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Tip Of The Week

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Carbon Brush Performance

In order to reduce repairs and overall carbon brush costs, the following observations should be made while the motor or generator is under load:

Sparking
Check to see if sparking is uniform under all brushes. Sparks trailing out from under the brushes should be considered severe and action is required to prevent serious damage. Light sparking, seen at peak current loads, while not considered critical may indicate future problems.

Brush Noise
Brush noise, chatter, or squealing, which often accompanies sparking, indicates a commutator surface problem. A high or low bar, high friction, flat spot, or high Mica could cause chatter. Commutators out of round cause sparking and brush noise. Commutator film contamination results in a high friction interface between the commutator and the brushes.

Movement of the Brushes
Movement of the brushes in the holder confirms there is a commutator or film imperfection, or that the springs have weak tension and need to be replaced. Weak spring tension is the single most common cause of commutator/brush problems.

Tips were obtained from *Carbon Brushes, A guide for elevator technicians*, by Helwig Carbon Products, Inc.

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.