CASE STUDY.

PROJECT PROFILE:

ALVAN®

Reamer Hydraulics

The End-user is manufacturing hydraulic rams and cylinders using a Nakamura TW-10 lathe running with synthetic thru-tool coolant. The customer is machining a body relief valve made out of 4140 alloy steel.

EXTENDED TOOL LIFE

+ CHALLENGE:

Previously the customer was using a Proto-Cutter floating style reamer with 6 flutes running at the following parameters: 650 RPM, 62 SFM, 0.003 IPR, and 1.95 IPM. The tool created a 0.3625" diameter hole at a 1.80" depth and had a cycle time of 1 minute with a life of 80 parts. Unsatisfied with their current production process, the customer wanted to increase tool life.

+ OUR SOLUTION:

AMEC recommended the ALVAN® Reamer item #AL3610102797 with an A lead running at a speed of 2000 RPM, 190 SFM, 0.003 IPR, and 6.0 IPM. The results were excellent and went beyond the customer's expectations. The ALVAN® Reamer dramatically increased tool life to 400 parts. Additionally the tool reduced cycle time to only 23 seconds and improved surface finish. As a result the customer was able to lower their cost of production producing a total cost savings of $2,346.43 per 1000 holes.

+ PROJECT DATA:

Due to the success of the AMEC tooling, the customer succeeded in increasing tool life and decreasing cycle time thereby lowering their cost of production to generate a cost savings of 65%.