

CUSTOMER SUCCESS



Total Cost Savings **\$184,185**





Scan Code to See the Z-CARB HPR in Action!

Industry Firearms

Material Steel Forging

Product

Z-Carb Series HPR 5-Flute Endmill Ti-NAMITE-M (TM) Coating

Application Milling

Competitor Tool 0.375in 5-Flute Solid End Mill

Coolant Flood

SGS Tool Information

0.375in Cutting Dia. (DC) Variable Pitch 0.500in Length of Cut 2.50in Overall Length 37 degree Helix Angle

Goals

This firearms end-user needed to produce 135,000 total parts annually. With a total annual job cost exceeding \$250,000, their goal was to reduce overall total job to under \$100,000. To achieve this goal, KYOCERA SGS application engineers looked for ways to increasie tool life, thus decreasing cost per part.

Strategy

The existing application utilized a 6-flute solid, high-feed endmill, taking 6 passes at 0.014" axial DOC. The new strategy utilized a 5-Flute Z-Carb HPR taking a single pass at 0.06" axial DOC.

| | KYOCERA SGS End Mill | Competitor End Mill |
|-----------------------|----------------------|---------------------|
| Cutting Diameter (DC) | 0.375" | 0.375" |
| RPM | 6101 | 7517 |
| SFM | 599.42 | 738.55 |
| Feed (IPM) | 79.3 | 338.3 |
| IPR | 0.013 | 0.045 |
| RADIAL DEPTH (AE) | 0.2500" | 0.2500" |
| AXIAL DEPTH (AP) | 0.0600" | 0.0140" |





Conclusion & Results

Using the SGS Z-Carb HPR end mill, the customer was able to increase the axial DOC per pass from 0.014" to 0.06", thus reducing th number of passes from 6 to 1. Cost per tool decreased from from \$113 to \$43 and tool life increased from 80 to 200 parts. The number of tools required annually to produce the 135,000 parts decreased from 1688 to 675. The combination of these changes resulted decreases in total machining cost, new tool cost, and tool change cost resulting in annual savings of over \$184,000.







KYOCERA SGS was able to reduce the annual total machining cost from \$57k to \$40.5k

KYOCERA SGS was able to reduce the annual tool cost from \$190k to \$29k



KYOCERA SGS was able to reduce the annual total machining cost from \$257.8kk to \$73.7k



<u>\$184,185</u> Annual Cost Savings <u>85%</u> Improvement in New Tool Cost <u>150% Increase</u> in Parts per Tool

