

# Z-CARB HPR

Kyocera SGS Precision Tools Case Study



## INDUSTRY

Fire Arms

## MATERIAL

4140 (Forging)

## PRODUCT

KSPT Z-CARB HPR

## APPLICATION

MILLING

## COMPETITOR

4 Flute End Mill & 2

Flute Drill

## COOLANT

FLOOD

## TOOL INFORMATION

.625 DIA / 1.25" LOC

/ 3.5" OAL

## GOALS

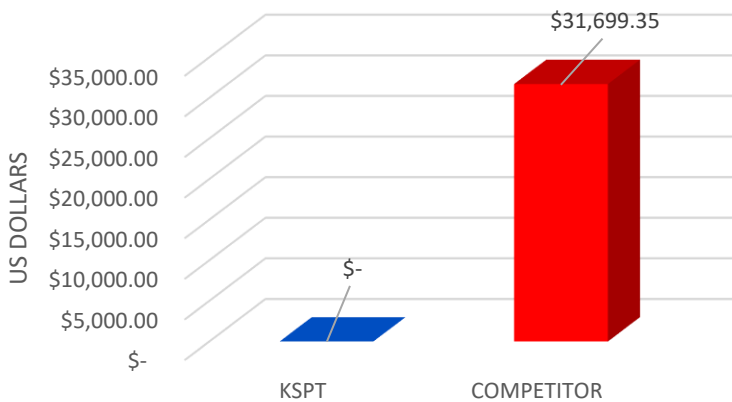
The goals of this study were to significantly reduce job cost the use of a superior tool that would eliminate the need for a drilling operation.

## STRATEGY

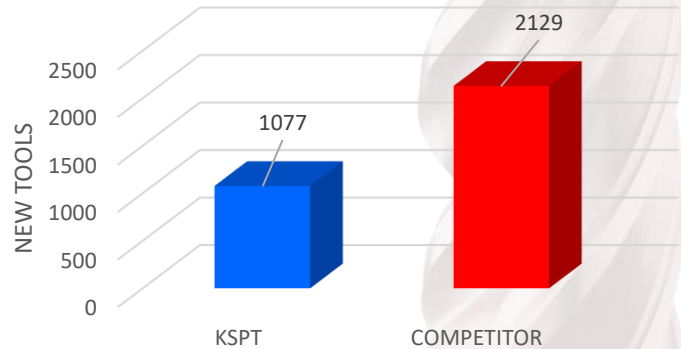
Because KSPT's high quality Z-Carb HPR end mill can ramp effectively, it doesn't require a drilling process. This would allow the customer to eliminate a drilling operation, thus turning a two-tool operation into a one tool.

	KSPT (Z-Carb HPR)	Competitor (End Mill)	COMPETITOR (Drill)
TOOL DIAMETER	0.5 In	0.5 In	.3125
SPEED	1850 RPM	1850 RPM	6640 RPM
FEED	18.5 IPM	18.5 IPM	59.8 IPM
RADIAL CUT (AE)	0.5 In	0.5 In	N/A
AXIAL CUT (AP)	1.4000"	1.4000"	.8"
CYCLE TIME	4 min 12 sec	5 min 30 sec	36 sec

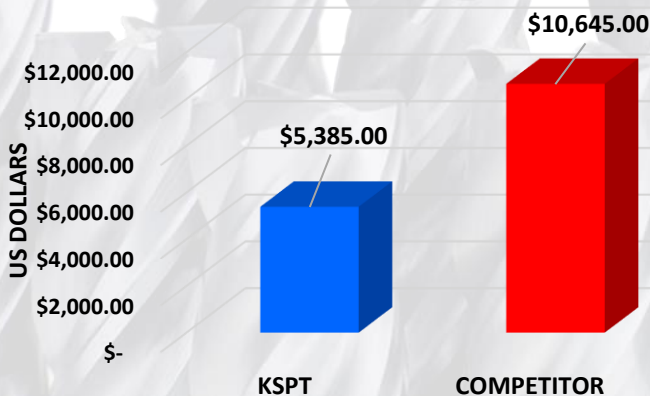
TOTAL DRILLING COST



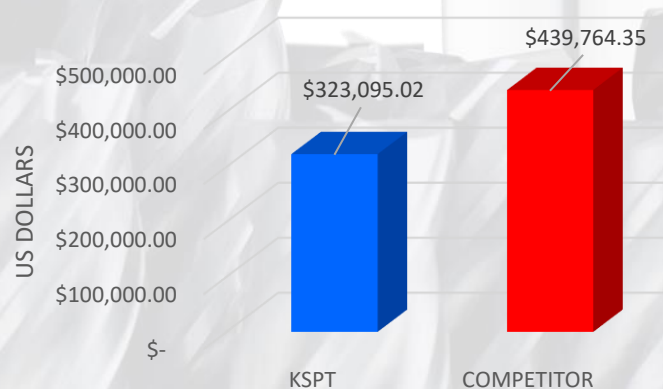
NEW TOOLS REQUIRED TO COMPLETE THE JOB



TOOL CHANGE COST



TOTAL COST



## RESULTS

Convenience sells! People not only want to save money but also time. To a customer, having to use two tools to accomplish what one tool should be able to do is frustrating. Why can't an endmill cut material in such a way that it eliminates the need for an initial drilling operation? KSPT's Z-Carb HPP (Z5) end mill is an endmill designed to do that very thing. The competitor's tools, being of lesser quality, required the use of both a drill and an endmill to complete the job. Without the need for an accompanying drill, the Z5 was able to save the customer over \$31,000 right off the bat. With the customer needing to produce 7,000 parts, tool life becomes of paramount importance. Not to mention, the time spent having to change out the old drill for a new one. An extra 140 hours of machining time was spent having to drill the holes to allow the competitor's endmill to work as optimally as possible. The Z5 performed efficiently enough to cut the new end mills needed in half! Tool change cost, machining cost, total new tool cost were all significantly reduced with use of the Z5. Even when just comparing end mill performance between the Z5 and the competitor's end mill, the results lean heavily in favor of the Z5.

When the job was completed, use of the Z-Carb HPR had saved the customer not only time and convenience, but also \$116,669.33!! A reduction of over 25%!!

