



Zeman Technologies

The Finest Machine Tools

IL - (630) 321-1500

WI - (262) 789-1600



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Did You Know? Shortcuts on Citizen & Miyano Lathes

There are "shortcuts" on Citizen & Miyano controls that can make the lives of programmers and operators easier. **This Tech Tip will cover machine axes in Manual Mode, radii & chamfer comma features, addition & subtraction functions, and program synchronization.**

Axes in Manual Mode: New to swiss lathes? Not sure which axis is which or the direction it moves? Manual Mode provides an image of the machine axes (below) and indicates which direction is positive or negative.

Axis	MC COORD	Operation Range	Axis Feed Direction
X1	9.96045	-0.07874 - 10.03937	
Z1	5.07088	-0.01969 - 8.09055	
Y1	1.24524	-0.03936 - 26.18110	
X2	24.88182	-0.07874 - 24.96063	
Z2	0.00002	-0.03937 - 8.11024	
Y2	0.00039	-4.80315 - 0.07874	

Tricky workpiece? Send our engineers a challenge here

Radii & Chamfer Commas: When programming radii and chamfers, add ',R' or ',C' to a linear line of code for the desired feature. The code below - with a

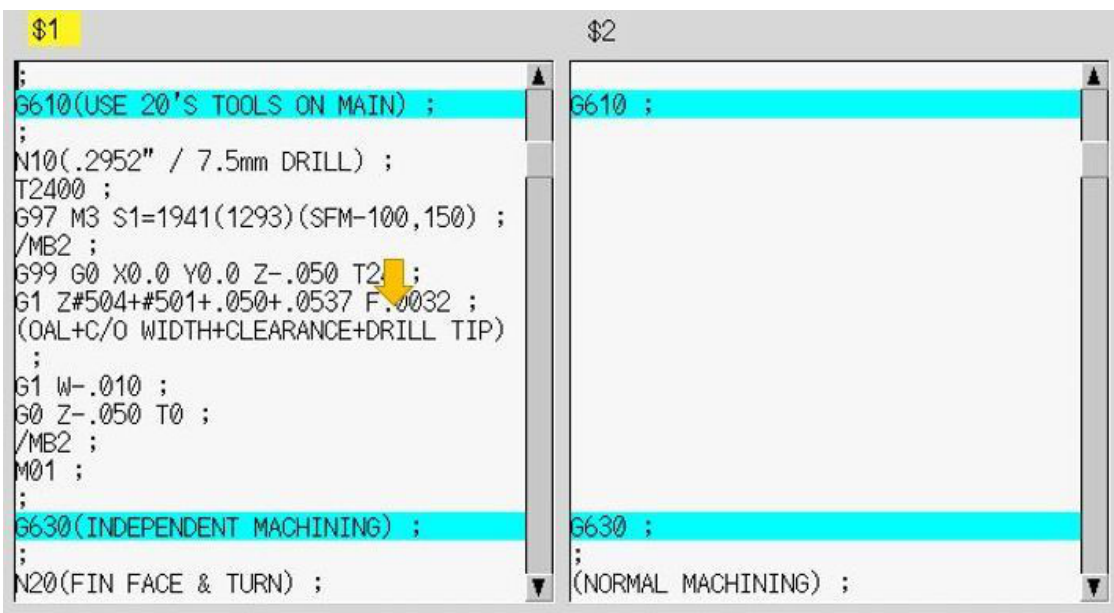
.008"cr insert - would produce a .018" radius at the end of the Z.500 line:

- **G1 Z.500 F.004,R.010**

Addition & Subtraction Functions: Save time and perform arithmetic within your program. The code below shows an adjustment to a diameter that may be cutting differently than programmed due to tool pressure:

- **G1 X.500+.002 F.004 - G1 Z.500 F.004 - G1 X.600 F.004**

Synced Program Operations: While in EDIT mode, press "SYN DISPLAY" and the control will sync all machining patterns and wait codes. The code below shows that while N10 operation is completed on Channel 1, nothing is happening on Channel 2.



Miss our Last Tech Tips? Click Below!

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Did You Know?

Skip the Milling, Run Non-Conformed Stock!

Sometimes it makes sense to run hex or other stock rather than milling to shape. To set up the machine, use a round bar loader collet to fit over points of the stock. In Spindle 1, use a chucking sleeve with a pin to hold the collet in place as a new bar is loaded. To teach the machine rotational relationships, you will now perform phase adjustment.



You can adjust phase between the following on your Citizen:

- Main spindle and guide bushing
- Main spindle and back spindle
- Main spindle, guide bushing, and back spindle

In the phase adjustment menu, there are three (3) selections located on the right. Enter the desired number in the Operation Select field, close all doors, and press the menu key [Phase Adj] and Start Key simultaneously. A phase adjustment confirmation message will appear.

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Did You Know?

Cincom Low Frequency Vibration-Cutting



What is LFV?

Chip Control: Servo-controlled axes oscillate in the axial direction, and machining is carried out while synchronizing this vibration with spindle rotation. The air cutting time created during machining leads to intermittent chip removal.

LFV-Produced Chips: Two 14.3 gram samples of 304 Stainless, which would you prefer?

[View our Webinar on Low Frequency Vibration Here](#)

