Tip Of The Week

A Leader in Electric Motor Testing

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Gearbox Failure

In a previous Tip of the Week we provided information about gearboxes. Same tip, but includes a new case study hot off the press.

Reduction gears play a key role in industry to control shaft rotation speeds of various applications. Knowing a little bit about the gear application being tested allows you to rely on the EMAX Current Demodulation test to accurately trend changes in the condition of the gears. The current being measured is feeding the stator windings. However, changes in torque due to load or fault anomalies will transfer through the gear box to the motor rotor, into the air gap between the rotor and stator, finally impacting the stator current. Gear box related anomalies will result in elevated peaks correlating to the reduced output shaft speed of the gear box. It is important to establish proper baseline amplitudes and build band alarms around these known frequencies on the current demodulation spectrum in order to watch for trends in future testing.

To learn more about gearbox analysis watch our YouTube video case study at:
https://www.youtube.com/watch?v=ODmLiCJu8vI

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.