

## **Use Criticality, Operating Conditions to Determine Sampling Intervals**

Although an equipment manufacturer's recommendations provide a good starting point for developing preventative maintenance practices, sampling intervals can easily vary. How critical a piece of equipment is to production is a major consideration for determining sampling frequency, as are environmental factors such as hot, dirty operating conditions, short trips with heavy loads and excessive idle times.

Maintenance goals also play an important part. Consider what you're trying to accomplish with your maintenance plan. If you are only concerned with the condition of the lube or the unit at any given point in time, your sampling intervals are probably going to be longer than if you were interested in optimizing drain intervals. It's also a good idea to discuss your maintenance goals and practices with both your OEM and your lubricant supplier so the ideal sampling interval can be determined.

The chart below explains at what interval and from what location to take a sample according to the type of component being tested. Also important to note is that with any unit type always remember that accurate and informative data analysis is possible only when samples are representative of the typical environmental conditions under which they operate. Dirt, system debris, water and light fuels tend to separate from the lubricant when system temperatures cool. Therefore, all lubricant samples should be taken while the system is operating under normal conditions or immediately after shutdown while the system is still at operating temperature.

## Sampling Intervals and Locations by Equipment Type

Equipment Type	Sampling Interval <i>Normal/Intermittent Use</i>	Sampling Location
Diesel Engines	Monthly or at 250-500 Hours/Quarterly Just Prior to Oil Drain	Through Dipstick Retaining Tube or Sampling Valve Installed in Filter Return
Natural Gas Engines	Monthly or at 250-500 Hours/Quarterly Just Prior to Oil Drain	Through Dipstick Retaining Tube or Sampling Valve Installed in Filter Return
Mechanical Transmissions, Differentials, Final Drive/Planetary	At Least Every 500 Hours No Less Than 3 Times Per Year Just Prior to Oil Drain	Through Oil Level Plug or Dipstick Retaining Tube
Hydraulics	Bi-Monthly or Monthly/Quarterly Just Prior to Oil Drain	Through Oil Fill Port of System Reservoir at Mid-Level
Gas Turbines	Monthly or at Least Every 500 Hours	Through Sample Valve Installed Upstream of the Filter on the Return Line or out of the System Reservoir
Steam Turbines	Bi-Monthly or Monthly/Quarterly	Through Sample Valve Installed Upstream of the Filter on the Return Line or out of the System Reservoir
Gas/Air Compressors	Monthly or at 500 Hours/Quarterly	Through Sample Valve Installed Upstream of the Filter on the Return Line or out of the System Reservoir
Refrigeration Compressors	Start, Mid & End of Season	Through Sample Valve Installed Upstream of the Filter on the Return Line or out of the System Reservoir
Gear & Bearing Systems	Bi-Monthly or Monthly/Quarterly	Through Petcock Valve at Exit of Each Gear or Bearing Set or Through System Reservoir