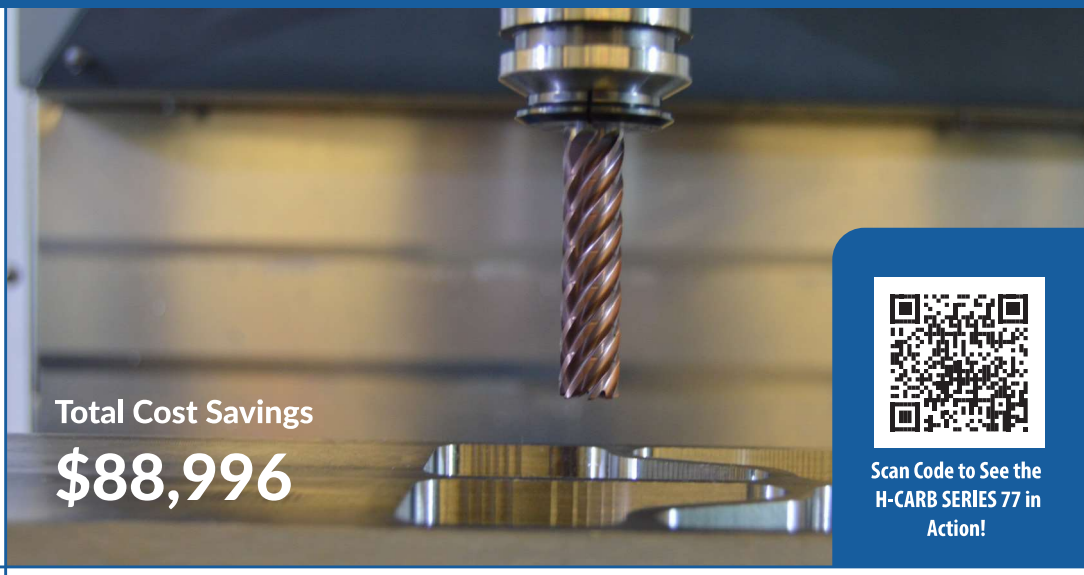
SGS Solid Carbide Tools

CUSTOMER SUCCESS



Scan Code to See the H-CARB SERIES 77 in Action!

Industry
Defense

Material
AR400 Steel
(Rockwell C 35-40 Hardness)

Product
H-Carb Series 77
7-Flute Endmill
Ti-NAMITE-M (TM) Coating

Application
Milling

Competitor Tool
2" Indexable Shell Mill &
3/4" End Mill

Coolant
Flood

SGS Tool Information
0.75in Cutting Dia. (DC)
2.25in Max DOC (APMX)
4.5in Overall Length (OAL)

Goals

The goal of this opportunity was to reduce overall total job cost by increasing tool life and decreasing cycle time per part.

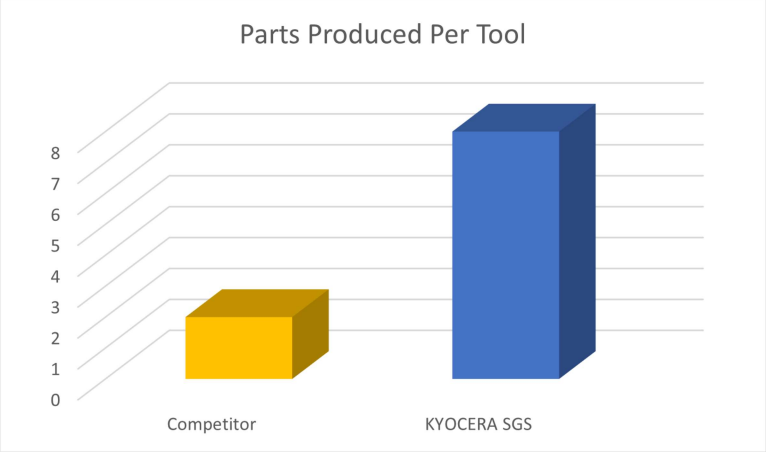
Strategy

The existing application utilized an indexable shell mill to take a peripheral cut on a 2" thick plate. Subsequently, an end mill was used to clean up the smaller corners and finish the outside. The new strategy utilized a single 7-flute end mill for both operations.

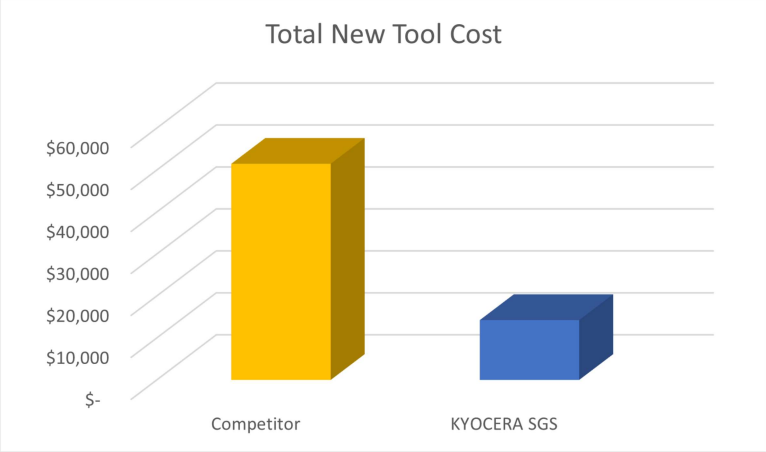
	KYOCERA SGS End Mill	*Competitor Shell Mill*
Cutting Diameter (DC)	*0.750"*	*2.000"*
RPM	*1552*	*802*
SFM	*305*	*420*
Feed (IPM)	*28.2*	*28.1*
IPR	*0.0182*	*0.035*
RADIAL DEPTH (AE)	*0.0525"*	*0.200"*
AXIAL DEPTH (AP)	*2.000"*	*0.275"*
CYCLE TIME	*9:30 MINUTES*	*31 MINUTES*

Conclusion & Results

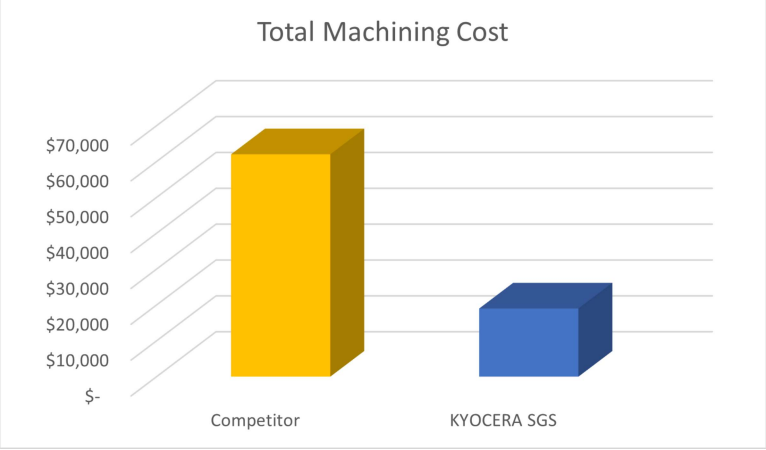
Using the SGS Series 77 end mill, the customer was able to reduce the number of axial passes from 8 to 4 and eliminated the need for an additional tool to peform the clean-up and finishing cuts. Cycle time was decreased from 31 minutes to 9:30 minutes per part, and part count per tool went from 2 to 8. Major improvements were realized in total machining cost, new tool cost, and tool change cost resulting in annual savings of nearly $89,000.



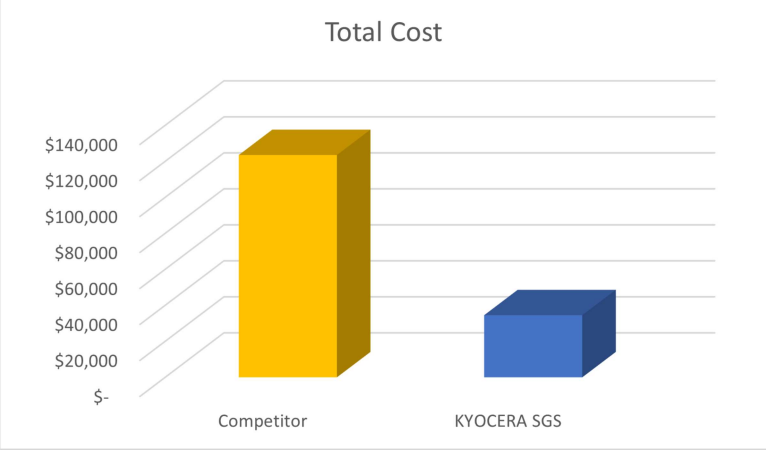
KYOCERA SGS was able to increase the parts per tool from 2 to 8.



KYOCERA SGS was able to reduce the annual tool cost from $51k to $14.2k



KYOCERA SGS was able to reduce the annual total machining cost from $62k to $19k



KYOCERA SGS was able to reduce the annual total machining cost from $123.5k to $34.5k

77 H-CARB

$88,996 Annual Cost Savings
69% Improvement in Cycle Time
72% Decrease in Tool Cost per Part