

You will extend rebuild intervals and replacement costs through...

Effective

Mobile Equipment Lubrication

You will Learn:

- How to significantly extend rebuild intervals
- How to maximize oil change intervals without risking reliability
- When you might need to use a synthetic oil
- How to reduce owning and operating costs
- Easy field tests and tools for quick inspections

When & Where:

- July 11-13
- Reno, NV



Enroll today: www.noria.com or 800-597-5460

Presented by:

NORIA
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Learn the “Best Practices” of Lubrication

Who Should Attend?

- All Maintenance Professionals
- Maintenance and Engineering Managers
- Maintenance Coordinators and Engineers
- Reliability Engineers
- Lubrication and Maintenance Technicians
- Equipment and Fleet Managers

A Strategy for Extending Oil Change Intervals

You could be leaving money on the table if you aren't optimizing oil drain intervals. After this training, you'll know that you're getting the most from your oil when you follow Noria's detailed gameplan for squeezing maximum life out of lubricants. You'll learn exactly what trigger points to look for on an oil analysis report, how much filtration is enough and the operating conditions that are best for your oil.

Fluid Types Covered

- Engine lubricants
- Differential and final drive lubricants
- Hydraulic fluids
- Transmission fluids
- Greases
- Coolants



Maintaining your mobile equipment is probably one of your largest cost centers. Engine and drive rebuilds alone can send your maintenance budget through the roof. Learn how to drastically reduce maintenance and lubricant costs in this intensive, information-packed three-day course.

Past Attendees Say It Best

“Good program and very informative for both experienced and inexperienced in oil analysis.”

Gilbert S. Celis

Truck Serv. Fac. Supervisor, Asarco Inc.

“Very good seminar. I learned more than I thought possible.”

Steven Taylor

City of San Diego

“Excellent seminar for helping to tune up our program.”

Ron Brunick

Round Mountain Gold

“Easy to understand, very informative, and delivered in a professional way.”

Terry Craswell

Alberta Pacific Forest Inc.

“Well prepared and organized seminar that stays focused on the benefits of a good proactive oil analysis and lubrication program.”

Ron Lomelino

Salt River Project

Join World-class Companies

Join this list of world-class companies in implementing best practice lubrication to reduce costs and unplanned downtime. Some of the many companies benefiting from our seminars include:

3M	Castrol	ExxonMobil	John Deere	Seattle Times
76 Lubricants	Caterpillar	First Energy	Koch Industries	Seminole Electric
Air Products	Centralia Mining	Florida Power	LaFarge Canada	Shell Oil
Akzo Nobel	Chevron	Ford Motor Co.	Lockheed Martin	Southern Companies
Alabama Power	Citgo	Formosa Plastics	Lukens Steel	Sun Company
Alcoa	Clopay	General Electric	M&M Mars	Texaco
Allied Signal	Conoco	General Motors	Michelin	Texas Utilities
Alumax	Coors	Geneva Steel	Northern States	U.S. Army
Ameren	Destec Energy	Georgia Pacific	Power	U.S. Navy
Arco	Detroit Edison	Georgia Power	Nova Chemicals	Via Rail Canada
BHP Copper	Dow Chemical	Goodyear	Owens Corning	Westinghouse
BP Amoco	Dow Corning	Great Lakes	Oxy Chem	Weyerhaeuser
Bristol Myers	Duke Power	Chemical	Peabody Coal	Whirlpool
Boeing	Dupont	HB Zachry	Phillips 66	Willamette
Boise Cascade	Eastman Kodak	Intel	PPG Industries	Industries
Borg Warner	Eli Lilly	Houston Metro	Reliant Energy	
Cargill	Entergy	Transit	Rio Tinto	

Get Answers to These and All Your Questions About Lubrication:

- Is an engine prelube system a good idea for extending engine life?
- Should I upgrade the performance and quality of my air cleaner filtration?
- How do I set caution and critical alarms for wear metals and additives?
- I've heard about oil burn systems used on engines nowadays. Are they a good idea?
- How do I determine the remaining useful life of my oil?
- Is particle counting a good test for diesel engine oils?
- What are the five most important things I should look for on my oil analysis report?
- Should I use the new API "CI-4 Plus" motor oil in my diesel engines?
- Are engine bypass filters a good investment?
- What are the benefits and drawbacks of screening oil samples before sending them to my lab?
- Can I use a motor oil as a hydraulic fluid?
- Is it ok to use an automatic transmission fluid as a engine flush fluid?
- Should I be using magnetic plugs with my final drive/differential gear case?
- Should I use a filter cart for periodic flushing of my rear-end gear oils?
- What types of tests should I conduct on-site with fleet equipment?
- I've heard that engine rebuilds can be extended by up to four times - how can this be done?
- Are synthetics a good investment for diesel engine lubrication?
- How can I prevent sluggish hydraulic operation on my mobile equipment?
- Should I do coolant analysis as well as oil analysis on my mobile equipment?
- How can I safely extend engine oil drain intervals?
- Is there any way to test for soot and dispersancy failure in the field?
- How can I use oil analysis to switch from time-based to condition-based transmission rebuilds?
- How do new emission regulations affect my engine oil?

Presenters:



Jim Fitch

Jim Fitch, a founder and the president of Noria Corp., is a highly sought after consultant and trainer described by his clients as "insightful, dynamic and thorough." He has built a commercial laboratory from scratch, patented numerous oil analysis instruments, served as advisor to organizations in condition monitoring and set up oil analysis programs at numerous companies. Jim is a widely published author and has presented more than 350 lectures and seminars in some 20 countries.



Bob Scott

Bob Scott has more than 25 years of technical experience with lubricants, lubrication and related machinery, six of which include owning and operating his own lubrication consulting and contracting firm. Prior to operating his own business, Bob spent almost 20 years with Shell Canada Products Ltd. where he gained extensive laboratory and field experience in the development of lubricants, statistical process control and direct sales to industrial customers including pricing and resolving maintenance and administrative issues. He has written and presented technical papers to lubricant technical societies and lubrication conferences and has developed and presented training sessions for maintenance and lubricant sales personnel. Some of Bob's former clients include Westcoast Energy, Petro-Canada Products, Amoco Resources, Fluid Life Corp., Millar Western Forest Products, Alberta Pacific Forest Products and Alcan Inc.

"Vendor-neutral makes a difference!"

*Alfredo Romaro,
Maintenance Technician, Kawneer Company*



Course Outline

How Lubrication Affects Machine Reliability

- Financial benefits from achieving lubrication excellence
- How to get to the root cause, not the effect of a problem
- Five equipment maintenance strategies, and when each applies
- Lubrication - cost or opportunity?

Lubrication Fundamentals

- Six important functions of lubricating oils
- How oils and greases are formulated and why it is important
- How friction is generated in lubricated machinery
- The importance of oil film thickness and critical clearances

Understanding Base Oils and Grease Thickeners

- The importance of API's five base oil categories
- How to understand the back of an oil bottle
- The advantages of hydrocracked oils: fact or fiction?
- When to select one of the six most commonly used synthetic base oils
- Base oils that offer significantly extended drain intervals
- How to use temperature to determine the right base oil for your machine
- How grease thickeners are created and why it's important
- How to select grease thickeners for mobile applications

Lubricant Performance Properties

- Understanding ISO and SAE viscosity grades
- Why Viscosity Index is important and how VI Improvers work
- The effects of pour point and cold cranking
- Understanding lubricant performance tests - what you need to know
- How water affects base oils, additives and mobile equipment
- How water contamination generates other contaminants
- Effects of oxidation on oil, grease and your equipment
- How to control and eliminate aeration problems in hydraulics
- Finding greases that are resistant to bleed, separation and water washout

Soot and Your Diesel Engine Oil

- Understanding soot loading and dispersancy
- How engine oils deal with soot
- How to (safely) extend engine oil drain intervals
- Controlling emissions without destroying your oil

Contamination Control

- Building reliability through contamination control
- How to get 3 to 4 times longer rebuild intervals out of your engine
- The 7 most destructive contaminants and how to control them
- Understanding the ISO Solid Contaminant Code
- Effect of solid particle and moisture contamination on reliability
- Success stories from off- and on-highway applications
- Causes and effects of soot, glycol and fuel contamination
- Selecting oil filters and air breather - not all filters are created equal!

Oil Draining, Handling and Storage

- How to optimize and extend oil change intervals using base number
- Interval versus condition-based oil change intervals
- "Bleed and Feed" oil drain strategy
- Bulk and packaged lubricant handling and storage best practices
- The best hardware and containers for transferring lubricants
- Best practices for inventory management and labeling
- Used lubricant storage, handling and disposal best practices

Coolants

- How to properly maintain your engine's cooling system
- Selecting and maintaining coolants
- Monitoring coolant health through coolant analysis

Selecting Lubricants and Maintaining Lubricants

- How to select engine oils
- Transmission fluids and gear oil selection
- Selecting and maintaining hydraulic fluids
- Lubrication of open and enclosed gears, chains etc.
- Controlling emissions

Oil Analysis

- Effective oil sampling for mobile equipment
- Monitoring wear using routine oil analysis
- Monitoring oil condition
- Measuring and controlling contaminants
- Detecting fuel and coolant dilution
- Simple field tests for determining fuel, soot, dispersancy and glycol
- Selecting the right test for routine analysis

Plus!

Interactive case studies to help illustrate how to get the most out of your oil analysis and lubrication program!

Presentation Slides are Full-color and High-quality, Making the Information Easy to Comprehend and Remember.



Got a Group To Train?



We can customize Effective Mobile Equipment Lubrication - or any of our other programs - to meet your unique needs. We'll provide expert instruction at a time and place most convenient for your group. Want to know more?

Give us a call at 1-800-597-5460

Get Certified!

The International Council for Machinery Lubrication (ICML) will be conducting Machine Lubricant Analyst (MLA) and Machinery Lubrication Technician (MLT) testing the morning following each course in the seminar hotel. Please contact the ICML at 918-742-2950 or visit its Web site at www.lubecouncil.org to register for testing.



Enroll today: www.noria.com or 800-597-5460

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Registration: \$995

Effective Mobile Equipment Lubrication

1. Please Enroll Me For the Following Course

Seminar City _____

Yes, I want to attend Effective Mobile Equipment Lubrication. The fee per person is \$995.

2. Name of Attendee (Please Print)

If registering more than one person, please photocopy this form.

1. Mr./Ms. _____
Title _____

3. Company Information (Please Print)

Organization _____
Address _____
Mail Stop _____
City _____ State/Prov _____
Zip/Postal Code _____ Country _____
Phone _____ Fax _____
E-mail Address _____

4. Method of Payment

Note: Certification exams are optional and not included in the seminar price.
Contact ICML at 918-742-2950 or lubecouncil.org to make arrangements to sit for exams.

Check payable to Noria Corporation is enclosed.

Charge to: Master Card Visa American Express Discover

Card Number _____ Expiration Date _____

Name on Card _____

Signature _____

Purchase order is attached. P.O. Number _____

4 Ways to Register for Effective Mobile Equipment Lubrication



Call Toll-free
1-800-597-5460
or 1-918-749-1400



or fax the completed
registration form to
1-918-746-0925



or mail the form to
Noria Corporation,
Attn: Seminars
1328 E. 43rd Court
Tulsa, Oklahoma 74105



or enroll online at:
www.noria.com

Registration Information

The fee for Effective Mobile Equipment Lubrication is \$995 USD. You may cancel your registration prior to the course date or send a substitute. If you cancel, we will refund your entire payment, cancel your invoice or, if you prefer, apply your payment to a future Noria course.

Your course fee provides you the best training around, a comprehensive course manual, a free package of training materials, lunch each day and refreshments. Program hours are 8:00 a.m. to 4:00 p.m.

For fast registration call 1-800-597-5460 toll-free between 8:00 a.m. and 5:00 p.m. CST Monday through Friday. To fax your registration, fax to 1-918-746-0925. Our fax line is open 24 hours a day, 7 days a week.

We will send a confirmation of your registration. If your reservation doesn't arrive by the program date, then see the registrar at the seminar who will process your registration on the spot. In lieu of cash, check and credit cards are preferred when paying at the seminar site.

Your Money-back Guarantee of Satisfaction

Noria Corporation proudly stands behind its public courses 100 percent with its no-risk guarantee of satisfaction. So, if you're hesitating because you're not quite sure if this course is for you - go ahead and enroll. We guarantee you'll be thrilled with the vital skills, powerful techniques and important insights you gain - or we'll give you your money back in full. You have nothing to lose and a wealth of hard-hitting Mobile Equipment Lubrication know-how to gain!

When & Where in 2006:

July 11-13
Reno, NV
Holiday Inn Reno
Downtown
100 E 6th St.
Reno, NV 89512

For fast, easy registration visit www.noria.com or call 800-597-5460

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