



A Leader in Electric Motor Testing

Tip Of The Week

June 24, 2019

Electric Motor Reliability Trifecta - Troubleshooting (Part 1)

(Continuing the Trifecta series, picking the top three finishers in a horse race can be worth a lot of money. Applying the Trifecta theme to motor reliability, the top three applications of test technology to ensure you win big in reliability are: Quality Control, *Trending, and Troubleshooting.*) This week we shift the Trifecta conversation to Troubleshooting.

Everything including motors has an end of life. Our reliability goal is to identify conditions conducive to failure and correct them so the end of life doesn't come early. Have you ever noticed that a motor tends to wait until the weekend or when you are on vacation to fail? Because of this unwritten rule, we must have a standardized troubleshooting procedure in place to quickly identify the source of the anomalies reported. With the right information the reliability team can take the fastest track to prevent or recover from an unscheduled outage. A critical question to approach troubleshooting would be, "Is the motor running or has it tripped?" This tip will discuss some troubleshooting guidelines when the motor is still running. Our fault zone analysis approach focuses on Power Quality, Power Circuit, Stator, Rotor and Air Gap. Poor power quality could result in elevated vibration, overload and high temperatures, or excessive start-up times. A quick power test using the EMAX test equipment can clear the power quality and power circuit as a source of imbalance driven vibration, low voltage overloads, or longer than expected start up times. Being able to clear the power supply and power circuit allows you to focus on the motor and machine train elements as the source of the problem. We'll discuss the motor and machine train troubleshooting in the next tip.

Visit our PdMA YouTube Channel at <https://www.youtube.com/watch?v=4ACW-AZddtQ> to listen to Todd and Noah discuss details on Troubleshooting for electric motor reliability.

You are invited to submit an Electric Motor Testing Tip of your own and receive a free PdMA® mug or hat if we publish it! Contact Lou at 813-621-6463 ext. 166 or lou@pdma.com.

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