

Repetier-firmware beta test direct calibration. - G100 gcode

Tower Calibration (height)

Set up for calibration as usual.

G100 Can NOT measure your rods (arms) for you or adjust them.

Before calibrating, set your rod lengths as close as possible in configuration.h or eeprom dialog from Repetier-Host.

Set All axis X Y and Z length to the same number. Pick a number in millimeters greater than the maximum travel of a carriage on a tower (ie the length of a tower in millimeters). For Rostock Max, 612mm works fine.

This can be done in configuration.h, or the eeprom.

A direct calibration g code command G100 is in this beta release.

G100 can set the floor (surface zero) for each tower independently, with or without EEPROM.

However, without the eeprom, you will want to set the calibrated values in configuration.h, recompile and reload.

Zero values are printed in Repetier-Host, if you type the g100 in host's manual gcode dialog box.

G100 can also set the rod radius (printer radius), but only after all 3 tower floors are zeroed.

```
#define X_MAX_LENGTH 612 <= set all the same
#define Y_MAX_LENGTH 612 <= set all the same
#define Z_MAX_LENGTH 612 <= set all the same
#define X_MIN_POS 0 <=set floor value here(mm)
#define Y_MIN_POS 0 <=set floor value here(mm)
#define Z_MIN_POS 0 <=set floor value here(mm)
```

Run home (g28)

Move hot end near each tower, then manually lower hot end till it just touches surface

g1 z20 x-112 y-65 ; move near X tower then move down till touch

<manual move to touch>

g100 x

g1 z20 x112 y-65 ; move near Y tower then move down till touch

<manual move to touch>

g100 y

g1 z20 x0 y130 ; move near Z tower then move down till touch

<manual move to touch>

g100 z

If you reach z=0 before touching, either run G100 [X Y or Z]-1 to lower z=0 by 1 millimeter **for that tower** and go back to start. Example **g100 Y-1** lowers z=0 for the Y tower only (aka B tower). If this does not work, [Y]_MAX_LENGTH is too small. The code will not accept negative numbers as a [Y]_MIN_POS. Update Y_MAX_LENGTH to be greater than the span by about 10 millimeters (or just add 10 to it), and go back to start.

You may need to recalibrate height if you remount the hot end or change the print surface.

Quick Re-zero surface without computer

Put "G100 X Y Z" in a file ZERO.gco in your sdcard.

MANUALLY MOVE TO TOUCH SURFACE AT 0,0

Run ZERO.GCO

This can be done anytime surface zero changes, adjustment to hot end, change surface temperature, add a layer of tape to surface, etc.

RADIUS calibration (Rod radius)

Now move to center.

NOTE! BEGIN WELL ABOVE FLOOR. If radius is off, z=0 may put hot end below surface.

g1 x0 y0 z20
<manual move to touch>
<If you can touch floor...>
g100 r
<DONE!>

<If you reach z=0 before the hot end touches, adjust the radius by +1mm (not -1) and try again>
g100 R1
<go back to manual move to floor.>

You do NOT need to reset radius once it is set correctly, even if height changes.

Calibration Aid, suggested calibration check locations (numbers match Rostock Max dimensions):

