Shell LubeVideoCheck

A BETTER WAY TO INSPECT THE INSIDE OF YOUR ENGINE.

What is Shell LubeVideoCheck?
It is a state-of-the-art digital fiber-optic method of inspecting difficult-to-access internal engine components, including cylinder heads, valves, cylinder walls and piston crowns, without dismantling the engine itself.

How does it work?
A videoscope, or miniature digital camera, is fed into the engine and transmits video images of key engine components to a high resolution monitor.

How can Shell LubeVideoCheck help my business?
Shell LubeVideoCheck is an efficient and non-invasive way of inspecting engine components. It can:
■ Allow for engine assessment without complete engine tear-down
■ Identify potential damage or problems in the engine
■ Provide visual indication of lubricant performance

Can it provide greater cost and time savings?
Yes. Compared to complete tear-down, Shell LubeVideoCheck can save you time and money in preventative maintenance.

What does Shell LubeVideoCheck offer?
■ Standard diesel-engine inspection of piston crown, combustion chamber, cylinder walls, and valves/head
■ Recorded video images of key engine components
■ Customer report including key findings, observations, diagnosis, and recommendations, if any
■ Ongoing tracking of value delivered if customer also participates in Shell Fleet Management Program
■ Greater benefits can be delivered when Shell LubeVideoCheck is used in conjunction with Shell LubeAnalyst Oil Conditioning Monitoring

Can it be used with all engine types?
Shell LubeVideoCheck can be used with diesel, gasoline and natural gas engines where fuel injectors or spark plugs can be removed.
## Challenge

Natural gas engines used to power wellhead gas compressors are located at unmanned sites in remote territories. This presents many challenges for an operator’s preventative maintenance program.

## Solution

Customers use the Shell LubeVideoCheck inspection service to assess component damage and identify potential operational issues before they become acute. Most valves, liners, piston crowns, and other components can be assessed without an engine teardown.

Oil analysis results indicated possible imminent engine failure for a large Liebherr crane. Due to the logistics of an engine failure in the field, the company was preparing to bring the crane back to the shop for overhaul.

The Shell Technical Advisor was consulted and he performed a Shell LubeVideoCheck videoscope inspection on the crane in the field to help identify any problem – no need for the crane to make the long trip back to the shop.

Shell performed a videoscope inspection of three water pumps to determine the source of wear metals. This inspection was provided through the Shell LubeVideoCheck service.

During a routine review of oil analysis data at a manufacturing plant, the Shell Technical Advisor noticed that emergency back-up water pumps showed excess wear metals.

## Outcome

One recent Shell LubeVideoCheck inspection discovered significant exhaust valve recession which, if allowed to continue, could cause a sudden and expensive failure.

The Shell LubeVideoCheck inspection showed no evidence of damage inside the engine. The investigation revealed that a minor auxiliary coupling had failed. This component was easily repaired in the field.

The Shell LubeVideoCheck inspection located damaged gears in the lube pump of one component. This finding prevented premature failure of the water pump, as the lube pump was replaced.

## Value

- **Total Savings**
  - **Natural Gas**: $15,000
  - **MQCC**: $43,500
  - **Manufacturing**: $180,000

Early warning averted a potential failure that could have inflicted significant damage to engine parts such as bearings, pistons, turbochargers and heads along with substantial unscheduled loss of production. It is estimated that use of Shell LubeVideoCheck generated savings in excess of US $15,000.

Direct cost savings of US $43,500 for engine parts and labor plus a week of crane rental revenue that would have been lost if the crane had been brought into the shop for repairs.

- Replacement water pump $120,000 (avoided cost)
- Cost to re-condition pump for spare $60,000 (avoided cost)

The term “Shell Lubricants” refers to the various Shell Group companies engaged in the lubricants business.

© SOPUS Products 2013. All rights reserved. CS8003-01