

Product Information

Bulletin

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SUBJECT: Intelligent Light Out Detector (iLOD), A80271
CONCERN: Incorrectly installed component causing false current readings

NO: 2-06B
DATE: 8-18-2006
Revised
8-29-2006

CLASS / ACTION: Operational / Mandatory

I. SUMMARY AND BACKGROUND

Safetran Systems Corporation has been made aware of a number of instances where the A80271 iLOD assembly has provided or caused erroneous current readings to be logged by the SEAR II/SEAR Ili. Upon investigation, it was discovered that a capacitor had been installed on the iLOD circuit board with the polarity reversed. This resulted in an incorrect and fluctuating reference voltage for the iLOD current readings.

The iLOD circuit boards are all machine assembled. The capacitors that were installed incorrectly came from the same component reel. Upon investigation it was discovered that the capacitors were loaded on the reel incorrectly by the component manufacturer.

II. EQUIPMENT AFFECTED

NOTE

The original issue of this bulletin (PIB 2-06 dated 8-18-2006) incorrectly identified the iLOD assembly serial number when the reference should have been to the printed circuit board serial number. This has been corrected in the following information and in figure 1.

The serial numbers for the affected iLOD printed circuit boards range from 3700 through 4700. The serial number is located on a sub assembly identification label attached to the top of each iLOD assembly (see figure 1).

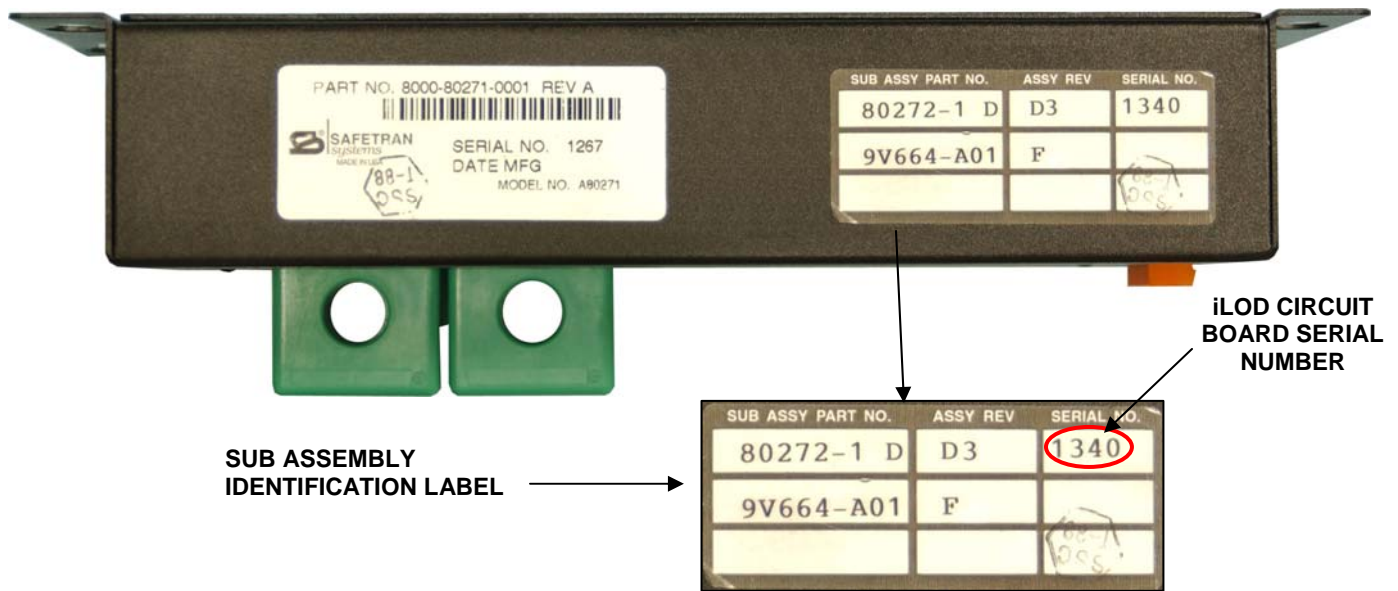


Figure 1. Printed Circuit Board Serial Number Location

III. ACTION REQUIRED

Safetran has established a 'seed stock' of new iLODs. Customers with iLODs in the affected serial number range are requested to order the number of iLODs from seed stock to replace the defective units currently in the field. Once the new iLODs are installed, return the defective units to Safetran through the normal field return process.

Returned iLOD assemblies will have the capacitors replaced with correct polarity and will then be tested and added to the seed stock. Units with corrected capacitor polarity can be identified by a label marked '2-06' and attached adjacent to the sub assembly identification label (see figure 2).

See section IV below for the iLOD field replacement procedure.

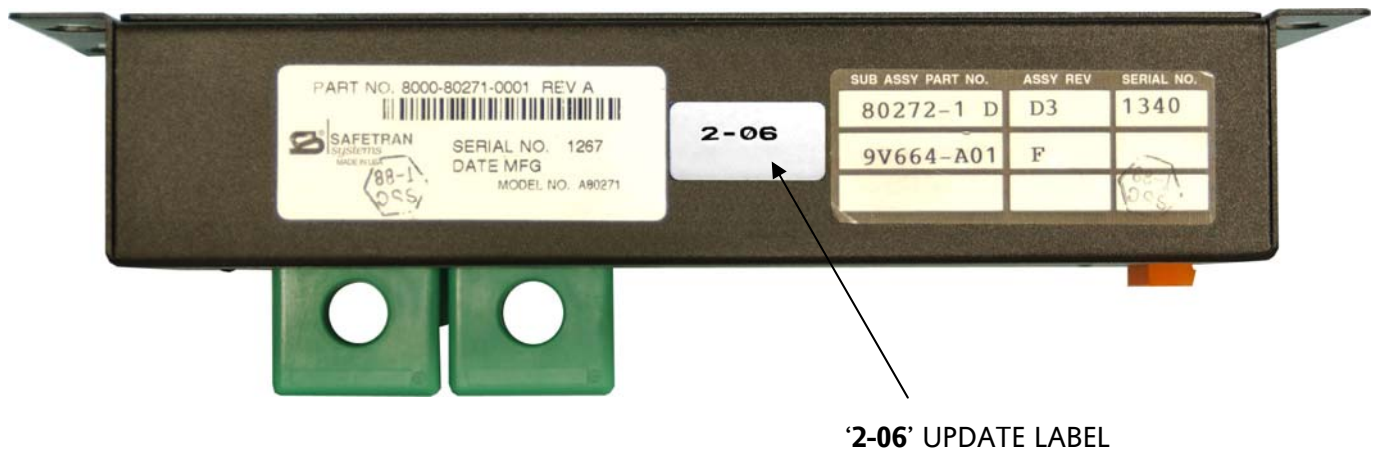


Figure 2. Update Label Location

IV. iLOD FIELD REPLACEMENT PROCEDURE

The following are the general steps required to replace an iLOD. Each step is described in more detail in the following paragraphs. A laptop is NOT needed for this procedure.

1. Remove the existing iLOD(s) and install the new iLOD(s).
2. Follow the module replacement steps on the SEAR menus to correctly install and configure the new iLOD(s) into the SEAR network.
3. Follow the field calibration steps to allow the iLOD(s) to properly measure current for this site.

Removing An Existing iLOD And Installing The New One

If there is more than one iLOD at the crossing, repeat the steps in this paragraph for all iLODs **before** moving on.

1. Remove the power/Echelon connector from J1 on the iLOD. This connector will be reconnected to J1 on the new iLOD.
2. Loosen iLOD mounting screws and remove the unit from the wall. At this point, the lamp wire(s) should still be passing through the sensors on the old iLOD. Position old iLOD out of the way.
3. Install new iLOD in the same mounting position as the old iLOD and tighten the mounting screws.
4. Connect the power/Echelon connector to J1 on the new iLOD.

WARNING

THE LAMP WIRES PASSING THROUGH THE SENSORS OF THE OLD iLOD(S) WILL BE DISCONNECTED IN STEP 5 OF THIS PROCEDURE. IF THESE WIRES ARE CONNECTED TO THE FLASHER RELAY OR THE CROSSING CONTROLLER, OR IF THEIR REMOVAL WILL AFFECT THE CROSSING WARNING DEVICES IN ANY WAY, ARRANGEMENTS MUST BE MADE TO ENSURE THE SAFE MOVEMENT OF TRAINS BEFORE PERFORMING STEP 5.

5. Remove the lamp wire(s) passing through sensor A of the old iLOD and pass the wire(s) through sensor A of the new iLOD. If there is more than one wire passing through the sensor, it is very important that the wires are run in the same direction through the sensor of the new iLOD.

NOTE

If ring terminals are attached to the wires, the ring terminals are usually too large to fit through the sensors. If so, they must be cut from the wire, the wire removed from the old iLOD sensor and fed through the new sensor. A new ring terminal must then be crimped onto the wire.

6. Repeat step 5 for sensor B.

Module Replacement Steps on SEAR

The module replacement process ensures that the new iLOD is configured and working properly on the SEAR II/III Echelon network.

NOTE

A small pointed object such as a pen or pencil will be needed to press the Echelon service button on the iLOD when performing this process.

NOTE

All key presses in the following procedure may be performed from either the SEAR II front panel keypad or the SEAR III interface screen on the GCP 4000 display module, as applicable.

1. Press the MENU key. The MAIN MENU is presented.
2. Press the down arrow key until "CONFIGURATION" is shown on line two of the display. Then, press ENTER. The CONFIGURATION menu is presented.
3. Press the down arrow key until "MODULES" is shown on line two of the display. Then, press ENTER. The MODULE MENU is presented.
4. Press the down arrow key until "REPLACE MODULE" is shown on line two of the display. Then, press ENTER. The prompt "MODULE TO REPLACE?" is displayed.
5. Use the arrow keys to select the iLOD replaced. If more than one iLOD was replaced, be sure to select the correct one from the list. Once the name of the iLOD replaced is on line two of the display, press ENTER. The prompt "HIT ECHELON BUTTON" appears on the top display line and the message "WAITING FOR SRVC MSG" on line two of the display.
6. Using a pen or pencil, press the Echelon service button on the side of the iLOD. After the button is pressed, several messages will appear on line two of the display ending with "INSTALLED" and the display will revert to the "MODULE MENU".

NOTE

If there was a problem during installation, verify the following:

- The Echelon wires are connected correctly
- Power is applied to the iLOD
- The new iLOD is not faulty.

Repeat the "REPLACE MODULE" process again if necessary.

7. Repeat steps 4 through 6 for any other iLODs that were replaced.
8. At the MODULE MENU, press the EXIT key. The CONFIGURATION menu will be presented.
9. Press the EXIT key. The prompt "SAVE CONFIGURATION CHANGES?" is displayed.
10. Using the arrow keys, select YES then press ENTER. If there is an application program loaded, it will be re-compiled and the configuration will be saved.
11. This completes the module replacement process.

Field Calibration Steps on SEAR

The field calibration process for an iLOD sets the internal threshold levels used by the iLOD software to detect flashing lamp current. These levels are site specific. It also is used by the application program to determine the number of lamps and the current draw that is present for a properly operating crossing. This process is not the same as **factory** calibration. Factory calibration is performed on the iLOD units before shipment.

NOTE

All key presses in the following procedure may be performed from either the SEAR II front panel keypad or the SEAR Iii interface screen on the GCP 4000 display module, as applicable.

1. Press the MENU key. The MAIN MENU is presented.
2. Press the down arrow key until "SITE SETUP" is shown on line two of the display. Then, press ENTER. The prompt "SITE SETUP MENU" is displayed.
3. Press the down arrow key until "LAMP CALIBRATIONS" is shown on line two of the display.

NOTE

If the site has Gate Tip Sensors installed, when asked to flash the lamps, make sure the gates are horizontal before pressing ENTER. Allow the current reading to "settle" for 15 seconds.

Press ENTER. A prompt to begin flashing the lamps is displayed.

4. If there is an application program loaded into the SEAR, enter the number of flashing lamps for each iLOD sensor when requested.

NOTE

A pair of flashing lamps counts as one lamp and each tip light counts as one flashing lamp. Count only the lamps that go through that sensor. The lamp count may be on the site plans.

5. Depending on the configuration of the crossing, it may be necessary to repeat this process with AC power to the crossing turned off. At some installations the process may be repeated more times depending on configuration (split tracks, etc.).
6. When the process is complete, the display will return to the SITE SETUP MENU.

If you have any questions concerning this bulletin, please call our Technical Support Department at 1-800-793-7233.