Using the 4th Axis on the Techno HD Series Machines

Note: The 4th axis on the Techno HD series machine is not a true 4th axis. You can only use this to do "wrapping" tool paths. This means that the file is designed as a regular, flat, 3-axis file, which is scaled so that the width matches the circumference of round stock. Then, instead of cutting flat, the rotary is substituted for the X-axis and the cut follows the circumference of the stock, as if it is being "wrapped" around it.

To change from normal 3-axis operation to rotary operation, you must change some settings in the controller:

1. Press the menu button on the keypad. Go to and press OK to select "*5. MFR Param*". The password is 33587550.
2. Go to and press OK to select "*3. Pulse Equiv*". Make note of the X-axis value, it should be .0078125.
3. Calculate the new pulse equivalent value based on the diameter of the cylindrical stock being used through the following equation:

    Rotary Pulse Equivalent = (25.4 * π * D) / 50000

    Where D is the diameter of the rotary stock in inches.

4. Enter the calculated value for *Rotary Pulse Equivalent* in the location for X under Pulse Equiv. To input a decimal number, please press 0 (zero) first, then the button for the decimal point and then the numbers.
5. Exit the menu and restart the machine. The new settings will now be applied.
6. Now jog to your starting point and set your X and Y origin. This position should be above the rotary part. *Note: The X-axis will most likely move at a different speed than normal and the coordinates will not look right.*
7. Flip the switch in the front of the machine into Rotary mode.
8. Run your part

To revert back to normal 3-axis operation, follow the first two steps and then put the original value, .0078125, into the X-axis pulse equivalent variable, then reboot the machine to apply the changes.