Using Form Labs 3D Printer

1. Press the Power button on the front of the Form Labs printer to turn it on. Connect the USB cable from the printer to the computer.

2. Open PreForm, the Form Labs software, on the computer.

3. Once the software has loaded, a Print Setup dialog box will appear. Choose the correct printer model (Form 1+) and the material colour and version. The material is the resin you will be using for the print. Each resin bottle has information on the specific colour name and version. This information is sometimes different depending on the resin so you must put the correct information in at this stage in order for the print to work properly.

   If there is already resin in the tray and you are not planning on using that colour, switch out the tray for an empty or different tray.

   You are also prompted at this point to choose a layer thickness. A smaller layer thickness will create a more detailed print, however the printing time will increase. A greater layer thickness will provide less detail but will print much faster. After making these selections, click "Apply".

4. The tank must be filled with resin in order to print. Lift the lid on the printer and pour the resin slowly into the resin tray. **Do not fill past the maximum fill line on the tray**. Overfilling will spill resin onto the printer. Always use gloves when handling materials. Do not get the resin on you or your clothes.

5. To add a file, click on File and Open. Select the 3d file you want. The Form 1+ will accept files in .obj, .stl, or .form.

6. Loading the file will create a preview of the model. On the left hand side of the screen are the menu options.

   Size allows you to scale the object. You can scale on the X, Y, and Z axes separately or all at once.

   Orientation allows you to orient the model on the X, Y and Z axes. It will turn the object 90 degrees in six different directions. You can select "Orient All" which will give you an orientation for optimal printing.

   Supports allows you to generate supports. "Generate all" will create all supports automatically. This is the suggested way of generating supports. You can also edit selected supports from this menu. **Please note that objects cannot be printed flat**; even flat objects must be oriented so that they are on an angle.

   Layout allows you to move the object on the bed. This tab also allows you to create duplicate objects for multiple prints.

7. *Print* will send the job to the printer. The printer must be plugged in and turned on to print. Click "Send to Printer" to start the print. The software will ask you to confirm the print has been sent by pressing the button on the front of the printer.

8. There is also a *1 Click Print* button on the left-hand menu. Clicking this option will automatically generate the layout and supports for the object and send the finished result to the printer immediately. **This is the quickest way to get a print started.**

9. The bottom of the screen gives information about the print itself, including the volume of resin required, number of layers, print time and other print settings.

10. When prompted, close the lid and press the button on the printer to start the print job.

11. When the print is finished, lift the lid and unlatch the build platform at the top of the printer. Slide the build platform towards you to remove it from the printer. Flip it over and put the platform on the finishing tray. Use the scraper to peel away the print from the build platform.

12. Put the print into the black dipping tray, place the tray inside the alcohol bucket and agitate the alcohol around the print for 2 minutes. Leave the print fully submerged in the alcohol bath for another 10-12 minutes.

13. Once time has elapsed, remove the print from the bucket and let dry for about 20-30 minutes. This cures the resin. Clean tools after use to remove any uncured resin. When the print has been removed from the build plate, re-attach the build plate to the printer. Unused resin can stay in the resin tank. Press the power button on the front of the printer to turn it off.