

Open Slot

The selection of the tool size is a decision to select an end mill that will leave a suitable stock for finishing. The most common approach to cut an open slot is described in the comments within the listed program.

Note that the $\varnothing 0.5$ end mill will leave 0.125 stock for finishing, whereby the $\varnothing 0.625$ end mill will leave only 0.0625 stock for finishing. To maintain precision over a large number of parts, use a separate tool for finishing.

(33-01 - OPEN SLOT PROJECT)

(1/2 DIA OR 5/8 DIA END MILL IN THE SPINDLE)
(X0Y0 LOWER LEFT CORNER - Z0 AT THE TOP)

N1 G20	(ENGLISH UNITS)
N2 G17 G40 G80	(STARTUP BLOCK)
N3 G90 G54 G00 X-0.5 Y1.0 S800 M03	(RAPID TO START POSITION)
N4 G43 Z-0.19 H01 M08	(LEAVE 0.010 ON THE BOTTOM)
N5 G01 X2.5 F15.0	(ROUGH CUT TO ARC CENTER)
N6 G00 Z0.1	(RETRACT ABOVE PART)
N7 X-0.5	(RETURN TO START)
N8 G01 Z-0.2	(FEED TO THE BOTTOM OF SLOT)
N9 G41 Y0.625 D01	(LEAD-IN TO BOTTOM WALL)
N10 X2.5 F12.0	(CUT BOTTOM WALL)
N11 G03 Y1.375 R0.375	(CUT SLOT RADIUS)
N12 G01 X-0.5	(CUT TOP WALL)
N13 G40 G00 Y1.0 M09	(LEAD-OUT - CANCEL OFFSET)
N14 G28 X-0.5 Y1.0 Z1.0 M05	(RETURN TO MACHINE ZERO)
N15 M30	(END OF PROGRAM)
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