



A Leader in Electric Motor Testing

# Tip Of The Week

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January 30, 2017

## Leading and Lagging Indicators

Leading indicators are those that occur early in the P-F curve while lagging indicators occur later in the failure cycle. Both are key indicators, but it is important to know which one you are dealing with to better diagnose the severity of the situation.

Phase resistance, like infrared thermography, is a leading indicator of power circuit anomalies. Performed at proper intervals you would expect the resistance imbalance to identify early stages of a power circuit high resistance connection. At early stages the effect of a high resistance connection on the motor is minimal and only localized heating occurs. At later stages the current through the affected phase changes resulting in circulating currents in the motor. These circulating currents cause elevated temperatures that may reduce the life expectancy of the insulation system.

Finally, both indicators being on the P-F curve doesn't mean you have to wait to get to the lagging indicators to make a decision. The general rule of thumb is that the earlier you can correct these issues, without affecting production, the less expensive the repair.

To see a video on the Power Circuit Fault Zone visit our website at [http://www.pdma.com/webinars/Power\\_Circuit\\_Fault\\_Zone/powercircuit.html](http://www.pdma.com/webinars/Power_Circuit_Fault_Zone/powercircuit.html)

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