



Follow these tips to reduce downtime and maintenance costs

In a study conducted by a major component manufacturer, improper lubrication accounts for 53 percent of all bearing failures. And bearing failures are a major cause of equipment downtime and significant, unnecessary maintenance costs. The majority of failures are caused by contamination of bushings by dust, dirt and moisture; inadequate amounts of grease applied to bearings; or overlubrication of key pivot points. Direct costs resulting from inadequate lubrication include replacement bearings, labour to repair or replace bearings, unscheduled downtime, and the impact on meeting customer delivery commitments.

FLO Components has been providing lubrication solutions for over 30 years and their experience shows that there are five common lubrication mistakes. Follow the tips outlined below and you'll be on your way to a much more problem-free and cost-beneficial lubrication program.

1 Understanding greases

Grease is a solid or semi-solid formed when a thickening agent is dispersed in the base oil. The composition of grease is approximately 85 percent base oil with 15 percent thickener and additives. Other

performance additives give greases their final special properties.

Greases are rated in NLGI (National Lubricating Grease Institute) index ranging from 000 to 6 (lightest to heaviest).

When looking at the rating of a grease, consideration must be given to the base oil viscosity of the lubricant within that grease.

When selecting a specific grease, other factors may include pumpability, thermal and mechanical stability, anti-wear properties, EP additives, oil bleed, oxidation and water resistance, and ambient temperature of the environment where the equipment will be operating.

2 Compatibility of lubricants

A grease is not just a grease. When adding a new grease, make sure it is compatible to the current grease with respect to thickeners, additives, etc. Check the packaging or contact the grease manufacturer or distributor to confirm your lube is acceptable.

Incompatibility of greases can create internal frictional forces within the bearing, causing heat and potential bearing failure. With automatic lube systems, if the

new lube isn't compatible, you could get plugged lines or metering valves, or high pressure leading to system failure.

Seal compatibility should also be taken into consideration when selecting or working with a specific grease. Failure may result in wear, damage, equipment downtime and loss of time on the road or at the jobsite.

3 Over- or under-lubricating

Many work orders will state a specific number of "shots from a grease gun" to lubricate a bearing. The problem is that grease guns can have different delivery amounts, not only between different manufacturers but also between different grease gun models from the same manufacturer. For example, a standard grease gun delivery is rated as approximately 30 strokes per ounce. Therefore, higher- or lower-volume grease guns could cause damage to a bearing if you don't take into consideration a calculation of the output per stroke.

Some people's solution is to keep pumping it in until you see it oozing out of the bearing – but too much grease can be just as harmful as too little (not to mention the wasted grease, clean-up costs and general

housekeeping appearances). The viscosity of a grease can lend itself to more internal friction within a bearing resulting in a build up of heat. It's like the difference between trying to stir honey and trying to stir peanut butter – the heavier the grease, the more friction you get.

4 Application of greases

Not following proper procedures when manually connecting and disconnecting a grease gun is another common lubrication problem. Hydraulic couplers and fittings are designed to provide a hydraulic seal at any coupler angle up to 15 degrees. Movement beyond this angle will cause the coupler to disengage. A proper procedure should include the following:

- Wipe fittings clean before lubricating so as to not introduce contaminants to the bearing.
- Push the coupler onto the fitting at a slight angle and then centre the coupler on the fitting.
- Operate the lever gun handle to lubricate, taking care not to damage seals by excessive pressure or grease volume.
- After lubricating, turn the coupler at a slight angle to release the grip of the coupler jaws.

Improper application could result in the fitting not taking grease properly (messy and wasteful) or frequently damaged fittings and couplers (causing unnecessary replacement costs and aggravation).

Also important to note is the position of the plunger seal (follower) in the grease gun if you're switching to using grease in bulk instead of cartridges, or vice versa. The follower resembles a cup. When the grease gun is assembled for use with bulk grease, the cup has to open toward the head assembly or you won't get any suction when trying to fill the gun – or the grease will bypass the piston when trying to discharge the gun (if you filled the gun container with a filler pump). To convert the grease gun to allow filling from bulk containers or filler pumps, make sure you extract the follower and spring from the container tube and flip the follower lip from the rear to the front side.

5 Misunderstanding automatic lubrication systems

There are two common misconceptions associated with automatic lubrication systems.

Misconception #1

Automatic lube systems look after themselves. They don't. Lube systems are another tool designed to help reduce maintenance costs, reduce downtime, improve productivity, increase the life of your equipment, and so on – but someone still has to make sure that all the lines are connected, there are no leaks and the pump and the metering valves are still functioning. Failure to do this can result in bearing failure.

Misconception #2

Automatic lube systems prime and flush the lines on start-up. They don't. The main purpose of an auto lube system is to replenish the grease used in the bearings. A system dispenses small measured amounts of grease at frequent, specified, timed intervals – nothing more.

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