**This month's edition of the Reliability Files includes information from Fluke Corp. and Petro-Canada.**

## Vibration Analysis: It's Finally In Your Hands

**Problem**

Unplanned downtime and costly repairs a problem in your facility? Chances are the culprit falls into one of four common mechanical faults: imbalance, misalignment, wear or looseness.

The good news is vibration analysis can identify these faults before they become big problems. The bad news is vibration analysis services can often be time consuming and expensive. What

you need is a product that puts the power and expertise of vibration analysis in your hands.

**Solution**

Enter the Fluke 810 Vibration Tester: the easy, cost-effective way to analyze vibration. It makes vibration testing easier so you can spend less time looking for the problem and more time fixing it. Using a sensor ("accelerometer") that measures vibration in three different directions simultaneously, the Fluke 810 collects vibration data over a short time period. To isolate details of various mechanical faults, it converts time-based data into frequency-based vibration spectra. These spectra are now ready for analysis by the onboard diagnostic engine.

The diagnostic engine takes a systems approach by viewing a machine as the sum of its individual components—*i.e. motor + coupling + pump.* This is because each component has a unique vibration signature that contributes to an overall picture of the drivetrain's health. The diagnostic engine uses pat-tern recognition and a rules database to identify the faults. There are 4700+ algorithms and rules developed through real-world maintenance experience that are designed to detect bearing problems, misalignment, unbalance and looseness and assess severity.

Unlike more complex vibration analyzers that are designed for longer-term condition-monitoring programs, the Fluke 810 is a troubleshooting tool designed to give you immediate answers. It does not require you to establish an initial baseline reading, then collect information over time for comparison.

The Fluke 810 uses a unique "synthetic baseline" technology to determine fault severity by simulating a fault-free condition and instantly comparing it to the collected data. A synthetic baseline is dynamically generated based upon the drivetrain configuration, and the collected data is subsequently compared to this baseline. The extent to which the data's amplitude exceeds the baseline deter-mines the mechanical fault's severity.

The diagnostic engine has been field-tested for years by trained consultants working on mission-critical systems. The Fluke 810 puts the knowledge of these consultants in your hands so you can diagnose and repair mechanical problems quickly—*and with minimal training.*

**Click the ad above to enlarge.**

**Return On Investment**

**Predictability. . .** Studies have shown that vibration analysis can provide early warnings of impending machine failure, giving maintenance staff time to schedule the required repairs and acquire needed parts.

**Safety. . .** Having information about machine health enables operators to take faulty equipment offline before a hazardous condition occurs.

**Revenue. . .** Well-maintained machines have fewer unexpected and serious failures, thus helping prevent production stoppages that cut into the bottom line.

**Increased maintenance intervals. . .** When machine health is being tracked, maintenance can be scheduled by need, not just by accumulated hours of operation.

**Cost savings. . .** Running machinery until failure frequently results in more expensive repairs, overtime and forced purchases. Twenty-five years of documented savings show a 20:1 benefit-to-cost ratio for vibration analy-sis programs.

**And don't forget peace of mind. . .**
A better understanding of machinery health builds confidence in maintenance schedules, budgeting and productivity estimates.

For more information or to sign up for a free diagnostic report, visit www.fluke.com/answersnow . **MT**

**Fluke Corporation**
**Everette, WA**

**For more info, enter 260 at www.MT-freeinfo.com**

## Choose The Best Hydraulic Fluid For The Job

**Problem**
If you're like most manufacturers, you want a hydraulic fluid that will decrease downtime, lower operational costs, increase productivity and, as a result, add to your overall profits. This may sound like a laundry list of unattainable goals, but when you better understand the challenges placed on your equipment and work with professionals who know your business and needs, these benefits are achievable.

David Moore, Plant Manager for Auto Mats and Accessories of Dalton, GA, knows first-hand the importance of selecting the right hydraulic fluid for the job.

**Click the ad above to enlarge.**

Auto Mats and Accessories specializes in producing all-weath-er automotive floor mats. In this line of business, injection-molding machines play a vital role in melting and injecting the vinyl that's used to produce automotive mats. When three injection-molding machines were purchased for the plant, Moore was dedicated to using only the best fluids. However, this plant—*like many others*—presented unique challenges when determining the right hydraulic fluids.

"We keep our machines running all the time because it is such a nightmare to get them back up once they have been shut down," explains Moore. "It takes about three hours to start the extruder, heat it up and get the vinyl flowing freely. Having additional downtime because of lubrication change-outs is a cost we don't want to face."

Moore was looking for a superior product to extend drain intervals, eliminate downtime and cut maintenance costs.

**Solution**

Once you understand your current demand, your best solution is to work with suppliers who know the products, their specifications and benefits, and can work with you to deliver the best results for your plant. In the case of Auto Mats and Accessories, cutting costs—*not corners*—w as vital to the business. With the support of their Petro-Canada Lubricants distributor Whitfield Oil, Auto Mats and Accessories found its solution with HYDREX AW hydraulic fluid.

HYDREX AW, specially formula-ted for heavy-duty hydraulic sys-tems, delivers advanced anti-wear protection, improved rust and corrosion prevention and outstanding oxidation and thermal stability, which leads to extended drain intervals, decreased change-outs, optimal cost savings and reduced maintenance costs.

HYDREX AW also minimizes sludge and varnish deposits. Sludge can be incredibly damaging to hydraulic components. By minimizing oxidation and consequently reducing sludge build-up, a high-performance hydraulic fluid like HYDREX AW provides longer lubricant life, resulting in fewer change-outs, reduced equipment wear and less downtime for your operations.

## Return On Investment

When you put the time and care into selecting the right fluids, it all pays off. Auto Mats and Accessories would have been draining its machines on a yearly basis without HYDREX AW. Through an effective oil-analysis program, the company was able to extend its drain intervals and save approximately 200-300 gallons of fluid—*and 8-10 hours of downtime*—for the oil change-out of each machine.

“With HYDREX AW hydraulic fluid, we extended drain intervals two times what we experienced with other products,” explains Moore. “The cost savings has been a tremendous benefit.” **MT**

**Petro-Canada**
**Mississauga, ON, Canada**

**For more info, enter 280 at www.MT-freeinfo.com**