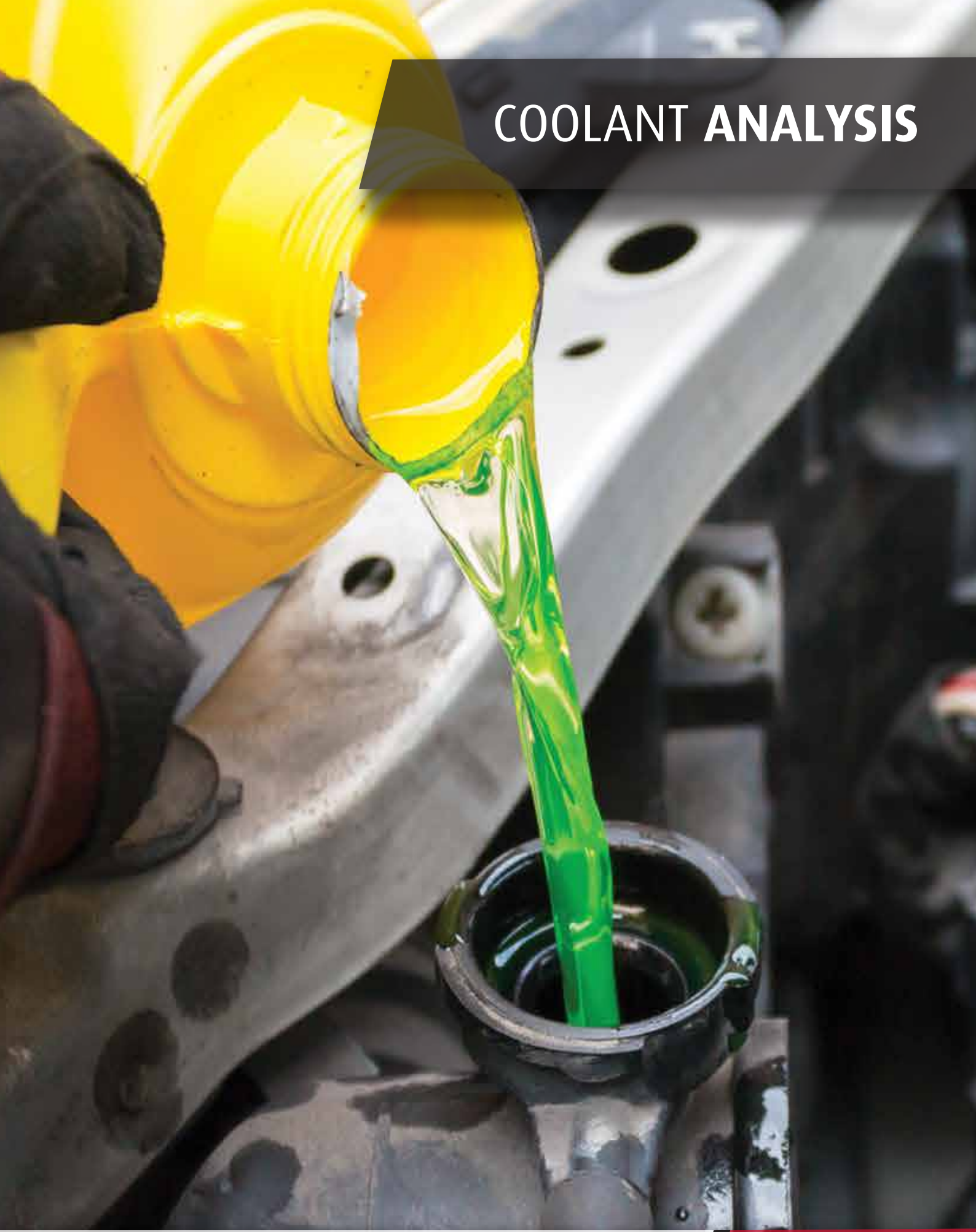

COOLANT **ANALYSIS**

WEAR CHECK®
Condition Monitoring Specialists

Testing and Analysis | Lubricant-Enabled Reliability |
Asset Reliability Care

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Coolant Analysis

Monitoring an engine's cooling system performance is imperative, as research shows that 40% to 60% of all diesel engine failures are caused by a faulty cooling system. Therefore, a key factor in avoiding dreaded premature engine failure is to keep the cooling system operating optimally by using the most appropriate coolant and regularly measuring its chemical and physical properties.

Without proper maintenance, cooling systems can lead to failure modes such as overheating, overcooling, pitting, cavitation erosion, cracked heads, piston seizures, reduced critical clearances, low oil viscosity, increased wear and plugged radiators.

The effects of these problems manifest as:
- Acid/alkalinity balance (corrosion)
- Scale and deposit formation (blockages)
- Electrolytic corrosion (electrolysis)
- Cavitation erosion (liner pitting)
- Galvanic corrosion
- Additive loss
- Aeration (erosion)
- Rust

The longer a particular coolant remains in an engine, the greater the probability of these problems occurring. With increased coolant service life, therefore, the need for regular coolant monitoring increases.

WearCheck has devised a set of tests to determine whether the coolant is in good condition and capable of doing its job. If any of the pre-determined parameters are found to be out of spec then remedial action can be taken to ensure the healthy, normal operation of the cooling system and, in turn, the engine.

Coolant Tests:

- Glycol % (Test Method: ASTM D3306)
- pH (Test Method: ASTM D1287)
- Nitrate ppm (Test Method: in-house)
- Molybdate ppm (Test Method: in-house)
- TDS Total Dissolved Solids ppm (Test Method: OEM)
- Foam (Test Method: in-house)

Other tests include:
- Freeze Point
- Boil Point

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