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Is Your Bearing Getting Fresh Grease?

Use caution with grease lines that run out of the machine frame, intended to provide easy lubrication access points. Since these line extensions often carry more than a few shots of grease, the grease entering the bearing will not be robust and fresh. Vibration, time and temperature changes can lead to leaching of critical oil components from the grease thickener, leaving a dry soap in the tube.

Also, without visual access to the bearing area there can be numerous undetected problems. The best approach is to provide access to the lube point as close to the bearing as possible. This enables the bearing to be inspected and ensures that fresh grease enters the lube cavity. (Submitted by William Morgan, Maintenance Engineer, Morgan & Associates. Thanks William!)

Congratulations to Doug McBride, Reliability TEAM Leader, Temple Inland for winning last week's Readers Challenge - Unusual Particle Counts Confusing. See the winning response, as well as other responses.

Each tip published will earn the sender $100. Submit your tip.

Sponsor: Stop Over & Under Lubrication

PdMA Corporation is pleased to announce that we are a distributor for the Ultra-Lube.

Attach the Ultra-Lube to your grease gun and bearings will tell you when they've had enough grease.

The Ultra-Lube allows lubrication technicians to listen to the quality of sound of a bearing while lubricating. The ability to listen to the bearing as lubrication is being

injected prevents over and under-lubrication because the user is able to hear bearing sound change when enough lubrication has entered the cavity.

For a brochure or more information please contact Cheryl Huff at 813-621-6463 Ext 111 or e-mail Cheryl@pdma.com.

Book Bits: What Is An Injected Contaminant?

From the book "Fluid Contamination Control"

Injected contaminant results from human involvement with the system from the time the first elements are cast and machined to the time they are assembled, the system or machine is rolled-off the assembly line, and the system is broken-in, serviced, maintained, repaired and overhauled. All along the way, the fluid system is subjected to contamination from human intervention - during the normal course of legitimate activities, through unprotected and improper intrusions by operating and service personnel, and by vandalism.

The conditions under which the internally wetted surfaces of a fluid system are opened to the environment are as critical to the prognosis of a machine as sterility and cleanliness are in the case of exploratory surgery on a human. Injected contaminant is a critical factor with regard to fluid system service life and reliability.

More information about the book "Fluid Contamination Control"

Sponsor: LubriMist® Synthetic Lube Oil

Would you like to improve the performance and reliability of your oil mist lubrication system? Call us about combining planned maintenance with the use of LubriMist Synthetic Oil.

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800-800-5823 or 713-464-6266, Ext. 152

dcbranham@lsc.com

Lube-Trivia: Name That Additive

Test your knowledge and prepare for ICML lubrication and oil analysis certification.

QUESTION: Name a common EP additive that is soluble in oil.

Get the answer.

Q & A: Causes of Gear Pump Cavitation

"We have six 6-MW diesel generator sets to meet the power requirement of our cement plant. We are facing cavitation problems in the lubricating oil gear pumps. The damage occurs to both the housing and gear surfaces. This results in only 8,000 hours of service life, which is too low. What are the possible reasons for gear pump cavitation?"

Cavitation can have several root causes. Some relate to system and component design issues and others are more service related. Cavitation occurs when either air or vapor bubbles form in the suction line fluid and are subsequently emploded in the pump by the pressured oil. This leads to microjets of oil pounding and eroding adjacent surfaces. Below is a list of possible contributing causes of cavitation:

1. Tank design issues. Turbulence in the tank churns the air into the oil or simply doesn't allow air to be released from the oil. This can be caused by plunging oil returns, low oil level, a tank that is too small, lack of proper baffling, etc.

2. Suction-line leaks. Leaks between the tank and the pump can introduce air. Often this is associated with the shaft seal at the pump that allows air to leak in.

3. Suction-line restriction. Sometimes suction lines are too long, too narrow or they are simply plugged (e.g., a plugged suction strainer).

4. Insufficient head. Depending on oil viscosity and suction line conditions, the pump must be located at a sufficiently low elevation to enable oil to flow readily from the tank to the inlet port of the pump.

5. Air release problems. As oils age and become contaminated air release properties become impaired. This simply means that once air bubbles form they stay locked into the matrix of the oil and don't detrain out of the oil in the reservoir. Moisture contamination and oxidation are known precursors to this problem, among many others. ASTM D3427 is a test for air release properties.

6. Water vapor. When hot oils become contaminated with water, superheated seam will form vapor bubbles in the oil.

7. High viscosity. When reservoir temperatures are too cold, during wintertime startup conditions for example, the viscosity may be too high to enable proper oil flow in the suction line and into the pump. Other causes of high oil viscosity can lead to the same problem.

Jim Fitch, Noria Corporation