Lube-Tips™

THE "LUBE-TIPS" SECTION OF *MACHINERY LUBRICATION* MAGAZINE FEATURES INNOVATIVE ideas submitted by our readers. Additional tips can be found in our Lube-Tips email newsletter. If you have a tip to share, email it to editor@noria.com. To receive the Lube-Tips newsletter, subscribe now at www.MachineryLubrication.com/page/subscriptions.

A Better Way to Filter Contaminants

When improving fluid cleanliness, it is much easier (and cheaper) to exclude contaminants by ensuring seals, vents and breathers are in good shape rather than to filter out contaminants when they are already inside a component. Use a full-flow spin oil filter (with an appropriate beta rating) as an air filter. Because the differential pressure across an air filter is lower than across a full-flow oil filter, oil filters are typically more efficient at removing particles from the air than they are from oil.

Check Soap Residue When Switching Greases

When converting from one grease to another, it may be helpful to determine how much soap residue you have residing in bearing housings and how much flushing will be necessary to eliminate the old material. If the amount of old material is low and the residue is soft and pliable, then you may be able to simply increase the relube frequency, perhaps doubling the cycle for a while to flush out the old grease.

Cap Disconnected Hoses During Maintenance

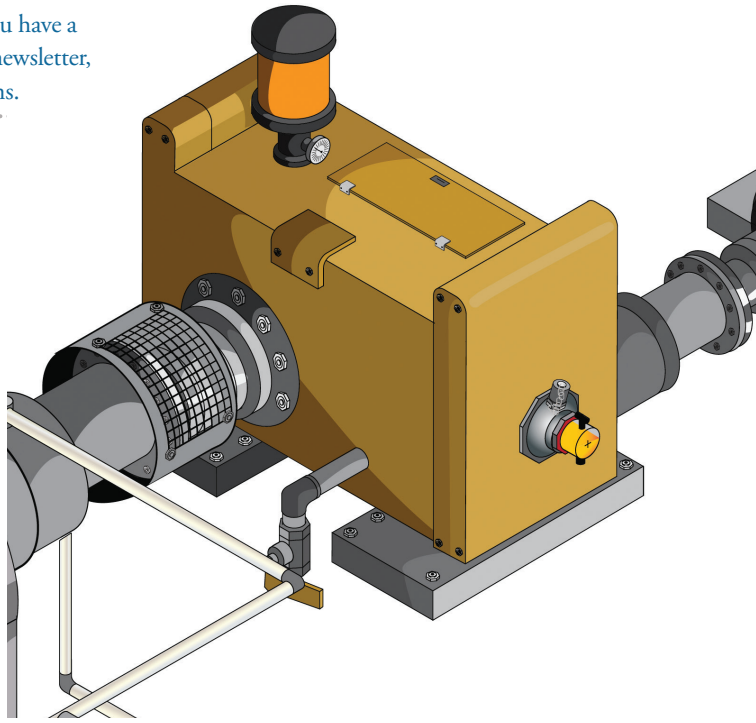
Always ensure that disconnected hoses are capped while maintenance is taking place. It is surprising how much debris can enter an open pipe. This will find its way into the system in short order, causing accelerated wear.

When to Use Silicone Synthetics

Silicone synthetic lubricants are used when resistance to oxidation, heat and/or water is important and the performance of other types of lubricants is unacceptable. Applications include high-temperature grease and the lubrication of oxygen compressors. Negatives for using silicone synthetics include high cost, poor boundary lubrication and poor additive solvency (they don't accept extreme-pressure and anti-wear additives).

Selecting a Grease to Prevent Corrosion

In a humid environment, condensate can form in rolling-element bearings and cause corrosion, leading to a reduction of the bearing life. By carefully choosing the grease lubricant, you can reduce the effect of the condensed moisture. Greases thickened with sodium soap will absorb (emulsify) large quantities of water but may soften it to such an extent that the grease flows out of the bearing. Lithium soap greases do not emulsify water, but with suitable additives can provide good protection against corrosion. There are also numerous greases with synthetic thickeners that offer excellent protection against corrosion, prolonging the bearing life.



Advice for Gearbox Oil Changes

When changing oil in a gearbox, put an air wand (from shop air or portable air source) down into the vent plug. This blows oil residue and deposits off the surface of the gear teeth and casing. It also pushes sediment off the case bottom. You may wish to hold up a shield to keep the splatter down. Afterward, flush the gearbox with a lower viscosity oil of the same type for a few minutes and then drain again using the air wand. With this method, the oil in the sight glass will look like a new gearbox with very little residue. The procedure is faster as well.

Why Viscosity Index Is Important

As the temperature of a gear oil increases, its ability to support a load decreases. This is due to the thinning effect that temperature has on the viscosity. The rate of change differs for each oil and is expressed in an oil's viscosity index (VI) number. The higher the VI number, the lower the rate of change.

If you have a hot gearbox that seems to have a low reliability rating, you might check to see if the oil has a suitable VI and is capable of holding up under the high temperatures. If the product's VI is less than 120, as shown on the product data sheet, then you might consider an alternative oil for the high-temperature, heavily loaded application.

Tips for Repacking Grease Guns

When repacking grease guns from a pressure line, wipe down the fitting and the pressure line to prevent contamination. When repacking with tubes, move to an environmentally controlled area, such as a control room, to replace the tube.

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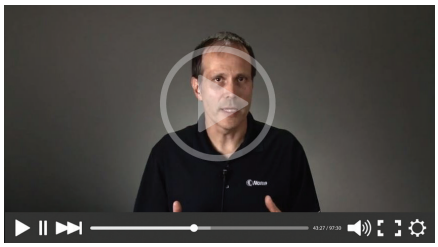
Signs of Lubricant Starvation

Once a mechanical system becomes depleted of lubricant, and the lubricating film keeping gears, bearings or slides apart is no longer present to support or protect the surfaces, surface-to-surface contact will occur. When two surfaces slide or rub together, friction is produced, and from friction comes heat. Check out this article on the ML site to discover the other signs that can indicate your machine is suffering from lubricant starvation as well as the most effective way to combat this condition.

Using KPIs to Measure Lubrication Effectiveness



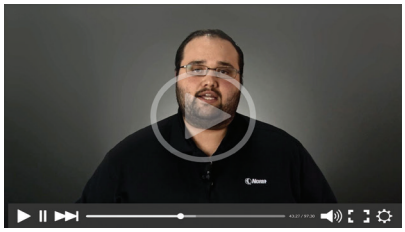
Key performance indicators (KPIs) are essential for evaluating the success of a lubrication program. Access this 2-minute, 15-second video to hear about some of the most common KPIs in industry and how they can be used to monitor the effectiveness of lubrication at your plant.

How Temperature Impacts Oil Condition

Temperature affects many things in the realm of machine reliability. At elevated temperatures, you would expect the lubricant viscosity to decrease, the lubricant film to become thinner, an acceleration in abrasion and scuffing conditions, the oil to age sooner, the additives to deplete quicker, an acceleration of corrosion, and the formation of sludge and varnish. Learn how these side effects of running at a higher temperature play a critical role in the health of the machine and the lubricant by reading this article on the ML site.

When a Single Oil Sampling Point Isn't Enough

Oil analysis can reveal the health of your lubricant and machines, but in complex pieces of equipment, a single sampling point is often not enough to determine what's wrong with your machine. Access



this 1-minute, 58-second video to understand the differences between primary and secondary sampling ports as well as when each type of port should be used.

Best Strategies for Lube Mapping

Lube mapping is a great practice for ensuring all lube points are properly maintained while minimizing the chances of lubricant cross-contamination. Read this article on the ML site to find out how lube mapping not only helps new workers identify and address all lubrication points on a given piece of equipment but also serves as a check to make sure even the most experienced technicians are hitting all the points as well. ■

FEATURED WHITE PAPERS

MachineryLubrication.com is the place to turn for white papers on a host of lubrication-related topics. Here's a sampling of the latest white papers that are currently available for download:

- Automatic Lubrication Systems That Stand Up to Corrosive, Caustic Environments
- How to Make Your Compressor Room Work for You
- Tips for a Lean Approach to Motor Reliability
- Ultrasound Lube Technician Handbook

Check out the full list of white papers by visiting www.MachineryLubrication.com and clicking on the "White Papers" link.

49% of lubrication professionals say inadequate lubrication would be the most likely cause of an early machine failure at their plant, based on a recent survey at MachineryLubrication.com