Bearing Secrets: Extending Intervals With Lubrication

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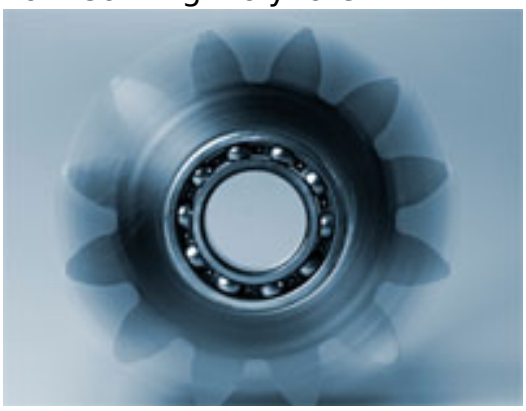

Proper re-greasing procedures also play a large role in preventing bearing failure

At the heart of almost every industrial facility are electric motors, which can render equipment inoperative should their rolling element bearings fail. This is an occurrence more common than necessary due to strain resulting from improper lubrication.

Typical causes include:

Loss of Lubricant: If the bearing is not re-greased at the appropriate interval, with the proper amount of grease, or if the oil is removed from the base of the grease by overheating, loss of lubricant can contribute to equipment failure.

Grease Incompatibility: Not all greases are compatible with each other. It is important to use the same grease or a compatible substitute for the life of a bearing.

Incorrect Grease: Be sure to use the correct grease for your application. Some bearing designs and applications only need general purpose (GP) grease while others require extreme pressure (EP) grease.

Grease Degradation: Grease hardening, chemical breakdown caused by excessive heat, and oil separation from grease base are each common types of grease degradation.

Excess Lubrication: When excess grease gets between the inner bearing caps and the shaft (occurring mainly with open face bearings) grease covering the end

windings of the insulation system can cause both winding and bearing failure.

Proper re-greasing procedures also play a large role in preventing bearing failure. Following strict re-greasing steps in the correct sequence helps to minimize failures:

1. Re-grease a bearing while the motor is running and hot, or after the motor is removed from service and the grease is still hot. Under operational conditions, the grease is less viscous.
2. Ensure the grease gun contains the right lubricant for the bearings to be re-greased.
3. Clean the areas around the fill and drain fittings to ensure contaminants are not introduced into the bearing cavity.
4. Remove the drain fitting.
5. Leave the draining plug out for the duration of the re-greasing process.
6. With the motor running at operating temperature, add the recommended quantity of grease, or add slowly until it begins to move into the relief tube.
7. After excessive grease has been purged, the drain plug should be re-installed and the excessive grease cleaned from the drain area.

Motor noise and vibration should be monitored upon installation to establish a baseline. At regular intervals, these measurements should be checked and any sudden or significant change considered reason to check bearing lubrication. Motor bearing temperature is also a valuable tool and should be monitored and trended over time. An increasing trend could be an indicator of the need to renew the grease, or that bearings are over-greased. Finally, attention should be paid to any high frequency noise output or vibration level as they may be signs of lubrication trouble.

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