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OK, so we drifted off topic a little. We were talking about PM being the lowest level of Scheduled Maintenance. We maintain "stuff" because a schedule tells us to. But what if it really isn't necessary, how would we know? That's where Predictive Maintenance (PdM) comes in. Suppose each time you changed the oil you did an analysis to see if there were any metal shavings, or evidence of burnt oil. This could tell you if the oil is really breaking down enough to warrant being changed. If bearings are typically replaced on rotating equipment based on a scheduled timeframe, perhaps some vibration analysis could be performed to see if the alignment of the shaft is causing premature failure of the bearings. Or thermography (checking the temperature) could show "hot spots" in the equipment that may also have negative effects on the equipment. Even a visual check on such things as filters, belts and hoses could prevent changing parts early.

Click here for filter check picture       Click here for belt checking picture

So a PdM program would involve checking the equipment prior to performing the maintenance equipment. While the "stuff" would still need to be maintained, it may not need to be maintained as frequently -- or maybe more frequently depending on your findings. Obviously, all this checking requires manpower, but it is employed under the assumption of saving money, not only in the obvious savings of grease, oil, belts, etc., but the savings in lost opportunity costs associated with lost production due to breakdowns.

Now you've collected all this data (or more correctly, these data) but how do you maximize your return? All of this analysis has given rise to Reliability Centered Maintenance (RCM). RCM takes PdM one step farther in actually trying to combine the data gathered and any failure analyses of components. I'm not going to discuss PdM and RCM further because I have a couple of journal articles that may make it easier for you to understand.

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