Application Notes

DATRON DYNAMICS, INC.
454 Route 13
Phone: 603-672-8890
Fax: 603-672-8067

Part: ..... Deep Groove Test Cuts

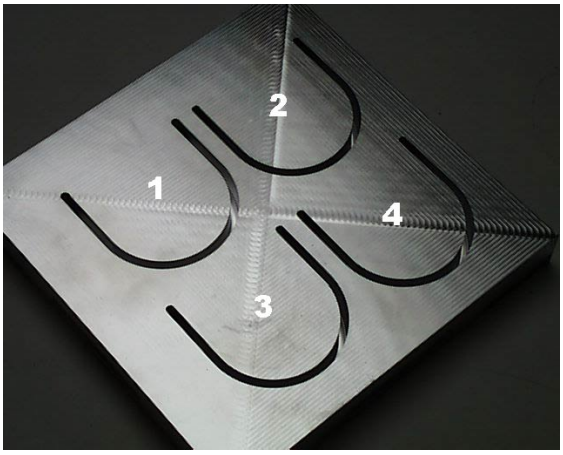
Material: ..... 6061 T6 Aluminum

Machine Used: ..... M8 Raptor

Features Utilized: ..... 2 kwatt High Frequency Spindle & Automatic Tool Length Measurement

Software Used: ..... On-line Datron Macro Programming Language

Total Cycle Time: ..... See Machining Details



Machining Details:

1.) 3mm (.118") dia. single flute end mill at 40,000 rpm / 40 i.p.m. feed - .008" per pass = 8:32 cycle time

2) 2mm (.079") dia. single flute end mill at 50,000 rpm / 30 i.p.m. feed - .0075" per pass = 25:18 cycle time

3) 2mm (.079") dia. single flute end mill at 50,000 rpm / 20 i.p.m. feed - .015" per pass = 21:55 cycle time

4) 2mm (.079") dia. single flute end mill at 50,000 rpm / 30 i.p.m. feed - .015" per pass = 12:58 cycle time

Summary of the Application:

The first test was performed with our standard 3mm (.118") single flute end mill with a cut length of 12mm (.47") as an initial test to see the tool performance. The tests 2 - 4 were done with a modified 2mm (.079") single flute end mill with a 8mm (.315) cut length where the tool shank was relieved to a .075 dia. in order to reach the .600" cut depth. This application is ideal for our machining systems because we are able to offer productive machining times by utilizing the high frequency spindle, tool geometry and coolant system. There were no issues of chip clearing in any of the tests. In conclusion, we feel with an optimized tool (.109" dia.) rather than a modified standard tool we should be able to offer even more substantial time savings than these first initial tests.