

myCNC Flatbed Correction

This article discusses the flatbed correction feature built into myCNC software which is often useful when the working table is not even or has certain spots which are higher or lower than the reference position. This is especially useful in cases when something like a tangential knife needs to go over the uneven table, with up to a millimeter of play being involved, resulting in a cut that does not actually go through the working material properly.

In order to account for this, go into **Settings > Config > Technology > Special Purpose > Flatbed Correction**.

The screen presented to you will be the following:

CNC Settings

- Axes/Motors
- Inputs/Outputs/Sensors
- Network
- Motion
- PLC
- G-codes settings
- DXF import settings
- Macro List
- Macro Wizard
- Probing Wizard
- Preferences
- Screen
- Work Offsets
- Parking Coordinates
- Technology
 - Plasma Cutting
 - Gas/Oxyfuel
 - Cutcharts
 - THC
 - Mill/Lathe
 - Multi Head
 - Laser control
 - Tangential Knife
 - Special Purpose
 - Flatbed Correction**
 - Height Map
 - 3D Printer
 - Multi-Device
 - MaxLaser
 - Circular Saw
 - PWM PIDs
 - Modbus servo
 - Exhaust/Extraction control

Flatbed Correction Configuration:

Enabled ☒ Reference Z:

Measure X from to number of points

Measure Y from to number of points

X	Y	Z
194.142	15.6751	-1.80951
200.244	90.7633	0.361293
200.244	255.482	2.53788
70.6452	181.88	3.14469
0.00883159	299.567	1.33389
0.00883159	299.567	1.33389
0.00770757	163.018	1.05867

Directional arrows: Up, Down, Left, Right

Buttons: Z+, Z-, Measure (M402) and Save, Auto Measure Procedure

SAVE CFG

First of all, **enable** flatbed correction:

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Flatbed Correction Settings:

- Enabled** ☒
- Reference Z:
- Measure X from: to number of points:
- Measure Y from: to number of points:

X	Y	Z
194.142	15.6751	-1.80951
200.244	90.7633	0.361293
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Buttons: Z+, Z-, Measure (M402) and Save, Auto Measure Procedure

Next, the table on this settings page presents a number of values in the XY-plane and their z-positions. These values can either be recorded by using the AutoMeasure procedure (recommended) or by using a sensor and recording each point individually by using the M402 macro (older versions).

Using the AutoMeasure procedure, the operator can set the reference z-height, the number of points at which the height measurements will be taken for the XY-plane, and the coordinates on which the measurements will be taken. The **Auto Measure Procedure** button can then be pressed to begin the probing process.

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Flatbed Correction Settings:

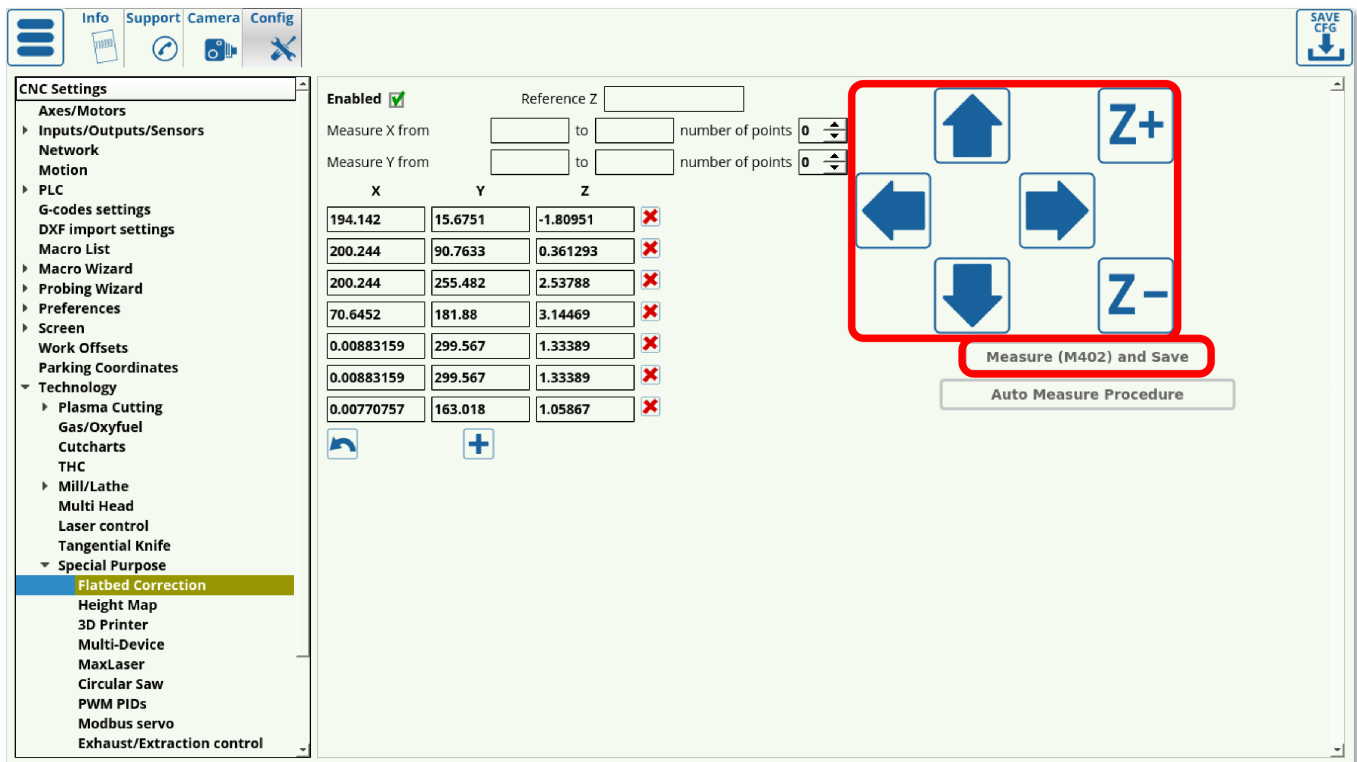
- Enabled** ☒
- Reference Z:
- Measure X from: to number of points:
- Measure Y from: to number of points:

X	Y	Z
194.142	15.6751	-1.80951
200.244	90.7633	0.361293
200.244	255.482	2.53788
70.6452	181.88	3.14469
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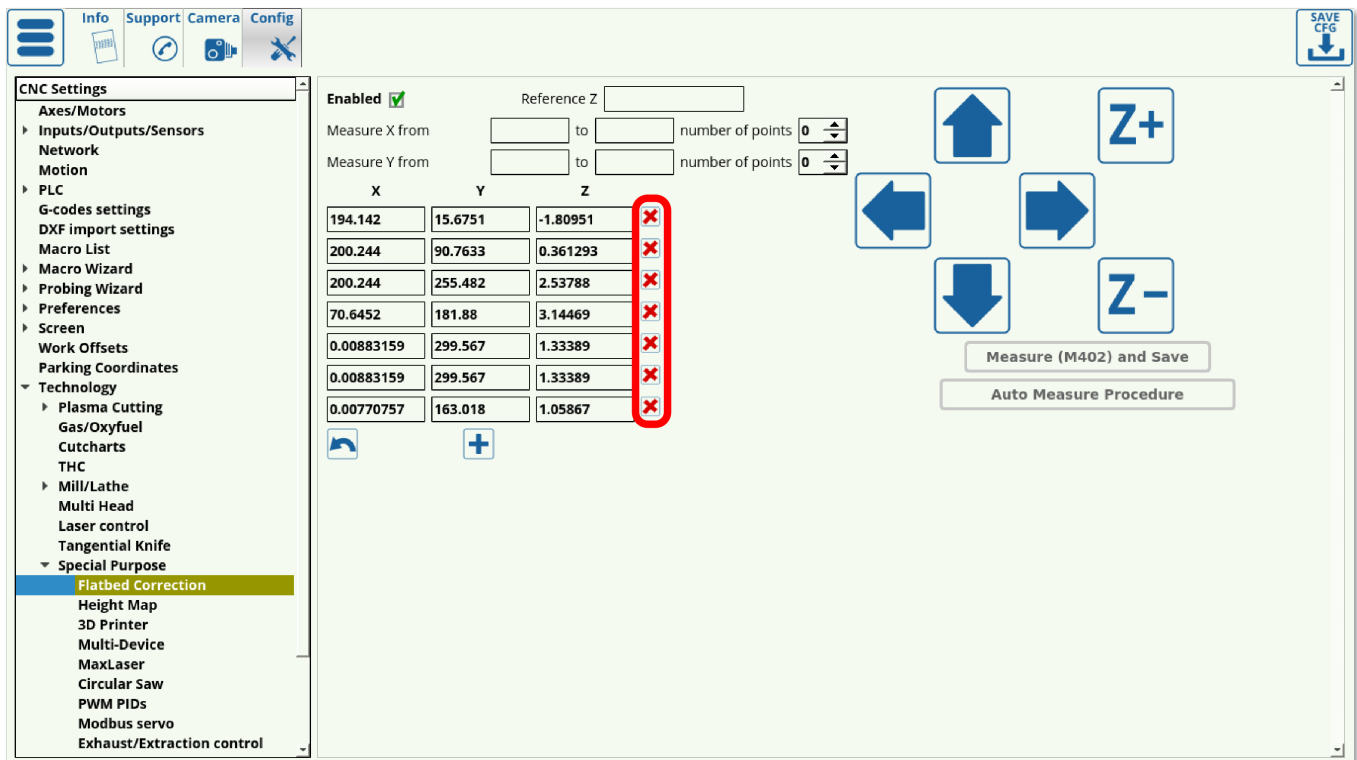
Buttons: Z+, Z-, Measure (M402) and Save, Auto Measure Procedure

In order to use the M402 macro, move the sensor to the position you want to measure, then press the

Measure (M402) and Save button. This will lower the sensor down until contact, then lift it back up and record the z-position at which the sensor was triggered.



In order to remove any of the table level discrepancy values, you can press the Delete button for each particular value.



By adding these correction points, myCNC software will use triangulation in order to create a complete updated map of the working table. From here on, whenever Flatbed Correction is enabled, the machine will automatically adjust the z-axis height of the working tool in order to adjust for the table level changes depending on where in the XY-plane it currently is.

M402 macro

The code for the M402 macro can be found below:

```
(Surface measure macro)
G28.2 Z0 (save current Z into Register1.Z)
M89 L1 P8 (watch for input(P) released(L0))
G91 G0 Z -35.000 F 400.0
(move down, stop if sensor triggered)
G91 G0 Z 2.000 F 800.0
M89 L1 P8 (watch for input(P) released(L0))
G91 G0 Z -2.000 F 20.0
G4 P0.2
G90 G10 L81 P8171 Q5021
G90 G10 L81 P8172 Q5022
G90 G10 L81 P8173 Q5023
G90 G10 L80 P8170 Q1
G91 G0 Z10
```

From:

<http://docs.pv-automation.com/> - **myCNC Online Documentation**

Permanent link:

http://docs.pv-automation.com/mycnc/flatbed_correction?rev=1576860691

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