

**March 7, 2011**

For the four weeks in March we are returning to our popular Test Your Knowledge series.

**The March 7, 2011, question:** An induction motor produces its maximum torque when the relationship of resistance and the inductive reactance of the rotor is...

1. Resistance is higher than inductive reactance
2. Resistance and inductive reactance are equal
3. Inductive reactance is higher than resistance
4. Their relationship has no effect on torque

The correct answer is: An induction motor produces its maximum torque when the resistance and the inductive reactance of the rotor are equal. But the inductive reactance increases with rotor frequency, and is high at locked-rotor conditions. To develop a high starting torque, the rotor's resistance must also be high.

Source: *Operating and Maintaining Three Phase Systems, TPC Training Systems*

If you answered incorrectly and feel you need additional training OR if you answered correctly and still feel you need additional training, we can help you. Our training department offers classes on various topics, click here (<http://www.pdma.com/PdMA-training.php>) to go to the training page. We also have a Data Interpretation Book available to help you. Contact PdMA ([pdma@pdma.com](mailto:pdma@pdma.com)) or call (813) 621-6463 for information.

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).