



Staff: Formlabs Form 3 Intro

Learn more about the situation of the Formlabs printers at Terrapin Works

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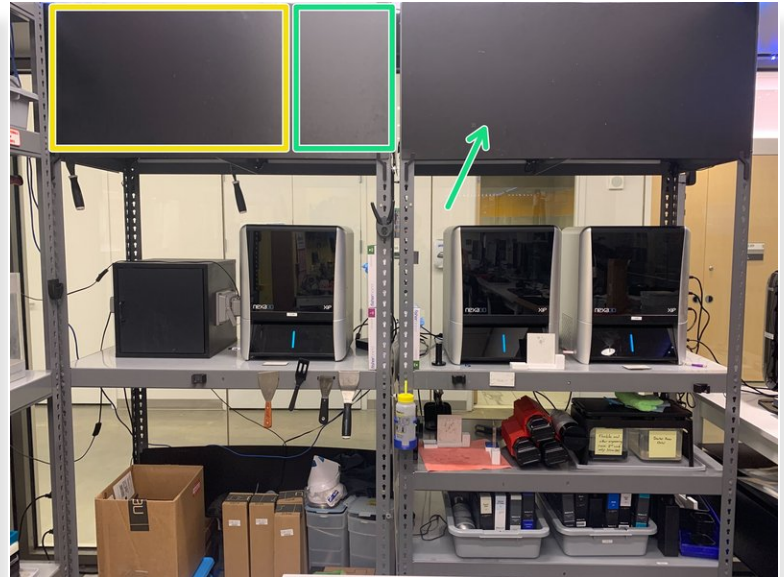


Introduction

The Form 3+ is an affordable desktop stereolithography printer, delivering high-resolution parts in a variety of high end materials at a fraction of the cost/footprint of industrial 3D printers in .

Images By: Formlabs, Terrapin Works

Step 1 — Location of Relevant Items



❗ We ONLY use material sold by Formlabs

- Resin tanks and empty resin tank containers are stored on the bottom shelf
- Opened resin cartridges are stored in the grey bins on the shelf above the tanks
- New cartridges are located behind the black PVC sheet on the left side of the top left shelf
- Replacement parts and spare build plates are located on the right side of the top left shelf as well as in the top right shelf

Step 2 — Overview of Machine Location



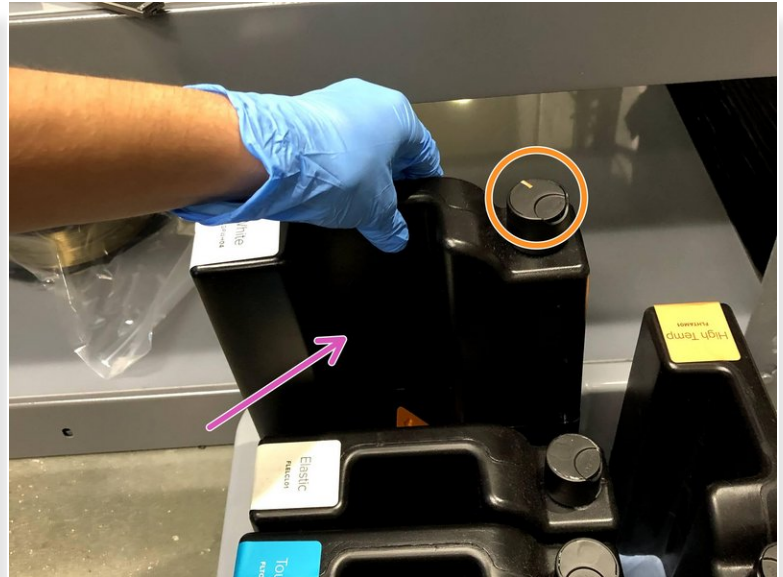
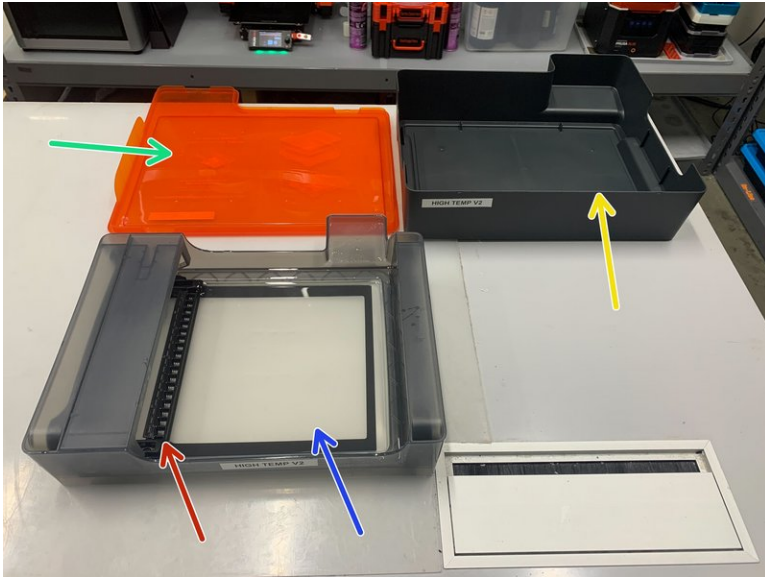
- Formlabs machines are on the left side of the right wall in the Prosumer Printer's section of the AFL
 - The Form Wash is in the center of the SLA postprocessing zone
 - The Form Cure is to the right of the Form Wash station
 - Keep the area near and around the printers clean and clear as the area is very visible to passers-by
 - Sweep dust off the shelf and wipe clean with IPA once a week
- ⚠ The orange shields of the Formlabs are very sensitive to IPA and will crack if any IPA gets on them so be cautious when cleaning

Step 3 — A Note: Materials



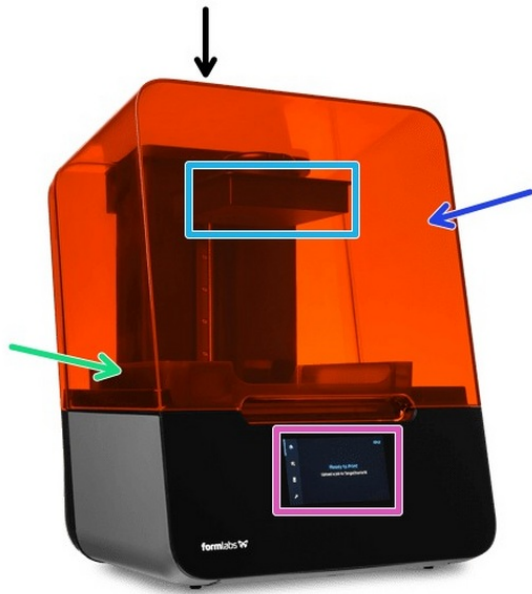
- The Formlabs print out of a variety of different materials and colors, you can read about all of them on the [Machine Wiki](#)
- ⚠ All Formlabs materials are **toxic** and you should wear nitrile gloves at all times when handling any Formlabs related parts
- ⚠ Due to their toxicity we are NOT allowed to dispose of uncured resin in the garbage or down any drain, therefore we must cure all resin before disposal using UV light
- Wiggly will always be set to black resin and should never change
- Lucky will almost always be set to Clear however if the need is dire we will switch it over to another material
- Dazzling and Magenta act as floaters in the AFL and will rotate materials based on the needs of the jobs

Step 4 — The Resin Tank and Cartridge



- The Resin **Tank** is the flat container where the resin is fused to the build plate
 - ⚠ NEVER touch the bottom of the Resin Tank as imperfections will impede the laser's ability to solidify the resin
- The **Wiper** stays with its own Resin Tank
- The black **Tank Container** stores the tank when not in use
- The orange **Tank Cover** gets placed on the resin tank and container to prevent additional curing from stray UV light
- The Resin **Cartridge** is the black container that equivocates to a filament spool
- The **Vent** is located at the top cap of the Cartridge

Step 5 — Parts on the Machine



- The **Resin Tank** sits in the base of the print chamber
 - The **Resin Cartridge** is lowered into the back of machine from the top
 - The **Build Plate** sits upside down on the z-axis arm
 - The orange **shield** or **hood** protects the resin from UV light which will solidify it if exposed for too long
- ⚠ Do NOT leave the shield up for extended periods of time - UV light cures the resin
- The **touch screen** interface is located on the front of the machine

Step 6 — Overview of the Machine



- The Formlabs Form 3+ are high quality SLA machines which print their own proprietary resins
- The Formlabs are able to achieve significantly smaller layer heights (down to 25 microns) and higher fidelity in the x and y directions (~ .01 mm)
- The main interface of these machines is a touchscreen on the front accompanied by a power switch at the back
- The Formlabs printers are connected to the AFL network and can be sent jobs when you are on the AFL network