

# AUTOMOTIVE PART MANUFACTURING

## MANAGEMENT SERVICES

### INTRODUCTION

A major OEM automotive parts manufacturer was experiencing some issues with their current washing process. There were 19 four-stage aqueous washes in operation removing several different forming oils. One wash chemical, at varying concentrations, was being used. The key process control parameter was the First Time Through Quality of the next assembly operation. The manufacturing engineering staff had determined that a significant reduction in quality occurred if the wash baths were not dumped weekly. The oil removed from these baths was a combination of forming oil, cleaning chemical residues and water in nearly equal proportions.

### ANALYSIS

Quaker's management team conducted a detailed analysis of the manufacturing process and identified the washes as a prime focal point for potential cost reductions due to the significant impact of these washes on maintenance costs, waste discharge and downstream quality. The team used cause and effect analysis techniques to design experiments and to establish the baseline data necessary to evaluate process and chemical changes. Quaker's corporate research staff used this data, along with the product specifications provided by the plant, to design an improved wash chemical. Working with the plant's manufacturing staff, Quaker Management Services<sup>sm</sup> (QMS) constructed controlled evaluation tests that reduced downstream risk to the plant. Firm criteria for approval were developed and jointly agreed to by a multi-disciplined project team before all testing.



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### RESULTS

The new wash chemical delivered process and economic improvements in several areas:

- The wash bath dump cycle increased from once per week to once per six weeks, thereby lowering discharge to the waste treatment plant by 85%.
- Maintenance costs were decreased by 33% per wash - from \$60,000 to \$40,000 - as weekly wash bath dumps were no longer accomplished on weekends at premium labor rates.
- First Time Through Quality was maintained at or above levels experienced before the chemical conversion.
- The improved splitting of oil from the wash resulted in a 98% pure oil stream that is now being recycled. Cost savings derived from this recycling will generate more than \$200,000 per year in revenue.
- Quaker's program generated a 30-40% reduction in per part total cleaning costs!

### CUSTOMER REFERENCES

AK Steel	Caterpillar	General Motors	SDI
Arcelor	Corus	Honeywell	Snecma
ArvinMeritor	DaimlerChrysler	Mittal Steel	Toyota
Bosch	Delphi	Nucor	Volvo
CSN	Ford	Renault	

### SERVICES BACKGROUND

Quaker Management Services<sup>sm</sup> (QMS) offers a full range of process expertise and support. Quaker programs are ISO 9000 certified and have received numerous supplier certifications and awards for excellence. QMS provides a disciplined approach to controlling the acquisition, delivery, storage, application and disposal of process fluids. QMS provides:

- Inventory Management
- Process Monitoring
- Chemical Usage Reporting
- Chemical Sampling
- Knowledge Sharing
- Fluid Recycling
- Waste Management
- Technical Support
- Engineering Services



For more information, visit: [www.quakerchem.com](http://www.quakerchem.com)

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