

Real-Life Stories

## Case Study: OSG A Brand AE-TL-N

Brought To You by OSG | Jun 03, 2024

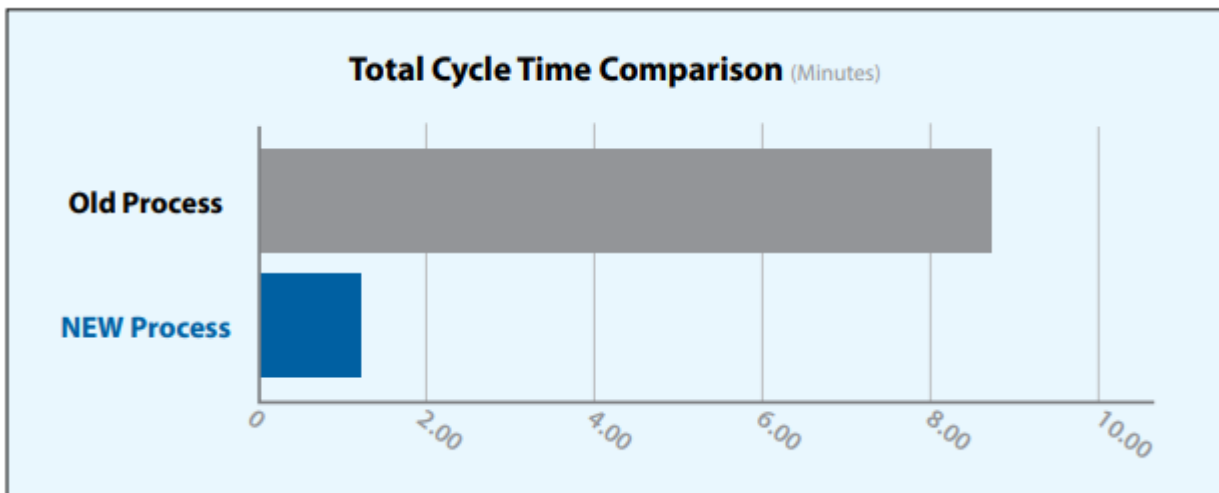
### BACKGROUND

An OSG customer was machining aluminum alloy wheels and looking to reduce their manufacturing cost and increase tool performance.

### THE STRATEGY

After the initial meeting with the customer, OSG suggested testing the AE-TL-N. OSG had previously seen success in similar applications where other customers were looking to increase Material Removal Rates (MRR) while maintaining or increasing tool life and productivity. One big feature of the AE-TL-N that stood apart from the competitor tool was the DLC coating. This coating is much more wear resistant than the current TiAlN coating and allowed for more aggressive parameters without affecting tool life.

	Original Process	NEW Process
Tool Diameter (Inch)	0.5"	0.5"
Cutting Speed (RPM • SFM)	4,003 • 524	7,600 • 996
Feed (IPM • IPT)	30.0225 • 0.0025	201 • 0.0088
Depth of Cut (Aa • Ar)	1" • 0.5"	1" • 0.5"
Metal Removal Rate	1.50 in <sup>3</sup> min	10.03 in <sup>3</sup> min
Cycle Time (Minutes)	8.33	1.25
Tool Life (# of Parts)	4	8



## THE RESULTS

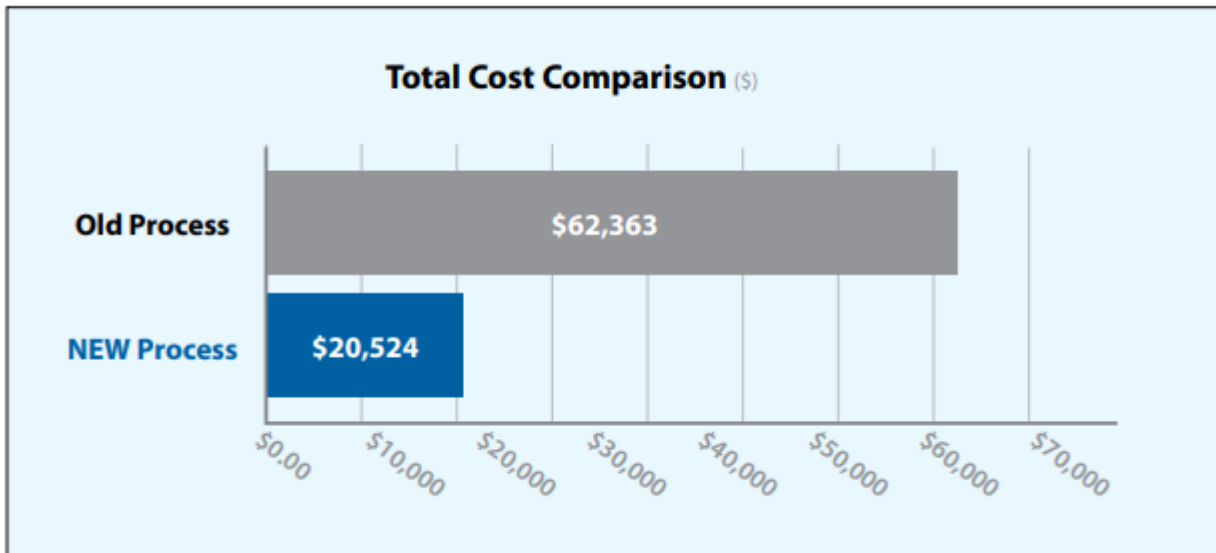
The following results were observed from testing the AE-TL-N end mill. OSG's AE-TL-N was able to machine double the amount of parts as the competitor tool at a much higher feed rate. This led to a cycle time reduction of 7 minutes per part.

- SFM was increased *from 524 SFM to 997 SFM*
- Tool Cost was *reduced by 46%*
- Number of parts was increased *from 4 to 8*

Results Overview	
Cycle Time Saved Per Part (Minutes)	7.08
Number of Parts Per Year	1,400
Annual Cycle Time Saved (Minutes)	9,914
Annual Machine Cost Savings	\$16,523
Tool Life Improvement (Parts)	100%
Annual Tool Change Cost Savings	\$2,916.67
<b>Total Machining Cost Saved Annually</b>	<b>\$41,839</b>

## THE CONCLUSION

The customer was able to achieve their goal of reducing overall manufacturing costs. The lower tool cost of the AE-TL-N, paired with the higher running parameters greatly reduced the annual tool cost. Tool life of the AE-TL-N was also double that of the competitor tool. All these factors led to *a cost savings of nearly \$42,000 per year.*



*Previously Featured on OSG Tools' website.  
Download a PDF of the Case Study [here](#).*

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

Copyright ©2024 MSC Industrial Supply Co.