The Concept

Thank you for the positive response we received from the first two issues of this newsletter.
For the benefit of new recipients of this newsletter let me clarify the concept.

We realize that many maintenance managers and their staff are too busy to look at trade journals, surf the internet or talk to a sales support person to discuss new ideas and technologies.

As an electrical after market service company we must continually acquaint ourselves with the latest concepts and technologies in order to train our staff and offer only the viable new technical services to our customers.
While we are gathering this information we decided to make some of this and other information available to our customers using this newsletter format and distributing it by e-mail every two months.

We would appreciate any comments and ideas to make this newsletter more informative and interesting.

Please contact us at sales@lloydelectric.net .

Lloyd Electric's Newsletter for the industrial Community

MAINTENANCE "MATTERS"

Vol 3 February 2007

OUR STRENGTH IS THE STAFF OF LLOYD ELECTRIC

Donnie Wickham

Donnie, our Sales & Service Manager has been a member of the Lloyd Electric staff for over 23 years. Total Customer satisfaction is the ultimate goal in all Donnie's activities.

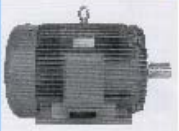
An Overview of one of the **Predictive & Preventative** on-site Maintenance Technologies available today

Dynamic Balancing

As we discussed before, bearing failures are the major cause of unscheduled and catastrophic failures in all rotating equipment. One of the ways to extend the life of bearings is to reduce the stress on the bearings by making sure that the rotating component is "Dynamically Balanced".
For most people the only time they come across the concept of "Balancing" is when asked by the guy selling you new tires "do you want them balanced" This is the same concept in industrial components but we use tighter tolerances.
In our repair facility we do this by installing the rotating element in a special balancing stand where we add weights to dynamically balance the unit to acceptable tolerances.
In the field we use a CSI instrument that allows us to measure the "out of balance" condition of a rotating piece of equipment and indicates the area where weights can be attached to correct the out of balance situation.
The most common piece of equipment that needs continual monitoring and correction in the field are fans especially those in cooling towers. We recommend that these units be checked often.

TECH TALK

Why are Motors smaller than they used to be ?



The most common electric motor in use in industry today is the AC induction motor. It can be very small, 2hp motor or less or large 2000 hp motor or more. In its simplest form, it consists of a:

- A squirrel cage rotor (the rotating element)
- The Drive End (OD) and Opposite Drive End (ODE) endbells (which house the bearings)
- The bearings (ball, roller or Babbitt)
- The frame and laminated core (into which is winding is wound)
- The winding (the static winding that is inserted into the laminated core that when energized causes the rotor to turn)

It is the "winding" or more specifically the insulation on the winding that is the subject of this "Tech Talk"
Many of you who have been around electric motors for a while have seen the size of that 5hp motor get smaller and smaller over the years. This was accomplished mainly by the improvement in the "co-efficient of thermal expansion" of the varnish insulation that coats the copper wire which is the main component of the winding. Although a highly complex subject the simple explanation is that it now allows the varnish to expand and contract at very close to the same rate as the copper. This and the thermal increase rating to class H status (180 C) of the varnish has allowed the designers to reduce the thickness of the varnish build on the copper wire. This and the re-design of the frame construction to give more surface area for natural cooling has led to this reduction in size and improved quality.

"I'm sorry the president slot is filled but -we do however have an opening in the mail room".