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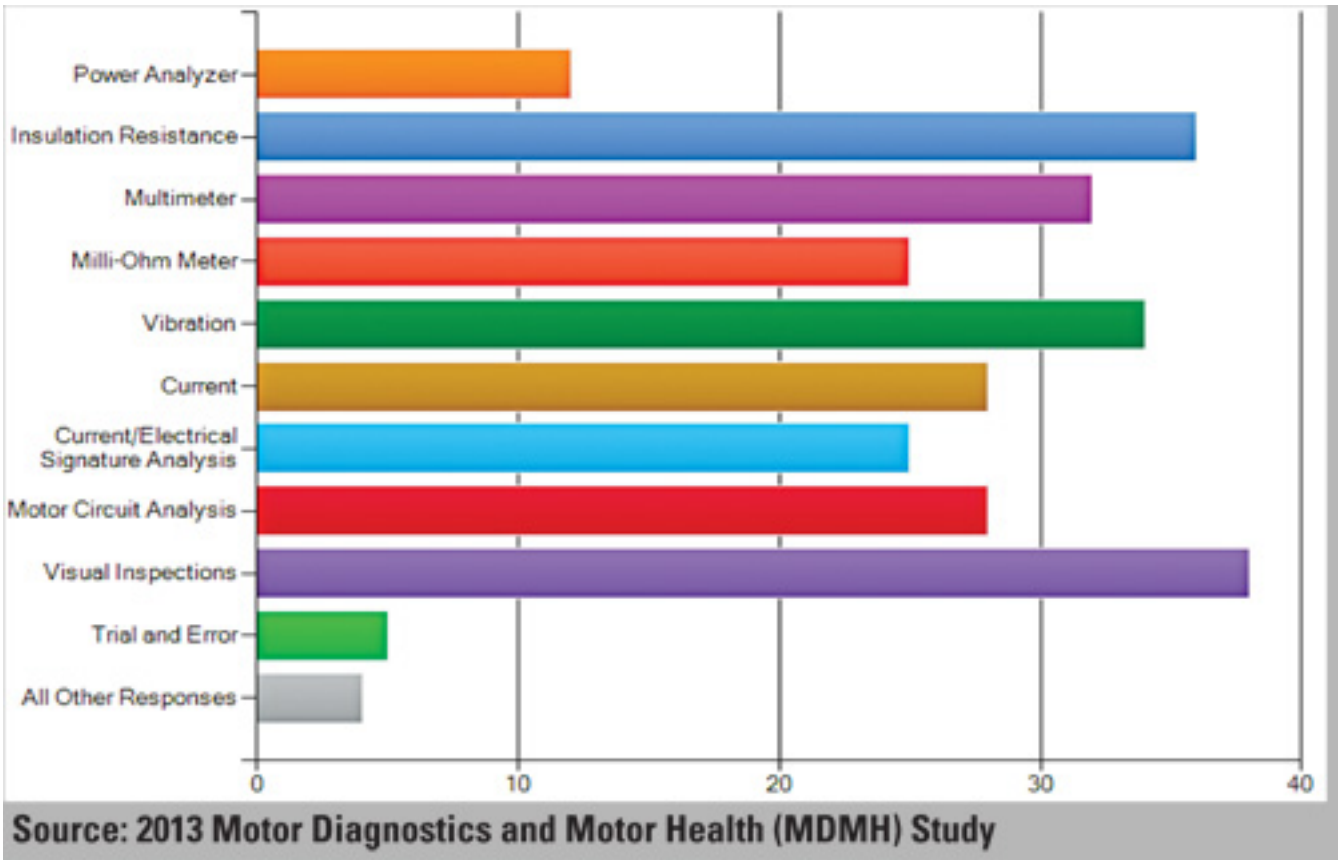
As shown in the accompanying chart, the top-ranked method for troubleshooting electric motors, as reported in the 2013 Motor Diagnostics and Motor Health (MDMH) study, was visual inspection, followed by insulation-resistance testing. Interestingly, in 2003, the first MDMH study also identified these as the top two methods, albeit with the order reversed (i.e., insulation resistance took the top spot).




Visual inspections are more important than most people realize. They're more effective than instrument tests because the human eye can detect broken parts, overheated insulation and missing grounds; other senses, such as touch and smell, can detect a number of different problems. In fact, several standards call out visual inspections, including IEEE 1068-2006 (motor repair) and IEEE 432-1992 (insulation testing and maintenance).

When making decisions related to the condition, reliability or troubleshooting of your machines,

it's crucial to remember that visual inspection findings are more important than electrical or mechanical tests, not the other way around. This is one reason why a machine-experienced technician should take data or make inspections when evaluating electric motors. **MT**

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