

How to Level the bed
FELIX 3L

31 October
2016

Revision 0



1 Introduction

The 3L is equipped with an improved Z axis spindle mechanism.

Unlike the Pro series, the bed is not self-leveling. You need to do the leveling manually.

NOTE: Only **after** bed leveling it is possible to adjust the Z homing sensor reliably.

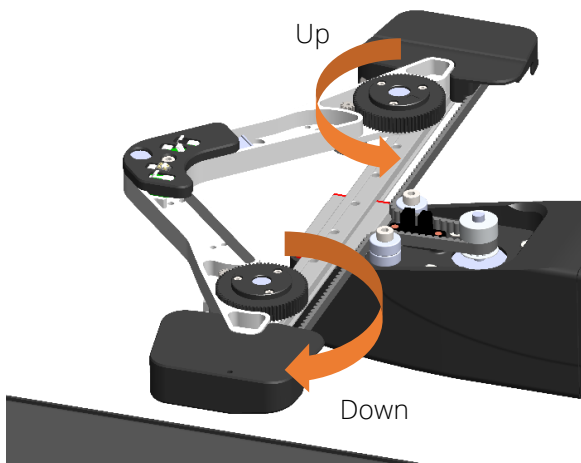
2 Level the bed

First you need to put the bed in a level position.

To do this, you need to use the black toothed wheels below the heated bed.

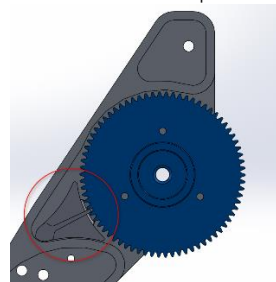
They allow you to adjust the height of two of the three bed mounting points.

There is also one fixed mounting point, near the bed connector pins.



If you rotate a wheel clockwise, the mounting point will move down.

If you rotate a wheel counter-clockwise, the mounting point will move up.



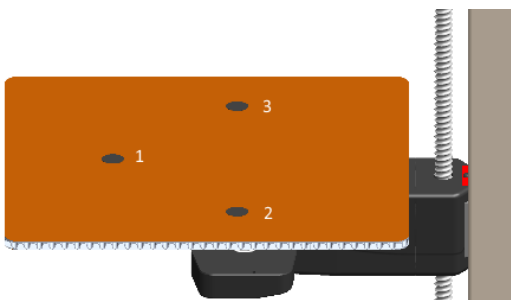
The mounting points will be kept at their position by means of a click finger mechanism.

A good way to obtain an accurately leveled bed is like this:

Step 1

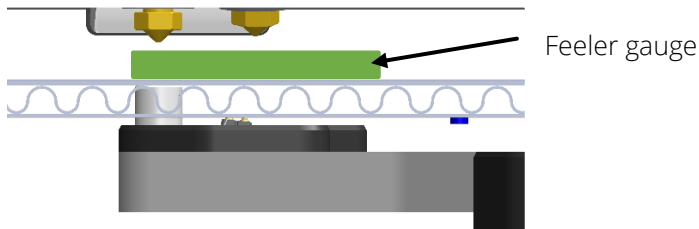
In the display interface, select "Quick settings/Disable steppers".

Now, manually position the bed and extruder to position 1 (above the fixed bed mounting):



Step 2

In the display interface, select "Position/Z Position". Next, take a feeler gauge or something similar and put it in between the nozzle and the bed.



Then, gently move the bed upwards by rotating the button counter clockwise until you feel some friction on the feeler gauge.

Step 3

In the display interface, select "Quick Settings/Disable Stepper". Manually position the bed and extruder to mounting position 2, right above the bed magnet.

Step 4

Take the feeler gauge and gently try to put it in between the nozzle and the bed.

If the gauge doesn't fit, lower the mounting point as described earlier. If the gauge fits between the bed and the nozzle, rotate the wheel counter clockwise until you feel a little bit of friction on the gauge.

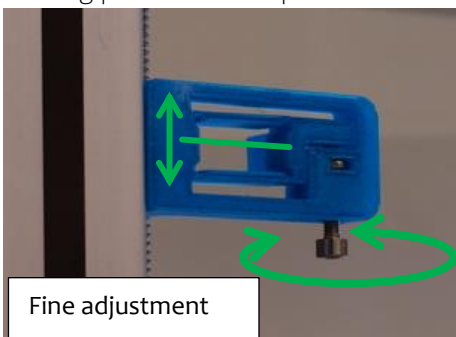
Step 5

Repeat step 3 and 4 for bed mounting position 3, right above the bed magnet.

If all went well, the bed is now level. Please verify the three points again to make sure.

3 Adjust the Z homing sensor of the printer

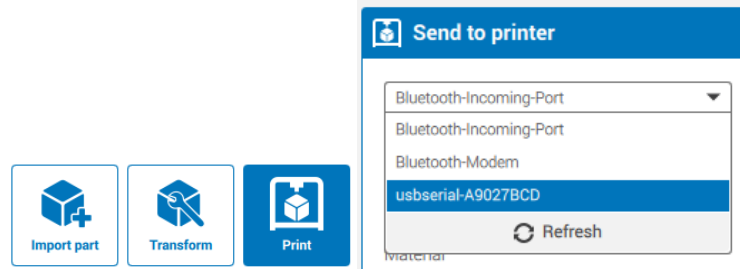
Now that the distance between the nozzle and the bed of the printer is equal at all positions, we can finetune the Z homing position of the printer. This is done by adjusting the z-axis limit switch vane:



Your printer was assembled with the vane roughly in the right position.

You can tweak the position to perfection by manually adjusting the printer with the help of FELIXbuilder software to control the printer (the process is similar when using Repetier-Host).

- Start FELIXbuilder and connect your printer (FELIXbuilder 1.x: 'Print' tab, 'Send to printer', select the FELIX printer and click 'connect').

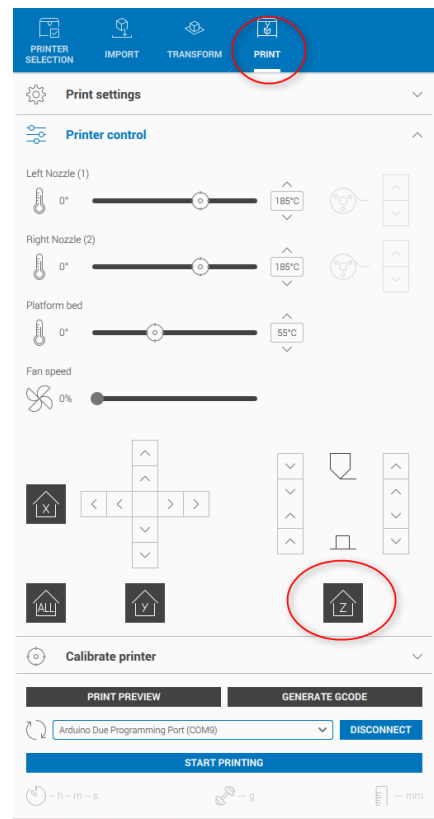


FELIXbuilder 1.x

- Click on the home button that belongs to the Z-axis. The heated bed will move towards the tip of the hot-end.

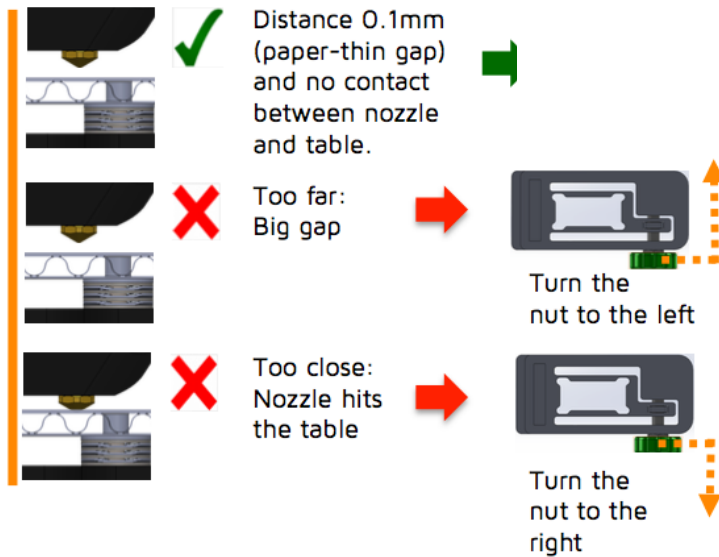


FELIXBuilder 1.x



FELIXbuilder 2.x

- If the nozzle is too far from the print bed, manually turn the bolt on the Z axis vane adjuster counterclockwise. The vane will move up a bit, allowing the table to move up a little bit more. (The bolt is displayed with a helping tool in the picture below)



- When the vane adjustment is done, press the Home button for the Z-axis again.

Repeat this process until the Z-axis is perfectly calibrated and the nozzle tip is at a paper-thin gap from the bed after pressing the Z home button.

4 Support

If you are unable to continue or have any questions, you can check at the support section of our website or you can contact us directly:

Website: www.felixprinters.com/support

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Kind regards,
FELIXprinters