



A Leader in Electric Motor Testing

Tip Of The Week

March 5, 2018

Machine Train for March - Part 1: Gears

For the month of March we will be focusing on the machine train analysis tools of the E_{MAX} Current Demodulation technology starting with gears. 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 you can rely on the E_{MAX} 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.

To see a case study using E_{MAX} Current Demodulation to identify gear related anomalies visit our YouTube channel at https://www.youtube.com/watch?v=P_qhttYMqqc

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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