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Tip Of The Week

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Galvanic Corrosion and High Resistance Connections

Have you ever had a light bulb corrode within the socket, making it difficult to replace the light bulb or worse the glass breaking free of the threads? Galvanic corrosion may be the cause. Connecting dissimilar metal (brass light bulb threads into aluminum socket) without an approved antioxidant solution will result in a galvanic corrosion and eventually a deteriorating high resistance connection. Galvanic corrosion of dissimilar metal lugs is an electro-chemical process resulting in the transfer of metal from one lug to the other. This corrosion is worsened in a moist environment. The most common scenario is connecting aluminum lugs to copper or brass. If a high resistance connection is seen through resistive imbalance at the starter, but disappears when testing the motor only it may be a result of galvanic corrosion at the lugs. The act of disconnecting and reconnecting the lugs may clear the problem, but it will only be temporary as the metal transfer will start again as soon as they are reconnected. What kind of lug are you putting on your cables?

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.