

This document is a basic introduction to the interface screens on the Techno HDS

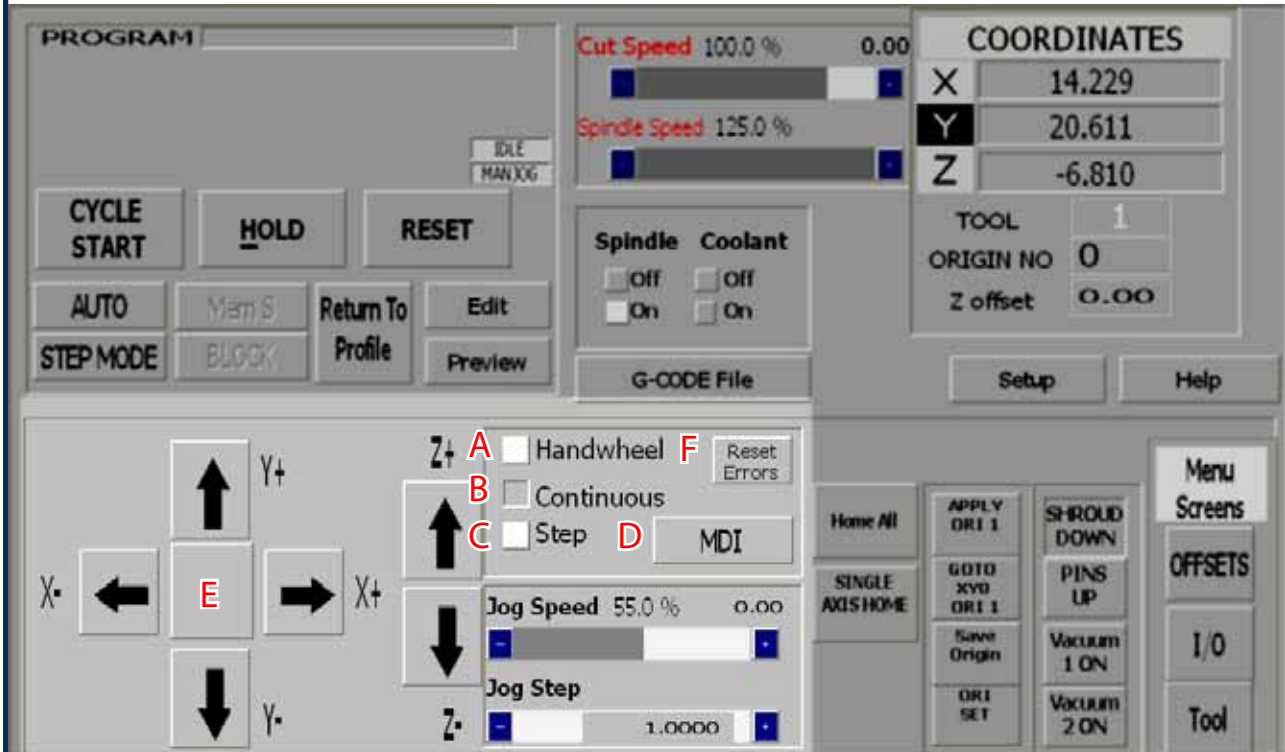


Once the Boot Loader has completed the start up cycle, the following screen will be displayed.

PROGRAM		Cut Speed 100.0 % 0.00	COORDINATES	
IDLE MAN JOG		Spindle Speed 125.0 %	X 14.229	
CYCLE START	HOLD		Y 20.611	
	RESET		Z -6.810	
AUTO	Mem S	Spindle <input type="checkbox"/> Off <input type="checkbox"/> On	TOOL 1	
STEP MODE	BLOCK	Coolant <input type="checkbox"/> Off <input type="checkbox"/> On	ORIGIN NO 0	
	Return To Profile		Z offset 0.00	
	Edit			
	Preview	G-CODE FILE	Setup	Help
Handwheel <input type="checkbox"/>		Reset Errors	Menu Screens	
Continuous <input type="checkbox"/>		MDI	OFFSETS	
Step <input type="checkbox"/>		Home All	APPLY ORI 1	SHROUD DOWN
X- ←	↑ Y+	SINGLE AXIS HOME	GOTO XY0 ORI 1	PINS UP
	Z+	Jog Speed 55.0 % 0.00	Save Origin	Vacuum 1 ON
	↓ Y-	Jog Step	ORI SET	Vacuum 2 ON
	Z-	1.0000		
				I/O
				Tool

Jogging Functions.

The sections highlighted below are the Jog controls of the interface.



The machine will not move unless a jog mode is selected. Click on the button beside the text to select a mode.

A-Handwheel: The Rotary hand wheel, attached to the machine, will control the axis that is selected on the wheels dial. All other functions are disabled when this is active.

B-Continuous: The machine will move when the user clicks on the arrow associated with each axis. Speed is controlled by Jog speed and is a percentage of the max jog speed-800ipm for manual jog mode.

C-Step: The machine will move by an exact amount, as specified by Jog Step, when the arrow button is held down with left click

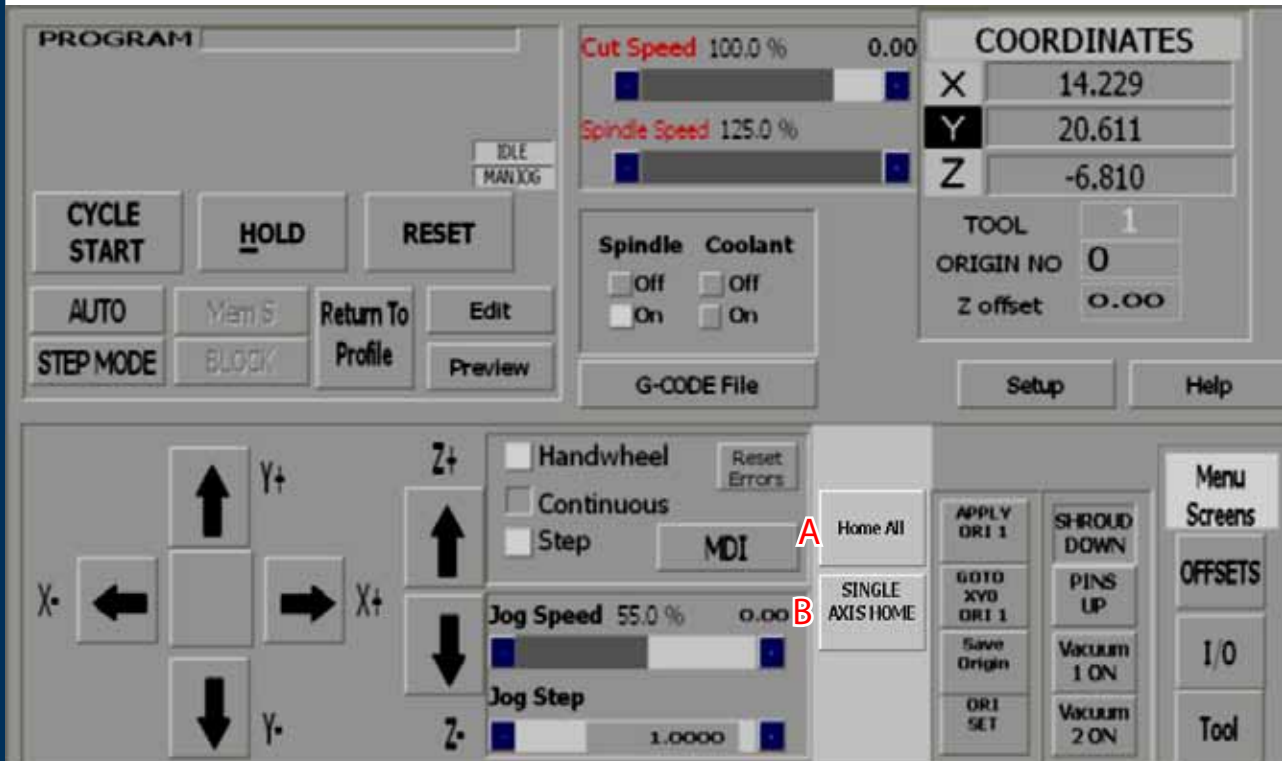
D-MDI: Manual Data Input, this opens a text box that will allow the user to manual enter a line of g-code and have it executed.

E- Jogging Arrows: By left clicking on these arrows the machine will move in the corresponding direction. These arrows are only functional if Continuous or Step mode is active.

F-Reset Errors: This will remove any warning/error messages that appear on the screen.

Homing Functions.

The sections highlighted below are the Homing Functions of the interface.

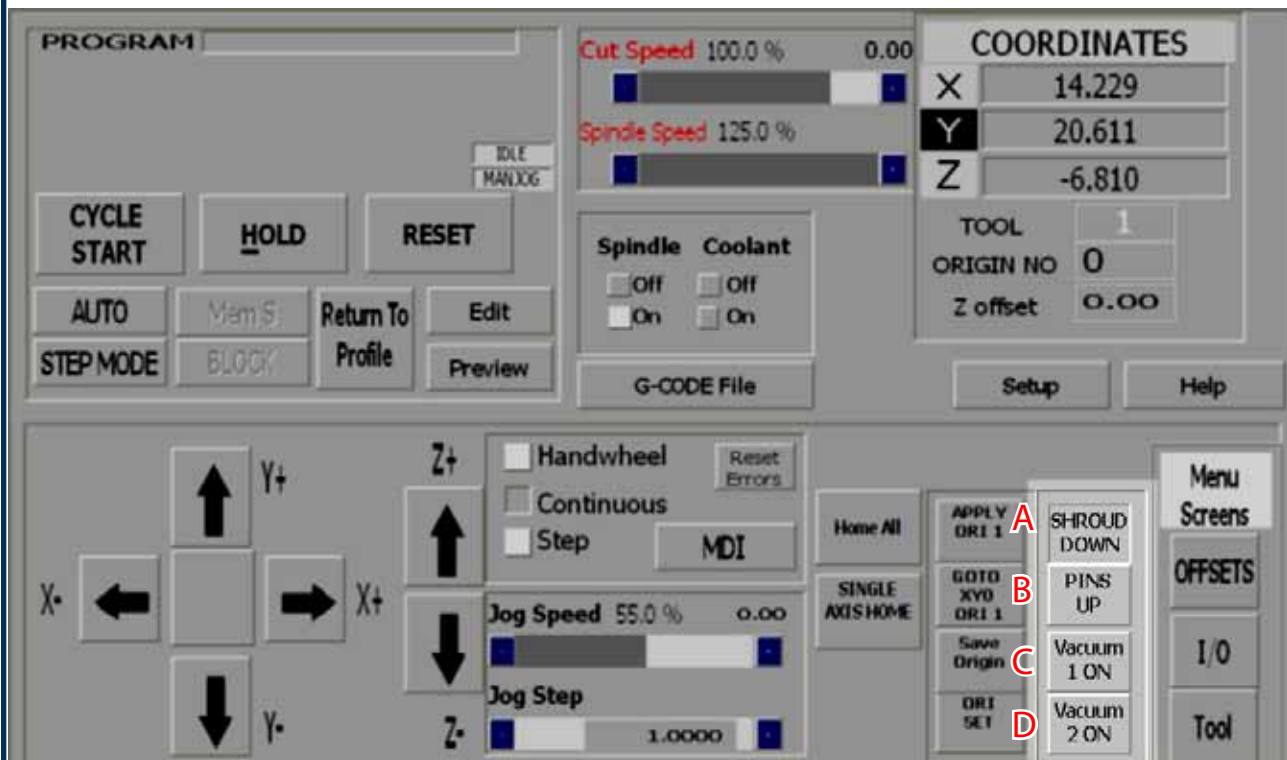


A-Home All: When this button is left clicked, all the axes will move to the home position. The Z axis will first move up to its limit, then the X and Y axes will move simultaneously.

B-Single Axis Home: When this button is left clicked each axis can be homed separately. When the button is active, the user then clicks on the arrow key for the axis to be homed to enable the operation.

Pneumatic & Electrical Controls.

The sections highlighted below are the buttons that control the pneumatic and electrical outputs for the controller.



A-Shroud Down: Left clicking on this button will raise or lower the dust shroud on the spindle.

B-Pins Up: Left clicking on this button will raise or lower the pop-up pins on the sides of the table.

C-Vacuum 1 On: Left clicking on this button will turn Vacuum 1 on, if it is connected.

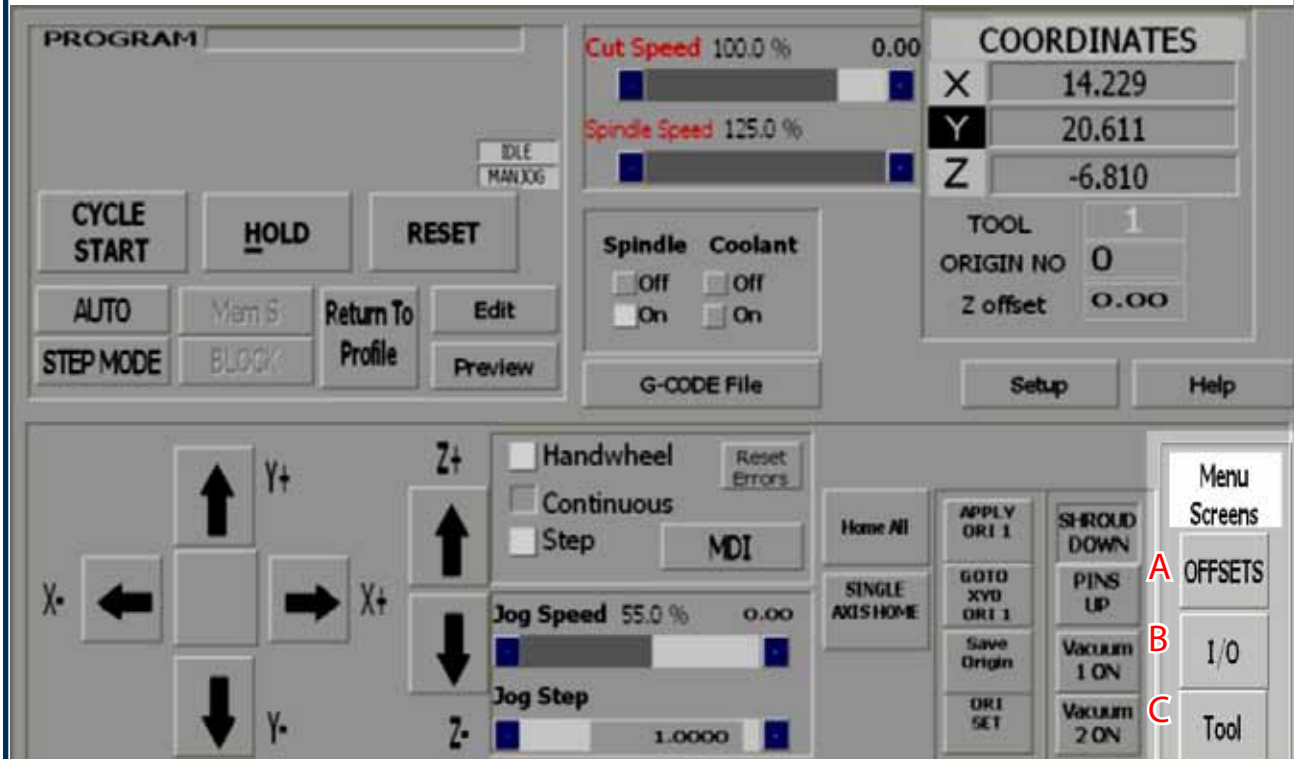
D-Vacuum 2 On: Left clicking on this button will turn Vacuum 2 on, if it is connected.

Shroud Down and Pins Up will only function if 90lbs of compressed air connected to the machine

Vacuum 1 and 2 send 220volts to the starter coil of the vacuum pump, thus activating the pump.

Menu Screens.

The sections highlighted below are the Menu Screen options of the interface. The user can switch to these screens by clicking on the corresponding button.



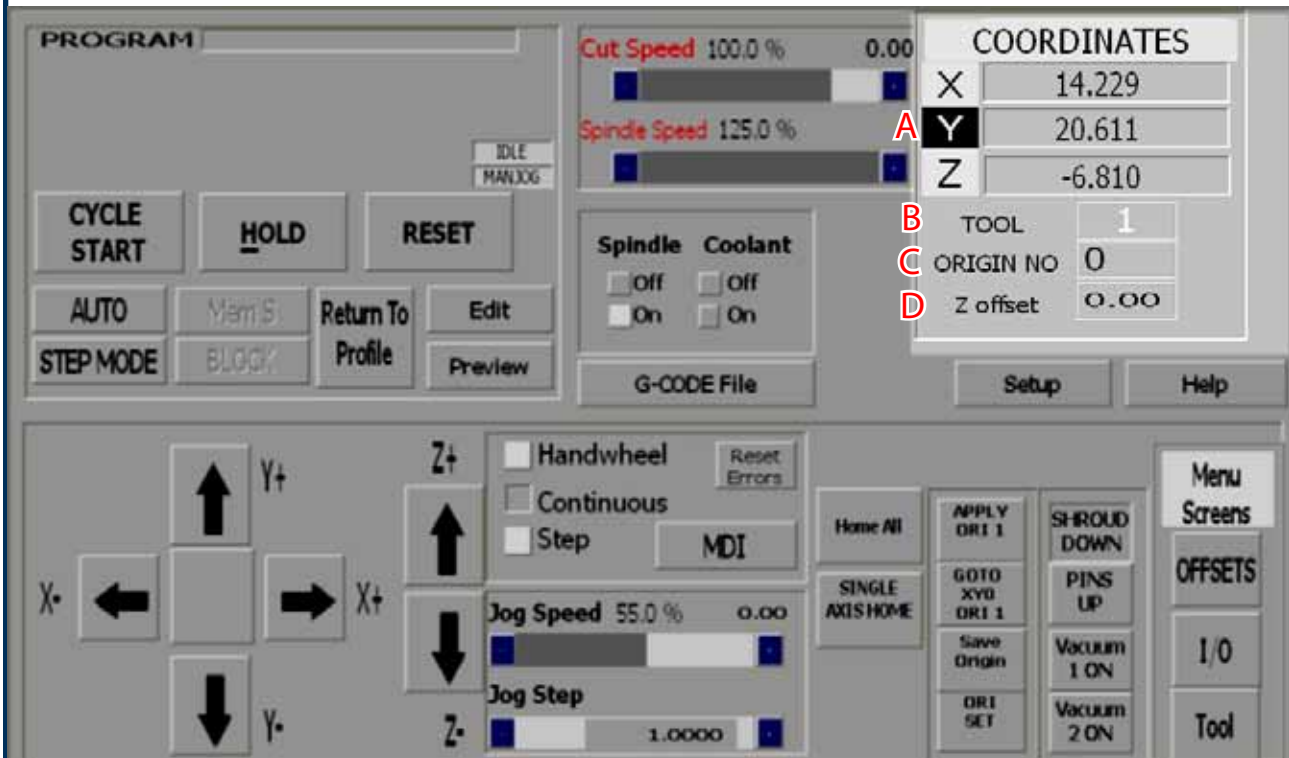
A- Offsets: Left clicking on this screen will open the Offset Menu. In this menu the user can save multiple offsets and apply them to the coordinate system.

B- I/O: Left clicking on this screen will open the Input and Output screens. These screens will show the states of the inputs and outputs. These screens are for observation only.

C-Tool: Left clicking on this screen will open the Tool Menu. In this menu the user can store tool lengths and change tool numbers.

Coordinate System

The section highlighted below is the Coordinate System.



A-XYZ Coordinates: This displays the location of the machine. If the Origin No is zero, the numbers displayed are the distance from the Home position. If there is an Origin Number active, the numbers displayed are the distance from that origins zero position.

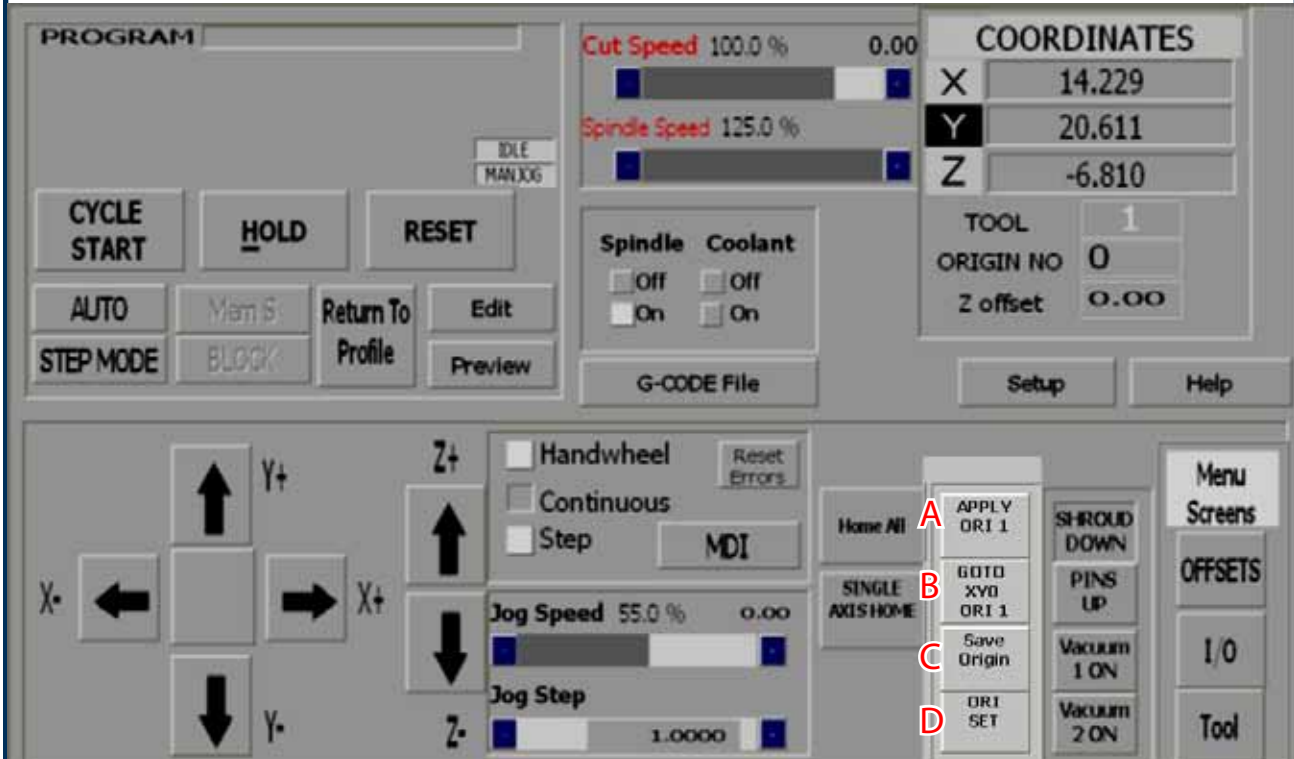
B-Tool: This displays the tool that is in the tool holder. If the number reads a single digit then there is no offset applied to that tool at this time. When the Tool displays 1.1, or 2.2, or 5.5 etc then the Z-offset is active. The Z-offset needs to be active when setting the origin.

C-Origin No: This displays the active origin/ coordinate system. When it reads 0, no origin is active and the coordinate system displayed is the from the Home position. The system is setup to accommodate 8 origins, buy many more can be made available.

D-Z Offset: This is the amount of Z-offset being applied to the tool. Z-offset is the distance from the home position and it is set in the Tool menu using the tool calibration block.

Origin Functions

The sections highlighted below contain the Origin functions of the interface. Origin can also be called the XYZ zero point.



A-Apply ORI 1: Left clicking on this button activates Origin 1 for the coordinate system.

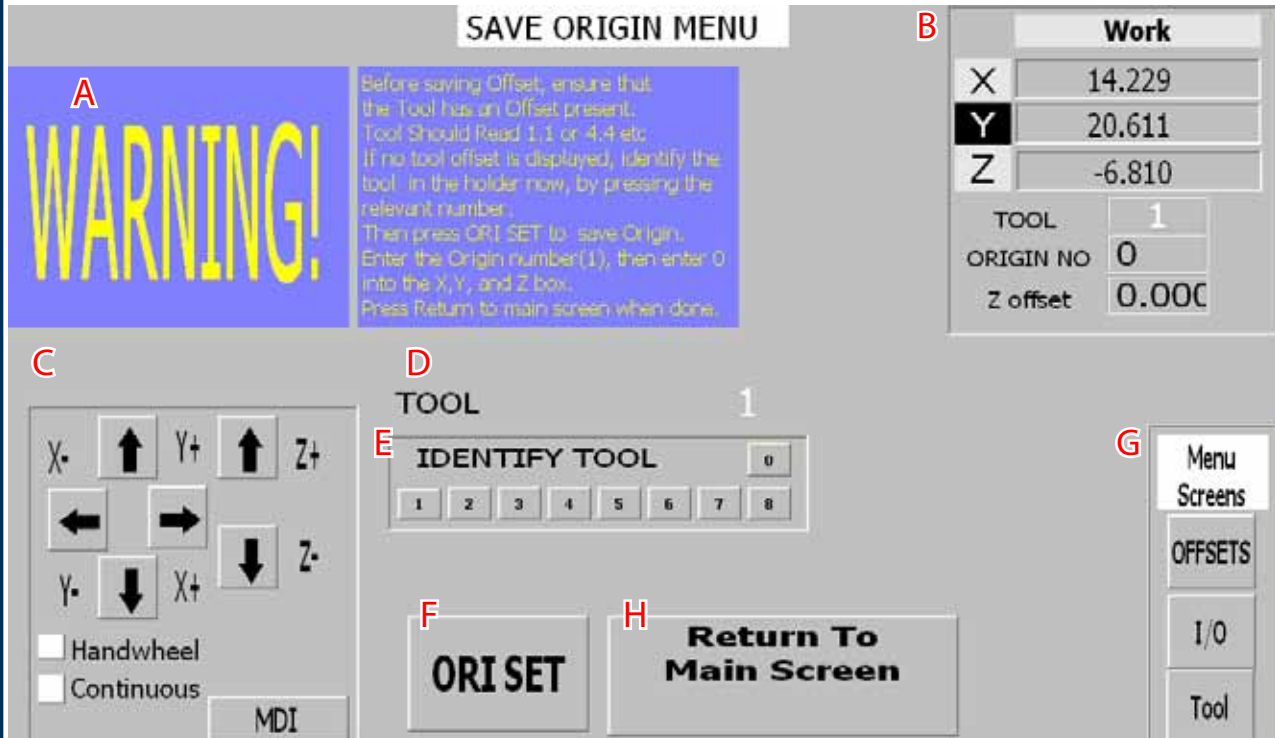
B-GoTo XY0 Ori 1: Left clicking on this button moves the Z axis to the home position and the XY axes to the X-zero, Y-zero for Origin 1.

C-Save Origin: Left clicking on this button opens the Save Origin Screen Safe Mode Option. In this screen the user can Save the position of the machine as the Origin. This is where the user sets XYZ zero. This safe mode option will provide additional warnings and opportunities for the user ensure that the origin is saved correctly.

D-Ori Set: Left clicking on this button opens the Origin Preset Screen. This button performs the same function as Save Origin, however it does not present the warnings. This option is for advanced users.

Save Origin Menu.

When the Save Origin button is clicked on the main screen, this screen will open. This screen provides a reminder to identify the tool in the tool holder before saving an origin. This screen gives the user an opportunity to identify the tool in the holder.



A-Warning Message: This gives the user instructions on how to save an origin correctly.

B-Coordinate System: This displays the coordinate system, as explained earlier.

C-Jog Functions: This is a minimized version of the jog functions, as explained earlier.

D-Tool: This displays the Tool Number. It should read 1.1, or 2.2, or 6.6 etc, indicating that an offset is applied.

E-Identify Tool: Left clicking on one of these buttons will apply the offset to the Tool number.

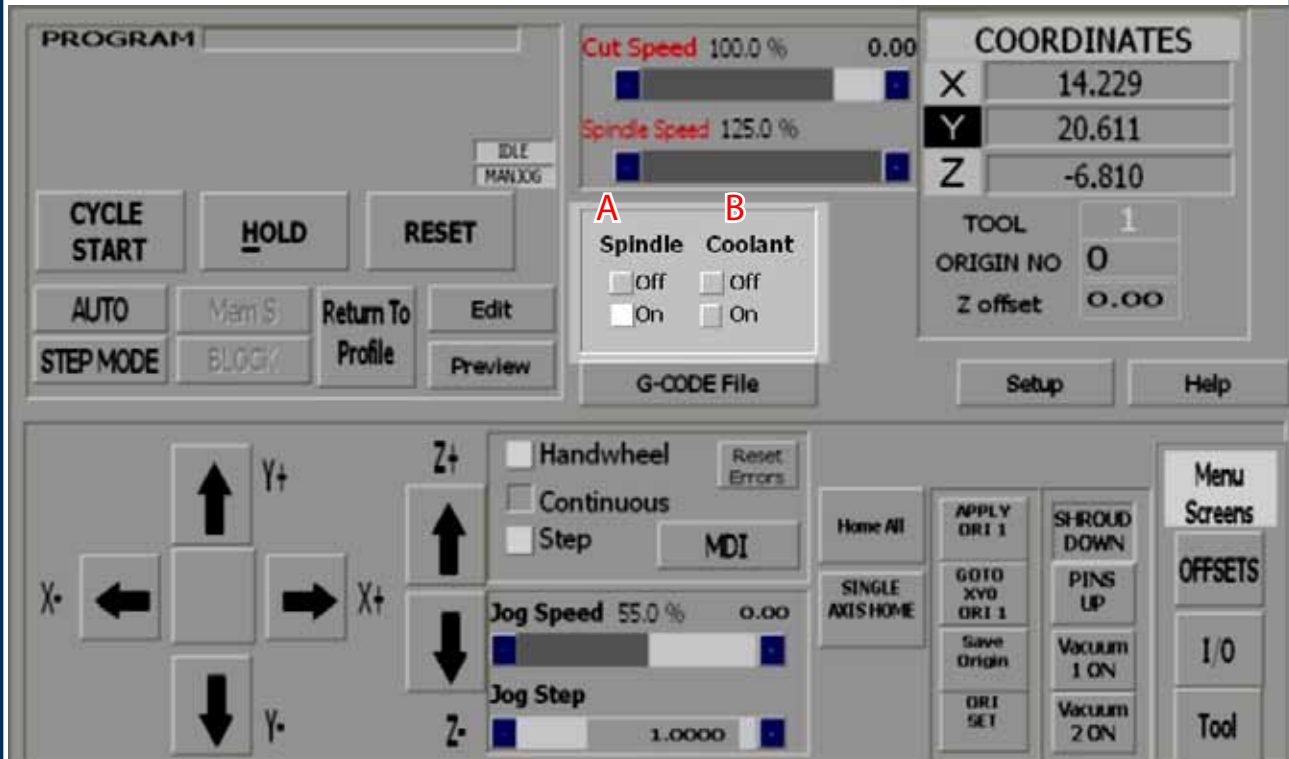
F-Ori Set: Will open the Origin Preset Screen where the user will enter the Origin number to be saved and set XYZ to zero.

G-Menu Screen: This displays the menu that can be opened from this screen

H-Return to Main Screen: Once the Origin has been set, left clicking on this button will return to the main screen.

Spindle & Coolant Control.

The section highlighted below allows manual control on the Spindle and Coolant.

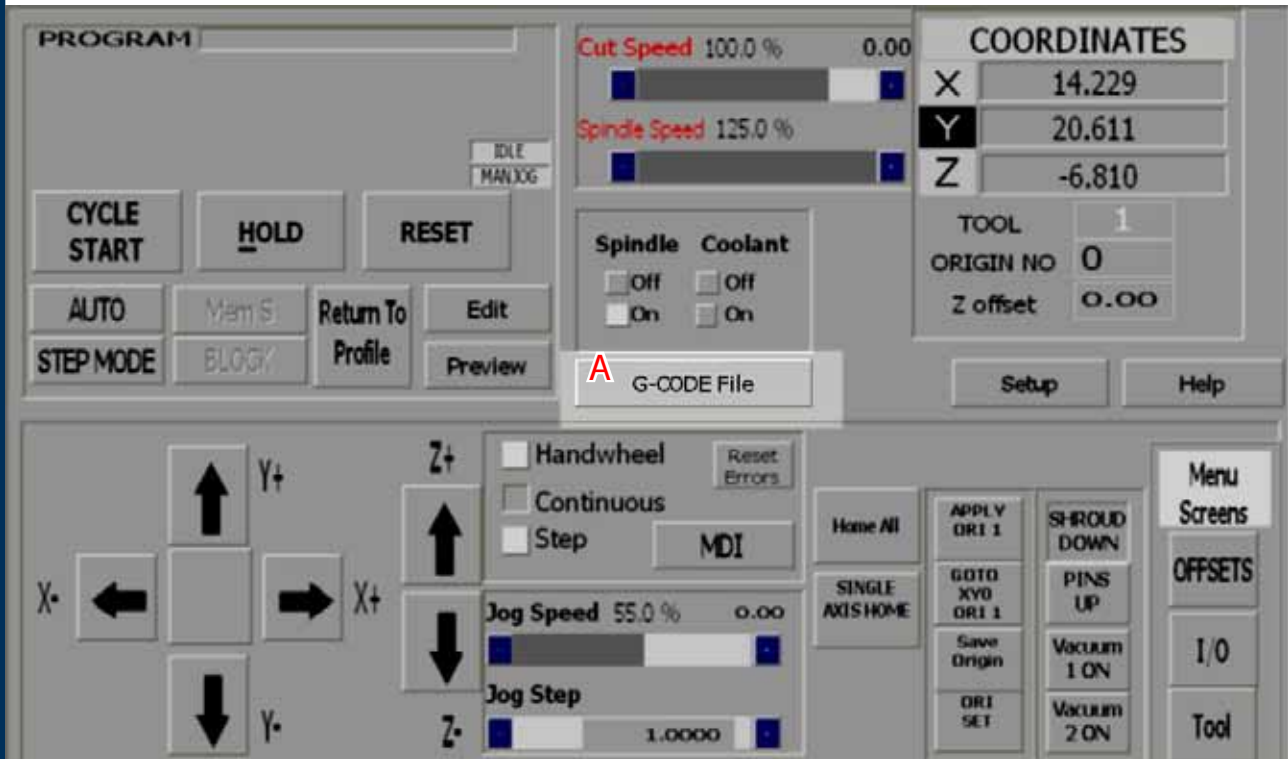


A-Spindle On/Off : Pressing the button beside On will turn the spindle on, pressing the the button beside Off will turn the spindle off.

B-Coolant On/Off : Pressing the button beside On will turn the coolant on, pressing the the button beside Off will turn the coolant off.

Load G-Code File

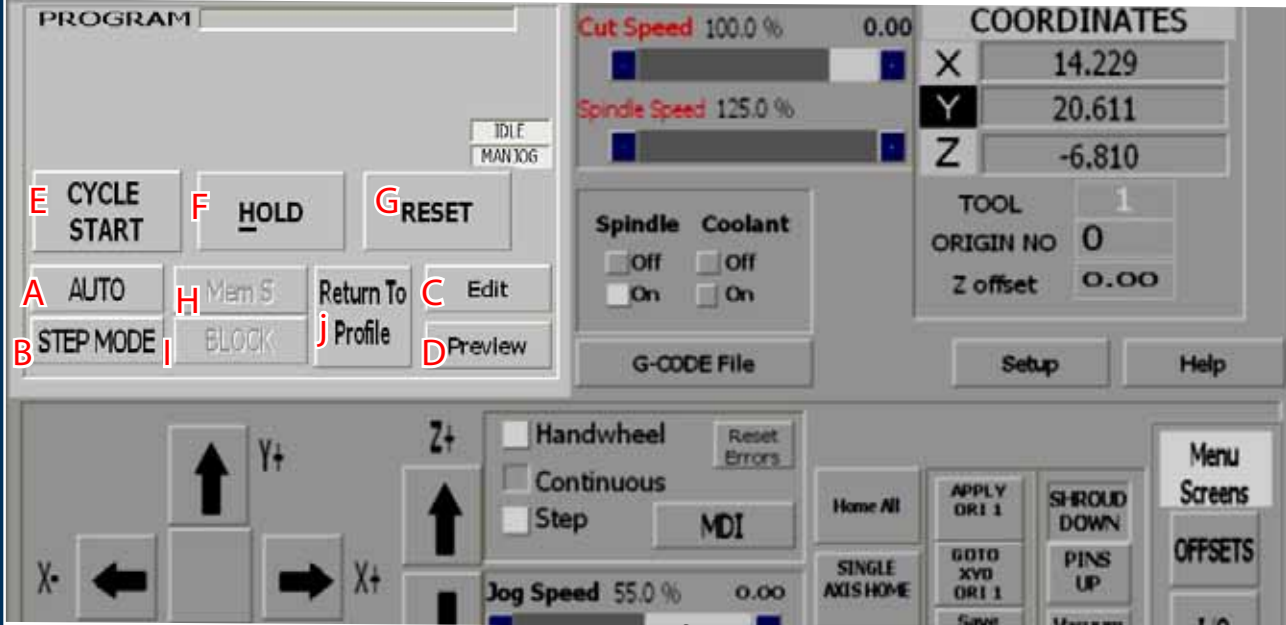
The button highlighted below will open the Load G-code File directory allowing the user to load a g-code file.



A-G-code File: Pressing this button will open the g-code file folder, allowing the user to activate or deactivate a g-code file.

Program Functions:

The section highlighted below is the program functions that are used when running a g-code file.



A-Auto: When this button is active, the g-code file will run in continuous mode.

B-Step Mode: When this button active, the g-code file will run in Step mode.

C-Edit: Left clicking on this button will open the file directory allowing the user to edit the files in a text editor.

D-Preview: Left clicking on this button will open the file directory allowing the user to preview the g-code file in the Techno Previewer.

E-Cycle Start: Pressing this button will start the active g-code file, in either Step or Auto mode. If no mode is selected then nothing will happen. Cycle start will also carry out commands in MDI mode.

F- Hold: Pressing this button will pause the operation that is in progress. Releasing hold and pressing Cycle Start will continue the operation.

G- Reset: Pressing this button will abort the operation that is in progress.

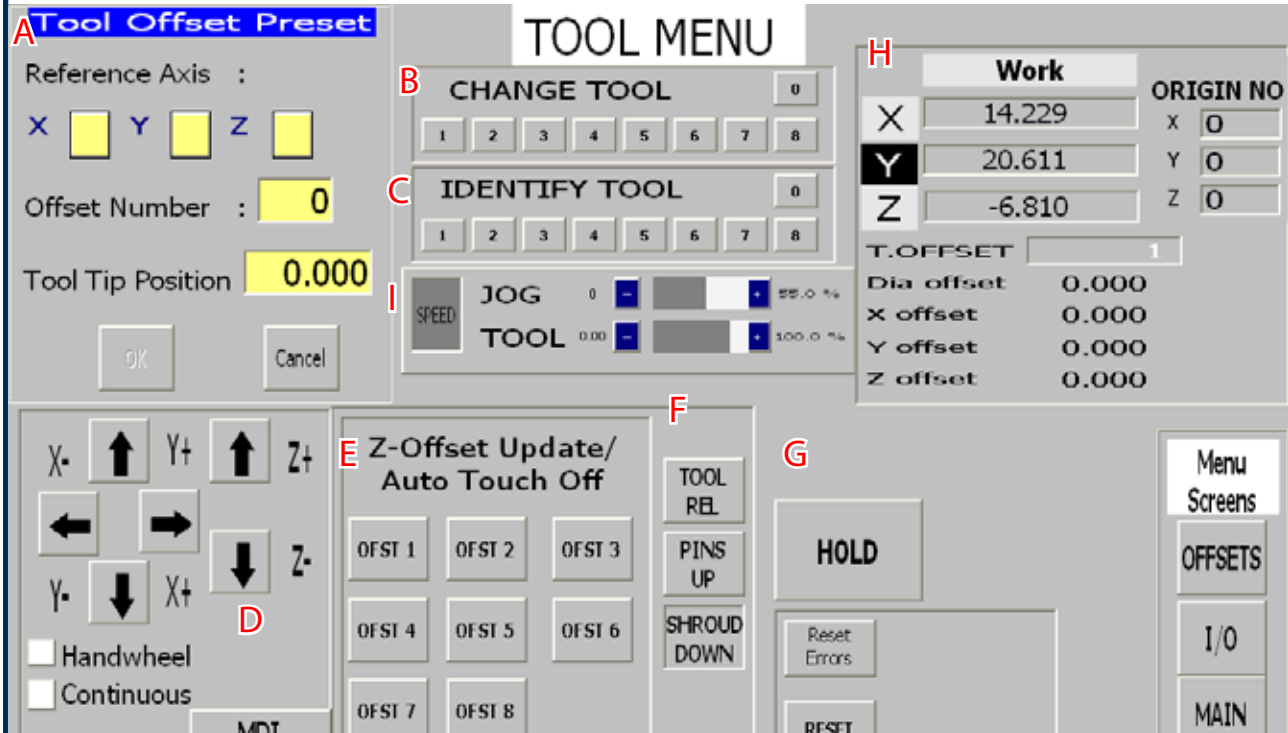
H- Mem S: This button will search the g-code file to find the point where the last Reset occurred. Then the file can be started from this point.

I-Block: This button will open the block window, allowing the user to select a specific block of g-code to run. ie N400 to N1200.

J-Return to Profile: If the machine is jogged off the part during Hold, it will need to return the point it was in on the g-code file if you want to continue the operation. Left clicking this button, and then holding down the directional arrow for each axis will move the machine back to the correct position.

Tool Menu

When Tool is clicked on the main menu, the screen below will open up. In this screen tool lengths can be learned, tools identified and changed automatically.



A-Tool Offset Preset: This section allows the user to manually enter tool offsets.

B-Change Tool: Left clicking on one of these buttons will make the machine pick up the corresponding tool number.

C-Identify Tool: Left clicking on one of these buttons will change the tool number on the screen and apply the Z-Offset.

D-Jog Functions: This is a minimized version of the regular jog functions.

E-Z-offset Update: Pressing one of these buttons will cause the Tool to move down until it touches the Tool Calibration Block, and then it will store the Z-offset for that tool number.

F-Pneumatic Controls: This section controls dust shroud, chuck control and pop up pins.

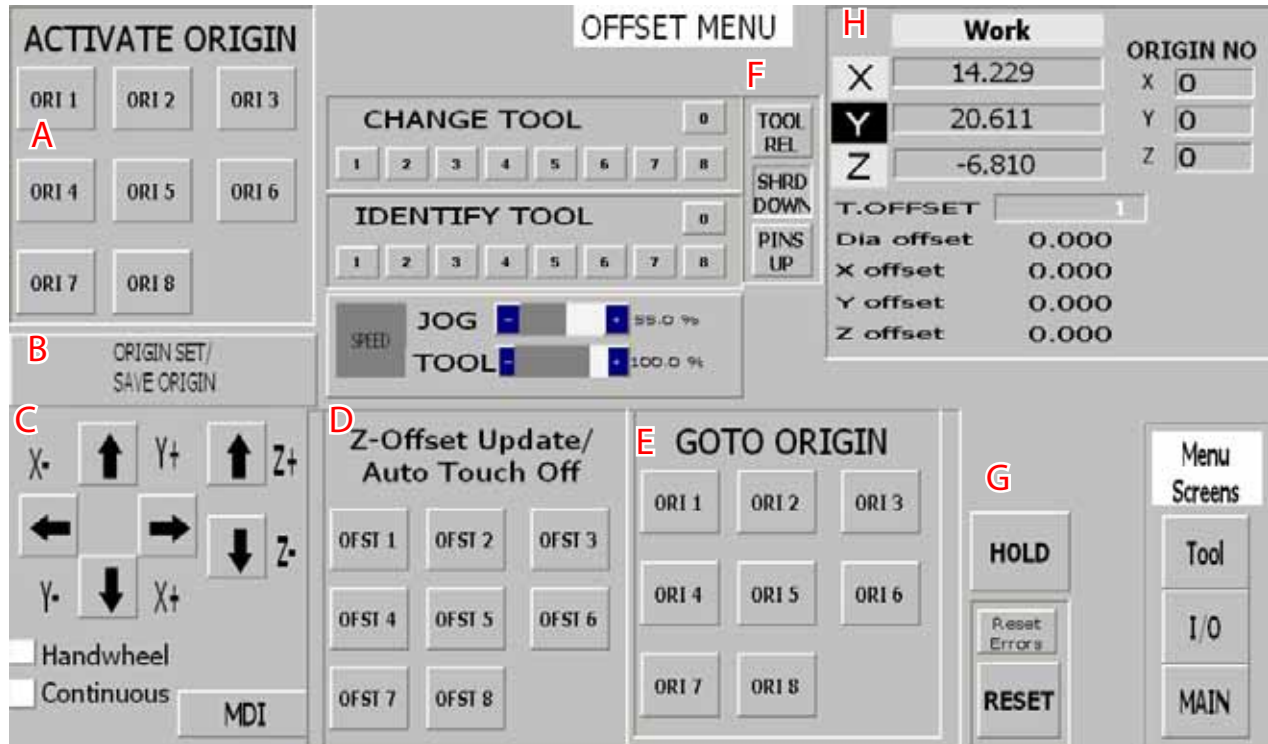
G-Hold: Pressing hold during a tool change will cause the operation to be aborted.

H-Coordinates System: This displays the system coordinates and active origin, etc.

I-Speed: Jog speed, and speed the machine moves when changing tools can be controlled by these settings.

Offset Menu

When Offset is clicked on the main menu, the screen below will open. In this screen multiple offsets can be saved and recalled.



A-Activate Origin: Left clicking on these buttons will activate the corresponding Origin.

B-Origin Set/Save Origin: Left clicking on this will open the Origin Preset screen. This will allow the user to save the current position of the spindle in a specific origin number.

C-Jog Functions: This is a minimized version of the regular jog functions.

D-Z-offset Update: Pressing one of these buttons will cause the Tool to move down until it touches the Tool Calibration Block, and then it will store the Z-offset for that tool number.

E-Goto Origin: Left clicking on one of these buttons will move the router to the XY zero position for that origin number. The Z axis will move to the home position.

G-Hold: Pressing hold during an operation will cause the operation to be aborted.

H-Coordinates System: This displays the system coordinates and active origin, etc.