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NEWSLETTER

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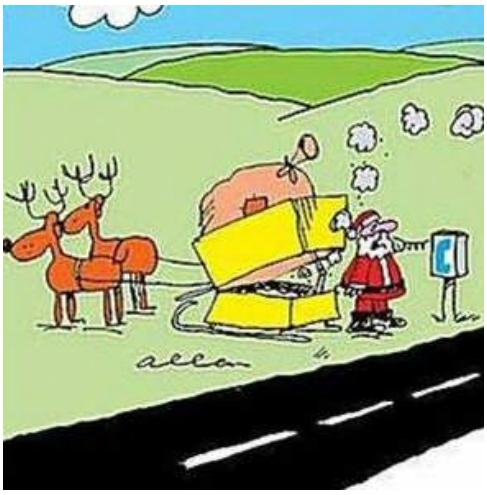


Hello Tribologik®? You were right… I should have tested…

Season's Greetings

TO ALL OUR CUSTOMERS, PARTNERS AND FRIENDS, PLEASE ACCEPT OUR BEST WISHES FOR HAPPY HOLIDAYS.

Sampling Procedure – The First Condition for Accurate Test Results

The very first step of oil analysis doesn't take place at the laboratory. It takes place at your plant or maintenance facility from the moment you extract the oil sample to be tested from your equipment. Proper oil sampling is the number one condition for accurate test results. It is as crucial as the calibration of the laboratory instruments and the strict observance of the testing procedures.

If not properly extracted, the types and number of wear and contamination particles contained in the sample will not be representative of the condition of the lubricant that circulates throughout your equipment. Only information contained in a ***representative sample*** of the lubricant can be a valid indicator of both machine and lubricant condition.

There are two basic principles for the extraction of a representative sample:

1. First, it must be extracted from a ***moving volume*** of lubricant. If this condition is met, that sample will be a snapshot of the lube and machine health at the moment that the sample is taken.

2. The sample must also be taken ***"hot"***, that is at the normal operational temperature of the machine. The latter will have been running for at least one hour at the time of sampling.

If these two conditions are not met, the whole oil analysis process will be falsified, including your test report.

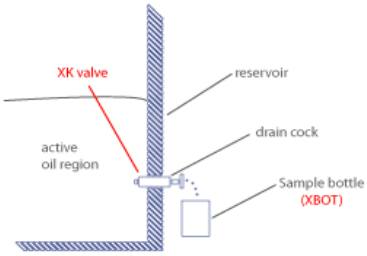
That the oil must be ***in motion is important***. As particles are generated, they are suspended in the oil. They are removed from the oil through filtration and sedimentation. The rate at which particles enter into suspension is equal to the rate at which they drop out. This is called dynamic equilibrium. Just how many particles are present at any one time in a representative sample is directly related to ***load*** and ***machine condition***.

Pumped Oil Lubrication System

In a pumped oil lubrication system, obtaining a representative sample is easy. Just install a sampling valve at any point ***upstream of the filter*** and make sure that the valve and tee connections are completely ***flushed out*** before each sample.

Non-Pressurized Lube System

In a non-pressurized lube system, representative sampling is more difficult and awkward. However, the cardinal rule of sampling from a ***moving volume*** of oil still applies.

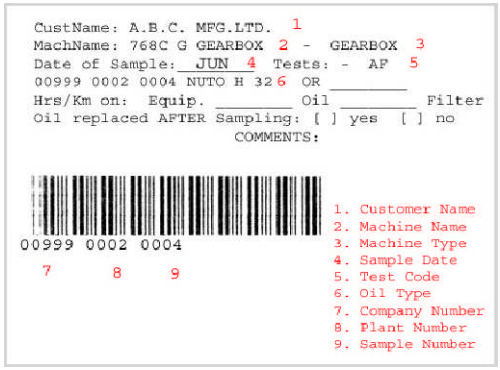


It is convenient to have an ***XK valve located on the tank or housing*** of the unit. Only a small flush is necessary to clear the valve of any accumulated debris.

Using a sampling tube and suction pump

If there is no sampling valve on the tank, a tube and suction pump are used. The tube can be inserted into the vent opening each time (but this can be awkward) and likely contaminate the oil sample as the tube brushes against objects both inside and outside the housing. It is far better to install the tube permanently. Sampling then becomes quick and easy, as one simply connects the pump to the end of the

tube.



Of course, you must make sure that the label is filled correctly and ***clearly*** and fixed on the bottle, to avoid identification problems and make sure that the laboratory performs the right tests on the right machine.

At the end of the day, a proper, systematic and seamless sampling procedure is easy to apply. It saves time and money and ensures the accuracy of your test results.

These are general sampling principles for a representative sample. In the next issue, we will describe a detailed step by step sampling procedure.

For additional information, please contact your technical representative.

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