LUBRICATION MANAGEMENT

A VITAL STEP IN CRANE MAINTENANCE

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AGENDA

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LUBRICATION MANAGEMENT





We all know that bearings need regular lubrication in the correct quantity, BUT:

- How much is enough?
- What are the consequences of incorrect lubrication?
- Are **ALL** bearings lubricated?
- Can we document that the equipment has been lubricated correctly?
- How can we prevent unforeseen breakdowns?

HOV

REASONS FOR BEARING FAILURES



Approx. 10 Billion bearings are manufactured and installed each year





Approx. 50 Million bearings must be replaced due to failure each year

UNDER-LUBRICATION



- Under-Lubrication Risks: Insufficient grease in bearings leads to metalto-metal contact, increasing wear and risking failure.
- **Causes of Under-Lubrication**: Issues arise when inadequate grease is applied, due to lack of understanding, forgotten grease points, or malfunctioning delivery systems.
- Long Lubrication Intervals: Extended periods between lubrication cycles exacerbate under-lubrication problems, compounding the risk of failure.
- **Costly Consequences**: Neglecting proper lubrication leads to expensive repairs and potentially catastrophic failures, emphasizing the importance of addressing under-lubrication issues promptly.



CASE EXAMPLE OBSERVATIONS BY HOVE





Leaking Piping:

Leakage in the piping system prevents grease from reaching the bearing, potentially going unnoticed by technicians.

Overpainted Lubrication Points:

The discovery of overpainted lubrication points indicates neglect over several years, leading to unlubricated components.



OVER-LUBRICATION



- **Over-Lubrication Risks**: Excessive grease in bearings leads to high temperatures, seal damage, and potential failure.
- **Bearing Knowledge**: Incorrect bearing replacement or lack of understanding worsens lubrication issues and accelerates wear.
- **Clogging Concerns**: Excess grease blocks bearings, reducing efficiency and causing damage to equipment.
- **Churning and Separation**: Over-lubrication leads to churning, separating oil from the thickener, which hardens and impedes function.
- **Costly Consequences**: Neglecting over-lubrication results in expensive repairs and downtime, highlighting the need for proper maintenance.



CONTAMINATION



- **Contamination Risks**: Using open buckets for grease introduces contaminants, like sand particles, which can lead to bearing damage.
- **Impact of Contamination**: Even tiny particles can cause catastrophic failure by compromising bearing integrity.
- **Costly Consequences** : Contamination-induced failures necessitate expensive repairs, underlining the importance of using proper lubrication equipment to prevent damage.



CASE EXAMPLE OBSERVATIONS BY HOVE





BEARING INSPECTIONS



- Challenges in Bearing Inspection: Inspecting bearings is challenging without running them, removing them from housing, or using specialized equipment.
- Listening to Machinery: An essential indicator of bearing condition is listening to machinery sounds, which can reveal potential issues.





PREVENTIVE MAINTENANCE

- **Proper Lubrication Practices**: Utilize appropriate methods and tools for lubrication to ensure effective maintenance.
- **Correct Lubricant Quantity**: Apply the right amount of lubricant to avoid over- or under-lubrication issues.
- **Contamination Prevention**: Take measures to prevent contaminants from compromising lubricants, safeguarding bearing performance.
- **Grease Compatibility**: Ensure the correct type of grease is used for each application to maximize bearing lifespan.
- **Thorough Lubrication**: Confirm all bearings are adequately lubricated and adhere to scheduled lubrication intervals for optimal performance and longevity.



PREVENTIVE MAINTENANCE



Adequate lubrication method that pumps always the correct quantity of grease No contamination due to factory-sealed cartridges

Control the pump, follow up the complete lubrication procedure, and plan the next lubrication round







