

# Gear Hobbing Success

## AUTOMOTIVE (USA) TRANSMISSIONS

Castrol Variocut® B 27

**ANNUAL SAVINGS: \$41,938**

### THE SITUATION

At a major automotive customer, Castrol's chemical management program is tasked with delivering total value. This customer was experiencing elevated oil usage and misting in its gear hobbing operations. High amounts of oil carry-out could be seen on both the parts and chips.

### BEFORE

- High oil carry out on both the parts and chips
- A mist 'haze' over the production area
- Cost per unit: \$0.97

### AFTER

- Reduced annual usage by over 5,000 gallons (**15% reduction**)
  - Less carry out on chips and parts
- **Less misting** lead to much lower 'haze' over the production area
- Cost per unit: \$0.89

### THE SOLUTION

- Castrol personnel were Six Sigma trained to assist with the project.
- The customer is always looking to improve fluids and processes while reducing the overall costs, so Castrol brought this project to the table.
- Six Sigma tools were used to analyze and monitor the process and final outcome.
- A team effort between on-site Castrol, Castrol engineering, and customer personnel all played a role.



- **9% reduction in CPU for this process**
- **15% reduction in usage**
- **Technologically advanced products coupled with problem solving expertise**
- **Customer buy-in and support throughout**

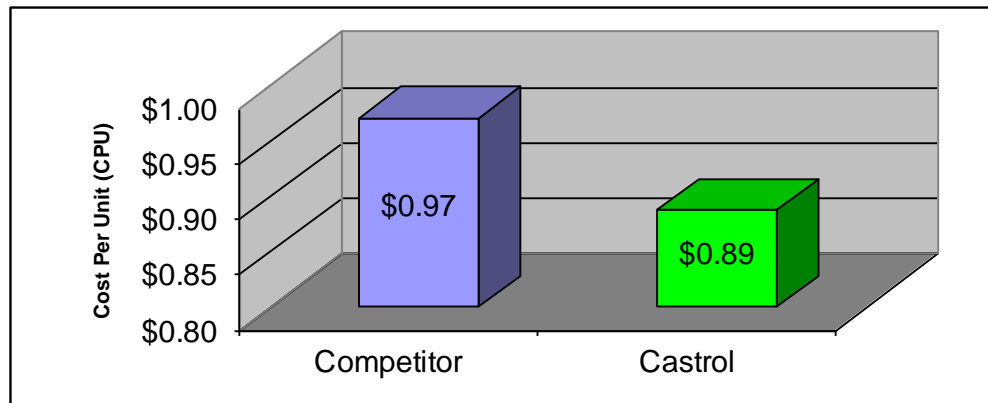
# Gear Hobbing Success

## RECOMMENDATIONS

The proposal was made to convert the system to a lighter viscosity fluid that would not carry-out on the parts as much and could be easily reclaimed from the chip hoppers. Variocut B 27 accomplished this goal while maintaining excellent machining performance.

## CONCLUSION

By using documentation, driven fluid performance and benchmarking, Castrol was able to prove the success of the Variocut B 27. With assistance from the customer, the process was closely monitored, and accurate, detailed information was gathered. This information was analyzed using Six Sigma methodology to arrive at an unbiased conclusion – **Castrol Variocut B 27 was a significant improvement over the previous neat oil.**



## OTHER POTENTIAL APPLICATIONS

Castrol Variocut B 27 can be used for broaching steel, stainless steel, and many difficult alloys, although it is not recommended for yellow metal machining. Variocut B 27 is also excellent for gear hobbing and gear shaping applications.

Castrol, the Castrol logo and Castrol Variocut are trademarks of Castrol Limited, used under licence.