



CASE STUDY. OPENING DRILL® 4340 Alloy Steel

PROJECT PROFILE:

The End-user is manufacturing valves for the oil well industry. The customer is machining a valve body made out of 4340 alloy steel using a Toshiba Shibaura 15HP boring mill running with flood coolant.

+ CHALLENGE:

Previously the customer was using a Valenite boring bar running at the following parameters: 125 RPM, 259 SFM, 0.006 IPR, and 0.75 IPM. The customer used multiple passes to obtain the desired diameter of 7.900" at a 21.0" depth. With 6 boring passes, the tool had a cycle time of 7 hours 20 minutes. Unsatisfied with their current production process, the customer wanted to reduce the cycle time.

+ OUR SOLUTION:

AMEC recommended the Opening Drill® insert item #OP-05T308-H and holder #070821-12 running at a speed of 125 RPM, 259 SFM, 0.0037 IPR, and 0.46 IPM. The results were excellent and went beyond the customer's expectations. The Opening Drill® tool reduced the cycle time to 46 minutes saving 6 hours and 40 minutes per part. After machining 10 holes, the customer generated at total cost savings of \$1,557.53.

+ PROJECT DATA:

Due to the success of the AMEC tooling, the customer succeeded in reducing cycle time while lowering their cost of production to generate a cost savings of 65%.



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CYCLE TIMES*