



GIGABOT[®]

***THINK BIG,
PRINT HUGE***

— GB2 METAL HOT END
UPGRADE —

WELCOME

CONGRATULATIONS ON YOUR GIGABOT® UPGRADE PURCHASE. WE CAN'T WAIT TO SEE YOU PRINT HUGE!

This guide will help get your Gigabot® set up and ready to print. Should you have any questions, please reach out to support@re3d.org.

HELPFUL LINKS

Here are some additional links to help you along the way:

Wiki: <http://wiki.re3d.org>

Community forum: <https://re3d.zendesk.com/hc/en-us/community/topics>

re:3D Shop: <http://shop.re3d.org/>

Website: <https://re3d.org/>

Sketchfab: <https://sketchfab.com/re3d/models>

YouTube: <https://www.youtube.com/user/GigaBot3D>



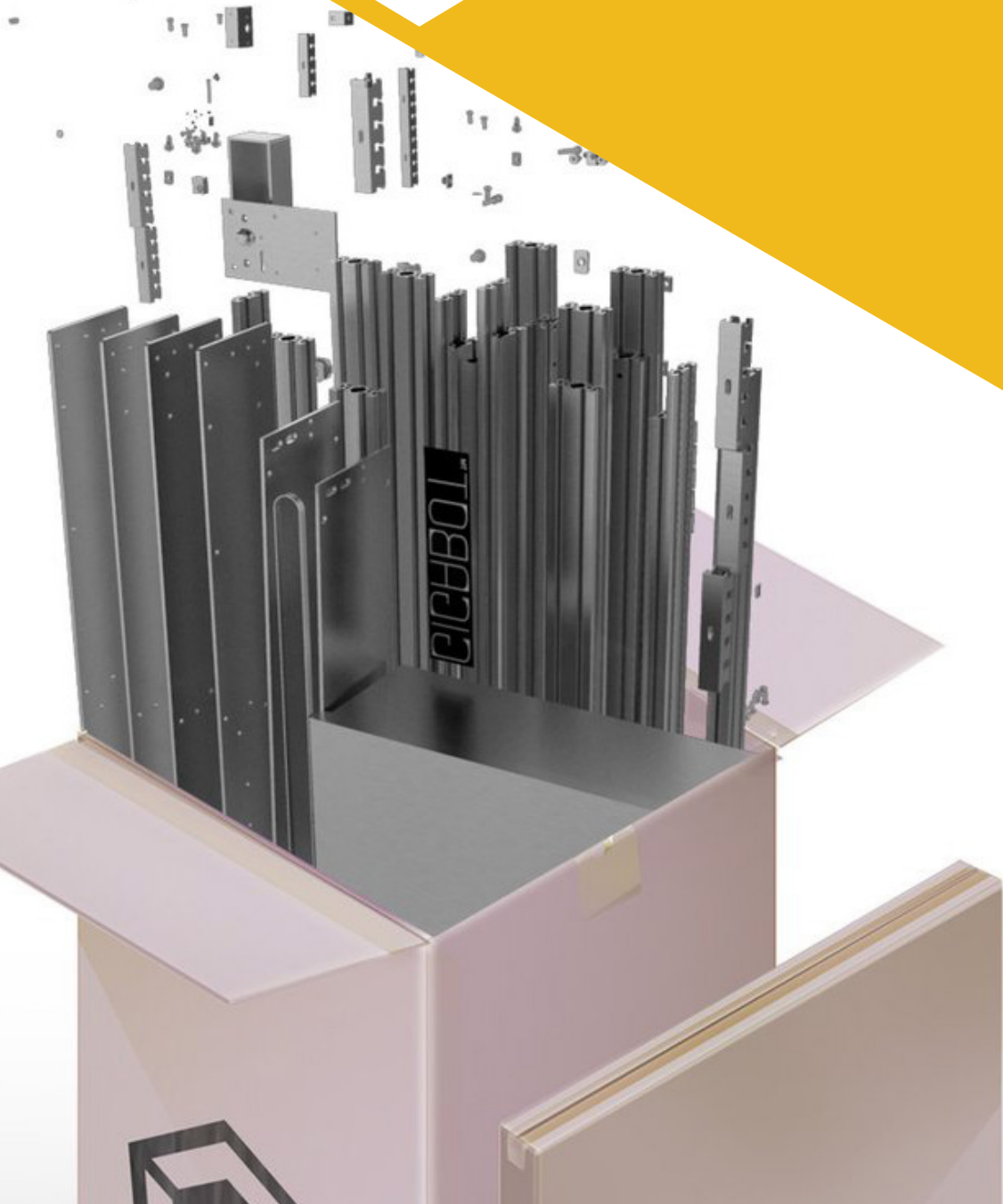
Rev. March 2017

TABLE OF CONTENTS

PACKING LIST & PART REMOVAL	5
INSTALLING NEW PARTS	10
ELECTRICAL BOX & FIRMWARE	15
TESTING	19
CONCLUSION	21



PACKING LIST & PART REMOVAL



OVERVIEW

GB2 METAL HOT END UPGRADE KIT

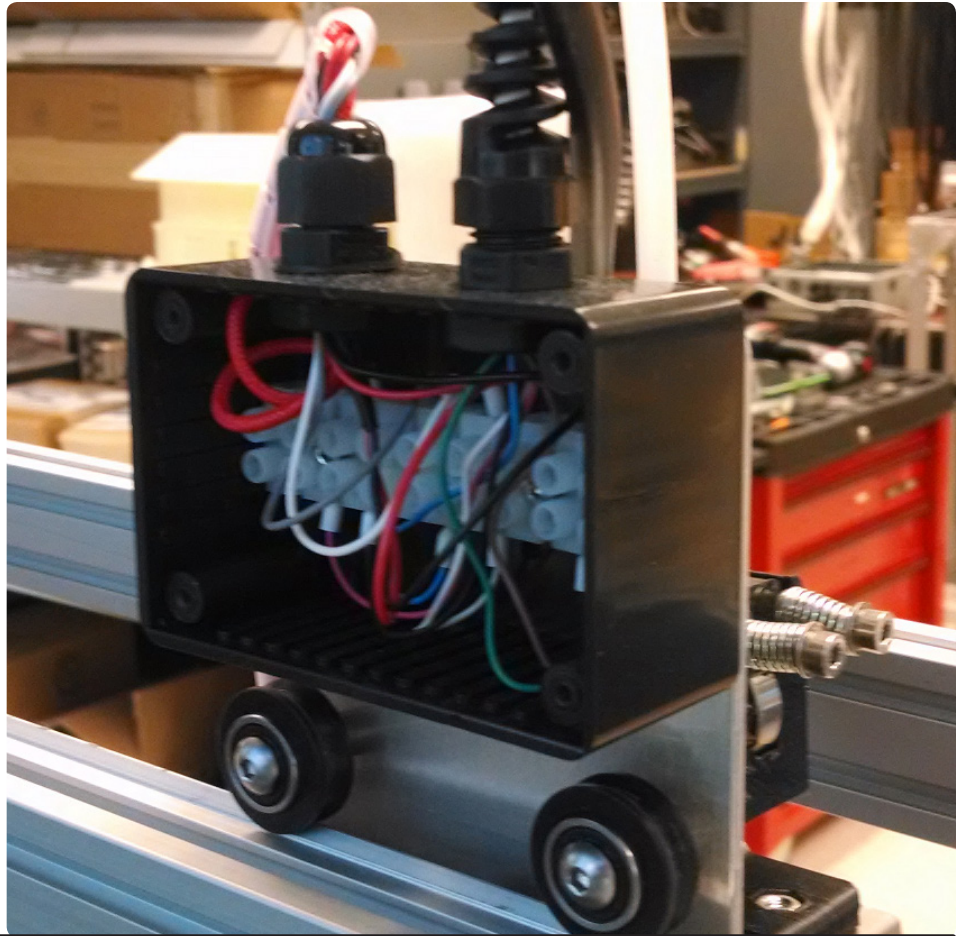
1. GB3 Hot End Right	1
2. GB2 Heater Cartridge	1
3. GB3 Thermocouple (TC1)	1
4. Thermocouple Extension Wire (TC1)	1
5. GB3 Hot End Fan Mount Right	1
6. GB2 Fans	1
7. M3x14mm Socket Head Cap Screw	6

PRELIMINARY REMOVAL STEPS

- Open your package and verify all the parts are correct and accounted for (please use the packing list above)
- Move the bed down 150mm
- Unload filament from the hot end and extruder
- Let the hot end cool down to room temperature
- Turn off power on the Gigabot® and unplug the power cord from the wall
- Follow the remaining instructions starting on the next page...

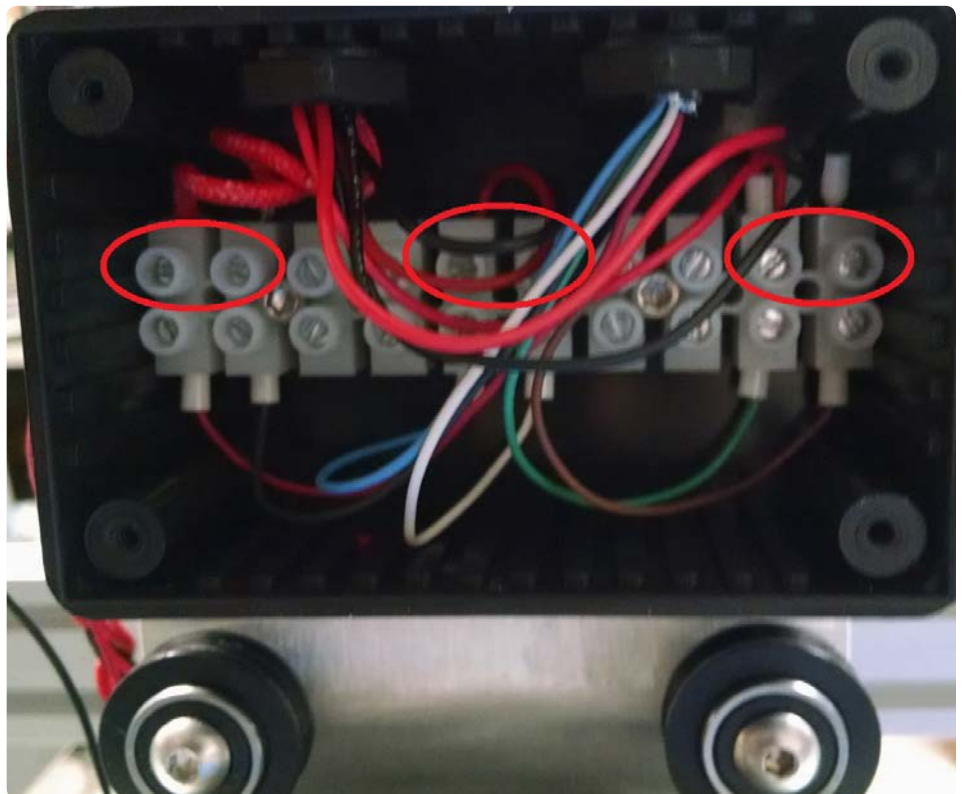
A1

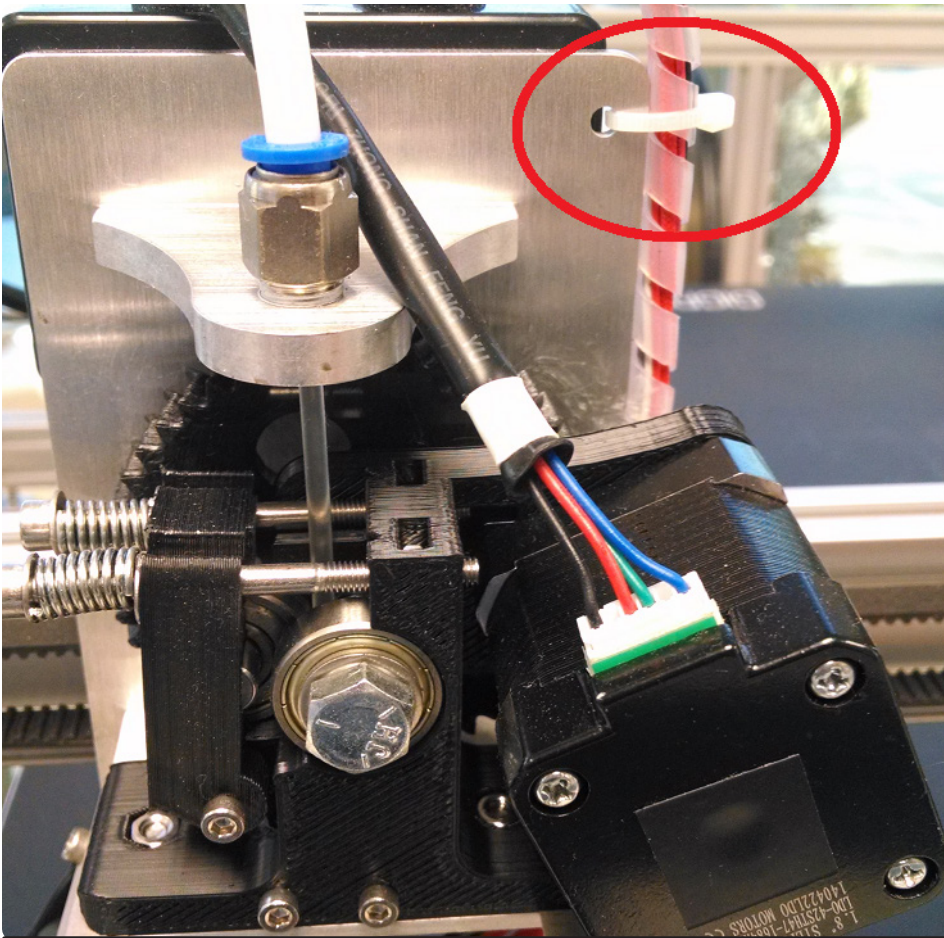
Open the junction head box by removing the cover with a Phillips head screwdriver.



A2

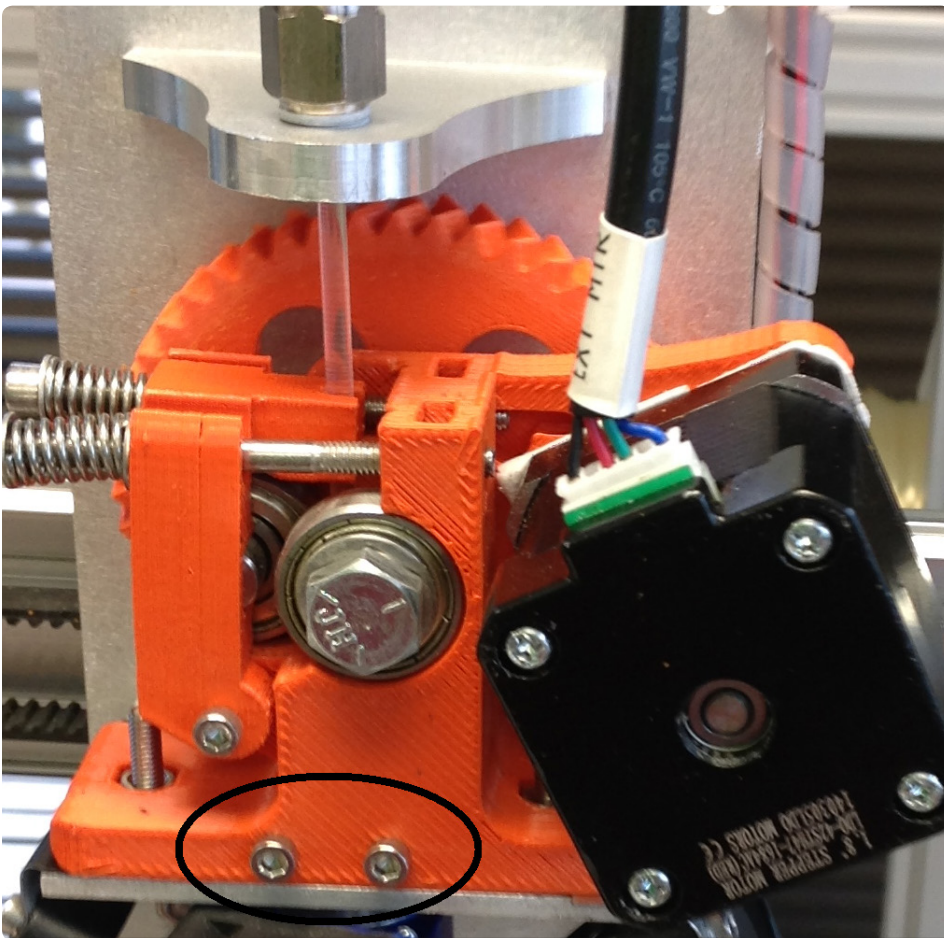
Use a small flathead screwdriver to loosen the screw terminals for the heater cartridge, thermistor, and fan. Each component has 2 terminals, for a total of 6.





A3

Cut and remove the zip ties holding the wires on the right side of the trolley bracket.

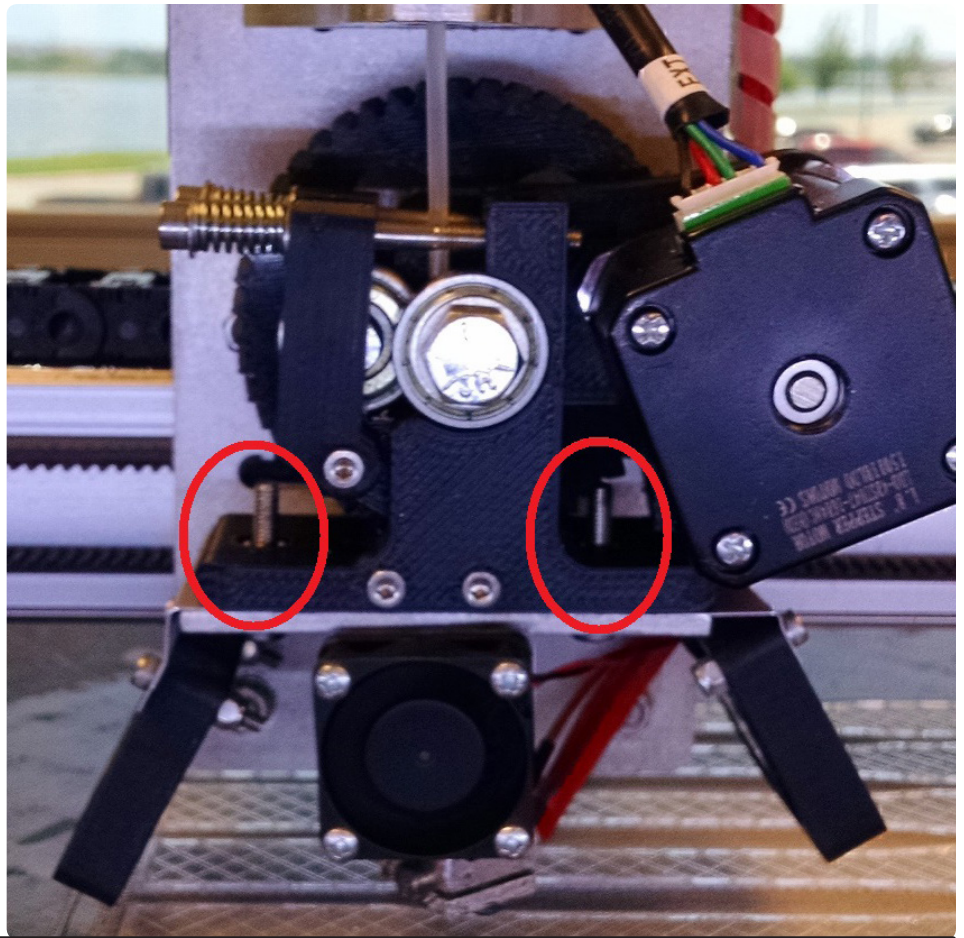


A4

Use a 2.5mm Allen Key to remove the 2 M3 screws holding the J-Head hot end into the extruder body.

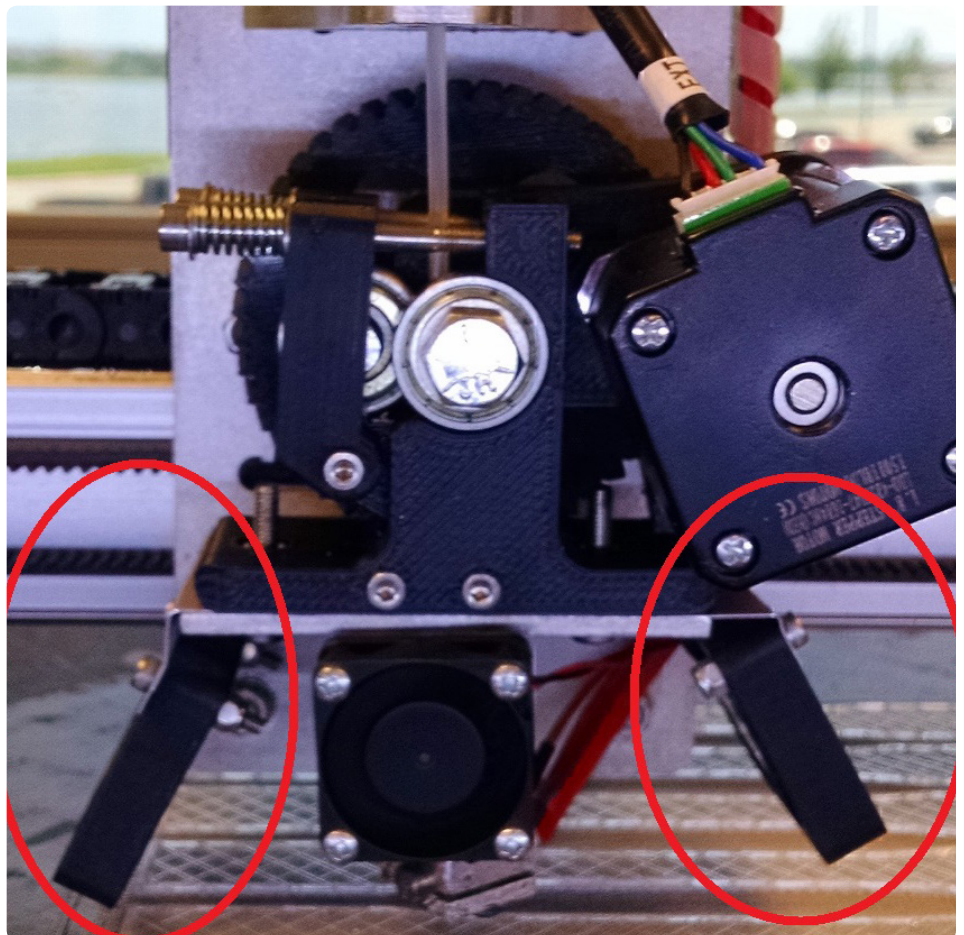
A5

Loosen (one revolution) two M5 screws holding the extruder body to the extruder shelf using the 3mm Allen Key.



A6

Remove fans (with fan bracket still attached). Afterwards, completely remove the J-Head hot end. Also remove and discard the wires for the hot end, fan and thermistor from the head junction box.





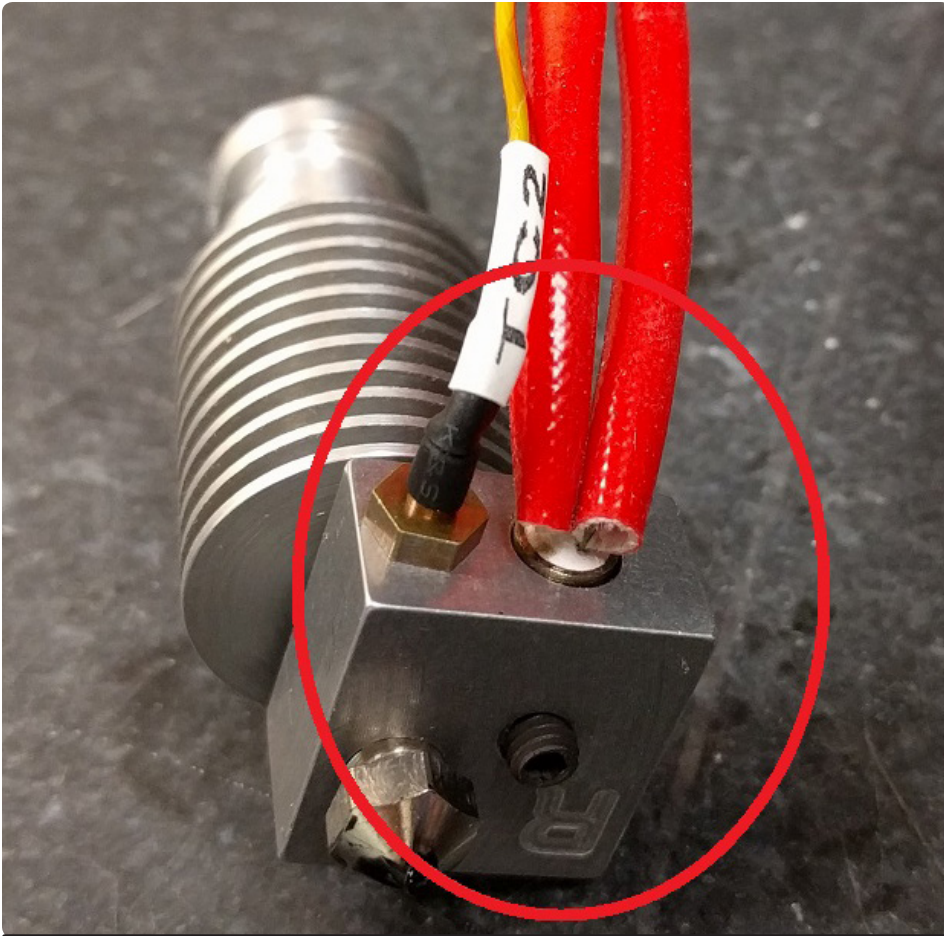
INSTALLING NEW PARTS



OVERVIEW

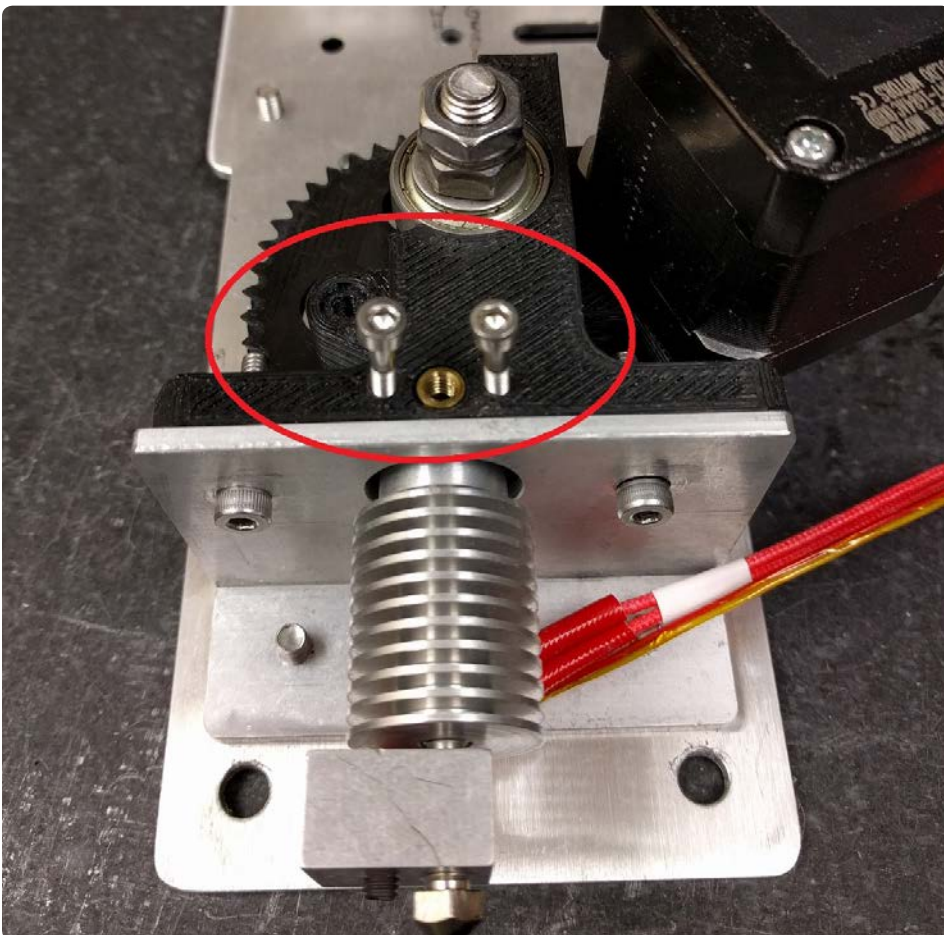
In this section, you will replace your hot end and perform the rewiring. When installing the thermocouple to the hot end heater block, DO NOT overtighten the part, or it will easily break. You may tighten this by hand, or use a 5.5mm wrench.

For general hot end assembly and maintenance information, please watch this video: https://www.youtube.com/watch?v=asB9Esx_Hlo



B1

Install M3 threaded thermocouple into hot end -- DO NOT overtighten, or you will break this! Then, install the heater cartridge into the hot end and tighten the set screw -- DO tighten this, so that the cartridge does not fall out.

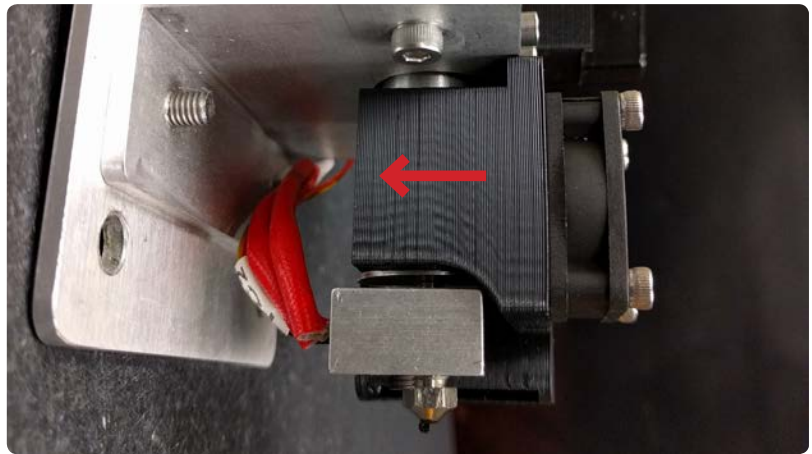
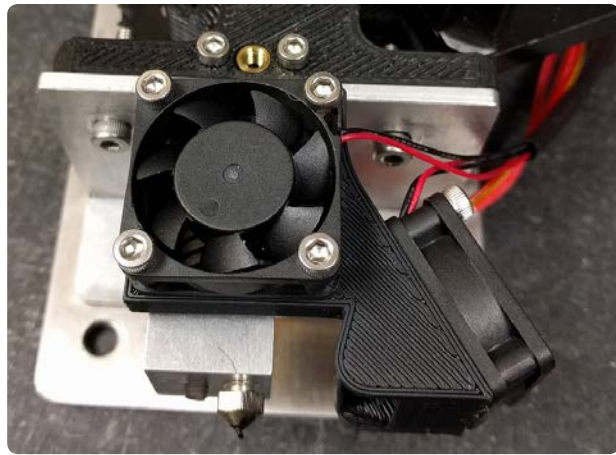


B2

Insert hot end into extruder and insert two long M3 screws to hold hot end in place. Make sure hot end stays straight while tightening the M3 Screws.

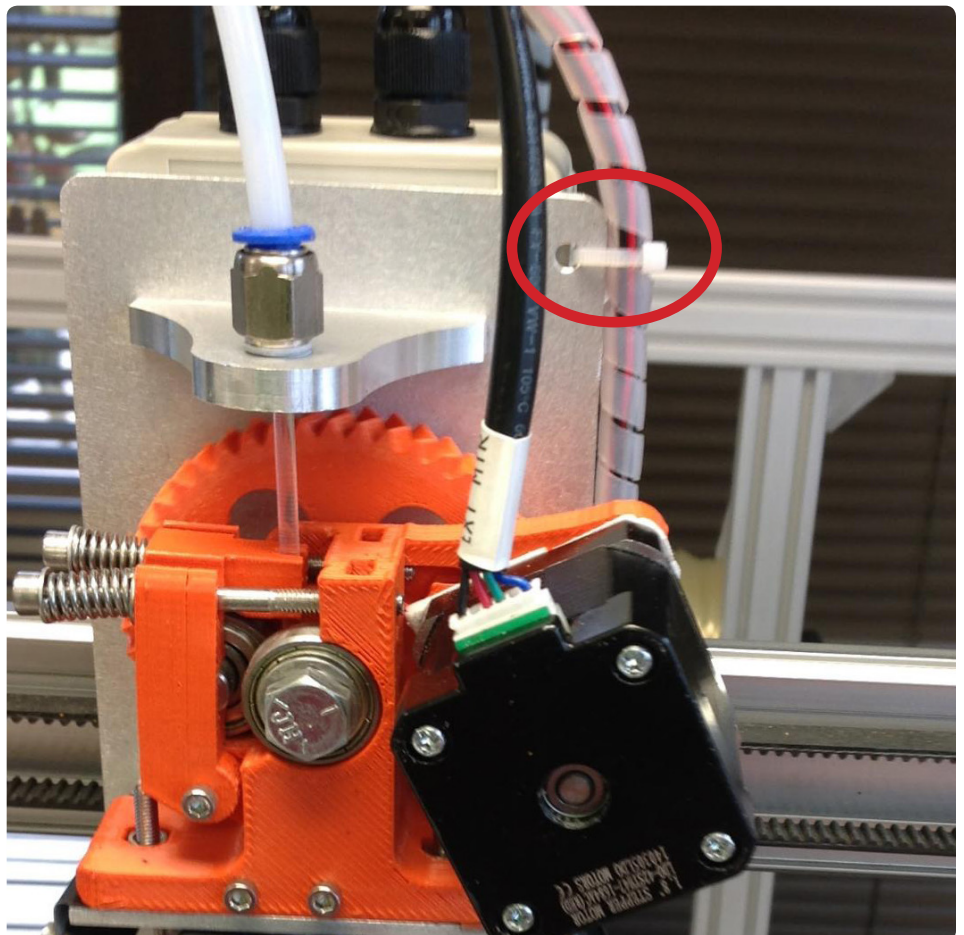
B3

Install the fan duct onto the hot end by pressing it into place.



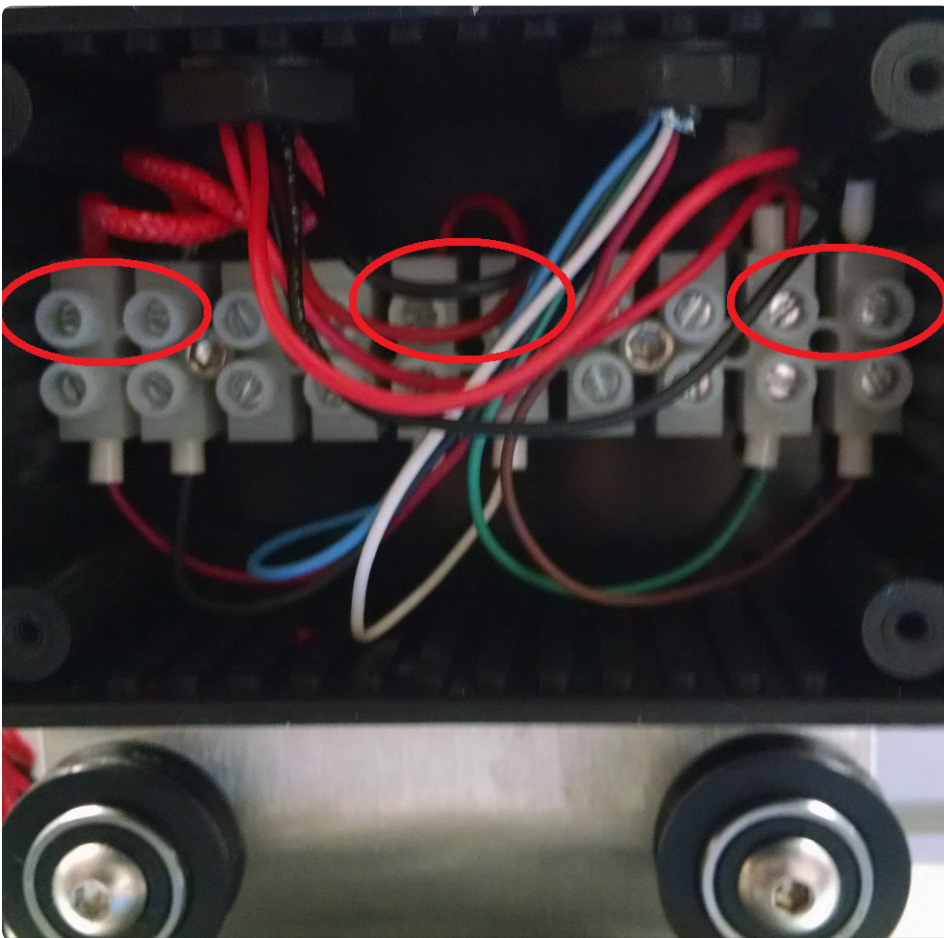
B4

Run wires up the right side of the trolley plate, wrap wires with spiral wrap to protect and attach to mounting with two zip ties.



B5

Note: Thermocouple wire does not need to go into the head junction box and will connect outside the box. (No picture here)



B6

Insert heater cartridge and fan wires into head junction box

- Heater cartridges go into the first two screw terminals on the left
- Extruder fan goes into the center screw terminals (red on left)
- Outrigger fan go on the right two screw terminals (red on left)



ELECTRICAL BOX & FIRMWARE

- Main page
- Software installation
- Firmware Installation
- Calibration
- Tips on Printing
- Recent changes
- Random page

- Tools
- What links here
- Related changes
- Upload file
- Special pages
- Printable version
- Permanent link
- Page information

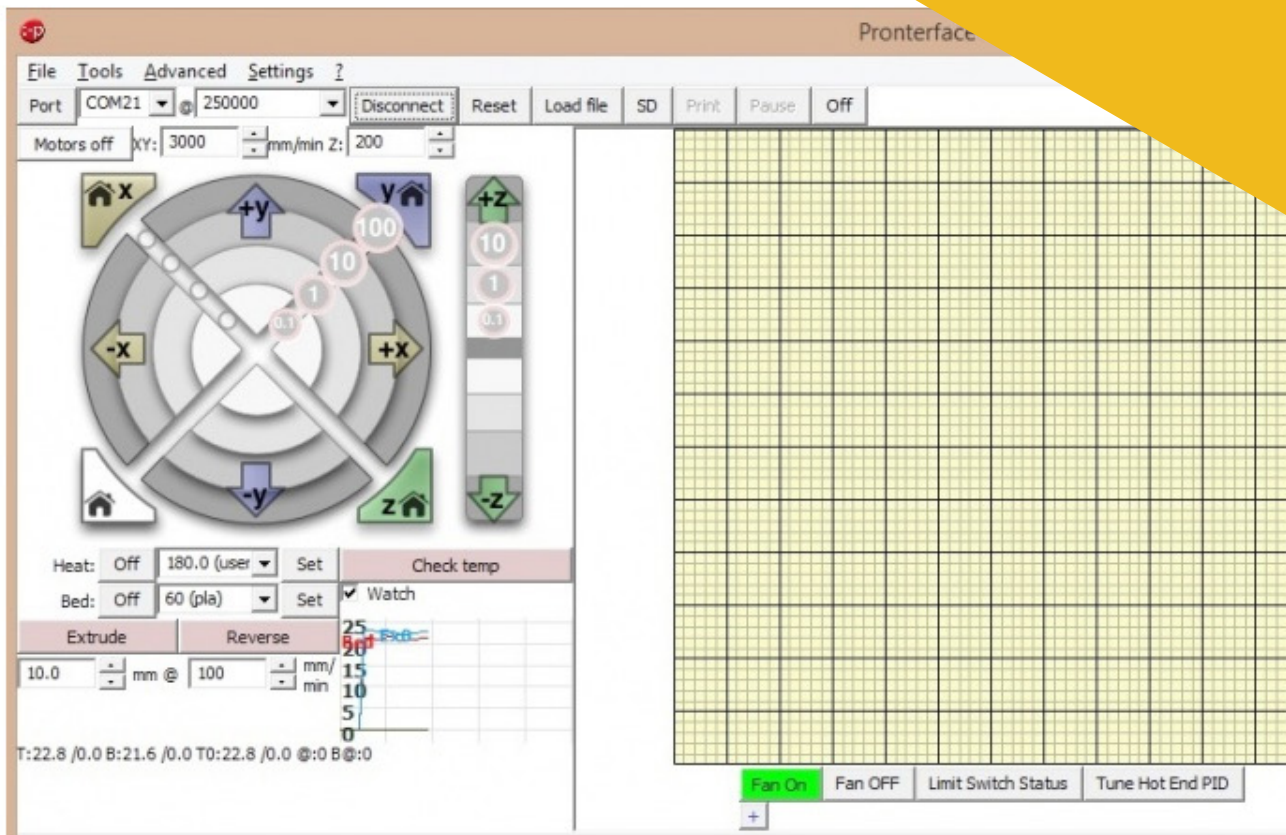
- 1.3
- 1.4 GB2
- 1.5 (No longer s
- 1.6 Configuring and c
- 1.7 Configuring and compla

Gigabot Firmware [\[edit\]](#)

If instructed by customer support to update your firmware:

To determine what version of firmware you currently have:

1. Connect to Gigabot using Pronterface



OVERVIEW

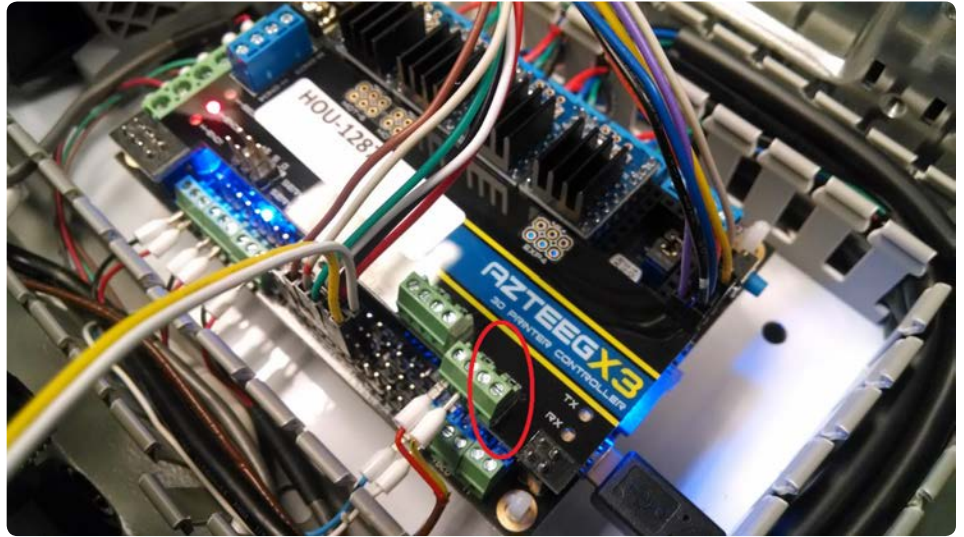
WARNING: TURN OFF AND UNPLUG GIGABOT® PRIOR TO OPENING THE ELECTRICAL BOX. IF YOU DO NOT DO SO, YOU RISK DESTROYING THE GIGABOT'S® ELECTRONICS AND/OR ELECTROCUTING YOURSELF. PLEASE EXERCISE CAUTION.

You will need a large flathead screwdriver to open the door to the electrical box. You will also need a small flathead screwdriver to adjust the screw terminals on the Azteeg controller board.

Firmware updates will need to be done by connecting Gigabot® to a computer via USB. Slicer updates are done on a computer as well, but does not require a connection to Gigabot®.

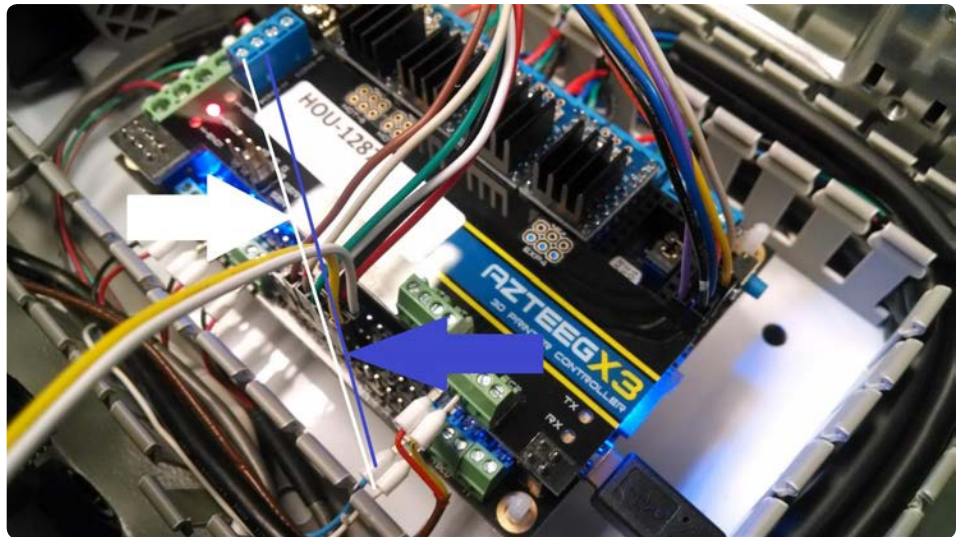
C1

Open the electrical box. Insert Thermocouple extension wire (ferrule end) into open cable grommet on bottom of electrical box and insert ferrules into TC2 connector - (red on left, yellow on right)



C2

Move blue and white head cable wires from Thermistor 1 on bottom of board to lower two blue screw terminals on cover plate. Connect thermocouple extension wire to thermocouple (can leave extension wire out of head cable bundle for initial testing then up wrap head bundle spiral wrap and include thermocouple extension wire after testing is complete)





Firmware installation

Contents [hide]

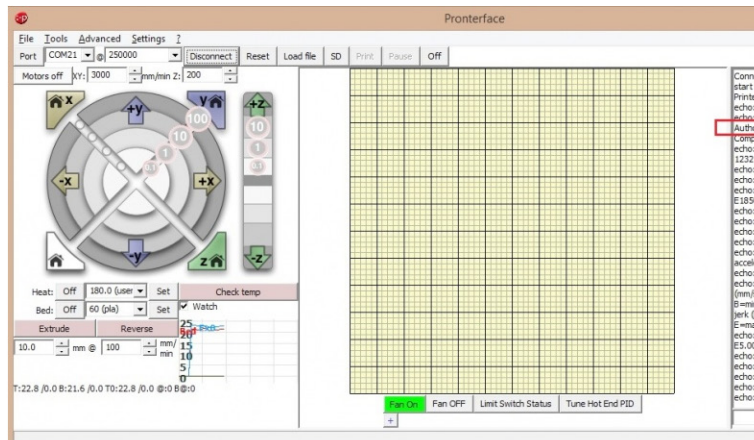
- 1 Gigabot Firmware
 - 1.1 If instructed by customer support to update your firmware continue below
 - 1.2 GB3
 - 1.3 GB2 with Filament detection
 - 1.4 GB2 without Filament Detection
 - 1.5 (No longer supported) GB2 with Viki 1.0
 - 1.6 Configuring and compilation (4.1.2 and 4.1.3)
 - 1.7 Configuring and compilation (3.52)

Gigabot Firmware [edit]

If instructed by customer support to update your firmware continue below [edit]

To determine what version of firmware you currently have:

1. Connect to Gigabot using Pronterface



C3

Update your firmware using the files from our wiki: http://wiki.re3d.org/index.php?title=Firmware_installation

Please contact support@re3d.org if you have questions about firmware for your Gigabot.

FFF Settings

Name:

Profile:

Configure for Material:

Auto-Configure for Print Quality:

Auto-Configure Extruders:

Percentage: Include Raft Generate Support

Extruder List (click item to edit settings)

- Left Extruder
- Right Extruder

Left Extruder Toolhead

Overview

Extruder Toolhead Index:

Nozzle Diameter: mm

Extrusion Multiplier:

Extrusion Width: Auto Manual mm

Ooze Control

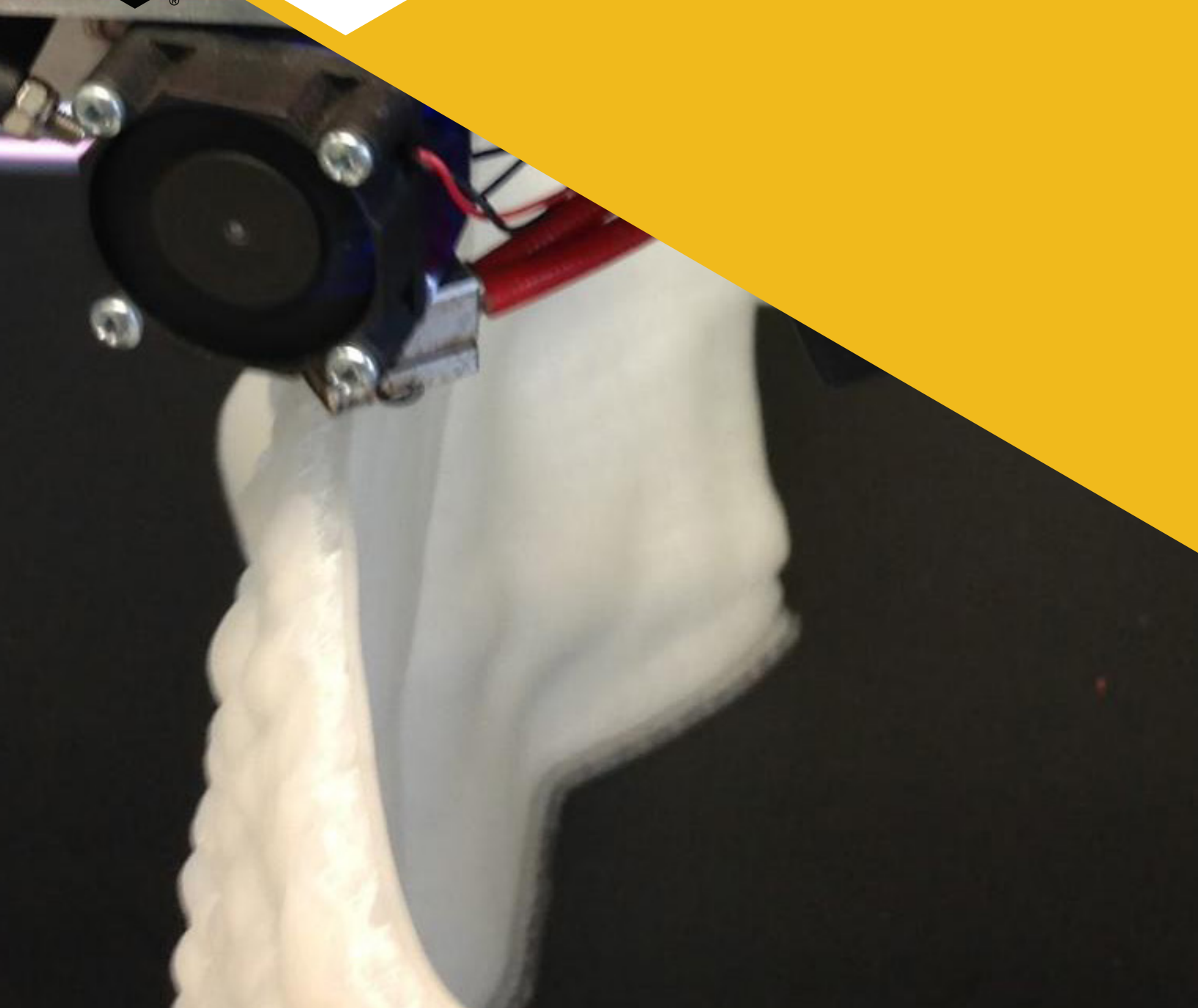
- Retraction
 - Retraction Distance: mm
 - Extra Restart Distance: mm
 - Retraction Vertical Lift: mm
 - Retraction Speed: mm/s
- Coast at End
 - Coasting Distance: mm
- Wipe Nozzle
 - Wipe Distance: mm

C4

Update your slicer profile to use 0.4mm nozzle (Simplify3D settings are shown here).



TESTING



OVERVIEW

GENERAL TESTING STEPS

- Verify that the Viki displays the ambient temperature for the hot end reading
- Set the hot end temperature to 100C
- Verify that the hot end fan (center fan) turns on when temperature reaches 50C and blows in the correct direction. Air should flow from the fan and over the metal cooling fins.
- Turn on the outrigger fans (on the Viki: Control > Temperature > Fan speed: 255) and verify they are blowing the correct direction. Air should flow from the fan and towards the nozzle of the hot end.
- Check the Z axis home position (i.e. bed height). The new hot end may be longer than the hold one and may contact the bed. Adjust the bed to avoid contact with the nozzle.

CONCLUSION

CONGRATULATIONS! YOU HAVE NOW COMPLETED THE INSTALLATION OF YOUR ALL-METAL HOT END!

We are confident that you will find this to be a high quality upgrade that increases the capabilities of your machine, but please do not hesitate to contact us for any further issues or questions. Feedback on assembly instructions, support, and other aspects of your experience are welcome. Reach out to us at:

FORUM: <https://re3d.zendesk.com/hc/en-us/community/topics>

WIKI: wiki.re3d.org

EMAIL: support@re3d.org

PHONE: 512-730-0033

Happy printing!



re:3D Inc.® | re3d.org | support@re3d.org