



CASE STUDY.

GEN3SYS[®]

PROJECT PROFILE: 15-5 PH Stainless Steel Aerospace

The end-user is machining an aerospace guide bushing made of 15-5 PH Stainless Steel using a 30 HP Okuma LU300 Lathe, with 250 PSI through tool coolant.

+ CHALLENGE:

Previously the customer was using a YG-1 spade blade, with TiAlN coating, running at the following parameters: 329 RPM, 0.005 IPR, (0.13 mm/rev) which resulted in 1.65 IPM (41.91 mm/min). The tool drilled a 0.9843" (25 mm) diameter blind hole to a depth of 5.0 inches (127 mm). The process had a cycle time of over 4 minutes, and a tool life of 150 inches. This included the need to spot drill, along with intermittent pecking to break up the chips.

Looking for performance improvements, the customer asked if Allied could provide a tool capable of reducing cycle times.

+ OUR SOLUTION:

Allied recommended GEN3SYS[®] using insert item 5C124H-25 and holder 60524S-100F. The tooling ran at a speed of 679 RPM, 0.008 IPR (0.20 mm/rev) which resulted in 5.43 IPM (137.92 mm/min). GEN3SYS[®] delivered a finished hole in just 55 seconds, plus it had a tool life of 475 inches as compared to the 150 inches achieved by the YG-1 tool.

The outcome met the customer's goals of tool performance improvements as cycle times were greatly reduced due to the elimination of spot drilling and the pecking cycles. The cost per hole decreased from \$10.99 to \$5.63, allowing for a significant dollar savings.

+ PROJECT DATA:

Allied Machine and GEN3SYS[®] gave the customer what they were looking for. After switching from YG-1 to GEN3SYS[®] the cycle time was reduced by 75%, plus, the tool life tripled. The machine costs decreased sharply, saving the customer 48.8% in spending.



*REDUCED
CYCLE TIMES*