

**HD ELECTRIC COMPANY**

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## **NoMax Technical Service Bulletin**

**TSB-101**

2/01

### **Grounding and Grounding Connections for NoMax Capacitor Controls**

The NoMax Capacitor Controls require a solid, low resistance connection to ground for switching the capacitor banks and for withstanding normal switching and lightning surges. If the Controls are installed without this ground, or if this ground connection is lost or loosened at any time, the Controls may be damaged and may not operate correctly.

Symptoms of a damaged Control are nothing showing in the display, a display reading of TIME ERR or VOLT ERR or a failure to operate the capacitor bank switches. Controls showing these symptoms must be returned to HD Electric Company for service.

Damage to the Controls from normal switching and lightning surges can be prevented by proper grounding. The copper ground lug on the bottom of the Control should always be connected to a low resistance earth ground.

Some Controls have been found with the copper ground lug on the bottom of the unit loosened. This loosening may have occurred during installation or at some later time from the ground wire connection pulling on the ground lug. It is important that this lug be tight for proper grounding.

Installed Controls should be inspected for proper grounding including ground resistance and a low resistance connection from the Control to the ground. If the ground lug on the bottom of the Control does not match the one contained in the Ground Lug Upgrade Kit, it should be replaced as follows:

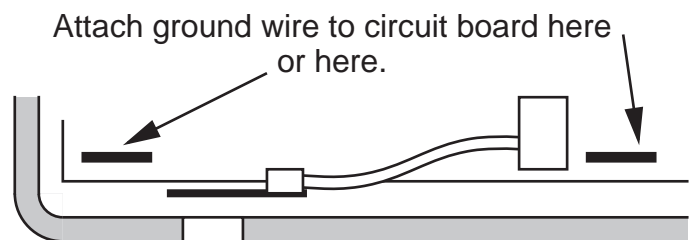
- 1. Read the enclosed Installation Guide for the NoMax Control which is included in this package. Familiarize yourself with the procedures for removing and installing the NoMax control from the socket.*
- 2. Open the Control and turn the knob away from AUTO/OPERATIONS. Wait for any pending OPEN or CLOSE operation to finish.*

- 3. WARNING: Replacement of the ground lug can only be performed with the Control deenergized and removed from its socket. Dangerous voltages are present inside the Control in the area of the ground lug. Serious injury or electrocution can occur.**

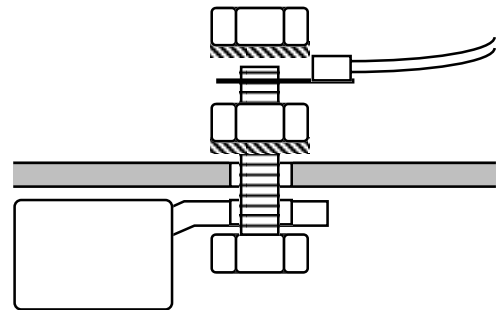
Remove the existing ground wire from the ground lug on the bottom of the control. Remove the ring holding the Control to the socket and remove the Control from the socket.

4. Remove the existing ground lug. Also remove the green ground wire inside the control that was attached to the ground lug. Remove this wire only by pulling on the blue terminal where it is connected to the circuit board. Discard the lug, green ground wire and mounting hardware.
5. Drill out the ground lug mounting hole using a 1/4 in. drill bit. The hole must be made larger to fit the new heavy duty ground lug mounting hardware.

6. Install the new green ground wire by pushing the blue terminal on the end of this wire onto the circuit board at the same location where the old ground wire was removed.



7. Install the new ground lug using the new hardware. The ground wire terminal should be between the two nuts. Tighten the new hardware, lower nut first, then the upper nut, with a 7/16 in. wrench.



8. Refer to the attached Installation Guide for installing a NoMax Control in the socket. Before plugging the control into the socket, make sure the Control is not set for AUTO/OPERATIONS. Close the cover of the Control and plug it into the meter socket. Secure the Control to the meter socket with the mounting ring. Attach the ground wire to the new ground lug.
9. Program the Control as desired and lock the door.
10. This completes the ground lug inspection and replacement procedure.