



# HY-PRO® CARB VGM5



## SNAPSHOT

### BACKGROUND

Customer has in house machining department for aircraft changes and upgrades. The machine shop will alter or make parts for weapon systems, radar and battery compartments.

### GOALS

Current tool life and cycle time need improvement in order to hit delivery early in 2024.

### DETAILS

#### INDUSTRY

Aerospace

#### PART

Ballast Block

#### MATERIAL

Tungsten (98%)

#### MACHINE | COOLANT

VF-2

#### SPINDLE

7500 RPM CAT 40

#### ORIGINAL TOOLING

5 Flute End Mill  
0.5" | 5 Flutes | TiCN

#### NEW TOOLING

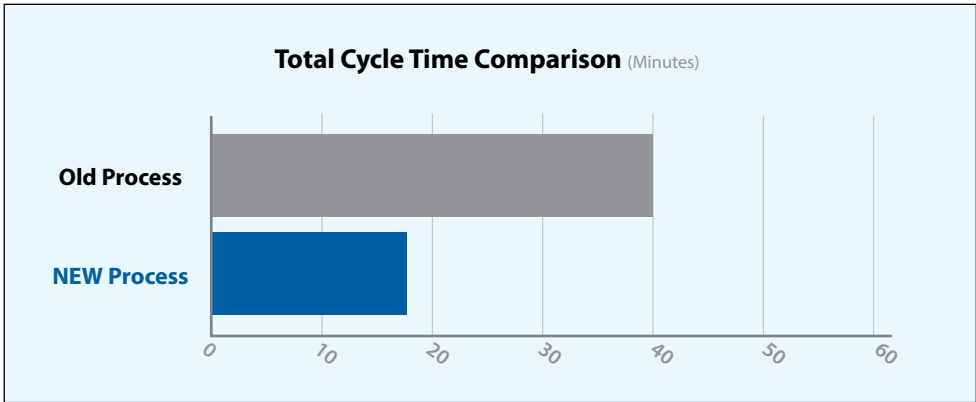
HY-PRO® CARB VGM5  
0.5" | 5 Flute | EXO

## OVER \$50,000 IN SAVINGS!

### THE STRATEGY

We introduced the VGM5 to improve cycle time and tool life for the customer to be successful with their goals.

	Original Process	NEW Process
Tool Diameter (Inch)	0.5"	
Cutting Speed (RPM • SFM)	5,600 • 734	<b>4,200 • 550</b>
Feed (IPM • IPT)	39.2 • 0.0014	<b>80 • 0.0038</b>
Depth of Cut (Aa • Ar)	1.3" • 0.03"	<b>1.3" • 0.03"</b>
Metal Removal Rate	1.53 in <sup>3</sup> min	<b>3.11 in<sup>3</sup> min</b>
Cycle Time (Minutes)	40.00	<b>18.01</b>
Tool Life (# of Parts)	19	<b>31</b>





## THE RESULTS

VGM5 was able to produce more than twice as many parts as the competitor. By reducing the SFM and increase chipload we were able to significantly reduce cycle time while cut quality and tool life improved greatly.

- Tool life **increased from 19 to 31 parts**
- Cycle time reduced **from 40 minutes to 18 minutes**
- OSG was able to **save this customer over \$50,000** on this application

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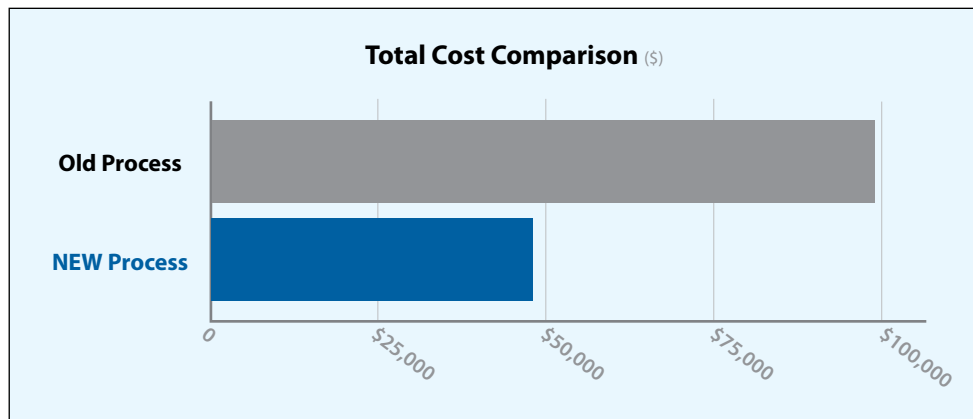
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Results Overview	
Cycle Time Saved per Part (Minutes)	21.99
Annual Part Production	1,200
Annual Cycle Time Saved (Minutes)	26,391
Annual Machine Cost Savings	\$52,782
Tool Life Productivity Improvement	63%
Annual Tool Change Cost Savings	\$48.90
<b>Total Machining Cost Saved Annually</b>	<b>\$52,562</b>

## THE CONCLUSION

OSG's VGM series end mill was able to **save this customer over \$50,000 on this production job.**



**OVER \$50,000 IN SAVINGS!**



#### FIND OUT MORE

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[osgtool.com/vgm5](https://osgtool.com/vgm5)

