P802Serial LEVELING INSTRUCTION
V2.0.1

Note:
1. You should level the print plate at the first time before printing.
2. Please clean the nozzle before leveling , ensure that no other residual material.
3. For the convenience of adjusting the gap between extruder head and print plate,please try to use an A4 paper to drag between them if moving smoothly *(Fig 1)*.

Step 1. Preparation before leveling
1. Please confirm the correct control board wiring.(refer to the "control board wiring diagram" in *installation guide*).
2. Power on , ensure that LCD display & keypad operating properly.
3. Ensure the motors and the limit switches work normally *(Fig 2)*
4. Before adjusting ,please be familiar with using LCD operating menu and keypad.
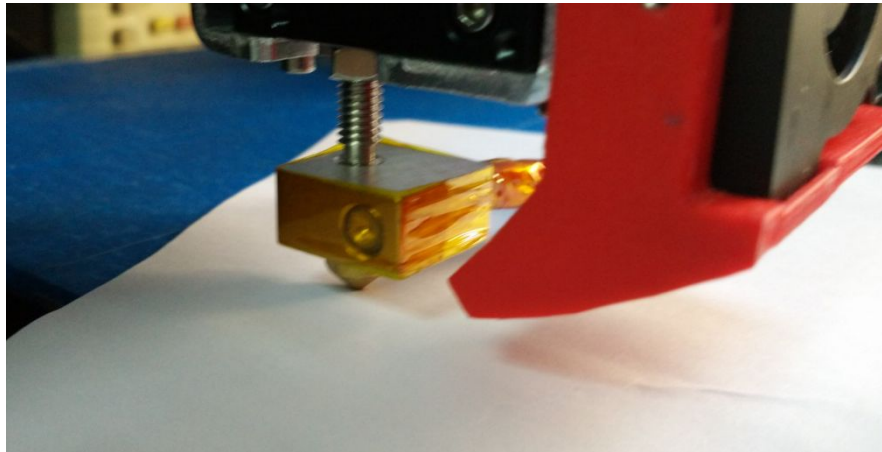

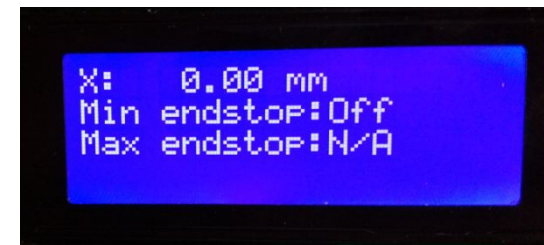*Fig1: check height between extruder head and bed*

Fig 2: Check end stops state

Step 2. Initial adjustment

1. Turn off the power. Move the Z-axis limit switch to the lowest position, do not tension the limit switch screws.
2. Adjust the 4pcs thumb nuts, let the bottom of the screw and the thumb nuts are level.*(fig3)*
3. Measure the height between desktop and slider module left/slider module right to ensure the same height both side. *(fig4)*, if differ more than1mm, please rotate the lower side flexible shaft coupling manually to make the same height .
4. Move the extruder to the middle, then rotate the 2pcs coupling until the nozzle is about 0.5mm away to the aluminum plate. *(fig5)*
5. Move the extruder left and right, pay attention to the gap between extruder and print plate. If one side is lower , just adjust the correspinding coupling to make the same gaps of both side.
6. And then rotate both of the couplings ,make the extruder about 0.2mm away to the plate. Then move up the Z-axis limit switch . Lock the screws after the limit switch touch the slider module left. *(fig6)*
7. Down adjust the screw behind the slider module left*(fig7)* , stop adjusting when you hear the sound which shows the limit switch is touched.
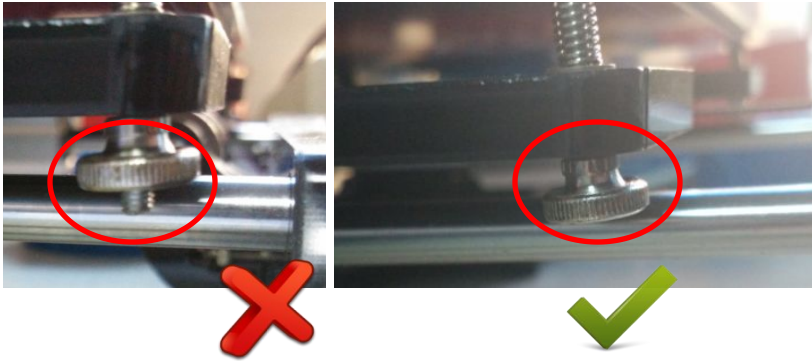

Fig 3: set nut height

Fig 4: measure height of X-slide

Fig 5:Adjust X-slide height

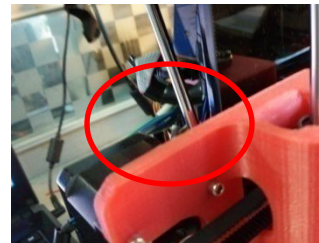*Fig 6:* Tighten up Z-axis limit switch

Fig 7: Adjust screw of Z offset

Step 3. Fine adjustment

1. Turn on the power.
2. See the LCD display , enter to the menu and then select **"Position"** using keypad. Press DOWN key to point to **"Home Z"** *(fig8)*
3. Right click to execute, Pay attention to the gap between nozzle and plate, adjust the screw if the gap is too big or too small *(fig 7)* .
4. Repeat previous step, Stop adjusting when the gap is about 0.2mm after **"Home Z"**.
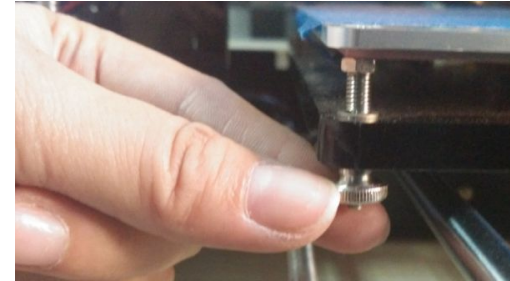

Fig 8: Home Z Menu

Fig 9: Adjust Print Platform Height

Step 4. Confirmation

1. Turn off the power, insert the Micro SD card to the control board, then turn on the power.
2. Select the test file (P802_level_test.gcode) in Micro SD card to start **simulated print.** Pay attention to the gap between nozzle and plate when working , please adjust carefully the thumb nuts to make the same distance around the plate(0.2mm~0.3mm). *(Fig 9)*
3. After leveling please restart the printer, then you can start to print your models .
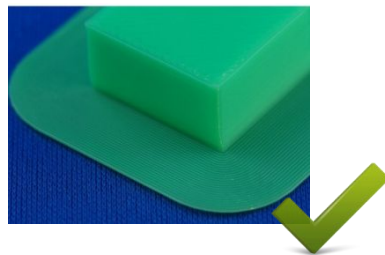
Perfect Z offset
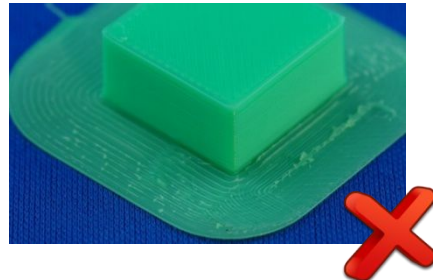
Z offset is too low

Z offset is too high