



CASE STUDY. **Revolution Drill[®]**

PROJECT PROFILE: **1030 Contract Job Shop**

The end-user is machining steel forgings made from 1030 using a Mazak horizontal machining center, with 200 PSI Water Soluble coolant.

+ CHALLENGE:

Previously the customer was using a Mitsubishi high feed mill running at the following parameters: 1528 RPM, 0.06 IPR interpolated, (1.5 mm/rev) which resulted in 0.87 IPM Z-axis feed (22,1 mm/rev). The tool interpolated a 2.35" (59,7 mm) diameter thru hole to a thickness of 4.50" (114,3 mm). The tool had a life of 6 holes. The total cycle time was 5 minutes and 19 seconds per hole. This included tool change and pallet index time. The customer had heard about the Revolution Drill and asked Allied for help in reducing cycle time and costs.

+ OUR SOLUTION:

Allied recommended the Revolution Drill[®] using insert item DP-05T308-H and holder R38X22-150L. The tooling ran at a speed of 1300 RPM, 0.0045 IPR (0,11 mm/rev) which resulted in 5.85 IPM (148,60 mm/min). The Allied tool had a drilling time of 46.2 seconds and a tool life of 96 holes. The total cycle time, including tool change and pallet index was 56.2 seconds.

+ PROJECT DATA:

Allied Machine and Revolution Drill[®] made a difference for the customer as the total cycle time was reduced by over 82%, dropping cost per hole from \$6.58 to \$1.47, for a considerable cost savings of 77.6%. The Revolution Drill[®] was also able to deliver a tool life 16 times greater than the Mitsubishi tool life.



**REDUCED
CYCLE TIMES**