

## A Real-World Approach To Improved Lubrication, Part One

Written by Ray Thibault CLS, OMA I, OMA II, MLT, MLT II, MLA II, MLA III Contributing Editor  
Wednesday, 11 April 2012 12:20

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***This practical series examines proven strategies and tactics from an equipment standpoint, one system at a time.***

Many of my articles (*including those in the recent “Certification Matters” series that ran in LMT throughout 2011* ) have concentrated on the selection of the correct lubricant and maintaining oil cleanliness as major factors in enhancing equipment reliability. This year, we introduce a series on improving your lubrication approach with regard to the specific equipment systems in your plant. The focus will be on equipment categories—*not on the lubricants that you use.*

The schedule for various equipment types we’ll discuss in 2012 is as follows:

- March/April — Electric Motors
- May/June — Pumps
- July/August — Fans and Blowers
- September/October — Compressors
- November/December — HVACR Considerations

Each of these equipment systems will be discussed in detail with regard to their respective

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lubrication concerns. Particular emphasis will be put on correct application of lubricants and troubleshooting techniques to identify problems with the lubricated system—*earlier than later*.

### The importance of application

Regardless of your industry sector, correct application of lubricants is vital to the reliability of your equipment systems: Too much or too little lubricant in a system can cause serious problems. The following are application categories:

- Manual
- Grease guns
- Grease cups
- Hand packing
- Brush
- Oil cans
  
- Natural
- Oil bath
- Oil splash
- Slinger ring/flinger/disc
  
- Gravity
- Drip/wick feed oilers
- Constant level oilers
  
- Automated
- Single-point
- Centralized system
- Oil mist
- Air-line oilers
- Pressure circulation

### The importance of troubleshooting

Do you listen when your equipment is “speaking” to you, and do you understand the language being spoken? These articles will update you on the knowledge and tools you need to effectively communicate with your equipment.

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Scores of early problems can usually be detected by observing your equipment. Condition-monitoring techniques, such as vibration analysis, ultrasonics, infrared and oil analysis (and how they relate to one another as diagnostic tools) will also be covered.

Again, this series will be highlighting useful information and solutions to problems from the real world—*not just from academia*. While many of these methods may seem simple, they've proven to be very effective in plant environments. For example, people observing equipment need access to infrared thermographic technology (and must be trained on its benefits and how to use it).

Furthermore, these articles are being written with the following in mind: The key to enhancing system reliability is the people who inspect the equipment, including your lubrication technicians, oilers and operators—*they make up the first line of defense in a site's ability to be predictive and proactive about equipment problems*.

Given that fact, consider these additional questions:

- Have you trained these people properly (and adequately)?
- Do they have guidelines on what to look for to identify problems at an early stage?
- Is your team of technicians and oilers a consistent group, and thus familiar with the equipment these individuals are responsible for maintaining, or do you keep changing assignments?
- Do operators communicate with each other about similar problems?

Articles in this series will propose a checklist to follow and the appropriate tools and techniques to use when inspecting equipment.

### **Drawn from a real-world knowledge base**

Much of the knowledge to be presented in these articles will come courtesy of real-world, end-user experts. One such expert is Mark Kavanaugh, who has more than 42 years of experience in large manufacturing operations and is currently responsible for coordinating the lubrication of thousands of pieces of rotating equipment. He's also responsible for collecting and performing all of the on-site oil analysis for his plant. More important, he has extensive equipment knowledge—*as both a millwright and a machinist*. Mark holds a number of lubrication certifications, including: Certified Lubrication Specialist from The Society of Tribologists and Lubrication Engineers (STLE), and Machinery Lubrication Technician Level I

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and Machinery Lubrication Analyst Level II from the International Council of Machinery Lubrication (ICML). His type of equipment and lubrication knowledge/expertise and practical plant-floor perspective should help make this series especially valuable.

### Coming up

The March/April installment will focus on oil- and grease-lubricated electric motors and application techniques. **LMT**

### Among The Topics To Be Discussed In This Series

#### *Highlighting straightforward advice for enhancing your equipment's reliability*

*As noted, this series will focus on equipment issues, correct lubricant application and troubleshooting (i.e., diagnostic tools and techniques) for early problem identification. Topics will include (but won't be limited to):*

- *Comparison of similarities/differences in lubrication of different equipment types.*
- *Advantages/disadvantages in use of slinger rings and determination of correct oil levels.*
  
- *When to use sealed-for-life bearings for electric motors.*
- *Use of ultrasonic greasing of electric motors versus traditional practices.*
- *Advantages of oil mist (both purge and dry) for bearing lubrication.*
- *Troubleshooting use of bottle oilers.*
- *Correct placement.*
- *Maintenance of proper oil levels.*
- *Advantages of bull's-eye oilers for proper oil level control.*
- *Proper use of infrared thermography (IR) as an indicator of equipment problems.*  
(Example: Can IR detect leaking valves in a reciprocating compressor?)
- *Troubleshooting and advantages/disadvantages of various air blower types.*

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