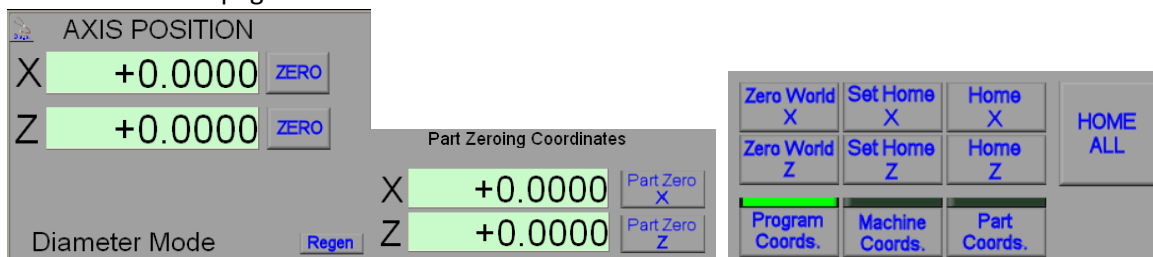


I am using some abbreviations as follows and assume some things:

1. I will assume you are using tool #0 which has no offsets.
2. The generic lathe screen is being used.
3. LM = Using Mach3 Turn Manual
MC = Machine Coordinates
PC = Part Coordinates
PRC = Program Poordinates
4. CP = controlled point (refers to the tools cutting edges in X & Z direction)

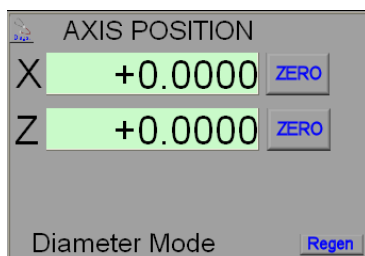
The generic screen has the following DRO's on the Manual, Auto, and Tool Table pages. They are all the same. In particular the second one below is labeled Part Zeroing Coordinates on the Tool Table page.



What is shown in the Axis Position DRO's depends on what coordinate system is selected and current mode. "Basically" PRC=PC when there is no G92 or G52 work offsets. PC includes any current Work offset and PC=MC (which is in terms of radii) if there is no Work Offset. PC is in terms of radius or diameter mode but MC X values are always absolute in terms of radii. Read the LM for complete definitions of the coordinate systems.



Mach keeps track of the axis location when an axis is moved. You can put any value you want when in PC but MC will not show that value. In fact if you put a value into the DRO while in MC the display will not change, BUT, when you do that you will find that a Work Offset was created for the current Work Offset and values can become additive. If you put a value in MC and hit enter it creates a work offset but if you put a value in MC and hit the Zero button it will zero the DRO and no WO is created. Notice that nothing is happening relative to the Part Zeroing Coordinate DRO's (will get into that later).



If one clicks the Zero World button it will zero the axis and also removes the current WO. Set Home will reference the axis. Once the machine is referenced MC axis definition is fixed in the controller and what you could do before no longer works. You can de-reference an axis but need to modify the screen to add a button.



SO we just touched few items and there are a lot possible combinations.

Play with those items and any time you do something with one check Fixtures / Work Offset values and alternate DRO display between PRC, MC, PC system to see the affect!

I would suggest you disable the switches temporarily and reference the machine manually, move about using different coordinate systems, create a home position manually.

Then activate the switches and do the same.

BTW,

The generic lathe screen set leaves something to be desired in my opinion.

You may want to consider using an improved lathe screen: Link to the screen:

<http://www.machsupport.com/forum/index.php/topic,13548.0.html>

Personally I use a custom screen set but did use the above one for a long time.

Later,

RICH
