

## Polar Coordinates

Polar coordinates use G15 and G16 commands. G15 is the default, and turns the polar coordinate mode OFF. G16 turns it ON. The *pivot point* (also known as the *point of rotation*) must be established in G15 mode.

For any fixed cycle, the *X* address represents the radius, the *Y* address represents the angle. Absolute or incremental mode of programming is acceptable.

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(27-06.NC)
(X0Y0 = LL CORNER OF PLATE)
(T01 - 7 MM DIA SHORT DRILL)

N1 G21
N2 G15 G17 G40 G80
N3 G90 G54 G00 X50.0 Y50.0 S1000 M03          (CENTER OF ROTATION)
N4 G43 Z10.0 H01 M08
N5 G16                                          (POLAR COORDINATE MODE ON)
N6 G99 G81 X35.0 Y0 R2.0 Z-14.1 F125.0        (HOLE 1 OF 8)
N7 X35.0 Y45.0                                (HOLE 2 OF 8)
N8 X35.0 Y90.0                                (HOLE 3 OF 8)
N9 X35.0 Y135.0                               (HOLE 4 OF 8)
N10 X35.0 Y180.0                              (HOLE 5 OF 8)
N11 X35.0 Y225.0                              (HOLE 6 OF 8)
N12 X35.0 Y270.0                              (HOLE 7 OF 8)
N13 X35.0 Y315.0                              (HOLE 8 OF 8)
N14 G15                                          (POLAR COORDINATE MODE OFF)
N15 G80 Z1.0 M09
N16 G28 Z1.0 M05
N17 M30
%
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Note the addition of G15 in the safety block (N2). If the program is interrupted before G15 is reached, this block will cancel polar coordinates for the next repeat of the program. Some controls may require the G15/G16 commands to be programmed in a separate block.