Desktop Injection Molder

Machine Purpose: To inject molten thermoplastic into a mold

Safety: **Must wear safety glasses while operating machine.** Beware of hot plastic, moving parts, and crushing forces. **This machine has no built-in safety system.**

Materials: Thermoset plastic

Machine Specs: 1 cubic inch injection, 600F 2.50”D x 2.63”H x 4.00”W, .125” dia nozzle,

Accessories: Aluminum master molds used for resin or 3d printed molds

- Cavity Dimensions: 3.30"W x 2.00"H x 1.00"D
- Cavity Dimensions: 2.25"W x 2.00"H x .75"D
- Cavity Dimensions: 3.30"W x 2.00"H x 2.00"D

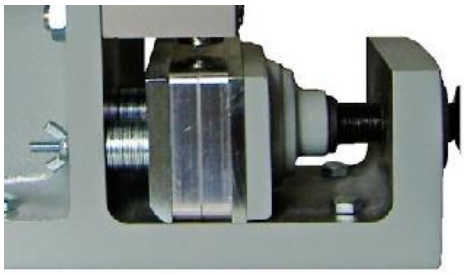
Instruction Required: Individual Checkout

Operations:

1. Turn on the controller power switch, then turn on the Model-B power switch. Adjust the P.I.D. to the desired temperature setting, then wait until the set temperature is reached.

2. Pour some plastic pellets into the injection tube, filling it up. Wait until the pellets melt (~2-4 min).

3. While waiting for the plastic pellets to melt, position the mold under the injection nozzle and clamp it into position by turning the vise handle. Notice how the backing plate has been shimmed forward with washers so the center line of the mold lines up with the injection nozzle



4. Pull down the handle until you feel a solid resistance. Hold it there for a few seconds, then lift the handle back up until it locks into its upright position.

5. Loosen the vise handle to unclamp the mold. Remove the mold and separate the halves.

6. Remove the part from the mold, cut off the sprue, repeat 2-6 until quantity of parts are needed!

Note: It takes some practice to make nice parts. In general, you have to pull down the handle with a fairly quick and steady downward force. But not too quick, because the air trapped in the mold cavity can only be forced out of those tiny air vents so fast. Every part is different. A very small part (<1 gram) may be fully injected within a second or two and the handle will only need to be lowered a short distance before you feel the solid resistance. A larger part (5+ grams) may take 5-10 seconds or more to completely fill the mold cavity with plastic. Some parts will inject rather easily, and others will require some strength to pull down the handle, and may require using the handle extension to get better leverage. There are many variables that affect how easily a part will inject, such as the size and geometry of the part; the type of plastic used; the temperature of the plastic; the temperature of the mold; the size and configuration of the gates and runners; proper venting of the mold, etc. Just please keep in mind, this machine is not a miracle worker, if you cannot inject a part with only a moderate amount of downward force on the handle, even after optimizing the above variables, it's probably beyond the capability of this machine. Attempting to push it beyond its limits may result in serious injury to yourself and/ or damage to the machine.