

## ***Are You Using the Wrong Oil?***

***LubeDoc 25***

One of the most common abnormal conditions detected by oil sampling, is the use of incorrect or noncomplying oil. This problem usually occurs during an oil change, top off, or when topping off with additive packs. In many applications, the use of the wrong oil can cause the same destruction as defective or contaminated oil. So in such a case as this, the oil analysis test method must have the ability to recognize wrong oil and non-complying oils in use, on your equipment or machinery.

There are many different options to use when testing for the wrong oil composition; some of these tests are listed below:

- 1) Viscosity - most often the only difference when wrong oil is applied is the viscosity.
- 2) FTIR Spectroscopy - this is the fingerprint or identification of many properties. If the base-stock or additive package has changed, the laboratory spectroscopes could notice this.
- 3) Elemental Analysis - the additive elements in the oil can provide another way to identify oil at an atomic level. When elemental concentrations increase or decrease, this is a tattletale way that the oil has been altered.
- 4) TBN/TAN - additives contribute to a big part of values in oil. A sudden shift of TBN or TAN may be due to the wrong oils added.
- 5) Color and Odor - a noticeable change in color or odor is always a determination of the wrong oil added. Usually oil will not mix compatibly if they are of different base additives.
- 6) Flash point - oils of different viscosities, base oil, or refining methods will tend to exhibit different flash points.

As you can see, it is very important to make sure that you and your company uses the right oil when topping off in the field, and in the shop.

Mixing the wrong oils can be very detrimental to your equipment and cause catastrophic failures costing thousands of dollars, for such a small mix-up. There are many different oils on the market today and they all have their qualities. Make sure that you use the right oil specs for your equipment. You should ask the equipment or oil manufacturer, for the recommended specs on the piece of machinery it is being used in.