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your toolkit for everything 3D printing

12 - Multi-Material Calibration.

Written By: Greg Holloway

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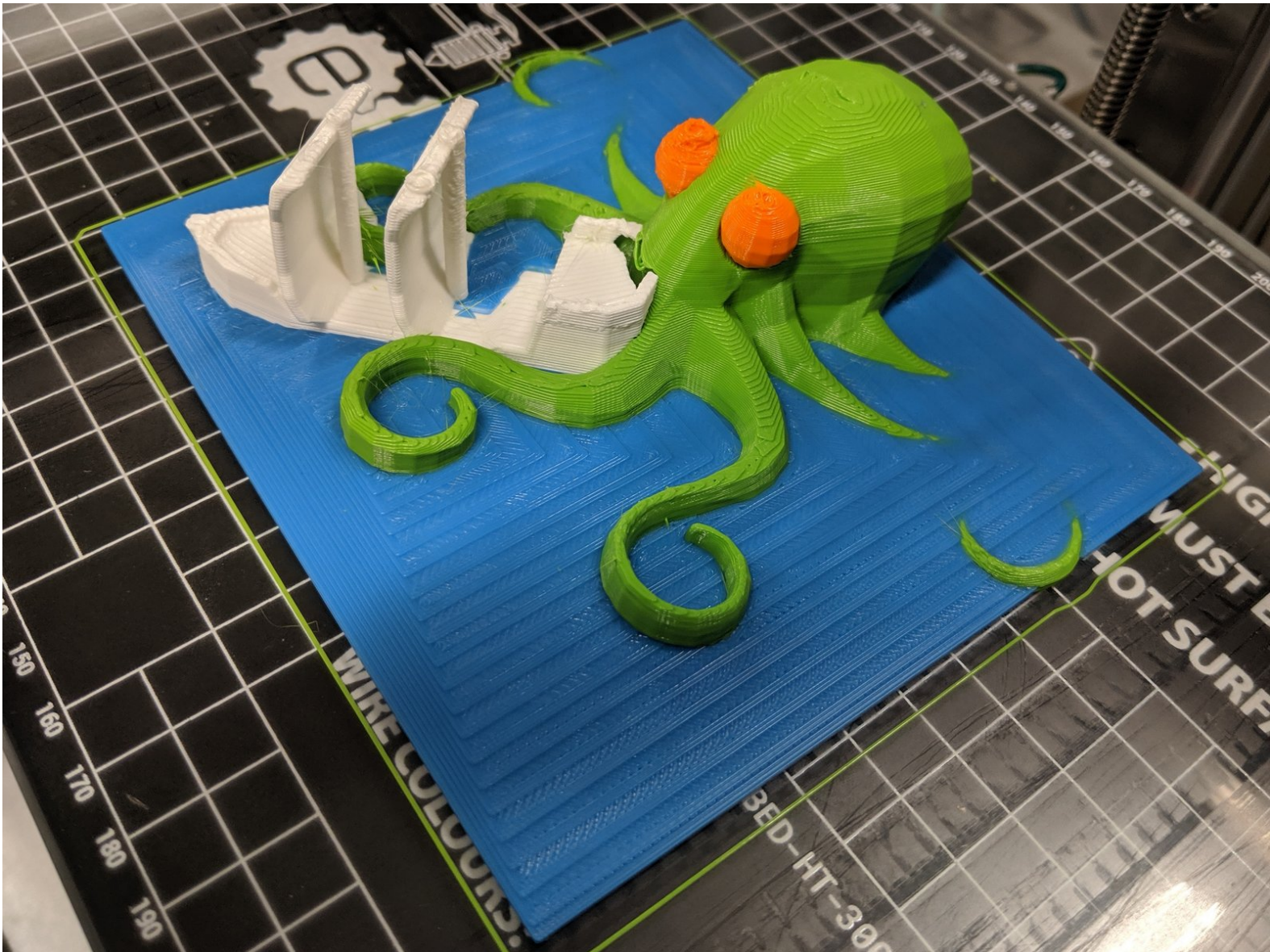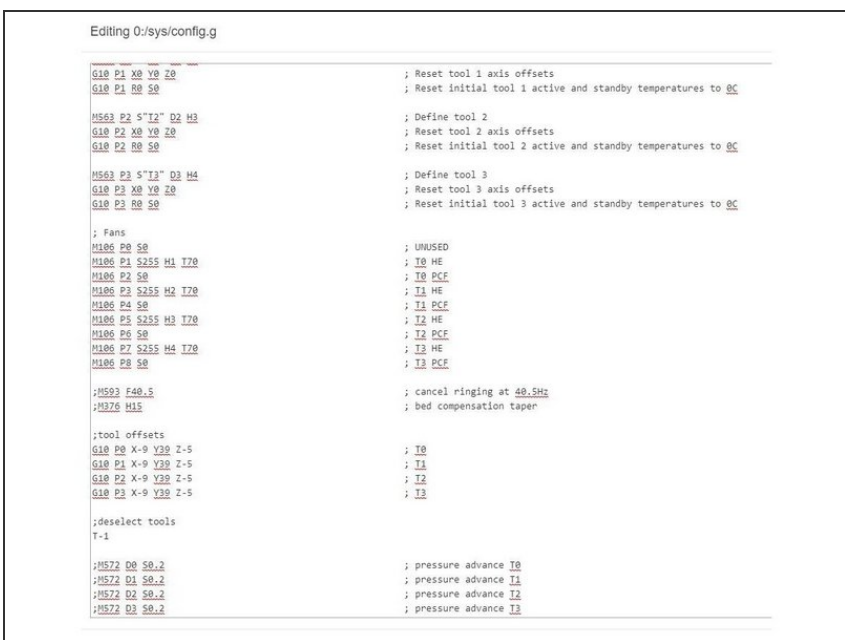
Step 1 — Load Up.
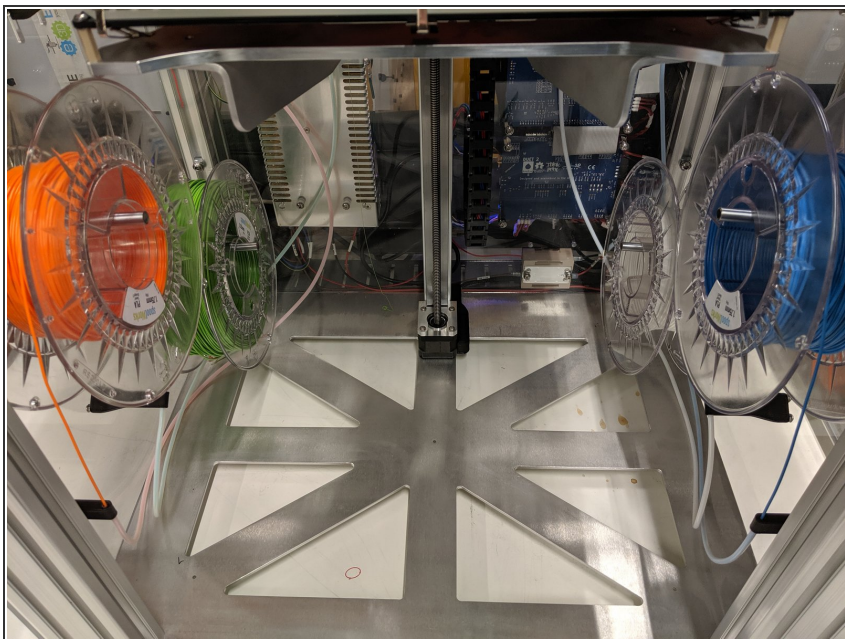
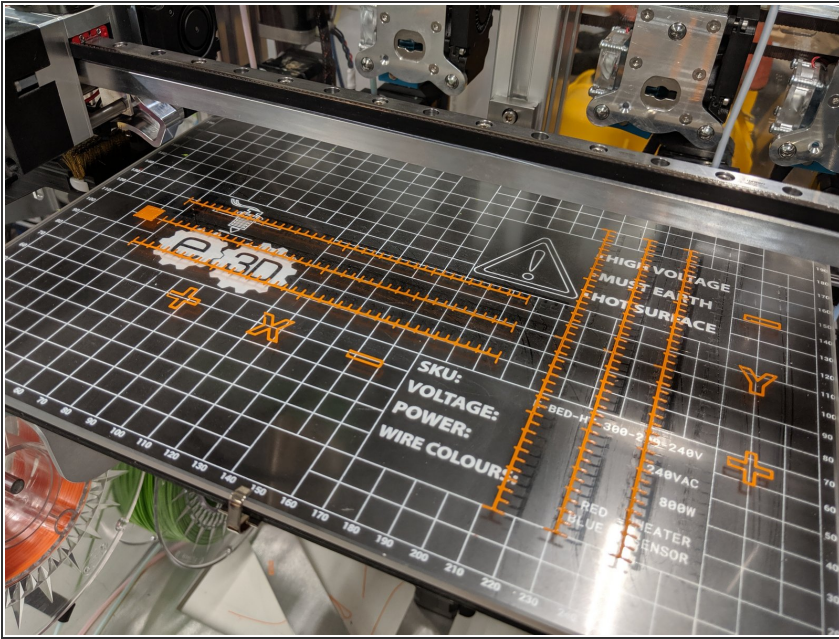- Install filament into each of the four tools.

Step 2 — Offsets.

- The config.g file has approximate numbers for the tool offsets, set by a G10 command towards the end of the file.

- This guide will fine tune those offsets so you can print multi materials.

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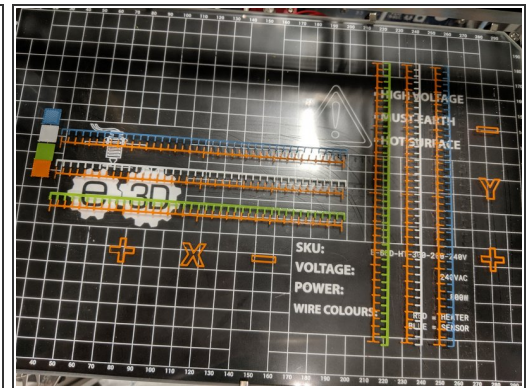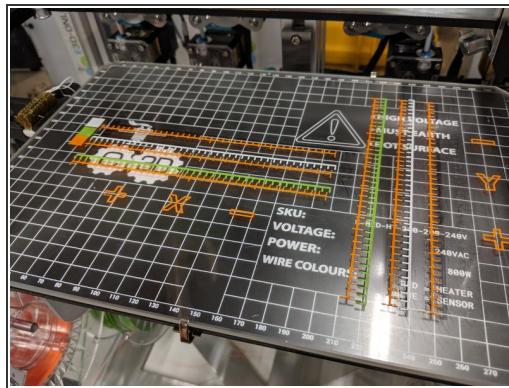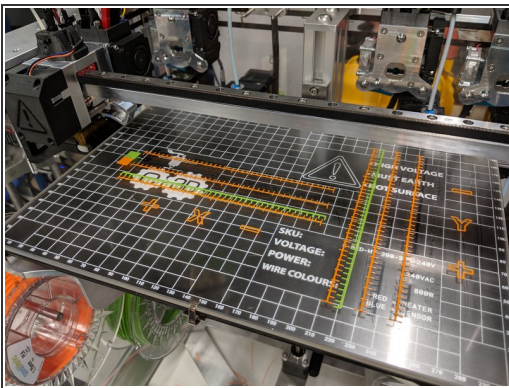
Step 3 — T0

- Set the Active temperatures for the Tools and Bed for the material(s) you are using. In this case I am using PLA.

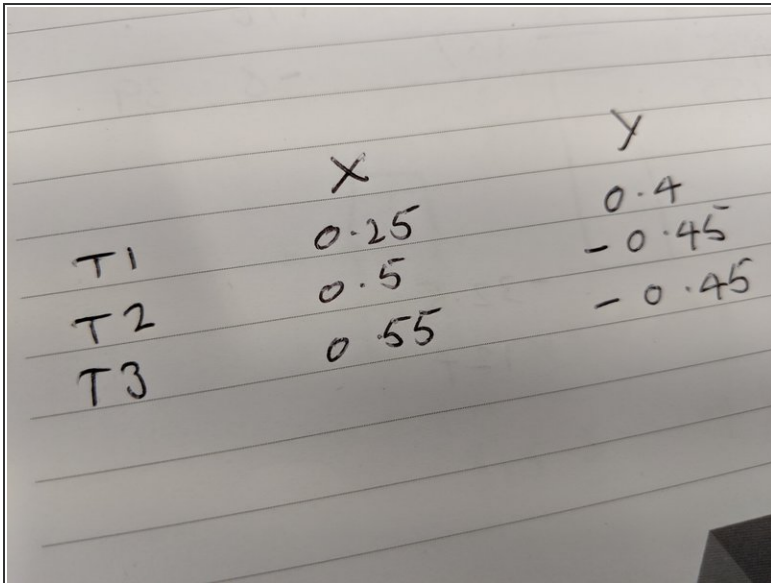⚠️ Remember to Home the machine and Mesh Compensate the bed.

- When ready run **ToolChanger - Calibration.gcode**.

- We are using T0 as the datum for calibrating the tools. T0 will not have any alterations to its G10 offsets.

Step 4 — T1, T2 & T3.

- Each tool will print matching X & Y Vernier scales.

- The major divisions are 100 microns and the minor are 50 microns.

- If the scale for the X-Axis is shifted left, then you add the adjustment to the current offset.

- If the scale for the Y-Axis is shifted towards the front of the machine then the adjustment is added to the current offset.

ⓘ There are + & - symbols to help make the process easier to understand.

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Step 5 — Numbers.

- Make a note of the offsets for each tool.
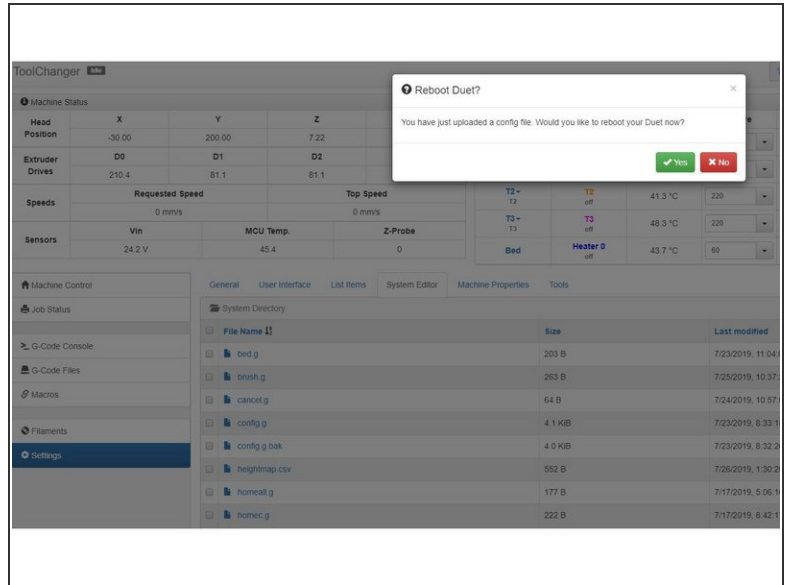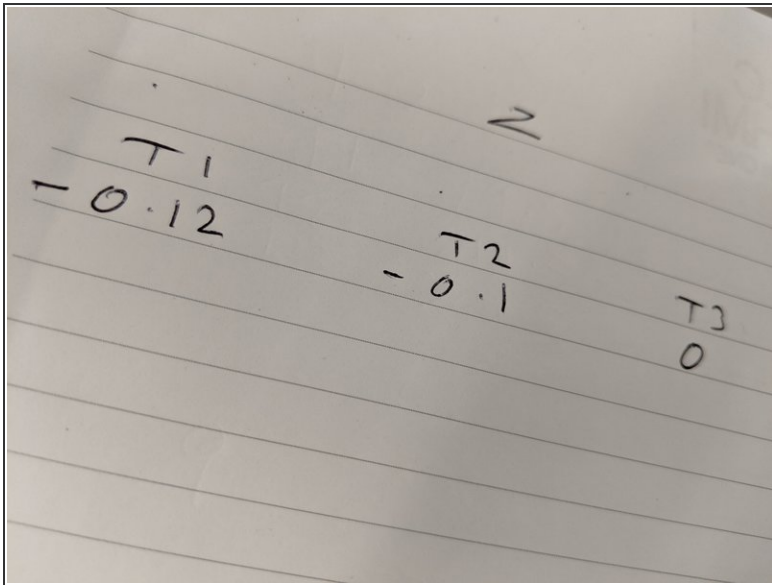
- Make the adjustments in config.g.

- Save the file.

Step 6 — Z-Axis.
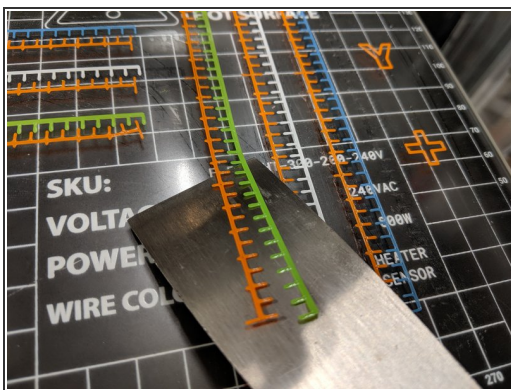
- Carefully list up a pair of verniers.

- Using calipers measure the T0 print.

- Measure the T<1,2,3> print.

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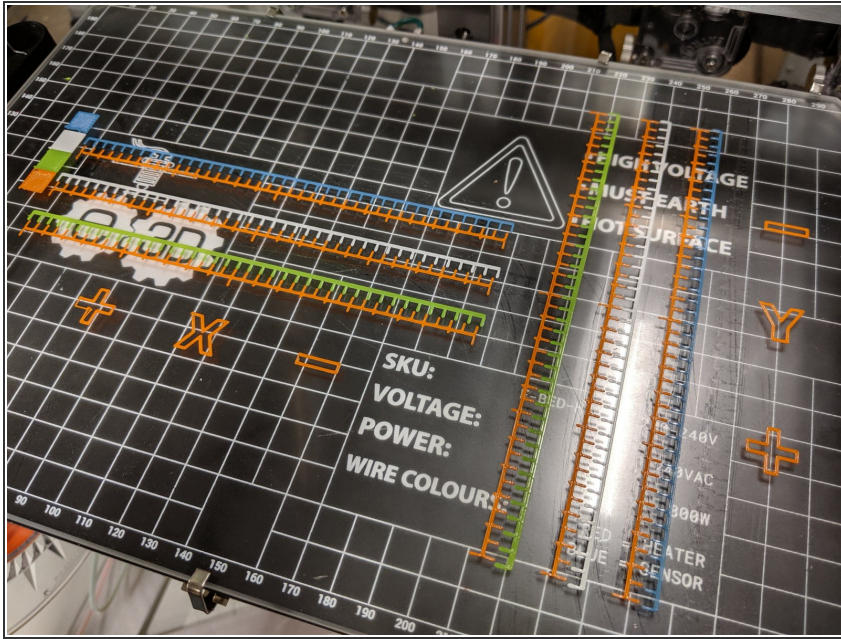Page 4 of 6

Step 7 — Z-Axis.

- Make a note of the difference for each tool.

- Adjust the number in config.g

⚠ Note that the values must be reversed. For example T1 adjustment is -0.12. The value must be added (changes for - to +) to the current offset.
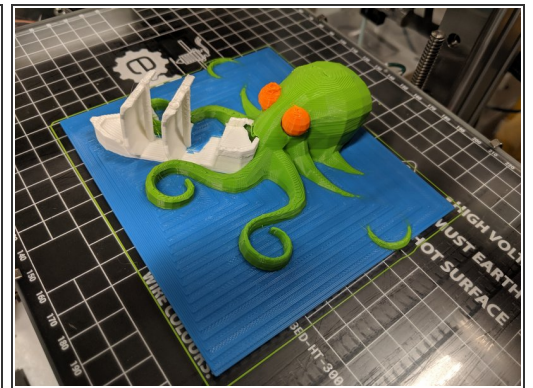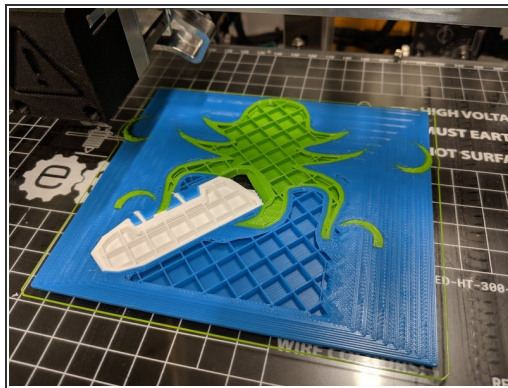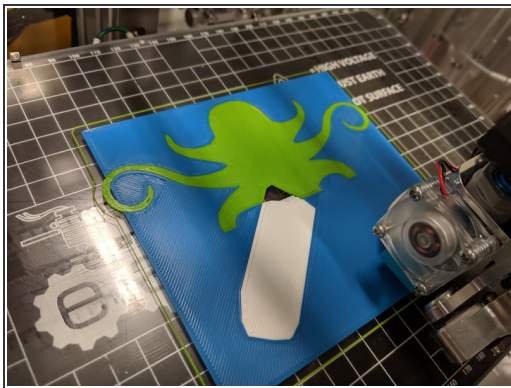
- Save the config.g file and reboot the machine.

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Step 8 — Print.

- Home the machine after the reboot.

- Reprint the calibration file and check that the adjustments have worked.

Step 9 — Print!

- When you are happy with the calibration go ahead and run a multi material print.

- The included kraken.gcode file should run just great.

- Download the [Kraken](#).

- Download slicer profiles from [GitHub](#).

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