Techno Inc. In Business Since 1986
CNC Router Systems

TECHNO METAL LATHE SETUP INSTRUCTIONS

This manual contains the information on how-to setup up the Techno Metal Lathe. Keep your Techno CD-ROM, it contains additional software *and* manuals. *IMPORTANT! HAVE A LICENSED ELECTRICIAN PERFORM ALL ELECTRICAL CONNECTIONS BASED ON YOUR LOCAL CODES!*

UNPACKING THE TECHNO METAL LATHE

STEP 1: Carefully unwrap each item that came with the Techno Metal Lathe, and check for any damaged items.

STEP 2: After the Techno Metal Lathe is unpacked check that you have all the parts needed to operate your machine. The following items should be included in the packaging. (See photograph table below)

NOTE[1]: If you are missing a part, please contact Techno immediately at (516) 328-3970.

Drill Chuck	4-Jaw Chuck	Tool Box and Tools	Face Plate
			
	 ENLARGED IMAGE 		
Quick Change Tool Post Accessories	**Lube Kit & Teachers Override Key**	**Set of Metal Lathe Tools**	**Techno Software CD-ROM and PCI Card**

INSTALLING THE PCI CARD AND CONNECTOR

Minimum System Requirements

- Windows 98, ME, 2000 or XP
- Pentium II or Celeron 600 MHZ processor
- 1 available PCI slot

WARNINGS!
- Install the Interface Card before the software.
- Power to PC MUST be OFF during installation.
- Properly connect the PCI Card (the card only connects to the PC Mother Board in one direction).
- ALWAYS GROUND YOURSELF DURING INSTALLATION!

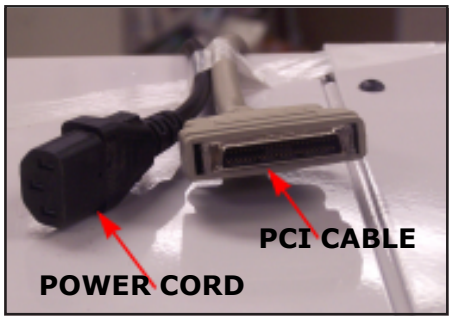
INSTALLING THE SERVO PCI CARD

STEP 1: Turn off and unplug power to your computer. Remove the cover.

STEP 2: Remove the PCI Card from its protective packaging and locate a vacant PCI slot in your computer. Remove slot cover.

STEP 3: Gently, but firmly insert the PCI Card into the vacant PCI slot. Secure with a screw.

STEP 4: Replace computer cover; connect PCI Cable from Controller Box to PCI Card. Next plug in lathe and turn computer on.

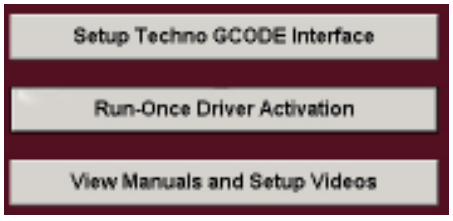


NOTE[1]: When Windows starts up, it will detect the new hardware (the PCI Card). Follow the onscreen prompts.

When you are asked to "search" for a suitable driver, insert Techno CD.

When asked for "optional search locations" choose CD.

STEP 5: After the driver is installed, click on the **Run-Once Driver Activation** (on Techno CD-ROM). Then continue with Software Installation (**Setup Techno G-Code Interface**); follow the onscreen instructions.



TECHNO METAL LATHE SETUP INSTRUCTIONS

SOFTWARE INSTALLATION

NOTE[1]: Some computers will begin the "AUTO-RUN" sequence when Techno CD-ROM is inserted. If this occurs skip STEPS 1-3 and begin with STEP 4.

STEP 1: Place Techno CD-Rom in the computer. On the desktop, double-click the "My Computer" Icon. **(SCREENCAP 4.1)**

STEP 2: Double-click the CD-ROM drive to open. Find and click the file "***setup.exe***"

STEP 3: In the ***Techno Software Setup*** menu select *Metal Lathe*. **(SCREEN CAP 4.2)** Continue to next screen.

STEP 4: Select **Setup Techno G-CODE Interface** in *Techno Metal Lathe* menu. **(SCREEN CAP 4.3)** Continue to follow instructions through installation. Close all running programs.

STEP 5: Click  button to start installation.

STEP 6: Follow all onscreen instructions to complete installation.

RUNNING THE INSTALLED SOFTWARE

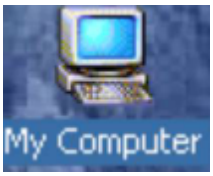
STEP 7: Go to Start Menu / Programs and select Techno Metal Lathe.

STEP 8: Click Metal Lathe G-CODE Interface **(SCREEN CAP 4.4)** and the Interface's Main Menu appears. **(SCREEN CAP 4.5)**

NOTE [2]: For further instruction on how to run a simple toolpath program reference Chapter II Quick-Start Tutorial in the Techno Metal Lathe Manual found on your Techno CD-ROM.

CAUTION: DO NOT RUN THE LATHE UNTIL YOU HAVE READ THE SAFETY INSTRUCTIONS (on the next page) AND HAVE READ THE MANUAL!

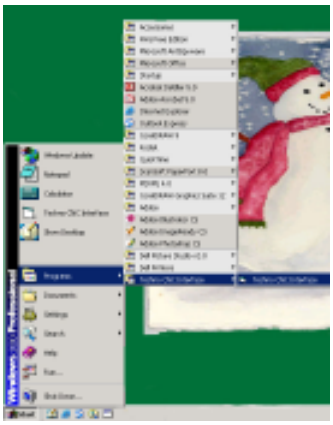
SCREEN CAP 4.1



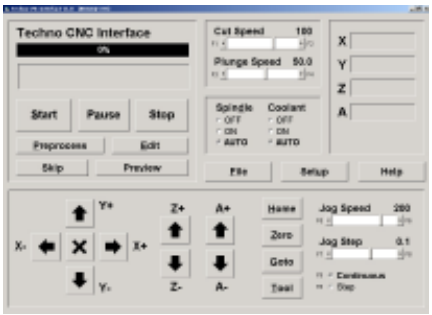
SCREEN CAP 4.2

SCREEN CAP 4.3

SCREEN CAP 4.4



SCREEN CAP 4.5



SAFE OPERATION OF YOUR MACHINE

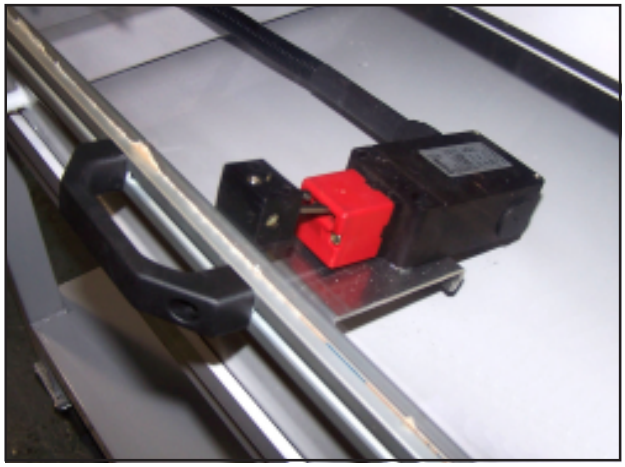
Read these instructions thoroughly BEFORE operating machine

WARNING: IMPROPER OR UNSAFE OPERATION OF THE MACHINE WILL RESULT IN PERSONAL INJURY AND/OR DAMAGE TO THE EQUIPMENT.

1. Keep fingers, hands, and all other objects away from machine while power is on.
2. Disconnect power to all system components when not in use, when changing accessories, and before servicing.
3. Do not loosen, remove, or adjust machine parts or cables while power is on.
4. Exercise care with machine controls and around keyboard to avoid unintentional starting.
5. Make sure voltage supplied is appropriate to specifications of components.
6. Machines must be plugged into three-pronged grounded outlets. Do not remove the grounding plug or connect into an ungrounded extension cord.
7. Keep cables and cords away from heat, oil, and sharp edges. Do not overstretch or run them under other objects or over work surfaces.
8. Use proper fixtures and clamps to secure work. Never use hands to secure work.
9. Do not attempt to exceed limits of machine.
10. Do not attempt to use machine for purposes other than what is intended.
11. Use machine only in clean, well-lit areas free from flammable liquids and excessive moisture.
12. Stay alert at all times when operating the machine.
13. Always wear safety goggles.
14. Do not wear loose-fitting clothing when operating machine. Long hair should be protected and kept from the machine.
15. Always maintain proper balance and footing when working around the machine.
16. Maintain equipment with care. Keep cutting tools clean and sharp. Lubricate and change accessories when necessary. Cables and cords should be inspected regularly. Keep controls clean and dry.
17. Before using check for damaged parts. An authorized service center should perform all repairs. Only identical or authorized replacement parts should be used.
18. Remove any adjusting keys and wrenches before turning machine on.
19. Lock the Safety Interlock mechanism otherwise the program will not start.
20. Put Teacher's Override Key in a safe place.
21. Do not forget to take the Chuck Keys out before running the Metal Lathe Overview.
22. The metal shavings in the machine can be very sharp and must be handled carefully.

DO NOT OPERATE MACHINE IF YOU ARE UNFAMILIAR WITH THESE SAFE OPERATING INSTRUCTIONS. DO NOT OPERATE MACHINE WITHOUT KNOWING WHERE THE EMERGENCY STOP SWITCH IS LOCATED. READ THROUGH THE FOLLOWING VISUAL SAFETY PAGE BEFORE RUNNING THE LATHE.

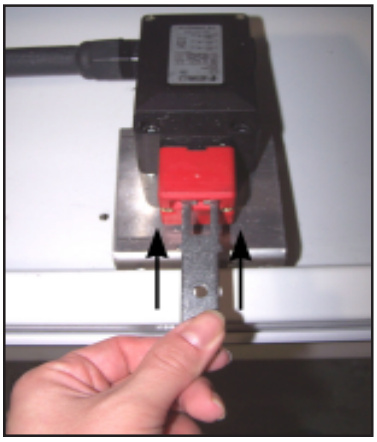
IMPORTANT VISUAL SAFETY



The *Safety Interlock* and *Door Key** must be locked properly for the program to begin.

*The *Teachers Override Key* may be used in place of the *Door Key*, only with the proper supervision.

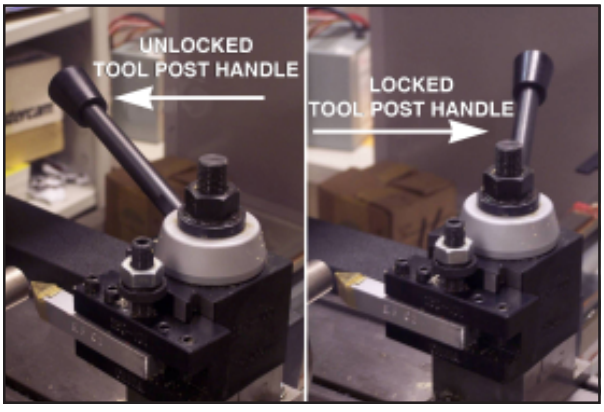
TEACHERS OVERRIDE KEY IN SAFETY INTERLOCK



TEACHERS OVERRIDE KEY

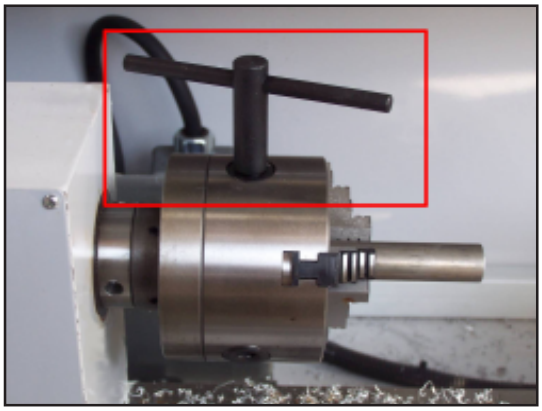
Keep the *Teachers Override Key* in a safe place, it gets inserted into the *Safety Interlock* to run the program without the *Door Key*.

WARNING!
The Teachers Override Key allows the spindle to be turned on when the door is open.



If the *Tool Post Handle* is not locked in position, the *Tool Holder* will fly off the Lathe and cause damage to the machine.

CHUCK KEY



Remove the *Chuck Key* from Lathe, before running the program. If it is not removed the *Chuck Key* can cause harm to the machine and operator.

LOADING WORKPIECE IN LATHE CHUCK

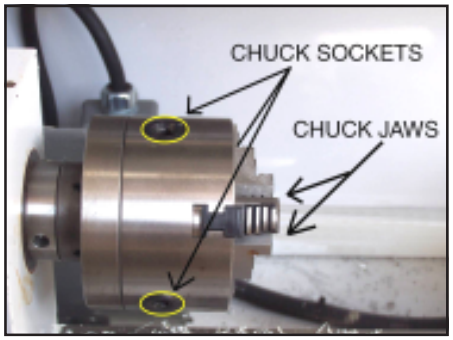
NOTE[1]: The Chuck Key is used to loosen and tighten the Chuck Jaws. **(PICTURE 5.0)**

STEP 1: Using the Chuck Key, loosen and place blank stock in the Chuck Jaws. Next retighten the chuck until it firmly holds the blank stock in proper position. To properly load the stock, all three chuck sockets, which are located around the chuck, must be tightened symetrically. **(PICTURE 5.1)**

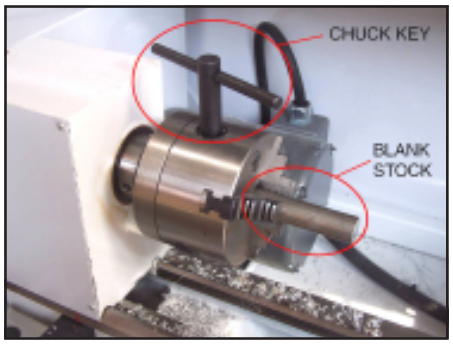
STEP 2: Spin the Lathe Chuck by hand to note if the blank stock is held straight in the Chuck Jaws. If not straight, loosen the Chuck, reposition the stock, and retighten the Chuck. The stock should not wobble when the chuck spins.

NOTE [2]: Do not forget to remove the Chuck Key. Leaving it in will cause damage to the machine!

PICTURE 5.0



PICTURE 5.1



TOOL HOLDER CALLOUTS (PICTURE 5.3)

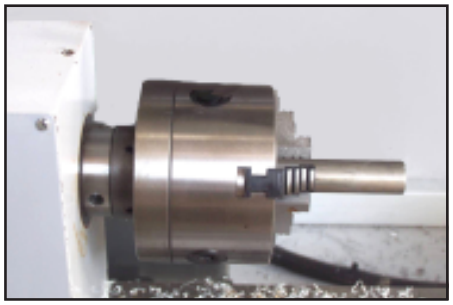
The **LOCK NUT** secures the **HEIGHT ADJUSTING NUT**.

The **HEIGHT ADJUSTING NUT** allows you to adjust the height of the tool relative to the midpoint of the work peice.

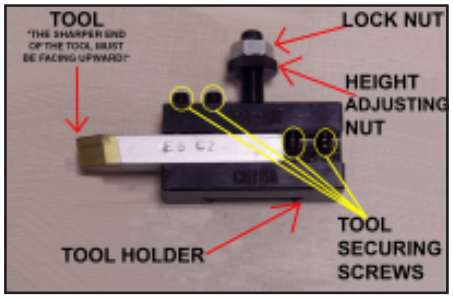
The **TOOL SECURING SCREWS** secure the **TOOL** within the **TOOL HOLDER**. Note that it is required to have *AT LEAST TWO* **TOOL SECURING SCREWS** secured against the tool during the Metal Lathe operation.

The cutting edge of the **TOOL** must be facing upward when placed in the **TOOL HOLDER**.

PICTURE 5.2



PICTURE 5.3



QUICK-CHANGE METAL LATHE TOOLS

NOTE[1]: Properly align TOOL and STOCK. (See **PICTURE 5.4**)

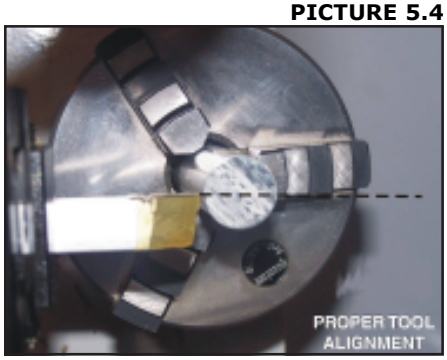
STEP 1: Loosen the Lock Nut.

STEP 2: Adjust the Height Adjustment Nut to raise or lower the Tool Tip relative to the work piece center. Proper Tool Alignment is shown in **PICTURE 5.4**.

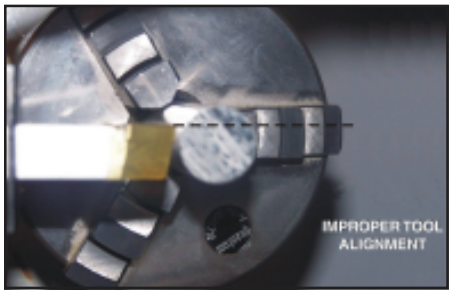
STEP 3: Secure the Tool Holder by tightening the Tool Post Handle to confirm the Tool Tip height.

STEP 4: Once the tool height has been adjusted tighten the Lock Nut.

PICTURE 5.4



PICTURE 5.5



***WE RECOMMEND READING THE TECHNO METAL LATHE MANUAL ENTIRELY IF YOU HAVE ANY DIFFICULTIES WITH THIS SETUP GUIDE. (SEE THE PDF DOCUMENT 0089_SERVO LATHE G-CODE MANUAL LOCATED ON THE TECHNO CD-ROM) ***