Hooklet3D  
Odin One Development

Monticello, MN 55362

**MEMORANDUM**

**Date:** March 27, 2017

**To:** Community

**From:** Hooklet Development Team

**Subject:** Manual Bed Level

**Summary**: The Odin One MK1 is equipped with an auto bed level (ABL) system, this does not mean there’s no need to level the bed, however, it does limit the frequency it must be leveled. The addition of the ABL system slightly alters the process of leveling the bed. This document will outline the steps needed to physically level the build surface.

**Process:**

**Step 1-**

Tighten the bed thumbscrews compressing the bedsprings to approximately half their extended length

**Step 2-**

Auto home the machine using either the LCD or Gcode and then perform an auto bed level:

LCD: Prepare/Auto Home

Code: G28;

LCD: Prepare / Level Bed

Code: G29;

**Step 3-**

Manually move the nozzle so it’s approximately centered over the bed.

LCD: Prepare/Move Axis… X/Y

Code: G1 Xxx Yyy;

**Step 4-**

Lower the nozzle until a business card (or something similar) barely slides between the nozzle and the bed. There should be some resistance.

LCD: Prepare/Move Axis/ .1/Z

Code: G1 Z-.1;

**Step 5-** Disable the stepper motors

LCD: Prepare/Disable Steppers

Code: M84;

**Step 6-**

Move the nozzle and bed by hand positioning the nozzle at each corner and adjusting the thumbscrew at each location so that a business card slides between the nozzle and bed surface.

The resistance at each corner should feel similar, this does not need to be exact (although the closer the better) as we will be correcting the bed with the ABL system.

**Comments**:

The ABL system will correct for changes in your manual bed level over time, best practice is to manually the bed when print quality begins to suffer, or if you have noticeable issues printing on the entire bed.

The bed level has no impact on the nozzle distance from the bed surface, this is handled by the ABL system; in other words, rising the bed will not cause the nozzle to print closer to the bed, this must be adjusted via the z offset value in the LCD or slicer.