



HY-PRO® CARB VGM7



SNAPSHOT

BACKGROUND

A firearms manufacturer milling receivers and was having severe chatter issues resulting in poor surface finishes.

GOALS

The customer was looking to produce a better machined finish while reducing cost.

DETAILS

INDUSTRY

Firearms

PART

Receiver

MATERIAL

4140 (40 HRC)

MACHINE

OKUMA

SPINDLE

CT40

ORIGINAL TOOLING

Solid Carbide End Mill
0.5" | 7 Flute | TiN

NEW TOOLING

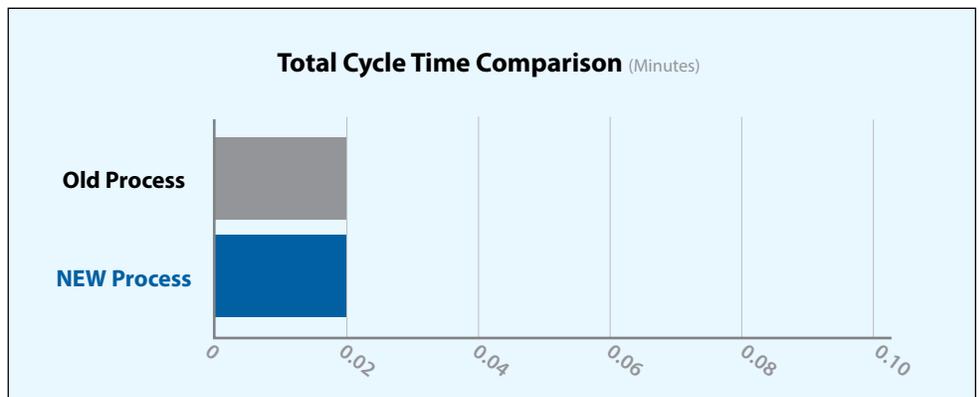
HY-PRO® CARB VGM7
0.5" | 7 Flute | EXO

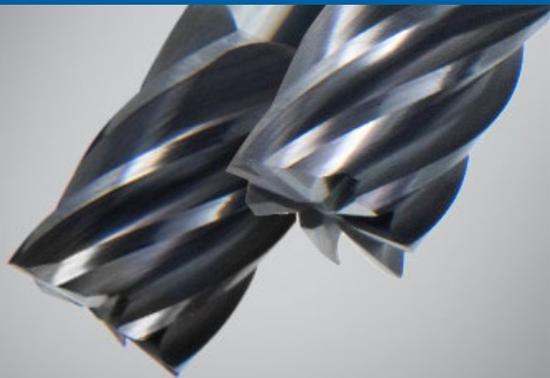
OVER \$10,500 IN COST SAVINGS!

THE STRATEGY

OSG presented the VGM7 as a potential solution. Designed for high efficiency milling, the VGM7 incorporates vibration reduction geometry to machine at high parameters while minimizing chatter.

	Original Process	NEW Process
Tool Diameter (Inch)	0.5"	0.5"
Cutting Speed (RPM • SFM)	5,000 • 655	5,000 • 655
Feed (IPM • IPT)	70 • 0.002 IPT	77 • 0.0022 IPT
Depth of Cut (Aa • Ar)	1.25 • 0.07	1.25 • 0.07
Metal Removal Rate	6.13 in ³ min	6.74 in ³ min
Cycle Time (Minutes)	0.02	0.02
Tool Life (# of Parts)	225	225





THE RESULTS

The test results proved that the VGM7 produced a better finish. Additionally, the cost of the VGM was also lower than the current competitor tool that the customer was using allowing for a cost savings.

The resulting surface finish greatly helped this customer by reducing the time on further finishing operations.

- Greatly improved surface finish
- **An overall cost savings of over \$10,500!**

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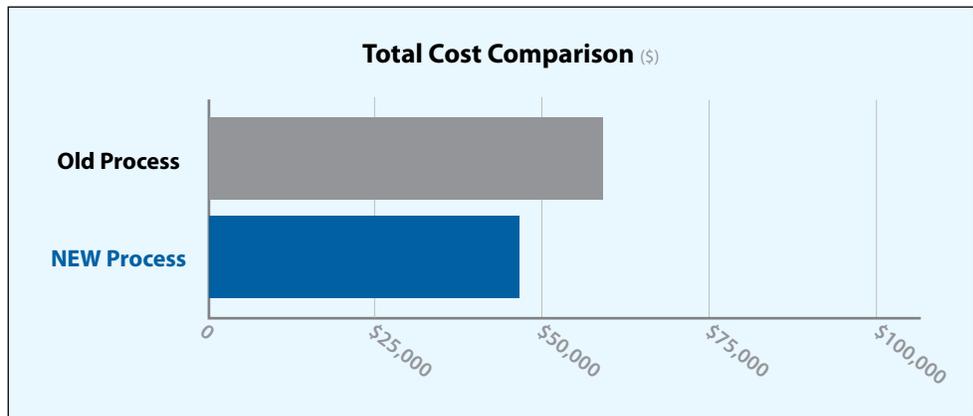
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Results Overview	
Cycle Time Saved per Part (Minutes)	0.00
Annual Part Production	150,000
Annual Cycle Time Saved (Minutes)	244
Annual Machine Cost Savings	\$304
Tool Life Productivity Improvement	0%
Annual Tool Change Cost Savings	\$0.00
Total Machining Cost Saved Annually	\$10,578

THE CONCLUSION

The customer was able to save 4.7 total hours of machine time per year. Although the tool life remained the same as the competitor tool, the lower cost of the VGM7 led to a cost savings of roughly \$10,500.00. The customer was so impressed with the VGM7 performance they decided to adopt the tool across their shop.



OVER \$10,500 IN COST SAVINGS!



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osgtool.com/vgm7

