

BACKGROUND

A large job shop specializing in subsea components was drilling deep holes by traditional gun drills, leading to long cycle times and short tool life.

GOALS

The customer wished to reduce cycle time and increase their productivity.

DETAILS

INDUSTRY

Energy

PART

Hot Stab

MATERIAL

Nitronic 60

MACHINE

MAZAK Integrex E420

SPINDLE

HSK-A/E100

ORIGINAL TOOLING

Carbide Gun Drill 0.25" | 1 Flute | TiAIN

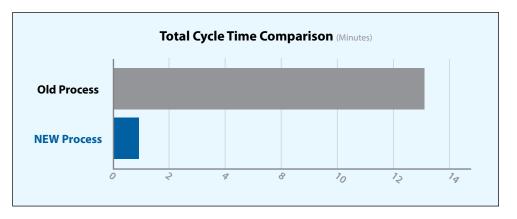
NEW TOOLING A Brand ADO 30D 0.25" | 2 Flute | EgiAs

NEARLY \$4,000 IN ANNUAL SAVINGS!

THE STRATEGY

Our recommendation was to introduce our ADO 30D drill. The ADO long drill series allows for efficient chip evacuation for deep holes. Being a twist drill, coupled with new point geometry and the wear resistant EgiAs coating, this tool can perform at higher speed and feed rates while maintaining long tool life.

	Original Process	NEW Process
Tool Diameter (Inch)	0.25"	0.25"
Cutting Speed (RPM • SFM)	1,528 • 100	1,986 • 130
Feed (IPM)	0.4584	8
Hole Depth (In)	6.06"	6.06"
Metal Removal Rate	0.02 in ³ min	0.39 in ³ min
Cycle Time (Minutes)	13.2199	0.7628
Tool Life (# of Holes)	14	56









THE RESULTS

By increasing the drilling feed rates from 0.45 to 8 IPM, the ADO 30D drill was able to reduce cycle time by over 12 minutes per part, which totaled over 60 hours a year of machine time. Couple that with a significant tool life increase from 14 to 56 parts per drill, the ADO 30D was the distinct winner.

- Reduced cycle time by over 12 minutes per part.
- Saved over 60 hours per year!
- Increased from 14 to 56 parts per drill.
- A total savings of \$3,876

Results Overview		
Cycle Time Saved Per Part (Minutes)	12.46	
Number of Parts Per Year	300	
Annual Cycle Time Saved (Minutes)	3,737	
Annual Machine Cost Savings	\$4,671	
Tool Life Productivity Improvement (%)	300%	
Annual Tool Change Cost Savings	\$60.27	
Total Machining Cost Saved Annually	\$3,876	

SNAPSHOT

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THE CONCLUSION

With **nearly \$4,000** in savings, the customer was not only extremely happy, but impressed to see new drill technology really show a significant advantage over traditional gun drilling methods.



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