

# **Slicing and Software Operation**

This guide will serve as a refrence for PreForm operation and proper slicing techniques.

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# formlabs 🕅

# Step 1 — Connecting to the Printer



- Connect to RPL Wi-Fi
- Open PreForm.
- Under Printer, select
   VernerableYak
  - Select apply

# Step 2 — Connecting to the Printer

JOB SETUP	×	Q  Search Filter	+ Add	
Printer		FORM 3		
	Please select a printer.	S VIRTUAL PRINTER		
		Form 3	>	ADD PRINTER
Material				IP address
Resin	E Nylon 12 ·	FORM 3B		
Version	V1 (FLP12G01) +	e VIRTUAL PRINTER		Plaza enter as IP address
Layer Thickness		Formati		
Cancel		FORM 3L		Cancel
1		Cancel	Select	

- If you cannot find the printer using the RPL Wi-Fi, you can connect to the printer directly via its IP address.
- Under "Job Setup" select the drop-down arrow.
- Select "Add"
- Enter printer IP Address
  - Reference "Formlabs Fuse 1 Menus" step 5.
- Select "Connect". Select "OK"
- Select "Apply"

# Step 3 — FormLabs Account and Dashboard



- Make sure you are signed into your FormLabs account in the bottom left.
- Clicking my account will bring you to the Formlabs Dashboard.
- The Dashboard allows you to track print progress and receive notifications from the printer.

# Step 4 — Importing Files

11	Pretorm			
t View Help	e Edit View Help			
Click Print Alt+P	$\rho_{x}^{x}$			
Ctrl+N	😿 Open File			
Ctrl+O	$\leftarrow$ $\rightarrow$ $\checkmark$ $\uparrow$ $\blacksquare$ $\ll$ RPL $\Rightarrow$ Customer Prints	> Fuse > Mounts > Mounts ~	ර ු Searc	h Mounts
Recent	Organize - New folder			
Ctrl+S	OneDrive Name	Date modified	Туре	Size
As Ctrl+Shift+S	This PC	2/10/2021 3:06 PM	3D Object	118 KB
Ctrl+P	3D Objects	2/10/2021 3:06 PM	3D Object	102 KB
ers Ctrl+Shift+P	F2	2/10/2021 3:06 PM	3D Object	112 KB
	EA F3	2/10/2021 3:06 PM	3D Object	123 KB
PreForm Alt+F4	Documents 🖬 F4-Updated	2/10/2021 3:06 PM	3D Object	104 KB
	Downloads	2/10/2021 3:06 PM	3D Object	114 KB
	Music 🚺 G0	2/10/2021 3:06 PM	3D Object	131 KB
	Fictures 🖬 G1	2/10/2021 3:06 PM	3D Object	115 KB
	Videos 🖬 G2	2/10/2021 3:06 PM	3D Object	125 KB
	😆 Windows-SSD (C	2/10/2021 3:06 PM	3D Object	136 KB
	Network	2/10/2021 3:06 PM	3D Object	116 KB
	File name:		~ All Model F	iles (*.obj *.stl *.form
			Open	Cancel
				_

- Go to File (top left)
- Go to Open
- PreForm accepts three files types: .obj, .stl, .form
- Select all files and select Open

# Step 5 — Translating Parts



- To change the location of a part, it must be selected first. Once selected, it will be highlighted blue.
- Parts can be translated in 3 dimensions.
  - Blue arrow for Z direction
  - Orange arrow for Y direction
  - Green arrow for X direction

# Step 6 — Rotating Parts



- Parts can also be rotated in 3 dimensions
  - Blue arc rotates about Z axis
  - Orange arc rotates about Y axis
  - Green arc rotates about X axis

# Step 7 — Menus Tabs



- On the left side of the screen you will find 5 options.
  - 1 click print
    - (i) 1 Click Print is not utilized.
  - Size
  - Orientation
  - Layout
  - Start a print

# Step 8 — Size

Scale ①     1.000 ‡       X     65.00 mm ‡       Y     61.00 mm ‡       Z     40.00 mm ‡	x 1.000 ‡ 65.00 mm ‡ 61.00 mm ‡ 40.00 mm ‡ Reset	F0.STL [*] - PreForm e Edit View Help		
Scale     1.000 \$       X     65.00 mm \$       Y     61.00 mm \$       Z     40.00 mm \$	0 1.000 ↓ 65.00 mm ↓ 61.00 mm ↓ 40.00 mm ↓	SIZE	×	
X     65.00 mm ‡       Y     61.00 mm ‡       Z     40.00 mm ‡	65.00 mm ‡ 61.00 mm ‡ 40.00 mm ‡	Scale 🚯	1.000 ‡	
Y 61.00 mm ‡ Z 40.00 mm ‡	61.00 mm \$ 40.00 mm \$ Reset	×	65.00 mm 📮	
Z 40.00 mm 🗘	40.00 mm 2	Y	61.00 mm 🌲	
	Reset	Z	40.00 mm 🌲	
Reset			Reset	

 Can be used to scale a part absolutely or relative to X, Y, or Z direction

#### Step 9 — Orientation



- Allows you to select how the part will be oriented
- You can select a face of the part to snap downwards
  - Top face selected
  - Selected face now snapped downward
- You can change the orientation of each of the coordinate axes
- TIP: Orient parts so that finer details lay in the XY direction. The laser is more accurate than layer height.

# Step 10 — Layout



- Allows you to change model spacing
  - This is the amount of space between parts in the build chamber.

(i) 5 mm is good, but should not drop below 3 mm.

- Duplicate
  - Will make a duplicate (copy) of a selected part for a selected quantity.
- Array/mirror models
  - Array models will create a linear arrary for a selected part
  - Mirror models will mirror a part across the x-axis

# Step 11 — Packing Parts



- Parts should be packed as low as possible.
  - Bad packing.
  - Good packing. (After using packing feature)
  - (i) The higher your parts are in the build chamber, the longer your print will take.
- Packing feature.

(i) When parts become highlighted in red, this means that they are touching and overlapping.

• The "**Pack Selected Models**" button will automatically pack all models in a way that is acceptable. However, this may require slightly more manipulation as it may not be the most efficient way to print. (The lower your parts, the better).

# Step 12 — Additional Manipluation



- Cross Sections
  - The slider on the right side of the screen allows you to see the individal layers. It displays layer number and current height in mm.
- Right-Clicking a part
  - Allows quick part manipulation such as **replace**, **duplicate**, **and copy**.
  - The "Model Properties" option can be used for quoting customers.
    - It will display the **amount of powder** that will be used for that **particular part**.

## Step 13 — Start a Print



- Allows you to upload the current job to the printer.
  - Make sure to change the Job Name to PC#XXXX CUSTOMER\_NAME.
  - Select Upload Job.
  - Select Upload Job. Take note of "Total Powder, Print Time, and Cooldown Time" on right side of screen.
    - (i) In order to calculate the print time, you must click on it.
    - If the "Total Powder" exceeds the current amount of powder in the Fuse, add more. \*refer to Preparing the Fuse to Print Dozuki.