

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 machines? 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

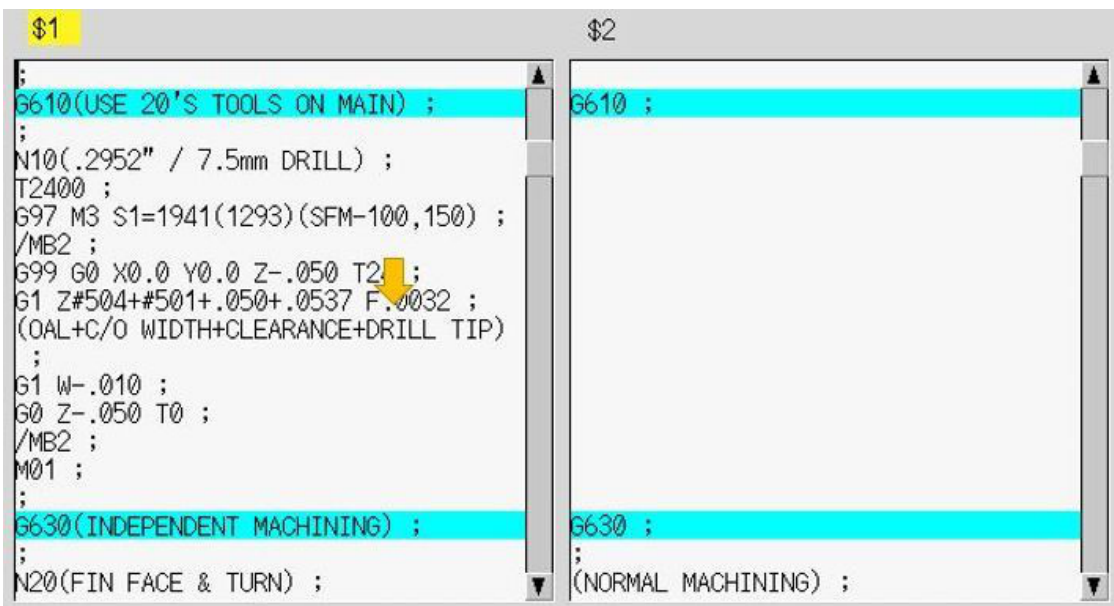
.008" cr insert - would produce a .018" radius at the end of the Z.500 line:

- 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!

McCLAIN Committed to 100% Customer Satisfaction
MACHINE TOOL SOLUTIONS Call (314) 432-3220
Zeman Technologies

Did You Know?
"Last Part Program" on Citizen Lathes

Citizen lathes are designed to machine the front and back halves of complex parts simultaneously. Last Part Program allows the operator to stop the running of a continuous cycle and finish the back half of the last part, without starting another part on the front spindle. Benefit: Gain an extra part!

An Example of Implementation on the L20:

15.11 Executing the Last Program (G999)

This command must be specified in the last portion (end process) of each axis control group (X1, Z1) program that includes the last program.

In general, the last program is executed to perform back machining for nodules with which floor machining is completed. The back machining is performed in the last circle which the machine is in the stopped state (e.g., 1-cycle stop or product coating by the control).

Specify the G999 command for each axis control group to automatically enter the axis control group in the opening state. The last program between G999 and M999 is executed in the 1-cycle or 1-block operation mode.

In order to specify the M999 command at the end of the last program contents of each axis control group. To finish program running, specify the command M999 at the end of the end process. The commands must be specified in the sequence of M02, M99 and then %.

- Command format
G999 Last program execution
- Axis control group
Specify this command for both the axis control groups X1 and Z1.

Below, G999 (TOP LEFT) is the start of our Last Part Program , concluding with M999, M2 and M99. Observe the highlighted use of Sub-Programs in the

McCLAIN Committed to 100% Customer Satisfaction
MACHINE TOOL SOLUTIONS Call (314) 432-3220
Zeman Technologies

Did You Know?
Cincom Low Frequency Vibration-Cutting

What is LEV?

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](#)

NYLON