

### Challenges

An automotive engine plant was suffering from poor tool life in a reaming operation that required a daily tool change prior to production.

### Providing Solutions

Introduction of Quaker's QUAKERAL® 370, a heavy duty, chlorine-free product yielded a substantial gain in tool life at lower coolant usage. This environmentally up-to-date product which uses Quaker's proprietary ester technology to replace harmful extreme pressure additives resulted in total process cost reduction for this particular operation.

The use of QUAKERAL® 370 resulted in:

- Changing tools every two weeks instead of daily yielding an annual cost savings of \$309,000 in tool costs
- Ten more stations in the transfer line show comparable savings
- Annual coolant consumption reduction of 8%

### Customer Reference

- Rolls Royce Aerospace - Approved CSS 129/131 Type A)
- Ford New Engine Programs - Approved Toxicology 116778 C2
- Allied Signal
- Cosworth Engines
- Cummins
- GKN
- Perkin
- Toyota
- TRW

### OEM Reference

- Alfing
- Deckel
- Excello
- Gehring
- Giddings
- Grob
- Heller
- Honsberg
- Lamb
- Makino
- Mapal
- Mazak
- Mollart
- Nagel
- Toyota
- Varinelli

### Product Description

QUAKERAL® 370 is based on advanced ester technology and suitable for machining titanium, aluminium, steel, alloy steels and cast iron. QUAKERAL® 370 can be used on all general metalworking applications as well as arduous operations such as:

- Broaching
- Creep feed grinding
- Cut tapping
- Gun Drilling
- Hobbing
- Mapal reaming
- Neat oil replacement
- Turbine machining

### Process & Equipment

	LaSalle
Part:	Connecting Rods
Part Alloy:	MS 405 Forged Steel
Tooling:	HSS Inserts
Concentration:	6%
Specific Operation:	Reaming

### Product & Process Expertise

Metalworking lubricants represent a very minor part of the costs in a metalworking process, typically less than 1%. This case illustrates the importance of correct fluid selection. The impact of the fluid can be a multiple of its costs, making the price of a metalworking fluid insignificant. That is why Quaker focuses on developing fluids with the highest performance without compromise, fluids that sharpen your competitive edge.