



HY-PRO® CARB VGM5



SNAPSHOT

BACKGROUND

A large brake manufacturer is struggling with cycle time while milling an A2 brake pad component.

GOALS

The goal is to increase part production by improving cycle time and tool life.

DETAILS

INDUSTRY

Automotive

PART

A2 Brake Pad Component

MATERIAL

Carbon Steel

MACHINE

Matsuura | Water Soluble Coolant

SPINDLE

CAT40

ORIGINAL TOOLING

Competitor End Mill
1/2" | 4 Flute | Multi Layer TiAlN

NEW TOOLING

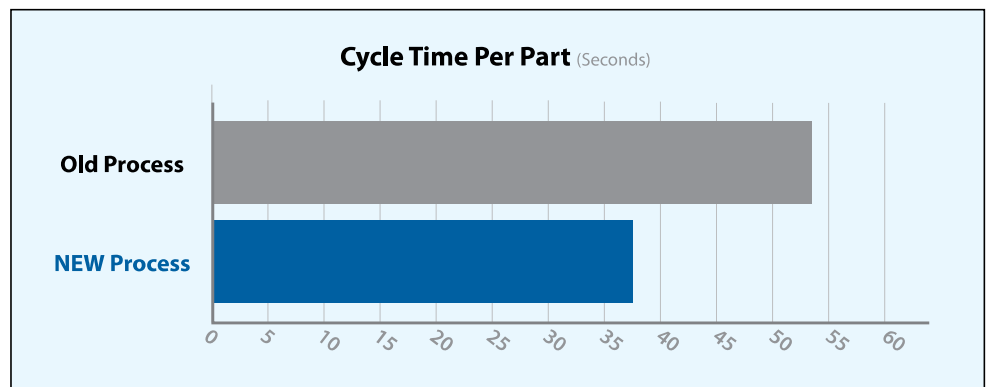
HY-PRO® CARB VGM5
1/2" | 5 Flute | EXO® Coated

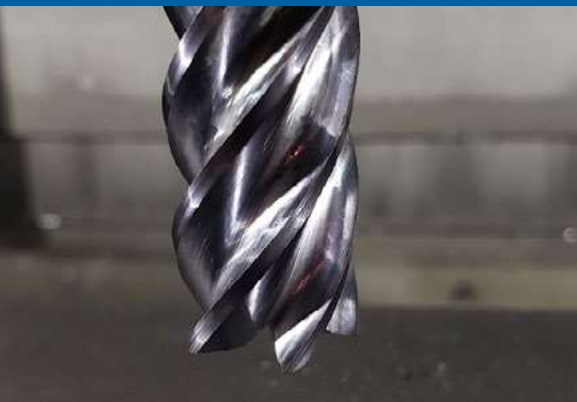
OVER \$50,000 ANNUAL SAVINGS!

THE STRATEGY

OSG brought in the HYPRO® CARB VGM5 to take on the application. By utilizing a proper chipload with high efficiency milling (HEM) we are able to have even wear on the cutting edge and better productivity while also increasing tool life.

	Original Process	NEW Process
Tool Diameter (Inch)	1/2"	
SFM	275	375
RPM	2,101	2,865
IPM	10.08	28.65
MMR	0.27 in ³ /min	0.39 in³/min
Aa	2.7"	1.35"
Ar	0.01"	
Cycle Time (Seconds)	53.55	37.7





SNAPSHOT

BACKGROUND

A Large brake manufacturer is looking to mill a brake pad component.

GOALS

The goal is to reduce cycle time and increase tool life.

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THE RESULTS

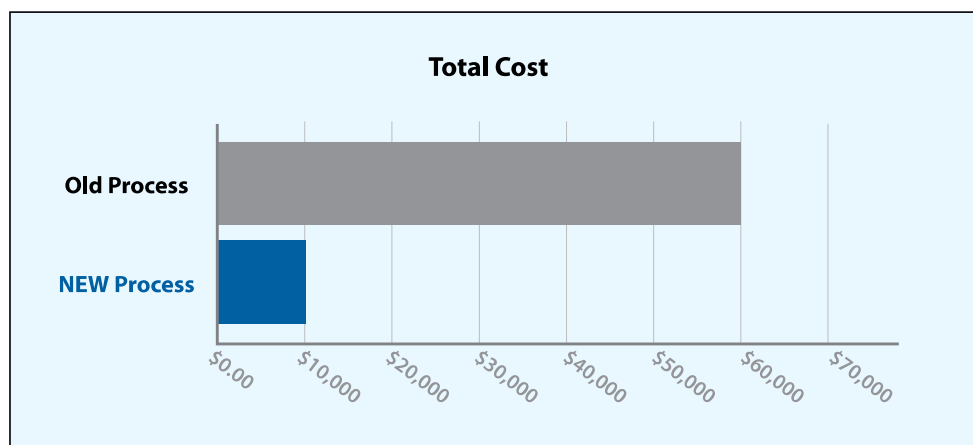
The OSG HYPRO® CARB VGM5 performed above and beyond the competitor increasing tool life from 4 parts to 14 per tool!

- SFM was increased **from 275 to 375** due to utilizing HEM
- Feed per tooth was increased **from 0.0012 to 0.002**.
This has greater effect due to OSG having 5 flutes vs the competitor's 4.
- Cycle time was reduced by 15.85 seconds per part** (53.55 sec to 37.7 sec)
- A total savings of \$50,545**

Results Overview	
Cycle Time Saved per Part (Seconds)	15.85
Number of Parts Per Year	1400
Cycle Time Saved Annually (hours)	369.83333
Cost to Machine (Per Hour)	\$40
Annual Mill Cost Savings	\$48,632
Tool Life Improvement (Parts)	1988
Annual Tool Change Cost Savings	\$1667
Total Machining Cost Saved Annually	\$50,545

THE CONCLUSION

Annual mill usage with OSG is now 100 vs the old processes 350 tools per year. This alone saves \$48,632 per year with **an overall savings of over \$50,000!**



OVER \$50,000 ANNUAL SAVINGS!



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osgtool.com/hypro-carb-vgm-series

