

The XNC Editor allows the use of commands that can be directly typed in from the Editor environment and without using the data entry boxes as we have shown until now. These commands are used to modify machining operations or to vary the execution flows of instructions within the program itself.

This command is used to jump from one program row to another row that is marked with the ***corresponding label***. This label must be a number between 1-49 and the jump command is ***JM***.

- **Unconditional jump**: the program always jumps to the specified label [**JM**(*label*)]
- **Conditional jump**: the program jumps to the specified label only if certain conditions have been met [**JM**(*condition*)(*label*)].

- **Conditional jump:** jumps if the condition has been met [JM]
- **Denied conditional jump:** jumps if the condition has not been met [JM!]

- **AND Operator:** 1<sup>st</sup> AND 2<sup>nd</sup> condition [~]
- **OR Operator:** 1<sup>st</sup> condition OR 2<sup>nd</sup> condition [#]

Unconditional jump	Conditional jump	Denied conditional jump	Conditional jump with operator
N20 JM:1	N20 JM(LPX>100):1	N20 JM!(LPX>100):1	N20 JM(LPX>100~LPY<200):1
:1	:1	:1	:1

*unconditional jump*

[illegible]

*conditional jump*

N10 JM(LPX>1000):10	jump to label :10 if the length of the piece
N20 -----	is greater than 1000 mm.
:10	

## conditional jump with logic operators

N10 JM (LPX>300 ~ LPX<1000):10	jump to label :10 if the length of the piece
N20-----	is between 300 and 1000 mm (inclusive).
:10	

N10 JM(LPX<500 #LPX>1000):10  
N20-----  
:10

jump to label :10 if the length of the piece  
is outside the field between  
500 and 1000 mm (inclusive).

*Denied conditional jump:*

N10 JM! (LPX>1000):10  
N20-----

**no** jump to label :10 if the length of the piece  
is greater than 1000 mm.

### 3.14.2 – ROTATE COMMAND

This is used to rotate the required machining figures by a specified angle. There are two types of rotation:

- **Incremental rotation by angle  $\alpha$ :** Rotation by an incremental angle  $\alpha$  [**RTI $\alpha$** ].
- **Rotation by angle  $\alpha$ :** Rotation by an angle  $\alpha$  [**RT $\alpha$** ].

This command must be inserted at the end of the row containing the object to be rotated. For example:

N20 XO=XO+200 YO=YO+200 L=QUAD **RTI45**

This instruction rotates the QUAD subprogram figure by 45° (incremental).

### 3.14.3 – REPEAT COMMAND

This is used to repeat the required machining figures by a specified number of times.

This command must be inserted at the end of the row containing the object to be rotated. For example:

N20 XO=XO+200 YO=YO+200 L=QUAD **RP3**

This instruction repeats the QUAD subprogram figure 3 times.

### 3.14.4 –“SCALE TO” COMMAND

This is used to redimension a machining operation in scale and can be one of four types:

- **“Scale” all axes:** Redimensions all axes [**SF=x.x**].
- **“Scale” X axis:** Redimensions the X axis only [**SX=x.x**].
- **“Scale” Y axis:** Redimensions the Y axis only [**SY=x.x**].
- **“Scale” Z axis:** Redimensions the Z axis only [**SZ=x.x**].

This command must be inserted before the row containing the object to be redimensioned, for example:

**N20 SF=0.5**  
N30 XO=XO+200 YO=YO+200 L=QUAD

This instruction reduces the QUAD subprogram figure by half on all of the axes.

### 3.14.5 –“M” COMMANDS

M	Description	Comment
M0	Reset all enabled M commands	
M20	Command the spindle motor to switch off	
M50	Start a tool change (C.U.) cycle	
M51	Close a tool change (C.U.) cycle	
M60	Wait for operations to end on RBT and BT magazines.	When the interpreter arrives at this instruction, it stops and will proceed only when all magazine operations have been completed.
M61	Wait for operations to end on BC magazine.	
M62	Wait for operations to end on TR magazine (chain).	
M63	Park the RV 30 tool change (C.U.) shuttle.	
M64	Restore the RV 30 tool change (C.U.) shuttle stand-by position.	
M67	Wait for machine-board magazine tool change (C.U.) command to be completed.	When the interpreter arrives at this instruction, it stops and will proceed only when all machine-board (BM) tool magazine operations have been completed. <i>This can be used only within a tool change cycle.</i>
M68	R27 change belt tool	When the interpreter arrives at this instruction, it stops and will proceed only when all magazine operations have been completed.
M200	Suspension for new piece lock (M200) or no lock (M212)	RV 336L. In cases of long pieces on two centres, the M200 (or M212) instruction must be inserted into the program section for each centre in order to synchronise both centres.
M201	Suspension to translate panel to new origin (M201) or to new row of stops (M203).	Suspends the centre to shift the piece onto the new origin (M201). This is valid only for long pieces in order to command the TD (Double Tandem = DT) function.
M203	Suspension to change row of stops.	
M211	PLC-NC synchronisation.	
M212	Centre suspension without piece release.	
M213	Centre suspension for pallet test run.	
M214	Insertion instruction.	
M255	Tracing	