



## BED LEVELLING

It cannot be stressed enough levelling the printers bed correctly is essential to achieve good adhesion between the printer bed and the first layer of all your 3D prints. Only **LIGHT** contact is required between the tip of the brass nozzle and the printer bed, but **NO** "gap" should be present.

Before completing bed levelling below **make sure** there is no filament on the tip of the brass nozzle or anywhere on the printer bed. To remove filament on the nozzle it may be necessary to heat it up using the Preheat option found in >Main menu >Quick settings >Preheat PLAorABS (see fig 4 below). When heated, remove any filament using metal tweezers, a small pair of long nose pliers or a piece of thick card. CAUTION - IF HEATED, NOZZLE BECOMES VERY HOT - AVOID SKIN CONTACT. Filament or debris on the printer bed can be removed using the scraper provided.

Levelling the printer bed when the nozzle is at 'printing' temperature is ideal - this allows any filament present to be squeezed out of the way when molten - allowing accurate judgement of light contact between the nozzle and printer bed.

There are several ways to ensure that the bed is level and ready to print.

### A. From SD card:

1. Insert SD card (if already inserted remove and re-insert). On the file list shown on the Lcd screen scroll down and select the file named 'midi levelling.gco' (see fig 3 below). The printer will home all axes, then move the nozzle to far right hand corner slowly raising the bed towards the nozzle.
2. When the bed stops rising check that the nozzle is **lightly** touching the bed surface. This is adjustable using the thumb screw under the far right hand corner of the bed. You have 10 seconds after the bed has stopped rising to make this adjustment correctly. After 10 seconds the bed will slightly lower and the nozzle will move to the far left hand corner to repeat the process in 2 above.
3. After 10 seconds the bed will slightly lower and the nozzle will move to the near left hand corner to repeat the process in 2 above.
4. After 10 seconds the bed will slightly lower and the nozzle will move to the near right hand corner to repeat the process from 2 above.
5. The nozzle will now go the centre for 5 seconds to do a test this shouldn't need any adjustment.
6. The screen will then display 'One quick check!' and will repeat everything from 2 above but this time only pausing at each corner for 5 seconds.
7. You can repeat the process, start again from 1 above.

## B. Manual Method:

1. Removing the power supply plug to switch off the printer, replace plug to switch the printer back on and wait for 'boot up' sequence to complete.
2. Press jog wheel once and scroll down to "Position" (see fig 1 below), scroll down to 'Home Z' (see fig 2 below) and select by pressing the jog wheel, the bed will raise towards the nozzle.
3. When it reaches the top using the nozzle mechanism support bars manually move the nozzle to all four corners of the printer bed - at each corner use the thumb screw below that particular corner of the printer bed plate to adjust the printer bed up and down so that it **lightly touches the brass tip of the nozzle**.
4. When complete re check all four corners again.
5. You have 6 minutes to complete the above process after selecting 'Home Z' in 2 above, after this time the Z motor will time-out - if this happens repeat from 2 above.

## C. From Computer:

1. In Repetier-Host, click on 'Load' on the main menu bar, navigate to the location where you have stored the file named 'midi levelling.gco' and select it.
2. Now click 'Start Print' on the main menu bar. The printer will home all axes, then move the nozzle to far right hand corner slowly raising the bed towards the nozzle.
3. When the bed stops rising check that the nozzle is **lightly** touching the bed surface. This is adjustable using the thumb screw under the far right hand corner of the bed. You have 10 seconds after the bed has stopped rising to make this adjustment correctly. After 10 seconds the bed will slightly lower and the nozzle will move to the far left hand corner to repeat the process in 2 above.
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7. The screen will then display 'One quick check!' and will repeat everything from 2 above, but this time only pausing at each corner for 5 seconds.
8. You can repeat the process, start again from 2 above.

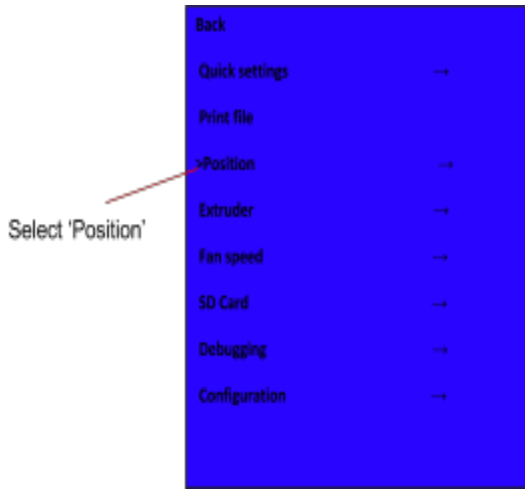


Fig 1

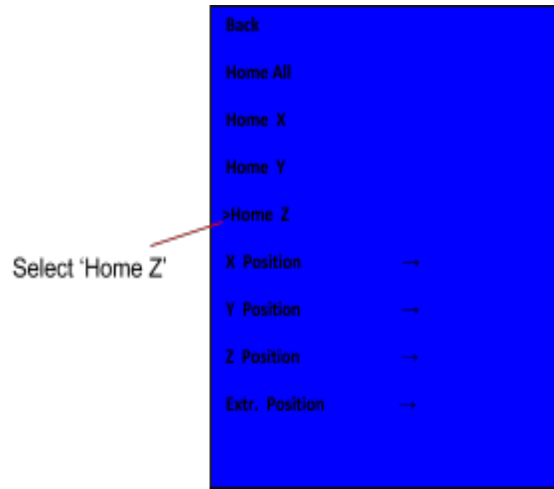


Fig 2



Fig 3

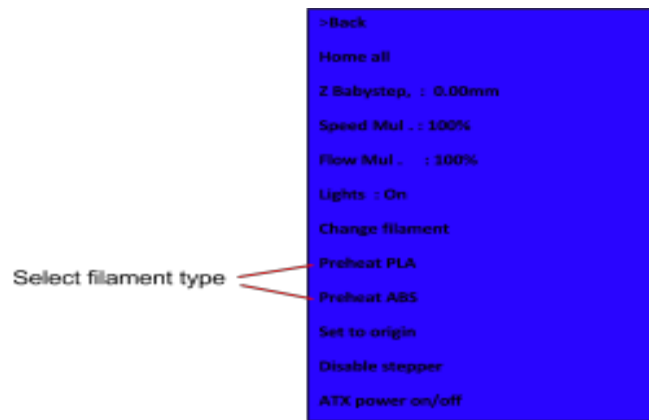


Fig 4