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What Does EASA Say?

The last six PdMA tips focused on different field tests available from the MCEMAX[®] to troubleshoot the squirrel cage rotor. If we ask EASA (Electrical Apparatus Service Association) what they recommend for squirrel cage rotor testing while in the motor repair shop, the standard they will direct us to is the EASA-AR100 Recommended Practice for the Repair of Rotating Electrical Apparatus. Section 4.3.2 suggests the Growler test and the Single-phase test. The growler test is performed directly on the rotor with the rotor removed from the motor frame. An electro-magnet is placed near the rotor laminations applying an alternating magnetic flux to the rotor iron and bars. If a rotor bar is broken it will cause a varying flux that will vibrate a small hacksaw blade in the vicinity of the broken bar. Single-phase or ¼ Voltage Testing utilizes an AC voltage source (approximately 25% of the operating voltage) which is applied across a single phase of a three-phase motor. An ammeter is placed in line with the test circuit to indicate any current fluctuations while manually turning the rotor. A broken rotor bar or high resistance connection on the rotor will cause an increase in the stator winding impedance as it passes under the single energized phase. This will result in a decrease in the current seen on the ammeter for each rotation. No absolute standard exists, but a fluctuation of >5-10% in the current is generally considered unacceptable.

Speaking of EASA, the 2018 EASA Convention will be in Milwaukee, Wisconsin, June 24-26th. To learn more about rotor repair and troubleshooting visit PdMA at Booth #543.



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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