

CONTROL SYSTEMS PROGRAMMING TIPS

ACU-RITE®

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Using the MILLPWR Z Retract to Control Tool Clearance

Please insert this program tip in your MILLPWR manual

The retract plane is a Z-Axis location the quill must return to before it can make any rapid movement in X and Y. The retract must be located above any programmed Z Begin by more than 0.010" (.254mm). If it is at or below this point, the control will not run and will display the fault: "Program Fault – Z Retract Programmed Below Z Depth".

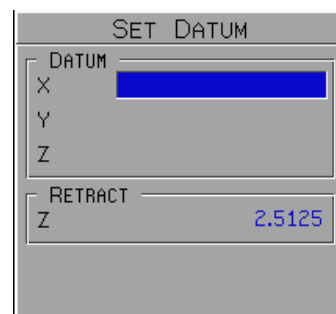
By default, when you first turn on and home your MILLPWR, or when you load a program, the Z retract will revert to the upper travel limit. This is done to insure maximum tool clearance prior to any rapid movement. There may be times when this location is not practical for your operation and you wish to change it. Understanding the capabilities of the Z retract will enhance your programming and speed up production.

The Z Retract is found under the datum key. It is also available when MILLPWR stops for a tool change. This allows you to set the Z-Datum and retract with each tool change.

There are two ways you can set the retract. How you set it determines how MILLPWR will operate.

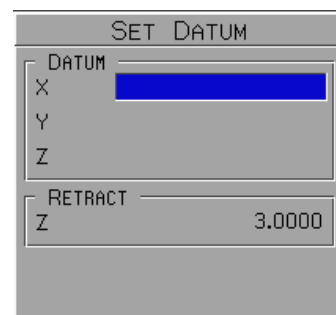
Teach Position

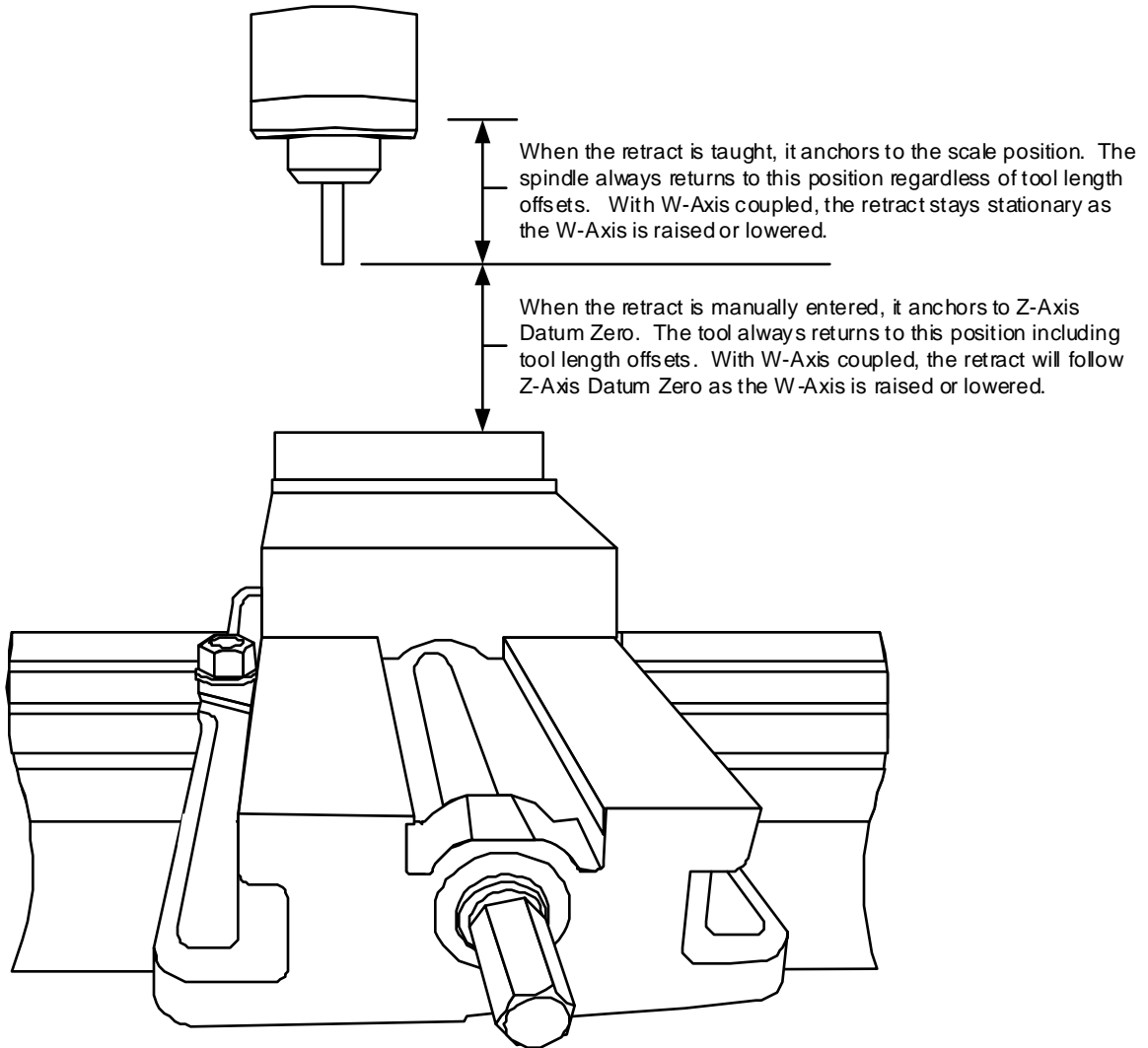
To teach the retract plane location, press the datum key and using the arrow keys, highlight the retract field. Raise or lower the quill to the desired location then press Teach Position. When the retract is taught, it anchors to the scale position. The spindle always returns to this position regardless of tool length offsets. With W-Axis coupled, the retract stays stationary as the table is raised or lowered. You can tell if the retract is taught by looking at the color of the retract value. If the number is blue, the retract is taught and therefore fixed to the scale position.



Manually Entered

To enter the retract plane location, press the datum key and using the arrow keys, highlight the retract field and enter the desired number. When the retract is manually entered, it anchors to Z-Axis Datum Zero. The tool always returns to this position including tool length offsets. With W-Axis coupled, the retract will follow Z-Axis Datum Zero as the table is raised or lowered. You can tell if the retract is manually entered by looking at the color of the retract value. If the number is black, the retract is entered and therefore fixed to datum zero and will compensate for a tool length offset.





If you have any questions please call Acu-Rite Technical Service. (1-800-344-2311)