

Z-Carb AP

Kyocera SGS Precision Tools Case Study

INDUSTRY

Firearm

COMPONENT

Rifle Receiver

MATERIAL

4140 Forged Steel
Hardness: 32 Hrc

PRODUCT

KSPT Z-Carb AP End Mill
Ti-Namite-X Coated

APPLICATION

Full Slotting

COMPETITOR

4-Flute End Mill

COOLANT

Flood

TOOL INFORMATION

7/16" DIA / 1-1/4" LOC / 3-1/2" OAL



GOALS

The goals of this study were to significantly reduce tooling cost and improve the quality of finish.

STRATEGY

KSPT approached the job of slotting a rifle receiver with a 7/16" 4 flute Z-Carb AP (advanced productivity), allowing the job to be completed at a lower cost. The Z-Carb AP is a patented variable rake geometry end mill that delivers advanced productivity with its unique geometry.

CUTTING PARAMETERS

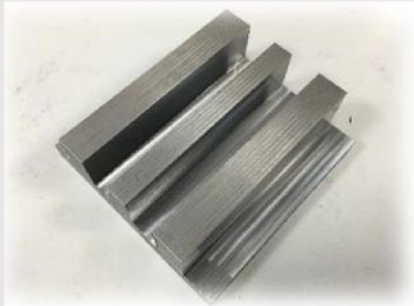
Full Slot 2.5xD

3800 RPM

.0072 in/min Feed

.400 Axial Depth/pass

.4370 Radial width/pass



RESULTS

The overall finding of this study indicated that KSPT's Z-Carb AP delivers advanced productivity through high quality performance, at a significantly lower cost.

BETTER FINISH

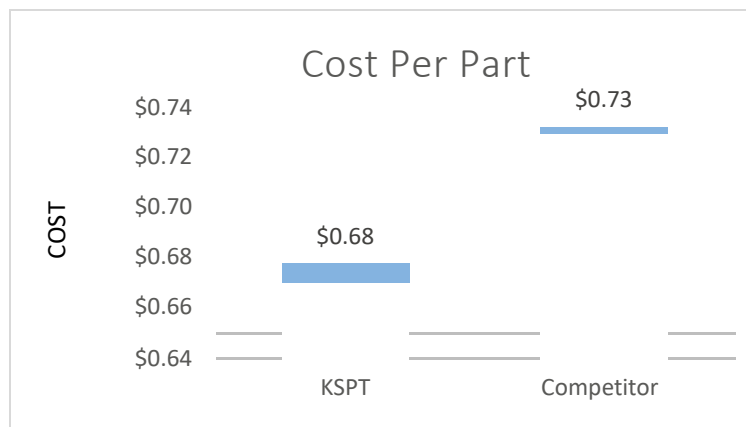
The 10 pieces that were tested with the KSPT reliever consistently produced a much smoother finish on the customer's rifle receiver.



LOWER COST

Total Cost Comparison

	KSPT's Z-Carb AP	Competitor 4-flute End Mill
Parts Produced/New Tool	280	224
Tools Needed to Complete Job	268	335
Total Machining Cost	\$10,090.20	\$13,735.00
Total Change Cost	\$1,898.33	\$2,371.92
Total Cost	\$50,822.60	\$54,941.98



New Tool Cost Savings

\$3.35/tool

Tool Change Cost Savings

\$479.59

Machining Cost Savings

\$3,644.80

Total Cost Savings

\$ 4,119.38

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