

Turbo Carb

Kyocera SGS Precision Tools Case Study



INDUSTRY



MOLD AND DIE

MATERIAL

H13 TOOL STEEL (40-50 Rockwell hardness)

PRODUCT

KSPT SERIES 56 TURBO-CARB END MILL

APPLICATION

MILLING

COMPETITOR

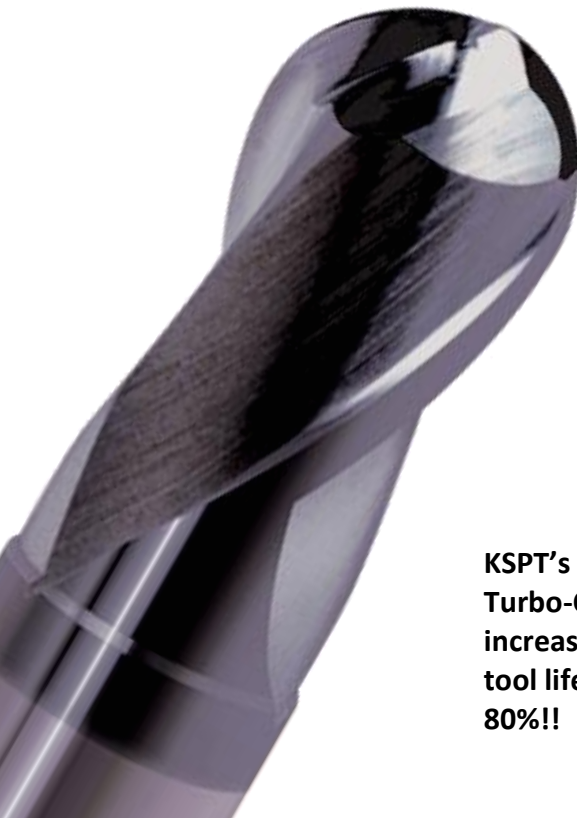
COMPETITOR'S 4 FLUTE END MILL

COOLANT

AIR

TOOL INFORMATION

10mm DIA / 10.01 LOC / 101.6mm OAL



KSPT's Turbo-Carb increased tool life by 80%!!



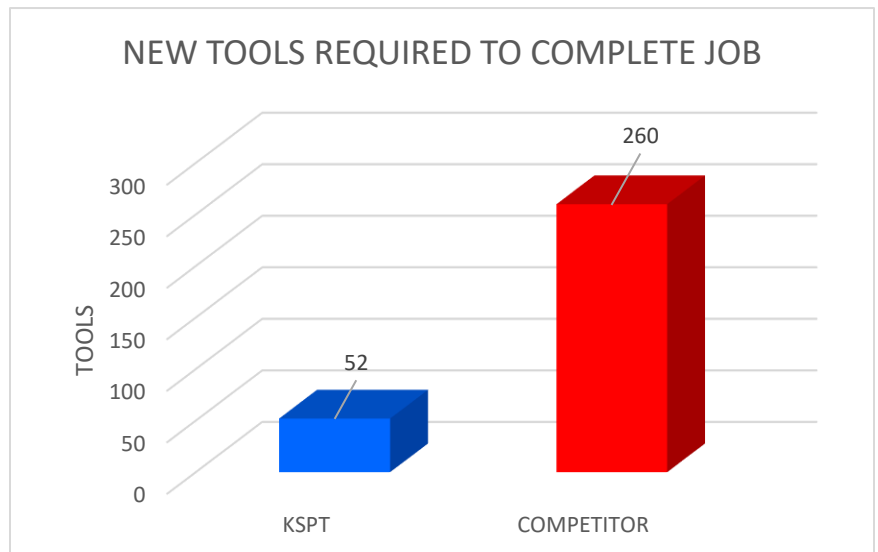
GOALS

The goals of this study were to significantly reduce job cost through increasing tool life and reducing machining time.

STRATEGY

KSPT approached this job with a 2-flute series 56 Turbo-Carb end mill. KSPT's Turbo-Carb is designed for high speed roughing and finishing of complex contoured shapes in hardened materials. The high-performance S-Gash geometry on the ball improves shearing while reducing the load. Ideal for dry machining with the exclusive Ti-NAMITE A tool coating.

	KSPT	COMPETITOR
TOOL DIAMETER	10mm	10mm
SPEED	5100 RPM	5100 RPM
FEED	100 IPM	70.9 IPM
RADIAL CUT (AE)	.0080"	.0080"
AXIAL CUT (AP)	.0080"	.0080"
CYCLE TIME	360 MINUTES	510 MINUTES



RESULTS

The overall findings of this study indicate KSPT'S Turbo-Carb outperformed the competitor's tool in almost every measurable category. The Turbo-Carb reduced cycle time by two and half hours!! This was accomplished by applying a tool capable of handling a higher feed rate. The Turbo-Carb was able to produce 5 times the parts with less than 20% of the new tools. That's a tool life increase of 80%!! Tool change cost was also reduced by 80% due to the lessened number of new tools that need changing. These efficiencies led to a machining cost savings of over \$42,000. Finally, after combining the savings in new tool cost, with the tool change cost and the machining cost savings you're left with a total cost savings of \$53,929.20

