

# Prepare to Prove-Out

- Read CNC program



- Know where E Stop is



- Workpiece and work holding secure

Check vices fixtures chucks are all fixed down securely. Make sure workpiece is held securely.

- Make Sure All screens are clean



Cracked and broken screens should be replaced. Take time to get good visibility.

- Good coolant supply



You need a good coolant supply to all tools. Remember you may need coolant off for visibility when proving the program.

- Tools are set and ready to use



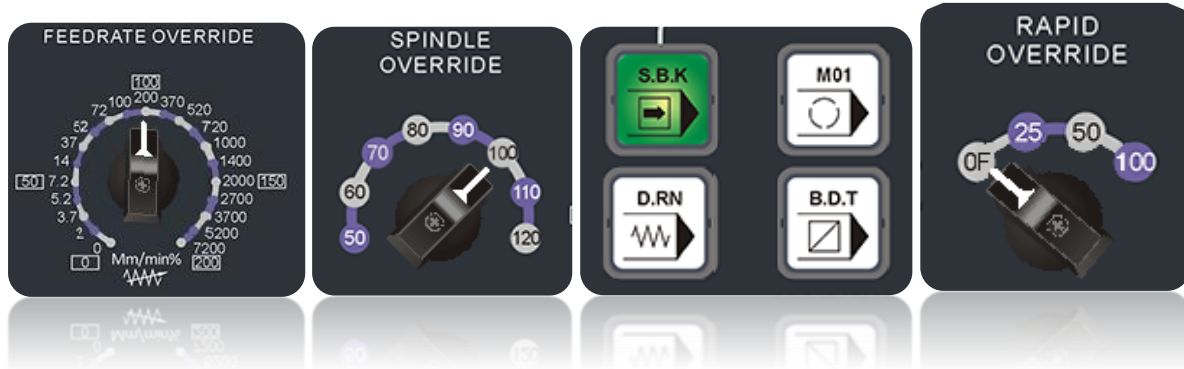
Tools should be set up with a coolant supply and measured with new inserts if needed.

Tools should be in good condition correct lengths. All tools should be measured and ready to use

Work datum is set

Work datum should be set in the control.

# Control Panel Ready To Prove out

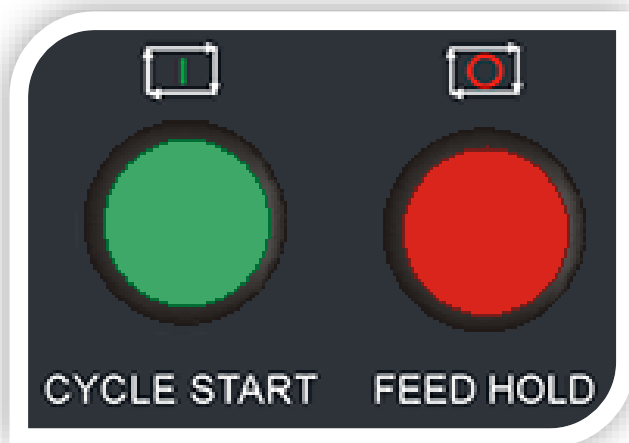


100% Feedrate Spindle Override

Single block (SBK) Active

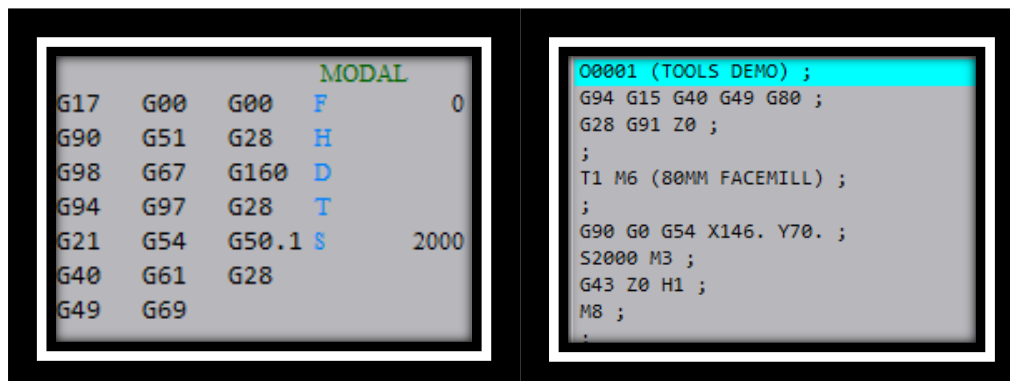
Rapid Lowest Setting

Use cycle start and feed-hold



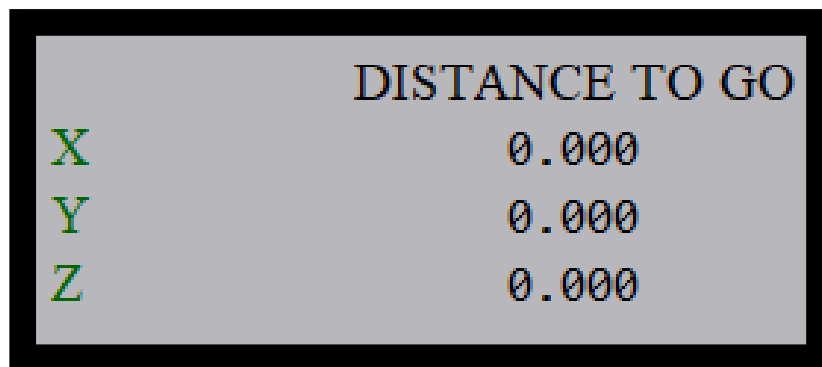
These buttons start and hold the axis of the machine

The Check screen Display Should Show

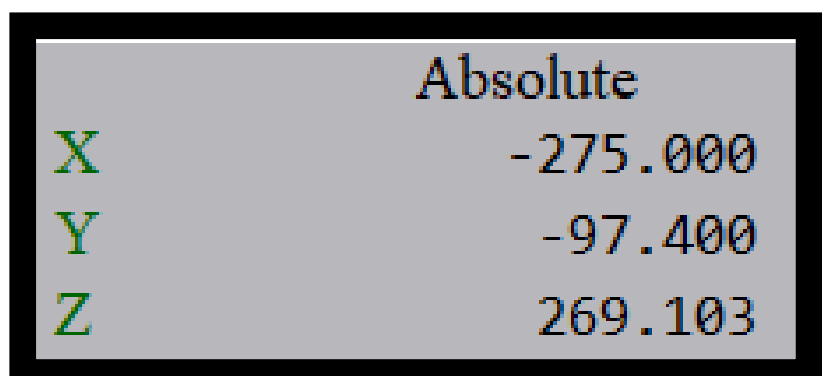


Modal G codes

Program



How far the axis have left to travel



Actual position of the machine

## Check screen

PROGRAM				00603 N00000	
RELATIVE		ABSOLUTE		F 0 MM/MIN	
X	-350.000	X	-35.000	PART COUNT 7 DRN F 5000	
Y	-350.000	Y	-85.000	RUN TIME 0 H 59 M 40 S	
Z	-150.772	Z	269.701	CYCLE TIME 0 H 0 M 0 S	
MACHINE		DISTANCE TO GO		PROGRAM	
X	-350.000	X		BC:	
Y	-350.000	Y		00603 ( ) ;	
Z	-150.772	Z		N1 G17 G40 G49 G80 ;	
				M06 T01 S500 ;	
				G54 G90 G00 X83.333 Y23.333 M03 ;	
				G43 Z10. H1 M08 ;	
				G00 Z5. ;	
				G01 Z-2. F500. ;	
				X23.333 ;	
				Y-23.333 ;	
				X-23.333 ;	
				Y23.333 ;	
				A>	
				S 3000 T 0001	
				MEM **** * * * * 10.19.46	
PRGRM DIR NEXT CHECK (OPRT) +					

All CNC Machines will have some kind of check screen

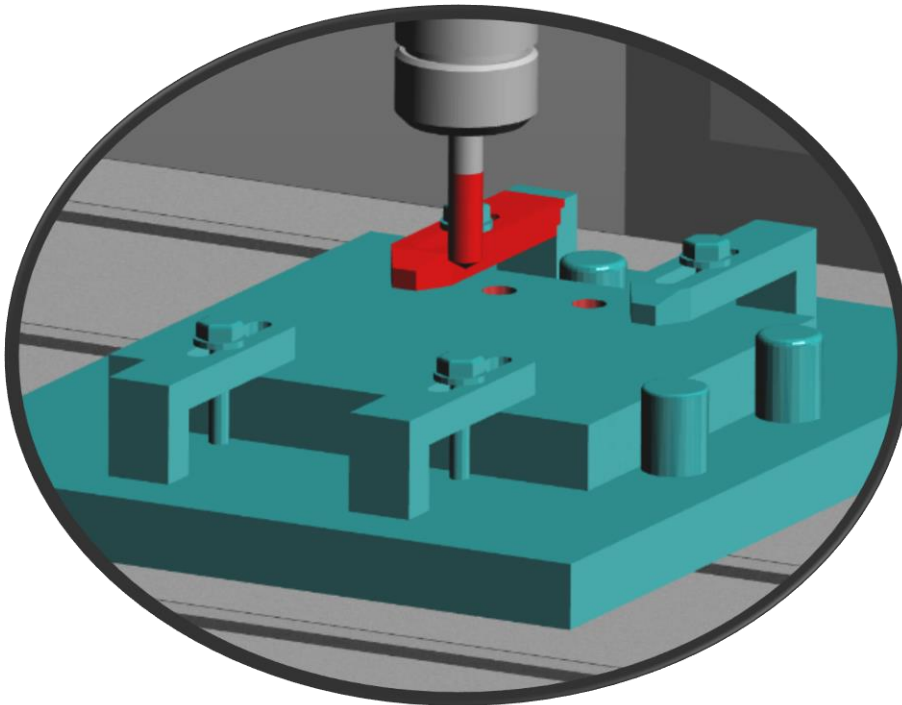
## Know where E Stop is



Know where the Emergency Stop Button is

# **CAM System (Computer Aided Manufacture)**

- CAM systems create CNC programs from line drawings or solid models
- You can simulate the program with a CAM system
- Most CAM systems will check for collisions.



- CAM systems rely on an accurate Post Processor to create the CNC code.
- You can program with a CAM system with only a basic understanding of G Code programming
- Much quicker than programming long hand

# Modes of a CNC Machine



Zero Return used when machine is first turned on to find its correct position



Rapid, all axis move at maximum speed



Manual Data Input (MDI) used to issue short lines of program such as tool change, turn on spindle, move to a position.





Jog, machine moves to a position at a feedrate controlled by the dial below.



Use these buttons to make rapid and jog moves



Handle sometimes called MPG (manual pulse generator) move axis with handwheel below. Select an axis and an increment.



Edit is used to input, alter, delete programs. Input and output programs from memory.



We run our programs in this mode



In DNC you can run programs straight from a PC sometimes known as drip-feed.