



Proper Oil Sampling Intervals and Sample Collection Techniques

Gasoline/Diesel/Natural Gas Engines:

- Oil samples can be collected during oil changes. Follow manufacturers recommendations on frequency (hours, mileage, etc) of oil changes.
- Capture a sample from the draining oil while the oil is still hot or warm. Do not capture the oil that first comes out of the drain, wait a few moments for the sediment on the bottom of the pan to drain out first.
- Oil samples can also be collected with a handheld vacuum pump via drop tube through the dipstick retaining tube. This method would be preferred if the oil is only going to be changed based on oil analysis results.

Gear & Bearing Systems:

- Oil samples should be collected bi-monthly or monthly for regular use or quarterly for intermittent use.
- The preferred oil sample capture method is through the use of petcock valves at the exit of each gear or bearing set or through the system reservoir.
- If drop tube sampling is necessary, make sure the tube remains in an area that is representative of normal oil conditions or mid-level of a reservoir (i.e. not in sludge on bottom of gearbox or reservoir).

General sampling techniques:

- Obtain samples upstream of filters and downstream of machine components like bearings, gears, pistons, etc.
- Create written procedures for each system that is sampled. This ensures that each sample is extracted in a consistent manner and from the same location.
- Make sure sampling valves and sampling devices are thoroughly flushed prior to taking a sample. Cleanliness is of utmost importance concerning any item that will come in contact with the oil sample. Even bottles that have been open to the environment for any length of time can collect enough dirt to affect the sample results.
- Document any conditions that can be useful to an analyst like environmental conditions, load, hours on oil, dirt or water on/around sampling location, etc. If there is a possibility that an outside factor could have affected an oil sample, the analyst should know so there aren't any unnecessary recommendations made.
- Samples should be shipped/delivered to the oil analyzing lab as soon as possible after the sample has been collected.