



Real-Life Stories

## Case Study: OSG HYPRO<sup>®</sup> CARB VGM5

Brought To You by OSG | Jun 01, 2022

### BACKGROUND

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

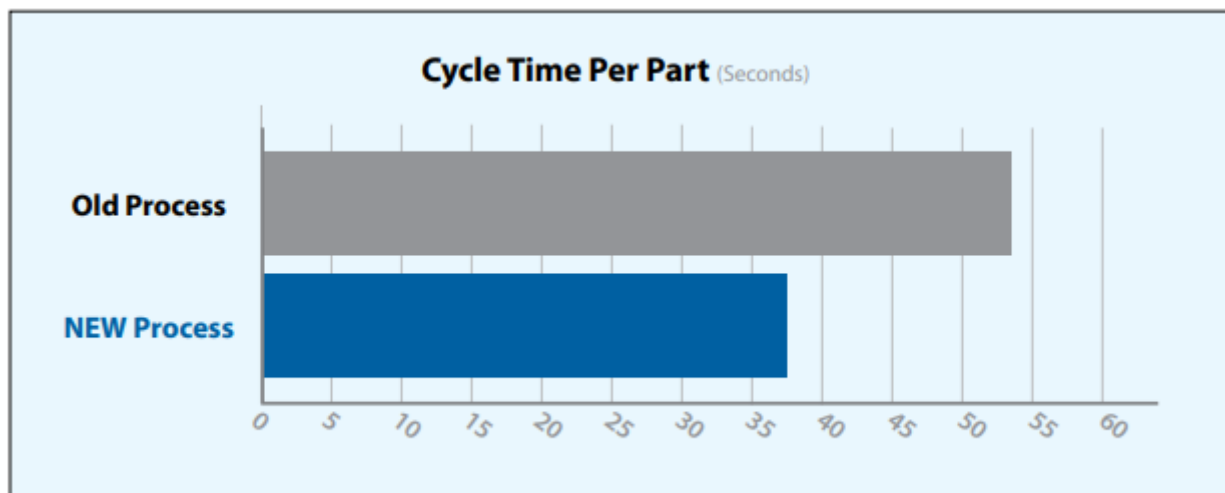
### GOALS

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

### THE STRATEGY

OSG brought in the *HYPRO<sup>®</sup> CARB VGM5* to take on the application. By utilizing a proper chipload with high efficiency milling (HEM), OSG was able to help the manufacturer 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 <sup>3</sup> /min	0.39 in <sup>3</sup> /min
Aa	2.7"	1.35"
Ar	0.01"	
Cycle Time (Seconds)	53.55	37.7



## THE RESULTS

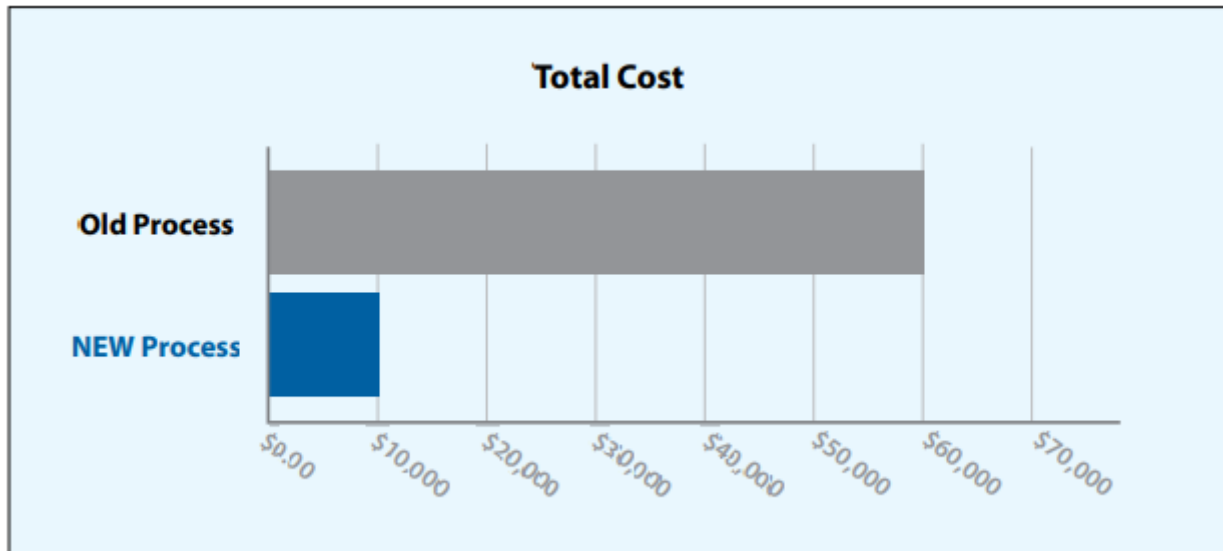
The OSG HYPRO® CARB VGM5 performed above and beyond the competitor, increasing tool life from 4 parts to 14 per tool!

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

## THE CONCLUSION

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



*Download a PDF of the Case Study here.*

*To learn more about OSG's HY-PRO® CARB VGM end mills, visit [MSCDirect.com](https://www.mscdirect.com).*

[www.mscdirect.com/betterMRO](https://www.mscdirect.com/betterMRO)

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