

RELEASE NOTES FOR PATHPILOT V2.12.0

Winter 2024

We released two updates earlier this year specifically for 1500MX mills (PathPilot v2.11.1 and v2.11.2). **This release applies to all Tormach machines running PathPilot, and it includes all of the enhancements and fixes from those earlier releases.**

If you've previously updated your 1500MX mill, look for the items marked with an asterisk*, as these are new since PathPilot v2.11.2.

ENHANCEMENTS

All Machines

- We added support for python-based diagnostic tests (.tsd files) to make some technical support steps quicker and easier. (PP-3698)
- When attempting to sign into PathPilot HUB from the **File** tab without a network connection, a popup now displays with network configuration options. (PP-4234)*
- We increased the precision of the **Tool Path** display to show the effects of small offset changes more clearly. (PP-4522)

Mills

- You can now use a master tool workflow for ETS setup and tool length management. (PP-3385)
- The 1500MX operator console now supports portrait mode for the user interface. (PP-3522)
- We added an LED light to show wireless probe signal status. (PP-3660)
- We optimized feed rate in profiling tool paths to improve motion smoothness. (PP-3712)
- For 1500MX mills, we added a load meter to the **Tool Path** display for EtherCAT feedback channels, including axis load and spindle feedback. (PP-3714)
- For 1500MX mills, support for axis compensation options (backlash, scale, squareness, and tilt compensation) are now available in the **Settings** tab. (PP-3713 and PP-4200)
- For 1500MX mills, we added support for `M208/M209` to control the washdown pump relay. (PP-3732)
- For 1500MX mills, we added support for `M29`, a quick-unwind command that resets the rotary axis position to the range [-360,360] (without any axis motion). (PP-3856)
- For 1500MX mills with wireless probes, we added an updated, simplified probe calibration workflow. (PP-3918)

- Machine smoothing settings are now available in the **Offsets** tab. We included standard settings that you can use for different applications (like roughing, finishing, or probing), which you can turn on with `M59`. (PP-3934)
- In the 1500MX user interface, we added new graphics for the wireless probe and tool setter. (PP-3957)
- 1500MX mills now detect spindle-at-speed conditions. (PP-3984)
- For 1500MX mills, we added support for using washdown and flood coolant together. (PP-4010)
- We added an additional parameter to G37 to allow for separate checks of tool breakage and tool pullout:
 - E word (optional) overrides the pullout tolerance with the specified value.
 - P word specifies the symmetrical tolerance by default.
For example, the measured length for `G37 P0.005` is okay if it's within +/- 0.005 of the current tool length.
(PP-4052 and PP-4641)*
- For 1500MX mills, you can now maintain persistent X-, Y-, and Z-axis references. (PP-4055)
- Spindle rotation is now limited when a probe is active. (PP-4087)*
- For 1500MX mills, M30 now turns off the chip conveyor and through-spindle coolant. (PP-4171)
- We added G-code subroutines for probing that can be used in CAM. (PP-4293)*
- An air blast now clear chips during Z-axis motion in ATC tool changes, reducing tool change cycle time. (PP-4354)
- You can now filter tools in the **Tool Table** to see only those currently loaded in the ATC. A tooltip indicates if a tool listed in the G-code is present or missing from the ATC, or if a tool in the ATC is used by the current G-code. Additionally, on the **ATC** tab, tools used in the G-code are highlighted blue in the ATC graphic for easier management. (PP-4472 and PP-4612)*
- G73 and G83 now support IJK words to specify an initial peck (I), peck decrement (J), and minimum peck (K). (PP-4519)
- For 1500MX mills, the spindle and axis load meters on the **Tool Path** display now have a marker to indicate peak load. (PP-4546)*
- For 1500MX mills, PathPilot now continuously monitors motor temperatures to safely stop motors and prevent potential damage from high temperatures.

Mills / Routers

- We added support for backlash compensation in the **Settings** tab. (PP-2278)
- To the **Tool Table**, we:
 - Added support for wear diameter and length. This allows easier fine tuning of G-code produced from CAM using tool-center paths. (PP-2437)
 - Added a **Max RPM** column, so you can now specify maximum speeds for any tools. (PP-2748)
 - Reorganized the layout for better usability, especially on touch screens. (PP-4062)

FIXED ISSUES

All Machines

We fixed issues where:

- In some cases, a G30 position very near a machine limit could cause a false positive soft-limit error. (PP-4043)
- We fixed an issue where clicking the **MDI Line** DRO field's border caused it to highlight blue but not activate. (PP-4217)*
- The yellow preview line didn't show when the tool loaded in the spindle wasn't also in the program. (PP-4248)
- Pausing the machine and opening the door canceled the program. (PP-4274)*
- Moving the A-axis (with the keyboard, MPG, or G-code) while the A-axis driver is disconnected resulted in an error message. (PP-4339)*
- For 1500MX mills, using conversational programming for a circular pocket didn't work as expected. (PP-4358)*
- While editing a conversational program, the tool path preview's camera used the wrong axis and displayed the preview incorrectly. (PP-4400)*
- Programs with A-axis moves could run without first referencing the A-axis. (PP-4439)*
- In rare instances, MDI commands were skipped if a program was run with set-start-line that encountered a G-code error before the start line. (PP-4479)*
- Intermittently, some buttons on the **Probe / ETS** tab failed to run due to the machine being busy. (PP-4501)
- For 1500MX mills, a sequence of G84 tap cycles stopped with a timeout error after the first cycle. (PP-4529)*
- We fixed an issue where the setting to disable tooltips could be cleared by opening the conversational status tab (requiring the setting to be checked / unchecked again to disable tooltips). (PP-4570)*

Mills

- We fixed an issue where a probe trip while jogging with an MPG didn't stop the machine from jogging. (PP-4356)*

Mills / Routers

- For machines without spindle reverse (PCNC 440 mills and xsTECH routers), PathPilot now displays a G-code error if **M4** is commanded. (PP-4556)*

Lathes

- We fixed an issue where the Coolant button now turns on coolant even when the door is open, and the LED no longer stays yellow. (PP-4186)*
- We fixed an issue on 8L lathes where pressing the **Coolant** button at a tool change temporarily locked the user interface. (PP-4364)*

- We fixed an issue with conversational editing of lathe internal threading programs where the saved value of thread passes didn't load from the program file during edit, and could therefore be re-saved with an incorrect value. (PP-4588)*

Plasmas

- We fixed an issue where the **Status** field didn't display the active G-codes. (PP-4560)*

*Issues fixed since PathPilot v2.11.2.

MANAGE PATHPILOT VERSIONS

You don't need to install updates sequentially. You can update from any previous version to the current version of PathPilot. Depending on what you want to do, refer to the following sections:

- "Download and Install an Update File from the Controller" (below)
- "Install an Update File from a USB Drive" (on the next page)
- "Install a Previous Version of an Update File" (page 7)

DOWNLOAD AND INSTALL AN UPDATE FILE FROM THE CONTROLLER

1. Confirm that the PathPilot controller is powered on and out of **Reset** mode.
2. Downloading and installing an update file requires an Internet connection. From the **Status** tab, confirm that the **Internet** button LED light is on. (To configure the network, select the LED light.) Then, select **Update**.



Figure 1: Update button on the Status tab.

3. From the **Software Update** dialog box, select **Check Online**.

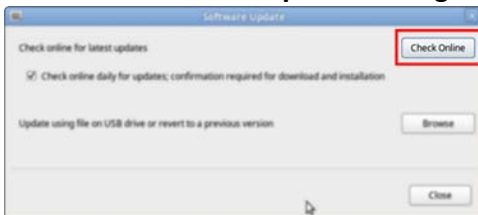


Figure 2: Software Update dialog box.

4. Select **Install**.



Figure 3: Install button on the Software Update dialog box.

The update file is downloaded, and a notification dialog box displays.

5. From the dialog box, select **OK**.
The update file is installed on the PathPilot controller.
6. Follow the on-screen instructions to restart the PathPilot controller.

INSTALL AN UPDATE FILE FROM A USB DRIVE

INSTALL AN UPDATE FILE FROM A USB DRIVE

1. From the [PathPilot support center](#), download the most recent PathPilot update file.
2. Transfer the PathPilot update file to a USB drive.
3. Put the USB drive into the PathPilot controller.
4. Confirm that the PathPilot controller is powered on and out of **Reset** mode.
5. From the **Status** tab, select **Update**.



Figure 4: Update button on the Status tab.

6. From the **Software Update** dialog box, select **Browse**.

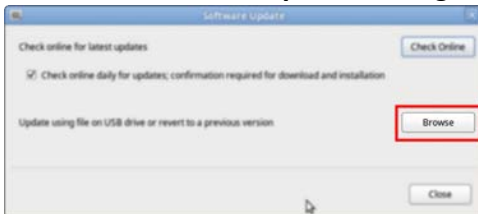


Figure 5: Software Update dialog box.

7. From the **Browse** dialog box, select **USB**.



Figure 6: Browse dialog box.

8. Select the desired update file, and then select **Update**.
The update file is installed on the PathPilot controller.
9. Follow the on-screen instructions to restart the PathPilot controller.

INSTALL A PREVIOUS VERSION OF AN UPDATE FILE

INSTALL A PREVIOUS VERSION OF AN UPDATE FILE

1. Confirm that the PathPilot controller is powered on and out of **Reset** mode.
2. From the **Status** tab, select **Update**.



Figure 7: Update button on the Status tab.

3. From the **Software Update** dialog box, select **Browse**.



Figure 8: Software Update dialog box.

4. From the **Browse** dialog box, select **Previous Versions**.

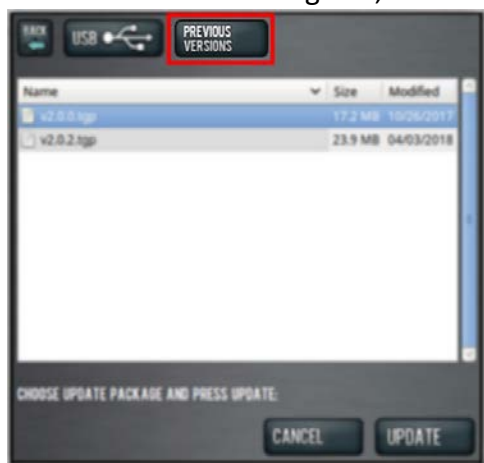


Figure 9: Browse dialog box.

5. Select the desired update file, and then select **Update**.
The update file is installed on the PathPilot controller.
6. Follow the on-screen instructions to restart the PathPilot controller.