Electric Motor Testing Tip of the Week

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Testing the Rotor of a Wound Rotor Motor or Synchronous Motor

A common problem when testing Wound Rotor or Synchronous motors is testing through the brushes. These brushes can cause resistive imbalances or changes in resistance that can often be confused with problems within the internal rotor connections. Testing the rotor alone is the key to eliminating any doubt. One of the following methods can be very helpful during troubleshooting:

- If the rings are not flush to the rotor shaft, then lift all brushes and connect the MCE leads directly on the rings.
- If the MCE leads cannot be connected directly on the rings, then a piece of wire can be used on each ring. Make a loop around the ring ensuring the wire makes a good connection with the ring all the way around. Connect the MCE leads to the wires and test.
- If the rings are flush, lift all brushes except one per slip ring. Verify the resistance value with an ohmmeter from the brush to the ring to ensure they are all equal. This will minimize the impact of the brushes on the resistance readings.

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.