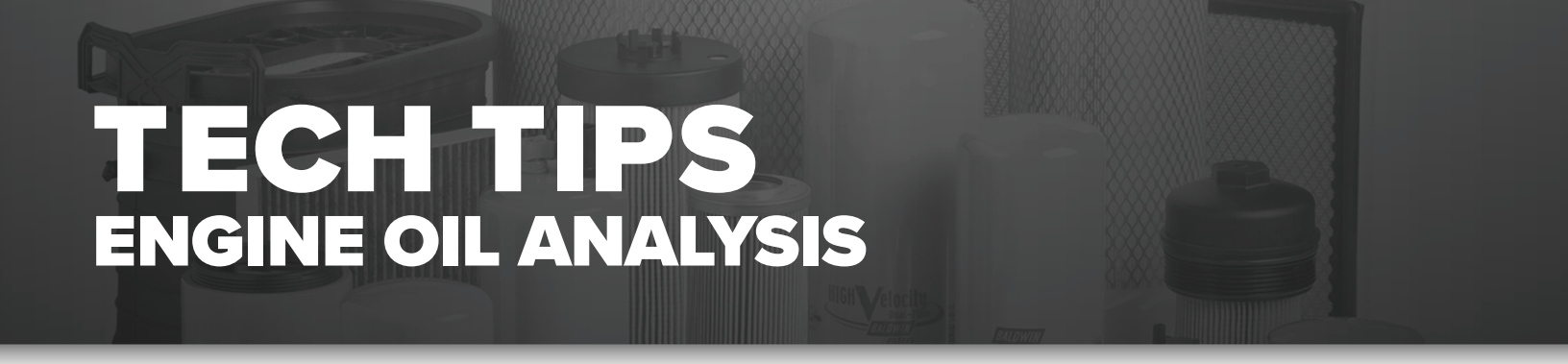

TECH TIPS
ENGINE OIL ANALYSIS

Use Oil Analysis To Gauge Engine's Health.

Oil analysis is a quick, nondestructive way to gauge the health of an engine by looking at what's in the oil. Oil analysis involves various laboratory tests performed on a sample of oil. The results of the tests provide information on the condition of the lubricant, contamination levels and wear rates of oil-lubricated components.

Baldwin offers an oil test kit, OTK5063, that includes a sample bottle and package for mailing to the laboratory.

Understanding the results of oil analysis can help get the most life out of oil. Characteristics that should be monitored include viscosity, fuel dilution, water and/or coolant, total solids and spectrographic analysis.

Viscosity is the most important property of lube oil. Through analysis, it can be determined whether the oil has thickened or thinned excessively. Abnormal results indicate that an operational or maintenance defect exists and should be corrected.

Fuel Dilution is the most common cause of oil thinning in diesel engines. Extended idling, low compression and/or defects in the fuel delivery system can contribute to oil thinning.

Water produced by combustion or coolant leaks can contaminate diesel engine crankcases. Water contamination is rarely found in diesel engine oil samples, as engines generally create enough heat to evaporate any water. Evidence of coolant in the crankcase oil indicates a leak that needs to be corrected.

Total Solids, the quantity of insoluble material in the oil, is a general indicator of the lubricant contamination level. Fuel soot is the most common material measured in the solids test. Limits should be furnished by the laboratory as test procedures and results vary from one lab to another.

Spectrographic Analysis can reveal abnormal internal wear, coolant leaks and dirt contamination.

Accurate interpretation of test data is an important part of any analysis program. Users can combine lab results with maintenance records to obtain a clear view of an engine’s condition.