

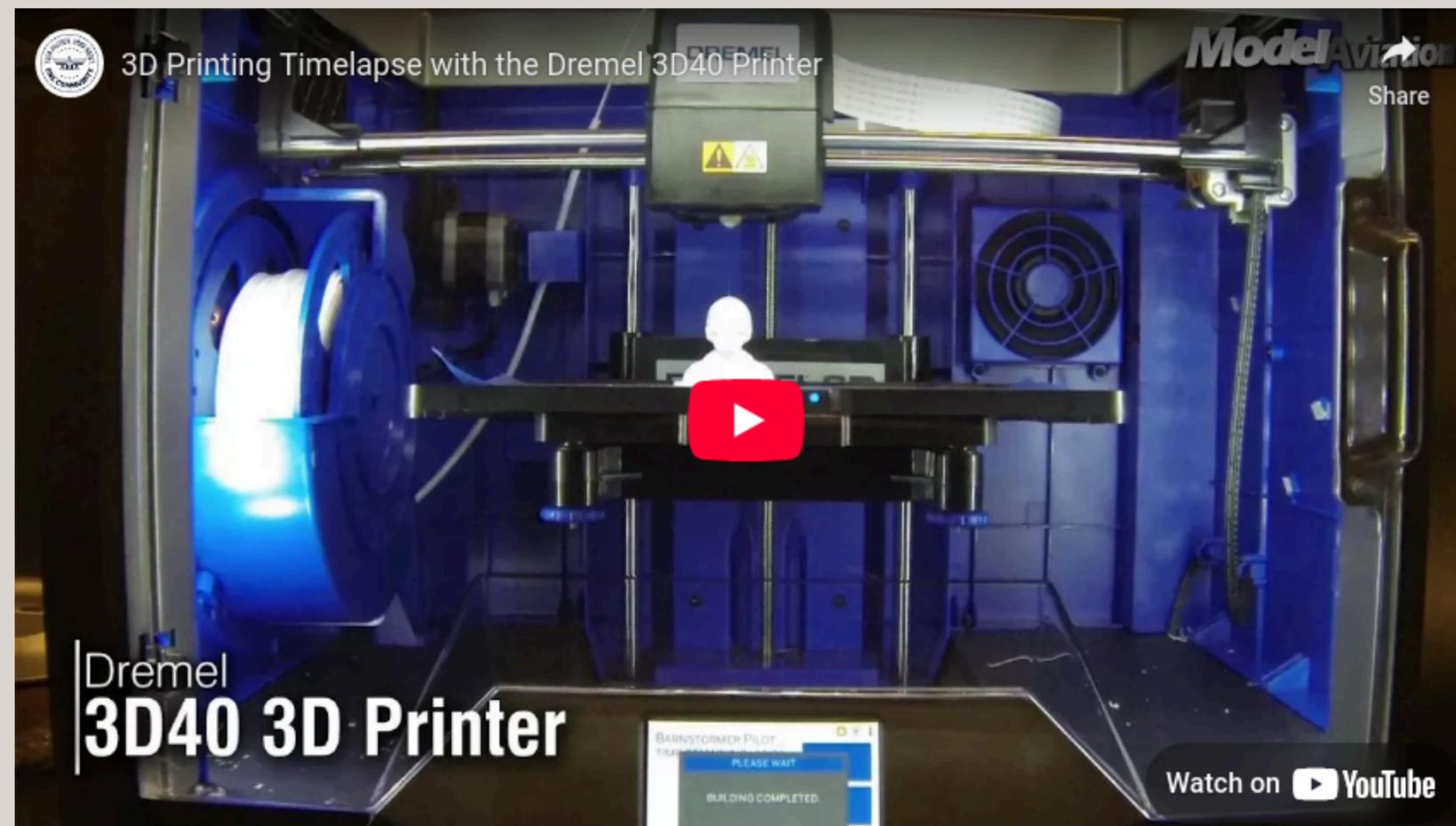
Beardsley Library

Dremel 3D Printer 101

Beardsley Library

What is a 3-D Printer?

A 3D printer creates physical objects from digital designs by building layers of material on top of each other.



Beardsley Library

Some 3-D lingo!



Filament



**Extruder/
Extruder Tip**



**Build Platform/
Build Plate/Tray**



**STL
Standard Triangle
Language**

How to Use it Safely?

1. Please don't force anything onto the machine.
2. Please don't load the machine with a new filament without a staff member who can do it.
3. If the extruder tip does get hot, please don't touch it directly.
4. Please do not pull on the printer extruder. If you need to stop the project, you can cancel it on the screen below or the computer.

Beardsley Library

File Format and Softwares To Print

The Dremel 3D printer accepts the following file formats:
3D model file types: STL, OBJ, 3MF, X3D

Other file types: BMP, .g, .gcode, GIF, JPG, JPEG, PNG

To print with our 3-D printer, you need to use the Dremel Digilab 3D
printer: Dremel Print Cloud

<https://printcloud.dremel.com/>

Beardsley Library

What Software to Use to Create a Design

You can create 3D models using a 3D design software program, or download existing 3D files from the internet. Some popular sharing sites for 3D models include: Thingiverse, MyMiniFactory, and Cults, tinkerCAD.

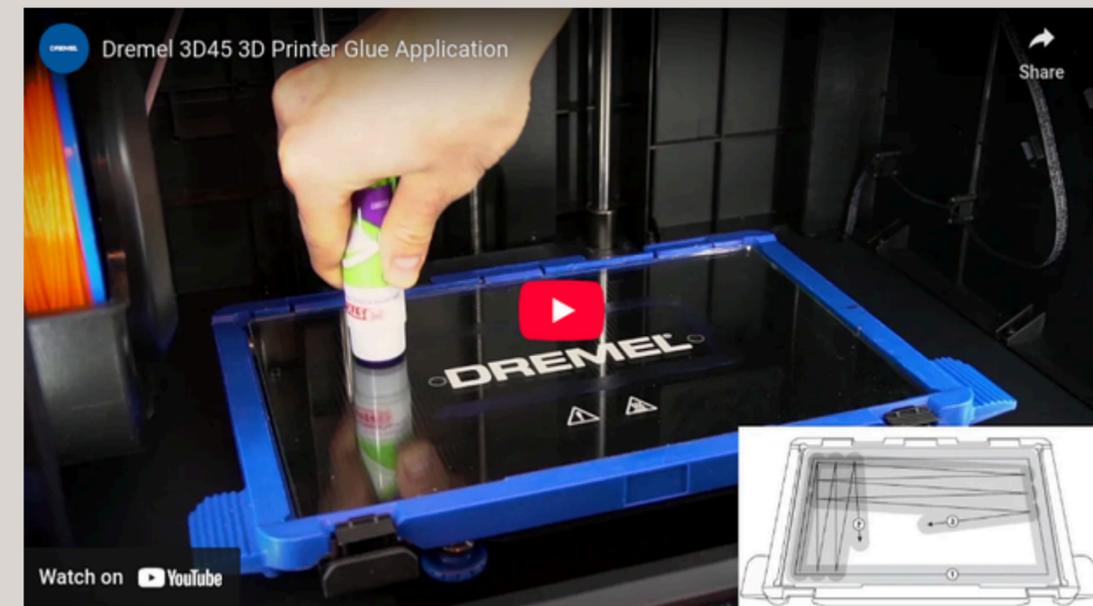
Beardsley Library

TINKERCAD

The screenshot displays the Autodesk Tinkercad web interface. At the top, a blue navigation bar contains the Tinkercad logo, the text 'AUTODESK Tinkercad', and menu items for 'Tinker', 'Gallery', 'Projects', 'Classrooms', and 'Resources'. A search icon and a user profile icon are on the right. Below the navigation bar, a left sidebar shows the user's profile 'director9CZL2' and a menu with options: Home, Classes, Designs (highlighted), Collections, Tutorials, and Challenges. The main area is titled 'Your designs' and features a search bar, a '+ Create' button, and filters for '3D', 'Circuits', and 'Codeblocks'. On the right, there are options for 'Recycle bin', 'Select', and 'Edited'. The design gallery shows a grid of projects: 'Heart' (a few seconds ago, Private), 'Beardsley' (20 hours ago, Private), 'Key Ring, Letters!' (a day ago, Private), and another 'Key Ring, Letters!' (6 months ago, Private). The bottom of the screen shows the start of two more design cards: 'Powerful Krunk' and 'Super Pettie Hugam'.

How to Prepare the Machine to Print

1. Make sure there is filament on the side, and that it is inserted into the extruder.
 - a. On the small screen the 3-D printer if you go to clear nozzle
2. Make sure plate is clean and inserted.
 - a. Some water and a paper towel can work. If available Microfiber towel would work better.
3. Add glue on the plate in the area that you are printing.



Beardsley Library

Dremel DIGILAB <https://printcloud.dremel.com/>

My Files:

DREMEL DIGILAB MY FILES MY PROJECTS BUY FILAMENT PRINTERS DASHBOARD SUPPORT PAY TO UPGRADE ^{NEW} KIMMIE KILLMER DIRECTOR@BEARDSLEYLIBRARY.ORG

+ UPLOAD NEW Search

ID	Name	Log	Status	Size	Print time	Date / Time added	STEP 1	STEP 2	STEP 3	EXTRAS
15918324	Dash_Sleeve_11Item.f3d	BF	Ready	755.68 KB		01.10.2025 12:37 PST	REPAIR	LAYOUT	SLICE	...
15836581	Strapped_Treasure_Chest_No_Wood.stl	stl	Ready	84.27 MB		12.18.2024 12:32 PST	REPAIR	LAYOUT	SLICE	...
15498229	frost_demon.stl	!	Error	0 byte		11.16.2024 06:34 PST	REPAIR	LAYOUT	SLICE	...
15498227	111860-frost-demon-848e3bd1-1b40-4...	BF	Ready	0 byte		11.16.2024 06:33 PST	REPAIR	LAYOUT	SLICE	...
15331384	_living_bones_2_supported.chitubox	BF	Ready	20.90 MB		11.02.2024 08:03 PST	REPAIR	LAYOUT	SLICE	...
15252074	Fountain_-_Flat_Top_V2.stl	!	Error	0 byte		10.25.2024 11:49 PST	REPAIR	LAYOUT	SLICE	...
15170514	Gloomhaven_Rock_Column_flipped_mag...	!	Error	0 byte		10.19.2024 06:38 PST	REPAIR	LAYOUT	SLICE	...
15170508	Gloomhaven_Rock_Column.stl	!	Error	0 byte		10.19.2024 06:35 PST	REPAIR	LAYOUT	SLICE	...
15142385	Swinging Door Gloomhaven - 3348925...	BF	Ready	44.08 MB		10.16.2024 11:41 PST	REPAIR	LAYOUT	SLICE	...

Beardsley Library

Dremel DIGILAB <https://printcloud.dremel.com/>

My Projects:

DREMEL DIGILAB MY FILES MY PROJECTS BUY FILAMENT PRINTERS DASHBOARD SUPPORT PAY TO UPGRADE ^{NEW} KIMMIE KILLMER DIRECTOR@BEARDSLEYLIBRARY.ORG

+ UPLOAD NEW Search

- ▶ Status_Bar [3]
- ▶ Dash_Sleeve_1Item [8]
- ▶ Dash_Geminate [3]
- ▶ Lid_Milk_Box_Container (1) [4]
- ▶ Milk_Box_Container [4]
- ▶ Pillar_-_Thick_Spiral [3]
- ▶ Wooden_Treasure_Chest_No_Crest [2]
- ▶ Wooden_Treasure_Chest [5]
- ▶ Strapped_Treasure_Chest [2]

Beardsley Library

Dremel DIGILAB <https://printcloud.dremel.com/>

Printers:

The screenshot displays the Dremel DIGILAB web interface. At the top, the navigation menu includes 'MY FILES', 'MY PROJECTS', 'BUY FILAMENT', 'PRINTERS', 'DASHBOARD', 'SUPPORT', and 'PAY TO UPGRADE'. The user is identified as 'KIMMIE KILLMER' with the email 'DIRECTOR@BEARDSLEYLIBRARY.ORG'. Below the navigation, there are two buttons: 'Register Dremel Idea builder 3D40/45 printer' and 'Live View'. The main content area shows the printer status for 'My Printer Dremel 3D45 Idea Builder', which is currently 'idle'. A warning message indicates 'Bed is not clear'. The printer is at 100% completion, with a nozzle temperature of 28°C and a bed temperature of 24°C. Below this, a table lists recent print jobs with columns for Date / Time, Filename, Printed by, Filament, Estimate/real print time, Status, and Status details. Each job entry includes a 'DETAILS' button and a '+ MORE' button.

Finished jobs stay here for 24 hours only, go to [dashboard](#) to see full history

My Printer Dremel 3D45 Idea Builder idle DREMEL3D45 ⚠ Bed is not clear 100 % 28°C 24°C LIVE VIEW SHARE TOOLS

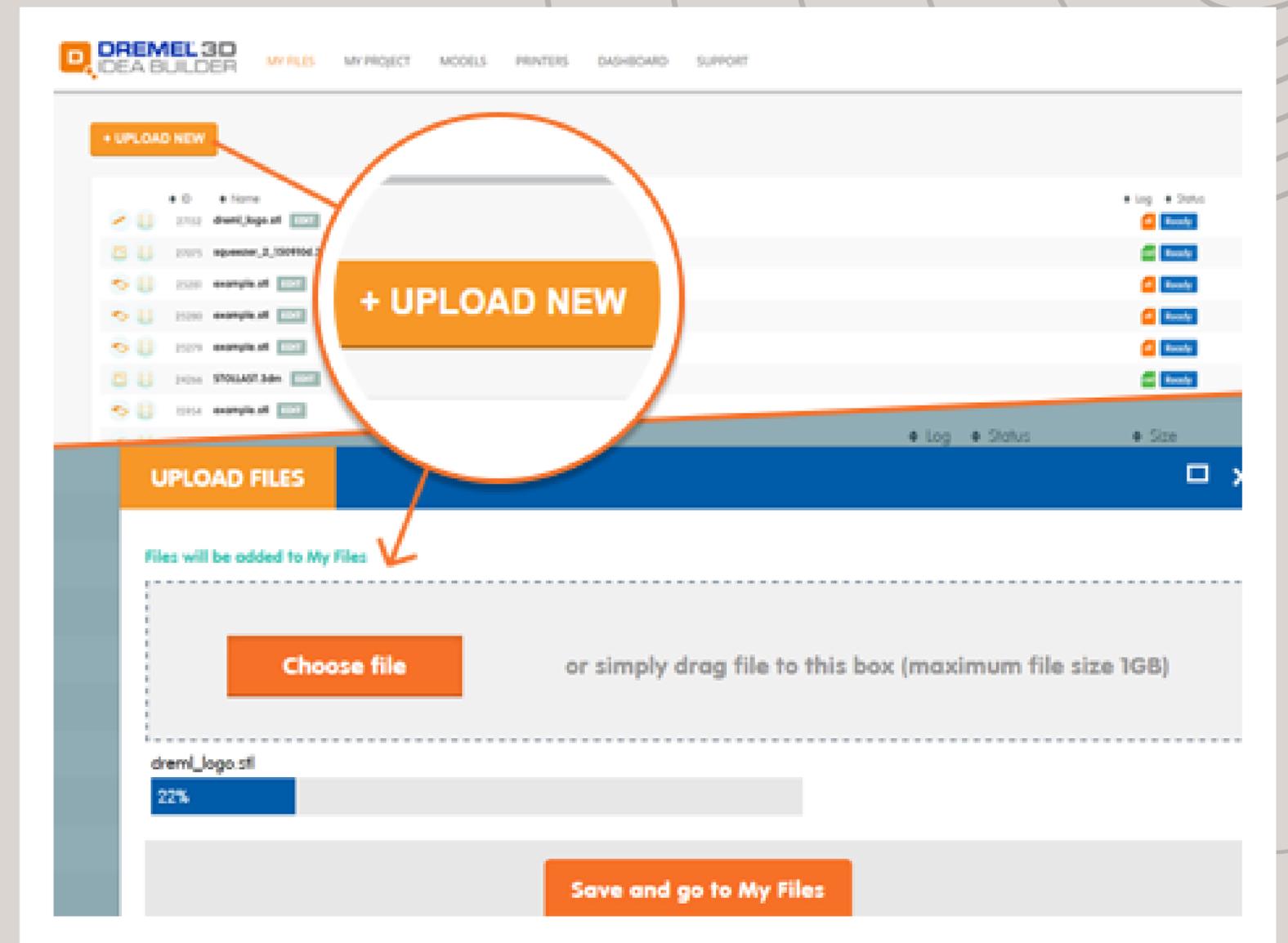
Date / Time	Filename	Printed by	Filament	Estimate/ real print time	Status	Status details
10.02.2024 12:20 PST	Gloomhaven_Doric_Column_14690536_repaired_14690540_repaired_14690583_repaired.g3drem	director@beardsleylibrary.org	3.84g	01:01 / -	In queue	DETAILS
10.01.2024 12:09 PST	Gloomhaven_Doric_Column_14690536_repaired_14690540_repaired_14690583_repaired.g3drem	director@beardsleylibrary.org	3.84g	01:01 / -	In queue	DETAILS
10.25.2024 11:41 PST	Fountain_with_Water_and_Spout_15251941_repaired.g3drem	director@beardsleylibrary.org	3.90g	00:49 / -	In queue	DETAILS
10.16.2024 11:42 PST	swingdoor_BASE_15142407_repaired.g3drem	director@beardsleylibrary.org	3.19g	00:31 / -	In queue	DETAILS
10.23.2024 11:52 PST	Inox Brute_14735786_repaired_14735787_repaired_15216560_repaired_15216653.g3drem	director@beardsleylibrary.org	6.91g	01:35 / -	In queue	DETAILS

How to print?

Upload files to the cloud:

On My Files or My Project tabs, click a button + Upload new to upload a new file.

STL and g3drem files are supported.



How to print?

Find your file on the top.



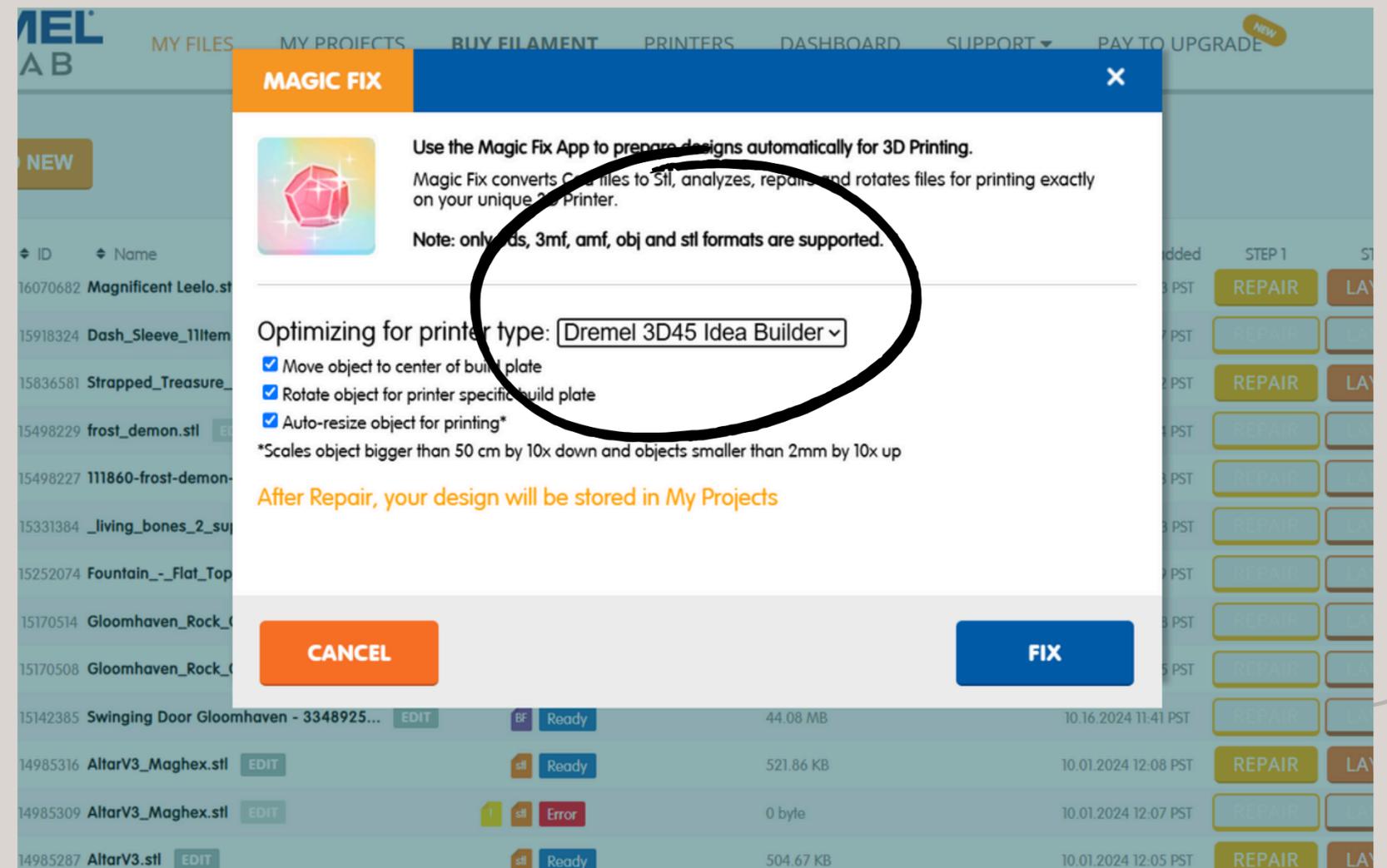
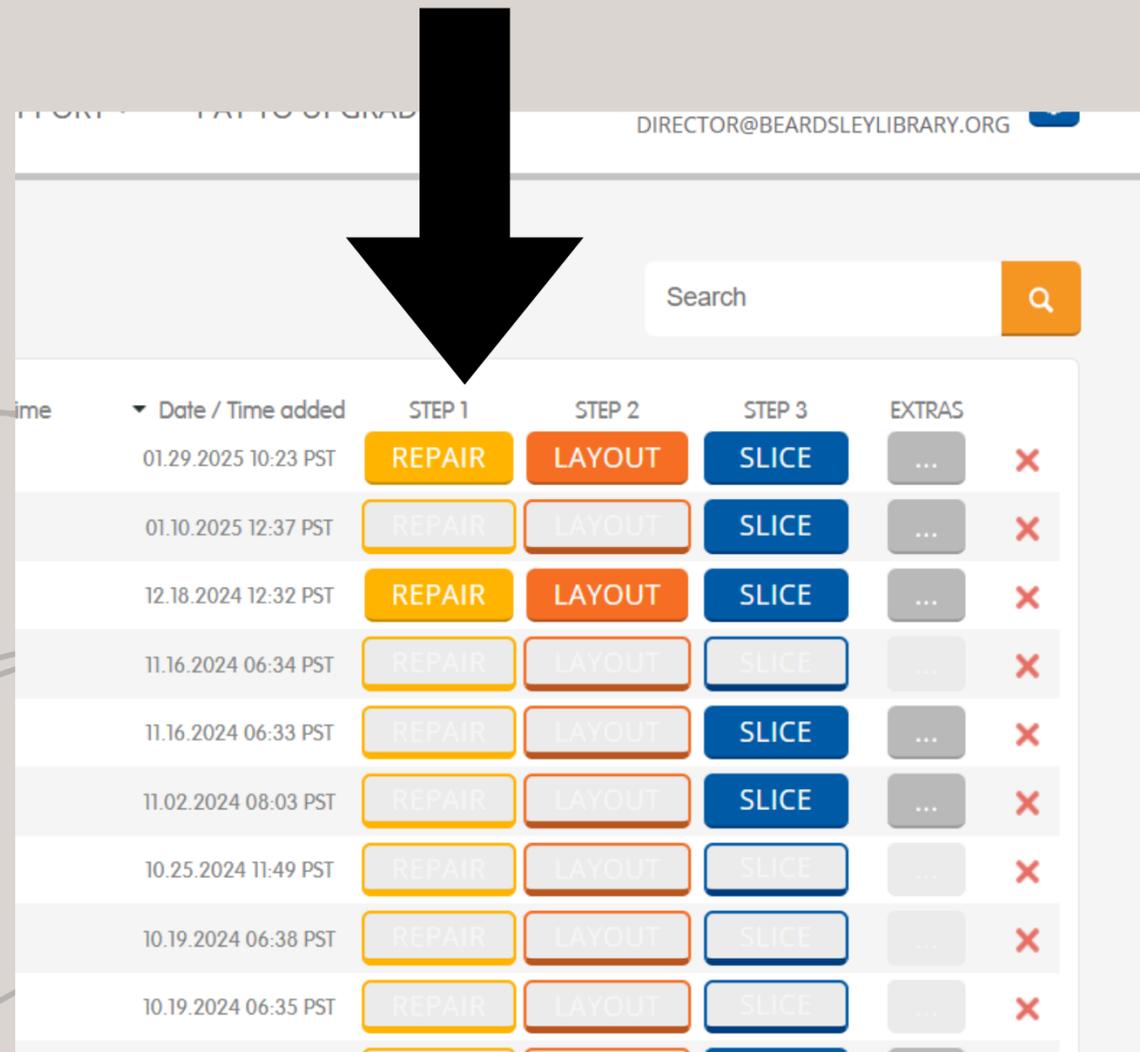
The screenshot shows the DIGILAB interface with a navigation bar at the top containing links for FILES, PRINTERS, and a dashboard. The main content area features a '+ UPLOAD NEW' button and a search bar. Below is a table of files with the following columns: ID, Name, Log, Status, Size, Print time, Date / Time added, STEP 1, STEP 2, STEP 3, and EXTRAS. The table lists several files, including 'Magnificent Leelo.stl', 'Dash_Sleeve_11Item.f3d', and 'Strapped_Treasure_Chest_No_Wood.stl', with their respective statuses and processing steps.

ID	Name	Log	Status	Size	Print time	Date / Time added	STEP 1	STEP 2	STEP 3	EXTRAS
16070682	Magnificent Leelo.stl	stl	Ready	465.02 KB		01.29.2025 10:23 PST	REPAIR	LAYOUT	SLICE	...
15918324	Dash_Sleeve_11Item.f3d	BF	Ready	755.68 KB		01.10.2025 12:37 PST	REPAIR	LAYOUT	SLICE	...
15836581	Strapped_Treasure_Chest_No_Wood.stl	stl	Ready	84.27 MB		12.18.2024 12:32 PST	REPAIR	LAYOUT	SLICE	...
15498229	frost_demon.stl	!	Error	0 byte		11.16.2024 06:34 PST	REPAIR	LAYOUT	SLICE	...
15498227	111860-frost-demon-848e3bd1-1b40-4...	BF	Ready	0 byte		11.16.2024 06:33 PST	REPAIR	LAYOUT	SLICE	...
15331384	_living_bones_2_supported.chitubox	BF	Ready	20.90 MB		11.02.2024 08:03 PST	REPAIR	LAYOUT	SLICE	...
15252074	Fountain_-_Flat_Top_V2.stl	!	Error	0 byte		10.25.2024 11:49 PST	REPAIR	LAYOUT	SLICE	...
15170514	Gloomhaven_Rock_Column_flipped_mag...	!	Error	0 byte		10.19.2024 06:38 PST	REPAIR	LAYOUT	SLICE	...
15170508	Gloomhaven_Rock_Column.stl	!	Error	0 byte		10.19.2024 06:35 PST	REPAIR	LAYOUT	SLICE	...

How to print?

1. Follow the steps: Step 1 is REPAIR.

2. Select Optimized Printer Type: Dremel 3D45 Idea Builder



How to print?

Once repaired, please find the file with the file name `_repair.stl` and continue through the steps. Select **LAYOUT**.

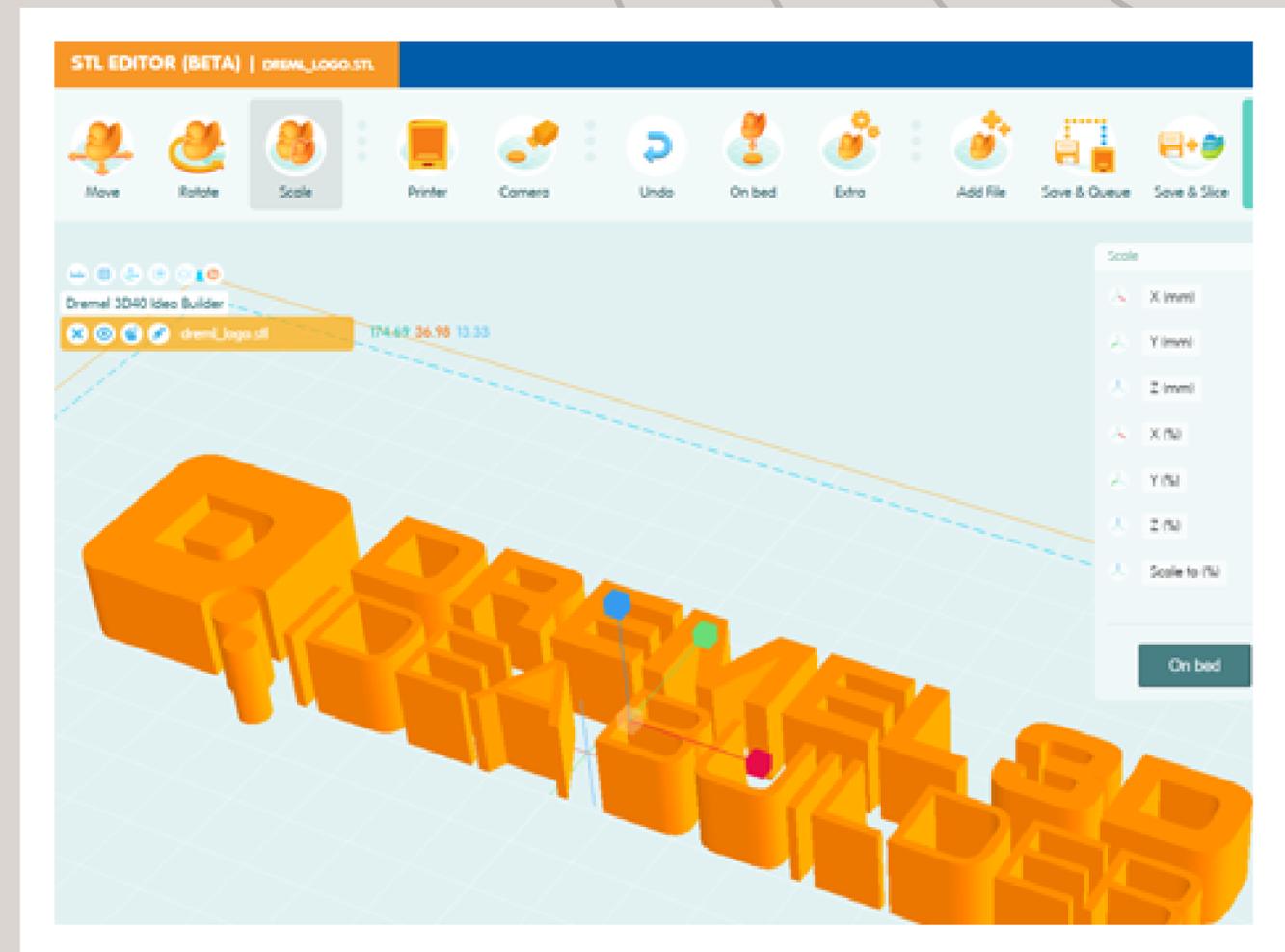
The screenshot shows the DREMEL DIGILAB web interface. At the top, there is a navigation bar with links for MY FILES, MY PROJECTS, BUY FILAMENT, PRINTERS, DASHBOARD, SUPPORT, and PAY TO UPGRADE. A user profile for KIMMIE KILLMER is visible in the top right. Below the navigation bar is a search bar and a '+ UPLOAD NEW' button. The main content area displays a list of projects. The first project, 'Beardsley [2]', is expanded to show a table of files. A large black arrow points to the 'LAYOUT' button in the 'STEP 3' column of the file 'Beardsley_16072065_repaired.stl'.

ID	Name	Log	Status	Size	Print time	Date / Time added	STEP 1	STEP 2	STEP 3	EXTRAS
16072078	Beardsley_16072065_repaired.stl		Ready	465.12 KB		01.29.2025 11:21 PST	REPAIR	LAYOUT	SLICE	...
16072065	Beardsley.stl		Ready	465.12 KB		01.29.2025 11:20 PST	REPAIR	LAYOUT	SLICE	...

How to print?

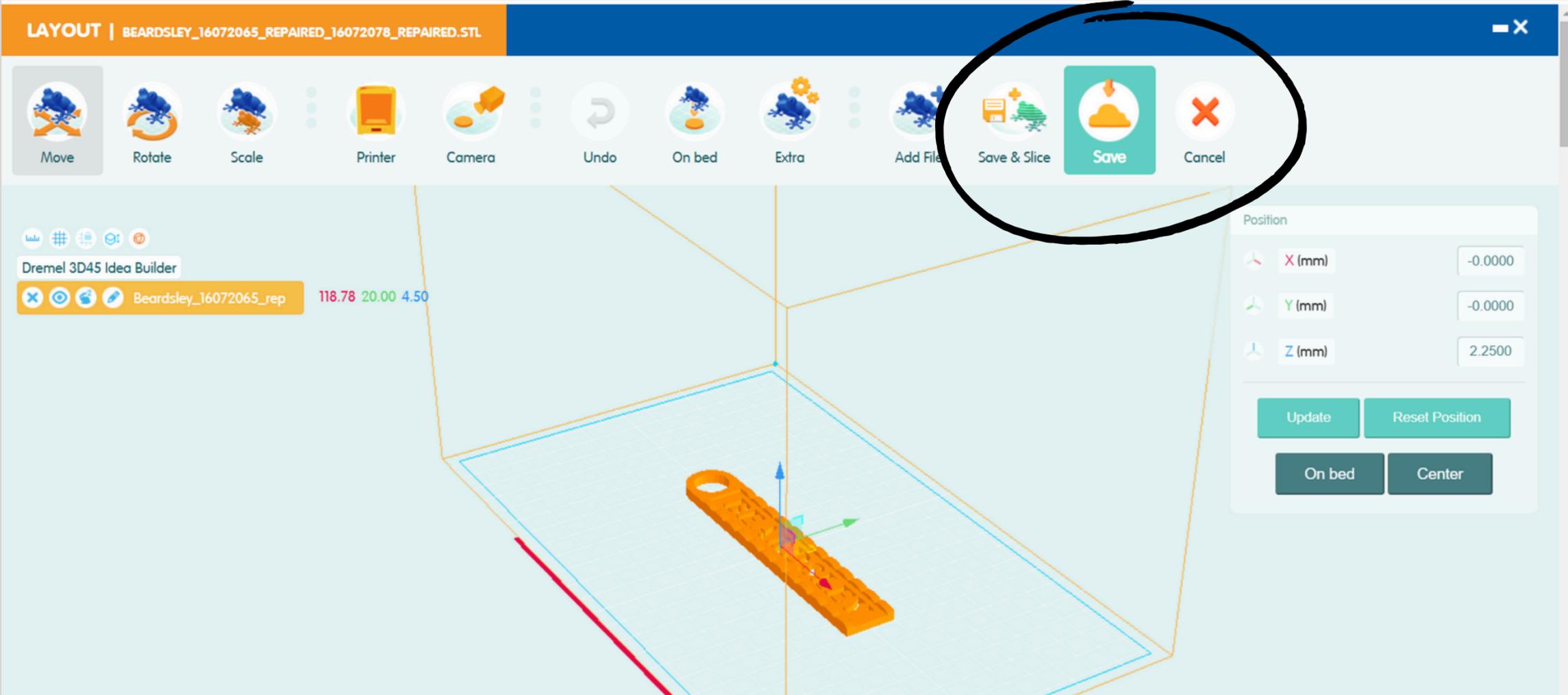
Build tray allocation:

To position one or more models on a build tray, click the Layout button on the model you would like to print. You can move the model to position it precisely on the build tray, adjust the angle at which the model is positioned, and scale the model up or down if needed. To add more models to the same build tray, click the Add File button.



How to print?

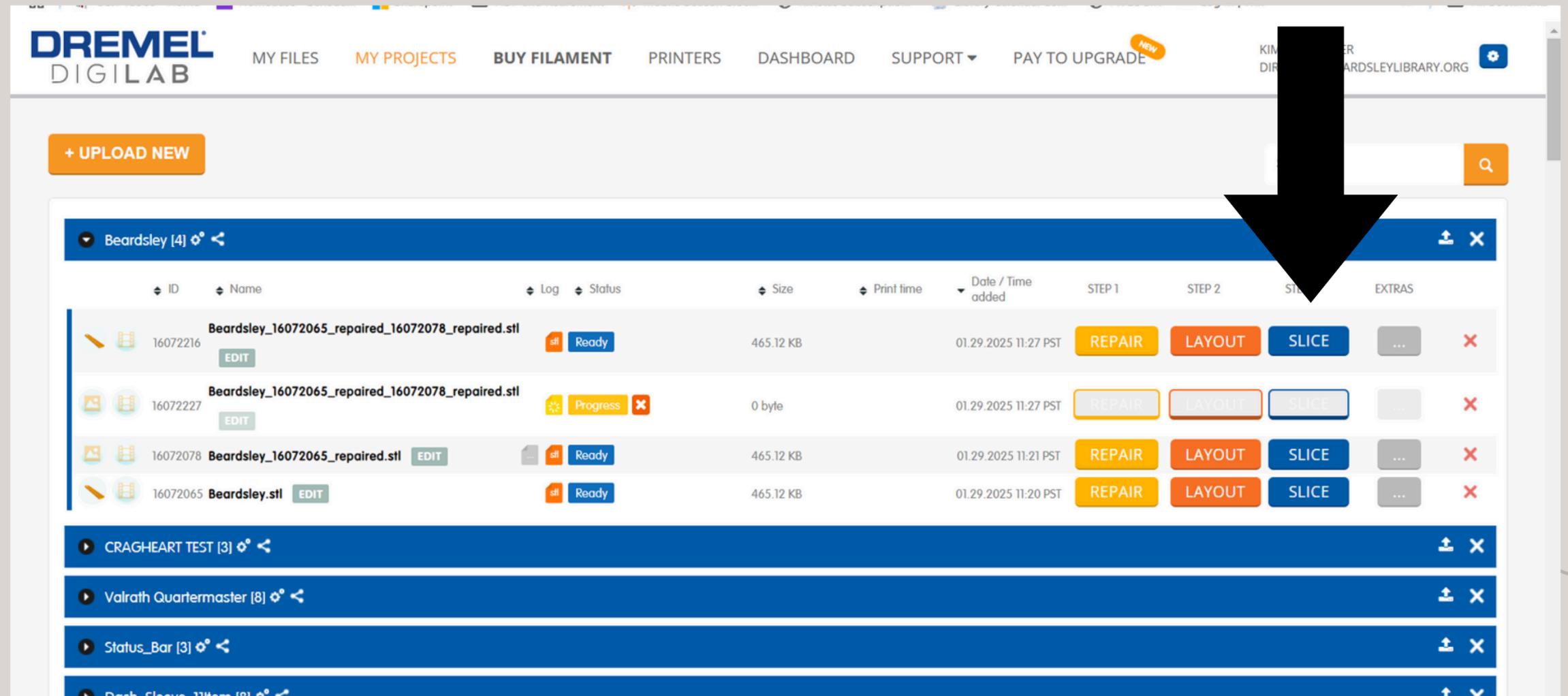
Once the layout is presented click on SAVE.



Beardsley Library

How to print?

Once the layout is complete select, SLICE.

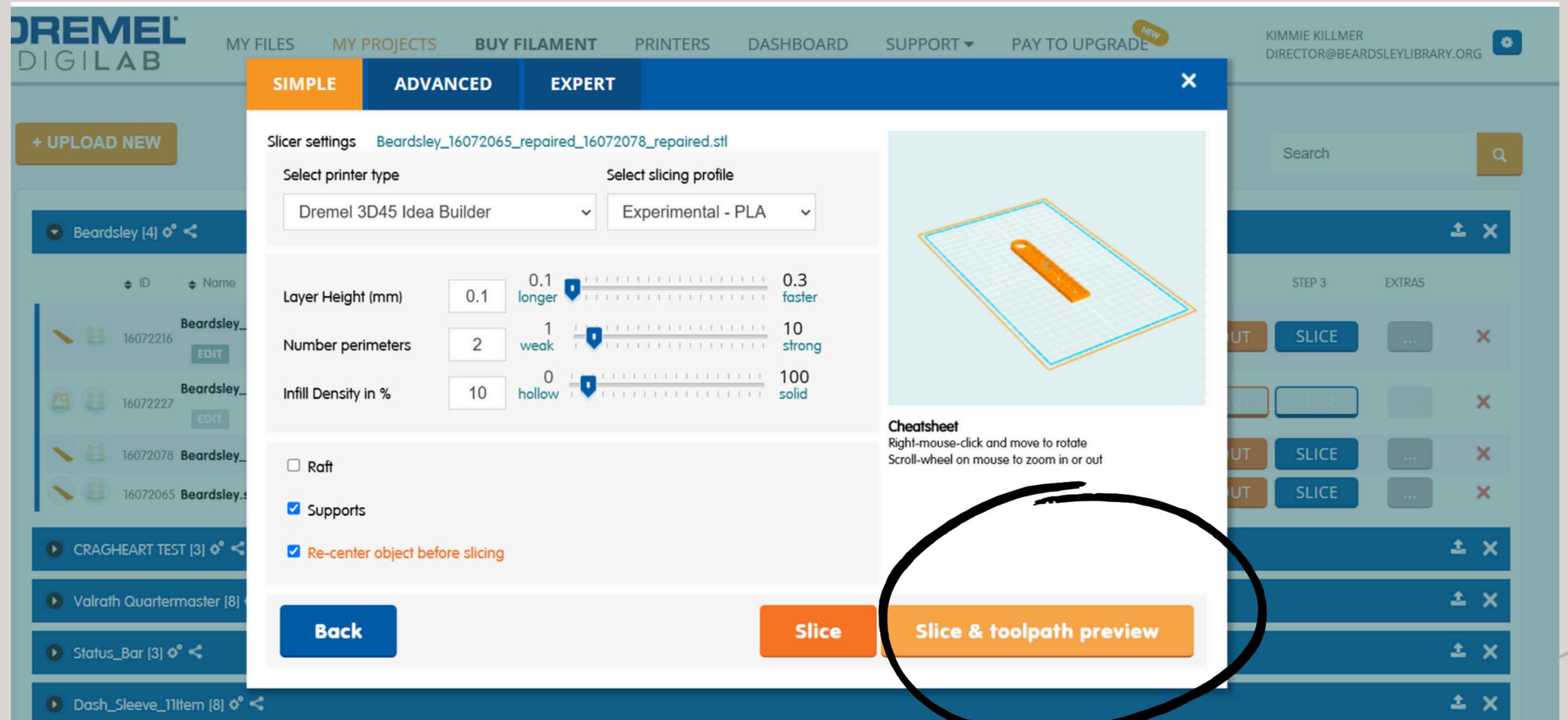


The screenshot shows the DREMEL DIGILAB web interface. At the top, there is a navigation bar with the logo and links for MY FILES, MY PROJECTS, BUY FILAMENT, PRINTERS, DASHBOARD, SUPPORT, and PAY TO UPGRADE. Below this is a search bar and a '+ UPLOAD NEW' button. The main content area displays a list of files under the heading 'Beardsley [4]'. The table has columns for ID, Name, Log, Status, Size, Print time, Date / Time added, STEP 1, STEP 2, STEP 3, and EXTRAS. A large black arrow points to the 'SLICE' button in the 'STEP 1' column of the first row.

ID	Name	Log	Status	Size	Print time	Date / Time added	STEP 1	STEP 2	STEP 3	EXTRAS
16072216	Beardsley_16072065_repaired_16072078_repaired.stl		Ready	465.12 KB		01.29.2025 11:27 PST	REPAIR	LAYOUT	SLICE	...
16072227	Beardsley_16072065_repaired_16072078_repaired.stl		Progress	0 byte		01.29.2025 11:27 PST	REPAIR	LAYOUT	SLICE	...
16072078	Beardsley_16072065_repaired.stl		Ready	465.12 KB		01.29.2025 11:21 PST	REPAIR	LAYOUT	SLICE	...
16072065	Beardsley.stl		Ready	465.12 KB		01.29.2025 11:20 PST	REPAIR	LAYOUT	SLICE	...

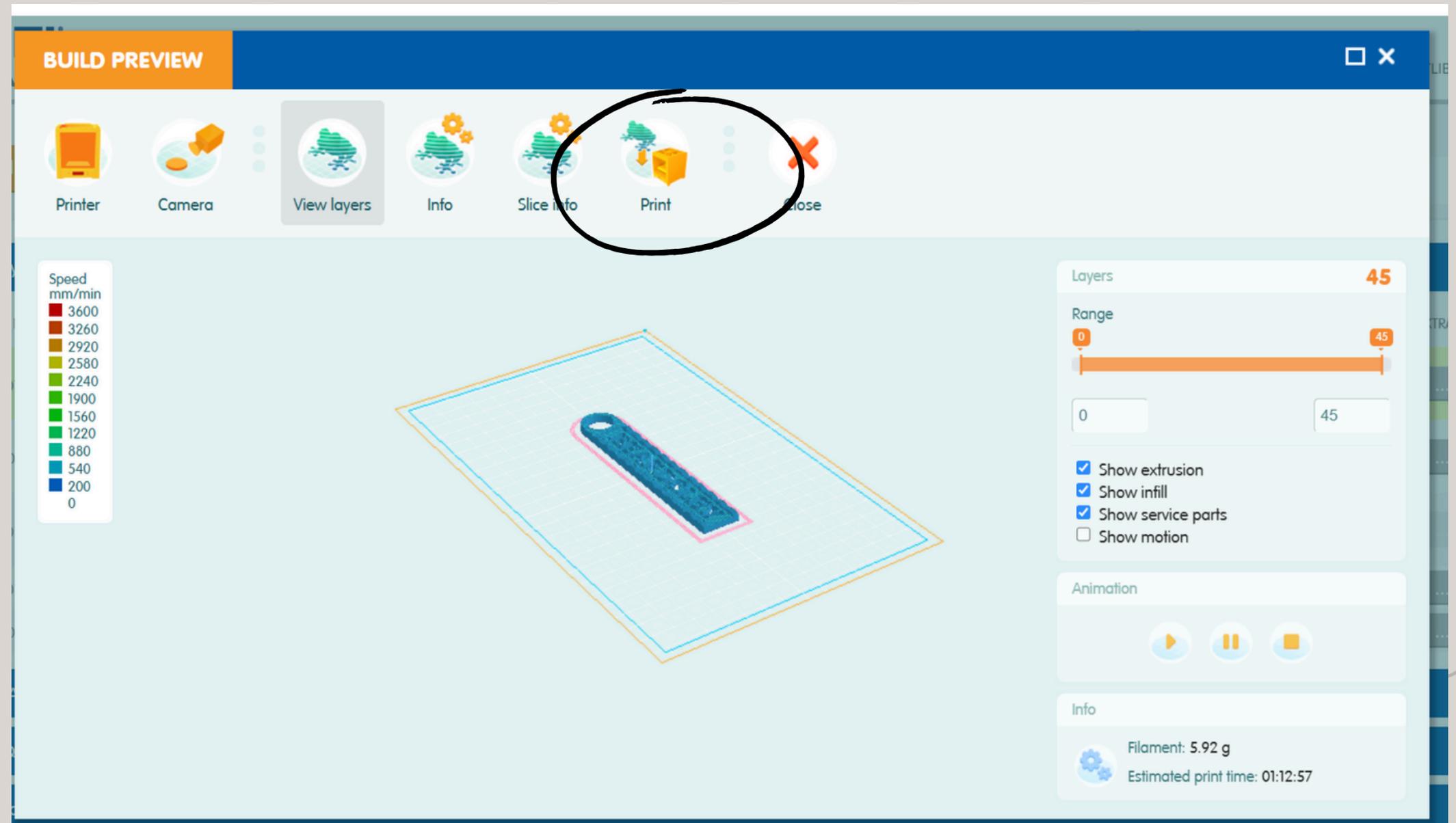
How to print?

When you select slice, the 3-D printer will choose the best settings for your print. Do not change anything; select **SLICE & TOOLPATH PREVIEW**.



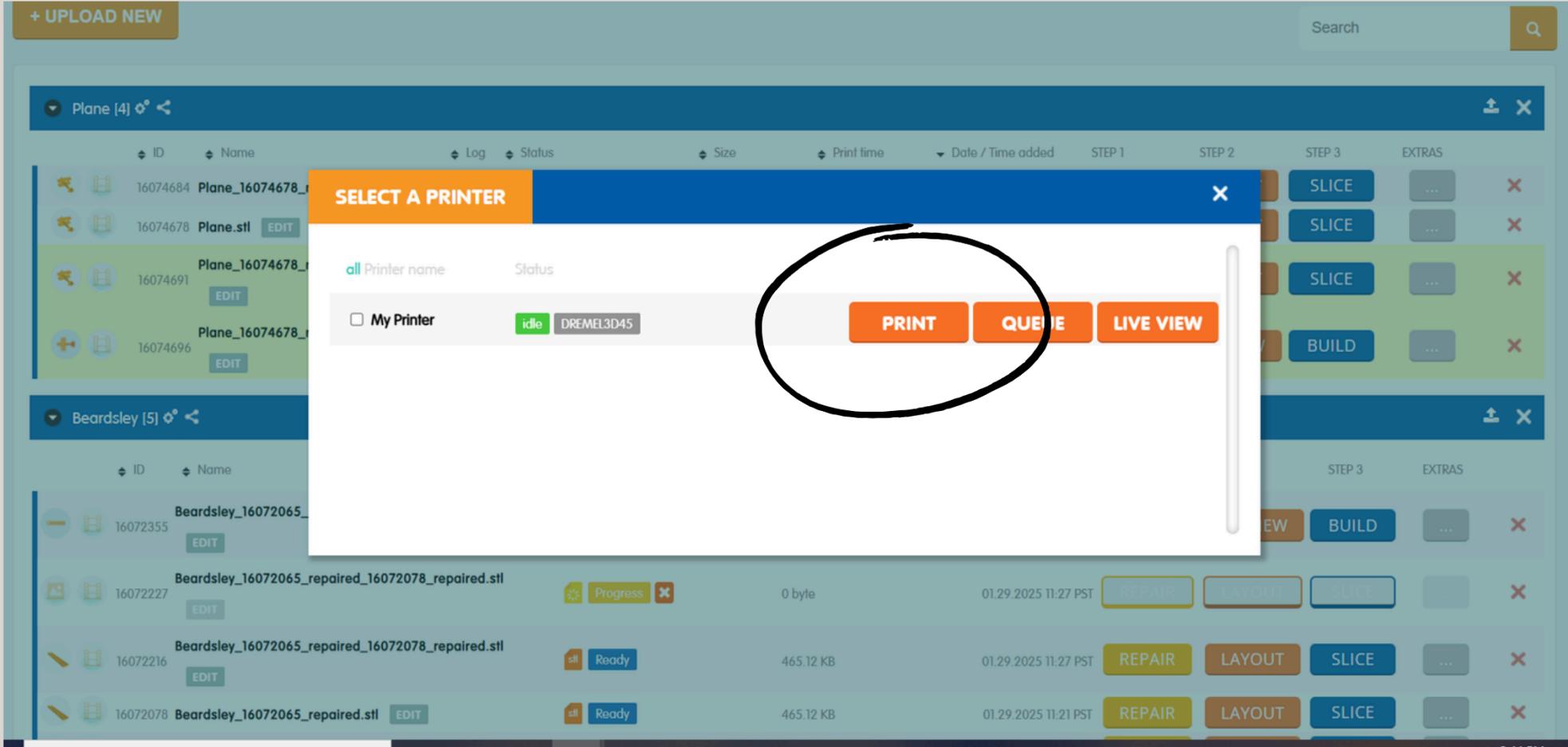
How to print?

1. It will bring you to this build preview; select **PRINT**



How to print?

1. It will bring you to this build preview; select PRINT



How to print?

Building the model:

To start the printing process, the Printer will download the file from the cloud, heat up the nozzle, and start printing.

The screenshot displays a 3D printing control interface. At the top, there is a list of jobs with columns for date and time, and buttons for REPAIR, LAYOUT, BUILD, and SLICE. The 'BUILD' button for the job dated 29-04-2016 19:19 is highlighted with a red box and an arrow. Below this, a '3DPRINTEROS STREAMING' window is open, showing a progress bar at 43%. The window includes a live video feed of the printer, a log of events, and control buttons for Live View, PAUSE, Cancel JOB, and Continue in Background. The log shows the printer starting a job on 'Dremel Gen 2 (ApiPrinter v1)' - 'DREMEL2' with design 'Elbel networks v0.48_27100.g3drem'.

Date/Time	REPAIR	LAYOUT	BUILD	SLICE	...	X
20-05-2016 11:18	REPAIR	LAYOUT	BUILD		...	X
29-04-2016 19:19	REPAIR	LAYOUT	BUILD	SLICE	...	X
29-04-2016 19:19	REPAIR	LAYOUT	BUILD		...	X
29-04-2016 19:19	REPAIR	LAYOUT	BUILD		...	X

3DPRINTEROS STREAMING

43%

Extruder: 218 / 220 Heated Bed: 0 / 0 Time left 04:27:07

[21:28 22.12.2016] Job added to printing queue by user: anton@3dprinter.com
[21:28 22.12.2016] Job with ID: 11463 was added to printing queue of printer ID: 10884
[21:28 22.12.2016] Starting job on "Dremel Gen 2 (ApiPrinter v1)" - "DREMEL2" with design "Elbel networks v0.48_27100.g3drem"
[21:28 22.12.2016] Printer status changed: from idle to downloading
[21:29 22.12.2016] Printer status changed: from downloading to heating
[21:31 22.12.2016] Printer status changed: from heating to printing

Live View PAUSE Cancel JOB Continue in Background

Beardsley Library

The Final Step

Once your print is complete, allow the plate to cool down, and you can remove your 3-D model. If you need help getting your model off the plate, there is a scraper tool.

Beardsley Library

Thank You!

Any questions?

Beardsley Library

Links:

Cloud software to print on 3-D printer: <https://printcloud.dremel.com/>

Tinkercad, a free 3-D design app: <https://www.tinkercad.com/>

3PI Tech gives tutorials on Dremmel 3D printers and trouble shooting them:
<https://3pitech.com/pages/3d45-support>

Thingiverse is the world's largest 3D printing community. Thingiverse allows users to make, discover, and share 3D printable items:
<https://www.thingiverse.com/>