

## Challenges

An automotive engine plant was forced to deal with old and leaky equipment. Tramp oils contaminating their systems resulted in:

- Poor tool life
- Machine down time
- Frequent system recharges
- Dirty machines and floors

## Providing Solutions

Introduction of Quaker's QUAKERAL® 370, a heavy-duty, chlorine-free product yielded a substantial gain in tool life along with 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:

- Tramp oil rejection of up to 12%.
- Tool life increases from 700 to 2400 cycles per tool change. This represented annual tool savings of \$107,511.
- Eliminating partial system dumps resulting in an 80% reduction in consumption.
- Cleaned interior of machine from residue buildup.
- Parts had a non-tacky residue after rinsing.

## 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

	<b>Excello</b>
<b>Part:</b>	Connecting Rods
<b>Part Alloy:</b>	MS 405 Forged Steel
<b>Tooling:</b>	HSS Inserts
<b>Concentration:</b>	6%
<b>Specific Operation:</b>	Turning, Boring

## 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.