

Oil Analysis Is the Key to Safely Extending Drain Intervals and Equipment Life

Because they recognize that as many as 80 percent of machine failures are due to insufficient or excess lubrication, or even the wrong type of lubricant altogether, plant managers and maintenance specialists frequently turn to oil analysis programs. These programs allow for an early diagnosis of potential problems which in turn can prevent equipment failure and save time and money.

Lubricant analysis can also be used to increase the performance and service life of vehicles. Commercial and construction fleet vehicles can use lubricant analysis procedures to maximize their uptime and improve cost effectiveness. Even the standard passenger vehicle can safely extend oil drain intervals and obtain a wealth of information which can be used to extend vehicle life through oil analysis.

Oil Analyzers INC.

What is oil analysis?

Oil analysis is an evaluation of a used fluid from a chemical and physical properties standpoint. As in the analyzing of human blood, oil analysis provides insight as to the internal condition of equipment, and of the oil itself.

What are the benefits of oil analysis?

Oil analysis enables you to:

- Obtain optimum equipment life by preventing premature failure
- Reduce maintenance costs by eliminating unscheduled downtime
- Identify pending problems before they become catastrophic
- Schedule preventative maintenance **when it is convenient for you**
- Calculate optimum drain intervals to reduce lubricant and disposal costs
- Enable better assessment of equipment and lubricant performance

How the Oil Analysis Program (OAP) Works

OAP is a four-step process:

1. **Registration**
2. **Sampling**
3. **Analysis**
4. **Diagnostic Reporting**

Step 1 - Registration

1. Begin the OAP process by purchasing a sampling kit. Simply call 1-800-777-7094 for pricing information or to order kits (and a sample pump if desired). You may order single kits or in quantities of 50 or 100, with lower per-kit prices for larger orders.
2. Upon receipt of your order, AMSOIL will immediately send out your sample kit, which includes sample bottle, sample information form and mailer.

Step 2 - Sampling

1. Read the Oil Sampling Procedures on the back of the sample information form.

2. Fill out the Sample Information Form completely.
3. Take a sample (minimum: 2 to 3 oz).
4. Close and seal sample container tightly.
5. Send the filled sample container and the Sample Information Form to OAI in the supplied mailer.

Step 3 - Analysis

Upon receipt of your sample at the laboratory, all requisite testing will be performed. All analyses include determination of viscosity, fuel dilution (if applicable), water, dirt content, fuel soot contamination (if applicable), plus spectrochemical analysis for 20 elements to determine component wear, airborne dirt, antifreeze contamination (if applicable), and oil additive concentrations.

The analyses also includes a neutralization value determination - Total Base Number, TBN (primarily for gasoline and diesel motor oils) or Total Acid Number, TAN (non-crankcase lubricants). Oxidation values and nitration value (if applicable) are also determined.

Step 4 - Reporting

1. OAI will mail your analysis report to you the day your sample is analyzed. For even faster results, request that your results be faxed to you, or go online and register to get your results online.
2. If your analysis uncovers a critical problem, such as pending equipment failure, a technician will telephone you directly to advise you of the situation and recommend a course of corrective action.

Oil Sampling Tips

- For best results, oil samples should be taken immediately after equipment shutdown, while the equipment is still at operating temperature. Never sample a cold engine, and always make sure the oil has been well circulated before taking a sample. Dirt, water and other debris tend to settle to the bottom of the reservoir while light fuels tend to float. This separation will compromise your analysis.
- Good locations for sampling include an oil gallery, the engine crankcase, the drain plug or dipstick tube and the equipment reservoir or sump.
- When taking oil from industrial machinery through a bottom drain, be careful to draw oil until your sample has a uniform, representative appearance.
- Use samples from the drain pan or oil filter only as a last resort. For a failed engine that has had the oil drained, a drain pan or oil filter sample may help detect the cause of the failure.
- Avoid prolonged skin contact with used oil. Wash exposed skin with soap and water after exposure.

CAUTION

Engine crankcase oil temperatures can exceed 200°F. To avoid personal injury, use protective equipment such as gloves, safety glasses and protective clothing.