



Electric Motor Testing Tip of the Week

revolutionizing *electrical* reliability

March 17, 2008

My Bearings Ate Themselves: Part Two

A few weeks ago, we went over the concept of **bearing fluting**, where if your **Variable Frequency Drive's** carrier frequency is not set correctly, you can have repetitive voltage discharges occur through your bearings, causing damage.

Two of the ways to compensate for this phenomenon is the use of Insulated Bearings and a Shaft Grounding Strap, but here's the thing: **These two components NEED to be used together.**

The purpose of the insulated bearings is to create a high impedance path to ground to prevent the voltages that will develop in the shaft from going UNCONTROLLABLY to ground.

If you use insulating bearings alone, you will still develop shaft voltages, and they HAVE to go somewhere. So they end up eventually discharging through your insulation.

And that is where **using Insulated Bearings AND a shaft grounding strap** comes in handy.

On your machines, you should install only one insulated bearing, and one shaft ground strap on the opposite side of the shaft. This way, you will not only have a high impedance path to ground to prevent discharge through the bearings, but you will also have a controlled path to ground, thus preventing damage to machine insulation.

[Click here to read Part One of My Bearings Ate Themselves.](#)

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.