

RELEASE NOTES FOR PATHPILOT V2.12.1

Winter 2024

FIXED ISSUES

- Previously, an error message displayed while PathPilot was starting if a 4th axis wasn't installed on the machine. This has been fixed. (PP-4544)
- We fixed an issue where the G83 cycle skipped holes when repeated in modal form (i.e., without an explicit G83 word). (PP-4708)
- For 770MX/1100MX mills, we reduced the tool change air blast duration to maintain drawbar air pressure. In v2.12.0, we increased the air blast duration for all mills to help clear chips during Z-axis motion and reduce tool change cycle time. (PP-4716)
- For 770MX/1100MX mills, we fixed an issue where an orient error displayed when manually removing a probe during a tool change involving the ATC. (PP-4717)
- For lathes, we fixed an issue where the **Tool List** (in the **Tool Path** display's **View Options** tab) didn't function correctly. (PP-4718)
- For 770MX/1100MX, we fixed an issue where the active probe was disabled in the **Settings** tab. (PP-4719)
- For lathes, we fixed an issue introduced in v2.12.0 where some conversational internal profiling programs failed to run because of a motion planning error. (PP-4720)
- For lathes, we fixed an issue where some motions ran slower than the nominal feed rate with both G95 (units / rev feed mode) and G96 (CSS spindle mode) active. (PP-4730)
- For lathes, we fixed an issue introduced in v2.12.0 where the warning that a program is using a tool with orientation 9 did not display. (PP-4732)
- We fixed an issue where G2 / G3 arcs didn't wait long enough for spindle-at-speed. (PP-4740)

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)*
- While editing a conversational program, the **Tool Path** display'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)
- 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)*
- A lead-in move from set-start-line would fail due to a Z limit error if the initial position was already close to the limit. Now, when starting with a linear or plunge lead-in, the operator is asked to jog the machine to the desired start position. (PP-4701)

Mills

We fixed issues where:

- A probe trip while jogging with an MPG didn't stop the machine from jogging. (PP-4356)*
- For 1500MX mills, a sequence of G84 tap cycles stopped with a timeout error after the first cycle. (PP-4529)*
- For 1500MX mills, using conversational programming for a circular pocket didn't work as expected. (PP-4358)*
- In v2.11.x only, set-start-line sometimes failed when starting at an operation using a tool with a low max RPM. (PP-4699)

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 issues where:

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

- With conversational editing of lathe internal threading programs, 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 8)

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**.

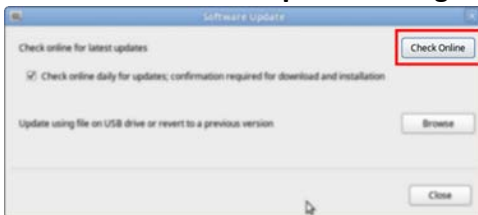


Figure 2: Software Update dialog box.

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**.

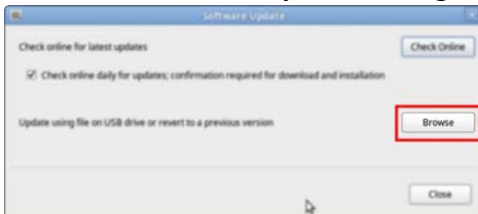


Figure 5: Software Update dialog box.

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

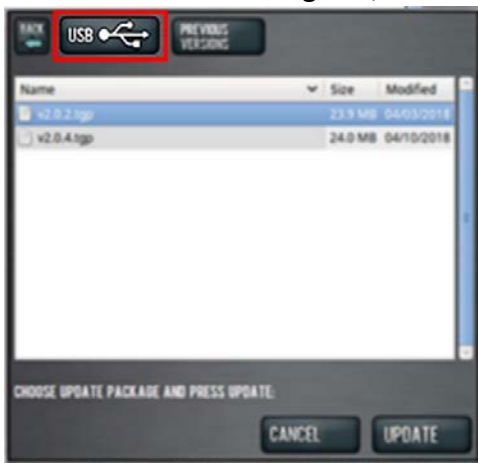


Figure 6: Browse dialog box.

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**.

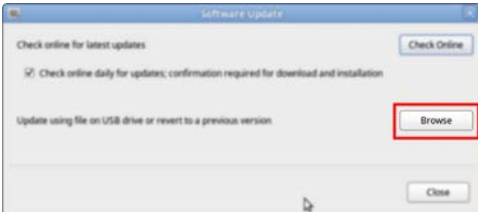


Figure 8: Software Update dialog box.

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

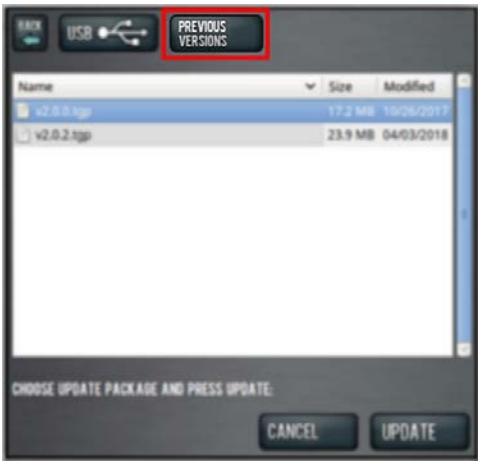


Figure 9: Browse dialog box.

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.