Lubrication & Oil Analysis Fundamentals Training

1-Day Educational Seminar

Course Outline

MODULE 1
The Fundamentals of Lubrication and Wear

1) **Component Failure**
   What makes components fail.

2) **Lubricant Functions**
   The role lubricants play.

3) **Lubricant Types**
   The common types of lubricants we use.

4) **Modes of Lubrication**
   How lubricants reduce friction in different situations.

5) **Lubricating Systems**
   How lubricants get to the friction point.

6) **Wear Mechanisms**
   How wear and material loss occurs in a machine.

7) **Particle Generation and Loss**
   How particles enter and leave a machine.

MODULE 2
Oil Analysis Basics

1) **The Purpose Behind Performing Oil Analysis**
   An overview of the parameters of lubrication and wear that oil analysis can effectively monitor.

2) **Oil Analysis Tests**
   How each of these tests are performed, and what they mean.
   a. *Viscosity testing*
   b. *ICP Spectroscopy*
   c. *Testing for Water*
   d. *Demulsibility*
   e. *FT-IR*
   f. *Acid Number / Base Number*
   g. *Particle Counting*
   h. *Wear Particle Concentration*

Comments From Attendees

Very informative and enjoyable. The presenters were very knowledgeable and pleasant to listen to.
- John A, AK Steel

Very good. Thanks for keeping me interested.
- Ethan H, East Kentucky Power

Very professional, interesting and informative. Great session for both beginners and seasoned people.
- Jon S - Indianapolis Power & Light

Good investment in time!
- Bill D, Krauth Electric

MODULE 3
Starting, Managing, and Administering an Oil Analysis Program

1) **Setting Goals**
   As with any program, it is important to set goals for oil analysis.

2) **Selecting Equipment**
   How to decide which equipment should be included in a program.

3) **Sample Frequency**
   How often to sample.

4) **Sampling Techniques**
   How best to obtain a sample for analysis.

5) **Test Packages**
   Selecting tests to be performed on your samples.

6) **The Oil Analysis Process**
   How it all happens, from ordering supplies to reading a report.

MODULE 4
Report Interpretation

1) **Report Layout**
   Explanation of the various sections of the report and what they are used for.

2) **Suggested Method for Report Reviews**
   Process for reviewing and analyzing oil analysis reports.

3) **Marginal and Critical Reports**
   Suggestions on how to deal with marginal and critical reports.

4) **Understanding Alarms**
   How to decipher various alarms.