3070-75A-S

S E R V I C E N O T E

Supersedes:
3070-75-S

Agilent 3070 Board Test Systems

Serial Numbers: 0000A0000 through SG44440103

OPERATIONAL SAFETY HAZARD

WARNING

The E1135A/B/C PDU may not turn off when the EMO switch (emergency stop) is pressed.

To be performed by: Agilent-Qualified Personnel

Parts Required:

P/N	Description	Qty.
E1135-66501	PDU Control Board	1
N7200-84366	Service note Label	1

ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION: **SAFETY**			
ACTION CATEGORY:	AGREEABLE TIME	STANDARDS: LABOR: 2.0 Hours	
LOCATION CATEGORY:	ON-SITE	SERVICE INVENTORY: SEE TEXT	USED PARTS: SCRAP
AVAILABILITY:	ALWAYS		
AUTHOR: Guy Sitler	PRODUCT LINE: 80		
ADDITIONAL INFORMATION: The E1135-66501 and N7200-84366 are orderable through SPO (Service Parts Organization) at 1-800-816-8650.			
Reference the service note number in the activity description field of the SR.			

Agilent Technologies

May 23, 2007

Situation:

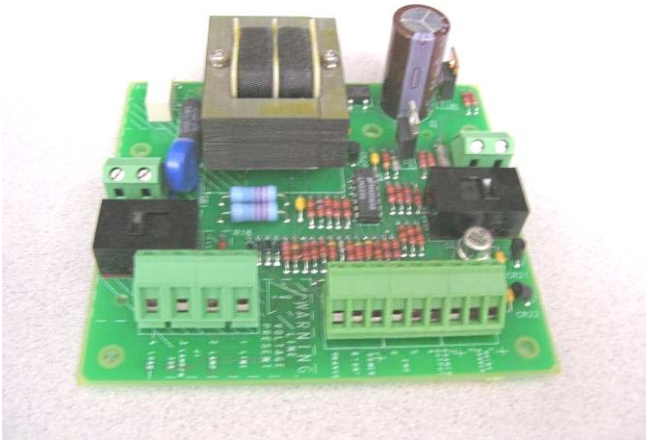
Agilent has identified an operational safety hazard for the 3070 systems related to the 0490-2318 magnetic contactor within the E1135A/B/C PDU. The MPN for the magnetic contactor is Potter and Brumfield P40P47D14P1-24.

All 3070 systems fall into this category. 3070 systems that are 4 years and older have a higher safety hazard risk.

Investigations revealed that the DC voltage supplied to the 0490-2318 from the E1135-66501 control board was higher than specified as there was no voltage regulation. Over time, excess heat can damage the coil of the magnetic contactor which leads to the described safety hazard.

The solution is to replace the E1135-66501 control board in the PDU with a newer version (Fig 1) that incorporates a voltage regulator to the magnetic contactor.

New E1135-66501

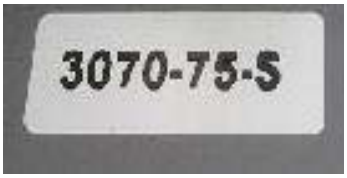


Old E1135-66501

Fig 1

Solution/Action:

Note: If the following label is attached to the PDU then the Service Note has already been completed.



1. Shutdown the 3070 system using the standard operating procedure.

2. The E1135C has a mains disconnect device. Set this Main Input Switch to "0" (Fig 2). This is a safety feature to prevent the accidental turn-on of power from the mains while carrying out the job as described in this safety service note.

Note: The E1135A and E1135B PDU's do not have a "Main Input Switch".

WARNING:
High voltages are present. "Lock-Out / Tag-Out" the PDU using standard operating procedures.

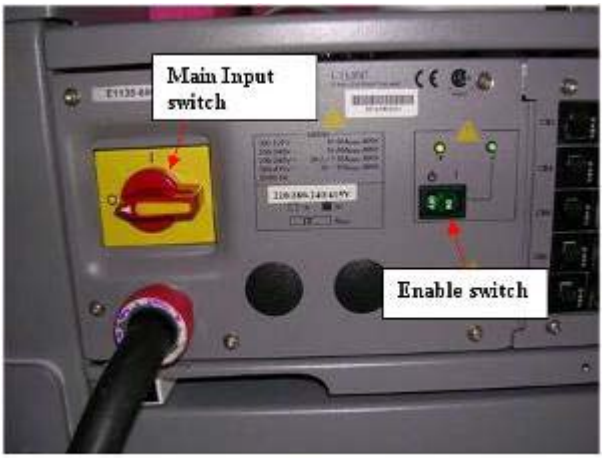


Fig 2

3. If the PDU is an E1135A the PDU must be replaced. Follow the standard PDU replacement procedure. After the PDU has been replaced continue with step 22.

4. If the PDU is an E1135B or E1135C continue with this procedure.

5. Remove the POD housing cover to gain access to the PDU.

6. Unplug the power cords at the back of the PDU and remove the PDU from the system for disassembly (Fig 3 & 4). The power cords on the side of the PDU cannot be easily removed, so place the PDU horizontally on the floor near the system in such a way the power cords are not affected.

Fig 3

Fig 4

7. Remove the 17 M3.5 Torx screws holding the top and back covers of the PDU (Fig 5 & 6) using a T10 Torx driver. This needs to be done to access the E1135-66501 Control Board.

Fig 5

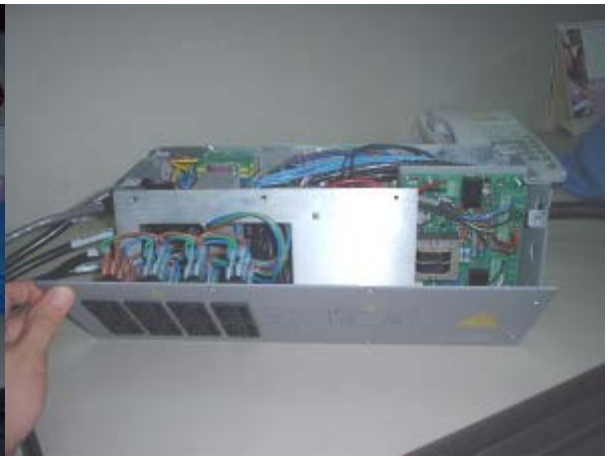


Fig 6

8. After opening the PDU. Inspect the contactor housing for cracks and “white” powder type material (Fig 8). If the contactor has been or is suspected to be damaged, the entire PDU must be replaced by following the PDU Replacement procedure. If the contactor is good (Fig 7) continue with step 9.

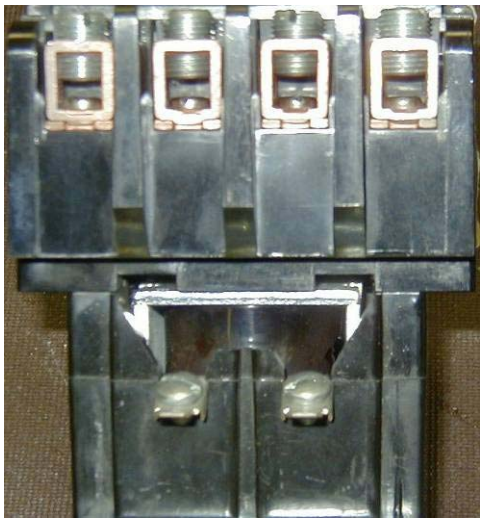


Fig 7

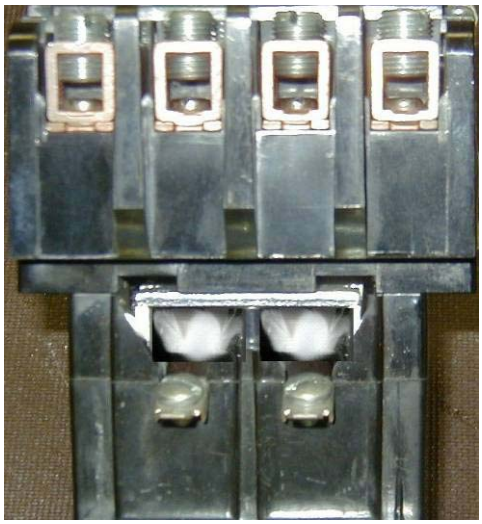


Fig 8

9. Remove the wires from the control board by using a small flat blade screwdriver. (Fig 9)
10. Make note of wire connections to J2 of control board.
11. Discard the red wire that was connected between “Contactor pin 3” and “J3 pin 1 control board”.

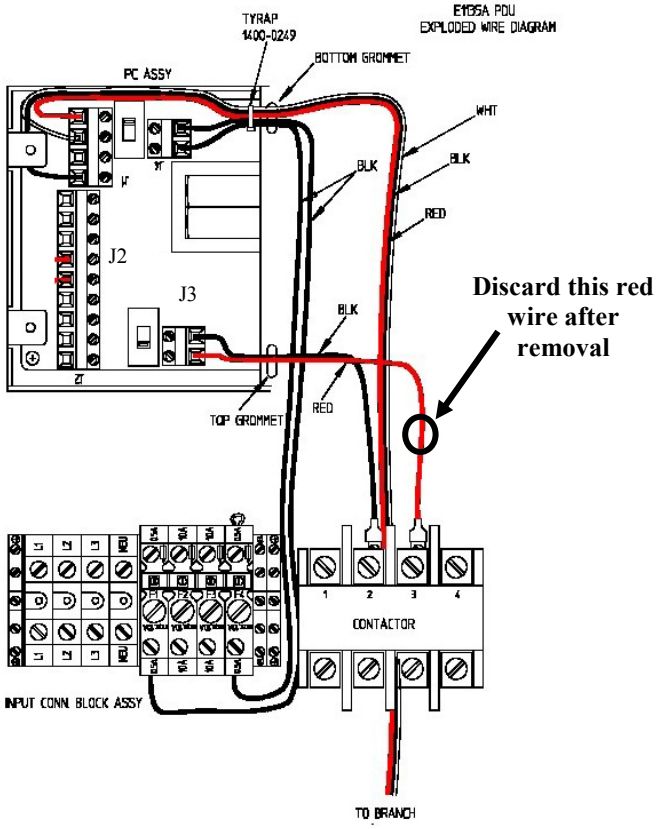


Fig 9

12. Remove the five M4 Torx screws holding the E1135-66501 control board to the PDU using a T20 Torx driver. (Fig 10)

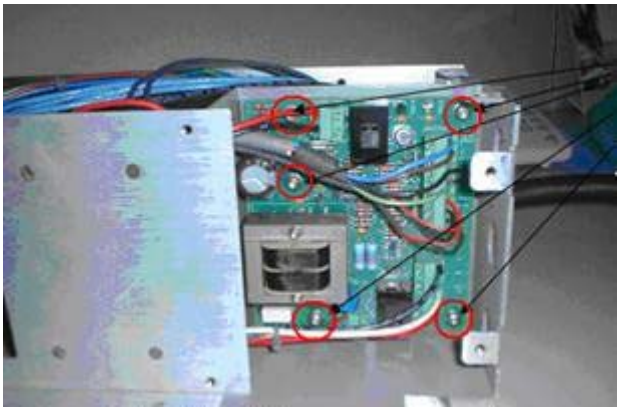


Fig 10

13. Remove the old control board from the PDU and discard.

14. Install the new control board (Fig 11) into the PDU using the five M4 Torx screws removed in step 12. Tighten these screws using a T20 Torx driver and torque to 16 inch-lb (1.81 n-meter)

Fig 11

15. Re-wire the control board using the wiring diagram in Figure 12 and wires removed from J2 on the control board in step 10.

Control Board to Contactor Connections		
Black Wire Contactor Pin 2	to	Control Board J3 pin 2
Black Wire Control Board J3 pin 2	to	Regulator on Control Board
Red Wire Contactor Pin 3	to	Regulator on Control Board
Red Wire Control Board J3 pin 1	to	Regulator on Control Board

Note: Wires from Regulator to J3 on control board are already connected when received from SPO.

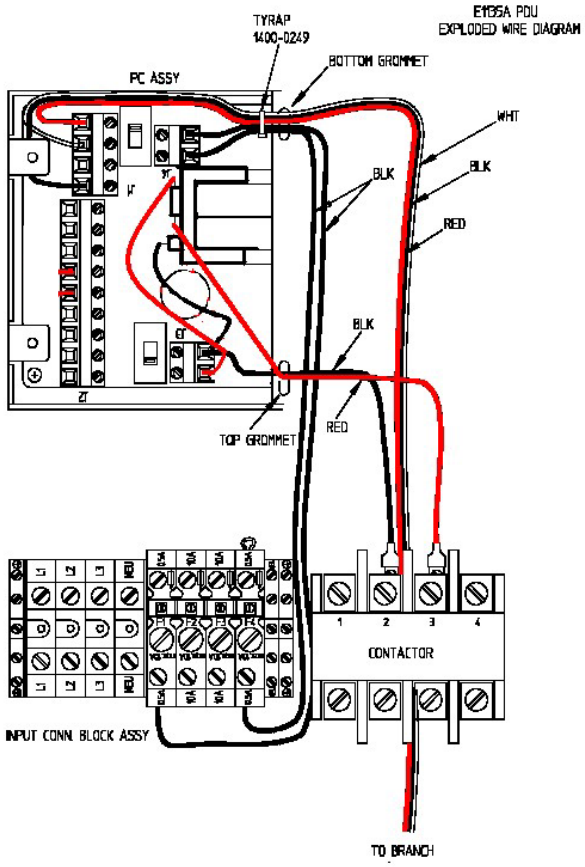


Fig 12

16. Figures 13, 14 and 15 show the new control board wiring.

Fig 13

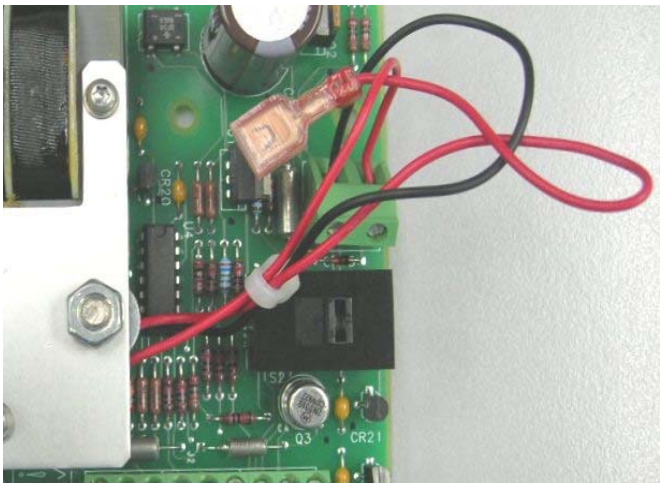


Fig 14
(New Control board with voltage regulator)

Fig 15 (New Control board with voltage regulator)

17. Double check all wiring connections to the new E1135-66501 control board.

18. Reinstall the 17 M3.5 Torx screws holding the top and back covers of the PDU using a T10 Torx driver.

19. Install the PDU back into the 3070 POD.

20. Reinstall the 3070 POD cover.

21. Remove all “Lock Out / Tag Out” devices before proceeding.

22. Turn on the PDU by setting the Main Input Switch to “1” (E1135C’s ONLY!!!)

23. Turn on the PDU enable switch. (Fig 2).

24. Test the safety feature of the PDU by pressing the EMO switch. The power will shut off immediately. This is observed by a click sound while the enable light will turn from green to yellow. The enable switch remains at the ‘1’ position.

25. Return the EMO switch back to its normal position.

26. Turn the enable switch to ‘0’ position and wait for 5 seconds before turning it back to ‘1’position.

27. Observe the click sound and the green enable light.

28. Startup the 3070 system using the standard operating procedure.

29. Upon job completion, fill out and install the Service Note label (Part Number N7200-84366) to the PDU.