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Title: Series II Machine Control Software Installation and Revision Information

Date: July 2012

Current Software Install Release: v.4.2

Product Identification: PCNC 1100-Series II Mill (31095)

Subject: Specification: This document is to track rev changes to Mach 3 (M3) for PCNC1100-Series II machines identified as machines with serial number 1326 through 1999. This document also covers Non-series II machines (lower serial numbers) equipped with the Spindle Drive Upgrade Kit (31090). Non-Series II with factory spindle drive and Duality Lathe use different control software.

General Instructions:

1. Download from <http://www.tormach.com/downloads.html>, page down to the “PCNC 1100 Machine Control Software” section, and select **PCNC1100M3-IIRelx.xx.exe**.
2. Run the executable accepting the default installation directories.
3. The new installation will delete the contents of the C:\PCNC3 folder. If you have files that you want to preserve in this folder, save them to a different directory before installing the new software. For example, if you have saved G Code files in the C:\PCNC3\GCode folder make sure to save them to a different location if you want to access them after the install.
4. The license file (MachLic.dat), the tool table, and the fixture offsets are automatically preserved by the new installation.
5. An updated version of PCNC Config will be installed with this software. If an old version of PCNC Config exists on your system, please remove it before installing the new software. In the Control Panel, start up the “Add or Remove Programs” utility to remove the old version of PCNC Config.
6. The installation will overwrite any fine tuning you have done with spindle speed calibration, touch probe polarity, or jog shuttle config. This is detailed in chapter 9 of the owner’s manual. Reboot the computer after installation.

PLEASE NOTE! If your machine serial number has only 3 digits, then you may experience axis motor faults with this software. Please contact Tormach and we can supply an alternate configuration file for you.

7. Attention Duality Lathe owners. Updating your mill software will require you to reinstall your lathe software as well. The download for lathe can be found listed with the mill downloads on our website.



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Changes made with M3 v4.2a

- Fixed scripiter compile error message in M998 macro

Changes made with M3 v4.1a

- DROs on offsets screen will now accept negative numbers
- Newfangled wizards updated to current version (2.86)
- Added support for Proconier tapping head to settings screen
- Changed M990 initialization macro to better handle starting in metric mode (G21)

Changes made with M3 v4.0c

- You no longer need tool zero to be active before editing the tool table
- Updated version of Notepad++ will work with Windows 7
- Updated version of PCNC Config with options to change probe logic (active high versus active low) and configure 4th axis homing
- Reset now takes system out of feedhold
- Fixed bug in probing routines that may have caused unwanted Z movement if users forgot to select tool 99 (probe) before running probing routines
- Reset button now fixes apparent jog shuttle freeze caused by inadvertent pause or spacebar press
- Support for Windows Vista added
- Updated Jog Shuttle dll respects Jog Status LED

Changes made with M3 v3.12b

- Improved stepper motor control for some systems. Also updated installation instructions shown above.

Changes made with M3 v3.11h

- With 3.11g the Mach3 version has moved to Mach release 3.042.029. Don't be confused by version numbers. V3.11g is Tormach's release of a PCNC control program installation. Within this release are several programs, each with their own version numbers. 3.042.029 is the version number of the Mach3 program contained inside. With this new version of Mach3 there are the following improvements:
 - Feedhold (Pause) can now stop and restart a program without errors.
 - Certain VB macro errors (Visual Basic) no longer appear. Most frequent was *dospin()* error.
 - Tool offsets are no longer forgotten with certain tool change sequences.
 - A spindle start delay that was missing in the original Series II software, but included on older versions has been included.
 - Approximately 90 other changes. Refer to the [Mach3 history list](#) for all changes from release 2.042 (August 2007 until 30.042.029).
- Screen controls no longer support switching to Machine Coordinates for DRO display. Too many people crashed when accidentally turning on Machine Coordinates.
- Installation of SheetCAM starter version is no longer embedded with the installation.
- Several minor changes to probing macros. These were not bugs earlier, but changes were necessary to correct errors introduced with Mach3 3.042.029 VB changes.



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- Installation now incorporates Notepad++ install and sets default gcode editor to Notepad++. This is a GPL program which is vastly superior to Microsoft Notepad. It can move instantly from top to bottom in a 250,000 line gcode program and does search/replace functions about 100x faster than Notepad.

SPECIAL ITEMS TO NOTE:

1. For people with a Duality Lathe, you must install companion release PCNCDualityRel2.2b.exe for the lathe. VB changes in Mach3 require an update in the lathe application to avoid errors in the threading Visicycles.
2. Severe limitations in the functionality of G41/G42 remain. This is a known limitation and the Mach3 authors are working on it. We recommend against using G41/G42 until Mach3 can fix this.
3. Any non-Tormach plugins you use must be updated. The internal interface to Mach3 has changed and your plugin author must recompile to be compliant to Mach3 V 3.042.xxx.

Changes made to M3, Series II version 1.1c

- Updated .xml pulse width to 16000
- Modified PCNCCONFIG to perform test speed at a low belt setting with 500 RPM. This will ensure better speed accuracy at low speed which is critical to tapping.

M3, Series II initial release version 1.0c

- Based on PCNC3-REL1.9W
- Updated XML Tweak for use with digital VFD, renamed PCNCCONFIG.
- Speed range modified to allow wider speed range than non-Series II machines.