

INTRODUCING NEW GREASE

HOW TO INTRODUCE A NEW LUBRICANT WHEN GREASE COMPATIBILITY IS UNKNOWN

Often, for one reason or another, it becomes necessary to change the brand of grease used to lubricate a particular machine. If the grease in use may become mixed with a new brand, the question of grease compatibility must be addressed to ensure trouble-free changeover.

Grease compatibility is a complex subject because of the many variables and changing conditions involved. At one end of the scale, mixing a fresh lubricant with a severely oxidized portion of the same lubricant may produce immediate or progressive changes in the mixture. At the other end of the scale, greases with different thickeners may be mixed resulting in hardening or very soft or low melting mixtures, which may not provide adequate lubrication and may lead to early failures. Add to this the diverse operating conditions of time, temperature, and contaminants — and the uncertainties of predicting or measuring compatibility of greases are apparent. There is no practical rule one can apply to all mixtures of different greases to determine compatibility properties.

Grease compatibility tests are run with a 30/70, 50/50 and 70/30 concentration of the two greases tested. Additionally, the temperature is elevated well beyond normal operating range to insure a margin of safety. If testing reveals either marginal compatibility or complete incompatibility between two greases, changing lubricants will require some specific procedures.

RECOMMENDED PROCEDURES TO INTRODUCE NEW GREASE

In order to maintain the integrity of the grease and mitigate any potential damage to the equipment, the following procedures are recommended based on the type of lubricator in service:

AUTOMATIC LUBRICATORS

There is no safe alternative to purging the system and all lines, which will require some downtime for equipment serviced by the lubricator.

For a safe purge to be reasonably effective the following are the most important guidelines:

1. Exit path for old grease – the purge line must be clear, the vent cap must be removed and if the exit path is the grease seal, it must be pliable. If there is no planned or engineered exit path for old grease, the bearings will have to be uncapped and cleaned manually.
2. Size of the bearings – as bearing size increases, the amount of grease necessary to purge and adequately re-lubricate also increases. Bearings on shafts larger than 10 inches may require almost double the normal amount of grease.
3. Even after purging and re-greasing, the vent cap or plug should remain open for several hours to ensure the bearing can adjust to the proper amount of grease. Some re-lubrication may be necessary after resealing the bearing cavity.

MANUALLY LUBRICATED BEARINGS

On manually lubricated bearings, a safe purge of the old grease can normally be accomplished without a significant change in normal re-lubrication practice.

For most bearings that are manually lubricated via an allemite (zerk) fitting and are vented with a plug or vent tube, the following procedure should be adequate:

1. Remove the vent cap or plug first. Using the straw extension tube, spray a good supply of Maxfilm into the exit opening. This will soften and remove any caked or plugged grease.
2. Remove the grease fitting and follow same procedure with the inlet tube. Care should be taken if equipment is running as some blow-back may occur on faster bearings.
3. Allow 5 to 10 minutes for Maxfilm to soften any hardened grease. Re-lubricate with the new grease and pump a sufficient amount of grease until new clean grease is exiting the vent tube or grease seal. Run the equipment for 20 to 30 minutes, re-cap or plug if necessary and add some grease to compensate for any that was purged while running.
4. On larger bearings this may need to be repeated in 24 – 48 hours.
5. On capped or sealed bearing cavities, the bearing will have to be opened or exposed so that a thorough flush with Maxfilm can be accomplished. Then simply re-lubricate with the proper amount.

Royal Purple does not recommend the use of solvents or other agents for this type of cleaning. Maxfilm is suggested because of its natural solvency combined with its lubricating ability. The residue will not harm the bearing but will in fact help to lubricate during the transition.

As with any oil or grease change if the equipment condition changes, such as an increase in noise, vibration or temperature, re-lubricate immediately.

“When greases made from different thickeners are mixed, the mixture may be poorer in service performance or physical properties than either of the component products. This lessening in performance capability is called incompatibility. It may show up in any of several areas, such as, (1) lower heat resistance (2) change in consistency, usually softening, or (3) decrease in shear stability. Mixtures which show none of these changes are considered compatible.”

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