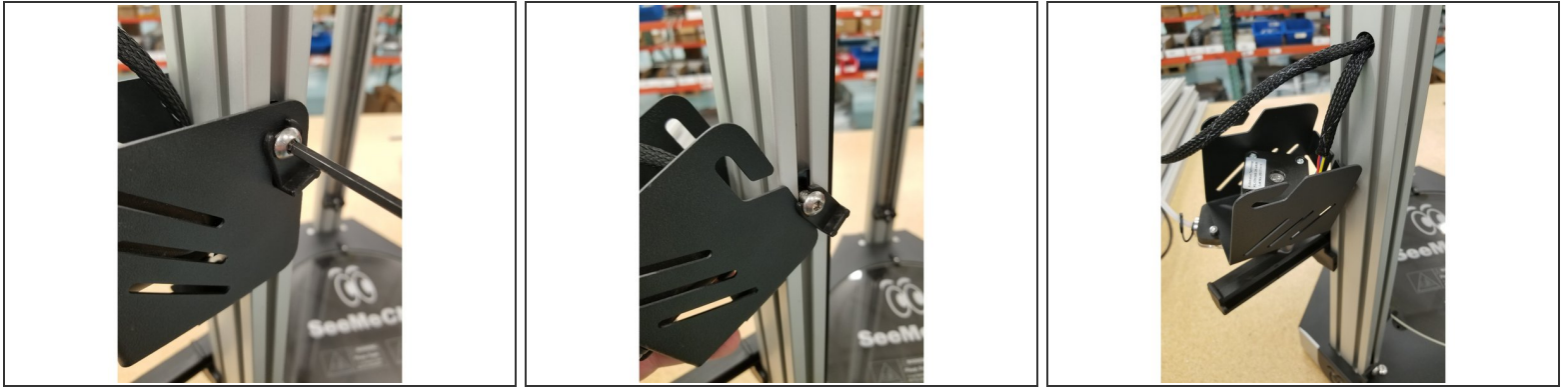
**⚠ Seriously, don't snip the extruder terminal!**

## Step 5 — More Preparations



- Snip the zip tie on the short section of mesh loom exiting the X tower and remove the mesh loom. This mesh loom is only installed at the factory to prevent wire pinching during the initial machine assembly. It won't need to be re-installed after these steps if you don't wish to.
- Rotate the spool holder in the outer position.

## Step 6 — Remove the Extruder Assembly



- Loosen the bolts holding the extruder assembly in place.

**⚠ Make sure not to loosen them TOO much, as the T-slot nut can be difficult to realign if it falls down the tower.**

- Remove the extruder assembly and rest on the spool holder to keep it out of the way for future steps.

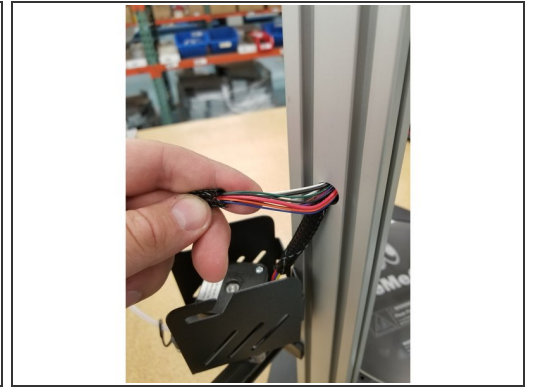


## Step 7 — Removing Linear Rail Bolts



- Remove the linear rail bolts from the top of the tower down to the last bolt before the hole where the extruder and whip wires enter the tower.
- i** **Tip:** There are two bolts at the top, then in every other space after that. You should end up removing a total of 12 bolts when you're done.

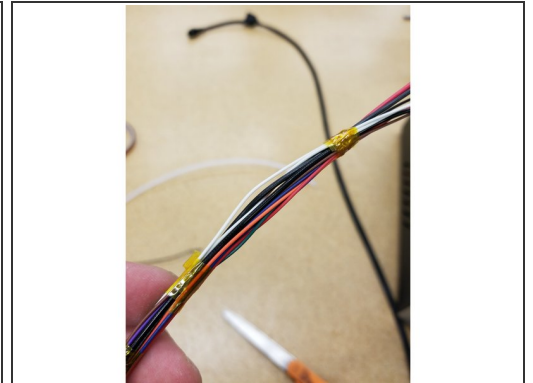
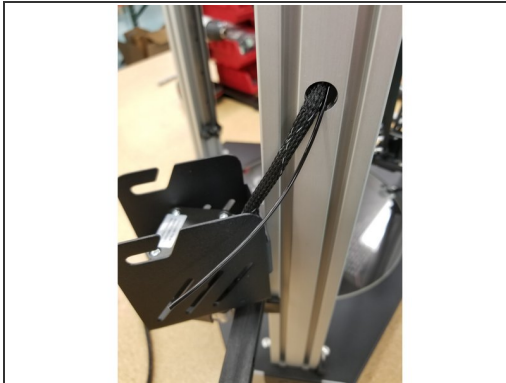
## Step 8 — Final Whip Removal



- Remove the PTFE tube and lanyard clips.
- Unplug the connectors from the hotend board.
- Pull the whip wires from the tower. Be careful here so you can keep the wires for any future needs.

 **Make sure you don't remove the extruder wires.**

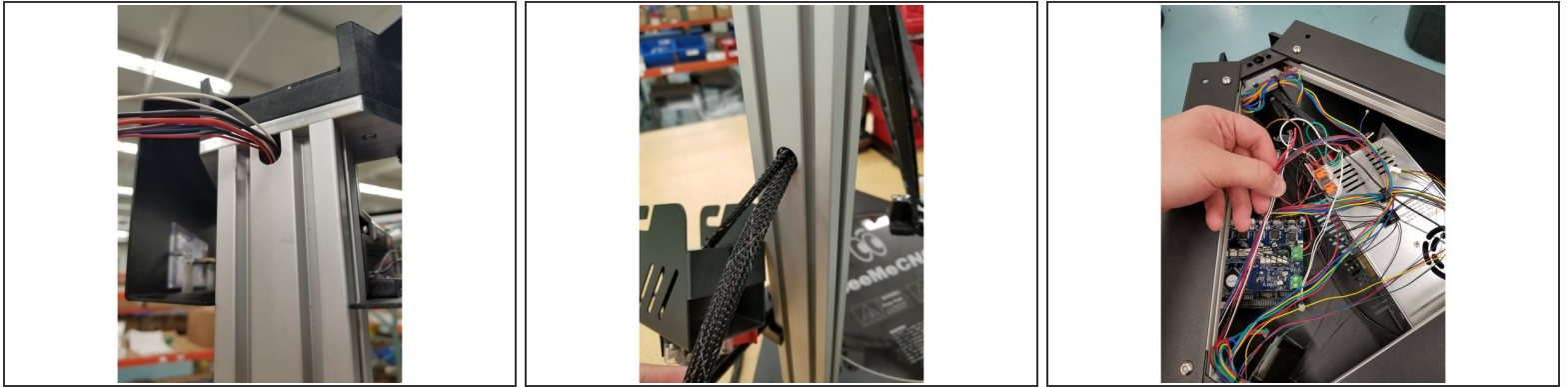
## Step 9 — Preparing for Insertion



- Snap off a long piece of filament and fish it down the tower, from the notch facing the outside of the machine to the hold the extruder is hanging from.
- Tape the new whip wires to the end of the filament line. You may need to tape it in multiple places to make sure it's attached well. You don't want to lose your wires in the tower and start all over again.



## Step 10 — Pulling the Wires Through



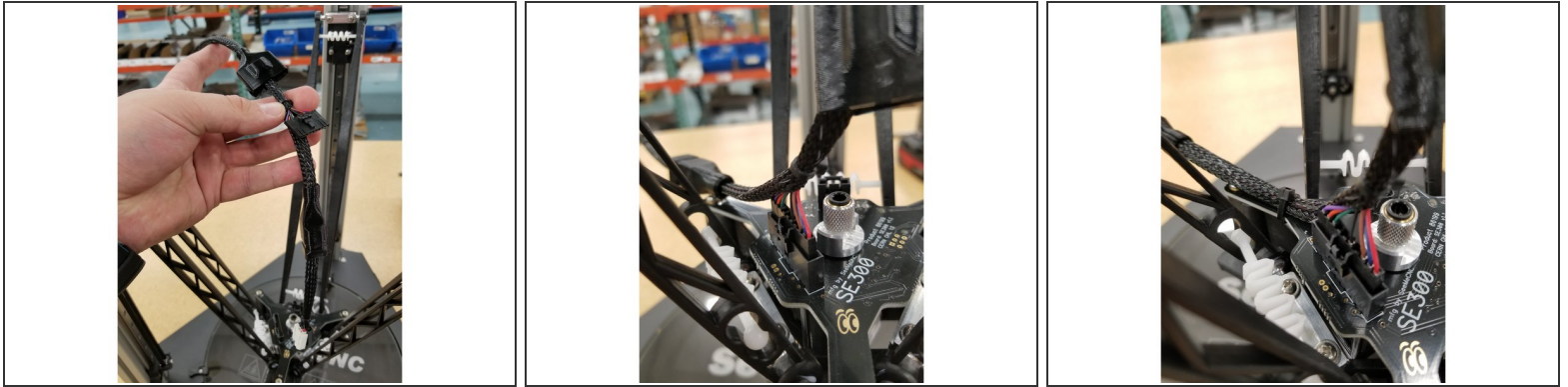
- Pull the wires through the tower until the mesh loom enters the hole in the tower and there is enough wire to reach all the connection points in the top assembly when wrapped around the tower.

## Step 11 — Post Wire Routing



- If you want, use an extra zip tie through the unused hole in the machine's frame to keep the wires clean and out of the way.
- Reinstall the extruder assembly over the hole as it was before.
- Reinstall the linear rail bolts.

## Step 12 — Hotend Connections Part 1



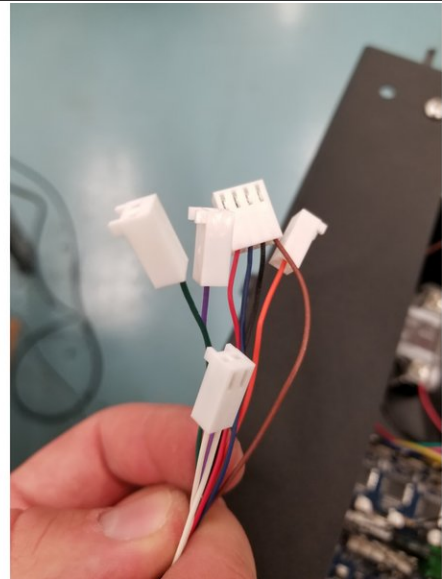
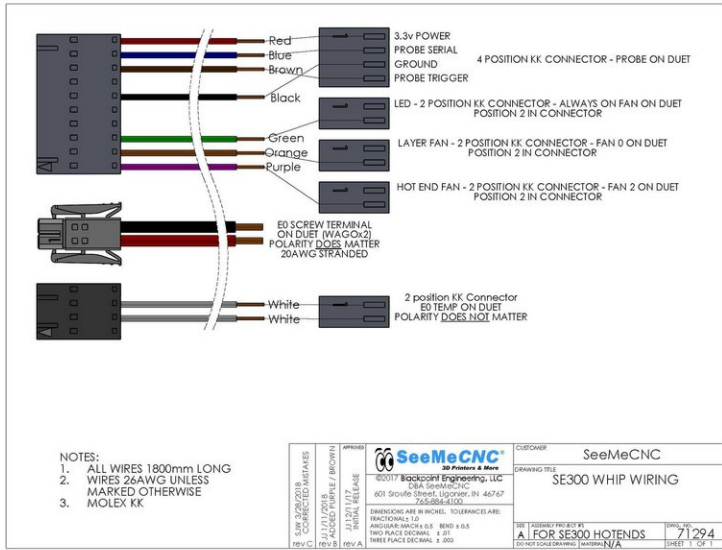
- Pull back the cable boots to give access to the connectors at the end of the whip.
- Plug in the 10 pin SL connector to its home on the hotend.
- Rout the power and thermistor section of the whip to the back left of the hotend and zip tie around the mesh loom and the hotend board arm as shown.

## Step 13 — Hotend Connections Part 2



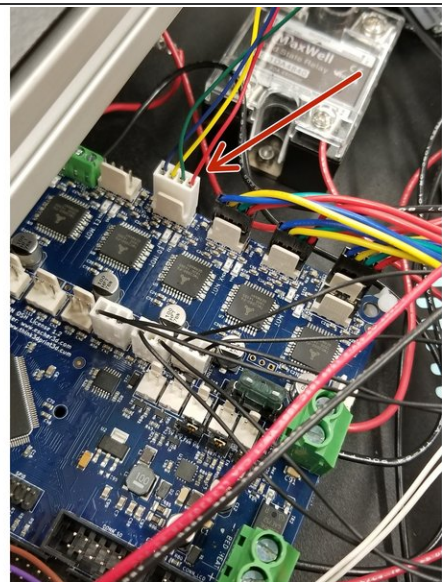
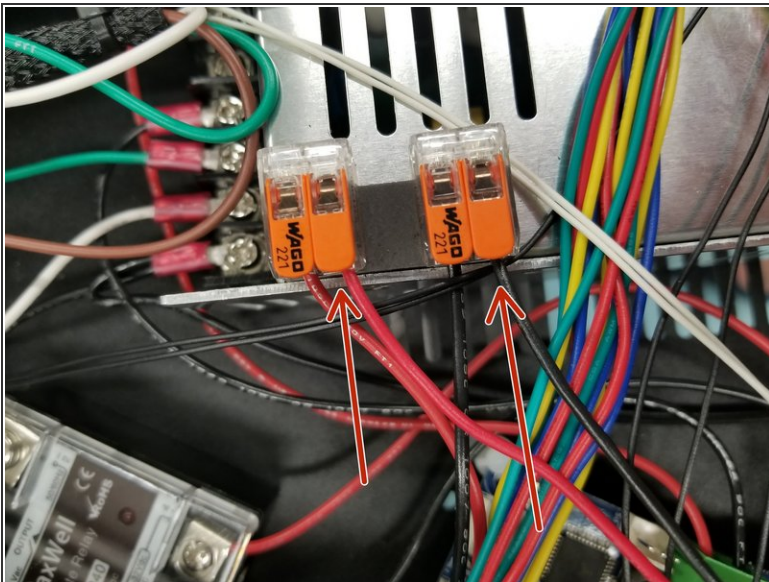
- Plug in the 4 pin SL connector and the 2 pin phoenix connector to their homes on the hotend board.
- Slide the boots in to place, routing the whip extension through the opening in the back of the 10 pin boot as shown.

## Step 14 — Whip Wire Termination



- Use the diagram shown to terminate the ends of the hotend whip wires.

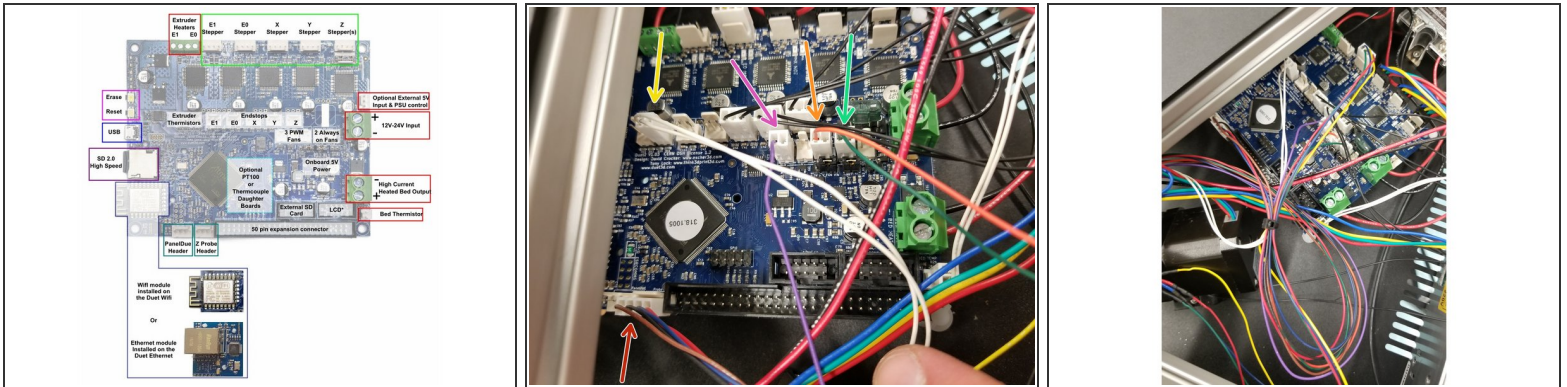
## Step 15 — Whip Wire Connections Part 1



- Strip back some extra of the red and black 20awg wire from the whip and reinstall in the WAGO connectors, opposite of what you did to remove them.
- Make sure to reconnect the extruder motor wires to the Duet.

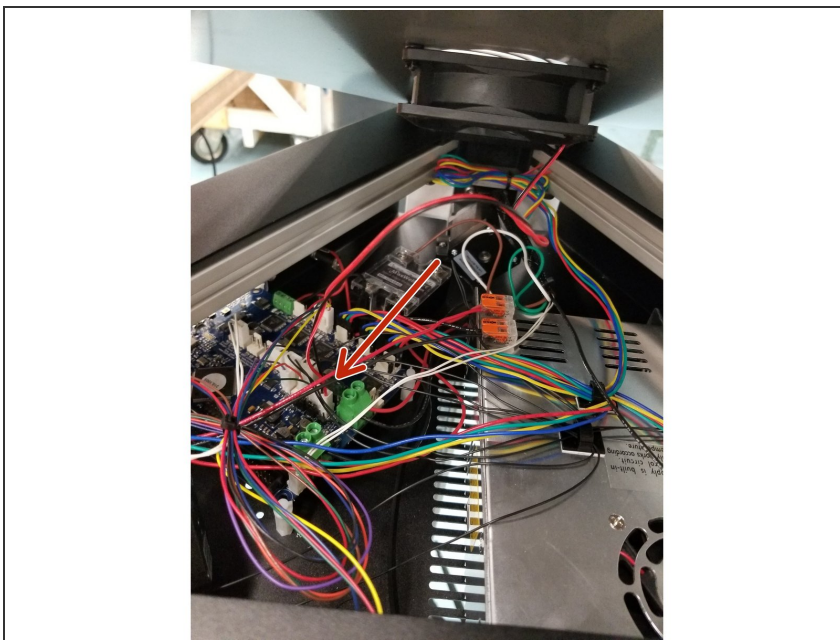


## Step 16 — Whip Wire Connections Part 2



- Use the diagram and the photo to re-connect all your whip wires to the Duet
- If you want, use any of your remaining zip ties to bundle and clean up the whip wires.

## Step 17 — Top Cover Re-installation



- Plug the top cover fan connector back in to place and reinstall the top cover with the push rivets you removed in the beginning steps.

## Step 18 — Done!



- You no longer have to let the machine **whip** you around!

⚠ That was a terrible pun, I'll see myself out.