



CASE STUDY.

GEN3SYS®

PROJECT PROFILE: **7075 Aluminum Forging CNC Job Shop**

The end-user is machining a 7075 Aluminum Forging using a Mazak FH 4800 CNC machining center, with Blasocut Soluble Oil coolant, at 200 PSI.

+ CHALLENGE:

Previously the customer was using an Iscar Cham Drill, DGM 0945-756-100A-8D with IDI-0980SG insert, running at the following parameters: 4000 RPM, 0.0113 IPR, (0.287 mm/rev) which resulted in 45 IPM (1143 mm/min). The tool drilled a 0.9843" (25 mm) diameter thru hole to a depth of 7.05 inches (179.07 mm). The tool had a cycle time of 15.4 seconds and a tool life of 260 holes. Chip packing in the tool led to premature insert wear which prevented the tool from producing a straight hole. Time was lost as there were three 2 second dwell cycles implemented to allow for chip evacuation. Looking for performance improvements, the customer asked if Allied had a better tool for the job.

+ OUR SOLUTION:

Allied recommended GEN3SYS® using insert item 5G224H-25 and holder #60724S-100F. The tooling ran the same speed of 4000 RPM, 0.0113 IPR (0.287 mm/rev) which resulted in 45 IPM (1143 mm/min). GEN3SYS® drilled an identical hole diameter and depth as the competitive tool, and had reduced the cycle time to 9.4 seconds, by eliminating the six seconds worth of dwell cycles. In addition to the cycle time savings, tool life increased to 1000 holes.

The outcome met the customer's goals of tool performance improvements. Allied Machine and GEN3SYS® made a significant difference for the customer.

+ PROJECT DATA:

GEN3SYS® helped to reduce the costly machine run time resulting in the cost per hole dropping from \$.684 to \$.374, for a considerable cost savings of 45.3%. Actually, GEN3SYS® delivered an almost 4X improvement in tool life at the same operating parameters for a cycle time savings of 39%.



**INCREASED
PRODUCTION
EFFICIENCY**