CUTTING EDGE CASE STUDIES

DRILLING
AUTOMOTIVE
ALLOY STEEL

A BRAND ADO-SUS

SNAPSHOT

BACKGROUND
Customer was facing issues with premature drill wear, and wanted to improve their manufacturing process.

GOALS
The goal of this study was to increase the drills tool life as well as decrease cycle time.

DETAILS

INDUSTRY
Automotive

PART
Banjo Bolt

MATERIAL
4037 Alloy Steel (P)

MACHINE
Screw Machine | Water Soluble

SPINDLE
HSK32

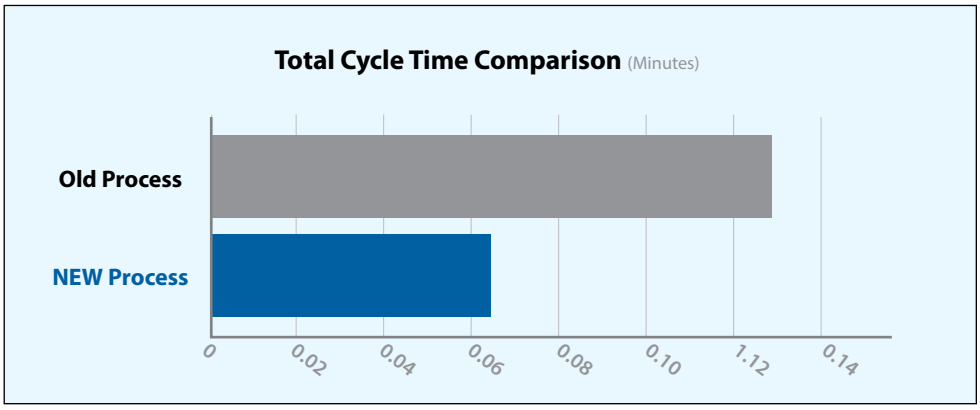
ORIGINAL TOOLING
Conventional
0.126" | 2 Flute | V Coating

NEW TOOLING
A Brand ADO-SUS
0.126" | 2 Flute | EgiAs

OVER $540,000 SAVINGS!

THE STRATEGY
To switch from a powdered metal drill to a carbide drill for increased wear resistance. This higher quality drill also allowed for an increase in both speed and feed.

	Original Process	NEW Process
Tool Diameter (Inch)	0.126"	**0.126"**
Cutting Speed (RPM • SFM)	3,100 • 102	**7,500 • 248**
Feed (IPM)	7.75	**15**
Hole Depth (in.)	0.975"	**0.975"**
Metal Removal Rate	0.10 in^3 min	**0.19 in^3 min**
Cycle Time (Minutes)	0.1258	**0.0650**
Tool Life (# of Holes)	1,200	**5,000**



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THE RESULTS

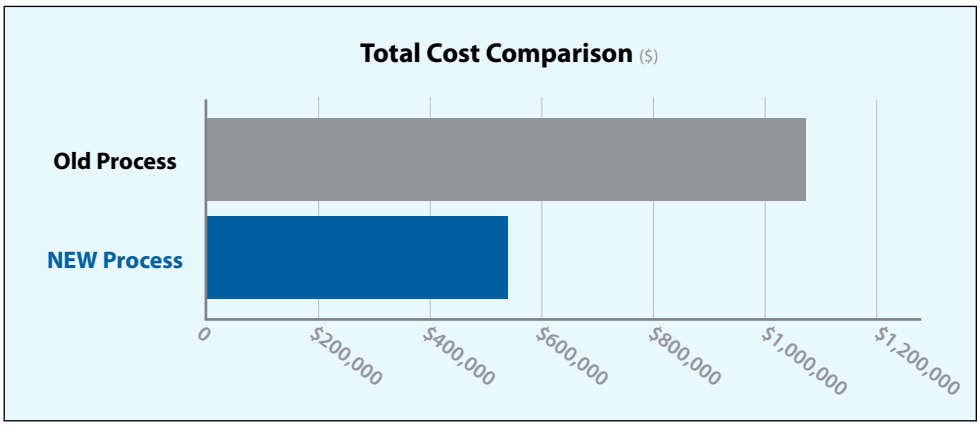
After switching from their old tooling to OSG's A-Brand drill, they were able to see an increase of tool life from 1,200 holes to over 5,000 holes. They were also able to reduce their overall cycle time from 7.55 seconds per hole down to 3.9 seconds per hole. With an annual production of over 6,000,000 pieces, this quickly added up to an overall cost savings of over $540,000!

- Reduced cycle time ***from 7.55 seconds to 3.9 seconds per hole***
- Increased tool life ***from 1,200 holes to 5,000 holes***
- ***An overall cost savings of over $540,000!***

Results Overview	
Cycle Time Saved per Part (Minutes)	**0.06**
Annual Part Production	**6,000,000**
Annual Cycle Time Saved (Minutes)	**364,839**
Annual Machine Cost Savings	**$456,048**
Tool Life Productivity Improvement	**317%**
Annual Tool Change Cost Savings	**$23,750.00**
Total Machining Cost Saved Annually	**$534,884**

THE CONCLUSION

OSG was able to improve their process by switching them to a premium drill that could keep up with their high production demands.



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