

BEARING LUBRICATION



SOLVING PUZZLES OF BEARING LUBRICATION

Bearings are rotating and rolling elements used in machines. Lubrication forms the vital parameter in bearings and it effects the life of bearing. Let us see what are preventive measures for healthy life of bearing

Bearings are vital elements in many machineries as they help in reducing friction and allowing the moving parts to move smoothly. The bearings consist of the following parts



Lubrication is the heart of bearing which improves the life of bearing by reducing friction, wear and healthy life to equipment and rotating parts. The most important equipment of any industry is bearings eg: Every industry has electric motors which can make machines inoperative when the rolling elements (bearings) fail. This occurs due to challenges arising from improper lubrication.

CHALLENGES FOR BEARING LUBRICATION :

- **LOSS OF LUBRICANT :**

Re-greasing interval plays an important role in the loss of lubrication. Bearing should be lubricated at the appropriate interval with the exact amount of grease or if the oil is separated from thickener by overheating, there would be the loss of lubricant or loss of lubrication which can lead to equipment failure.



- **INCOMPATIBILITY WITH GREASE :**



All greases available are not always compatible with each other. There is a need that we should stay with the same grease or always check the compatibility of grease before a replacement and we should substitute with compatible bearing grease to prevent bearing failure.

- **INCORRECT GREASE :**

While selecting a grease for bearing we should always check the parameters since some bearings are designed for general purpose grease and few are for extreme pressure grease. The requirement changes with the design of bearing and application. One should smartly choose grease for the bearings.



- **DEGRADATION OF GREASE :**



Common types of grease degradation are hardening of grease, breakdown of grease caused by excessive heat, separation of oil from grease.

- **EXCESS LUBRICATION:**

It is a challenge mainly faced with open face bearings when surplus grease can cause an excessive temperature increase in the bearings due to churning and also it can be pushed back into the windings of the motor which may lead to overheating and deterioration of the electrical insulation on the winding.



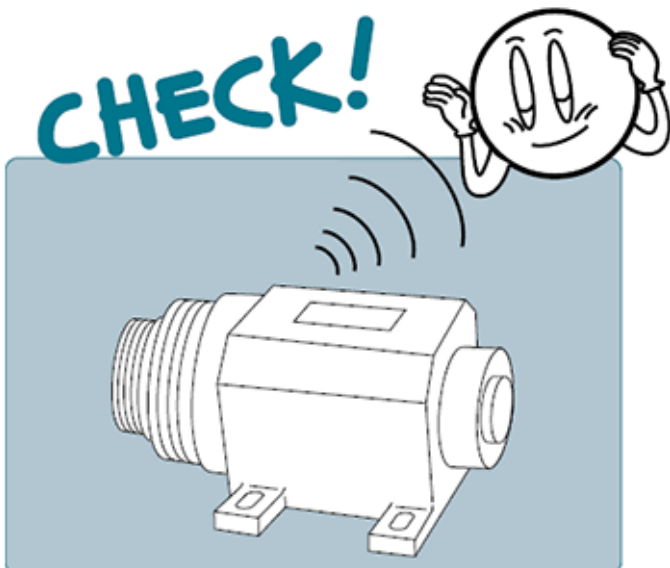
As we studied, re-greasing is a major factor for bearing failure.

Further we will see tips for better lubrication and re-greasing of bearing which will lead to healthy bearing resulting healthy equipment and machineries.

LET US UNDERSTAND THE PROPER PROCEDURES AND STEPS FOR CORRECT RE-GREASING :

- A bearing should be re-greased when the machine is operational and hot or when the machine is stopped and the grease is still hot since during the working condition, the grease will be less viscous.
- Make sure that the grease gun has the right grease for bearing which is to be re-greased otherwise it can lead to incompatibility issues.

- We should be careful to clean the surrounding areas and drain fittings to ensure contaminants are not introduced in the bearing cavity.
- Always drain fitting to avoid over greasing, so that excess grease can escape from bearing.
- Remove drain plug for a time period of the re-greasing process
- While the motor is in operational condition, add recommend qty of grease or add grease slowly till the time it begins to move into relief tube
- After the excessive grease has come out, reinstall the drain plug and clean the drain area



Upon installation of the motor, observe noise and vibration to establish a baseline. At frequent and regular intervals check these measurements. If any significant change is observed, it should result in an inspection of bearing lubrication. The temperature plays an important role and it should be checked and monitored over time. An increase in trend could symbolize the need to replace bearings, bearings are over greased or renew grease. Finally, make note if there is any high-frequency noise or vibration level as it may be a sign of trouble in bearing lubrication.

As we try to understand the challenges face in bearing lubrication and steps and procedures of bearing lubrication, we are left with a proper selection of bearing lubricant. You can rely on MOSIL for the same. With an expert and qualified team, we will help you to understand the need for lubricant of your bearing based on the application. MOSIL has a wide range of grease with combinations of mineral and synthetic base oils with varied thickeners and additives to fulfill all your requirements.

