



FANUC: FANUC Zero Return Procedure

If you have a Fadal machining center with the Fanuc Oi-M or 18i control, you will need to make sure you replace the axis backup batteries. If they go low, you will first get a LOW BAT alarm for days before they actually become so low that you lose your position data. This is the information stored in each motor's encoder of the zero return position. Unlike some of the other machine configurations where you have limit switches to set the machine home, Fadal uses software limits and position the table in mid travel as the zero position...other than the Z axis.

Try to jog your axes all to the cold start positions, but if you cannot, proceed below.

If your batteries have gone low and you've lost your zero position, getting yourself back to zero is very easy. Here are the steps:

1. Navigate to the parameter lock. (See Figure 1)
2. Change it from a zero to a one. You will get thrown to an alarm page. No worries. (See Figure 2)
3. Press the SYSTEM hard key and navigate to parameter 1815 (See Figure 3). Start with the X axis. Use the arrow key to move to the right until you are at the APZ column (See Figure 4). Change this from a zero to a 1. You will be thrown to the alarm page and prompted to turn the power off and back on (See Figure 5). Comply. When the machine powers back up, you should be able to move the X axis. Jog it to the center of travel. Navigate back to parameter 1815 and turn the X APZ bit to zero again. This will throw you to the alarm page again. No worries, power down and back up.
4. Go back to parameter 1815 and change the X APZ bit back to a 1. This now set the zero return position.

Figure 1.

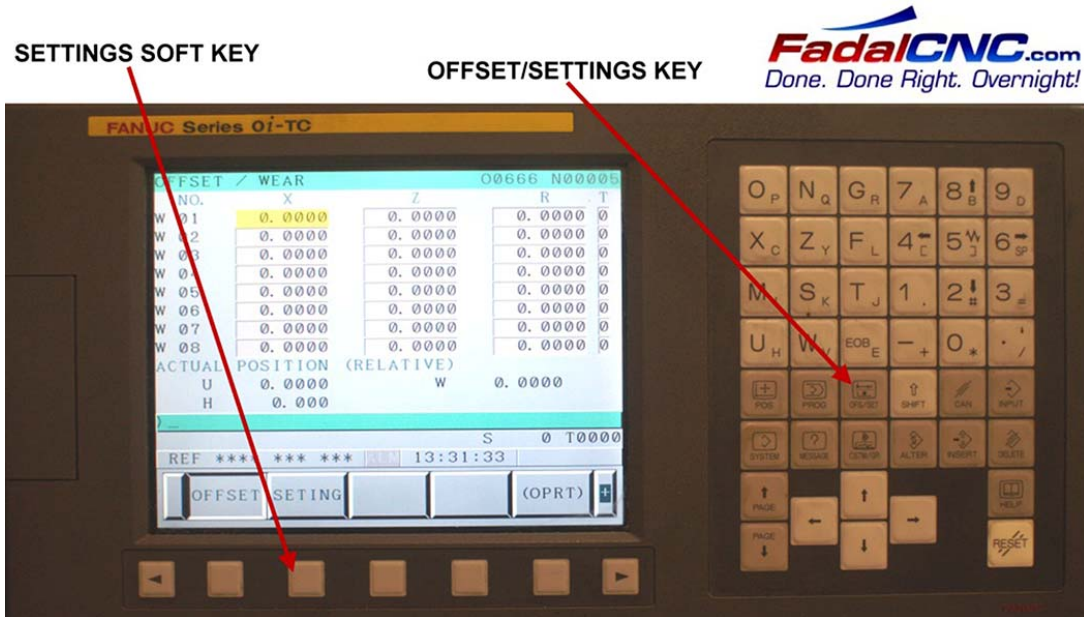


Figure 2.

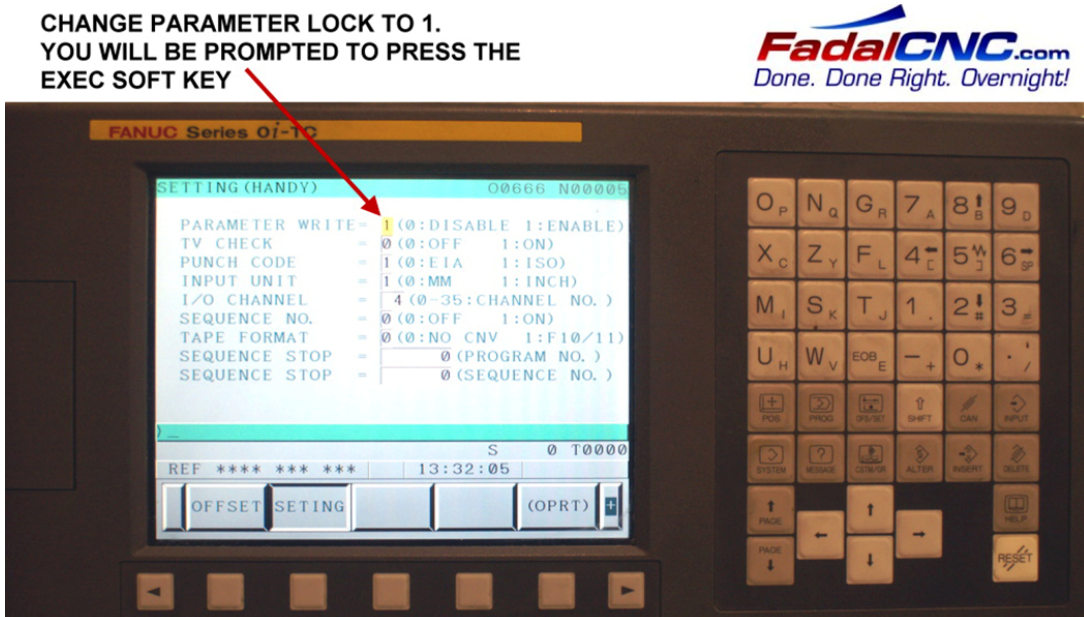


Figure 3.

PARAMETER 1815. MILLING MACHINE WILL HAVE X, Y, Z LISTED. THIS SCREEN SHOT IS FROM A LATHE. APZ IS THE COLUMN YOU NEED TO SET TO 1.

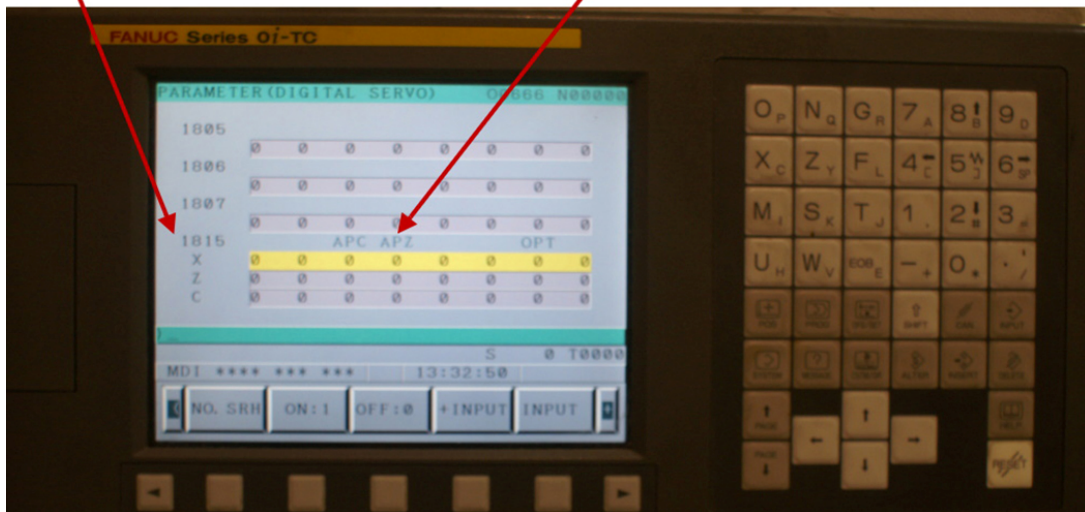


Figure 4.

ONCE YOU HAVE HIGHLIGHTED THE AXIS YOU WILL RESET FIRST, X IN THIS CASE, ARROW TO THE RIGHT TO APZ. CHANGE THIS NUMBER TO ZERO.

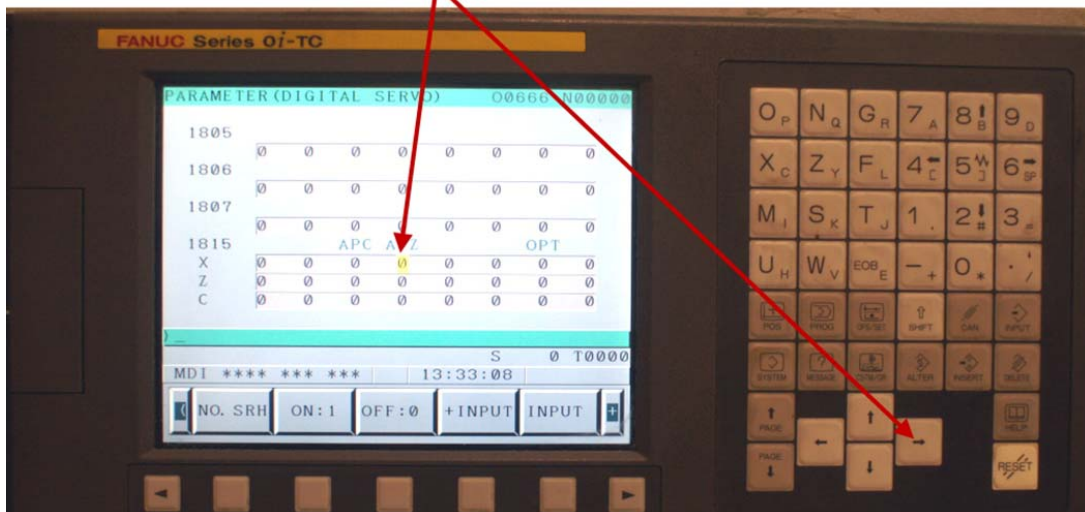
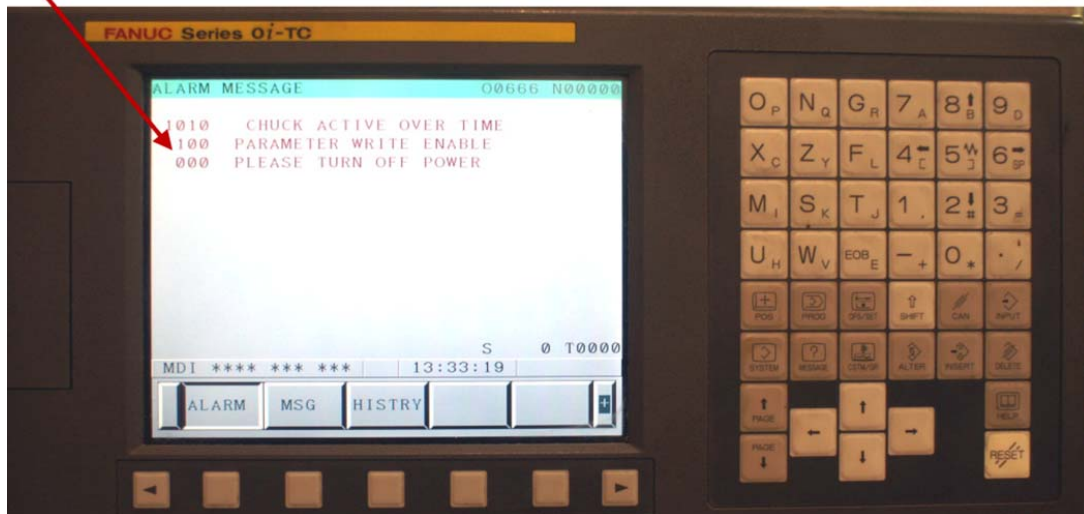


Figure 5.

100 & 000 ARE TYPICAL ALARMS IF ALL IS DONE
CORRECTLY.



Now perform this procedure for the Y and Z axis.

Here is what you are doing: When the parameter 1815 APZ column changes to a zero, this means the absolute encoder in the respective axis has lost its zero position. When you turn it back to a 1, this enables you to move the axis back to zero if it is not. You must then change it back to a zero to release the old zero position which you randomly set to move the axis, then back to a 1 to set it in its correct position.

The Z axis is tricky because you must set it perfectly or your tool change position will be off. If it is not correct, continue to use this procedure as you move the zero to adjust until you have your tool change position set properly and can do smooth tool changes.

When you are finally done, change your parameter lock back to a zero and cycle the power one more time.

You are done!