Purpose:

To inform customers of a solution to a problem which can cause some Generation III controllers to spontaneously reset or restart their programs. Under some conditions the problem can also cause the controller to lock-up (LED indicators on or off).

Description:

Power supply connectors in GN3 Models 20 and 40 revision 1.0a through 2.1a use tin plated contacts. Under certain types of vibration, these contacts may suffer fretting corrosion resulting in high resistance or intermittent connections. If the 5V supplied to the system drops sufficiently, the system will detect a power loss and reset itself.

Identification:

Units potentially affected by this problem can be identified by checking the revision number which is located on top of the unit next to the power switch. Revisions 2.1b and higher use gold plated power supply contacts and are not affected. Units carrying a modification sticker with the number MOD155 have already been upgraded to replace the power supply contacts with gold plated versions and are therefore not affected.

Test:

To test whether your controller is suffering fretting corrosion:

1. Measure and record the voltage between the GND and TP-4 test points. It should be +5VDC.
2. Remove external AC power from the unit. The on/off switch terminals are live, power must be disconnected outside the controller.
3. Unplug the cable that connects the Power Supply to the CPU board at both ends, then plug it back in again. Doing this cleans off any fretting corrosion that may have occurred.
4. Restore AC power and measure the voltage again. If it has changed by more than 0.01V, fretting corrosion may have been present.

**Recommendation:**

If you have reason to believe fretting corrosion has occurred, the problem can be corrected in the field using the following procedure:

1. Remove power from the controller. **The on/off switch terminals are live, power must be disconnected outside the controller.**
2. Note the setting of the AC Voltage Selector at the top rear corner of the CPU board.
3. Remove the main power supply connector at the power supply (J1) and at the CPU board (J42). Also remove the AC Voltage Selector connector.
4. Clean and lubricate both the male and female parts of each of these connectors using AMP Part number 561232-1 contact lubricant (available from your local AMP distributor in an 8oz spray can).
5. Replace all connectors in their original locations take special care to make sure the AC Voltage setting is correct.

Depending on how bad the fretting corrosion is, this procedure may have to be repeated periodically.

For controllers where fretting corrosion is severe and cannot be remedied by cleaning and lubrication, the unit should be returned to ORMEC for repair and upgrade.

**Warranty Policy:**

For units that are still under their 24 month warranty, ORMEC will replace the power supply connectors with gold plated versions at no charge.

**Procedure:**

Contact ORMEC Service Department to verify your controller's warranty status, to obtain pricing on non-warranty upgrades or to obtain a return authorization number. You should request modification MOD155, Please have the controller's model number, revision number and serial number available when you call.