



# Electric Motor Testing Tip of the Week

revolutionizing *electrical* reliability

September 8, 2008

## Resistive Imbalance

When performing offline (MCE) testing from the Motor Control Center (MCC) it is important to remember the resistance of the cable run is measured along with the stator winding. If there is a resistive imbalance it can be caused by the circuit and/or the windings.

To find the "real" imbalance of the motor windings take another test at the motor terminals, thus eliminating the circuit. If the imbalance is in fact caused by the windings, then it will show up as a higher imbalance than when tested from the MCC.

For example, a test from the MCC with three resistance readings of .1700, .1600, and .1755 will give us a 5.2% imbalance. After taking a perfectly balanced cable run out of the measurement, and testing from the motor leads, we would get .0700, .0600, and .0750 which will give us a 12.2%.

In summary, when confronted with a resistive imbalance from the MCC, it is important to perform further testing before identifying the motor as the faulty component.

Tip was submitted by: Adam Holmes - Motor Health Technician - United Group - Mackay, QLD, Australia  
Thanks Adam.

---

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. 126 or [lou@pdma.com](mailto:lou@pdma.com).