



# How to Operate Controller on a Hardinge Indexer

Outline the steps in how to use the Hardinge Indexer controller for the VMC2. Start up, operation, programming, running and file maintenance.

Written By: Pat Fitzsimmons



## Step 1 — Initial power up



- Verify controller is connected to the indexer, 120v supply, the computer module, and the 2 cables to the indexer
- Verify air line is connected and the supply is at 90PSI
- Turn on the power on the rear of the unit and release the "E-STOP" located on the front of the unit
- Once powered up the initial screen will appear.
- Press "CYCLE START" to get to the manual mode screen.
- Press "ZERO RETURN" to home the indexer. The display will be in the program screen, once homed.

## Step 2 — Basic operation



JOG SPEED TABLE

0 = 7.32 degrees/sec	0.001 degrees/ step
1 = 8.14 degrees/sec	0.010 degrees/step
2 = 9.16 degrees/sec	0.100 degrees/step
3 = 10.46 degrees/sec	1.000 degrees/step
4 = 12.21 degrees/sec	5.000 degrees/step
5 = 14.65 degrees/sec	10.000 degrees/step
6 = 18.31 degrees/sec	15.000 degrees/step
7 = 24.41 degrees/sec	20.000 degrees/step
8 = 36.62 degrees/sec	25.000 degrees/step
9 = 73.24 degrees/sec	20.000 degrees/step

- To enter manual mode press a "JOG" key
- If needed, use the jog key to move to a new desired home position and press and hold the "CLR" key for 3 seconds to set a new home position.
- In manual mode, the "P" display refers to the angular position from home.
- "JOG SPEED" references the speed or the increment of movement when using the jog keys.
- The jog speed can be changed by entering a number 0-9. See chart above. Pressing the jog button once will rotate the degrees per step and holding the jog button will rotate at degrees per second.



### Step 3 — Clearing a program



- Go into program mode by pressing the "MODE RUN PROGRAM" Key
- To clear the current program press and hold the "CLEAR-ZERO SET" key for 5 seconds.
- Enter program mode by pressing the "MODE RUN PROGRAM " Key to access program mode. The readout should have 4 lines of text.

### Step 4



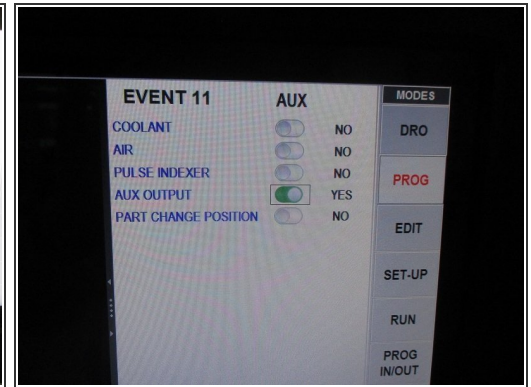
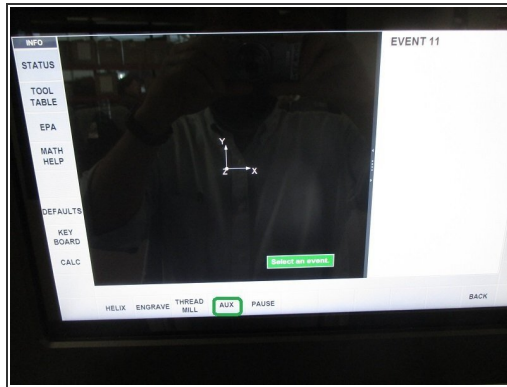
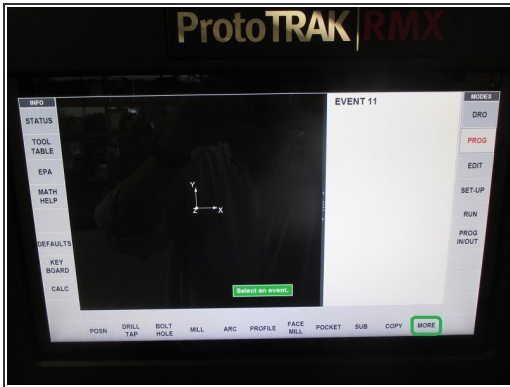
- Press the "DISPLAY SCAN" key to move the cursor to the "G" and press the "-" key. Input your new program number and press "Mode" key to begin.
- The screen will read "NEW PROGRAM" and then enter program mode.

## Step 5 — Writing a program



- Verify you are in program mode by pressing the "MODE RUN PROGRAM " Key if required to access program mode. The readout should have 4 lines of text.
- N001 is step 1, S is angular position, G code for function, F for feed rate, L for loop count. then step 2.
- Input "S", "G", and "F" for each move of the indexer. Note; this model indexer has a 300.000 max feed rate.
- There are 4 main "G CODES" used, G28 return home, G90 absolute position, G91 incremental position and G99 end of program
- You can move between text with the arrow keys and use up and down arrows to move to the next 2 lines of program.
- The last 2 steps of program on the indexer, should be G28 and then G99

## Step 6 — VMC2 program



- In order to use the indexer, you must have the auxiliary function option.
- When programming the VMC2; press the more soft key, and then auxiliary function and slide aux output key to yes.
- This step is required to have the indexer rotate per the program in the indexer.
- Repeat the aux function for each time you need to index the part.

## Step 7 — Running a program



- Enter run mode
- Line 1 shows the (N) step, (G) G-CODE. (P) Commanded position. Line 2 shows the (F) commanded feed. (L) loop count. (PR) Program number. Line 3 shows the current position and Line 4 reports any alarm messages.
- Press cycle start on indexer control as required until step 1 is active on the indexer run screen.
- Run RMX control as normal.



## Step 8 — File management



- While in program edit mode, press and hold the "SCAN DOWN KEY" for 3 seconds to enter the FILE UTILITIES menu.
- Follow directions on screen to move files between memory and USB device.