

Drawing Name	Assignment Part 1
Material	Aluminium Alloy
Program by	Arian Hackford
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Tooling and Setup Data
Tool 2 - End Mill 12mm, 40mm length
Tool 5 - Twist Drill 4mm
Tool 6 - Twist Drill 5mm

N	G	M	X	Y	Z	R	F	Comments
1	G80							Make sure no canned cycles are active
2		M09						Ensure coolant is off
3		M03					S1200	Set spindle direction to clockwise
4		M06	T02					Sets Tool 2 - 12mm End Mill
5	G41		D02					Cutter radius compensation for tool 2
6	G43		H02					Tool length compensation for tool 2
7	G54							Sets coordinate one, to start at datum point
8	G90							Absolute axis movement
9	G00		X0	Y0	Z-4			Moves tool into position to start cutting
10	G91							Incremental axis movement
11	G01		X0	Y24			F120	Linear movement up
12			X18	Y18				Linear movement for 45 degree edge
13			X61					Linear movement to right
14	G03		X6	Y-6		R6		Anti-clockwise movement for R6 corner
15	G01			Y-26				Linear movement down
16	G02		X-10	Y-10		R10		Clockwise movement for R10 corner
17	G01		X-75					Linear movement left
18					Z-4			Linear movement down to bottom of part
19			X0	Y24				Linear movement up
20			X18	Y18				Linear movement for 45 degree edge
21			X61					Linear movement to right
22	G03		X6	Y-6		R6		Anti-clockwise movement for R6 corner
23	G01			Y-26				Linear movement down
24	G02		X-10	Y-10		R10		Clockwise movement for R10 corner
25	G01		X-75					Linear movement left
26	G90							Absolute axis movement
27	G00		X0	Y0	Z15			Rapid movement to 15mm above part
28			X20	Y10				Moves to first hole position
29		M06	T05					Changes to tool 5, 4mm twist drill
30	G40							Cancels cutter radius compensation
31	G43		H05					Sets tool length compensation for tool 5
32	G83	G98	Z-8	R1	Q4			Canned pecking drill cycle, total depth 8mm, start at 1mm from surface, 4mm increments
33				Y20				Repeats canned cycle at Y20
34				Y30				Repeats canned cycle at Y30
35	G80							Cancels canned cycle
36	G00		X48.5	Y23				Moved to center of hole pattern
37		M06	T06					Sets tool 6, 5mm twist drill
38	G43		H06					Sets tool length compensation for tool 6
39	G83	G98	Z-8	R1	Q4	L00		Sets pecking drill cycle with zero repetitions
40	G70		I8	J0	L4			Carries out cycle in circular array of 8mm radius, starting at angle 0 degrees, with 4 equal holes
41	G80							Cancels canned cycle
42		M05						Stops spindle