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WHAT IS OIL ANALYSIS?

Oil analysis is a quick, nondestructive way to gauge the health of an engine by looking at what's in the oil.

What does a standard analysis include?
In our standard oil analysis, we perform four tests:

Spectral exam:
In the spectral exam, we take a portion of your oil sample and run it through a machine called a spectrometer. The spectrometer analyzes the oil and tells us the levels of the various metals and additives that are present in the oil. This gives us a gauge of how much your engine is wearing. To learn more about the elements we look at and where they come from in your oil, go to our Report Explanation page.

Insolubles test:
The insolubles test measures the amount of abrasive solids that are present in the oil. The solids are formed by oil oxidation (when the oil breaks down due to the presence of oxygen, accelerated by heat) and blow-by past the rings. This test tells you how good a job the oil filter is doing, and to what extent the oil has oxidized.

Viscosity test:
The viscosity measures the grade, or thickness, of the oil. Whether it's supposed to be a 5W/30, 15W/40, or some other grade, we will know (within a range) what the viscosity should be. If your viscosity falls outside that range, there's probably a reason: the oil could have been overheated or contaminated with fuel, moisture, or coolant.

Flash Point test:
The Flash Point test measures the temperature at which vapors from the oil ignite. For any specific grade of oil, we know what temperature the oil should flash at. If it flashes at or above that level, the oil is not contaminated. If the oil flashes off lower than it should, then it's probably been contaminated with something. Fuel is the most common contaminant in oil.

We can perform our standard oil analysis on any sample of oil, whether it's engine oil, transmission oil, an oil-based additive, power steering fluid, lube oil, hydraulic oil, biodiesel, or another type of oil.