What is Proactive Maintenance?

According to major industries throughout the world, it?s time to throw out your old ideas on machine maintenance. The cost-saving trend is toward a maintenance program that targets the root causes of machine wear and failure. Predictive and preventive methods are out: proactive maintenance are in. Why? Because proactive maintenance methods are currently saving industries of all sizes thousands, even millions, of dollars on machine maintenance every year. This concept of saving large amounts of maintenance, however, may be tough for some to grasp. According to DuPont, ?maintenance is the largest single controllable expenditure in a plant.? In many companies it often exceeds annual net profit. The problem of costly maintenance has truly reached a serious level, but as some companies have found out, and more come to realize every day, their maintenance costs can be cut drastically by establishing a ? proactive? line of defense.

Getting to the Root of the Problem

When it comes to the life of any machine, whether it?s a lawn mower or a 1,000 h.p. bulldozer, cleanliness counts. Laboratory and field tests show that more than any other factor, fluid contamination is the number one culprit of equipment failure - even the most microscopic particles can eventually grind a machine to a halt. Yet, the accepted methods currently being used to combat machine damage are based on either detecting the warning signs of failure once they?ve already begun (predictive) or regular maintenance according to a schedule rather than the machine?s true condition (preventive). No discipline has previously taken a micro view on machine damage - concentrating on the causes instead of the symptoms of wear. Proactive maintenance is that discipline, and it is quickly being recognized worldwide as the single most important means of achieving savings unsurpassed by conventional maintenance techniques.

Maintenance Strategy	Technique Needed	Human Body Parallel
Proactive Maintenance	Monitoring and correction of failing root causes, e.g., contamination	Cholesterol and blood pressure monitoring with diet control
Predictive Maintenance	Monitoring of vibration, heat, alignment, wear dibris	Detection of heart disease using EKG or ultrasonics
Preventive Maintenance	Periodic component	By-pass or transplant

	replacement	surgery
Breakdown Maintenance	Large maintenance budget	Heart attack or stroke

Proactive vs. Preventive/Predictive

Imagine being able to pinpoint and eliminate a disease long before any symptoms occur in your body. It would save you money in doctor bills and keep you out of the hospital in the long run. This is the advantage of proactive maintenance over predictive maintenance. Proactive maintenance commissions corrective actions aimed at he sources of failure. It is designed to extend the life of mechanical machinery as opposed to 1) making repairs when often nothing is broken, 2) accommodating failure as routine and normal, and 3) preempting crisis failure maintenance - all of which are characteristics of the predictive/preventive disciplines. While effective to a degree, neither preventive nor predictive maintenance is geared to detect the most common and serious failure culprit: contamination. Therefore, the first logical step to proactive maintenance is the implementation of a strict contamination control program for lubrication fluids, hydraulic fluids, gear oils, and transmission fluids.

The Steps to Contamination Control

Heat, moisture, air and particles literally rob fluids and lubricants of life. But with rigid contamination control practices, these fluids and lubricants can last indefinitely which, in turn, prolongs the life of the machine?s components and keeps the machine running at the highest level of efficiency. Plus, the costs to begin a proactive contamination control program are quickly absorbed in maintenance cost savings. A basic contamination control program can be implemented in three steps:

1. Establish the target fluid cleanliness levels for each machine fluid system.
2. Select and install filtration equipment (or upgrade current filter rating) and contaminant exclusion techniques to achieve target cleanliness levels.
3. Monitor fluid cleanliness at regular intervals to achieve target cleanliness levels.

Contaminant Monitoring: The Cornerstone of Contamination Control

For the same reason you wouldn?t drive a car cross country without a fuel gage, you shouldn?t attempt proactive maintenance without a routine monitoring program. Monitoring will give you the information you need to ensure your machinery is operating below harmful contamination levels.

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