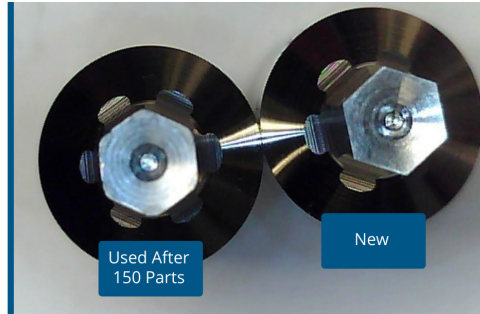


Helping a Small Parts Components Manufacturer Reduce Turbulence in Machining Inconel 718 & MP35N

HassayMAX



When **Digital Machining Systems (DMS)** wanted to reduce their cost of tooling for making port plug screws with T-15 tools from two competitors on a CNC lathe, the Louisiana-based small parts components manufacturer turned to us for assistance.

After finding us through an online search, DMS has been benefitting from the quality of the Hassay MAX broaching tools we manufacture. Over the past six months, the company has also taken advantage of our Tooling Concierge service which leverages our technical knowledge to connect customers with the ideal broaching tools, reamers, micro endmills & drills, and more for their specific applications.

In a case of exceeding expectations, DMS's engineers experimented and successfully *doubled the recommended feed rates of 3.5 IPM to 7 IPM*. The Hassay MAX broach is outperforming the benchmarks that we thought it is capable of.

"Pilot has impressed us with their unique combination of quality products and technical expertise," says Eric Terradot, Tooling Manager at Digital Machining Systems "They take a hands-on approach that has added considerable value to our operations."



Hassay Max after machining 150 parts

Background

After asking a battery of questions that allowed us to develop a thorough understanding of DMS's application, we recommended that the customer switch to a Hassay MAX rotary broaching tool from tooling he had been using.

DMS took our advice because our broach *provides longer tool life at a comparable cost to what they pay for the tooling being used*. As a result of the increased tool life our hexagonal rotary broaches offer, DMS is experiencing these benefits:

- 12.5x more parts machined per tool
- Better edge toughness
- 90%+ reduction in cost per part
- 93% reduction in monthly productivity losses
- 50% improvement in cycle times
- 100% improvement in feed rates (IPM)
- Monthly cost savings of more than \$5,000



HassayMAX tool after machining 95 parts

What the Future Holds

After having problems with another manufacturer's tool holder, DMS is exploring the possibility of purchasing tool holders from us while continuing to reap the advantages of our hex rotary broaches.

Eric Terradot will not use any other rotary broach and will be using our tools in all applications moving forward, even in Stainless Steel parts they make.

Tooling Report

Company: Digital Machine Systems		Date: March 2021
Pilot Product Group being tested		Hassay Rotary & Index Broach
Pilot Tool EDP & Description		66112-M 1/2 shank
Current Tool EDP & Description		T-15 Tools from Two Competitors
Material		Inconel718 and MP35N at 45HRC
Current Tool vs. Proposed Tool	Current Tool	Pilot Test Tool
Pre-hole diameter	0.1960	0.1960
Depth of Cut / Width of Cut	0.1650	0.1650
Speed - SFM or RPM	800	800
Shop/Machine Hr. Rate	\$125.00	
Parts per Month - or - Total parts on job	550	
Months job will run (Enter 12 if longer than a Yr)	1	
Current Tool vs. Proposed Tool	Current Tool	Pilot Test Tool
Price per Tool	\$82.10	\$92.10
Parts Machined Per Tool	8	100
Calculated Cost per Part	\$10.26	\$0.92
Cost Savings per Month		\$5,137.83
Cost Savings per Year/Job total		\$5,137.83
Tool Change Time (minutes)	1.00	
Calculated tool change cost per Month	\$ 143.23	\$ 11.46
Lost Production hours per Month	1.15	0.09
Lost Production hours per Year/job	1.15	0.09
Cost Savings per Month		\$131.77
Cost Savings per Year/Job total		\$131.77
Cycle Time Reduction (if applicable)		
Tool Cycle Time / part (minutes)	0.04	0.02
Feedrate (IPM)	3.50	7.00
Additional machining hours avail. per Mo	45.83	0.18
Additional machining hours avail. per Yr/job	45.83	0.18
Cost Savings per Month		\$22.92
Cost Savings per Year/Job total		\$22.92
Overview		
Tool Cost per Part Savings per Year/job)		\$5,137.83
Tool Change Cost Savings per Year/job)		\$131.77
Cycle time reduction Cost/pc Savings per Year/job)		\$22.92
Total Cost Savings per Year / Job		\$5,292.51
Total Cost / Part Savings Percentage		91%
Additional machining hours gained / Year / job		1.24