Bottom-Up v. Top-Down Curing Methods

**Bottom-Up Curing PROS**
- The machine is already setup for this. Although the system needs to be refined, we would be starting from a good place.
- Tighter tolerances in parts. Assumed at this point. We need to identify better specs on how tight our tolerances need to be.
- More prototypes to compare to. This method seems to be the preference of a majority of the systems on the internet.
- Seems to provide more control over this thickness of parts. Also assumed until verified by testing.
- Our customer seems to be leaning toward this method.

**Bottom-Up Curing CONS**
- Sticking, sticking and more sticking. Obviously the biggest concern.
  - Extra steps will have to be taken to prevent this. E.g. spin coating, Teflon, multiple surface tests etc.
- Light has to travel through more layers to cure.
- Seems to require more mechanical components.
- We could be negatively influenced by previous designs and waste a lot of time trying to perfect a poor design.

**Top-Down Curing PROS**
- We’ve seen it work. I don’t know why this is a pro, but it provides a little confidence in moving forward.
- Sticking is a non-issue. Although further testing has to demonstrate that we can stick well enough to the build platform.
- May allow us to use resins lower on the spectrum due to light shining directly on the bath. The more resin options, the better.

**Top-Down Curing CONS**
- Meniscus formation and the overall accuracy of parts.
  - Controlling layer thickness seems to be the main concern from the group.
- Will require retrofitting of the cabinet. The cabinet would have to be rebuilt, platform modification and additional testing would have to occur simultaneously to ensure we had enough time to finish everything.
- Will require designing a “platform in a bath” type mechanism.
  - Leaking resin would likely be an issue