

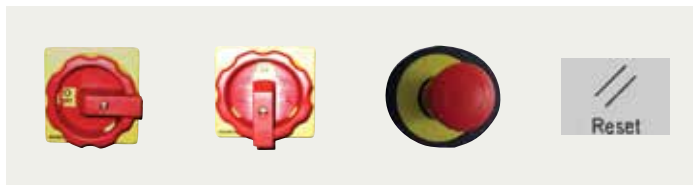
# SINUMERIK 828D / 840D sl quick reference chart

## Jog functions

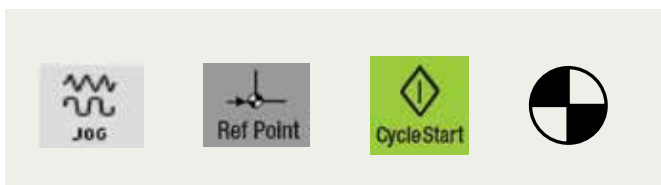


### 1. Power up with reference procedure (machine-dependent)

Initial power up — switch the main disconnect switch to on — wait for the entire system to boot up — release the e-stop to power up the servos — press Reset to clear all alarms (no alarms should be displayed after reset is complete).



Referencing the machine tool (homing) is only necessary if the machine doesn't have absolute encoders. Select Jog — then Ref. Point — Cycle Start. The machine's movement can be different based upon the machine tool builder — typical motion on a 3-axis milling machine is the Z-axis to MCS, Y-axis to MCS, finally X-axis to MCS. Refer to the OEM's documentation before executing.



## 2. Jog mode

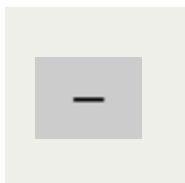
**Jog Buttons** — Once in Jog mode, select the desired axis for motion (indicator light should turn on above the axis button) — select the desired distance (if no distance modifier is selected then axis will continue to move while +/- button is depressed) — select the + or - buttons to begin axis motion in a desired direction.



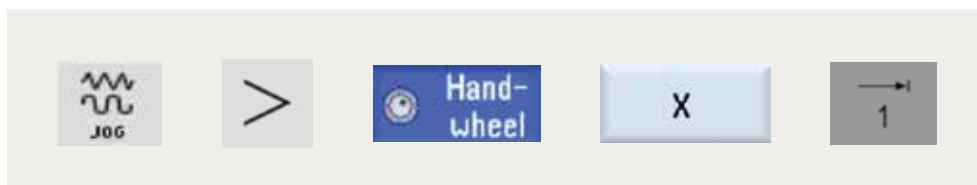
OR



OR



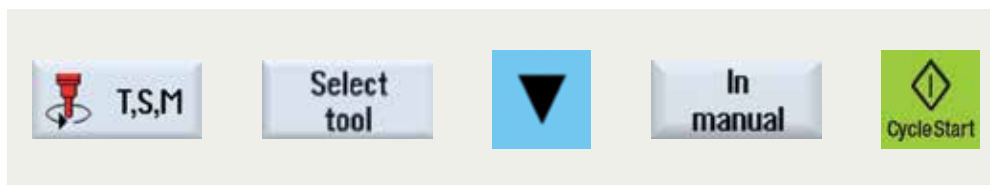
**Handwheel** — operation may vary based upon the OEM — in Jog mode, expand the screen to access the Handwheel button — select the desired axis of motion — pick the increment distance — then begin turning the handwheel to achieve the desired machine movement.



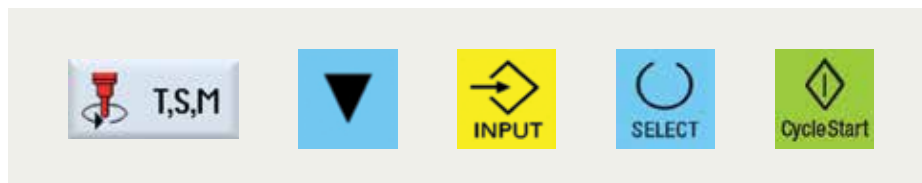
### 3. TSM functions — use the TSM mode to perform the operations below

T,S,M	
T	D 1
Spindle	rpm
Spindle M function	
Other M funct.	
Work offset	
Unit of measure.	
Machining plane	

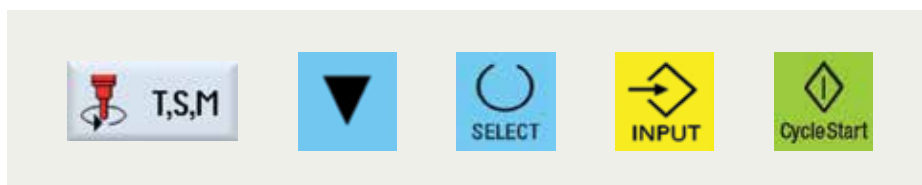
**Tool change** — use Select tool to enter the tool table — arrow down to the desired tool — press In manual (the T field will be filled out with the appropriate tool name) — press Cycle Start to execute.



**Spindle commands** — to turn the spindle on at a specific RPM — arrow down to the Spindle field — type in the desired RPM value (if CSS is an option use the select key to toggle between RPM or CSS) press Input — use Select key to define spindle direction — then press Cycle Start.



**Loading Work Offsets** — arrow down to the Work offset field — use the Select key to toggle to the desired work offset number — press Input to enter the command — Cycle Start to execute — the new loaded offset number should appear just above the T,S,M in the middle of the screen.

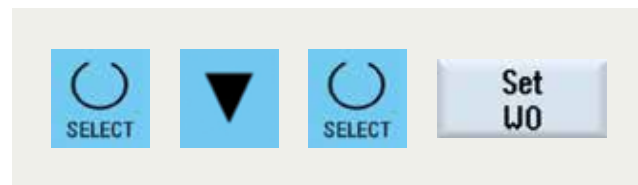


**4. Work offset zero set milling**

When setting a part zero, first tool change to a setup tool (e.g. an edge finder) — select the Measure workpiece function — pick the single edge option in the upper right corner of the screen — pick the desired axis to set with the axis buttons on the right — use the Select key to toggle the work offset — arrow right to select the correct work offset number.



Then arrow down to define the direction of measure — use Select to toggle between +/- for the position tool — arrow down and enter final value of the edge being measured (if the correct diameter is set for the edge finder in the tool table, then it will be automatically compensated for) — manually move the tool to the edge of the part — once at the edge, press Set WO.



**5. Tool offset setup milling**

Select Measure tool — then Length manual — the tool field will display the current tool in the spindle (use Select tool to perform a tool change, if required) — arrow down to ref. point and Select workpiece — arrow down to Z0 and define touch off position — then press Set length.



Arrow down to ref. point and Select workpiece — then arrow down to Z0 and define the touch off position — then press Set length.



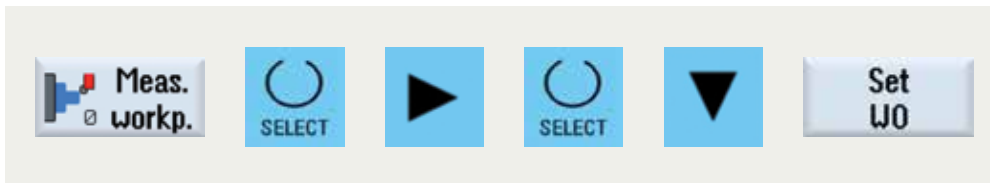
## 6. Tool offset setup turning

Select Measure tool — Manual — pick the desired axis for setup — if needed, use the tool change field to select a different tool — arrow down to X or Z field — then define the value to set (x-axis is typically set as a measured diameter) — finally select Set length.



## 7. Work offset zero set turning

Select Measure workpiece — use the Select key to pick work offset — arrow to the right to select the desired work offset — arrow down to Z0 field and enter the desired position (this will modify all of your tools while the work coordinate is loaded) — press Set WO.

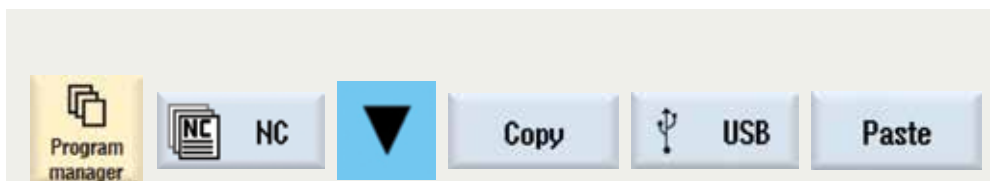


## Program manager functions



## 8. USB support

Copying programs to a USB stick — from program manager, access the NC folder — arrow down to the desired file (use the right arrow to access sub-folders) — with the highlight on the file, select Copy — now press the USB button (USB stick must be plugged in) — select Paste.



Copying programs from a USB stick— from program manager, access the USB — arrow down to the desired file (use right arrow to access sub-folders)

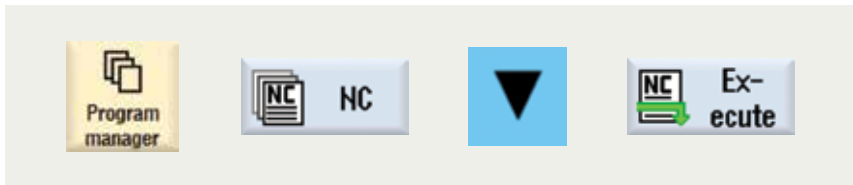


With the highlight on the file, select the Copy button — now select the NC key — arrow down to the desired directory to copy into — select Paste.



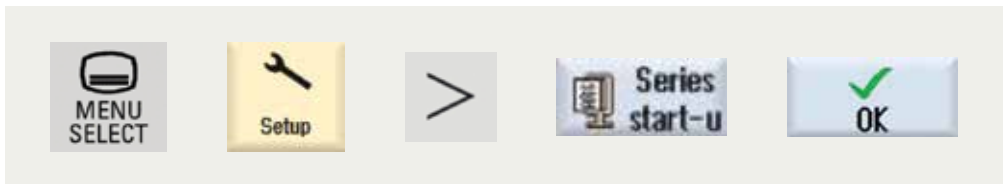
**9. Loading a program for Auto Mode**

In Program manager, select the NC button — arrow down to the desired file for auto mode (use right arrow to access sub-folders) — with the file highlighted, select the Execute key in the upper-right corner.



**10. Creating a backup archive**

Enter the setup mode through Menu Select — extend the function keys with the arrow key next to Menu Select — press Series start-up — select the desired data to be saved (typical selection User, NC, PLC and Drive data) — press Generate archive — select the destination location for the new file — press OK.



## 11. Starting a new program

From Program manager, select NC — arrow down to the directory you would like to create your program in (use right arrow to access sub-folders) — select the New key — pick either ShopMill or programGUIDE — type in the desired file name (no spaces) — press OK.



OR



## Program manager functions

### 12. Jog



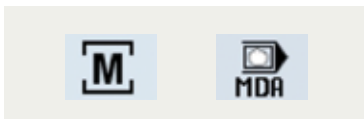
### 16. Offset (shortcut to tool and WO tables)



### 13. Auto



### 14. MDA (MDI)



### 15. Program (shortcut to last edited program)



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