GIGABOT 3+
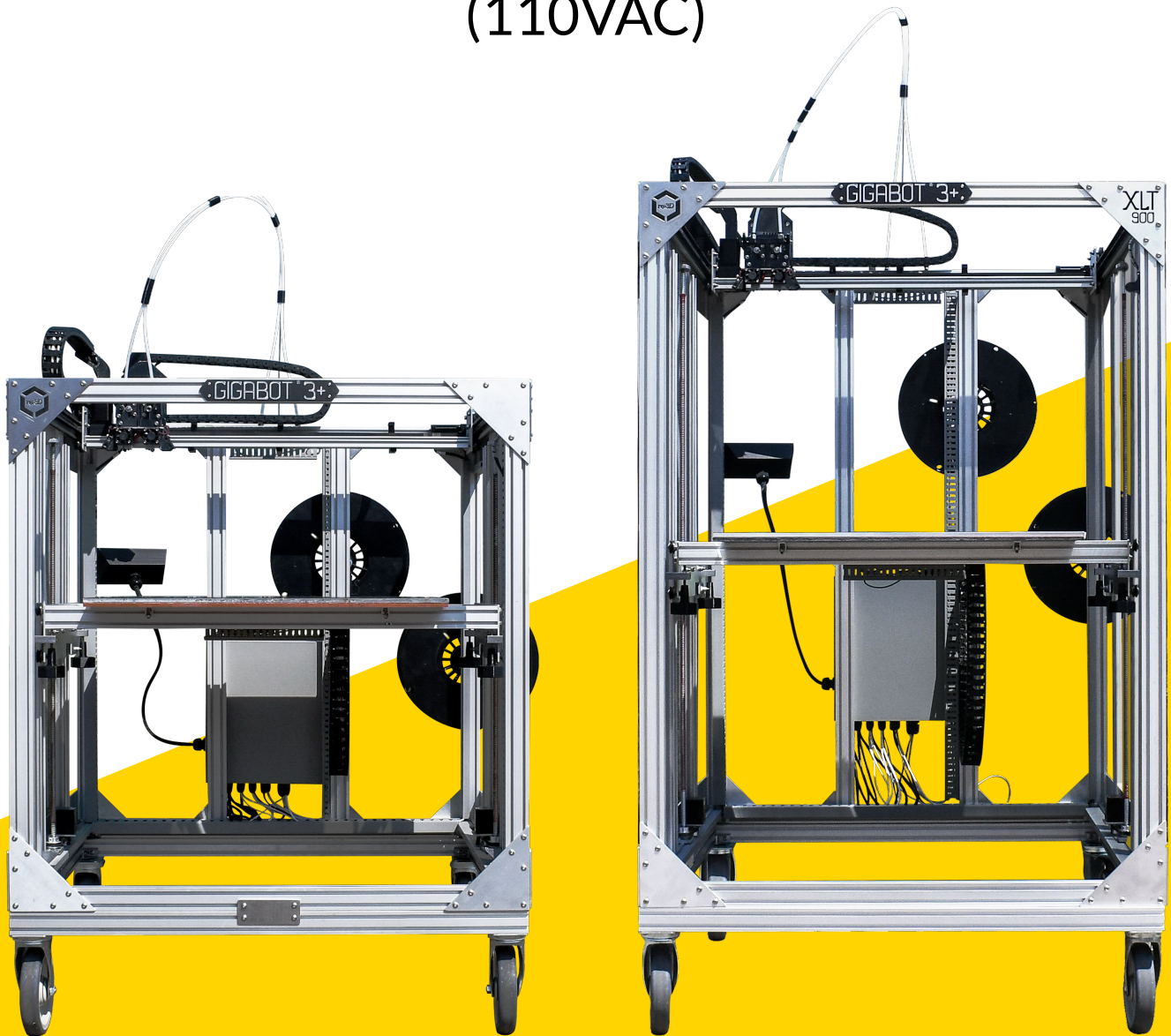## Quick Start Guide
(110VAC)

Revision: 12

Revision date: Jan 24, 2022

Welcome

Congratulations on your Gigabot® 3+ purchase. We can't wait to see you print huge!

This guide will help get your Gigabot® 3+ 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:

- KNOWLEDGE BASE | https://re3d.zendesk.com

- COMMUNITY FORUM | https://re3d.zendesk.com/hc/en-us/community/topics

- SHOP | http://shop.re3d.org/

- WEBSITE | https://re3d.org/

- THINGIVERSE | https://www.thingiverse.com/re3dprinting/designs

- CULTS3D | https://cults3d.com/en/users/re3D/creations

- YOUTUBE | https://www.youtube.com/re3Dprinting

FOLLOW US
Stay updated on re:3D activities! We regularly post content on the following accounts:

- FACEBOOK | https://www.facebook.com/re3Dprinting/

- TWITTER | https://twitter.com/re3Dprinting

- LINKEDIN | https://linkedin.com/company/re-3d

- INSTAGRAM | https://www.instagram.com/re3dprinting/

New users are included in our monthly newsletter, but anyone can also sign up at bottom of our main page at https://re3d.org/

Safety Instructions

READ INSTRUCTIONS
All the safety and operating instructions must be read before the printer is operated.

RETAIN INSTRUCTIONS
The safety and operating instructions should be retained for future reference or accessed on our Knowledge Base here: https://bit.ly/gigabotguides .

HEED WARNINGS
All warnings on the product and in the operating instructions should be adhered to.

FOLLOW INSTRUCTIONS
All operating and use instructions should be followed.

CLEANING
Unplug this product from the wall outlet before cleaning. Compressed air and vacuums can be used for dust or particle removal. Only water and isopropyl alcohol may be used to damp a lint-free rag to wipe off dust and bed surface adhesives.

ATTACHMENTS
Do not use any attachments or enhancements not recommended by the product manufacturer as they may cause hazards.

WATER AND MOISTURE
Do not use Gigabot® 3+ near water such as a sink or other water source. The relative humidity of the environment should ideally be between 0%-50%. Feedstock should be stored in dry boxes if the environment is too humid or if the material is moisture-sensitive.

PLACEMENT
Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Place the product only on stable surfaces recommended by the manufacturer, or sold with the product.

VENTILATION
Slots and openings in the enclosure are provided for ventilation to ensure reliable operation of the product. To protect it from overheating, these openings must not be blocked or covered. This product should not be placed in a built-in installation unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

Safety Instructions

POWER SOURCES

This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home consult your appliance dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.

GROUNDING

This product is equipped with a 3-wire grounding type plug. The 3-wire grounding type plug will fit into a grounding type power outlet. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. The grounding pin is a both a safety feature and critical component for proper function of the machine. Do not defeat the purposes of the grounding type plug.

POWER-CORD PROTECTION

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

LIGHTNING

For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power-line surges. Plugging the machine into a surge protector or an uninterrupted power supply (UPS) can prevent damage to the machine as well. In the case of the UPS, it will allow the machine to keep running for a short period of time to prevent loss of progress in out-of-power scenarios.
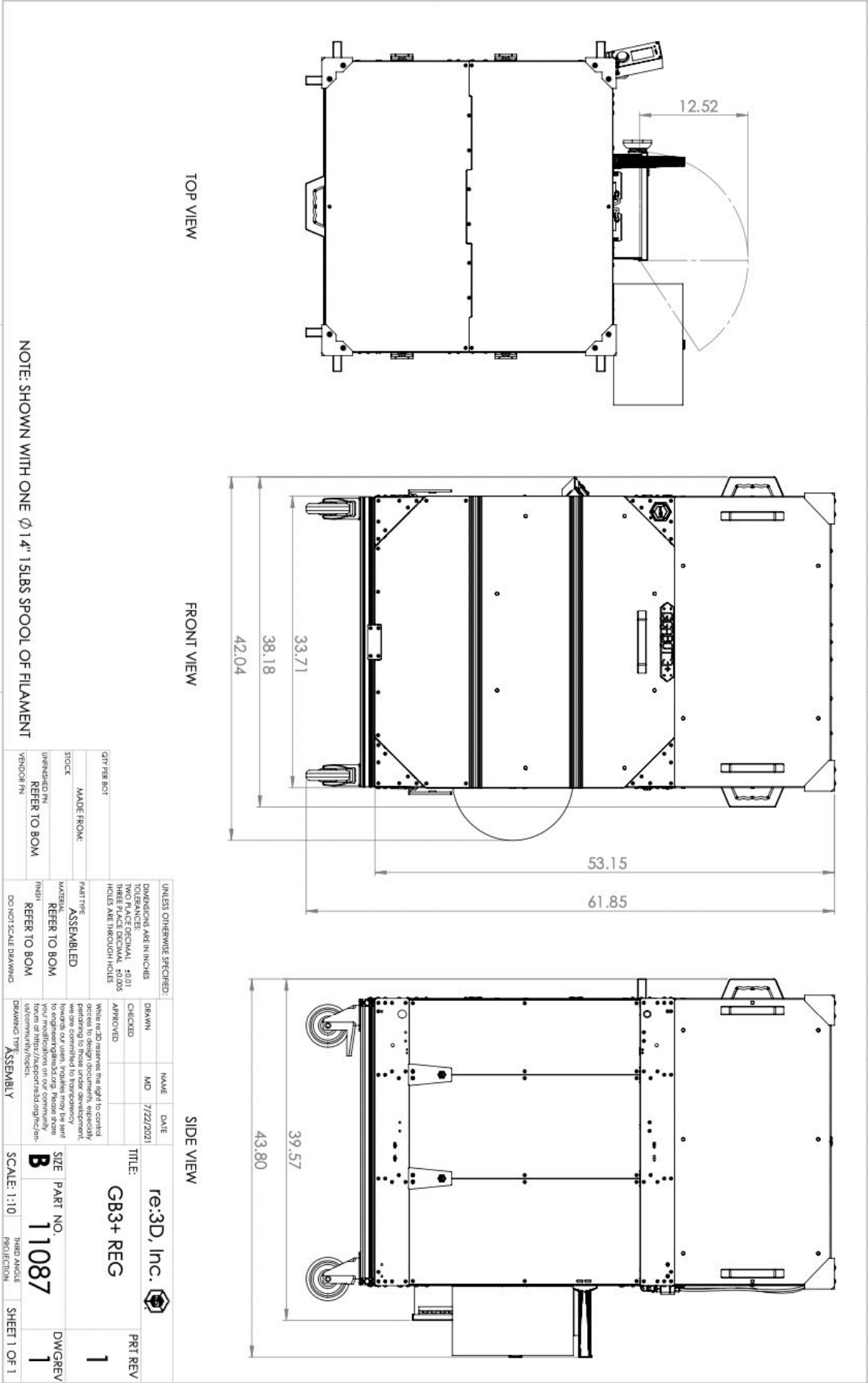
OVERLOADING

Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock. A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

OBJECT AND LIQUID ENTRY

Never push foreign objects of any kind into this product through openings as they may touch dangerous voltage points or mechanical components that could result in a fire, electric shock, or broken components. Never spill liquid of any kind on the product.
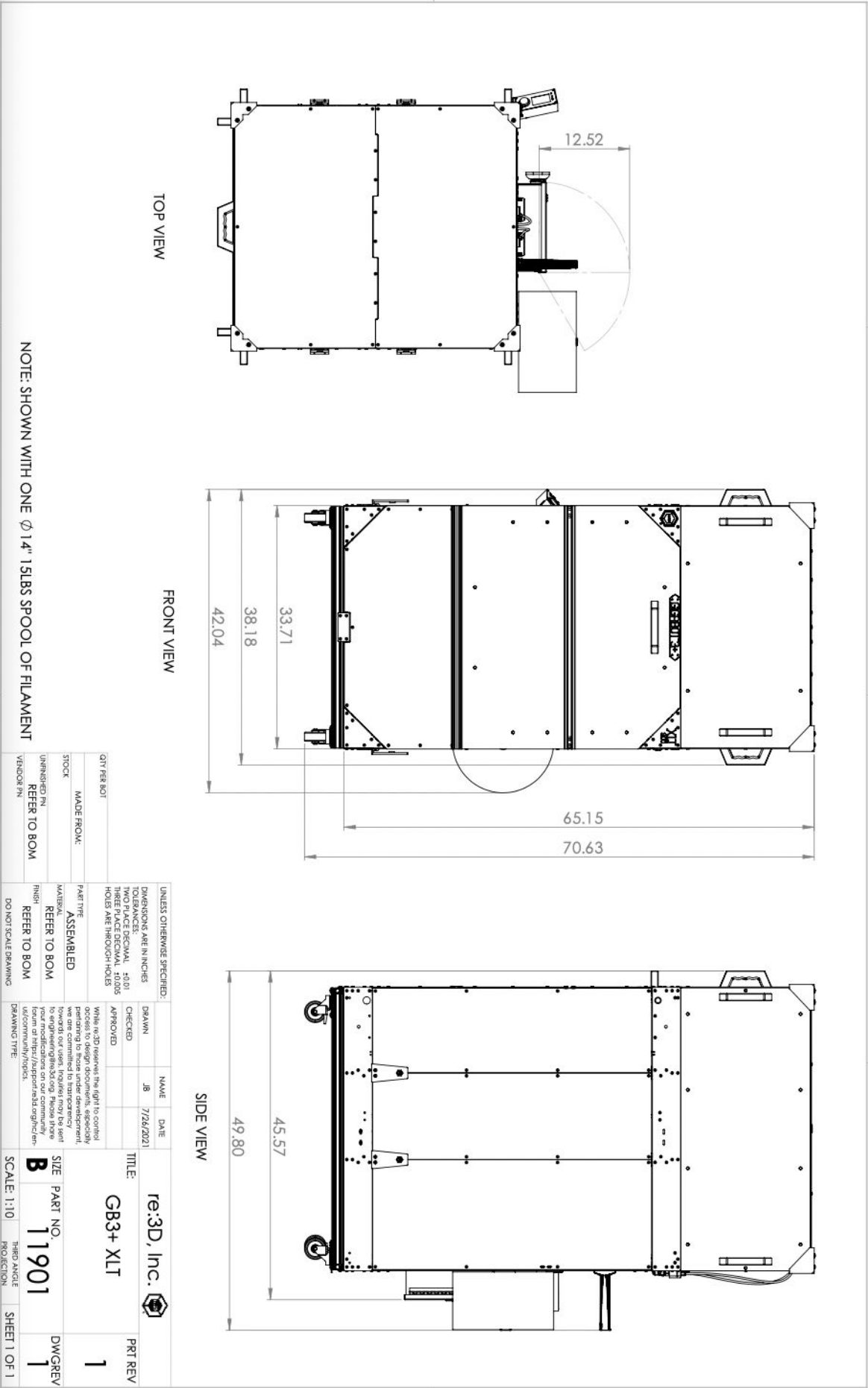
Gigabot 3+ Regular Dimensions

TOP VIEW

FRONT VIEW

SIDE VIEW

12.52

33.71
38.18
42.04

53.15
61.85

39.57
43.80

NOTE: SHOWN WITH ONE Ø 14" 15LBS SPOOL OF FILAMENT

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES
TOLERANCES:
TWO PLACE DECIMAL   ±0.01
THREE PLACE DECIMAL ±0.005
HOLES ARE THROUGH HOLES

QTY PER BOT

STOCK

UNFINISHED PN   REFER TO BOM

VENDOR PN

MADE FROM:

PART TYPE   ASSEMBLED

MATERIAL   REFER TO BOM

FINISH   REFER TO BOM

DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	MD	7/22/2021
CHECKED		
APPROVED		

While re:3D reserves the right to control access to design documents, especially pertaining to those under development, we are committed to transparency towards our users. Inquiries may be sent to engineering@re3d.org. Please share you modifications on our community forum at https://support.re3d.org/hc/en-us/community/topics.

re:3D, Inc.

TITLE:
GB3+ REG

SIZE **B**

PART NO. 11087

SCALE: 1:10

DRAWING TYPE: ASSEMBLY

THIRD ANGLE PROJECTION

PRT REV 1

DWGREV 1

SHEET 1 OF 1

Gigabot 3+ XLT Dimensions

TOP VIEW

12.52

FRONT VIEW

42.04
38.18
33.71

65.15
70.63

SIDE VIEW

49.80
45.57

NOTE: SHOWN WITH ONE ⌀14" 15LBS SPOOL OF FILAMENT

	NAME	DATE
DRAWN	JB	7/26/2021
CHECKED		
APPROVED		

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
TWO PLACE DECIMAL: ±0.01
THREE PLACE DECIMAL: ±0.005
HOLES ARE THROUGH HOLES

While re:3D reserves the right to control access to design documents, especially pertaining to those under development, we are committed to transparency towards our users. Inquiries may be sent to engineering@re3d.org. Please share your modifications on our community forum at https://support.re3d.org/hc/en-us/community/topics.

QTY PER BOT
MADE FROM:
STOCK
UNFINISHED PN — REFER TO BOM
VENDOR PN

PART TYPE — ASSEMBLED
MATERIAL — REFER TO BOM
FINISH — REFER TO BOM
DRAWING TYPE:
DO NOT SCALE DRAWING

TITLE: re:3D, Inc.
GB3+ XLT

SIZE: B
PART NO. 11901
SCALE: 1:10

PRT REV 1
DWG REV 1
THIRD ANGLE PROJECTION
SHEET 1 OF 1

Table of Contents

A | Receiving and Uncrating

Inside this crate is your Gigabot® 3+. We know you want to start printing,, but your new 3D printer needs a little attention before your power it on. It's currently wearing extra pieces that protect it during shipping, but wreak havoc if left on during the printing process. Follow these receiving and uncrating instructions first, and we'll get you printing soon!

To uncrate a fully assembled Gigabot® 3+, you will need a Phillips head screwdriver and a pair of diagonal cutting pliers to cut zip ties. You will also need a 4mm hex driver and an 8mm wrench, which are provided with the printer.

Upon delivery of the Gigabot® 3+, inspect all packages for damage prior to signing for the delivery. If there is any damage, record it and report to our shipping manager within 24 hours at shipping@re3d.org.

For a video demonstration similar to the following instructions, feel free to watch our video titled "GB3+ Uncrating" on our YouTube channel at https://www.youtube.com/re3Dprinting/.

This Gigabot® 3+ runs on 110V AC power at 60Hz, and it comes with a Type B power cable. The Regular size Gigabot will draw a maximum of 10.9A at 110V AC, and the XLT size Gigabot will draw a maximum of 12.5A at 110V AC.

A1

Before arrival, establish an appropriate space for the Gigabot® 3+ to be located during operation. Gigabot® 3+ requires access to a dedicated 110 VAC 15A circuit, and it should be plugged into an uninterrupted power supply or a surge protector. A climate-controlled environment is recommended, but not necessary.
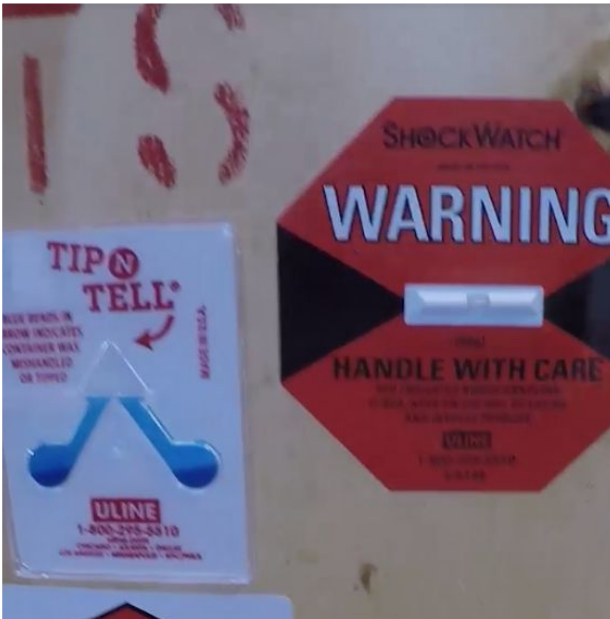
A2

Upon arrival, check the Tip n' Tell and Shockwatch indicators for indication of mishandling. Check the crate for damage. If any damage is observed, or the indicators are tripped, record and report to shipping@re3d.org within 24 hours.

A3

Using a Phillips head screwdriver, remove the wood lid and panels of the crate.

A4

Remove the plastic wrap covering Gigabot®
3+.

A5

Remove all zip ties, foam blocks, bubble wrap,
bed locks, etc. from Gigabot® 3+.

A6

With at least two people holding the Gigabot®
3+, disengage the brakes and roll it off of the
bottom of the crate and onto the floor.
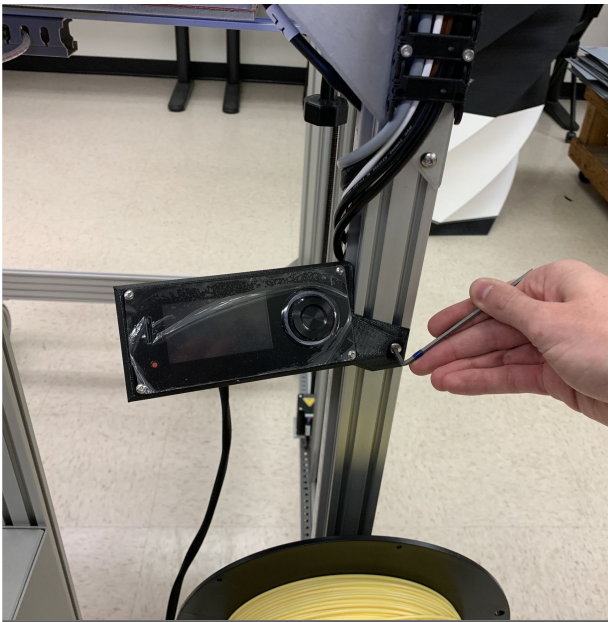
A7

Locate the Viki at the back of the Gigabot® 3+ near the electrical box and remove all packaging from the Viki. With a 4mm Allen wrench, unscrew the three screw in the back upright rail and use the screws to attach the Viki to the rail.

A8 **IMPORTANT**

Remove all 8 (eight) bed locks using the 8mm wrench. Note that these are both above AND below the bed frame. Save these bed locks in the event that you need to transport your Gigabot® 3+ in the future.

A9

Insert the socket end of the power cable into the electrical box. Check that the connection is secure.

A10

Insert the plug end of the power cable into an outlet.
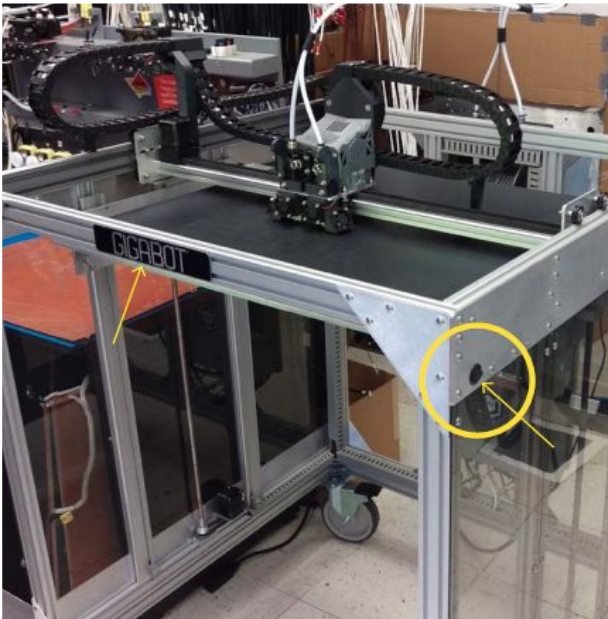
A11

If you are looking at the front of your Gigabot® 3+ (you should see the Gigabot® 3+ nameplate) the power switch is located on the right side of your bot closer to the front. It is a small black circle switch; flip it on!

A12

If your Gigabot® 3+ includes an enclosure, you will need to attach [11229] Panel Handles to the Hood Panel Front, both Hood Panel Sides, and Front Panel Top prior to use. Fasten using [10231] M4x12 FHS and 2.5mm Allen Wrench.
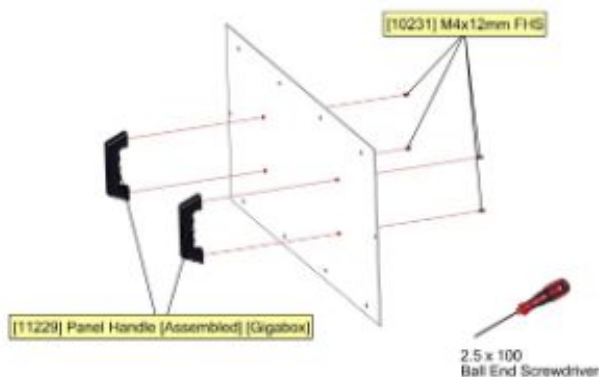
B | Bed Leveling and Z-Home

Before shipment, all Gigabot® 3+ printers are calibrated to have a leveled bed and correctly gapped nozzle Z heights (the distance between the nozzle and the bed). The following instructions outline the steps to level the bed of your GB3+ and recalibrate the Z height in case of movement during shipping.

Please follow the steps outlined in this guide to level the bed of your Gigabot® 3+.

These steps use a 0.010 inch feeler gauge or shim stock to gauge the distance between the nozzle and the bed. Users may opt to use a tool setter as well. It is also acceptable to level the bed with something like a 1-2-3 block or a piece of aluminum extrusion, but users will have to set the Z home position afterward.

B1

Using the Viki LCD controller, move the bed down 150mm. Press the button to see the main menu, then select "Prepare," scroll down to "Move Axis," then "Move 1mm," then "Move Z," and finally turn the wheel clockwise until it reaches 150mm.
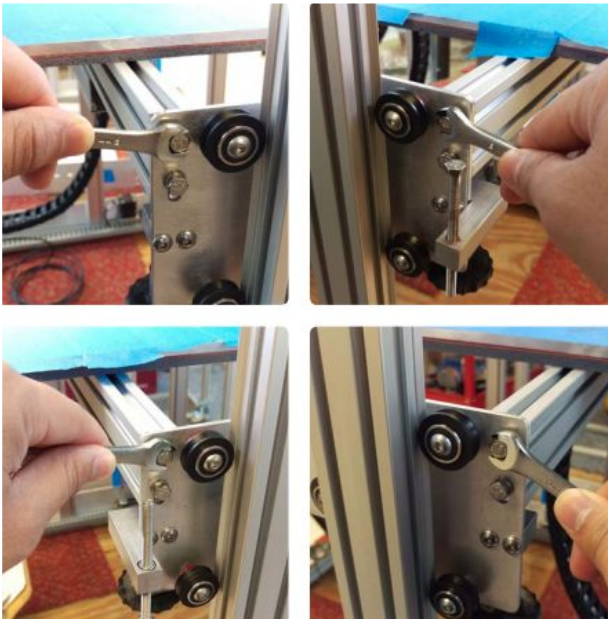
B2

Using the 8mm combination wrench, loosen each of the 2 M5x12 hex head screws that fasten the bed side plate to the bed cross rails. There are 8 in total.
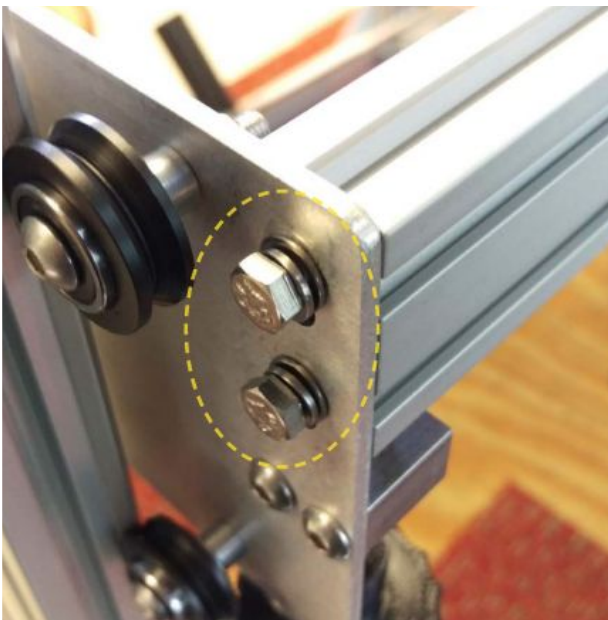
B3

These need to be loose enough so that the ends of the rails can move vertically in the slots of the side plates with little to no resistance.

B4

Adjust the leveling knobs until there is about a 1/8" gap (3mm) between the top of the rail and the top of the side plate at each corner. A ruler or a shim can be used to measure this distance. Similarly, users can opt to turn the leveling knob to push the rail up until it is flush with the side plate, and then lower it 4 full revolutions.

B5

Repeat this process for all 4 corners of the bed frame.

B6

Use the 8mm combination wrench to raise the M5x70 hex head screw on the upper Z limit switch leveling block (when looking directly at the Gigabot® 3+ name plate, this is the right side leveling block). Turning counterclockwise when viewed from above will raise the screw. Do 2-4 full revolutions to raise the screw and move the Z home position further from the nozzle.

B7

Using the Viki, select "Home Z," in the "Prepare" menu.
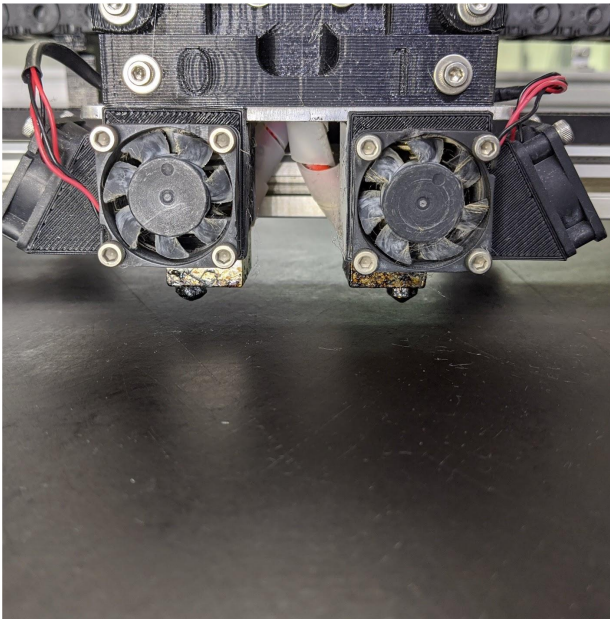
B8

There should now be a widened gap between your nozzle(s) and the surface of the bed. Push the trolley to one corner of the bed, near one of the leveling knobs. If the motors are locked, they can be unlocked by navigating to the "Prepare" menu in the Viki and selecting "Disable steppers."
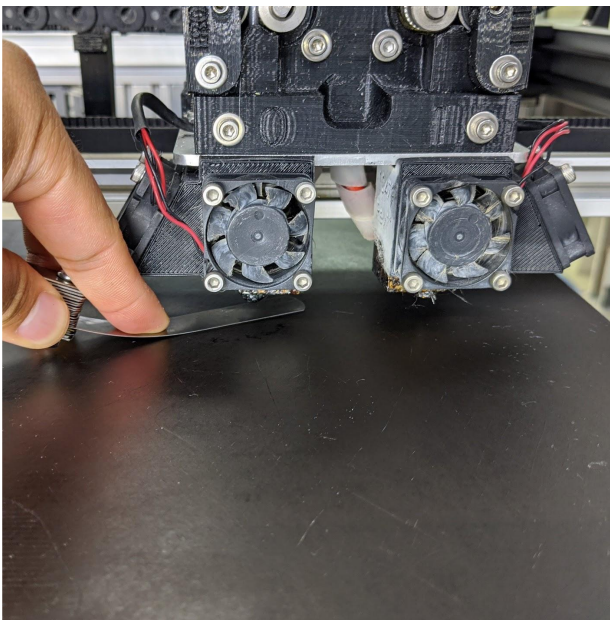
B9

Place a shim stock between the nozzle and bed. Use a 0.3mm thick gauge.

B10

When viewed from below, turning the knob clockwise will raise that corner. Turn the leveling knob to raise the bed until the nozzle is close but not touching the shim stock. This gap is needed because when raising the other corners of the bed, this corner will also raise slightly. Repeat this process at all corners of the bed.
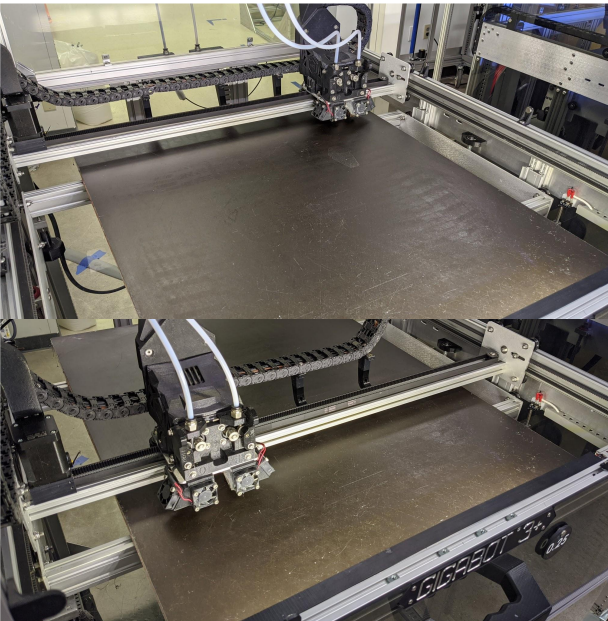

B11

For the final adjustments of the corners, turn each knob so that there is slight friction between the shim stock and the nozzle. Repeat this process until all corners have the same friction.
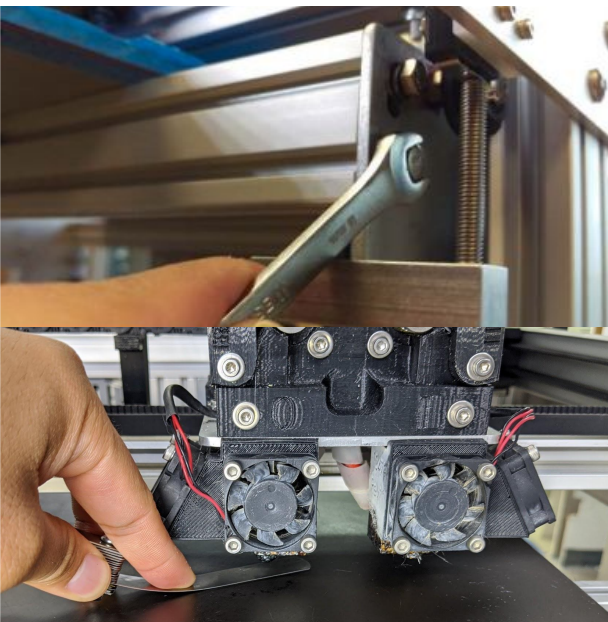
B12

Use the 8mm combination wrench to gradually tighten the M5x12 hex head screws at each corner. Periodically use the shim stock to check the bed level, since tightening the hardware on the rails may cause them to move slightly. The bed cross rails should be secured and acceptably level to the nozzle after 2-3 total passes.
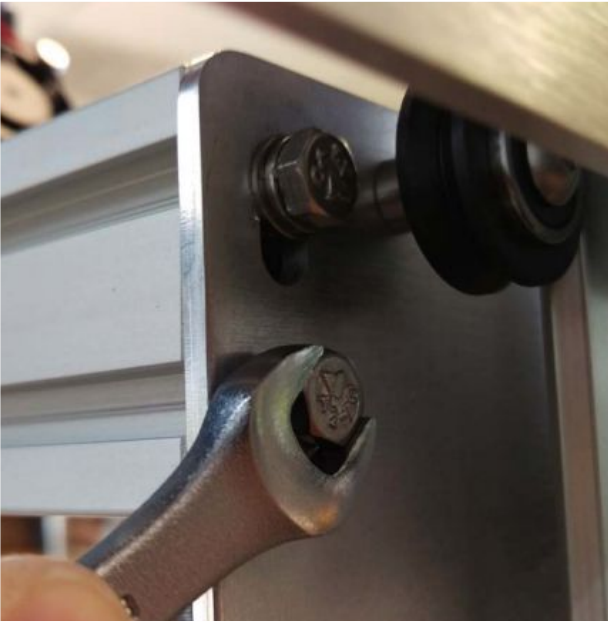
B13

After the final tightening, the bed will be securely held in position and there will be no need to re-level unless some external factor throws it out of level. If you have any questions or concerns, please do not hesitate to contact our support at support@re3d.org.

C | Loading and Changing Filament

Gigabot® prints with 2.85mm diameter polymer filament. Thanks to the all-metal design of the hot ends, Gigabot® can print virtually any 3D printing filament available on the market! Whether you are using Gigabot® for utilitarian or artistic prints (or both!), your 3D printer needs filament loaded and inserted into the extruder to properly execute your vision for a 3D printed paradise. The following section demonstrates how to load filament to Terabot® prior to printing as well as how to change filament when needed.

For a video demonstration of loading filament, please read our article "GB3+ Filament Loading" on our Knowledge Base here: https://bit.ly/LoadingFilament

For a video demonstration of changing filament, please read our article "Changing the Filament Spool" on our Knowledge Base here:https://bit.ly/ChangingFilament

For updates on the full range of materials we're testing, see our website at: https://re3d.org/materials/

With your Gigabot®, we have provided PLA filament. We recommend using this material for your first test print since it prints consistently, and we have developed optimized print settings for it that will be discussed in a future section.
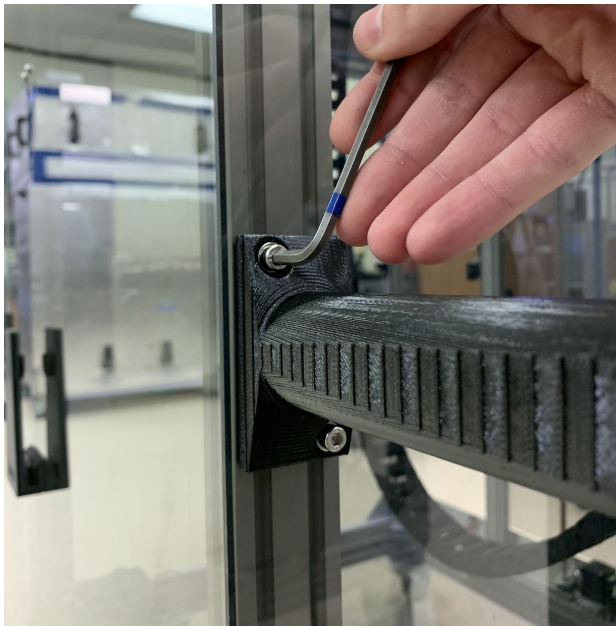
C1

Install the [10864] spool holders to the back of Gigabot® with 2x M5 magic t-nuts, 2x M5 flat washers, and 2x SHCS M5x16 each using a 4mm Allen key to fasten the hardware. For Gigabot® Regular, the spool holders should be on the far left and far right vertical rails. For a Gigabot® XLT, the spool holders mount to the far left and middle right vertical rails.
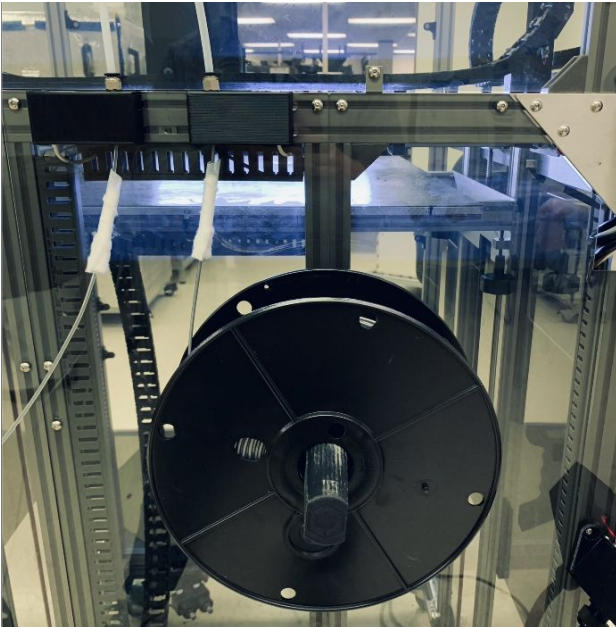
C2

Place the filament spool onto the spool holder. The filament should feed from below the spool and into the Filament Detection (FD) unit nearest to it.
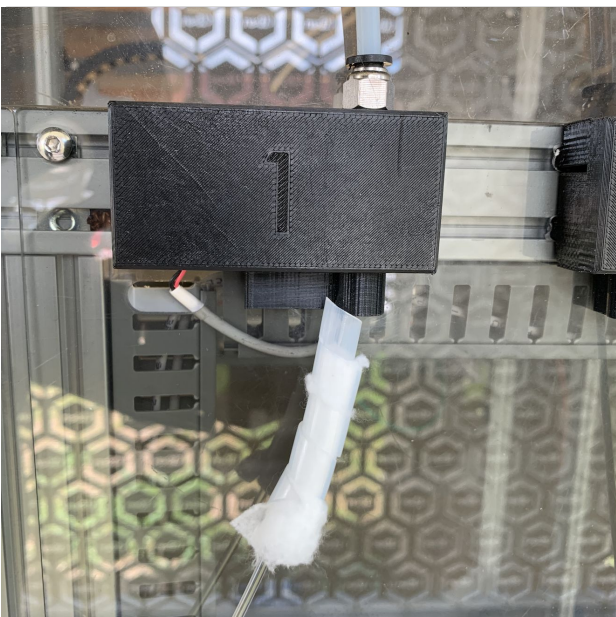
C3

Prior to inserting the filament into the guide tubes, use the dust cleaning cloth to clean it. Insert each filament into its tube, wrap a filament cleaning cloth around it just below the FD unit, and then secure it using the spiralite.
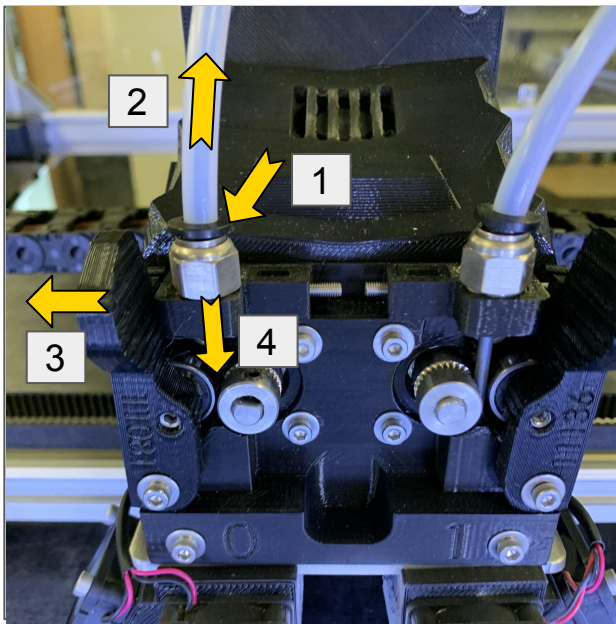
C4

To manually load the filament, set the filament temperature using the Viki controls (Prepare > Preheat PLA/PC, or Control > Temperature > set custom temperature). **(1)** Push down on the collar to **(2)** pull the filament tube free. After heating is complete, **(3)** hold open the extruder tensioner and **(4)** feed the filament into the hot end by hand until you see molten plastic flowing from the nozzle. Replace the filament tube into the connector

C5

To load the filament using the Viki, navigate to Prepare > Change Filament, and follow the prompts until the material you loaded is extruding out of the nozzle.

D | Printing on Gigabot® 3+

You are almost ready, 3D printing ninja! There are two ways to make Gigabot® 3+ print gcode; via USB or using a microSD card in the Viki LCD controller. Typically, we recommend printing via the microSD card. It's the most reliable method because it eliminates the possibility of a print stopping due to computer errors or power issues. The USB cable is also more susceptible to electrical interference which can disturb the serial communication to Gigabot® 3+. For your first print, you will print a "Moai" with a pre-loaded file on the SD card using the Viki LCD controller. Later in Section F we will show you how to generate your own gcode.

Prior to printing, prepare your Gigabot® 3+ bed and enclosure according to the requirements of the material you are using. Examples of common materials and their necessary preparations are listed below:

PLA
- Enclosure open (remove at least 2 enclosure hood panels)
- Bed clean or thin layer of glue stick or Magigoo Original
- Can be main part material or support material with PETG in dual extrusion
- Filament removed from the filament tube when printing with a closed enclosure

PETG
- Glue stick on bed
- Can be main part material or support material with PLA in dual extrusion
- Enclosure optional

ABS
- Very clean bed surface. Clean bed with damp rag (water) then isopropyl alcohol
- For large parts: Very clean surface as above, then apply Magigoo Original
- Enclosure fully shut
- Uses itself as support material

The complete "Material Printing Guide" is found on our Knowledge Base here:
https://bit.ly/MaterialPrintingGuide

Note that at the start of each print, Gigabot® will heat the bed and nozzle(s), and then home each axis. Be sure to share what you print in the "Show and Tell" section of our forum, at https://re3d.zendesk.com/hc/en-us/community/topics/200275793-Show-Tell.

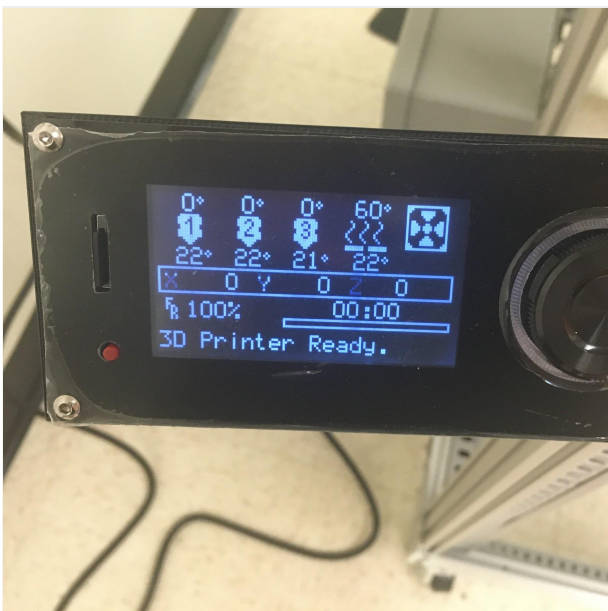Should you have any questions, please reach out to support@re3d.org.
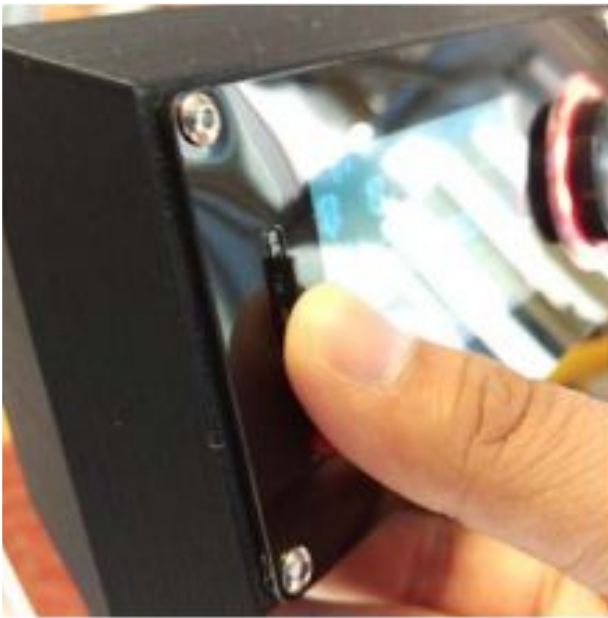
D1

Insert the provided microSD card into the Viki controller until it clicks. Your Gigabot® 3+ will come pre-loaded with a gcode file. This file is preconfigured for you to immediately print.

D2

Select "Init. SD card" or "Change SD card" and then navigate to "Print from SD".

D3

Select the .gcode file and Gigabot® 3+ will begin heating the bed and nozzles. Once heated, Gigabot® 3+ will begin to print. You can load the SD card with your own gcode files to print with later.

E | Software Setup

To achieve the best 3D prints, it will take a combination of your skills, a properly maintained Gigabot®, and a well sliced 3D model. Simplify3D is our preferred slicing and printer hosting program. Not only does it lead the market in parameter customization and features like customizable support generation, but Simplify3D best handles the large print jobs that Gigabot® users make on a daily basis. The factory file functionality also enables us to better support and troubleshoot with customers. We recommend this for any user looking for a robust and reliable software workflow.

Current installations of Simplify3D will not have the most updated printing profiles for Gigabot® 3+, so the following steps discuss how to import a new profile. For a quick video demonstration of these steps, feel free to watch our video on this process titled "Importing Profiles to Simplify3D" on our YouTube channel "re:3D Printing" linked here: https://bit.ly/ImportingProfiles

GB3+ with firmware 4.2.0 and above

Base Profile – Used for single material prints

- GB3+
- GB3+ XL
- GB3+ XLT

Support Profile (Using separate material for support structures)

- GB3+
- GB3+ XL
- GB3+ XLT

Polycarbonate (PC) Profile

- GB3+
- GB3+ XL
- GB3+ XLT

E1

Our newest profiles are readily available on our Zendesk page at "Gigabot Printing Profiles". Be sure to select the appropriate profile for your GB3+ model, firmware, and nozzle size.

E2

In Simplify3D, import the profile you just downloaded. It will afterwards be available as an option in the process settings of each printing process. Again, feel free to watch our video on these steps if needed.
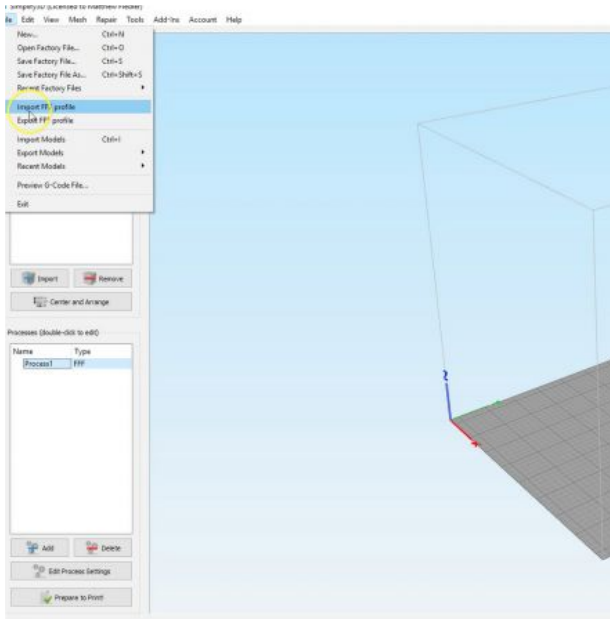
F | Preparing a Print

With your Gigabot® profile imported into Simplify3D, you now have the power to create .gcode from which Gigabot® will print your sliced 3D models. For those who have used open source slicing programs, you may notice one of the best features of Simplify3D; it slices objects much faster--especially when it comes to large and/or multiple objects.

The general steps for preparing .gcode will be the same for Simplify3D as they would be for other slicing programs, if users choose not to use it.

For a quick video demonstration of these steps, feel free to watch our video on this process titled "Making Gcode for Gigabot with Simplify3D" on our YouTube channel "re:3D Printing" linked here: https://bit.ly/re3Dmakinggcode

For a more in-depth print set up, please read our Knowledge Base article titled "Material Printing Guide" which is linked here: https://bit.ly/MaterialPrintingGuide
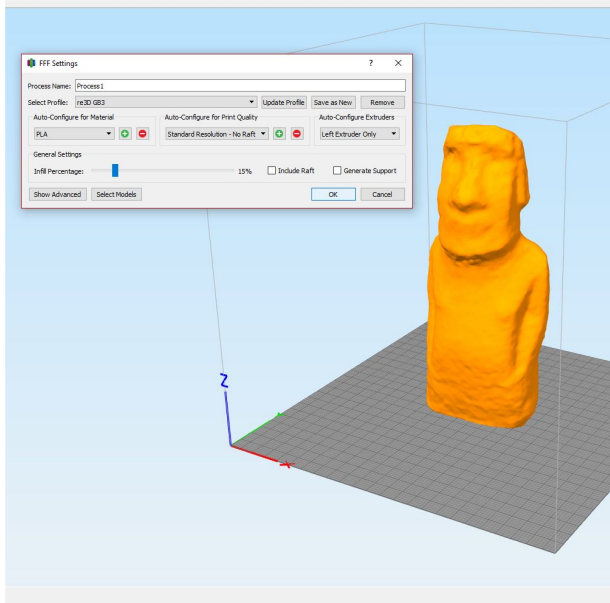
F1

Import your .STL file into Simplify3D. Orient the part as desired in the workspace. In the process settings, select the profile for your Gigabot®, then choose the material, resolution, and extruder you are printing. When you are satisfied, click the "Prepare to Print" button.
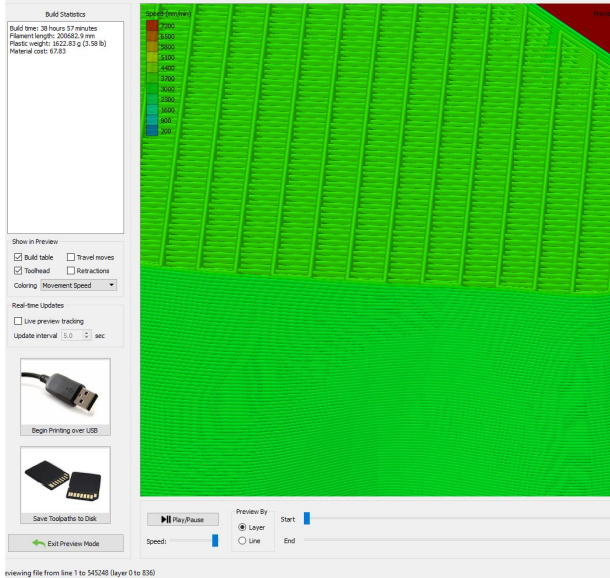
F2

Use the Preview Mode to analyze the .gcode for potential printing errors. There are also useful approximations Simplify3D can generate such as print time and material usage. Once satisfied, export the .gcode to a microSD card for printing, or print directly via USB. If needed, feel free to watch our video on this process.

Next Steps

Congratulations! You have completed your first print on Gigabot® 3+. From here, you now have the foundation to print your own models with whatever material you want. Below are a series of helpful articles from our knowledge base that will help you as you explore different 3D models and materials:

- **Filament selection:**

  https://re3d.org/materials/

  https://bit.ly/KnowledgeBaseMaterials

- **How to dry filament:**

  https://bit.ly/DryingFilament

- **Material Printing Guide - Steps for Success:**

  https://bit.ly/MaterialPrintingGuide

- **re:3D supplied design files:**

  https://bit.ly/re3DDesignFiles

- **Common Gigabot® 3+ extrusion issues:**

  https://bit.ly/ExtrusionIssues

- **3D Printing Tips and Tricks:**

  https://bit.ly/PrintingTipsandTricks

High Five !

You have now completed your first print on Gigabot® 3+

We are confident that you will find this to be a high quality machine, but please do not hesitate to contact us for any further issues or questions. Feedback on instructions, support, and other aspects of your experience are welcome. Reach out to us at:
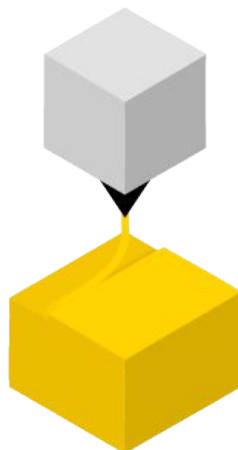
FORUM | https://bit.ly/re3DForum

KNOWLEDGE BASE | https://re3d.zendesk.com/

EMAIL | support@re3d.org

PHONE | 512.730.0033

HAPPY PRINTING!

Share Your Prints with Us!

re:3D offers multiple ways to earn discounts toward future purchases by sharing your work!

PRINT FOR CREDIT: The showroom in our Houston factory is filled with examples displaying the innovative, creative and problem-solving 3D prints made by Gigabot® Gigabot® X, and Terabot® owners from around the world. All of our 3D printer owners are eligible for our print for credit program. Send us a picture of your original prints or products and we will review it to add to the collection. We provide re:3D store credit for parts and services in exchange for your print to help you continue to push the boundaries of 3D printing.

CUSTOMER STORIES: As a Gigabot® owner using our 3D printers to enhance your business, further your cause, or re-imagine your industry, you are the best person to tell that story. In the Applications section of our website (https://re3d.org/applications/) you can find videos featuring owners just like you who are taking 3D printing to the next level. We want to help you share your work and show off how you use your Gigabot®. Reach out to us with what you are working on! Gigabot® owners receive $300.00 USD store credit for participating in one of our customer story features.

TAG #GIGABOT, GET CREDIT: We know you will be proud of the work you produce on your new Gigabot®, so go ahead; share those prints! For each newsletter, we select one photo to be featured and include a link to your company as well as a description of the print. To be eligible, tag a 3D print photo on Twitter, Instagram, or Facebook with #gigabot. We'll put all submissions in a drawing to receive $95.00 USD store credit.

READY TO SUBMIT A PRINT FOR CREDIT OR CUSTOMER STORY?

EMAIL | info@re3d.org

Notes

re3D.org | support@re3d.org