

# 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

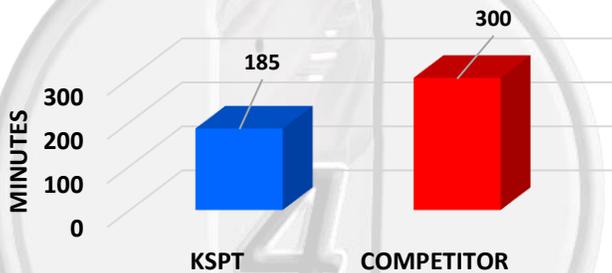
KSPT approached this job with the S-Carb Advanced Productivity Rougher (APR). KSPT's S-Carb APR, engineered for high power, high-efficiency machining of aluminum aerospace structural parts. Material removal rates of 550 cubic inches is achievable with remarkable tool life and

	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

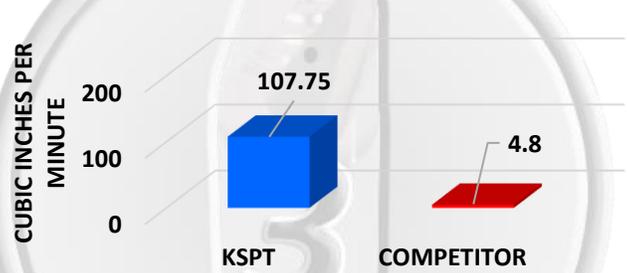
## RESULTS

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**

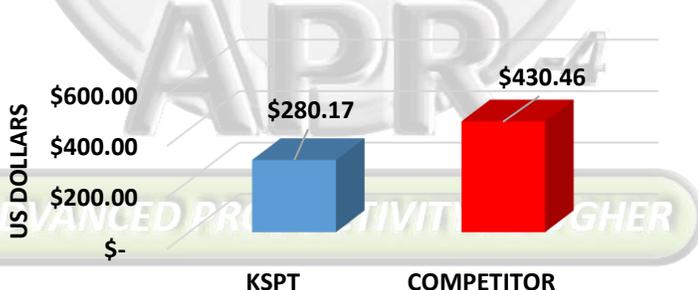
### CYCLE TIME



### MATERIAL REMOVAL RATE



### TOTAL COST PER PART



### TOTAL COST

