

Simultaneous 5 Axis CAM



Feature

Cutting sample of logo of CGS has been roughed by Z-level Rough Cutting with Multiple Tools with 3+2 axis machining then re-machined with 3D cutting effectively.

To cut the neck portion, undercut area, simultaneous 5axis machining has been utilized. Since undercut curve control along surface of CAM-TOOL achieves machining undercut area with spiral tool paths without any approaches and escapes.

Text area has been machined by Z-level High Efficiency Rough Cutting, Scanning-line Area and Contour Cutting.

[Material] Alluminum (A7075)

[Size] 80mm x 50mm x 55mm

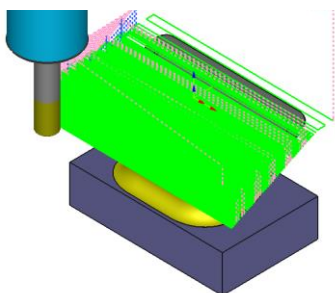
NO.	Process	Tool Dia. (mm)	XY step (mm)	Z step (mm)	Stock (mm)	Speed (r.p.m)	Feed (mm/min)	Cutting time (hh:mm)	
1	Z-level Scan Rough	D10R0.8	4	0.5	0.1	13,000	2,000	0:17	
2	Rough (B90C0)	D10R5	4	0.6	0.1	8,000	2,000	0:26	
3	Rough (B90C180)	D10R5	4	0.6	0.1	8,000	2,000	0:27	
4	Rough (B90C270)	D10R5	4	0.6	0.1	8,000	2,000	0:04	
5	Rough (B90C90)	D10R5	4	0.6	0.1	8,000	2,000	0:08	
6	Rough(Undercut curve control)	D10R5	0.9	—	0.1	10,000	1,000	0:37	
7	Finish(Undercut curve control)	D10R5	0.15	—	0	10,000	1,000	3:19	
8	Semi finish(Scanning)	D6R3	0.4	—	0.06	14,000	1,000	0:11	
9	Semi finish(Scanning)	D6R3	0.08	—	0	14,000	1,000	0:53	
10	Rough/Text	D0.6R0.3	0.25	0.05	0.02	18,000	600	0:58	
11	Chamfer	D0.6R0.3	(0.0005)	—	0	18,000	800	0:15	
12	Second Rough/Text	D0.5	0.04	0.1	0.02	18,000	420	0:11	
13	Finish/Text	D0.5	0.2	—	0	18,000	720	0:13	
14	Finish/Text	D0.5	0.02	—	0	18,000	720	0:11	
15	Rough/Text	D1R0.5	0.2	0.1	0.02	18,000	600	1:43	
16	Rough/Text	D0.5	0.04	0.1	0.02	18,000	420	0:30	
17	Finish/Text	D0.5	0.2	—	0	18,000	720	0:14	
18	Finish/Text	D0.5	0.01	0.5	0	18,000	720	0:25	
19	Finish/Text	D0.5	0.05	0.5	0	18,000	720	0:04	
() cusp height								Total time	11:06

CAM-TOOL

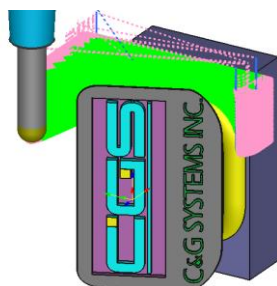
CAD/CAM System for Molds & Dies

Cutting processes

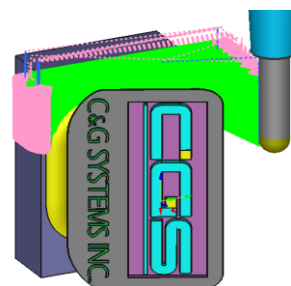
[1.Rough]
Z-level Scanning-line Rough Cutting
D10R0.8



[2.Second Rough]
Z-level Rough Cutting with Multiple
Tools D10R5 Tilt 90 Rot 0



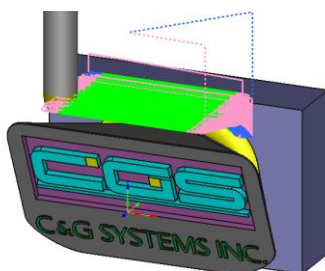
[3.Second Rough]
Z-level Rough Cutting with Multiple
Tools D10R5 Tilt90 Rot 180



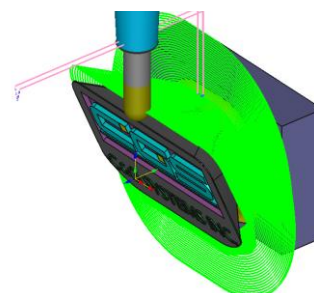
[4.Second Rough]
Z-level Rough Cutting with Multiple
Tools D10R5 Tilt 90 Rot 270



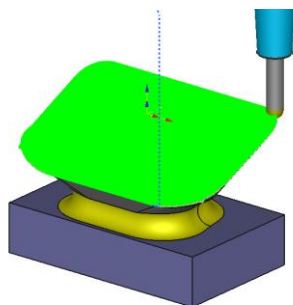
[5.Second Rough]
Z-level Rough Cutting with Multiple
Tools D10R5 Tilt 90 Rot 90



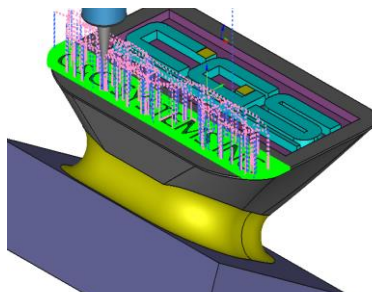
[6.Semi finishing / 7.Finishing]
Undercut curve control along
surface D10R5



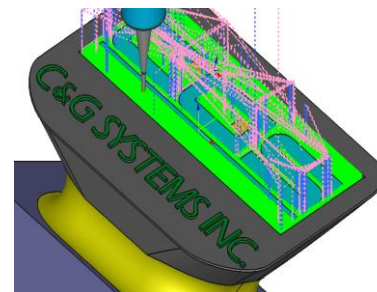
[8.Semi finishing / 9.Finishing]
Scanning-line Area D6R3



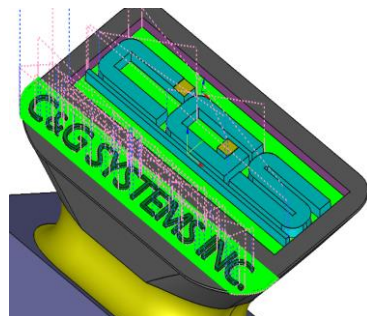
[10.Rough]
Z-level High Efficiency Rough
Cutting D0.6R0.3



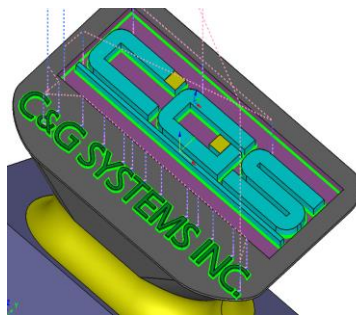
[15.Rough]
Z-level High Efficiency Rough
Cutting D1R0.5



[13,17.Finishing]
Scanning-line Area D0.5



[12,14,16,18.Finishing]
Contour Cutting D0.5



[19.Finishing]
Contour Cutting D0.5

