

The Sherline CNC Lathe—A Beginner's Guide

P/N 5340, Running time: 43 min.

A video DVD by MakeCNC.com

Dear Sherline CNC Customer,

This video was prepared by educational film producer Paul Campbell at MakeCNC.com to help new Sherline owners set up and get started using a Sherline CNC lathe. If you purchased your CNC system directly from Sherline you may have chosen a complete system that includes a computer. In this case, your Linux/EMC g-code control software is already loaded. If you purchased the system without a computer, you can install Linux and EMC on a computer you provide. It is included on CD along with the Sherline driver box, or you can use a Windows®-based control program like Mach3. (NOTE: Installing Linux will over-write all files and any existing operating system already on your computer.)

This video uses an example of a cut made using Mach3, but the process of loading g-code files and making a cut is similar using EMC. Read the specific instructions on using EMC that come on the CD entitled "Instructions and Utilities" that came with your Sherline CNC mill or driver box. Instructions are also available on Sherline's web site at www.sherline.com/CNCinst4e.pdf.

Sherline provides the open source Linux operating system and the Enhanced Machine Control (EMC) program at no charge. We feel Linux is a superior operating system for CNC applications, and the Linux group has done a great job adapting the sophisticated EMC software originally developed by the National Institute of Standards and Technology for use on small, easy-to-use desktop CNC systems. The desktop and visual interface will be very familiar to Windows users, and you don't really have to "learn" a new operating system to use it. However, some users may wish to use a Windows-based program like Mach3. It is not available through Sherline but can be purchased from MakeCNC.com and other software resellers. Technical support for all non-Sherline programs must be obtained from the software seller or producer.

The laser alignment tool shown in the video is not included with Sherline tools and is not a Sherline product but is available from other suppliers.

DVD Players

This video was intended to be run on a player designed to play DVD's through a television. If you wish to play it on your computer, you will need to use or install a DVD player program like PowerDVD or something similar. Windows MediaPlayer was not intended to play DVD's. A free DVD player called "VLC Media Player" is available if you do a search on the Internet.

CNC Precautions

- **Make sure handwheel and coupler set screws are tightened against the flats ground into the stepper motor shaft and not on the round part of the shaft.**
- **Confirm the setting of the 115/230 voltage switch on the back of the computer is set to your country's electrical current before plugging it in.**
- **Do not pull on stepper motor connecting cables. Always plug and unplug by holding onto the connector body itself. Make sure connectors are fully engaged.**
- **Do not "hot plug" the connectors; that is, plug them in or unplug them when the driver box power is "on."**
- **Do not crank the manual handwheel on the stepper motor faster than 1 rev/sec when the motor is plugged into the driver box and then only when the driver box power switch is "off." Current generated by cranking the DC stepper motor can damage circuits in the driver box.**
- **Keep liquid coolant and chips away from the white connector where the wires plug into the stepper motor.**