

## Circular Pockets

The suggested version of the part program is documented in detail. Follow the internal program comments to understand the programming approach.

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(39-06 - CIRCULAR POCKETS)
(T03 - H03 = 3.0 DIA FACE MILL)
(T06 - H06 = 0.625 DIA CENTER-CUTTING END MILL - RGH D66=0.3275 - FIN D56=0.3125)
(T02 - H02 = 0.375 DIA CHAMFERING TOOL AT Z-0.1 WITH D52=0.145)

(T03 - H03 = 3.0 DIA FACE MILL)
N1 G20
N2 G17 G40 G80 T03
N3 M06
N4 G90 G54 G00 X5.8 Y1.0 S3000 M03 T06
N5 G43 Z1.0 H03 M08
N6 G01 Z0 F20.0
N7 X-1.7 F8.0
N8 Y2.0 F20.0
N9 X5.8 F8.0 M09
N10 G00 G28 Z1.0 M05
N11 M01

(T06 - H06 = 0.625 DIA CENTER-CUTTING END MILL - D66=0.3275 - D56=0.3125)
N12 T06
N13 M06
(ROUGHING TOOLPATHS)
N14 G90 G54 G00 X1.0 Y1.25 S2000 M03 T02 (MOTION TO 1.5 DIA POCKET - ROUGHING)
N15 G43 Z1.0 H06 M08 (INITIAL Z-CLEARANCE)
N16 G01 Z0.11 F20.0 (Z-POSITION FOR ROUGHING - ALL POCKETS)
N17 M98 P3976 D66 (ROUGH 1.5 DIA POCKET)
N18 G91 G00 X1.9968 Y0.7268 (MOTION TO 1.25 DIA POCKET - ROUGHING)
N19 M98 P3977 D66 (ROUGH 1.25 DIA POCKET)
N20 G90 G00 X2.5 Y0.625 (MOTION TO 0.7 DIA POCKET - ROUGHING)
N21 M98 P3978 D66 (ROUGH 0.7 DIA POCKET)
(FINISHING TOOLPATHS)
N22 G90 G00 X1.0 Y1.25 Z0.1 (MOTION TO 1.5 DIA POCKET - FINISHING)
N23 M98 P3976 D56 (FINISH 1.5 DIA POCKET)
N24 G91 G00 X1.9968 Y0.7268 (MOTION TO 1.25 DIA POCKET - FINISHING)
N25 M98 P3977 D56 (FINISH 1.25 DIA POCKET)
N26 G90 G00 X2.5 Y0.625 (MOTION TO 0.7 DIA POCKET - FINISHING)
N27 M98 P3978 D56 (FINISH 0.7 DIA POCKET)
N28 G90 G00 Z1.0 M09
N29 G28 Z1.0 M05
N30 M01

(T02 - H02 = 0.375 DIA CHAMFERING TOOL - D52)
N31 T02
N32 M06
N33 G90 G54 G00 X1.0 Y1.25 S3000 M03 T03 (MOTION TO 1.5 DIA POCKET - CHAMFERING)
N34 G43 Z1.0 H02 M08 (INITIAL Z-CLEARANCE)
N35 G01 Z0.325 F20.0 (Z-POSITION FOR CHAMFERING 1.5 DIA POCKET)
N36 M98 P3976 D52 (CHFR 1.5 DIA POCKET - 0.1 DP D52=0.145)
N37 G91 G00 X1.9968 Y0.7268 Z-0.075 (MOTION TO 1.25 DIA POCKET - CHAMFERING)
N38 M98 P3977 D52 (CHFR 1.25 DIA POCKET - 0.1 DP D52=0.145)
N39 G90 G00 X2.5 Y0.625 Z0.15 (MOTION TO 0.7 DIA POCKET - CHAMFERING)
N40 M98 P3978 D52 (CHFR 0.7 DIA POCKET - 0.1 DP D52=0.145)
N41 G90 G00 Z1.0 M09
N42 G28 Z1.0 M05
N43 M30
%
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O3976 (1.5 POCKET SUB)
N1 G91 G01 Z-0.425 F5.0
N2 G41 X0.05 Y-0.7 F8.0
N3 G03 X0.7 Y0.7 I0 J0.7
N4 I-0.75 J0
N5 X-0.7 Y0.7 I-0.7 J0
N6 G40 G01 X-0.05 Y-0.7
N7 G00 Z0.425
N8 M99
%
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(MAIN PROGRAM CONTROLS ACTUAL Z-DEPTH)
(LINEAR LEAD-IN WITH G41)
(LEAD-IN RADIUS IS 0.7)
(FULL CIRCLE MILLING)
(LEAD-IN RADIUS IS 0.7)
(LINEAR LEAD-OUT WITH G40)
(RETRACT TO THE STARTING POSITION)
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O3977 (1.25 POCKET SUB)
N1 G01 Z-0.35 F5.0
N2 G41 X0.045 Y-0.58 F8.0
N3 G03 X0.58 Y0.58 I0 J0.58
N4 I-0.625 J0
N5 X-0.58 Y0.58 I-0.58 J0
N6 G40 G01 X-0.045 Y-0.58
N7 G00 Z0.35
N8 M99
%
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(MAIN PROGRAM CONTROLS ACTUAL Z-DEPTH)
(LINEAR LEAD-IN WITH G41)
(LEAD-IN RADIUS IS 0.58)
(FULL CIRCLE MILLING)
(LEAD-IN RADIUS IS 0.58)
(LINEAR LEAD-OUT WITH G40)
(RETRACT TO THE STARTING POSITION)
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O3978 (0.7 POCKET SUB)
N1 G91 G01 Z-0.25 F5.0
N2 G41 X0.01 Y-0.34 F8.0
N3 G03 X0.34 Y0.34 I0 J0.34
N4 I-0.35 J0
N5 X-0.34 Y0.34 I-0.34 J0
N6 G40 G01 X-0.01 Y-0.34
N7 G00 Z0.25
N8 M99
%
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(MAIN PROGRAM CONTROLS ACTUAL Z-DEPTH)
(LINEAR LEAD-IN WITH G41)
(LEAD-IN RADIUS IS 0.34)
(FULL CIRCLE MILLING)
(LEAD-OUT RADIUS IS 0.34)
(LINEAR LEAD-OUT WITH G40)
(RETRACT TO THE STARTING POSITION)
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