CASE STUDY.

GEN2 T-A®

Low Carbon Steel Automotive

PROJECT PROFILE:

AN END-USER IS MANUFACTURING COMPONENTS FOR THE VALVES AND FITTINGS INDUSTRY USING A RADIAL ARM DRILL PRESS WITH WATER SOLUBLE OIL EXTERNAL FLOOD COOLANT. THEY ARE MACHINING A LARGE SPECIAL APPLICATION VALVE BODY MADE OUT OF WCC SA216 CAST STEEL.

+ CHALLENGE:

PREVIOUSLY THE CUSTOMER WAS FIRST MILLING THE RAW CASTING TO SIZE. THEN THE HOLES WERE DRILLED WITH AN HSS TWIST DRILL (1-3/8" TAPER SHANK) RUNNING AT A SPEED OF 155 RPM, 56 SFM, 0.007 IPR, AND 1.09 IPM. THE TOOL DRILLED A 3.25" DEEP HOLE WITH A 1.3750" DIAMETER. THE TOOL HAD A CYCLE TIME OF 3 MINUTES AND A LIFE OF 18 HOLES. TO IMPROVE THEIR PRODUCTION, THE CUSTOMER WANTED TO REDUCE CYCLE TIME, IMPROVE CHIP CONTROL, LOWER THEIR COST OF PRODUCTION, AND COMPLETE THE ENTIRE DRILLING PROCESS IN ONE OPERATION.

+ OUR SOLUTION:

AMEC RECOMMENDED THE GEN2 T-A® DRILLING PROCESS USING INSERT ITEM #452H-0112 AND HOLDER #24020S-0041 RUNNING AT THE FOLLOWING PARAMETERS: 245 RPM, 88 SFM, 0.016 IPR, AND 3.92 IPM. THE RESULTS WERE OUTSTANDING. THE ENTIRE PROCESS WAS NOW BEING COMPLETED IN ONE OPERATION WITH ONLY ONE TOOL. NOT ONLY DID THE TOOL LOWER CYCLE TIME TO ONLY 49.7 SECONDS, IT ALSO DOUBLED TOOL LIFE TO 36 HOLES. THE GEN2 T-A® TOOL ALSO ACHIEVED SUPERIOR CHIP CONTROL. ADDITIONALLY, THE CUSTOMER LOWERED THEIR COST OF PRODUCTION AND RECEIVED A TOTAL COST SAVINGS OF $67.29 OR 67.7%.

+ PROJECT DATA:

THE CUSTOMER WAS THOROUGHLY SATISFIED WITH THE GEN2 T-A® TOOLING. IT SUCCEEDED IN REDUCING CYCLE TIME AND INCREASING TOOL LIFE WHILE LOWERING THE CUSTOMER'S COST OF PRODUCTION.

IMPROVED CHIP FORMATION