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Press Release

## Eliminate engine contamination with Techenomics

It is vital for equipment operators to effectively manage fluid contamination in engines and other moving parts because if left unchecked it can lead to engine or component failure, resulting in costly repairs, equipment downtime and lost productivity.

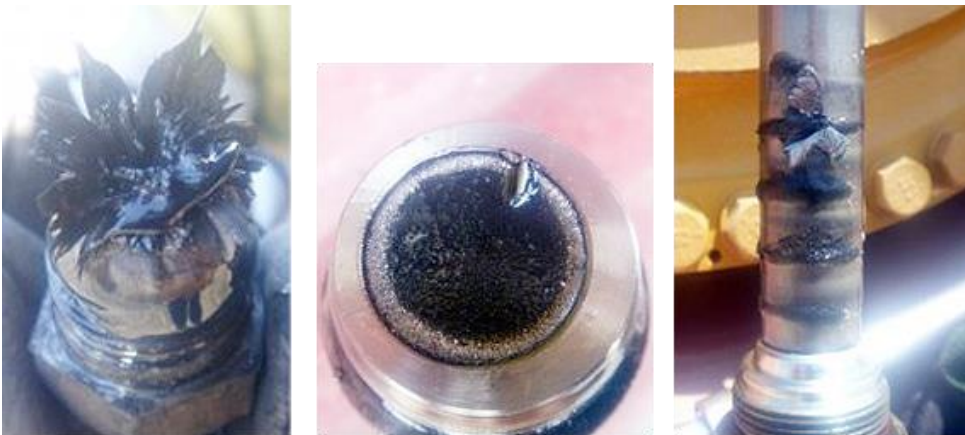
Clean lube oils mean smooth and efficient operation of engines and components. Techenomics International has innovative, state-of-the-art filtration and fluid analysis technology which it uses to design methods to eliminate contamination and provide operators with peace of mind in the quest for better productivity -whatever the application, wherever it is taking place and however the equipment is being used.



Chris Adsett, CEO of  
Techenomics International

Techenomics CEO Chris Adsett says primary contamination sources are the manufacturing process, new lube oil, coolants, hydraulic fluids and fuels, air ingress, and wear and tear. "Machined parts for moving equipment are typically washed in a solution filtered by 10 to 40 micron rated bag filters that leave smaller metal and silica particles in surface pores of components.

After assembly the added lubricants and fluids contain abrasive iron oxide and iron sulphide particles under 10 microns created by corrosion of the pipeline and refining processes. These assist in the break-in process but create more wear contamination. In engines additional contamination enters the lubes from the blow-by of the combustion process and air breathers."



Examples of contamination collected by magnetic plugs

Chris Adsett says the coolant system can also be a contamination source. "Ferrous and non-ferrous contamination, such as silica, causes premature wear and can plug-off the coolant system. Once in contact with oil in the engine, the coolant destroys engine components.

"Component tolerances for engines are between 8 and 3 microns and traditional engine lube oil filter have an estimated 30 microns and higher filtration capability with no ratings assigned by the OEM or aftermarket filter manufacturers. This filtration offers little or no protection from wear particles under 10 microns."

He says draining the oil does not remove all contamination under 10 microns as it tends to hang up on engine components. “New oil adds more fine metal contamination which grows in volume over the life of the engine, accelerates wear and reduces component life. Some engine manufacturers identify rebuild periods by the volume of contamination under 10 microns in oil during the oil analysis process.



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“With rotating equipment such as transmissions and gear boxes as well as in hydraulic systems, inadequate air breathers are a source of metal and dirt contamination. Bearings are also a concern as they have tolerances from 3 microns down to and below one micron but traditional full flow filtration is unable to efficiently filter below 10 microns.

“Hydraulic systems require fluid cleanliness below 10 microns for most components and under 1 micron for valves which traditional full flow filtration cannot provide. Compressor and turbine components, and the seals and valves of pneumatic systems are prematurely damaged by contamination under 1 micron and typical traditional filtration is unable to protect these systems,” Chris Adsett says.

“With so many contamination sources and typical filtration systems unable to provide adequate protection, equipment operators need to seek out the specialist, innovative and cost-effective solutions provided by Techenomics to ensure they get the most out of their equipment. As an independent fluid management specialist Techenomics can tailor its solutions to every situation,” he adds.

Equipment operators requiring assistance or advice with filtration issues should contact Techenomics – visit [www.techenomics.net](http://www.techenomics.net) or call +62 0542 762226 or +61 2 6571 2699.

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