



A Leader in Electric Motor Testing

Tip Of The Week

March 19, 2018

Machine Train for March - Part 2 Belts

Continuing the focus on the machine train analysis tools of the E_{MAX} Current Demodulation technology, this week we will discuss belts. A variety of issues can develop related to a belt or sheave and knowing what to look for may allow us to correct the problem before damage occurs. A defective belt, out of round sheave, or angular/axial misalignment of the sheaves will elevate belt related frequencies and can be seen on the current spectrum. Belt Frequency = $3.142 (D/L) \times (RPM/60)$ Where D is the diameter of the motor mounted pulley, L is the length of the belt, and RPM is the motor speed. Another easy way to identify the belt frequency is using a strobe light. Once you have identified belt frequency, the next step is to establish a band alarm around that frequency to support speed/load changes. Increases in the amplitude of belt frequency, or multiples of belt frequency can be trended for analysis.

To read an application note with a case study describing the use of current demodulation for belt frequency machine train analysis, visit our website at <http://www.pdma.com/pdfs/appnotes/0302-ASA.pdf>

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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