firepickdelta

Setting the Camera Offset

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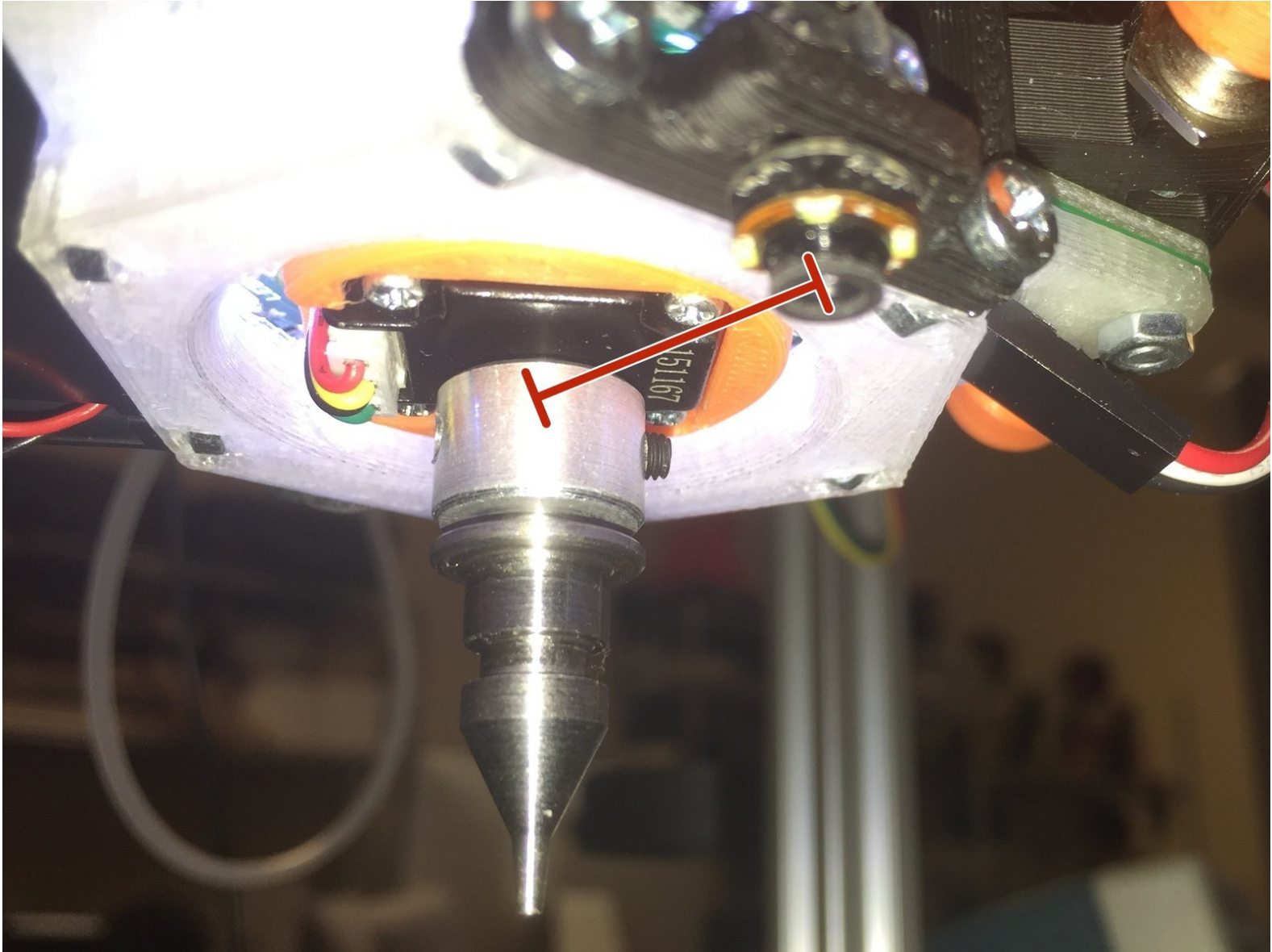
Step 1 — Introduction
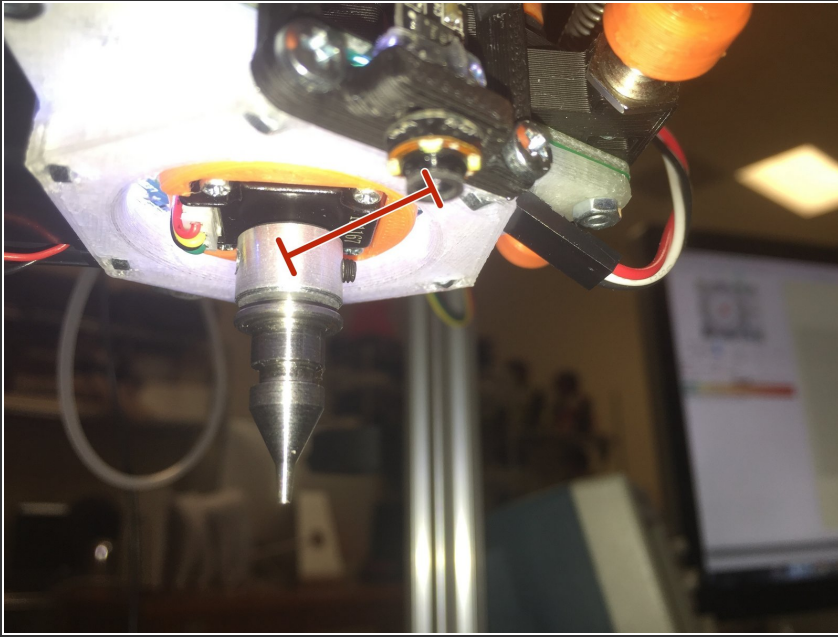
- In this guide we will set the camera offset, based on actual measurements taken from the machine.

Step 2 — Gather Parts

- Locate the following parts:
  - A working pick-and-place machine, with nozzle and down-looking camera
  - Silly putty

Step 3 — Install Silly Putty

- Place the silly putty on the bed, close to X=0, Y=0, or wherever the machine home is.

- (i) If you don't have silly putty, you can just use the little hole on the center of the bedplate as a point of reference.

Step 4 — Launch OpenPnP and Home the Machine

- Launch OpenPnP.

- Home the machine.

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Step 5 — Jog SMT Tip Into the Silly Putty

- Jog the machine's SMT nozzle tip down into the silly putty.

- NOTE: If you don't have silly putty, you can jog the SMT tip down to the little hole in the center of the bed plate, and use it as a refererence. Simply use the jog commands until the tip is precisely centered in the dot, and is level with the top of it.

- Either way, write down the X,Y,Z numbers from the DRO in a safe place. We'll need to refer to them later.

Step 6 — Position the camera at the Tool's Current Location

- Click "Position the camera at the tool's current location'.

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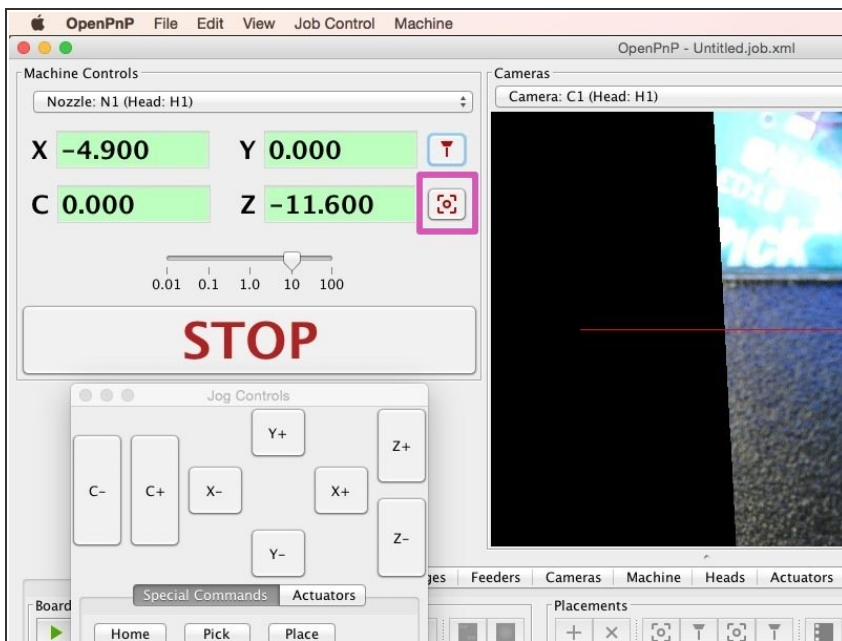
Step 7 — Jog to Center of Dot

- At this point, if you followed the machine.xml guide, you should be "close" to the dot, at least enough to see it on the camera. You shouldn't be more than a few millimeters off, if that.

- Put the DRO in relative mode by clicking the X and Y readout until they turn blue and the numbers change to zero.

- Jog the end effector around until the dot is precisely under the graticule.

- Write the X and Y values down.

- Take these X and Y values. Invert them, and add them to the current X and Y camera offsets in machine.xml.

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