



A Leader in Electric Motor Testing

Tip Of The Week

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Discharging Stored Energy

Prior to connecting or disconnecting your MCE[®] test equipment to a motor or generator it is important to ensure stored energy in the form of capacitive voltage has been removed. Stored energy can exist as a residual charge from normal operation or following a previous insulation test. If stored energy is not adequately discharged from a motor or generator circuit following a resistance to ground measurement test, there may exist a hazardous condition to personnel during the removal of test leads and/or damage to the test equipment. A popular method of discharging stored energy is through a shorting probe. Following are some simple guidelines when using a shorting probe:

Before Connecting MCE

1. Make sure input power to the equipment has been secured. Always follow your site safety prerequisites for verifying a system is de-energized.
2. Open the equipment to gain access to the motor or generator that need to be discharged. Use caution not to touch any exposed terminals.
3. Connect the flexible ground strap of the safety shorting probe to the metal frame or ground cable connected to the motor or generator. Make sure there is a good metal-to-metal connection.
4. While holding the site approved safety shorting probe by its plastic handle, touch the metal probe tip to the appropriate terminals to be grounded. Use caution not to touch the metal probe tip or the flexible ground strap while the probe is in contact with the terminals of the motor or generator. Repeat this step two or three times to ensure the system is completely discharged.
5. Test the voltage with an approved multi-meter to verify the voltage is low enough to connect the MCE.

Before Disconnecting MCE

The MCE is equipped with a discharge routine. However, if the discharge is taking too long and you would like to shorten the time:

1. Using caution not to touch any exposed terminals connect the flexible ground strap of the safety shorting probe to the metal frame or ground cable connected to the motor or generator. Make sure there is a good metal-to-metal connection.
2. While holding the site approved safety shorting probe by its plastic handle, touch the metal probe tip to the appropriate terminals to be grounded. Use caution not to touch the metal probe tip or the flexible ground strap while the probe is in contact with the terminals of the motor or generator. The probe needs to stay in contact with the terminal for steps 3 and 4.
3. Allow the MCE discharge routine to complete.
4. Remove MCE test leads.
5. Remove the shorting probe.

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.166 or lou@pdma.com.