

2.9.27 HOLE PATTERN CYCLE (G70, G71, G72) - (CONT'D)

Line at angle cycle (G72)

When the following command is given, the tool is positioned successively at L points lying on a line forming J degrees with the X axis, with a uniform interval of I, starting at X, Y.

G72 X... Y... I... J... L... ;

X, Y: Coordinates of the starting point, either in G90 or G91 mode

I: Interval is programmed in degrees, at an accuracy of the least input increment. When I is negative, the holes will be located on the line in the negative direction.

J: Angles programmed with an accuracy of 0.001 degrees. Positive values are used for CCW direction.

L: Number of holes programmed in positive numbers.

The machining control of G70, G71 or G72 ends with the drilling of the last hole, and to move the tool to the next position, the G90 (absolute) mode is more convenient than the G91 (incremental) mode, because the latter involves complicated calculations.

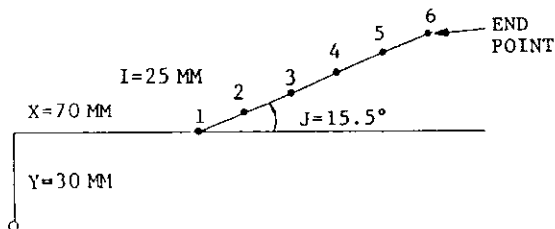
Immediately after the completion of the machining process as commanded by G70, G71 or G72, the canned cycle is still effective, and care must be taken in programming the subsequent block. Make it a point to cancel the canned cycle by G80.

If G70, G71 or G72 command is given in the tool radius compensation mode (G41 or G42), the ALARM code will be displayed.

G70, G71 and G72 are non-modal G codes.

Give G70, G71 or G72 command in a canned cycle mode only. If they are given without programming any canned cycle, the ALARM code will be displayed.

EXAMPLES



G81 G98 G90 Z-50. R-20. F20. L0 ;

G72 X70. Y 30. I25. J15.5 L6 ;

G80 G00 X0 Y0 ;

Fig. 2.79

NOTES:

When the hole pattern cycles are to be programmed with G70, G71 or G72, in principle, a canned cycle G73, G74, G76, G77, G81 to G89 should be programmed with L = 0 in the preceding block. Since L = 0, the canned cycle is not executed, but its mode becomes effective.

G70, G71 or G72 may be programmed in the same block with a canned cycle G code. However G73 and G83 which involve I, J, and K can not be programmed with G70, G71 or G72 in the same block. When G73 or G83 is to be used, either Q is to be used or I, J, and K should be programmed in the preceding block.