



# Tip Of The Week

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January 31, 2011

## Motor Temperatures and Harmonics

An electromagnetic load such as a motor is subject to increases in operating temperature due to the high frequency harmonics' inductive heating. Inductive heating is a result of increased eddy currents, hysteresis in the core, and skin effect. Inductive heating increases by the square of the harmonic current order. Therefore, what appears to be a relatively low percentage of harmonic distortion to the fundamental frequency can lead to significantly higher operating temperatures.

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](mailto:lou@pdma.com).

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