

SERIES 51 T-CARB



Kyocera SGS Precision Tools Case Study

INDUSTRY



AEROSPACE

MATERIAL

347 STAINLESS STEEL
(32 HRC Hardness)

PRODUCT

KSPT SERIES 51 T-CARB

APPLICATION

TROCHOIDAL MILLING

COMPETITOR

5-Flute End Mill

COOLANT

WATER SOLUBLE

TOOL INFORMATION

.500 DIA / .125" LOC / 3.0" OAL



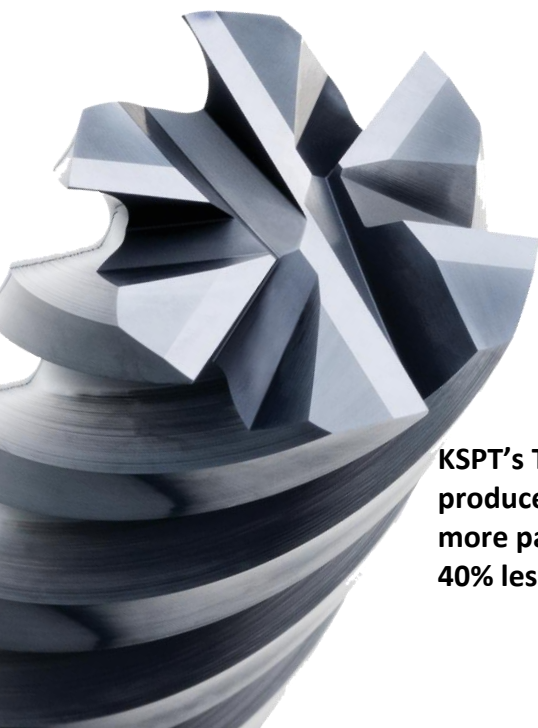
GOALS

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

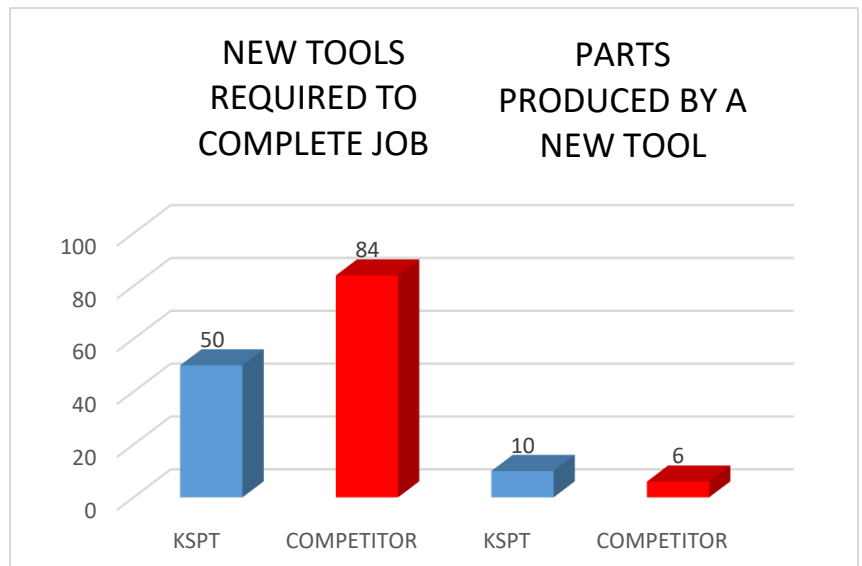
Features

KSPT approached this job with a 6 flute T-Carb end mill. KSPT's T-Carb excels at high-speed machining. Specifically, trochoidal and peel milling, the T-Carb's 6 flute design with eccentric relief provides strength and supreme chip control at high speeds, and with surprising finish results.

| | KSPT | COMPETITOR |
|-----------------|--------------|---------------|
| TOOL DIAMETER | .500" | .500" |
| SPEED | 7500 RPM | 3056 RPM |
| FEED | 176.3 IPM | 54.1 IPM |
| RADIAL CUT (AE) | .0250" | .0250" |
| AXIAL CUT (AP) | .6500" | .6500" |
| CYCLE TIME | 8.51 MINUTES | 27.73 MINUTES |



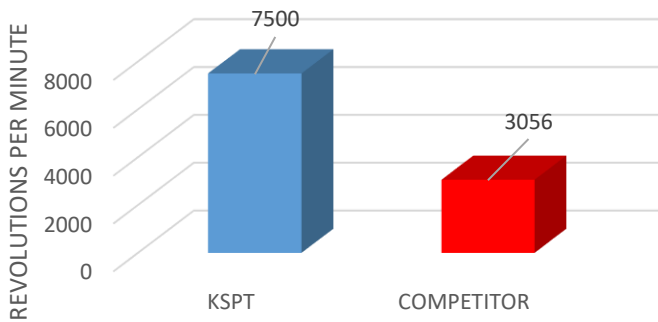
KSPT's T-Carb produced 40% more parts with 40% less tools!!



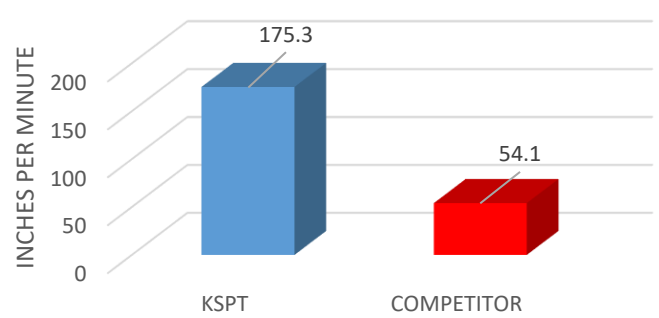
RESULTS

The overall findings of this study indicate that KSPT's T-Carb is priced almost **40% less than the competitor's tool**. The T-Carb, being a **higher quality tool**, was able to capacitate more than double the speed and triple the feed of the competitor's tool. Thusly, the **cycle time was more than 3 times longer with the competitors 5 flute end mill** than with the T-Carb. With the reduction in cycle time per part, the T-Carb **reduced the hours of machining by 160 total hours!** Subsequently, because it took the T-Carb **40% less tools**, the total **new tool cost was reduced by over \$6,000!** When you incorporate the savings in new tool cost with the over **\$16,000 in machining cost savings**, KSPT was able to save the customer a total of **\$22,396.45!!**

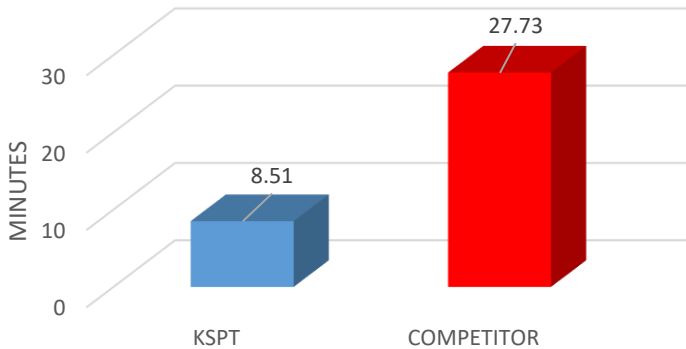
SPEED (RPM)



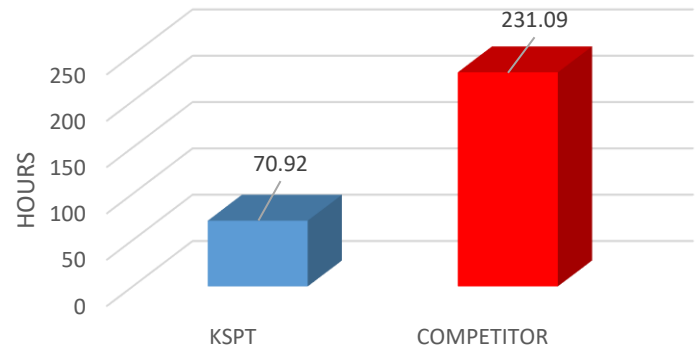
FEED (IPM)



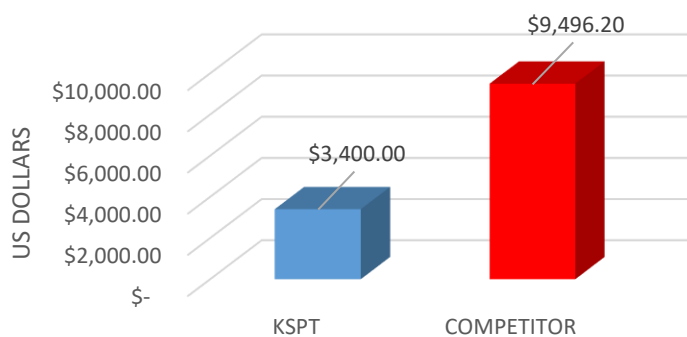
CYCLE TIME



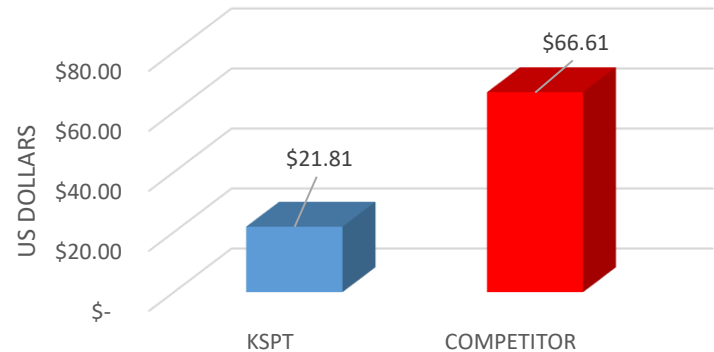
TOTAL HOURS OF MACHINING TIME



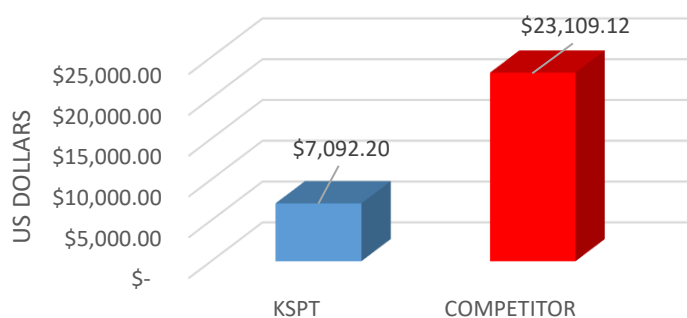
TOTAL NEW TOOL COST



COST PER PART



TOTAL MACHINING COST



TOTAL COST

