

Pattern of 10 Holes

The program for the ten hole pattern incorporates fixed cycles G82 and G81 and repetitive count *L* (some controls use *K* instead). The first tool starts at the lower left hole, the second tool reverses the order of operations.

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(27-02.NC)
(TOOL CHANGE AT START)

(T01 - 0.5 DIA SPOT DRILL - 0.01 CHAMFER)
N1 G20
N2 G17 G18 G40 T01
N3 M06
N4 G90 G00 G54 X0.5 Y0.375 S1600 M03 T02
N5 G43 Z1.0 H01 M08
N6 G99 G82 R0.1 Z-0.135 P100 F6.0
N7 G91 X1.0 L3
N8 G90 X3.0 Y0.875
N9 G91 X-1.0 L2
N10 G90 X1.5 Y1.375
N11 X2.5
N12 X2.0 Y1.875
N13 G80 Z1.0 M09
N14 G28 Z1.0 M05
N15 M01

(T02 - 0.25 DIA DRILL)
N16 T02
N17 M06
N18 G90 G00 G54 X2.0 Y1.875 S1200 M03 T01
N19 G43 Z1.0 H02 M08
N20 G99 G81 R0.1 Z-0.625 F10.0
N21 X2.5 Y1.375
N22 X1.5
N23 X1.0 Y0.875
N24 G91 X1.0 L2
N25 G90 X3.5 Y0.375
N26 G91 X-1.0 L3
N27 G90 G80 Z1.0 M09
N28 G28 Z1.0 M05
N29 X-2.0 Y10.0
N30 M30
%
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➡ Answers to questions:

1. For 1/4-20 tap, the tap drill will be #7 (0.201 dia). Also, there would be an additional tool in the program - a plug tap.
2. For 0.25 / 0.201 drills, a chamfer larger than 0.015x45 may be too large, but up to 0.02 may be acceptable.
3. Repetitive count L or K in incremental mode and a subprogram method are the two most common methods.