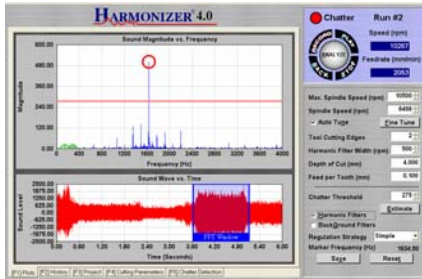


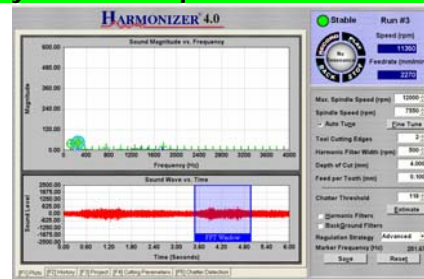
Case Study: Small job shop, 6061 Aluminum

ROI < 60 days

300% Cycle Time improvement in less than 1 hour



Chatter eliminated
using Harmonizer



Spindle: Cat 40
Max RPM: 12000 rpm
Material: 6061 aluminum

Tool Diameter: 0.25"
Tooth count: 2
Tool Material: Carbide

Initial Problem: Chatter while cutting with a long tool (~ 10:1 stickout from collet) in a deep pocket. Customer tested multiple tools, holders, speeds, and feeds over months with minimal success. Feed reduced to minimize chatter.

Initial Process (1): 8500 rpm, 15 ipm, 0.05" Depth of Cut, chatter (2.58 minutes cycle)

New Process (2): 7550 rpm, 45 ipm, 0.04" Depth of Cut, no chatter (.75 minutes cycle), eliminated finish pass

Quality Improvement = No chatter with new rpm, DOC and feed

Time Savings = 1.83 minutes/part = 0.0305 hours/part

Cost Savings = \$550/month = (300 parts/month * 0.0305 hours/part * \$60/hour)
{ ~\$6600 savings/year }

Other Savings = Improved tool life and part quality. Reduction in tool-holder usage and spindle wear and tear. Reduced trial and error time, tool cost, and machine downtime.

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