CASE STUDY.

Opening Drill®

PROJECT PROFILE: **4340** **Aerospace**

The end-user is manufacturing landing gears made out of 4340 alloy steel, 269 Bhn, using a Mazak horizontal lathe, with water soluble oil coolant. They were opening up a 2.125" hole to 3.75".

REDUCED CYCLE TIMES

+ CHALLENGE:

Previously the customer was using a Sandvik boring bar running at the following parameters: 400 RPM, 0.012 IPR (0,30 mm/rev), which resulted in 4.8 IPM (121,92 mm/min). The tool bored a 3.75" (95,25 mm) diameter hole to a depth of 7 inches (177,8 mm). The tool had a cycle time of 19 minutes per part on 13 passes, and a tool life of 30 parts.

Looking for improvements, the customer wanted to decrease the cycle time. They called Allied for suggestions.

+ OUR SOLUTION:

Allied recommended the Opening Drill® item number OP3-1L-SS1.5. The tooling ran at a speed of 509 RPM, 0.004 IPR (0,10 mm/rev), which resulted in 2.04 IPM (51,82 mm/min). The Opening Drill® had a cycle time of 3.5 minutes per part on just one pass per hole, and an equal tool life of 30 parts. Impressively, total hole preparation went from 19 minutes to 3.5 minutes.

+ PROJECT DATA:

This time savings was significant. The cost per hole was greatly reduced from $29.62 to $7.75, which surpassed the customer's expectations. The Opening Drill® won its place on the production line as the reduction in the cost per hole provided a savings of 74%!