

INDUSTRY

Automotive

MATERIAL

Grey Cast Iron

PRODUCT

141K HI-PERCARB® 5XD DRILL (NON-COOLANT THROUGH)

APPLICATION

DRILLING

COMPETITOR

3 Flute Drill Non-Coolant Drill

COOLANT

Soluble Flood

TOOL INFORMATION

4.1mm DIA / 35.99mm LOC / 73.99mm OAL

GOALS

The goals of this study were to significantly reduce job cost through the implementation of superior tooling. Which will increase tool life and decrease cycle time.

STRATEGY

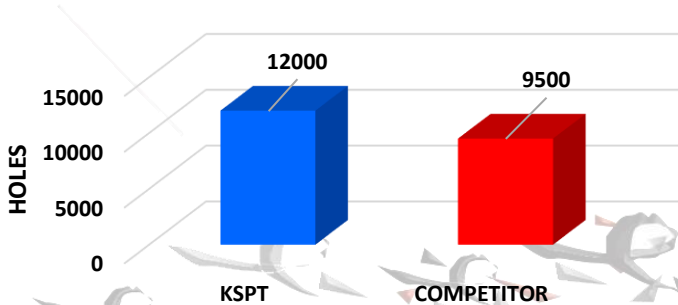
KSPT approached this job with a 3 flute HI-PERCARB® Cast Iron drill. The double margin design offers superior surface finish and hole cylindricity. Additionally, the specialized 145-degree notched point is self-centering and eliminates the need for a spot drill.

	KSPT	COMPETITOR
TOOL DIAMETER	4.1mm	4.1mm
SPEED	8,000 RPM	7,500 RPM
FEED	97.6 IPM	70.5 IPM
Material Removal Rate	1.99 cubic in / min	1.44 cubic in / min
AXIAL CUT (AP)	.3750	.3750
CYCLE TIME	1.33 seconds	1.75 seconds

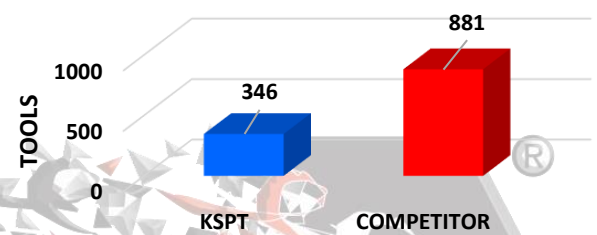
RESULTS

Grey cast iron, among the most common of all the types, contains carbides in the form of lamellar graphite particles, which gives it excellent vibration damping properties and makes it ideal choice for engine components. With use of the ideal material, you need the ideal tool. KSPT's series 141k Hi-Percarb® Cast Iron drill was the obvious choice for this job. It was able to run at a more efficient speed and feed and thus both the material removal rate was 27% higher and cycle time was 24% faster. The high quality of the Hi-Percarb® drill allowed for a 20% boost in tool life. Because of that, there were less Hi-Percarbs® needed to finish the job and the cost per hole drilled were 25% less. Ultimately, the use of the Hi-Percarb® was able to reduce the job cost to the customer by \$46,493.51! A 30.27% cost savings!

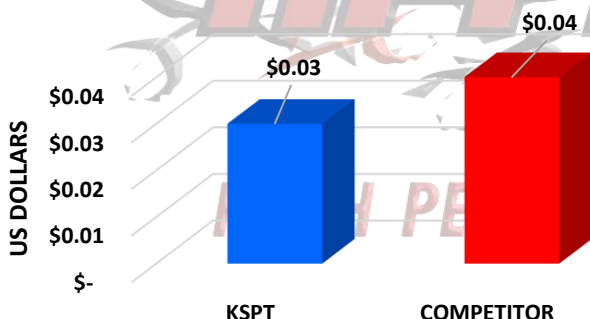
HOLES PRODUCED BY A NEW TOOL



NEW TOOLS & REGRINDS NEEDED TO COMPLETE THE JOB



COST PER HOLE DRILLED



TOTAL COST

