

S-CARB APR



Kyocera SGS Precision Tools Case Study

INDUSTRY
AEROSPACE

MATERIAL
7075 ALUMINUM

PRODUCT
KSPT S-CARB APR

APPLICATION
MILLING

COMPETITOR
INDEXABLE CUTTER

COOLANT
Flood

TOOL INFORMATION
25mm DIA / 35mm LOC / 140mm OAL

GOALS

The goals of this study were to significantly reduce cost through an increase tool life.

STRATEGY

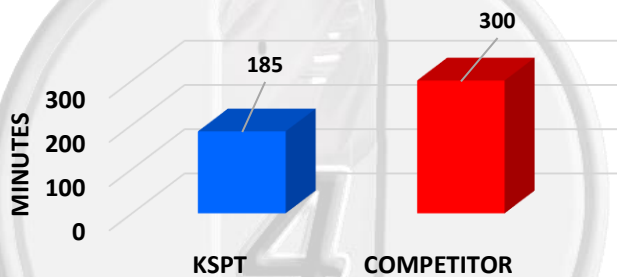
KSPT approached this job with the S-Carb Advanced Productivity Rougher (APR). KSPT's S-Carb APR, engineered for high power, high-efficiency machining of aluminum aerospace structural parts. Material removal rates of 550 cubic inches is achievable with remarkable tool life and

| | KSPT | COMPETITOR |
|-----------------|-------------|-------------|
| TOOL DIAMETER | .9840 | 2.0 |
| SPEED | 21,900 RPM | 12,000 RPM |
| FEED | 175.5 IPM | 24.0 IPM |
| RADIAL CUT (AE) | .9840 | 2.0 |
| AXIAL CUT (AP) | .6250 | .100 |
| CYCLE TIME | 185 minutes | 300 minutes |

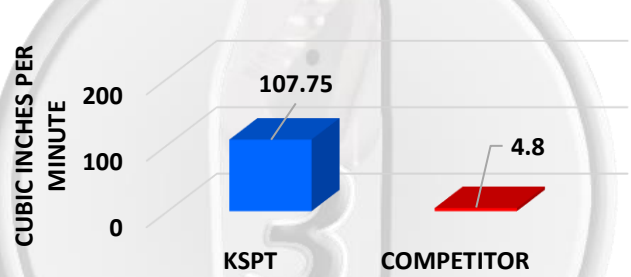
RESULTS

The overall findings of this study indicate that although KSPT's S-Carb APR was priced significantly higher than the competition, the manufacturing efficiencies gained with a superior tool vastly outweigh the extra dollars spent up front. The speed at which the tool was run was able to be **increased 45%** and with that increased speed, the feed rate was able to be **increased over 150 in/min!** The APR was also able to produce **1/3 more parts with roughly 1/3 less tools**. When you combine the time that was saved in cycle time with the time saved in tool change, you significantly lower the total machining time. With that efficiency, comes the cost associated with it, and in that regard, KSPT was able to **save the customer over \$150,000**. All these manufacturing efficiencies combined equaled a **total cost savings of \$150,292.92!!**

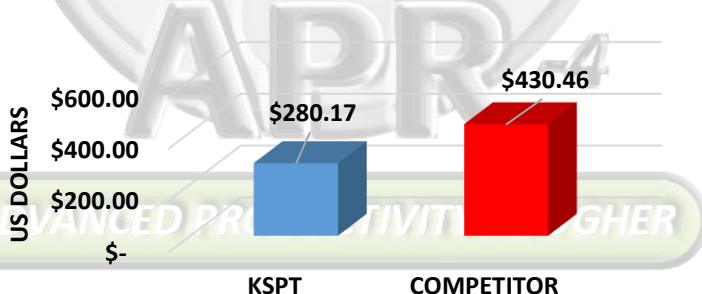
CYCLE TIME



MATERIAL REMOVAL RATE



TOTAL COST PER PART



TOTAL COST

