



A Leader in Electric Motor Testing

Tip Of The Week

July 16, 2018

Power Circuit...What and Why?

Power Circuit = Voltage Delivery

The power circuit provides the avenue or path that allows your supply voltage to reach the motor. The power circuit is comprised of all the cabling, connectors, switches, contacts, and terminal blocks from the transformer power supply to the motor leads. These connections are under constant mechanical, thermal, electrical, and environmental stresses, presenting plenty of opportunity for a compromised power circuit. And a compromised power circuit will result in an inefficient and unreliable motor as a result of voltage and current imbalance, localized heating of a bad connection, and excessive internal heating of your electric motor and insulation systems.

Power circuit testing with the motor de-energized can be performed with the MCE[®] phase-to-phase resistance measurement and trended with a resistive imbalance calculation. Remember to include as much of the power circuit as safely possible. If the motor is energized the EMAX Power test provides voltage and current measurements and imbalance calculations to identify any power circuit anomalies. Remember voltage imbalance is only seen if your voltage leads are downstream of the fault.

To see the MCEMAX[®] used to identify a power circuit anomaly visit the PdMA YouTube channel at:

<https://www.youtube.com/watch?v=ZLheOEO30JY>

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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