

Marlin 1.1.9 has several new features and changes over previous versions. Even if you are familiar with Marlin, it is recommended you review this document as some features have moved and others have been added.

New Features:

- **gMax Tools > Calibrate Z Offset**
 - Run the calibration wizard to help dial in your first layer height. As soon as the printer is heated up and starts printing, double click the knob to enter “Live Z Adjustment”. Turn the knob to raise or lower the extruder. Once the program is complete this new offset will be saved to memory.
- **Z Motors “Locked” on Printer Startup**
 - By default, the z axis motors are enabled as soon as the printer is turned on. This helps reduce the chance the x-axis arm loses level between prints or when inserting filament.
- **Live Z Offset**
 - “Babystep Z” has been renamed to “Live Z Adjust”.
- **Level Bed has Moved**
 - The level bed command has been moved to the prepare menu.
- **New Filament Load/Unload Options**
 - Found under Prepare > Change Filament
- **Improved LCD response**
 - The LCD screen response time has been improved including the refresh rate.
- **Linear Advance For Increased Corner Quality**
 - Linear advance has been integrated to cause a slight retraction around hard corners. This feature increases corner accuracy. Make sure to turn off coasting in your slicer profiles.

Additional features, fixes and changes

- Stepper driver enhancements for quieter operation and reduced vibration.
- The filament sensor will now be disabled if a print is started without filament in the sensor. To re-enable it restart the printer.
- Adaptive Step Smoothing has been introduced
- Overall improved performance, stability, reliability, and error handling
- When changing filament make sure to click a second time to initiate the filament change.
- New “Clean Nozzle” gMax tool has been added. This will move the extruder to the front left of the printer and move it back and forth over a brass brush.
- Astroprint Integration with new profiles for Astroprint. Tasks coming soon.