

Carbide Tool Grinding Success

Power Generation (USA)

Gas Turbines – Tooling Regrind

Castrol Honilo® 710

ANNUAL SAVINGS: \$116,003



THE SITUATION

A leading gas turbine manufacturer challenged Castrol to deliver cost improvements. This customer was using numerous carbide end mills in their various machining operations. With the high usage of end mills, the cutter-grind department was unable to keep up with all the regrinds, even with their high priced grinding oil..

BEFORE

- Outsourcing regrind of 3 different end mill sizes
- Using a high cost straight oil
- Running cutter-grind machines at 60% efficiency, due to potential fire hazard

AFTER

- Reduced grinding oil cost by over \$2.00 per gallon
- Increased cutter-grind machines to 140% efficiency and eliminated the potential fire hazard
- Brought one of the three outsourced end mills back in house

THE SOLUTION

- The objective was to improve cutter-grind productivity and eliminate outsourcing of end mill regrind.
- This conversion was a best practice transfer from a nearby customer that was using a similar oil and experiencing many of the same issues.
- New part pallets were designed to process more part regrinds per day.
- Castrol Honilo 710 worked great in the Transor filtration system, remaining very clean over time.

- 50% improvement in productivity
- Technologically advanced products coupled with problem solving expertise
- Customer buy-in and support throughout

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RECOMMENDATIONS

The proposal was made to convert the systems to a proven grinding oil that had solved similar issues at a major manufacturer of carbide tooling. The tooling manufacturer was using the same machine tools and filtration systems (Transor).

CONCLUSION

One year after the oil conversion, the data shows improvements in productivity, fire potential and overall cost. Excellent operator acceptance was achieved as well.

The overall result was \$116,003* in savings from reduction of regrind outsourcing, increased throughput, and lower oil cost.

Once further pallet modifications can be completed, the customer will bring another end mill back in-house for regrind, generating additional savings.

*Note: The savings of \$116,003 takes into account the cost of pallet modifications.



OTHER POTENTIAL APPLICATIONS

Castrol Honilo 710 can be used for grinding, honing, and small part machining on a wide variety of materials. It is very effective in standard Transor and other common filtration systems.