



Electric Motor Testing Tip of the Week

revolutionizing *electrical* reliability

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In-Rush/Start-Up Test

Many times when a trouble call is placed for the reliability group to troubleshoot a motor related problem, this question arises: "How was the motor operating before this concern developed?" Sure you can look at the last test data obtained or all of the dynamic motor diagnostic data. You may even observe the latest In-Rush/Start-Up test that you obtained when the motor was started. This is a good, analytical process to follow and may yield an initial idea for the cause of the anomaly.

Recently I have begun obtaining a 15-second In-Rush/Start-Up test, of the motor under normal operation, while performing the battery of dynamic motor diagnostic tests. This helps answer the question: "How was the motor operating before the problem?" It also provides additional input to the troubleshooting process that may be correlated with other technologies to ascertain the problem. The correlation between beat frequencies viewed on an In-Rush/Start-Up test with a mechanical issue and the vibration spectrum is uncanny. Most vibration spectrums utilize Hz or CPM in the spectral analysis. This relationship provides a direct correlation with the vibration technology. If the vibration spectrum is in Hz, it is a direct correlation with the In-Rush/Start-Up spectrum, which is taken in Hz. If not, the In-Rush/Start-Up spectrum beat frequency can be easily calculated to CPM.

Remember...use ALL the tools in the tool box.

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Thank you Jeff.

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.