FOCUS: DECREASE COOLANT COST OF HEAD LINE

$68,000 ANNUAL COOLANT SAVINGS. INCREASED PRODUCTION TO 3200 ENGINES PER MONTH AVERAGE
THE CHALLENGE
Overall lubricant costs were too high. A foaming problem was proving challenging. Coolant cost was $334,000 pa, with monthly billing based on usage.

ANALYSIS
Castrol Engineers found the root cause of contamination and recommended increased concentration of Castrol Clearedge 6510. This cleared up the foaming in the 60,000 gallon system. The recommended cost restructuring levelled the monthly billing making it easier for the customer to budget.

OUTCOME
Castrol Clearedge was restructured to cost-per-engine, reducing from $1.65 to $1.31 and saving $68,000 pa. The foaming problem was eliminated. Total cost was reduced to $266,000 pa.

$68,000 ANNUAL COOLANT SAVINGS. INCREASED PRODUCTION TO 3200 ENGINES PER MONTH AVERAGE
FOCUS: INCREASE COOLANT LIFE AND HONING UPTIME

AN INCREASE OF 108 HOURS OF UPTIME, PRODUCING AN INCREASE OF 6480 ENGINE BLOCKS ANNUALLY
THE CHALLENGE

The customer was incurring 2500 gallon coolant system dumps every six weeks due to high dirt content on their engine block honing operation, with 12 hours of downtime each change. The uptime is worth 1 engine block, 720 blocks lost production per dump.

ANALYSIS AND SOLUTION

Castrol recommended a magnetic filter system that pulled out the majority of system contamination. This system had been utilised in other Castrol customers that served as referrals. Castrol’s Engineers expertise in Root Cause Analysis and filtration system design solved the contamination problem.

OUTCOME

The changes resulted in zero system dumps over the course of a year, leading to 6480 blocks increased production, coolant waste reduced by 22,500 gallons and 108 hours of increased uptime.

AN INCREASE OF 108 HOURS OF UPTIME, PRODUCING AN INCREASE OF 6480 ENGINE BLOCKS ANNUALLY
FOCUS: BALL SCREW FAILURES ON THE ROD LINE

ELIMINATIONS OF BALL SCREW FAILURES, TOTAL OF $417,240 COST SAVINGS
THE CHALLENGE
Eight ball screw failures in the first two years lead to significant lost production, labour and parts costs. Lost production at 6 hours per ball screw amounted to 3240 rods at a cost of $38,880, with ball screws costing $12,000, plus the costs of bearings and seals.

ANALYSIS AND SOLUTION
Castrol engineers identified the root cause of the problem as wash-off of the existing Way Oil and recommended a change to Castrol Tribol 1066-220.

OUTCOME
Use of Castrol Tribol 1066-220 led to zero ball screw failures in five years. Coolant system life was improved, production increased and Way Oil usage reduced. Castrol was invited to participate with the problem solving and project team to help solve future problems.

ELIMINATIONS OF BALL SCREW FAILURES, TOTAL OF $417,240 COST SAVINGS

CASE STUDY
YOUR ADVANTAGE IN AN INDUSTRIAL WORLD

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FOCUS: REDUCE COSTS OF THE HONE PROCESS

CLEAN COOLANT AND TOTAL ANNUAL SAVINGS OF $106,200
THE CHALLENGE

The customer sought to reduce overall honing process costs, including reducing spindle costs, stone changes, product rework and scrap costs. Rework was leading to scratching in the cylinder bores caused by dirty coolant. Block costs were $130, spindle cost $15,000 over 2 years and stones were replaced after 1500 parts at a cost of $500. The customer was reworking 35 parts per day.

ANALYSIS AND SOLUTION

Castrol’s engineers recommended a magnetic filter system for Castrol Syntilo 9913 that pulled out the majority of system contamination and greatly reduced the dirt level, scratches, stone, spindle and block rework costs. This system had been utilised in other Castrol customers that served as referrals.

OUTCOME

Clean coolant led directly to spindle savings of $15,000, stone change savings of $24,000 and rework savings of $67,200 through decreased scratching.

CLEAN COOLANT AND TOTAL ANNUAL SAVINGS OF $106,200

CASE STUDY

YOUR ADVANTAGE IN AN INDUSTRIAL WORLD
FOCUS: INCREASE COOLANT LIFE ON THE HEAD LINE

ELIMINATION OF COOLANT ADDITIVES, REDUCED COOLANT CONSUMPTION AND $44,000 ANNUAL COST SAVINGS

CASE STUDY

YOUR ADVANTAGE IN AN INDUSTRIAL WORLD
THE CHALLENGE

A diesel engine manufacturer found that the head line coolant had a relatively short life requiring constant additive replenishment and biocide additions Kathon and Grotan, leading to the use of 43,900 gallons of coolant and total coolant costs of $516,000. Head production stood at 181,700.

ANALYSIS AND SOLUTION

Castrol Engineers recommended Castrol Clearedge 6510 and helped design a recycling system to separate tramp oil and water increasing coolant life.

OUTCOME

Castrol Clearedge 6510 and the design of a recycling system increased coolant life and eliminated coolant additives and biocides, saving $44,000. Plant output rose by 5.5% to 191,500 heads. Coolant costs fell to $471,000, with coolant usage down to 39,000 gallons.

ELIMINATION OF COOLANT ADDITIVES, REDUCED COOLANT CONSUMPTION AND $44,000 ANNUAL COST SAVINGS