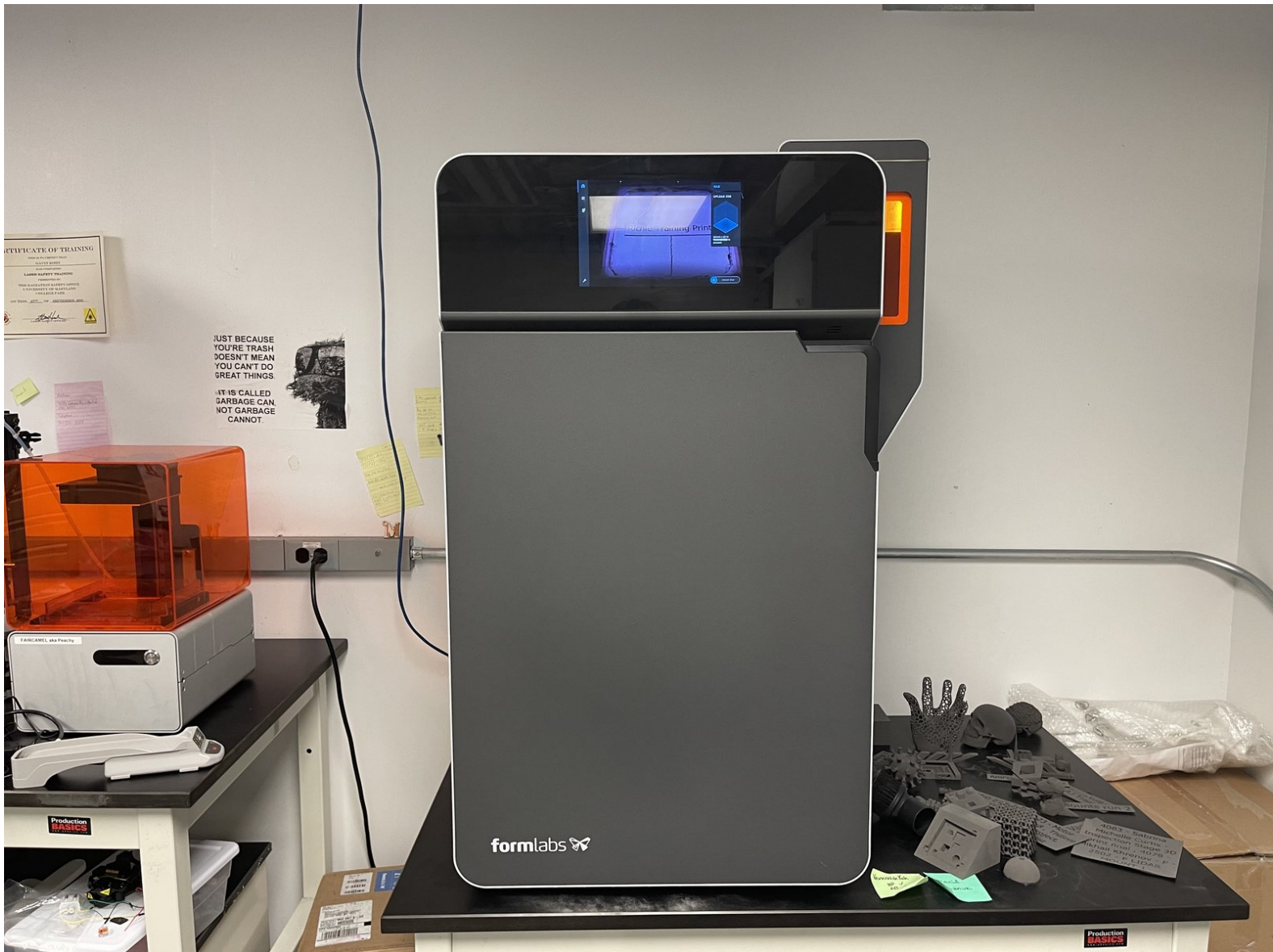


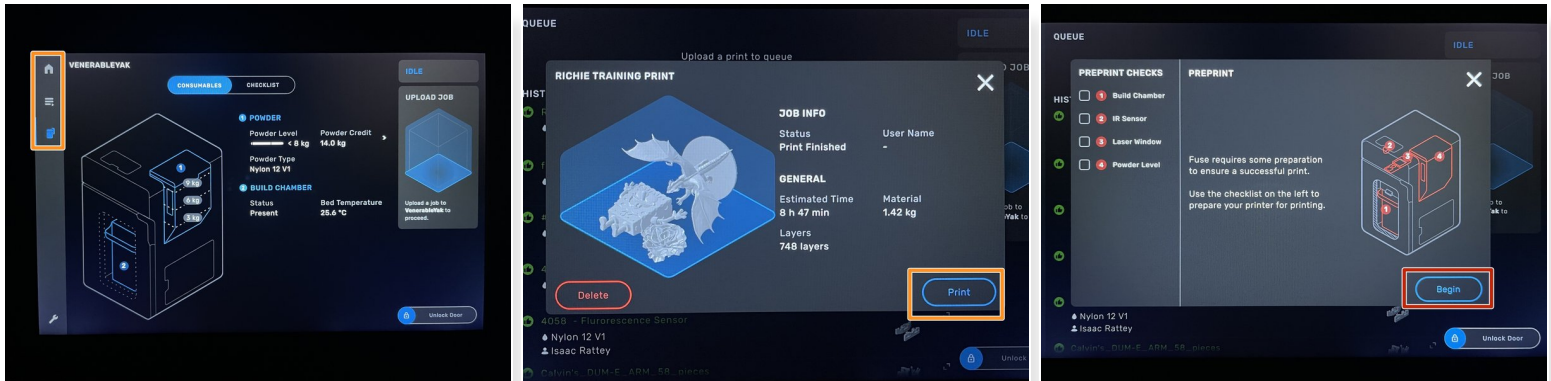


Preparing the Fuse to Print

Written By: Garrett Randolph Hinson

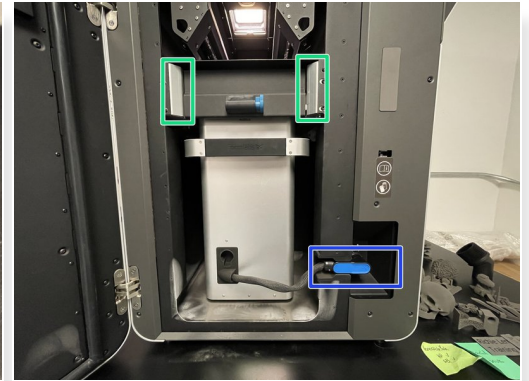
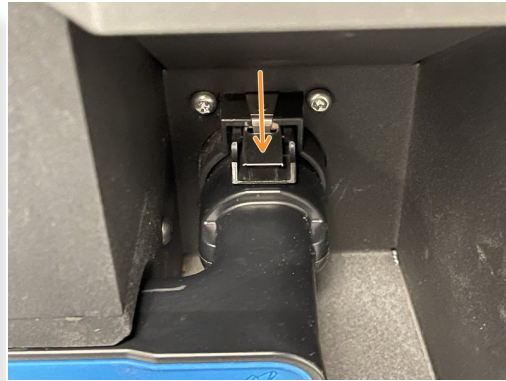
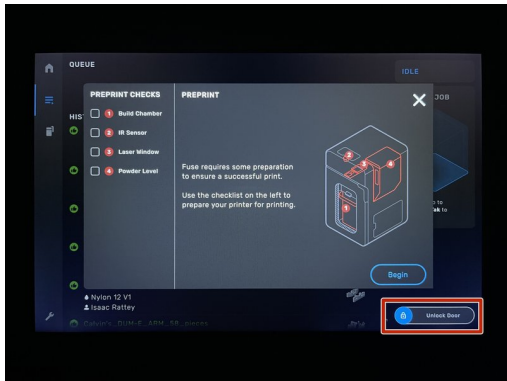


Step 1 — Preparing Your Print



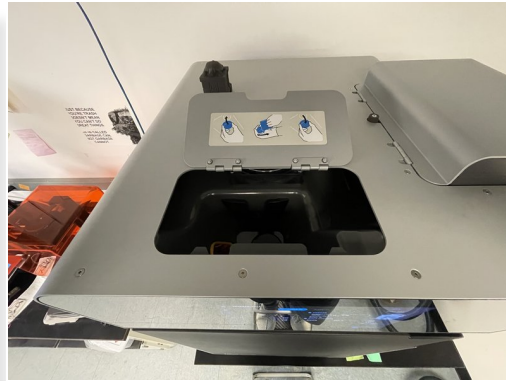
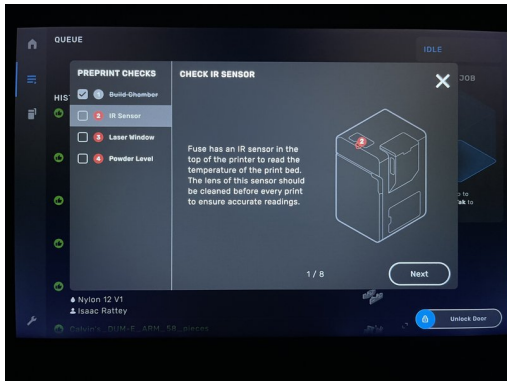
- Ensure you are wearing a pair of nitrile gloves.
- Touch the **Queue tab (2nd option)** on the far-left side of the Fuse touch screen.
- Find and select your print. **'Select Print'**.
- Preprint checklist will appear. You **must** complete this checklist before each print. Select **begin**.
 - ① You can follow along with the preprint checklist similar to the way you can a dozuki for each step.
 - ① Before starting the print checklist, check maintenance checklist. Reference Maintenance Dozuki.

Step 2 — Pre-Print Checklist: Build Chamber



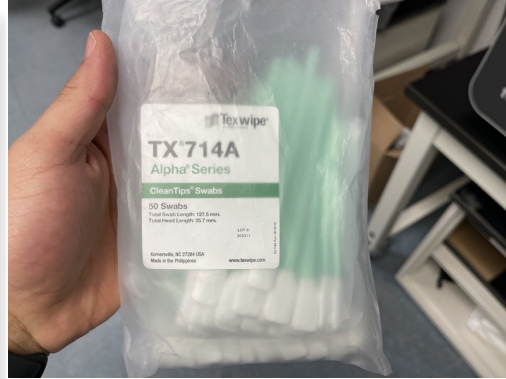
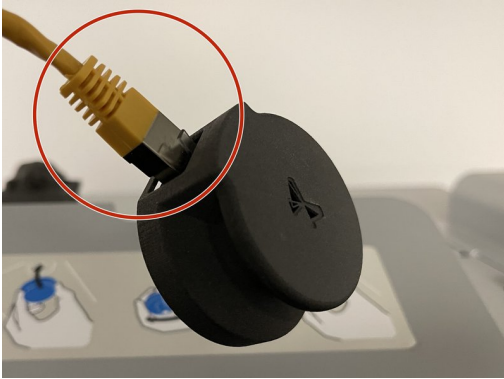
- Touch the **"Unlock Door"** button on the Fuse. Open the door to access the inside of the Fuse.
- If the Build Chamber is not already inserted, open the **blue and black latch**.
- Move to the post-processing station.
 - Press **down** on this tab on top of the diagnostic cable to quick-release it.
 - Pull the diagnostic cable out of its socket and place into its holder on the Build Chamber.
- Grab the Build Chamber **by the side** and carefully transfer it from the post-processing station to the Fuse by inserting it into the tracks below the print bed.
- Remove the diagnostic cable from its holder on the Build Chamber and insert it into the jack on the Fuse. Close latch, close door.

Step 3 — Pre-Print Checklist: IR Sensor



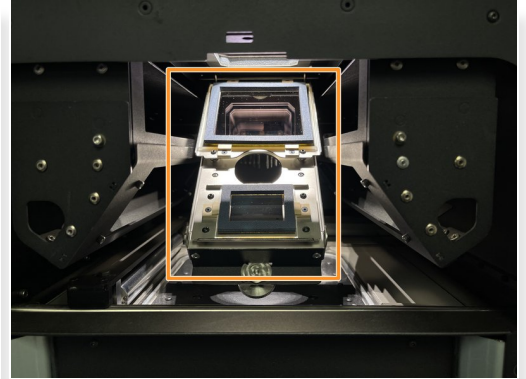
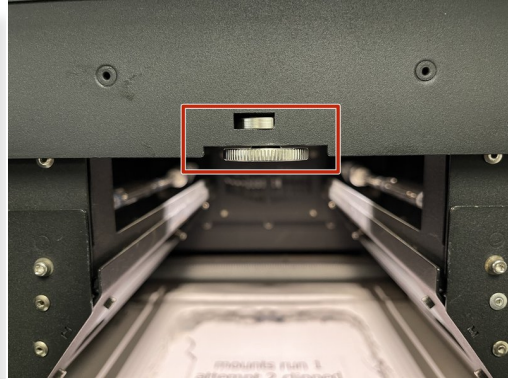
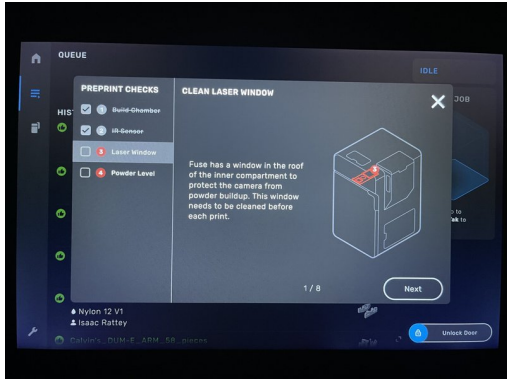
- Accessing the IR Sensor
 - Use a step-stool to access the door on the top of Fuse directly above the touch screen.
 - Access the IR sensor by rotating **clockwise** and **pulling**.
 - ❗ The IR sensor is magnetic so slight force is required to remove it.
 - Inspect the IR sensor for any debris such as **dust** or **nylon powder**. If debris is present, the sensor will need to be cleaned.
 - ❗ TIP: Rotating the sensor so that the ceiling lights reflect off of it will help identify debris.

Step 4 — Pre-Print Checklist: IR Sensor Continued



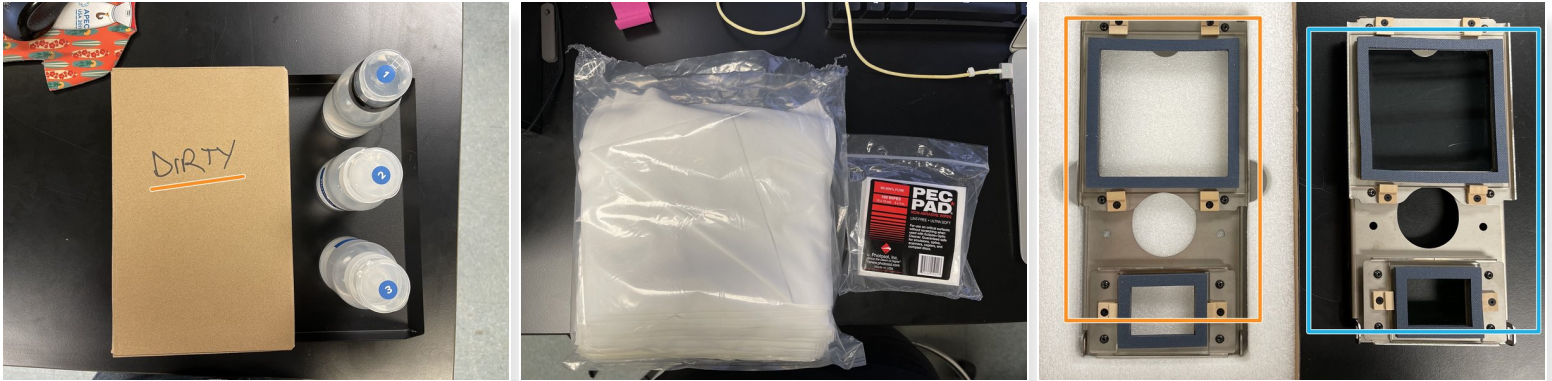
- Cleaning the IR Sensor
 - Push **down** on the prong on top of the yellow cable to remove it from the IR sensor and set aside.
 - Grab **swab** and the bottle of **ethanol** from the cabinet.
 - Apply **one pump** of ethanol to the swab and wipe down the mirror on the IR sensor.
 - Wipe with a dry swab and repeat if necessary.
- After cleaning, plug the sensor back into the yellow cable.
- If seated properly the butterfly on top of the IR sensor will illuminate **green** , and **yellow/orange** if incorrect. Close access door.

Step 5 — Pre-Print Checklist: Removing the Optical Cassette



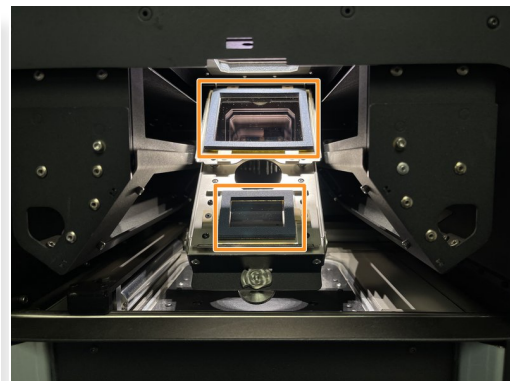
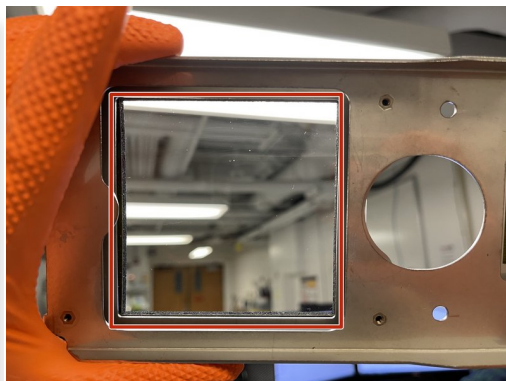
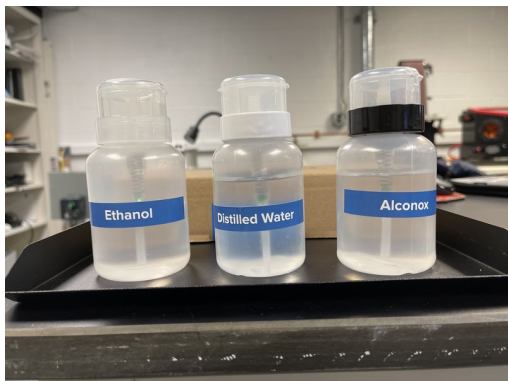
- Ensure you put on **BRAND NEW** nitrile gloves or that your current gloves are **FREE OF POWDER**.
 - Touch the “**Unlock Door**” slide on the touch screen of the fuse. Unlock and open the Fuse door.
 - Loosen the screw in the front-center of the print bed, **SLOWLY LOWER** the tray holding the laser window.
 - Be careful **NOT TO TOUCH THE GLASS**. Remove the optical cassette.

Step 6 — Pre-Print Checklist: Cleaning the Optical Cassette



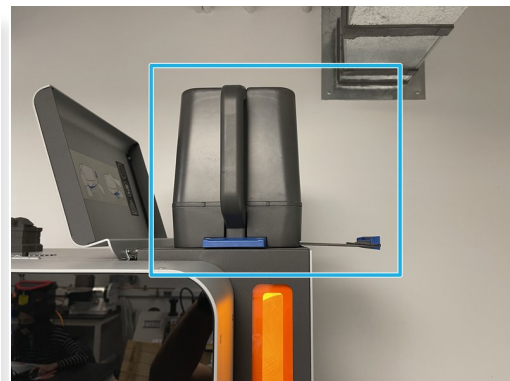
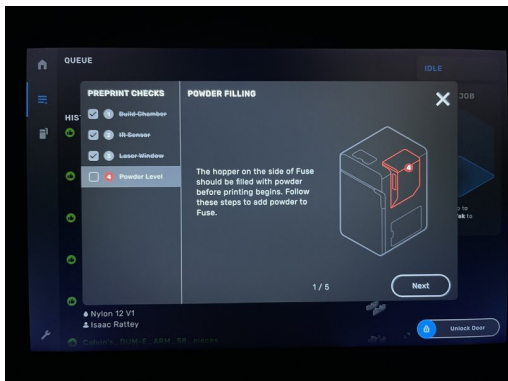
- In the cabinet, there will be a tray containing several cleaning items:
 - Alconox
 - Distilled Water
 - Ethanol
 - Woven Cloths/PEC Pads
 - Optical Cassete Box
- Open the “**Dirty**” box and grab the new optical cassette.
- Place the optical cassette you removed from the Fuse and in the “**dirty**” box.

Step 7 — Pre-Print Checklist: Cleaning the Optical Cassette Continued



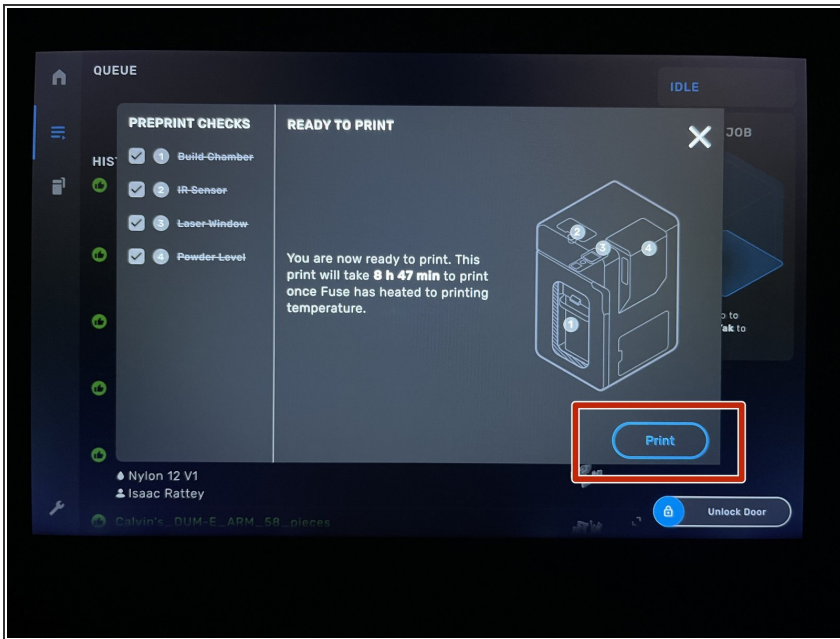
- Make sure the side of the optical cassette that **DOES NOT** have the blue gaskets is facing you.
- Use a **PEC Pad** and **one pump** of **Alconox** (Labeled "1"). Begin wiping the larger area glass in a **criss-cross pattern**. i.e. completely vertical then completely horizontal.
- Use a new **PEC Pad** and **one pump** of **distilled water** (Labeled 2). Wipe the glass in the same pattern with **2 passes**.
- Using a **dry** PEC Pad, wipe the glass dry. May take 2 dry wipes to remove water.
- Use a **woven cloth** and **one pump** of ethanol (Labeled 3). Wipe the glass in the same pattern.
- If debris is on the gasket side of the optical cassette, wipe with a woven cloth and **ethanol ONLY**.
- Hold the optical cassette up to the light and inspect for any extra debris. If debris is on the same side you just cleaned, repeat cleaning process using **ethanol ONLY**.
- Once optical cassette is clean, replace the optical cassette tray in the Fuse. The blue gaskets should be facing **UP** and be sure **NOT** to touch the glass.

Step 8 — Pre-Print Checklist: Powder Filling



- Take note of the current powder level in the hopper on the right side of the Fuse. If more powder is needed, you will add it now.
- ❗ Reference Software Dozuki for needed powder quantity.
- ❗ Reference post-processing Dozuki for proper powder mixing.
- Grab the hopper from the post-processing station. Open the lid on top of the hopper on the Fuse.
- Place the hopper containing the replacement powder on top of the hopper on the Fuse, making sure the **blue handle is facing out**.
- Once the hoppers are secured, pull the blue knife handle to release the replacement powder.
- After the majority of the powder has been released, tap the top of the hopper a few times to release any excess powder. Wait **30 seconds** to let the powder settle.
- Slide the knife handle closed. Remove the hopper and close the lid on top of the Fuse.

Step 9 — Printing



- Once all items are completed, touch **print** on the Fuse touch screen to begin the print.
- Before the Fuse prints, it will heat up to operating temperature and layer powder.