



A Leader in Electric Motor Testing

Tip Of The Week

November 24, 2014

Turkeys and Motors

The holiday season is here, and that means it's almost time to sink our teeth into some succulent turkey. If we don't follow the instructions just right for preparing that turkey we could end up with a dry, embarrassing mess. But if we follow instructions, get the moisture and temperature just right, and check on our bird frequently, we'll end up with a feast that will make our holiday experience truly satisfying.

But before we leave work for the holidays, let's ensure that we are taking as much care for the machines that provide our livelihood as we do for the turkey that we'll devour with our families. Online EMAX testing provides many indications that will help us control the operating temperature of our motors. We can monitor Voltage Imbalance and Harmonic Voltage Factor to evaluate how much temperature rise they will cause. Low voltage will increase the current and therefore also increase the operating temperature. With our offline MCE tester we can use precision resistance readings to identify possible high resistance connections that will lead to additional heat generation.

In addition to test equipment, motors powered by Variable Frequency Drives require steps to ensure enough airflow for cooling at all operating speeds. Motor shop assessments require calibrated ovens to prevent damage to rewind or overhauled machines. Burnout ovens with poor temperature control can damage both core laminations and the winding insulation.

For DC motors proper temperature and humidity control is essential for developing the conductive film that the brushes ride on as they travel over the commutator. Humidity that is too low will cause excessive brush wear. Ensure that you know the operating temperature and humidity recommended by your brush manufacturer.

Insulation systems, just like turkeys, get dried out when they are overcooked. Dry insulation becomes brittle, more likely to crack and develop voids, and more susceptible to mechanical degradation. A dry turkey will send you around town in a desperate search for an open restaurant.

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.

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