ZONESTAR

How to upgrade and debug bed auto leveling

**Bed Leveling Sensor: PL-08N Proximity Sensor**

Ver: 2.0

Note:
1. The print platform (hotbed) should be metal.
2. Before upgrading , you need to level hot bed manual .
3. It can only corrects small irregularities deformation of hot bed, usually error should be less than 0.5 mm.

Wiring

1. Connect the Proximity Sensor to the Z+ connector on the control board.

2. Power on the control board.

3. When Proximity Sensor is close to the hot bed, the LED will light up and the LED is off when it is far away from the hot bed.
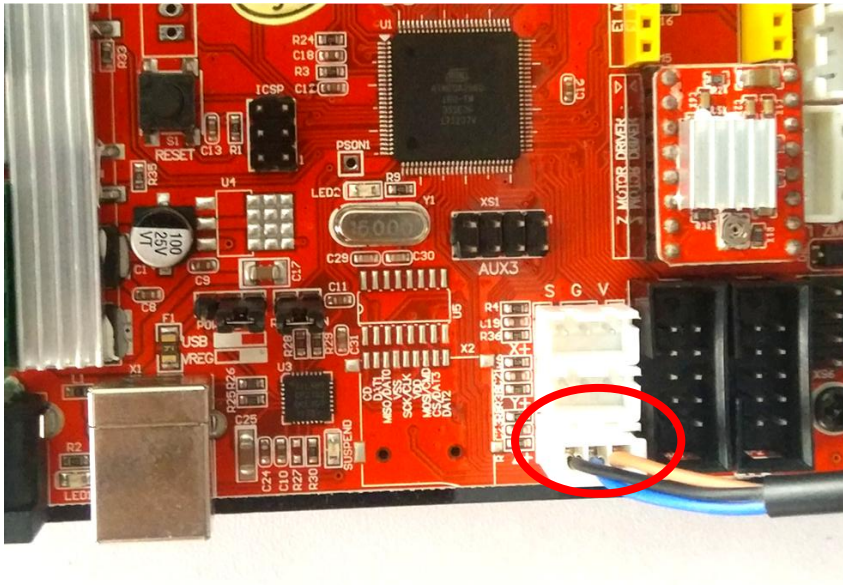
Near, light on

Far, light off

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Installation

1. Move HOTEND to the middle of hot bed and adjust height of HOTEND or print platform, let the nozzle almost touched hot bed.

2. Install the Proximity sensor on the side of HOTEND. The bottom of the sensor should be approximately 2-4 mm above the nozzle (Fig 1).

3. Adjust the position of Z-axis limit switch (the printer which Z-axis limit switches is removable, such as Z5, Z6, Z8S, etc.) or adjust the "Z height adjustment screw" (the printer which Z-axis limit switches is fixed but there is a screw to adjust the Z height, such as P802N, Z9, etc.), and let their position to meet the following conditions (Fig 2).

① *If hot bed is at this height, the sensor is released (LED turn off).*
② *If hot bed is at this height, the sensor is triggered (LED light up).*
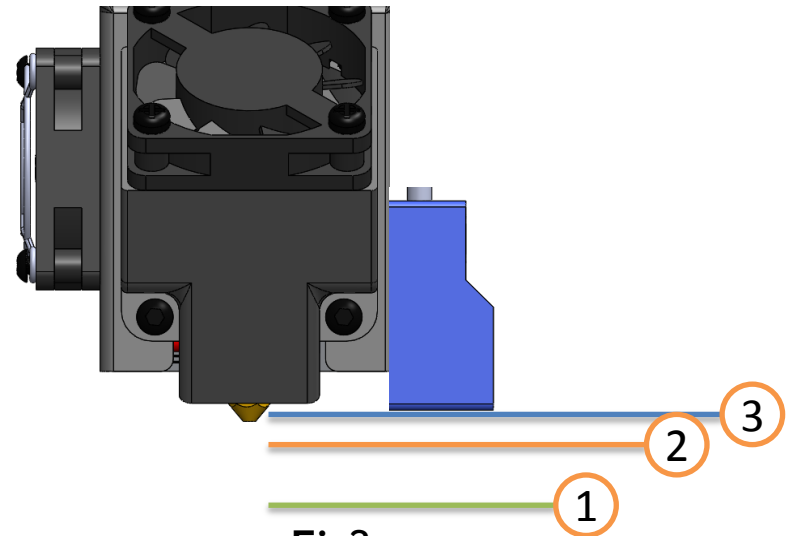③ *If hot bed is at this height, Z ENDSTOP is triggered.*

Fig1

2-4 mm

Fig2

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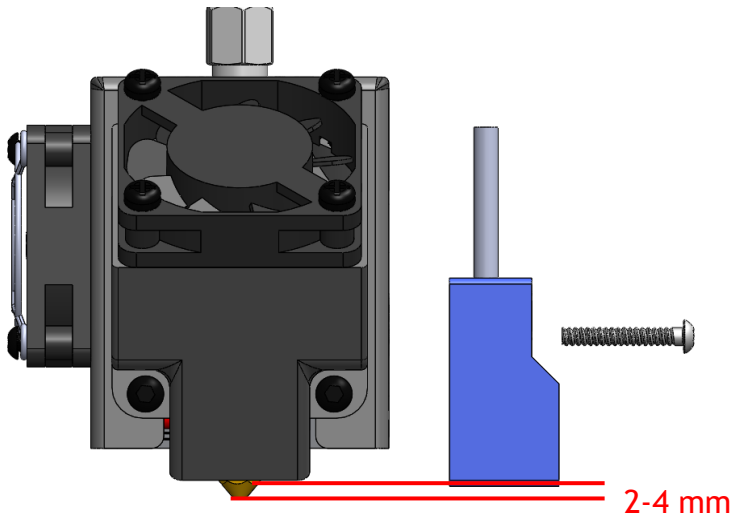
1. First, manually level the hot bed to ensure that the height error of each point of the hot bed is within 0.5mm.

2. Copy "*Bed auto leveling test.gcode*" file to a SD card and insert it to printer, print this gcode file.

3. After starting to print the first layer, double-click the knob to open *the " babystep Z "* menu, then rotate the knob to adjust the nozzle to appropriate height (refer to the below picture) , **remember this value (e.g.: -0.25mm).**
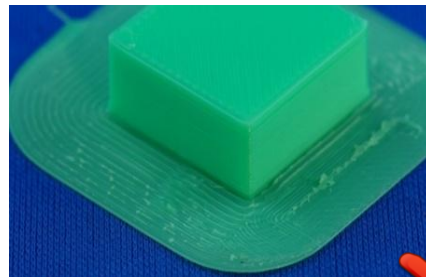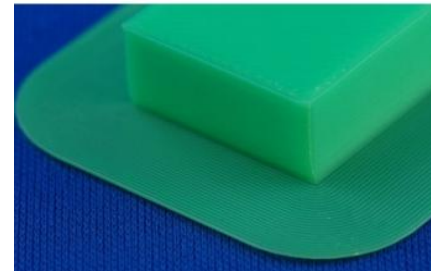
too far ✗   **too near** ✗   **perfect** ✓

4. Open the slicing software what you use, add a "G29" command following the "G28 " command, and add "G92 Z0.25 " following the G29 command.

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Verify Z OFFSET

Repetier-host with Cura Engine

Verify Z OFFSET

Simplify3d

Verify Z OFFSET

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