VOLUME A04 MACHINE 4381- -0011647 MODEL M02 SYSTEM 0000JYP MODE SCHED SHIP 00/00/00

LOGIC TYPE -0- SYSTEMS DIAGRAMS DOC COUNTER

PAGE NUM	SH	TITLE	PART NUM	EC NUM	FEATURE B/M OR B/MS
DA005		TITLE PAGE/PREF	0000445930	A02220	.W. 0004473536
DA010		RC 11 3354 OE	0000445931	A02219	.W. 0002676390
DA015		RC 11 3354 OE	0000445932	A02214	.W. 0002676390
DA020		RC 11 3374 OE	0000445933	A02219	.W. 0002676390
DA025		RC 11 3574 OE	0000445934	A02214	.W. 0004473536
DA030		RC 11 3584 OE	0000445935	A02214	.W. 0004473536
DA035		RC 11 3584 OE	0000445936	A02214	.W. 0004473536
DA040		RC 11 3594 OE	0000445937	A02214	.W. 0004473536
DA045		RC 11 3594 OE	0000445938	A02214	.W. 0004473536
DA050		RC 11 5054 OE	0000445939	A02215	.W. 0002676390
DA055		RC 11 5064 OE	0000445940	A02214	.W. 0002676390
DA060		RC 11 5074 OE	0000445941	A02214	.W. 0002676390
DA065		RC 11 1225 OE	0000445942	A02214	.W. 0002676390
DA070		RC 11 1225 OE	0000445943	A02214	.W. 0002676390
DA075		RC 11 5114 OE	0000445944	A02214	.W. 0002676390
DA080		RC 11 5114 OE	0000445945	A02214	.W. 0002676390
DA085		RC 11 5134 OE	0000445946	A02214	.W. 0002676390
DA090		RC 11 5144 OE	0000445947	A02214	.W. 0002676390
DA095		RC 11 5154 OE	0000445948	A02214	.W. 0002676390
DA100		RC 11 1265 OE	0000445949	A02215	.W. 0002676390
DA105		RC 11 1265 OE	0000445950	A02215	.W. 0002676390
DA110		RC 11 5184 OE	0000445951	A02220	.W. 0002676390
DA115		RC 11 5194 OE	0000445952	A02214	.W. 0002676390
DA120		RC 11 5024 OE	0000445953	A02220	.W. 0002676390
DA125		RC 11 1245 OE	0000445954	A02215	.W. 0002676390
DA130		RC 11 1245 OE	0000445955	A02215	.W. 0002676390
DA135		RC 11 5254 OE	0000445956	A02219	.W. 0002676390
DA140		RC 11 5264 OE	0000445957	A02219	.W. 0002676390
DA145		RC 11 5274 OE	0000445958	A02219	.W. 0002676390
DA150		RC 11 5284 OE	0000445959	A02219	.W. 0002676390
DA155		RC 11 5294 OE	0000445960	A02217	.W. 0004473536
DA160		RC 11 5294 OE	0000445961	A02217	.W. 0004473536
DA170		RC 11 5324 OE	0000445963	A02219	.W. 0004473536
DA175		RC 11 5344 OE	0000445964	A02219	.W. 0002676390
DA180		RC 11 5354 OE	0000445965	A02219	.W. 0002676390
DA185		RC 11 5364 OE	0000445966	A02219	.W. 0002676390
DA190		RC 11 5374 OE	0000445967	A02219	.W. 0002676390
DA195		RC 11 A014 OE	0000445968	A02220	.W. 0004473536
DA200		RC 11 A024 OE	0000445969	A02220	.W. 0004473536
DA205		RC 11 D074 OE	0000445970	A02220	.W. 0004473536
DA220		RC 11 A094 OE	0000445973	A02220	.W. 0004473536
DA225		RC 11 A104 OE	0000445974	A02220	.W. 0004473536
DA230		RC 11 A125 OE	0000445975	A02220	.W. 0004473536
DA235		RC 11 A265 OE	0000445976	A02220	.W. 0004473536
DA240		RC 11 D123 OE	0000445977	A02214	.W. 0004473536
DA245		RC 11 D123 OE	0000445978	A02214	.W. 0004473536
DA250		RC 11 A294 OE	0000445979	A02220	.W. 0004473536
DA255		RC 11 A304 OE	0000445980	A02220	.W. 0004473536
DA260		RC 11 A314 OE	0000445981	A02220	.W. 0004473536
DA265		RC 11 A384 OE	0000445982	A02217	.W. 0004473536
DA270		RC 11 1505 OE	0000445983	A02219	.W. 0004473536
DA275		RC 11 1505 OE	0000445984	A02219	.W. 0004473536
DA280		RC 11 1505 OE	0000445985	A02215	.W. 0004473536
DA285		RC 11 A433 OE	0000445986	A02214	.W. 0004473536
DA290		RC 11 A433 OE	0000445987	A02214	.W. 0004473536
DA295		RC 11 A433 OE	0000445988	A02214	.W. 0004473536
DA300		RC 11 1425 OE	0000445989	A02214	.W. 0004473536
DA305		RC 11 1425 OE	0000445990	A02217	.W. 0004473536
DA310		RC 11 1425 OE	0000445991	A02217	.W. 0004473536
DA315		RC 11 1435 OE	0000445992	A02214	.W. 0004473536
DA320		RC 11 1435 OE	0000445993	A02217	.W. 0004473536
DA325		RC 11 1435 OE	0000445994	A02214	.W. 0004473536
DA330		RC 11 A584 OE	0000445995	A02220	.W. 0004473536
DA335		RC 11 A614 OE	0000445996	A02220	.W. 0004473536
DA340		RC 11 A624 OE	0000445997	A02220	.W. 0004473536
DA350		RC 11 1555 OE	0000445788	A02215	.W. 0002676390

TOTAL PART NUMBERS THIS VOLUME 66

IBM®

Maintenance Information

S/N MI	S/N MI	S/N MI	S/N MI	S/N MI	S/N MI	S/N MI	S/N MI
MAINTENANCE INFORMATION	MAINTENANCE INFORMATION	MAINTENANCE INFORMATION	MAINTENANCE INFORMATION	MAINTENANCE INFORMATION	MAINTENANCE INFORMATION	MAINTENANCE INFORMATION	MAINTENANCE INFORMATION
SAFETY INDEX TERMS/ ABBREVIATIONS INTRODUCTION START PU REPAIR CHNL REPAIR MSS REPAIR END OF REPAIR	PWR REPAIR (HWS AND MBC)	PWR REPAIR (PROC) PR 1001 THRU PR 13 XX	PWR REPAIR (PROC) PR 1401 THRU PR 18 XX	PWR REPAIR (PROC) PR 1901 THRU PR 5001	SERVICE AIDS	LOCATIONS TOOLS REMOVAL/ REPLACEMENT PREVENTIVE MAINTENANCE DIAGNOSTICS LOGS SYSTEM TEST INSTALLATION SAFETY INSP	CONSOLE FUNCTIONS MESSAGES
VOL A01	VOL A02	VOL A03	VOL A04	VOL A05	VOL A06	VOL A07	VOL A08

4381

Processor Maintenance Information

Seq DA005	PN 0445930 Pg 1 of 2	EC A02214 15 SEP 83	EC A02220 06 JUN 84		

The drawings and specifications contained herein shall not be reproduced in whole or in part without written permission.

IBM has prepared this maintenance manual for you in the use for installation, maintenance, or repair of the specific machine indicated. IBM makes no representation that it is suitable for any other purpose.

Information contained in this manual is subject to change from time to time. Any such change will be reported in subsequent revisions or Technical Newsletters.

It is possible that this material may contain reference to, or information about IBM products (machines and programs), programming, or services that are not announced in your country. Such references or information must not be construed to mean that IBM intends to announce such IBM products, programming, or services in your country.

Publications are not stocked at the address below; requests for IBM publications should be made to your IBM representative or to the IBM branch office serving your locality.

A form for reader's comments is provided in Volume A01 of this publication. If the form has been removed, comments may be addressed to IBM Corporation, Processor Maintenance Information Development, Department X65, P.O. Box 6, Endicott, NY, U.S.A. 13760. IBM may use or distribute whatever information you supply in any way it believes appropriate without incurring any obligation to you.

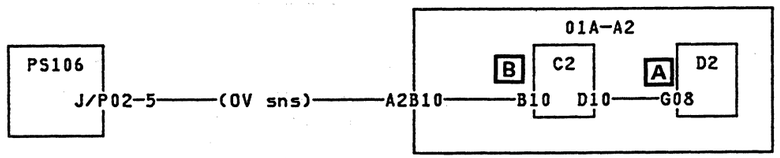
Ref Code 1133540E

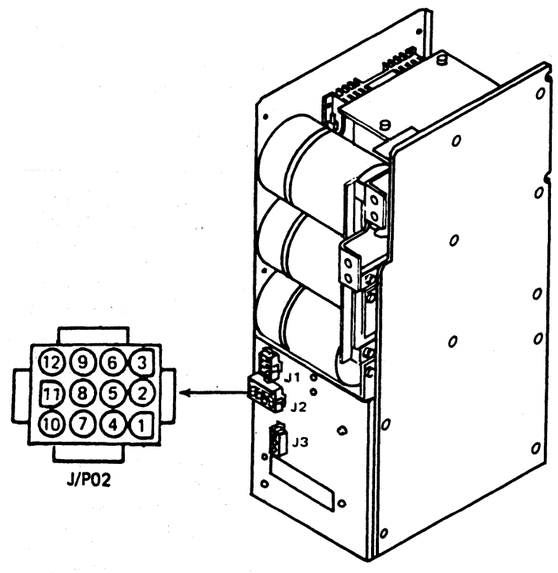
This Ref Code indicates the PS106 OV sense line was above +0.8 Vdc before bias voltages were applied to PS106.

Possible causes:

- PS106
- 01A-A2D2 sense card
- 01A-A2C2 optoisolator card.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2G08. [A]
2	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B10. [B]
4	Is voltage less than +0.8 Vdc?	Go to step 12.
5	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Disconnect PS106 P02. 3. Press service panel Power On. 4. Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B10.

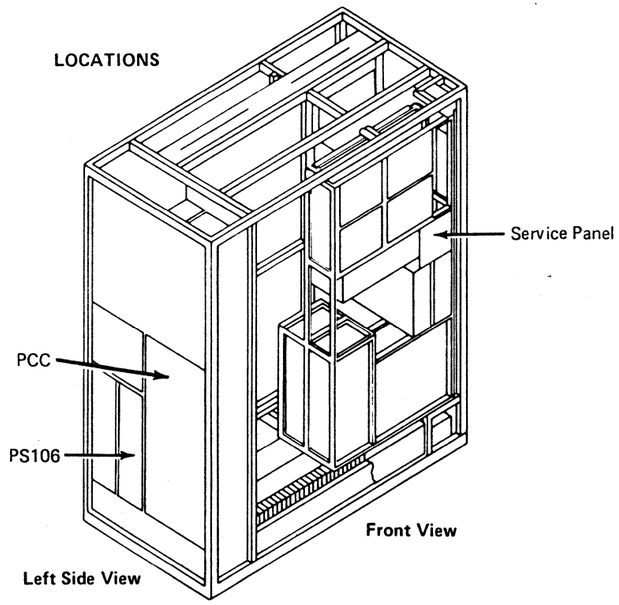




Step	Conditions	Instructions
6	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS106. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Reconnect PS106 P02. 3. Swap 01A-A2C4 and 01A-A2C2 cards. 4. Press service panel Power On. 5. Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B10.
8	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange card swapped into the 01A-A2C2 position. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Disconnect cable at 01A-A2A2. 3. Press service panel Power On. 4. Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B10.
10	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2A2 to PS106 P02. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
12	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Swap 01A-A2C2 and 01A-A2C4 cards. 3. Press service panel Power On. 4. Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2G08.
13	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange card just swapped into the 01A-A2C4 position. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
14	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Swap 01A-A2D2 and 01A-A2E2 cards. 3. Press service panel Power On. 4. Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2G08.

Step	Conditions	Instructions
15	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange card just swapped into the 01A-A2E2 position. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
16	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



Seq DA015	PN 0445932 Pg 1 of 1	EC A02214 15 SEP 83				

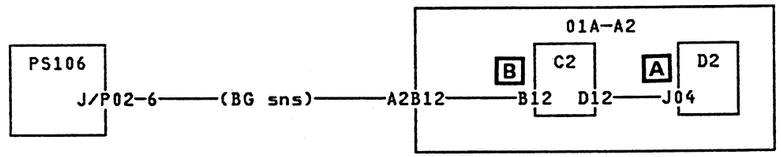
Ref Code 1133740E

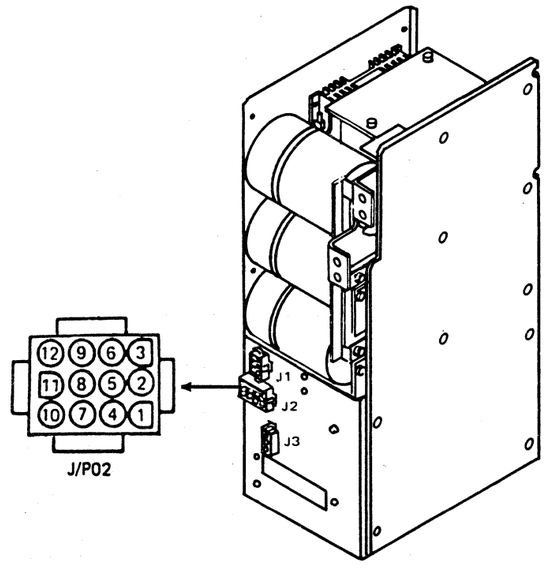
This Ref Code indicates the PS106 BG sense line was above +0.8 Vdc before bias voltages were applied to PS106.

Possible causes:

- PS106
- 01A-A2D2 sense card
- 01A-A2C2 optoisolator card.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2J04. [A]
2	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B12. [B]
4	Is voltage less than +0.8 Vdc?	Go to step 12.
5	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Disconnect PS106 P02. 3. Press service panel Power On. 4. Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B12.

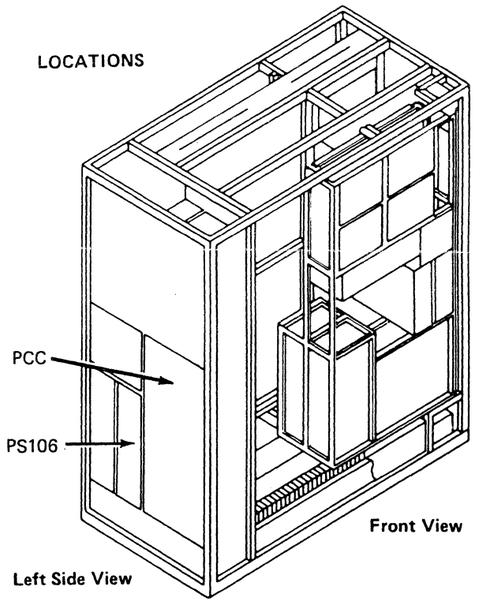




Step	Conditions	Instructions
6	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS106. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Reconnect PS106 P02. 3. Swap 01A-A2C4 and 01A-A2C2 cards. 4. Press service panel Power On. 5. Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B12.
8	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange card swapped into the 01A-A2C2 position. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Disconnect cable at 01A-A2A2. 3. Press service panel Power On. 4. Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B12.
10	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2A2 to PS106 P02. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
12	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Swap 01A-A2C2 and 01A-A2C4 cards. 3. Press service panel Power On. 4. Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2J04.
13	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange card just swapped into the 01A-A2C4 position. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
14	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Swap 01A-A2D2 and 01A-A2E2 cards. 3. Press service panel Power On. 4. Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2J04.

Step	Conditions	Instructions
15	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange card just swapped into the 01A-A2E2 position. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
16	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



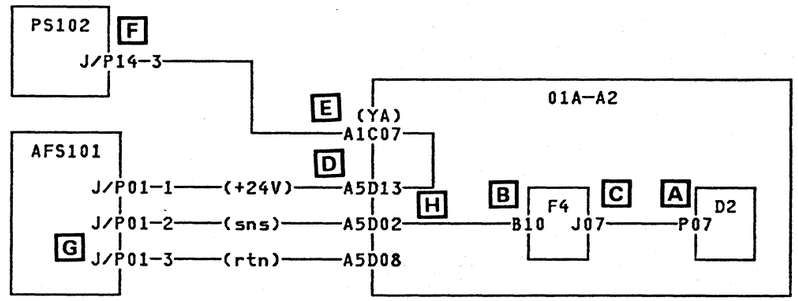
Ref Code 1135740E

This Ref Code indicates AFS101 is failing.

Possible causes:

- 01A-A2F4 serial read card
- 01A-A2D2 sense card
- 01A-A2 board
- AFS101
- AFS101 sense line
- Missing +24 Vdc to AFS101.

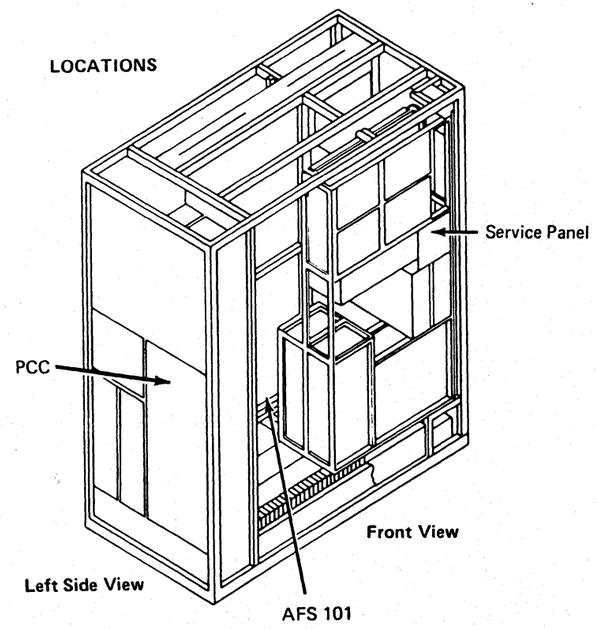
Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Measure for +24 Vdc at the following points: - lead at AFS101 J/P01-3 (black wire) + lead at AFS101 J/P01-1 (red wire).
2	Is voltage less than +22 Vdc?	Go to step 10
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2P07. [A]
4	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2F4D08 + lead at 01A-A2F4B10. [B]



Step	Conditions	Instructions
6	Is voltage greater than +4.5 Vdc?	Go to step 17.
7	Go to **Instructions** column.	Measure for +4 Vdc at the following points: - lead at 01A-A2F4D08 + lead at 01A-A2F4J07. C
8	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2F4 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
10	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at 01A-A2A5D08 + lead at 01A-A2A5D13. D
11	Is voltage +22 Vdc to +27 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2A5 to AFS101. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
12	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at 01A-A2A5D08 + lead at 01A-A2A1C07. E
13	Is voltage +22 Vdc to +27 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
14	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at PS102 J/P14-2 + lead at PS102 J/P14-3. F
15	Is voltage +22 Vdc to +27 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2YA to PS102 J/P14. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
16	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
17	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at AFS101 J/P01-3 (black wire) + lead at AFS101 J/P01-2 (yellow wire). G

Step	Conditions	Instructions
18	Is voltage greater than +4.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange AFS101. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging AFS101. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
19	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A5D08 + lead at 01A-A2A5D02. [H]
20	Is voltage greater than +4.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A5 to AFS101. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
21	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



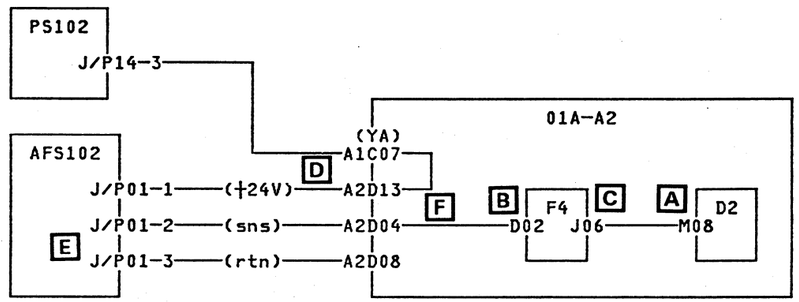
Ref Code 1135840E

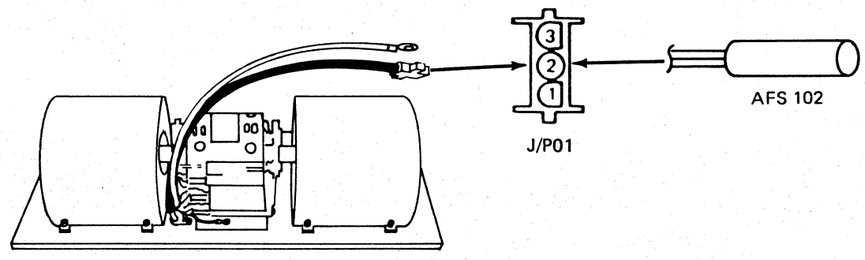
This Ref Code indicates AFS102 is failing.

Possible causes:

- 01A-A2F4 serial read card
- 01A-A2D2 sense card
- 01A-A2 board
- AFS102
- AFS102 sense line
- +24 Vdc to AFS102.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Measure for +24 Vdc at the following points: - lead at AFS102 J/P01-3 (black wire) + lead at AFS102 J/P01-1 (red wire).
2	Is voltage less than +22 Vdc?	Go to step 10
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2M08. [A]
4	Is voltage less than +.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2F4D08 + lead at 01A-A2F4D02. [B]
6	Is voltage greater than +4.5 Vdc?	Go to step 13.



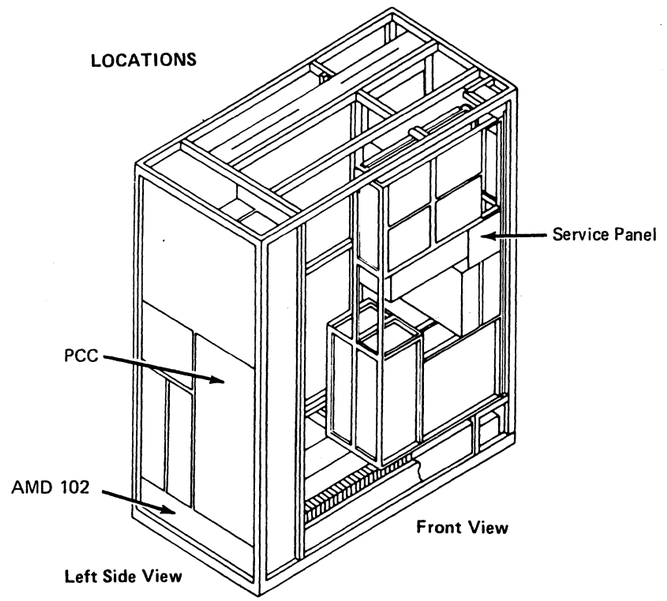


AMD 102

Step	Conditions	Instructions
7	Go to **Instructions** column.	Measure for +4 Vdc at the following points: - lead at 01A-A2F4D08 + lead at 01A-A2F4J06. C
8	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2F4 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
10	Go to **Instructions** column.	Measure for +24 Vdc at the following points: + lead at 01A-A2A2D13 - lead at 01A-A2A2D08. D
11	Is voltage +21 Vdc to +27 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2A2 to AFS102. 4. Set PCC CB1 and CB2 off. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 5. Set PCC CB1 and CB2 on. 6. Go to page PR 5001.
12	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

Step	Conditions	Instructions
13	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at AFS J/P01-3 (black wire) + lead at AFS J/P01-2 (yellow wire). E
14	Is voltage greater than +4.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange AFS102. **Note:** Check cable connectors for pushed in pins and seating before exchanging AFS102. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
15	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A2D08 + lead at 01A-A2A2D04. F
16	Is voltage greater than +4.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2 to AFS102. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
17	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



Seq DA035	PN 0445936 Pg 1 of 1	EC A02214 15 SEP 83				

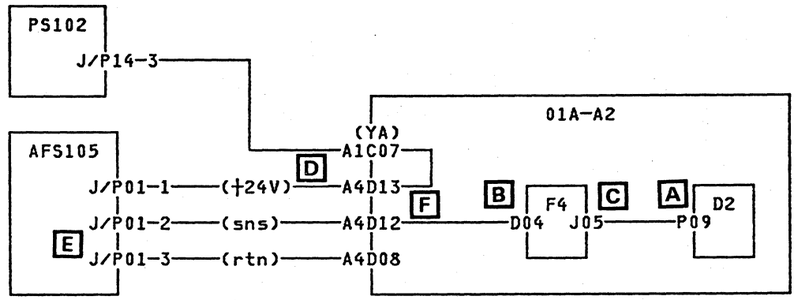
Ref Code 1135940E

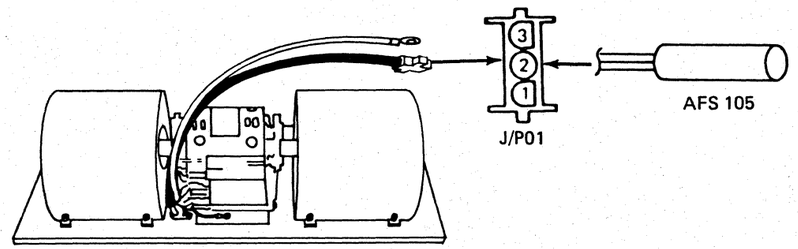
This Ref Code indicates AFS105 is failing.

Possible causes:

- 01A-A2F4 serial read card
- 01A-A2D2 sense card
- AFS105
- AFS105 sense line
- +24 Vdc to AFS105.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Measure for +24 Vdc at the following points: - lead at AFS105 J/P01-3 (black wire) + lead at AFS105 J/P01-1 (red wire).
2	Is voltage less than +22 Vdc?	Go to step 10.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2P09. [A]
4	Is voltage less than +0.8 Vdc.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2F4D08 + lead at 01A-A2F4D04. [B]
6	Is voltage greater than +4.5 Vdc?	Go to step 13.





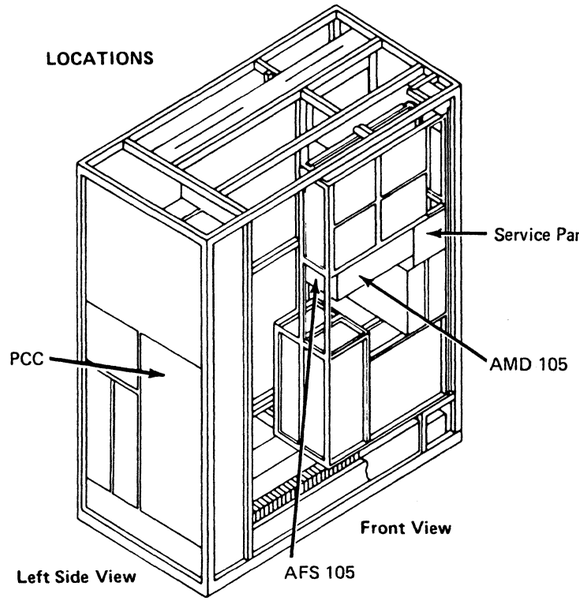
AMD 105

Seq DA040	PN 0445937 Pg 1 of 2	EC A02214 15 SEP 83				

Step	Conditions	Instructions
7	Go to **Instructions** column.	Measure for +4 Vdc at the following points: - lead at 01A-A2F4D08 + lead at 01A-A2F4J05. [C]
8	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2F4 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
10	Go to **Instructions** column.	Measure for +24 Vdc at the following points: + lead at 01A-A2A4D13 - lead at 01A-A2A4D08. [D]
11	Is voltage +22 to +27 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2A4 to AFS105. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
12	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

Step	Conditions	Instructions
13	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at AFS105 J/P01-3 (black wire) + lead at AFS105 J/P01-2 (yellow wire). [E]
14	Is voltage greater than +4.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange AFS105. **Note:** Check cable connectors for pushed in pins and seating before exchanging AFS105. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
15	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A4D08 + lead at 01A-A2A4D12. [F]
16	Is voltage greater than +4.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A4 to AFS105. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
17	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



Seq DA045	PN 0445938 Pg 1 of 1	EC A02214 15 SEP 83				

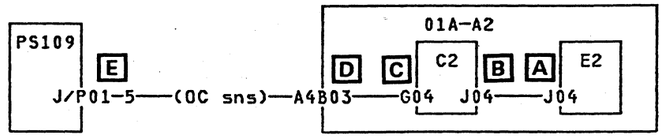
Ref Code 1150540E, 1150550E

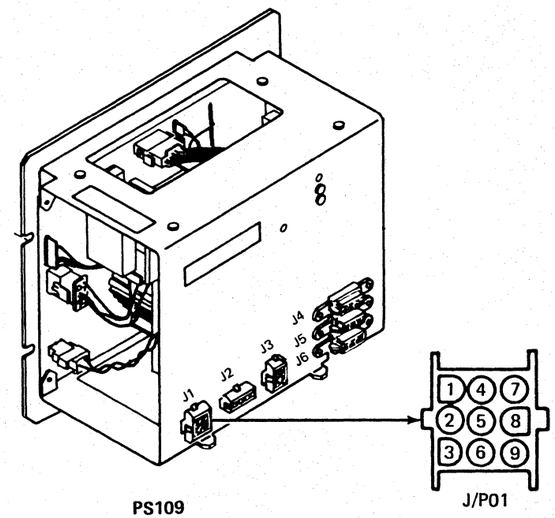
These Ref Codes indicate the PS109 OC sense line was below +2.4 Vdc after bias voltage was applied to PS109 but before the start line was set on.

Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- PS109
- PS109 OC sense line open or grounded.

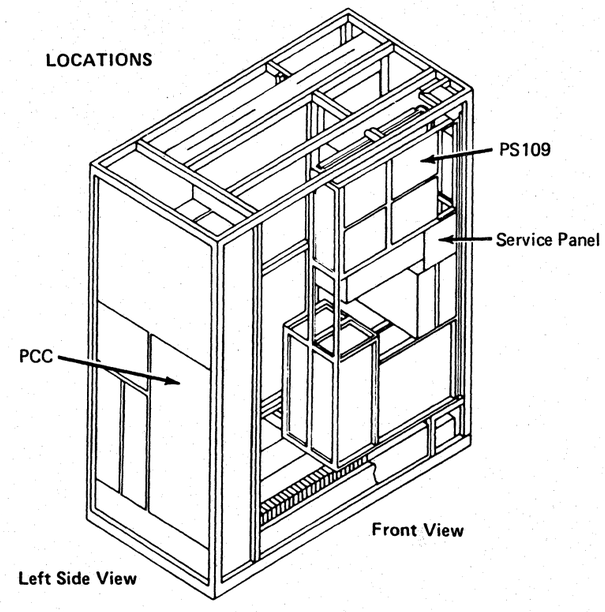
Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2J04. [A]
2	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2J04. [B]
4	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.





PS109 J/P01

Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 [C] + lead at 01A-A2C2G04.
6	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A2D08 [D] + lead at 01A-A2A4B03.
8	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS109 J/P01-5. [E]
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS109 P01 to 01A-A2A4. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS109. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
12	Go to **Instructions** column.	1. If still failing, the sense line may be shorted isolate to one of the following: 01A-A2E2 card (swap with D2 card) 01A-A2C2 card (swap with C4 card) PS109 01A-A2 board Cable from 01A-A2A4 to PS109 J/P01. 2. Set PCC CB1 and CB2 on. 3. Go to page PR 5001.



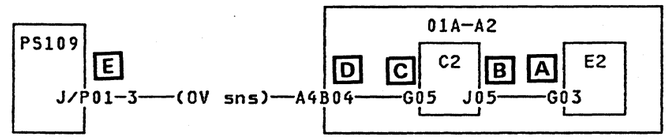
Ref Code 1150640E

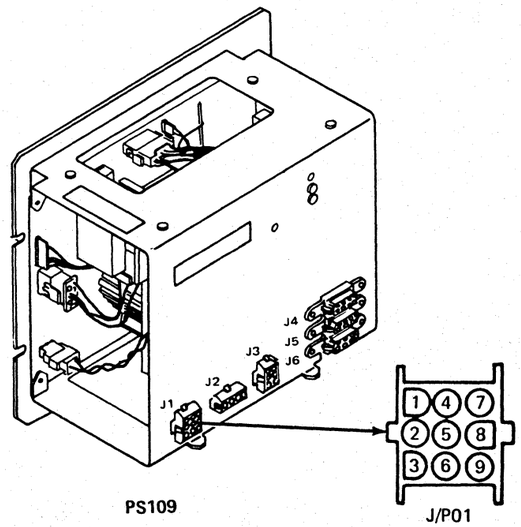
This Ref Code indicates the PS109 OV sense line was below +2.4 Vdc after bias voltage was applied to PS109 but before the start line was set on.

Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- PS109
- PS109 OV sense line open or grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. SetZCE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2G03. [A]
2	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2J05. [B]
4	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.



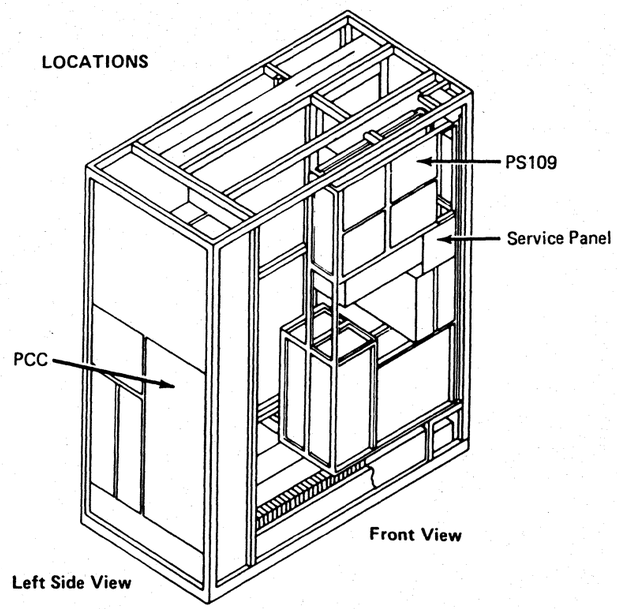


PS109 J/P01

Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2G05. [C]
6	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A2D08 + lead at 01A-A2A4B04. [D]
8	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS109 J/P01-3. [E]
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS109 P01 to 01A-A2A4. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS109. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
12	Go to **Instructions** column.	1. If still failing, the sense line may be shorted isolate to one of the following: 01A-A2E2 card (swap with D2 card) 01A-A2C2 card (swap with C4 card) PS109 01A-A2 board Cable from 01A-A2A4 to PS109 J/P01. 2. Set PCC CB1 and CB2 on. 3. Go to page PR 5001.

LOCATIONS



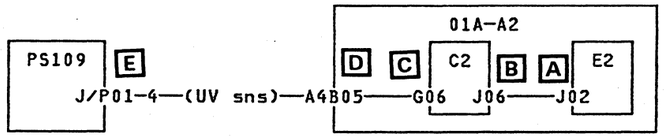
Ref Code 1150740E

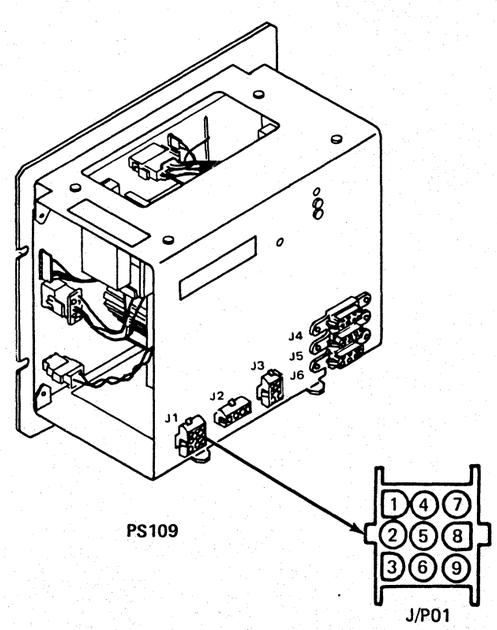
This Ref Code indicates the PS109 UV sense line was above +2.4 Vdc after bias voltage was applied but before start line was set on.

Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- PS109
- PS109 UV sense line open or grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead to 01A-A2E2D08 + lead to 01A-A2E2J02. [A]
2	Is voltage less than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Exchange 01A-A2E2 card. 3. Go to page PR 5001.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead to 01A-A2C2D08 + lead to 01A-A2C2J06. [B]
4	Is voltage less than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange the 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



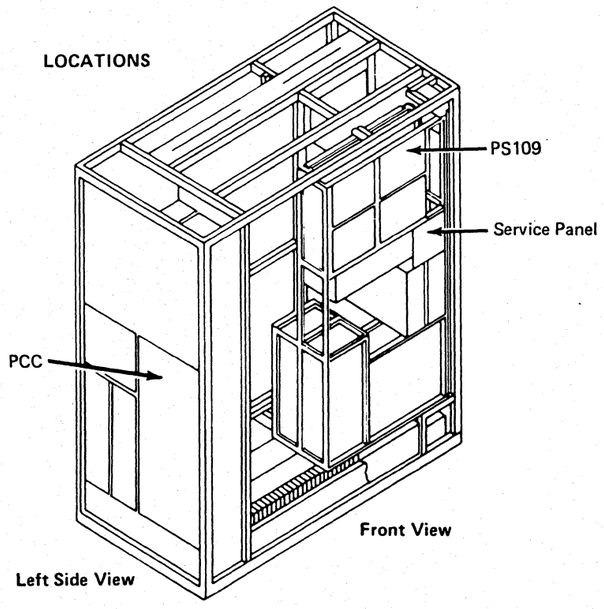


PS109

J/P01

Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead to 01A-A2C2D08 + lead to 01A-A2C2G06. C
6	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2A4B05. D
8	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS109 J/P01-4. E
10	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable between PS109 J/P01 and 01A-A2A4. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS109. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



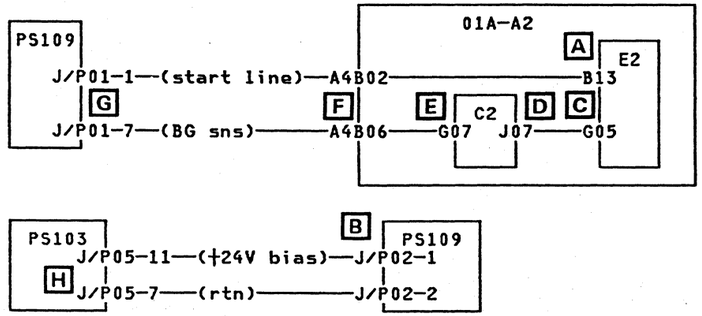
Ref Codes 1112250E, 1150840E, 11D0850E

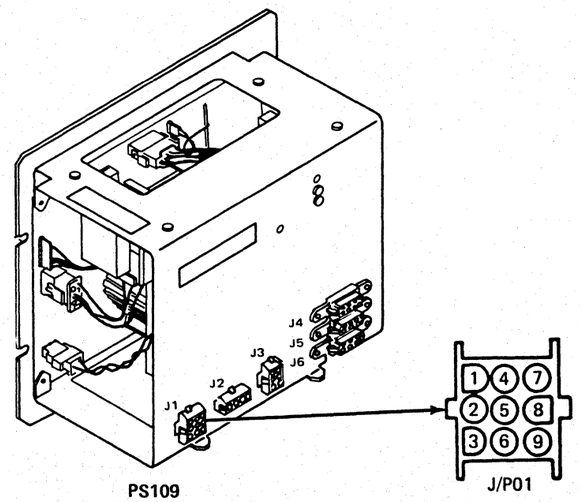
These Ref Codes indicate the PS109 BG sense line was below +2.4 Vdc after bias voltage was applied to PS109 but before the start line was set on.

Possible causes:

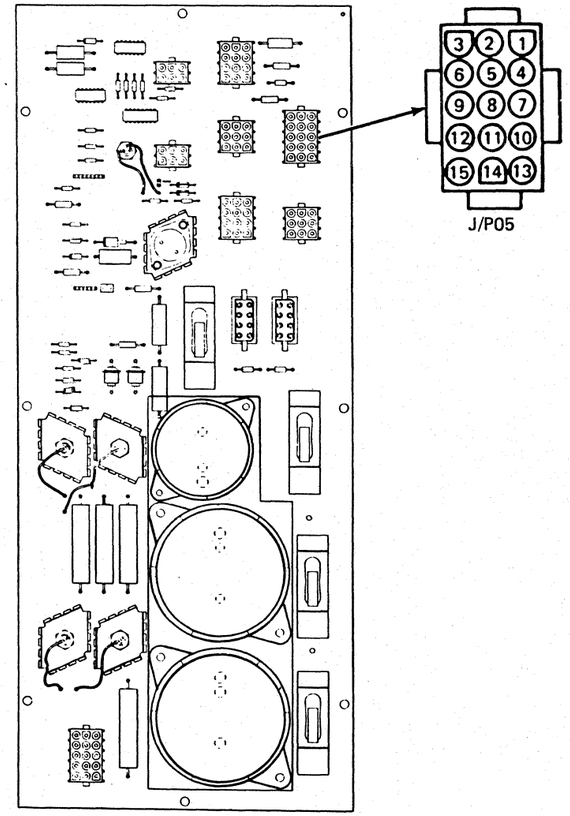
- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- PS109
- PS109 BG sense line open or grounded
- Missing 24 Vdc bias to PS109
- PS109 start line grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2B13. [A]
2	Is voltage less than +2.4 Vdc?	Go to step 19.
3	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at PS109 P02-2 + lead at PS109 P02-1. [B]
4	Is voltage less than +22 Vdc?	Go to step 16.
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2G05. [C]





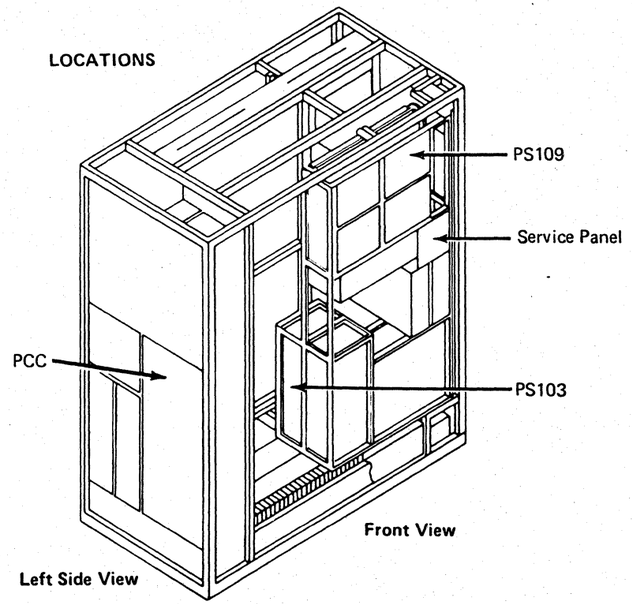
Step	Conditions	Instructions
6	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2J07. D
8	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange the 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2G07. E
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
11	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A4D08 + lead at 01A-A2A4B06. F
12	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange the 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.



PS103

Step	Conditions	Instructions
13	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS109 J/P01-7. G
14	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange the cable from 01A-A2A4 to PS109 J/P01. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
15	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS109. **Note:** Check cable connectors for pushed in pins and seating before power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
16	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at PS103 J/P05-7 + lead at PS103 J/P05-11. H
17	Is voltage greater than +22 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange the cable from PS103 J/P05 to PS109 J/P02. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
18	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS103. **Note:** Check cable connectors for pushed in pins and seating before power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
19	Go to **Instructions** column.	1. Press ENTER to end Diagnostic Stop. 2. Disconnect PS109 J/P01. 3. Select Diagnostic Power Up (QWD) screen. 4. Select option A (stop after K03 picked). 5. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2B13.
20	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS109. **Note:** Check cable connectors for pushed in pins and seating before power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
21	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.

Step	Conditions	Instructions
22	Go to **Instructions** column.	1. Reconnect PS109 J/P01. 2. If still failing, the sense or start line may be shorted isolate to one of the following: 01A-A2E2 card (swap with D2 card) 01A-A2C2 card (swap with C4 card) PS109 01A-A2 board Cable from 01A-A2A4 to PS109 J/P01. 3. Set PCC CB1 and CB2 on. 4. Go to page PR 5001.



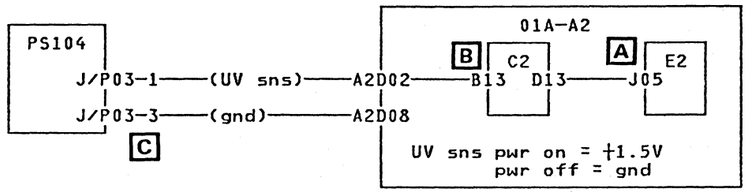
Ref Code 1151140E

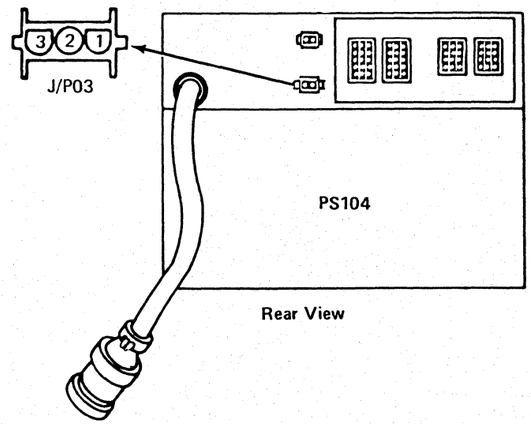
This Ref Code indicates the PS104 UV sense line was above +0.8 Vdc after bias voltage was applied to PS104 but before the start line was set on.

Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- PS104.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select the Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2J05. [A]
2	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 22
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B13. [B]
4	Is voltage less than +0.8 Vdc?	Go to step 12.
5	Go to **Instructions** column.	1. Disconnect PS104 J/P03. 2. Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B13.
6	Is voltage less than +0.8 Vdc?	Go to step 17.



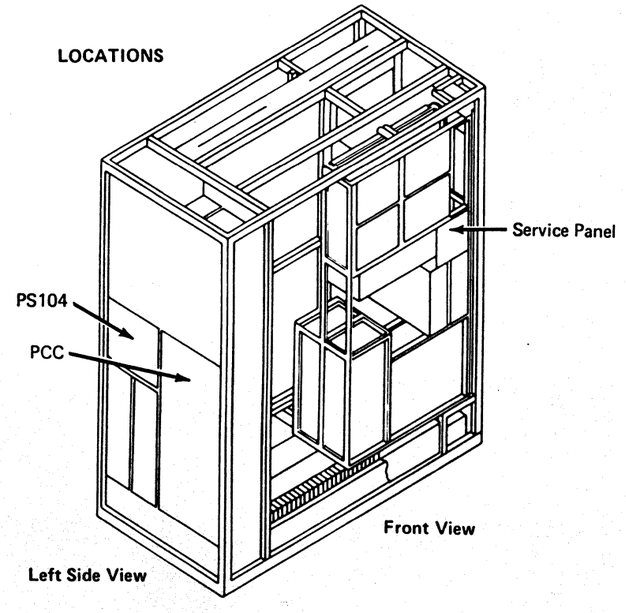


Step	Conditions	Instructions
7	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Swap cards at 01A-A2C2 and 01A-A2C4. 4. Set PCC CB1 and CB2 on. 5. Press service panel Power On. 6. Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B13.
8	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange card just swapped into 01A-A2C4 position. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
9	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Disconnect cable at 01A-A2A2. 4. Set PCC CB1 and CB2 on. 5. Press service panel Power On. 6. Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B13.
10	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2A2 to PS104 P03. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
12	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Swap cards at 01A-A2C2 and 01A-A2C4. 4. Set PCC CB1 and CB2 on. 5. Press service panel Power On. 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2J05.
13	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange card just swapped into 01A-A2C4 position. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
14	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Swap cards at 01A-A2E2 and 01A-A2D2. 4. Set PCC CB1 and CB2 on. 5. Press service panel Power On. 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2J05.
15	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange card just swapped into 01A-A2D2 position. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.

Step	Conditions	Instructions
16	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
17	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Disconnect PCC P14. 3. Press service panel Power On. 4. Select the Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for line voltage at the following points: PCC J14-1 to frame ground PCC J14-2 to frame ground PCC J14-3 to frame ground (measure on PCC box).
18	Is ac voltage present at any point?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PCC K04. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
19	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS104 J/P03-3. C
20	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS104. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.

Step	Conditions	Instructions
21	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS104 J/P03 to 01A-A2A2. **Note:** Check board for bent pins and cable connector for pushed in pins before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
22	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Check all cables and cards for proper seating in the following areas: PS104 01A-A2 board. 3. Reset any tripped CPs. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



Seq DA080	PN 0445945 Pg 1 of 1	EC A02214 15 SEP 83				

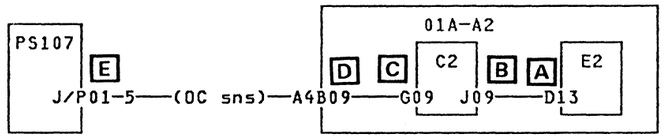
Ref Code 1151340E

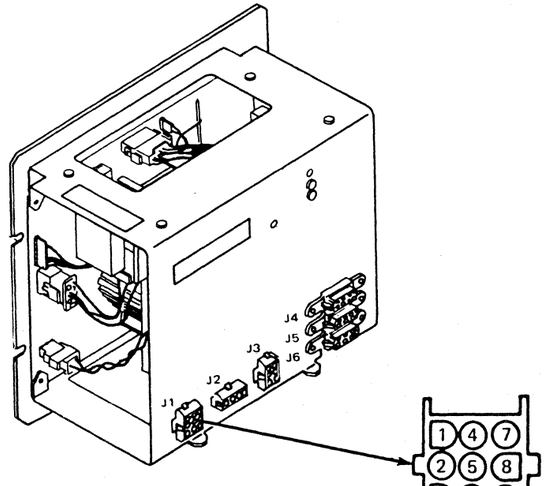
This Ref Code indicates the PS107 OC sense line was below +2.4 Vdc after bias voltage was applied to PS107 but before the start line was set on.

Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- PS107
- PS107 OC sense line open or grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2D13. [A]
2	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2J09. [B]
4	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.





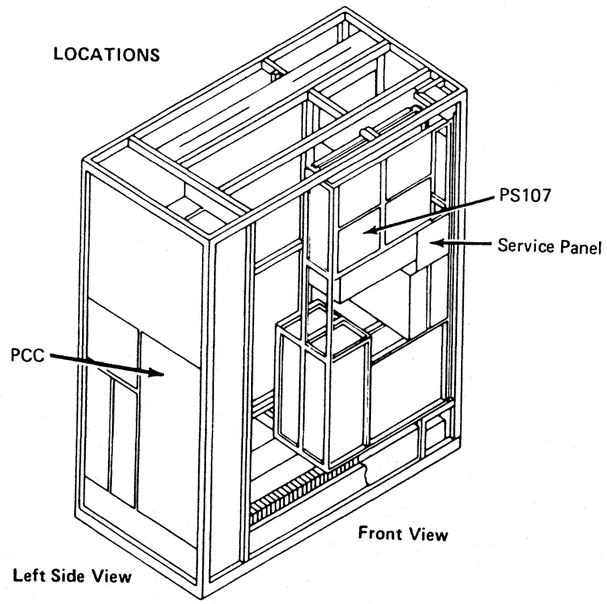
PS107

J/P01

Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2G09. C
6	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A2D08 + lead at 01A-A2A4B09. D
8	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS107 J/P01-5. E
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS107 P01 to 01A-A2A4. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS107. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
12	Go to **Instructions** column.	1. If still failing, the sense line may be shorted isolate to one of the following: 01A-A2E2 card (swap with D2 card) 01A-A2C2 card (swap with C4 card) PS107 01A-A2 board Cable from 01A-A2A4 to PS107 J/P01. 2. Set PCC CB1 and CB2 on. 3. Go to page PR 5001.

LOCATIONS



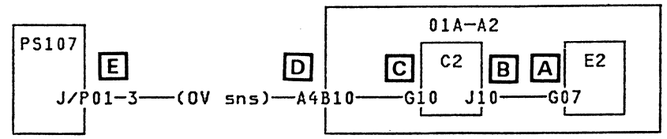
Ref Code 1151440E

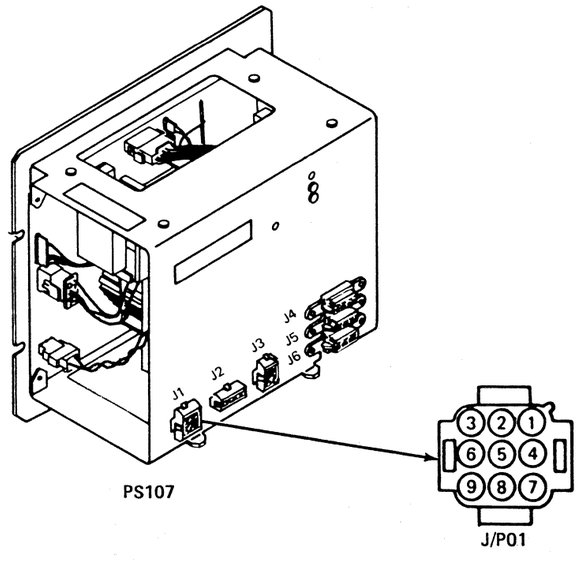
This Ref Code indicates the PS107 OV sense line was below +2.4 Vdc after bias voltage was applied to PS107 but before the start line was set on.

Possible causes:

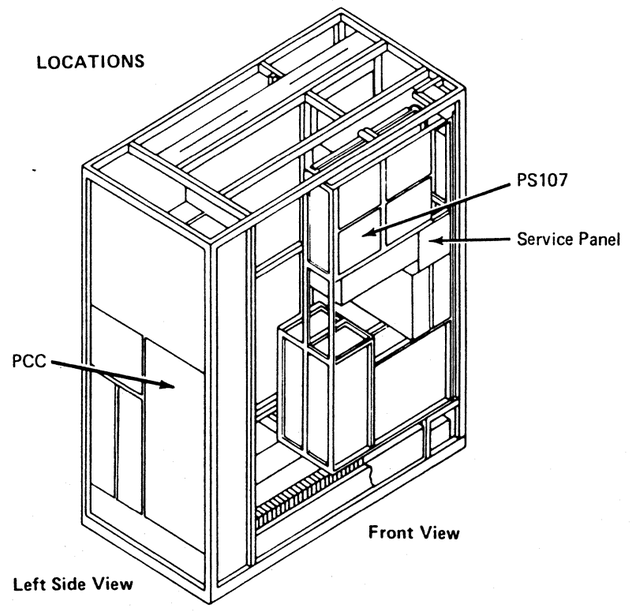
- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- PS107
- PS107 OV sense line open or grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. SetZCE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2G07. [A]
2	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2J10. [B]
4	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.





Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2G10. [C]
6	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A2D08 + lead at 01A-A2A4B10. [D]
8	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS107 J/P01-3. [E]
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS107 P01 to 01A-A2A4. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS107. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
12	Go to **Instructions** column.	1. If still failing, the sense line may be shorted isolate to one of the following: 01A-A2E2 card (swap with D2 card) 01A-A2C2 card (swap with C4 card) PS107 01A-A2 board Cable from 01A-A2A4 to PS107 J/P01. 2. Set PCC CB1 and CB2 on. 3. Go to page PR 5001.



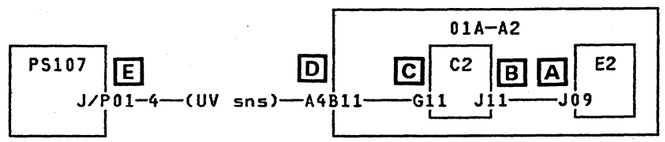
Ref Code 1151540E

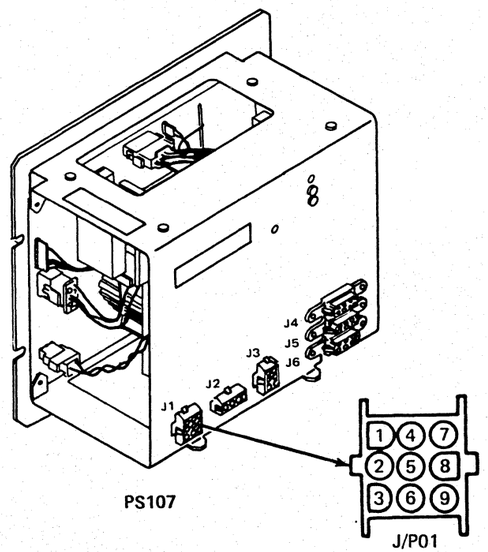
This Ref Code indicates the PS107 UV sense line was above +2.4 Vdc after bias voltage was applied before or after start.

Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- 01A-A2 board
- PS107
- PS107 UV sense line open or grounded.

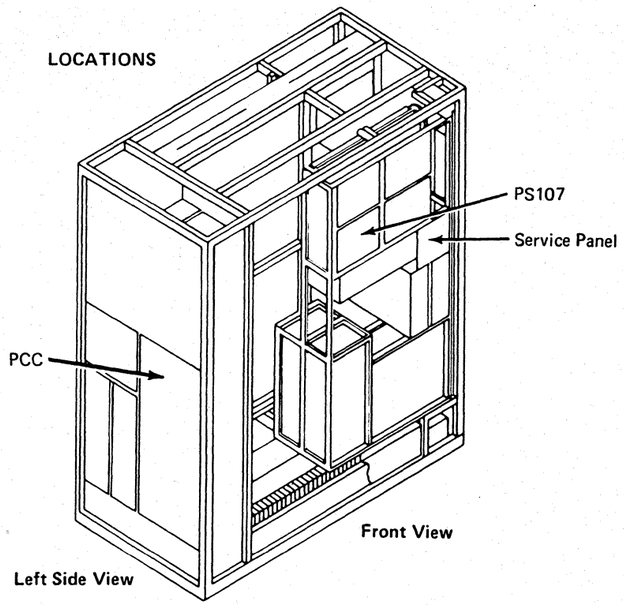
Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead to 01A-A2E2D08 + lead to 01A-A2E2J09. [A]
2	Is voltage less than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Exchange 01A-A2E2 card. 3. Go to page PR 5001.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead to 01A-A2C2D08 + lead to 01A-A2C2J11. [B]
4	Is voltage less than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.





Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead to 01A-A2C2D08 + lead to 01A-A2C2G11. C
6	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2A4B11. D
8	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS107 J/P01-4. E
10	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange the cable between PS107 J/P01 and 01A-A2A4. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS107. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



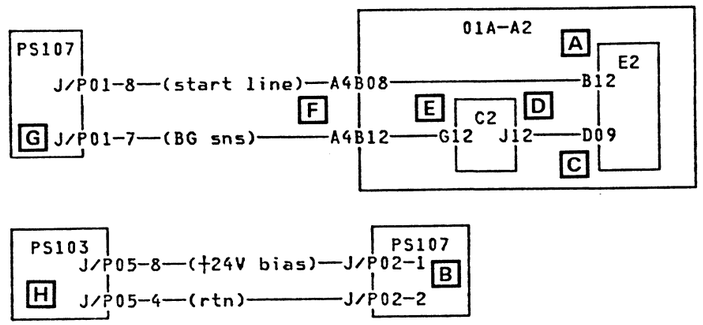
Ref Codes 1112650E, 1151640E, 11D1650E

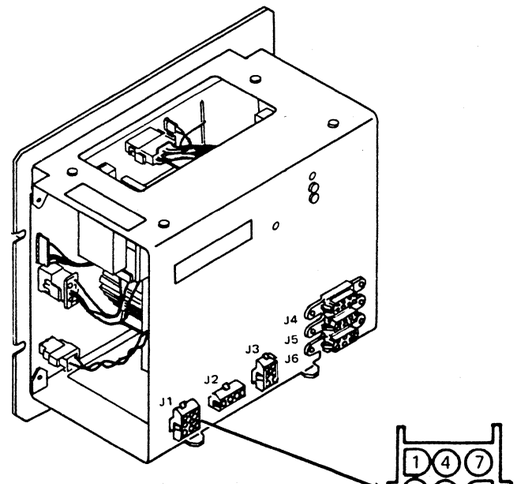
These Ref Codes indicate the PS107 BG sense line was below +2.4 Vdc after bias voltage was applied to PS107 but before the start line was set on.

Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- PS107
- PS107 BG sense line open or grounded
- Missing 24 Vdc bias to PS107
- PS107 start line grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2B12. A
2	Is voltage less than +2.4 Vdc?	Go to step 19.
3	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at PS107 P02-2 + lead at PS107 P02-1. B
4	Is voltage less than +22 Vdc?	Go to step 16.
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2D09. C





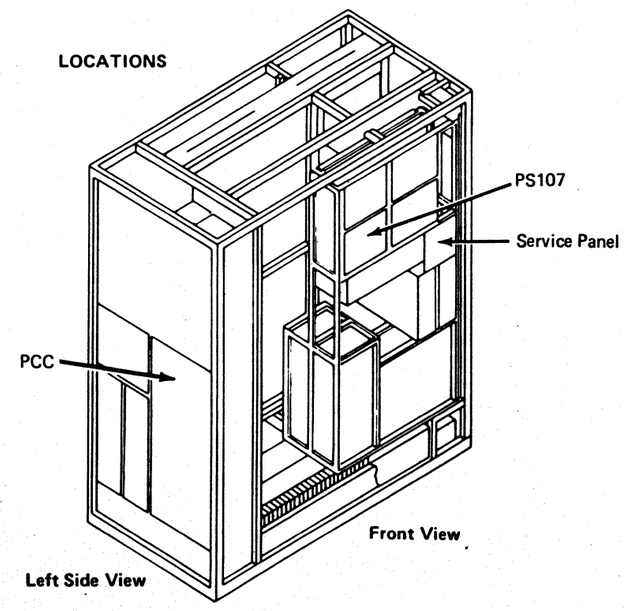
PS107

J/P01

PR 1531

Step	Conditions	Instructions
6	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2J12. [D]
8	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2G12. [E]
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
11	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A4D08 + lead at 01A-A2A4B12. [F]
12	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
13	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS107 J/P01-7. [G]
14	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2A4 to PS107 J/P01. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
15	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS107. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
16	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at PS103 J/P05-8 + lead at PS103 J/P05-4. [H]
17	Is voltage greater than +22 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS103 J/P05 to PS107 J/P02. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.

Step	Conditions	Instructions
18	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS103. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
19	Go to **Instructions** column.	1. Press ENTER to end Diagnostic Stop. 2. Disconnect PS107 J/P01. 3. Select Diagnostic Power Up (QWD) screen. 4. Select option A (stop after K03 picked). 5. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2B12.
20	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS107. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
21	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
22	Go to **Instructions** column.	1. Reconnect PS107 J/P01. 2. If still failing, the sense or start line may be shorted. Isolate to one of the following: 01A-A2E2 card (swap with D2 card) 01A-A2C2 card (swap with C4 card) PS107 Cable from 01A-A2A4 to PS107 J/P01 01A-A2 board. 3. Set PCC CB1 and CB2 on. 4. Go to page PR 5001.



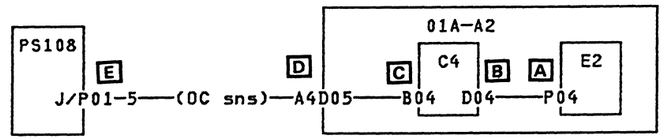
Ref Code 1151840E, 1151850E

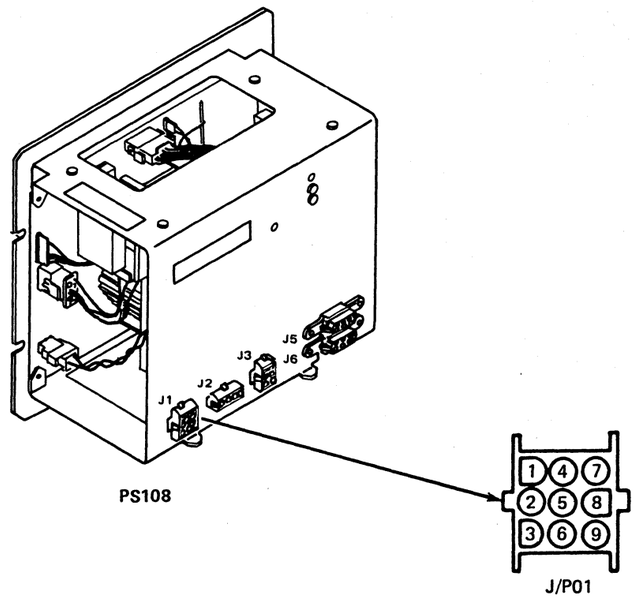
This Ref Code indicates the PS108 OC sense line was below +2.4 Vdc after bias voltage was applied to PS108 but before the start line was set on.

Possible causes:

- 01A-A2C4 optoisolator card
- 01A-A2E2 sense card
- PS108
- PS108 OC sense line open or grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 [A] + lead at 01A-A2E2P04.
2	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C4D08 [B] + lead at 01A-A2C4D04.
4	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.

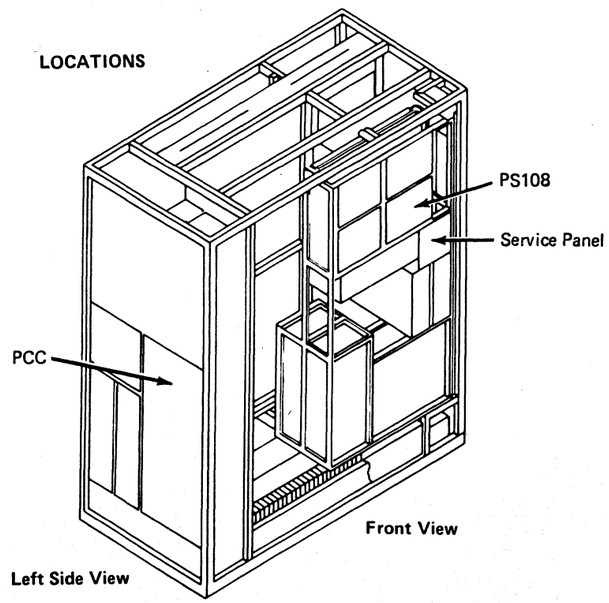




Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C4D08 + lead at 01A-A2C4B04. [C]
6	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C4 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A4D08 + lead at 01A-A2A4D05. [D]
8	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS108 J/P01-5. [E]
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange the cable from PS108 J/P01 to 01A-A2A4. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS108. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
12	Go to **Instructions** column.	1. If still failing, the sense line may be shorted. Isolate to one of the following: 01A-A2E2 card (swap with D2 card) 01A-A2C4 card (swap with C2 card) PS108 01A-A2 board Cable from 01A-A2A4 to PS108 J/P01. 2. Set PCC CB1 and CB2 on. 3. Go to page PR 5001.

LOCATIONS



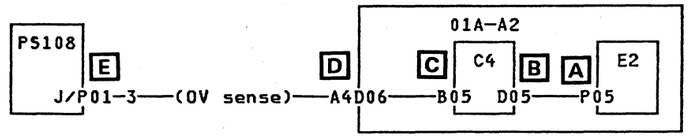
Ref Codes 1151940E

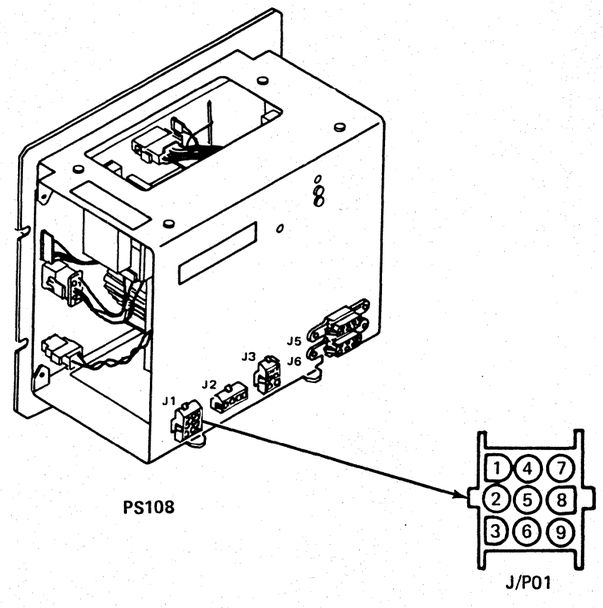
This Ref Code indicates the PS108 OV sense line was below +2.4 Vdc after bias voltage was applied to PS108 but before the start line was set on.

Possible causes:

- 01A-A2C4 optoisolator card
- 01A-A2E2 sense card
- PS108
- PS108 OV sense line open or grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2P05. [A]
2	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C4D08 + lead at 01A-A2C4D05. [B]
4	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.



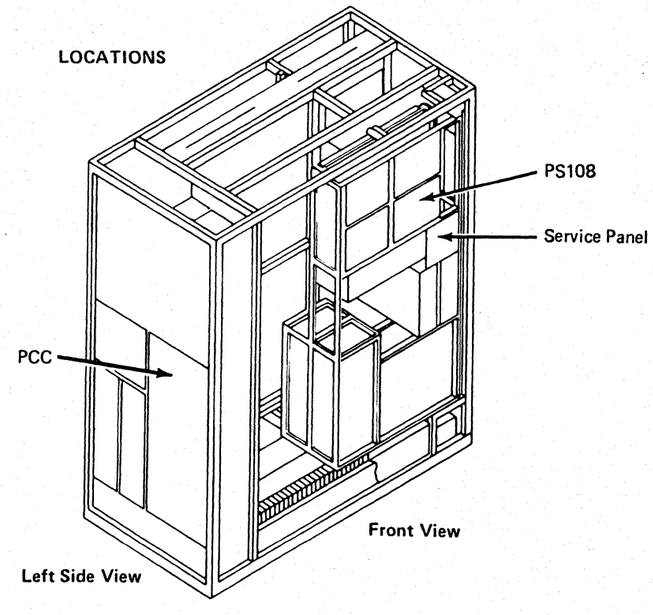


PS108

J/P01

Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C4D08 + lead at 01A-A2C4B05. [C]
6	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C4 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A4D08 + lead at 01A-A2A4D06. [D]
8	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS108 J/P01-3. [E]
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS108 J/P01 to 01A-A2A4. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS108. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
12	Go to **Instructions** column.	1. If still failing, the sense line may be shorted isolate to one of the following: 01A-A2E2 card (swap with D2 card) 01A-A2C4 card (swap with C2 card) PS108 01A-A2 board Cable from 01A-A2A4 to PS108 J/P01. 2. Set PCC CB1 and CB2 on. 3. Go to page PR 5001.



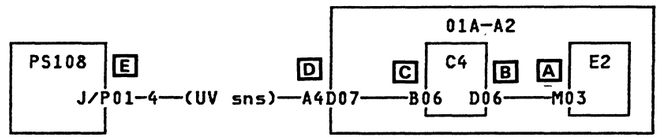
Ref Code 1152040E

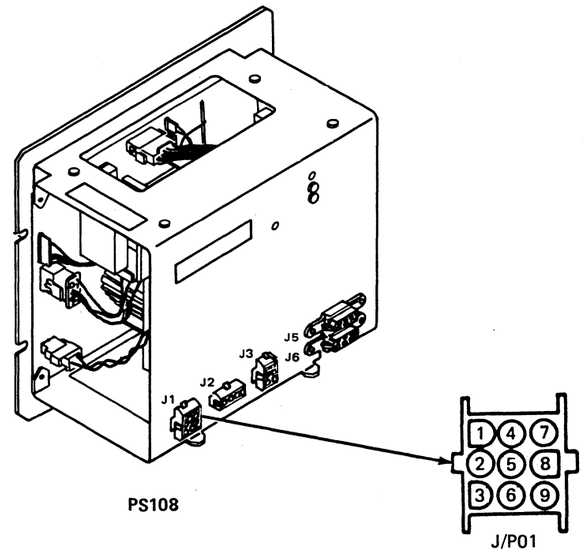
This Ref Code indicates the PS108 UV sense line was above +2.4 Vdc after bias voltage was applied but before the start line was set on.

Possible causes:

- 01A-A2C4 optoisolator card
- 01A-A2E2 sense card
- PS108
- PS108 UV sense line tied up
- If this is an installation or diskette update, the wrong power group was defined.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead to 01A-A2E2P08 + lead to 01A-A2E2M03. [A]
2	Is voltage less than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Exchange 01A-A2E2 card. 3. Go to page PR 5001.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead to 01A-A2C4D08 + lead to 01A-A2C4D06. [B]
4	Is voltage less than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.





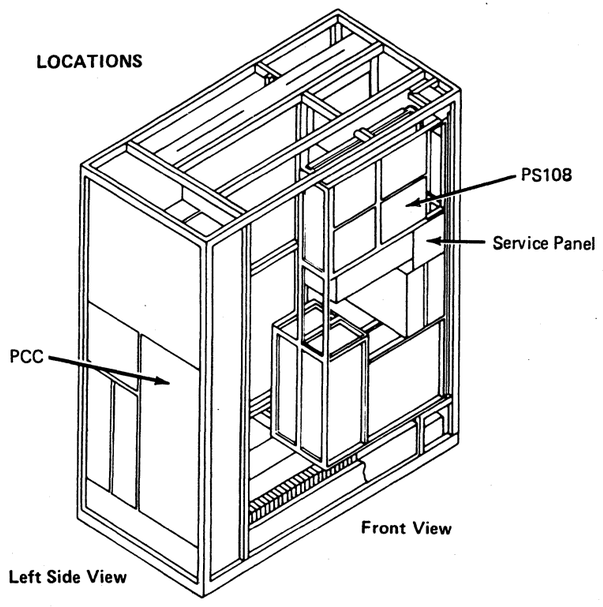
PS108

J/P01

Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead to 01A-A2C4D08 + lead to 01A-A2C4B06. [C]
6	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C4 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C4D08 + lead at 01A-A2A4D07. [D]
8	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS108 J/P01-4. [E]
10	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable between PS108 J/P01 and 01A-A2A4. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS108. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



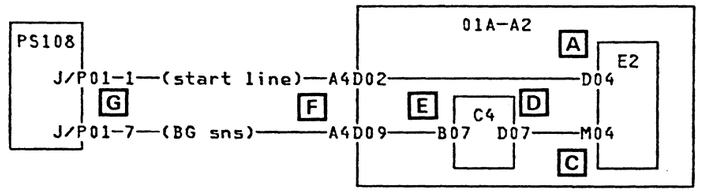
Ref Codes 1112450E, 1152240E, 11D2250E

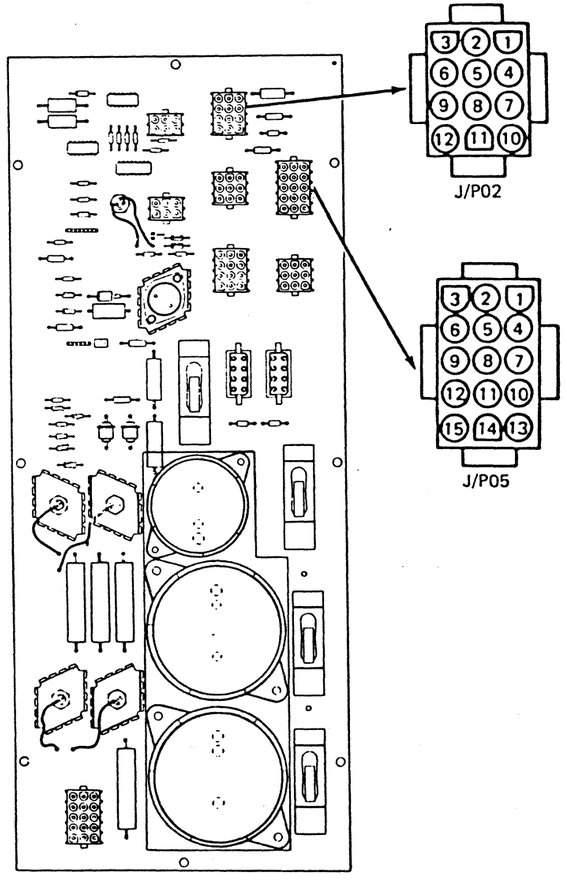
These Ref Codes indicate the PS108 BG sense line was below +2.4 Vdc after bias voltage was applied to PS108 but before the start line was set on.

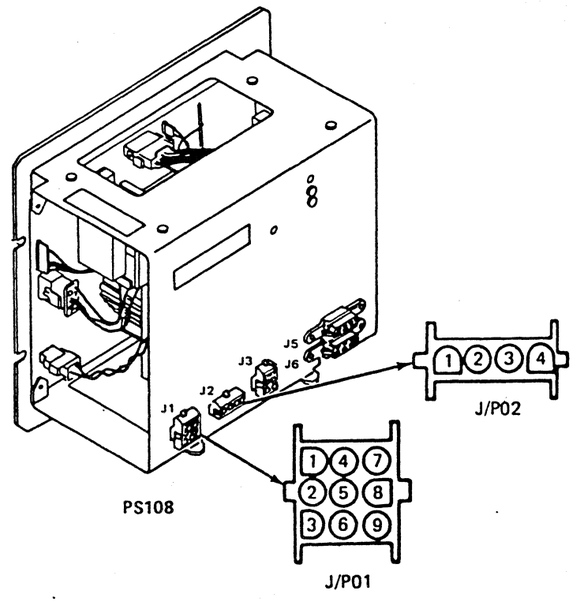
Possible causes:

- 01A-A2C4 optoisolator card
- 01A-A2E2 sense card
- PS108
- PS108 BG sense line open or grounded
- Missing 24 Vdc bias to PS108
- PS108 start line grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2D04. [A]
2	Is voltage less than +2.4 Vdc?	Go to step 19.
3	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at PS108 P02-2 + lead at PS108 P02-1. [B]
4	Is voltage less than +22 Vdc?	Go to step 16.
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2M04. [C]



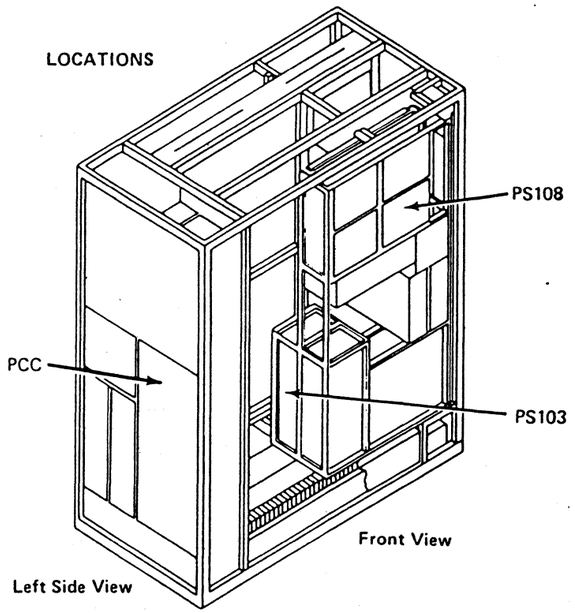




Step	Conditions	Instructions
6	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C4D08 + lead at 01A-A2C4D07. D
8	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C4D08 + lead at 01A-A2C4B07. E
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C4 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
11	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A4D08 + lead at 01A-A2A4D09. F
12	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
13	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS108 J/P01-7. G
14	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2A4 to PS108 J/P01. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
15	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS108. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
16	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at PS103 J/P05-5 + lead at PS103 J/P05-9. H
17	Is voltage greater than +22 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS103 J/P05 to PS108 J/P02. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.

Step	Conditions	Instructions
18	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS103. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
19	Go to **Instructions** column.	1. Press ENTER to end Diagnostic Stop. 2. Disconnect PS108 J/P01. 3. Select Diagnostic Power Up (QWD) screen. 4. Select option A (stop after K03 picked). 5. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2D04.
20	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS108. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
21	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.

Step	Conditions	Instructions
22	Go to **Instructions** column.	1. Reconnect PS108 J/P01. 2. If still failing, the sense or start line may be shorted. Isolate to one of the following: 01A-A2E2 card (swap with D2 card) 01A-A2C4 card (swap with C2 card) PS108 01A-A2 board Cable from 01A-A2A4 to PS108 J/P01. 3. Set PCC CB1 and CB2 on. 4. Go to page PR 5001.



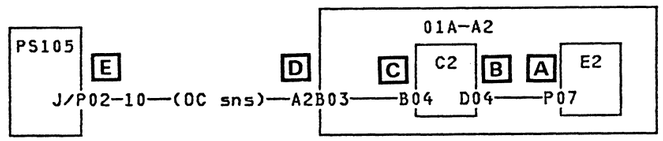
Ref Code 1152540E

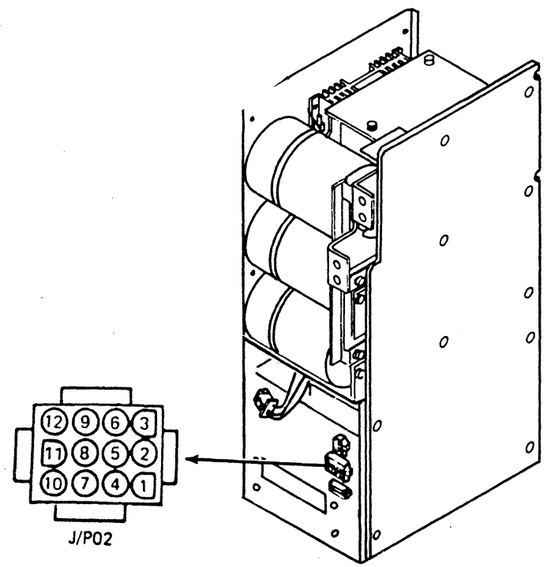
This Ref Code indicates the PS105 OC sense line was below +2.4 Vdc after bias voltage was applied to PS105 but before the start line was set on.

Possible causes:

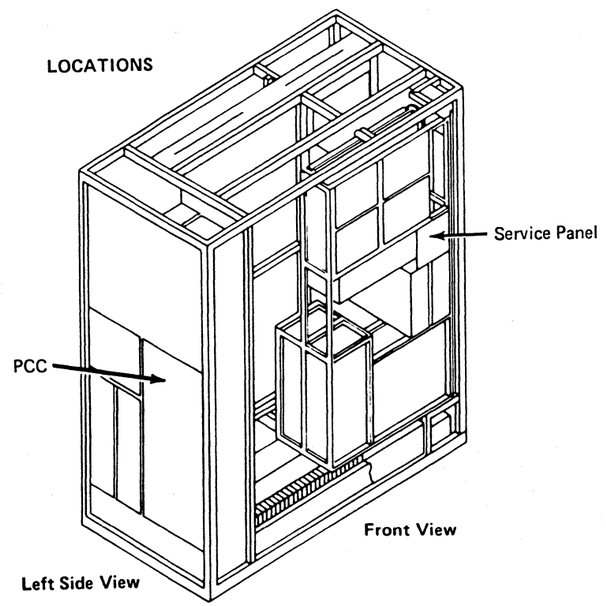
- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- PS105
- PS105 OC sense line open or grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 [A] + lead at 01A-A2E2P07. [A]
2	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 [B] + lead at 01A-A2C2D04. [B]
4	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.





Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B04. C
6	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A2D08 + lead at 01A-A2A2B03. D
8	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS105 J/P02-10. E
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS105 P02 to 01A-A2A2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS105. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
12	Go to **Instructions** column.	1. If still failing, the sense line may be shorted isolate to one of the following: 01A-A2E2 card (swap with D2 card) 01A-A2C2 card (swap with C4 card) PS105 01A-A2 board Cable from 01A-A2A2 to PS105 J/P02. 2. Set PCC CB1 and CB2 on. 3. Go to page PR 5001.



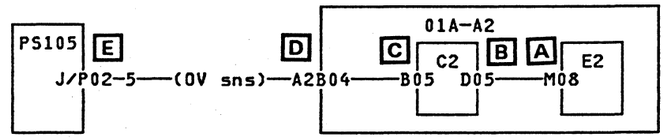
Ref Code 1152640E

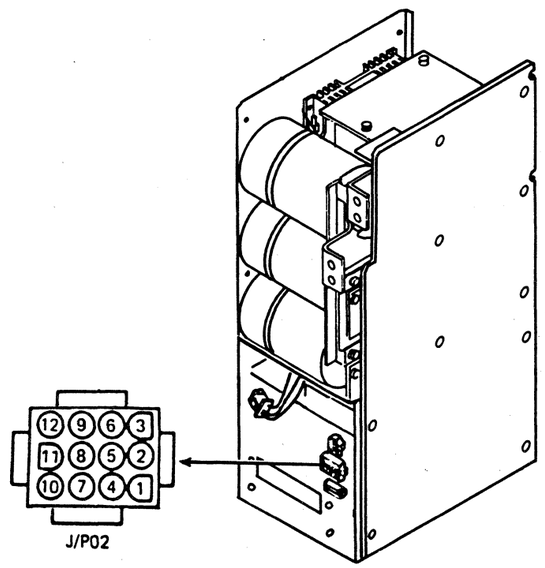
This Ref Code indicates the PS105 OV sense line was below +2.4 Vdc after bias voltage was applied to PS105 but before the start line was set on.

Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- PS105
- PS105 OV sense line open or grounded.

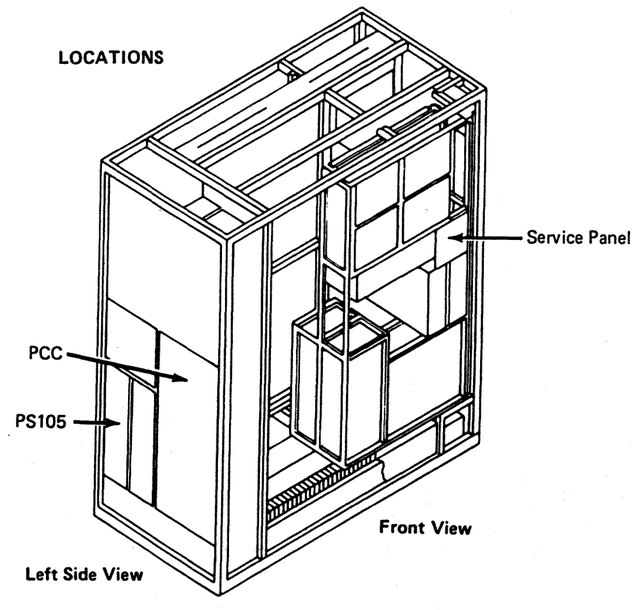
Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2M08. [A]
2	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2D05. [B]
4	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.





Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B05. [C]
6	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A2D08 + lead at 01A-A2A2B04. [D]
8	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS105 J/P02-5. [E]
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS105 P02 to 01A-A2A2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS105. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
12	Go to **Instructions** column.	1. If still failing, the sense line may be shorted isolate to one of the following: 01A-A2E2 card (swap with D2 card) 01A-A2C2 card (swap with C4 card) PS105 01A-A2 board Cable from 01A-A2A2 to PS105 J/P02. 2. Set PCC CB1 and CB2 on. 3. Go to page PR 5001.



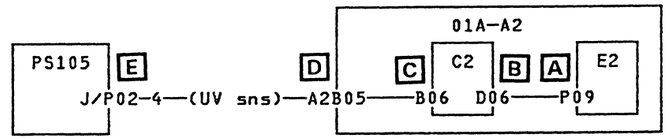
Ref Code 1152740E

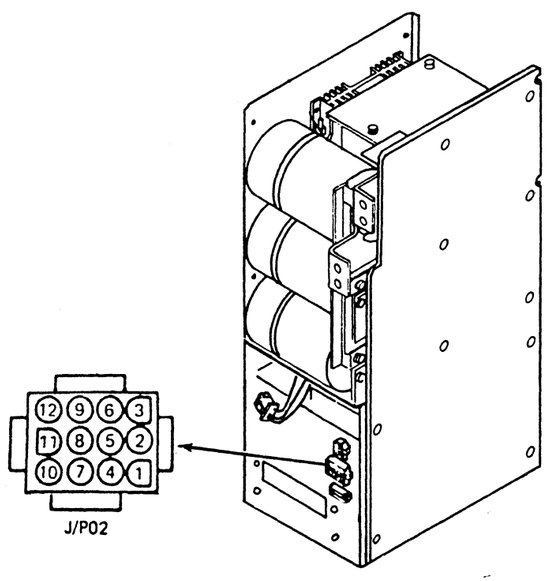
This Ref Code indicates the PS105 UV sense line was above +2.4 Vdc after bias voltage was applied and before the start line was set on.

Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- PS105
- PS105 UV sense line open or grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead to 01A-A2E2D08 + lead to 01A-A2E2P09. [A]
2	Is voltage less than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Exchange 01A-A2E2 card. 3. Go to page PR 5001.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead to 01A-A2C2D08 + lead to 01A-A2C2D06. [B]
4	Is voltage less than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



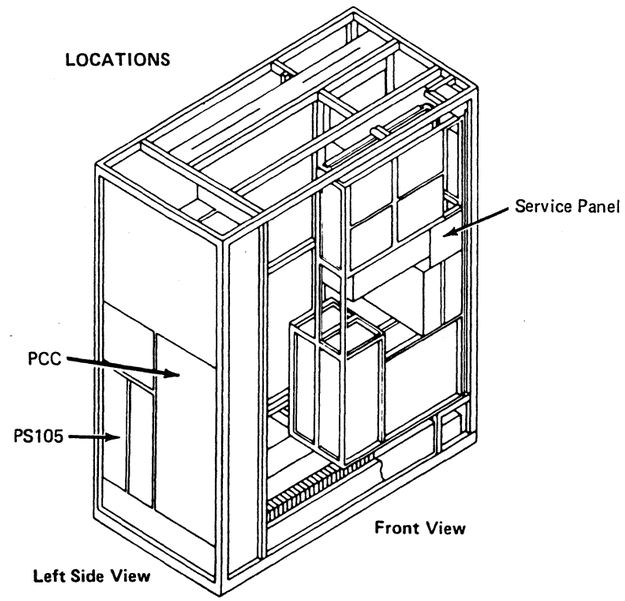


PS105

Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead to 01A-A2C2D08 + lead to 01A-A2C2B06. C
6	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2A2B05. D
8	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS105 J/P02-4. E
10	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable between PS105 J/P02 and 01A-A2A2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS105. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



Seq DA145	PN 0445958 Pg 2 of 2	EC A02214 15 SEP 83	EC A02219 29 FEB 84		

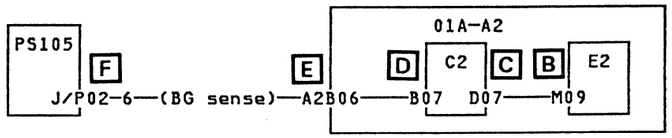
Ref Code 1152840E

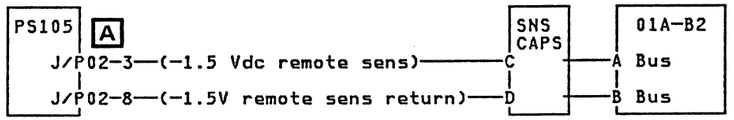
This Ref Code indicates the PS105 BG sense line was below +2.4 Vdc after bias voltage was applied to PS105 and before the start line was set on.

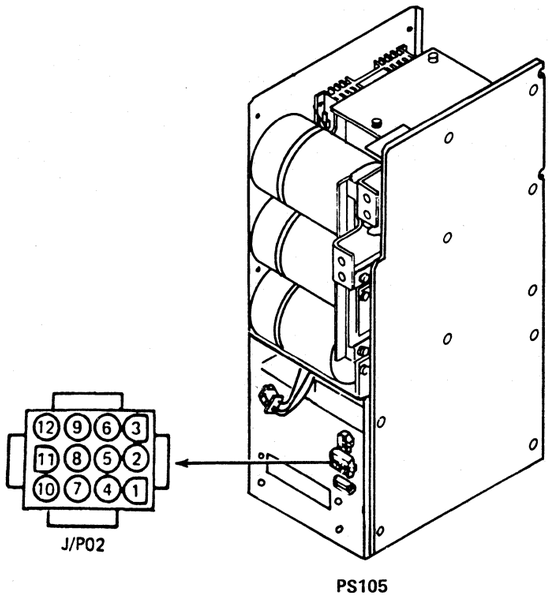
Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- PS105
- PS105 BG sense line open or grounded
- PS105 remote sense line open.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Disconnect PS105 J/P02. 4. Check the resistance between the following points: - lead at 01A-B2 TB1-A + lead at PS105 P02-3 (cable end). [A]
2	Is an open indicated?	1. Exchange cable from PS105 J/P02 to 01A-B2 TB-1 sense capacitors. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 2. Set PCC CB1 and CB2 on. 3. Go to step 14.

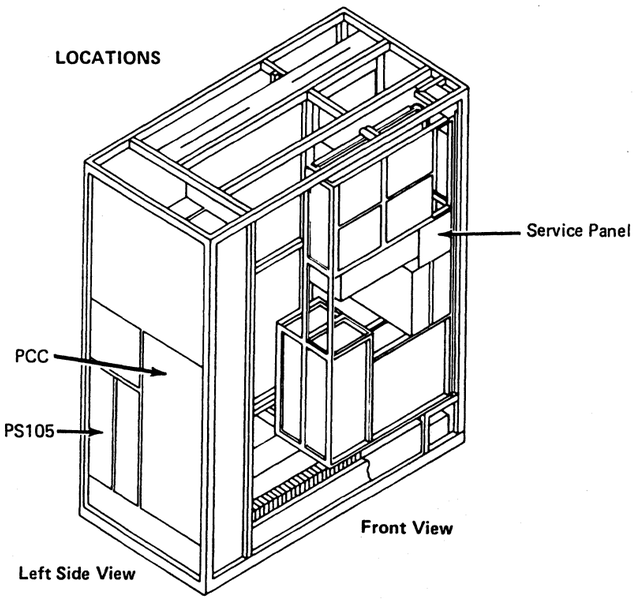






Step	Conditions	Instructions
3	Go to **Instructions** column.	1. Reconnect PS105 J/P02. 2. Set PCC CB1 and CB2 on. 3. Set CE Mode switch to CE Mode. 4. Press service panel Power On. 5. Select Diagnostic Power Up (QWD) screen. 6. Select option A (stop after K03 picked). 7. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2M09. B
4	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 14.
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2D07. C
6	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 14.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B07. D
8	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 14.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2A2B06. E
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 14.
11	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS105 J/P02-6. F
12	Is voltage greater than +0.8 Vdc?	1. Set PCC CB1 and CB2 off. 2. Exchange cable from PS105 J/P02 to 01A-A2A2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 3. Go to step 14.
13	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS105. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 14.

Step	Conditions	Instructions
14	Go to **Instructions** column.	1. If still failing, the sense line may be shorted. Isolate to one of the following: 01A-A2E2 card (swap with D2 card) 01A-A2C2 card (swap with C4 card) PS105 01A-A2 board Cable from 01A-A2A2 to PS105 J/P02. 2. Set PCC CB1 and CB2 on. 3. Go to page PR 5001.



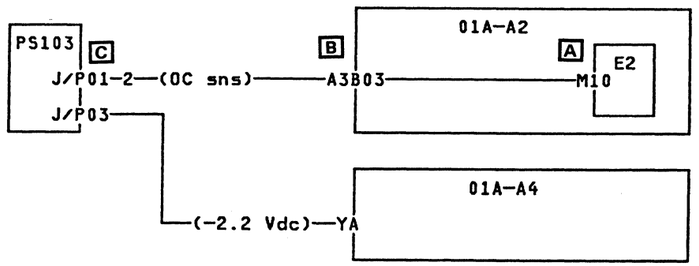
Ref Codes 1113150E, 1152940E

This Ref Code indicates the PS103 OC sense line was below +2.4 Vdc after ac voltage was applied to PS103 but before the start line was set on or CP1 is tripped.

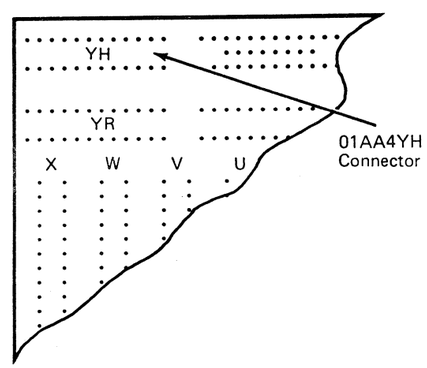
Possible causes:

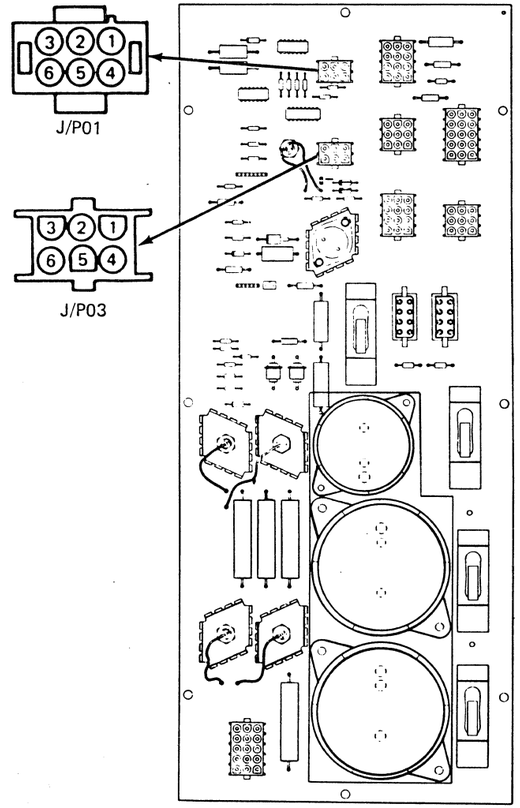
- 01A-A2E2 sense card
- PS103
- PS103 CP1
- PS103 OC sense line open or grounded.

Step	Conditions	Instructions
1	Is PS103 CP1 tripped?	1. Reset PS103 CP1. 2. Press service panel Power On. 3. Go to step 9.
2	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2M10. [A]
3	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
4	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A3D08 + lead at 01A-A2A3B03. [B]



Step	Conditions	Instructions
5	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
6	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS103 J/P01-2. C
7	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2A3 to PS103 J/P01. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
8	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS103. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Is power complete?	Go to page PR 5001.
10	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Reset PS103 CP1. 4. Disconnect PS103 J/P03. 5. Press service panel Power On. 6. Select Partial Power Up/Down (QWW) screen. 7. Select UP (power-up processor only).

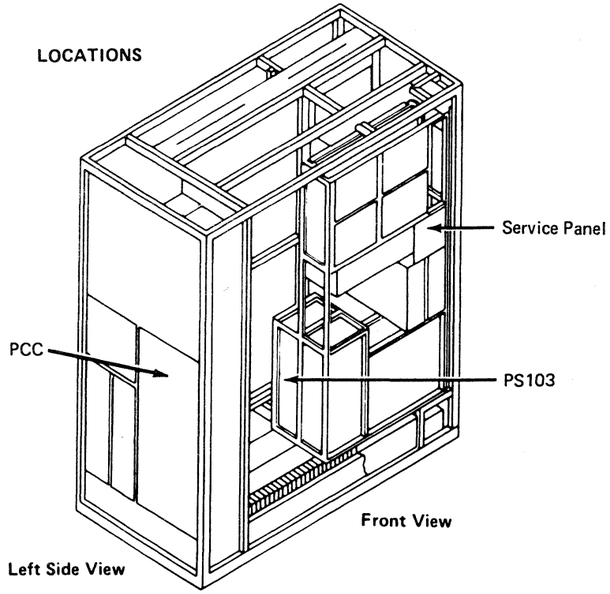




PS103

Step	Conditions	Instructions
11	Is PS103 CP1 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS103. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
12	Go to **Instructions** column.	1. Reconnect PS103 P03. 2. Disconnect 01A-A4YA. 3. Select Partial Power Up/Down (QWW) screen. 4. Select UP (power-up processor only).
13	Is PS103 CP1 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS103 J/P03 to 01A-A4YA. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Reset PS103 CP1. 5. Set PCC CB1 and CB2 on. 6. Go to page PR 5001.
14	Go to **Instructions** column.	1. Remove cards from 01A-A4 board. 2. Reconnect 01A-A4YA. 3. Select Partial Power Up/Down (QWW) screen. 4. Select UP (power-up processor only).
15	Is PS103 CP1 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A4 board. 4. Reset PS103 CP1. 5. Set PCC CB1 and CB2 on. 6. Go to page PR 5001.
16	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select DP (power-down processor only). 3. Reinstall one card removed from 01A-A4 board. 4. Select Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only).
17	Is PS103 CP1 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Exchange card just reinstalled. 3. Reset PS103 CP1. 4. Repeat steps 16, 17, and 18 until all cards are reinstalled; then go to page PR 5001.
18	Go to **Instructions** column.	Repeat steps 16, 17, and 18 until all cards are reinstalled; then go to page PR 5001.

LOCATIONS



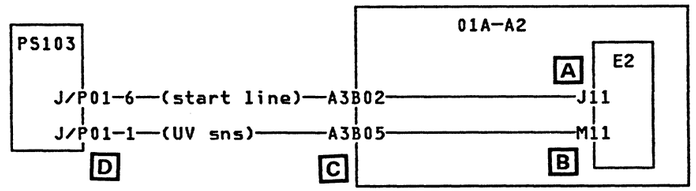
Ref Code 1153240E

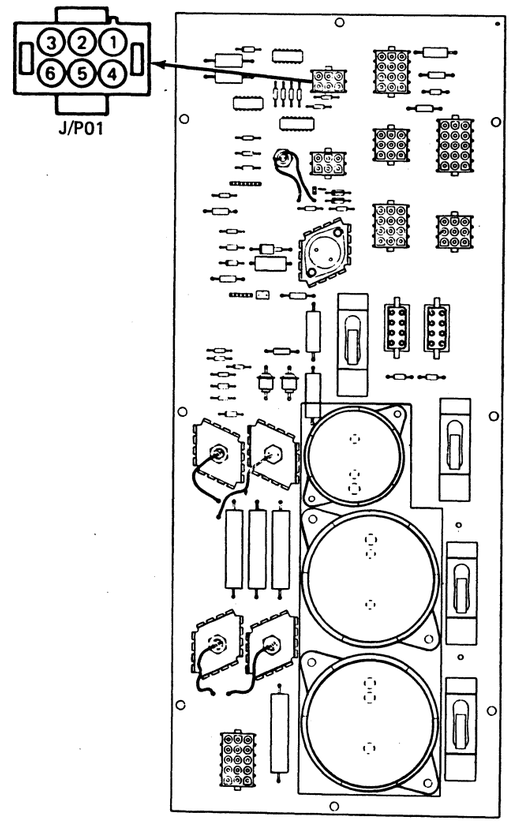
This Ref Code indicates the PS103 -2.2 Vdc UV sense line was above +2.4 Vdc after ac voltage was applied to PS103 but before the start line was set on.

Possible causes:

- 01A-A2E2 sense card
- PS103
- PS103 start line
- PS103 UV sense line tied up.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2J11. [A]
2	Is voltage less than +2.4 Vdc?	Go to step 10.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2M11. [B]
4	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A3D08 + lead at 01A-A2A3B05. [C]

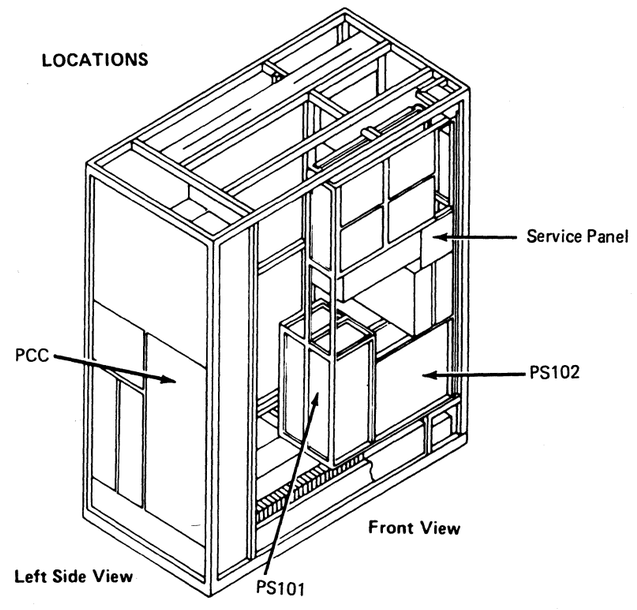




PS103

Step	Conditions	Instructions
6	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS103 J/P01-1. [D]
8	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2A3 to PS103 J/P01. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS103. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
10	Go to **Instructions** column.	1. Press ENTER to end diagnostic stop. 2. Disconnect PS103 J/P01. 3. Select Diagnostic Power Up (QWD) screen. 4. Select option A (stop after K03 picked). 5. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2J11.

Step	Conditions	Instructions
11	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS103. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
12	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. If still failing, isolate to one of the following: Cable from 01A-A2A3 to PS103 J/P01 01A-A2 board. 5. Set PCC CB1 and CB2 on. 6. Go to page PR 5001.



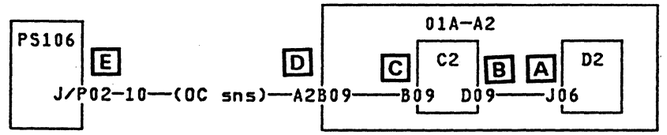
Ref Code 1153440E

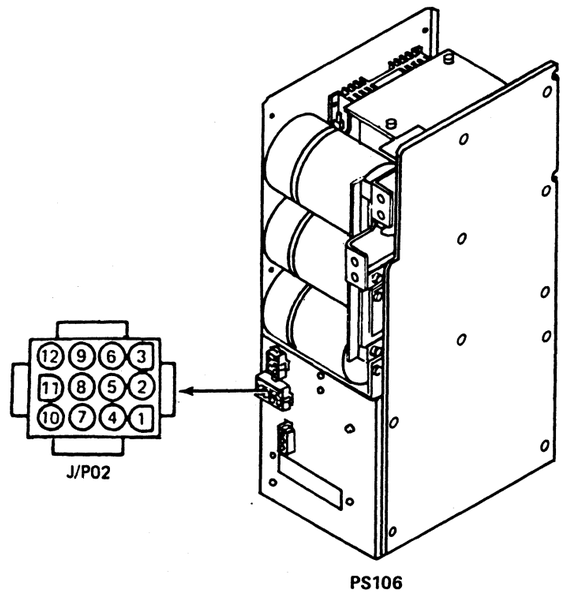
This Ref Code indicates the PS106 OC sense line was below +2.4 Vdc after bias voltage was applied to PS106 but before the start line was set on.

Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2D2 sense card
- PS106
- PS106 OC sense line open or grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2J06. [A]
2	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2D09. [B]
4	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.

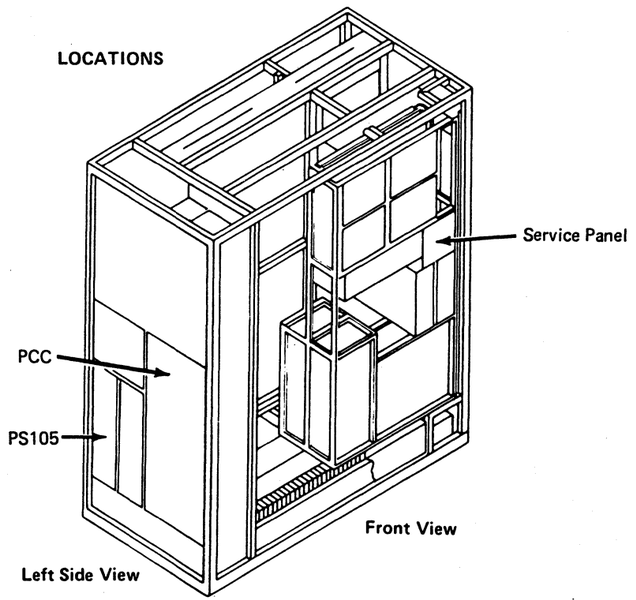




Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B09. [C]
6	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A2D08 + lead at 01A-A2A2B09. [D]
8	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS106 J/P02-10. [E]
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS106 J/P02 to 01A-A2A2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS106. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
12	Go to **Instructions** column.	1. If still failing, the sense line may be shorted. Isolate to one of the following: 01A-A2D2 card (swap with E2) 01A-A2C2 card (swap with C4) PS106 01A-A2 board Cable from 01A-A2A2 to PS106 J/P02. 2. Set PCC CB1 and CB2 on. 3. Go to page PR 5001.

LOCATIONS



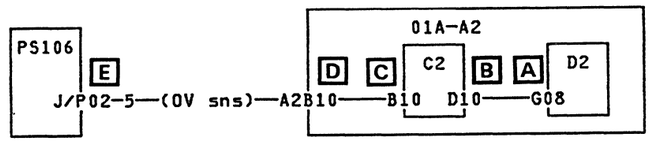
Ref Code 1153540E

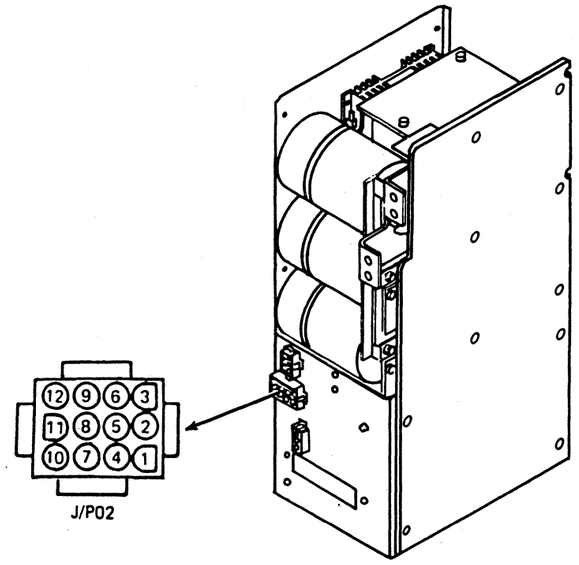
This Ref Code indicates the PS106 OV sense line was below +2.4 Vdc after bias voltage was applied to PS106 but before the start line was set on.

Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2D2 sense card
- PS106
- PS106 OV sense line open or grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2G08. [A]
2	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2D10. [B]
4	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.



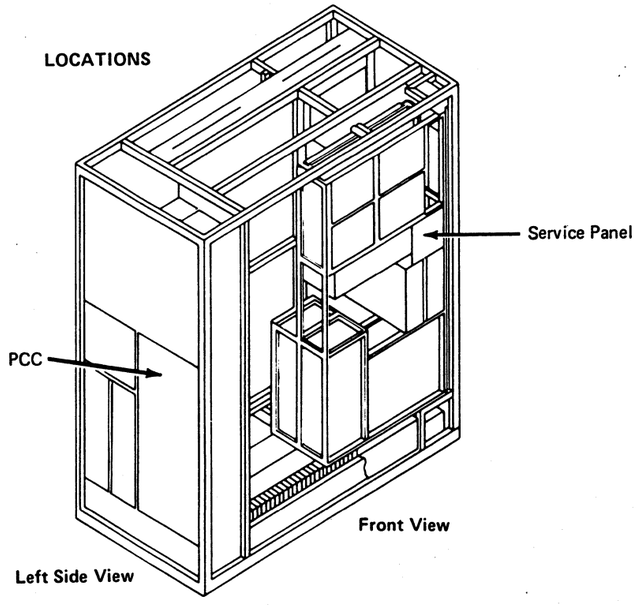


PS106

Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B10. [C]
6	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A2D08 + lead at 01A-A2A2B10. [D]
8	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS106 J/P02-5. [E]
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS106 P02 to 01A-A2A2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS106. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
12	Go to **Instructions** column.	1. If still failing, the sense line may be shorted isolate to one of the following: 01A-A2D2 card (swap with E2 card) 01A-A2C2 card (swap with C4 card) PS106 01A-A2 board Cable from 01A-A2A2 to PS106 J/P02. 2. Set PCC CB1 and CB2 on. 3. Go to page PR 5001.

LOCATIONS



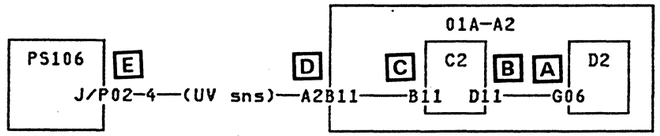
Ref Code 1153640E

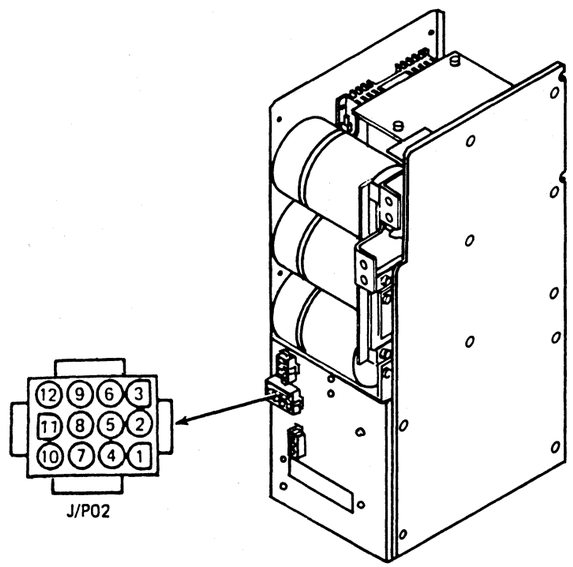
This Ref Code indicates the PS106 UV sense line was above +2.4 Vdc after bias voltage was applied and before the start line was set on..

Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2E2 sense card
- PS106
- PS106 UV sense line open or grounded.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 Vdc at the following points: - lead to 01A-A2D2D08 + lead to 01A-A2D2G06. [A]
2	Is voltage less than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Exchange 01A-A2D2 card. 3. Go to page PR 5001.
3	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead to 01A-A2C2D08 + lead to 01A-A2C2D11. [B]
4	Is voltage less than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



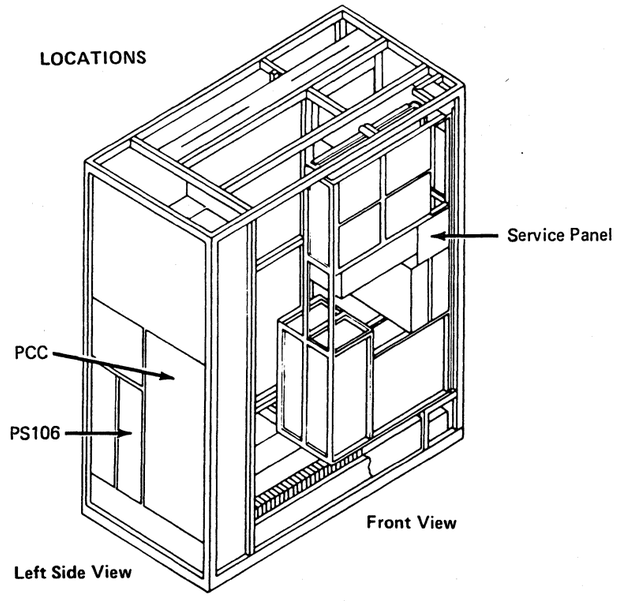


PS106

Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead to 01A-A2C2D08 + lead to 01A-A2C2B11. C
6	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2A2B11. D
8	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS106 J/P02-4. E
10	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable between PS106 J/P02 and 01A-A2A2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS106. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



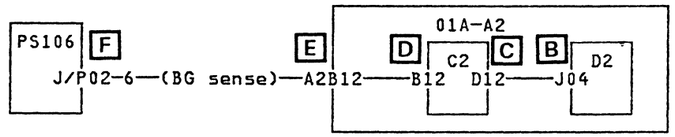
Ref Code 1153740E

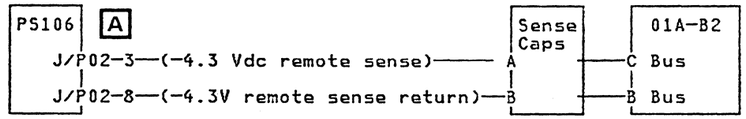
This Ref Code indicates the PS106 BG sense line was below +2.4 Vdc after bias voltage was applied to PS106 and before the start line was set on.

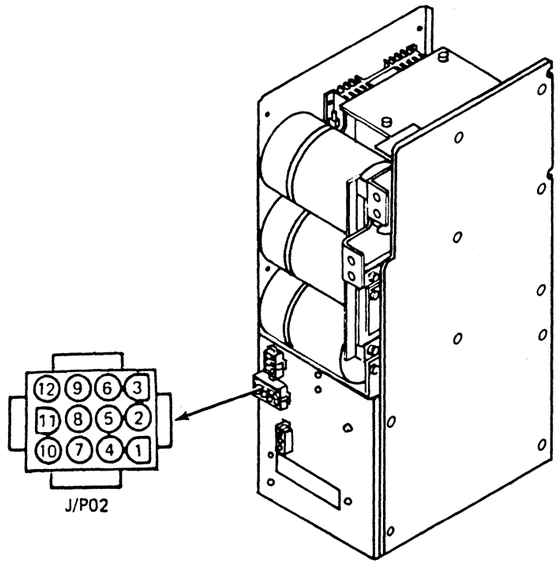
Possible causes:

- 01A-A2C2 optoisolator card
- 01A-A2D2 sense card
- PS106
- PS106 BG sense line open or grounded
- PS106 remote sense line open.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Disconnect PS106 J/P02. 4. Check the resistance between the following points: - lead at 01A-B2 TB1-C + lead at PS106 P02-3 (cable end). [A]
2	Is an open indicated?	1. Exchange cable from PS106 J/P02 to 01A-B2 TB-1 sense capacitors. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 2. Set PCC CB1 and CB2 on. 3. Go to step 14.





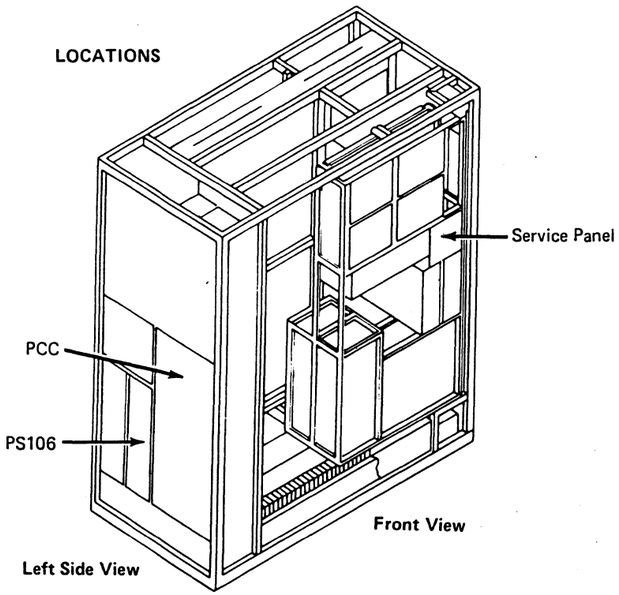


PS106

Step	Conditions	Instructions
3	Go to **Instructions** column.	1. Reconnect PS106 J/P02. 2. Set PCC CB1 and CB2 on. 3. Set CE Mode switch to CE Mode. 4. Press service panel Power On. 5. Select Diagnostic Power Up (QWD) screen. 6. Select option A (stop after K03 picked). 7. Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2J04. B
4	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 14.
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2D12. C
6	Is voltage greater than +2.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 14.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2C2B12. D
8	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2C2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 14.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2C2D08 + lead at 01A-A2A2B12. E
10	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 14.
11	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS106 J/P02-6. F
12	Is voltage greater than +0.8 Vdc?	1. Set PCC CB1 and CB2 off. 2. Exchange the cable from PS106 J/P02 to 01A-A2A2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 3. Go to step 14.
13	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS106. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 14.

Step	Conditions	Instructions
14	Go to **Instructions** column.	1. If still failing, the sense line may be shorted. Isolate to one of the following: 01A-A2D2 card (swap with E2) 01A-A2C2 card (swap with C4) PS106 01A-A2 board Cable from 01A-A2A2 to PS106 J/P02. 2. Set PCC CB1 and CB2 on. 3. Go to page PR 5001.

LOCATIONS



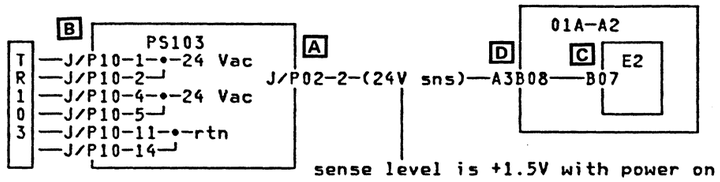
Ref Codes 11A0140E, 11A0150E

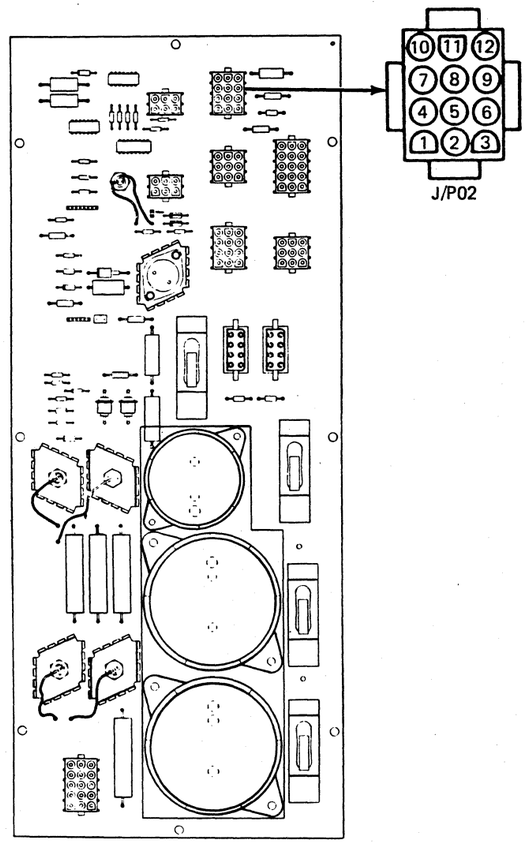
These Ref Codes indicate the +24 Vdc bias voltage from PS103 is out of tolerance.

Possible causes:

- 01A-A2E2 sense card
- PS103
- PS103 analog sense line.

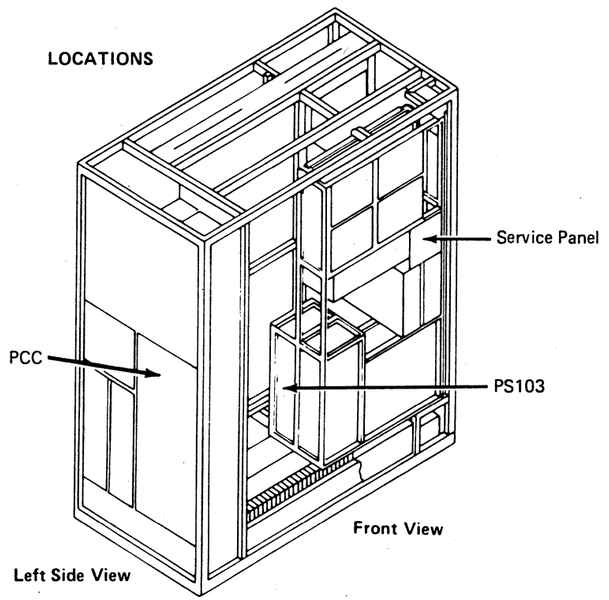
Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +1.5 Vdc at the following points: - lead at PS103 J/P02-4 + lead at PS103 J/P02-2. [A]
2	Is voltage +1.29 to +1.71 Vdc?	Go to step 6.
3	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Disconnect PS103 J/P10. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +24 **Vac** at the following points (cable end): PS103 P10-1 to P10-11 PS103 P10-2 to P10-11 [B] PS103 P10-4 to P10-14 PS103 P10-5 to P10-14.





PS103

Step	Conditions	Instructions
4	Is voltage less than 24 **Vac** at any point?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange TR103. **Note:** Check cable connectors for pushed in pins and seating before exchanging TR103. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS103. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
6	Go to **Instructions** column.	Measure for +1.5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2B07. C
7	Is voltage +1.29 to +1.71 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. If machine still fails, go to step 3. 5. Set PCC CB1 and CB2 on. 6. Go to page PR 5001.
8	Go to **Instructions** column.	Measure for +1.5 Vdc at the following points: - lead at 01A-A2A3D08 + lead at 01A-A2A3B08. D
9	Is voltage +1.29 to +1.71 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
10	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable between PS103 J/P02 and 01A-A2A3. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



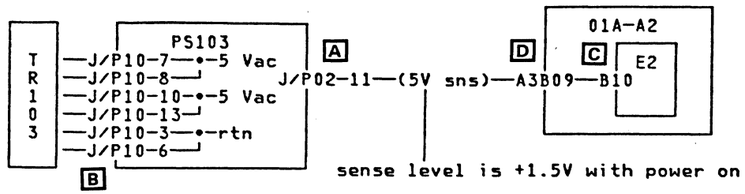
Ref Codes 1116430E, 11A0240E, 11A0250E

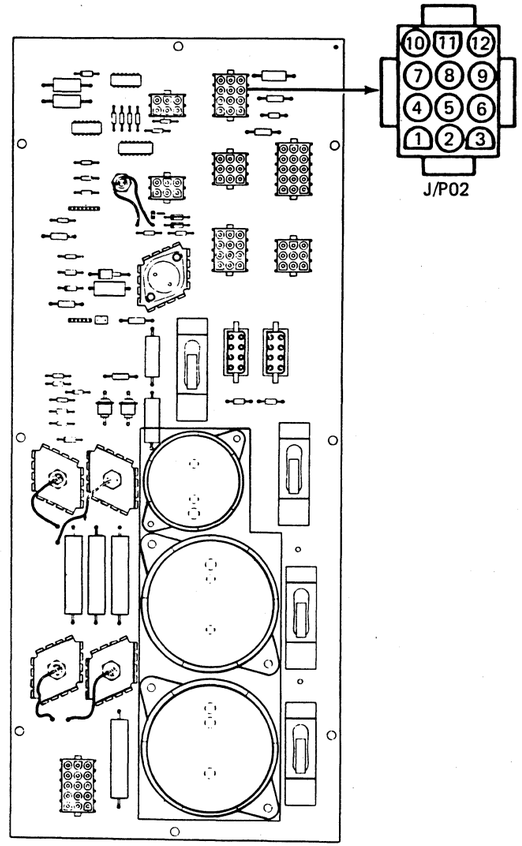
These Ref Codes indicate the +5 Vdc bias voltage from PS103 is out of tolerance.

Possible causes:

- 01A-A2E2 card
- TR103
- PS103.

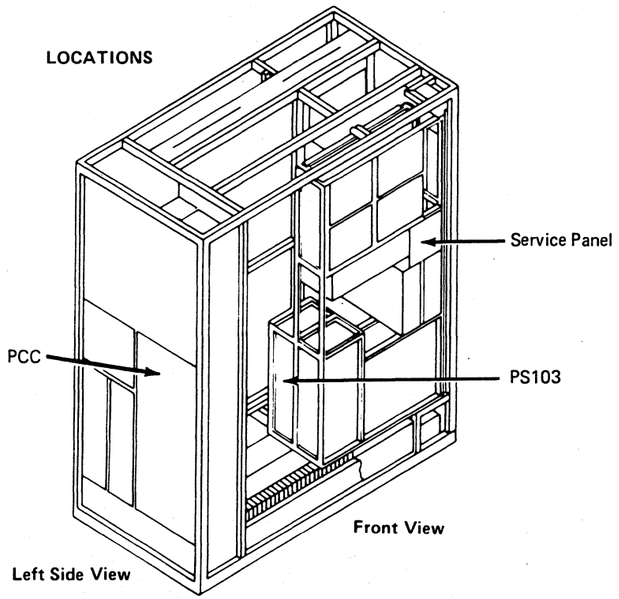
Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +1.5 Vdc at the following points: - lead at PS103 J/P02-1 [A] + lead at PS103 J/P02-11.
2	Is voltage +1.29 to +1.71 Vdc?	Go to step 6.
3	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Disconnect PS103 J/P10. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +5 **Vac** at the following points (cable end): PS103 P10-7 to P10-3 PS103 P10-8 to P10-3 [B] PS103 P10-10 to P10-6 PS103 P10-13 to P10-6.





PS103

Step	Conditions	Instructions
4	Is voltage less than 5 **Vac** at any point?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange TR103. **Note:** Check cable connectors for pushed in pins and seating before exchanging TR103. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS103. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
6	Go to **Instructions** column.	Measure for +1.5 Vdc at the following points: - lead at 01A-A2E2D08 [C] + lead at 01A-A2E2B10.
7	Is voltage +1.29 to +1.71 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. If machine still fails, go to step 3. 5. Set PCC CB1 and CB2 on. 6. Go to page PR 5001.
8	Go to **Instructions** column.	Measure for +1.5 Vdc at the following points: - lead at 01A-A2A3D08 [D] + lead at 01A-A2A3B09.
9	Is voltage +1.29 to +1.71 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
10	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS103 J/P02 and 01A-A2A3. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



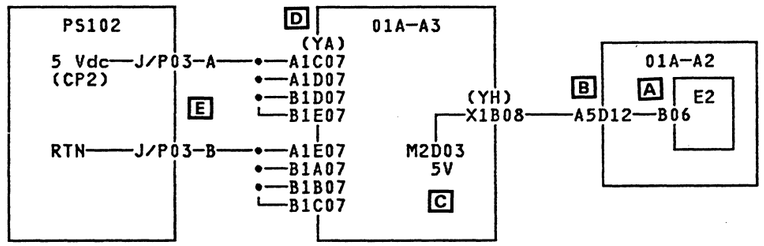
Ref Codes 11A0740E, 11A0750E

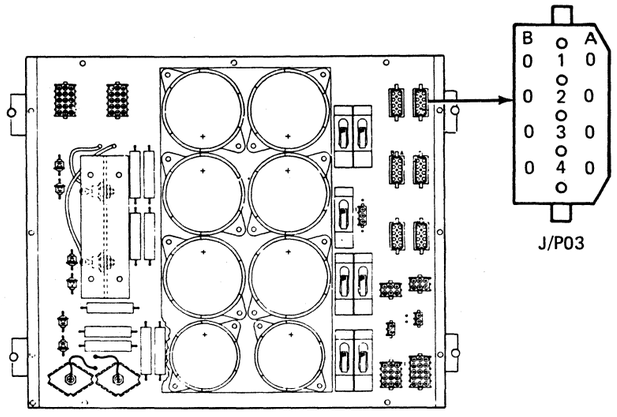
These Ref Codes indicate the +5V from PS102 is out of tolerance at the 01A-A3 board.

Possible causes:

- PS102
- 01A-A2E2 sense card
- 01A-A2 board.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode 3. Press service panel Power On. 4. Measure for +1.5 Vdc at the following points: - lead at 01A-A2E2D08 [A] + lead at 01A-A2E2B06.
2	Is voltage +1.29 to +1.71 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
3	Go to **Instructions** column.	Measure for +1.5 Vdc at the following points: - lead at 01A-A2E2D08 [B] + lead at 01A-A2A5D12.
4	Is voltage +1.29 to +1.71 Vdc?	1. Set PCC CB1 and CB2 off. 2. Exchange 01A-A2 board. 3. Set PCC CB1 and CB2 on. 4. Go to step 12.
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A3M2D08 [C] + lead at 01A-A3M2D03.

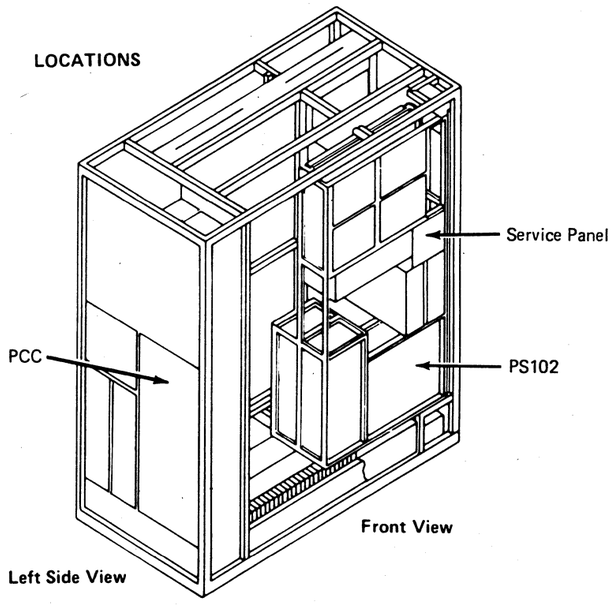




PS102

Step	Conditions	Instructions
6	Is voltage +4.50 to +5.50 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A3YH to 01A-A2A5. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A3M2D08 [D] + lead at 01A-A3A1C07.
8	Is voltage +4.50 to +5.50 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A3 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at PS102 P03-B [E] + lead at PS102 P03-A.
10	Is voltage +4.50 to +5.50 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A3YA to PS102 J/P03. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS102. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 12.
12	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Check all cables and cards for proper seating in the following areas: PS102 01A-A2 board 01A-A3 board. 3. Reset any tripped CPs. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



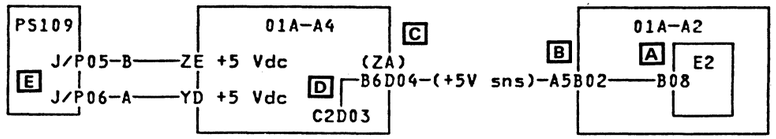
Ref Codes 11A0940E, 11A0950E

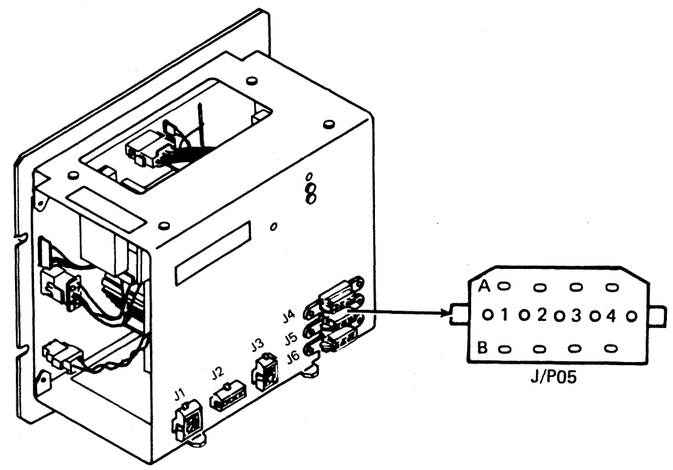
These Ref Codes indicate the +5V from PS109 is out of tolerance at the 01A-A4 board.

Possible causes:

- PS109
- 01A-A2E2 sense card
- Power supply adjustment.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option F (stop after +5V start). 6. Measure for +1.5 Vdc at the following points: - lead on 01A-A2E2D08 [A] + lead on 01A-A2E2B08. [A]
2	Is voltage +1.42 to +1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
3	Go to **Instructions** column.	Measure for +1.5 Vdc at the following points: - lead at 01A-A2A5D08 [B] + lead at 01A-A2A5B02. [B]
4	Is voltage +1.42 to +1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



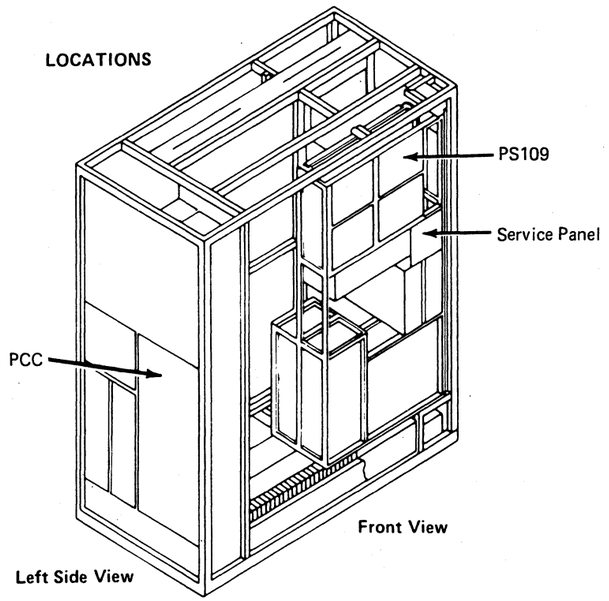


PS109

Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A4B5D08 [C] + lead at 01A-A4B6D04.
6	Is voltage +4.85 to +5.15 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A4ZA to 01A-A2A5. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A4C2D08 [D] + lead at 01A-A4C2D03.
8	Is voltage +4.85 to +5.15 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A4 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at PS109 J/P05-A [E] + lead at PS109 J/P05-B.
10	Is voltage +4.85 to +5.15 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS109 J/P05, J/P06 to 01A-A4YD, ZE. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

Step	Conditions	Instructions
11	Go to **Instruction** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS109. **Note:** Check cable connectors for pushed in pins and seating or power supply adjustment before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



Seq DA220	PN 0445973 Pg 2 of 2

EC A02214 15 SEP 83	EC A02219 29 FEB 84	EC A02220 06 JUN 84		

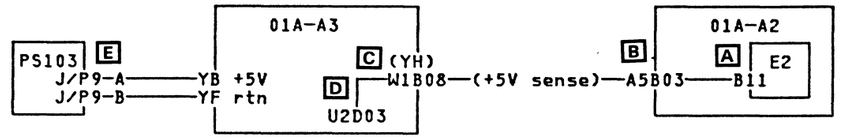
Ref Codes 11A1040E, 11A1050E

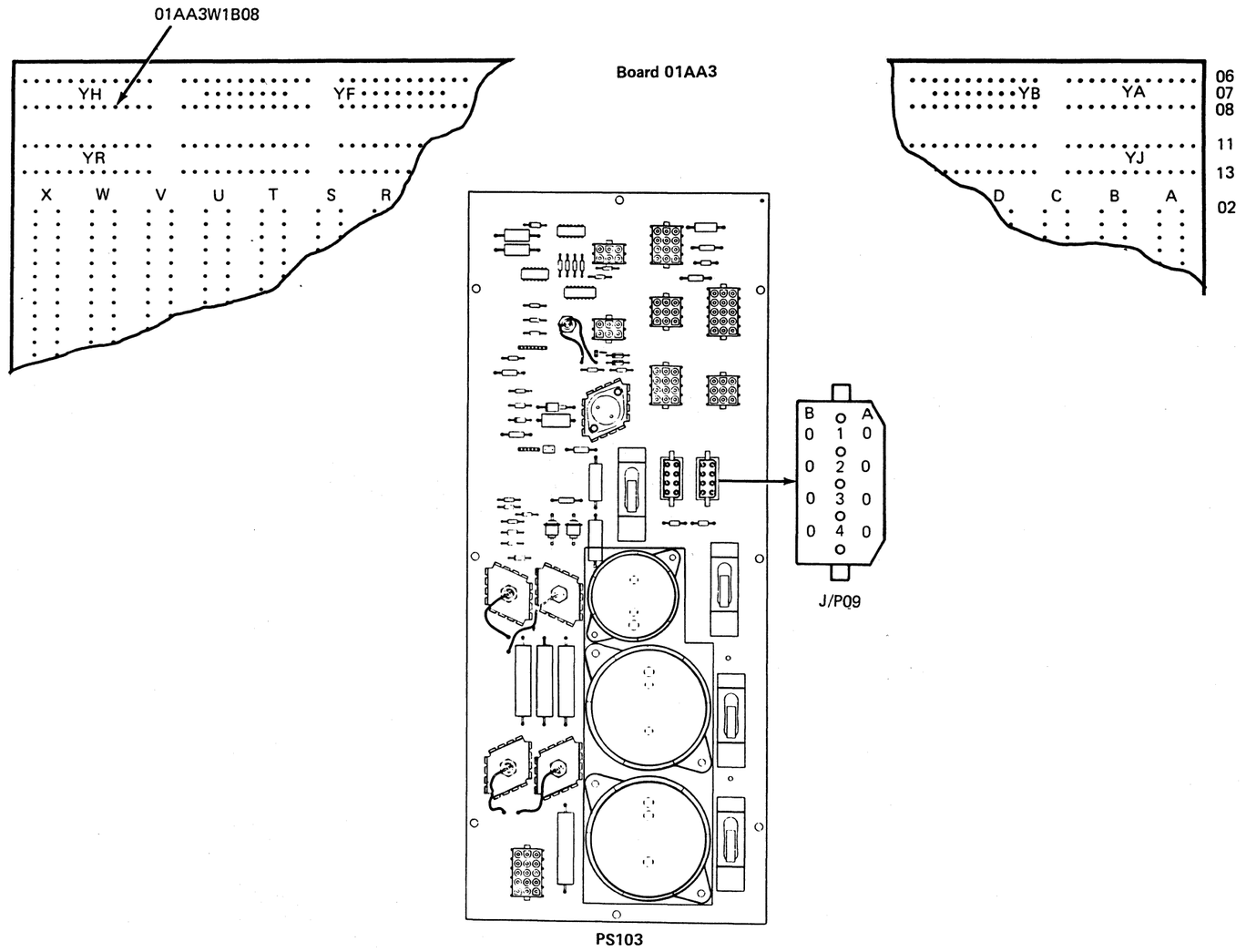
These Ref Codes indicate the +5V from PS103 is out of tolerance at the 01A-A3 board.

Possible causes:

- 01A-A2E2 card
- PS103.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power Up (QWD) screen. 5. Select option A (stop after K03 picked). 6. Measure for +1.5 Vdc at the following points: - lead at 01A-A2E2D08 [A] + lead at 01A-A2E2B11.
2	Is voltage +1.29 to +1.71 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
3	Go to **Instructions** column.	Measure for +1.5 Vdc at the following points: - lead at 01A-A2A5D08 [B] + lead at 01A-A2A5B03.
4	Is voltage +1.29 to +1.71 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A3P5D08 [C] + lead at 01A-A3W1B08.

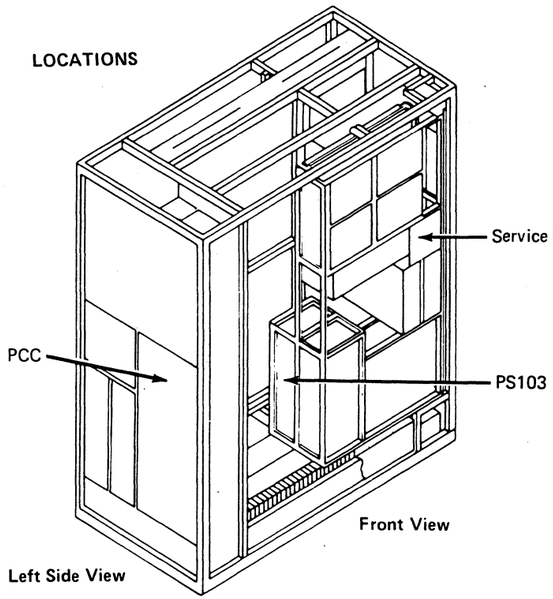




Step	Conditions	Instructions
6	Is voltage +4.50 to +5.50 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A3YH to 01A-A2A5. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A3U2D08 [D] + lead at 01A-A3U2D03.
8	Is voltage +4.50 to +5.50 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A3 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at PS103 J/P09-B [E] + lead at PS103 J/P09-A.
10	Is voltage +4.50 to +5.50 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS103 J/P09 to 01A-A3YB. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS103. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



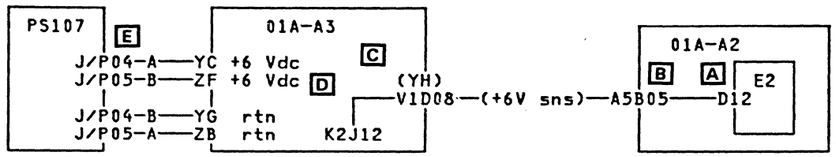
Ref Codes 11A1240E, 11A1250E

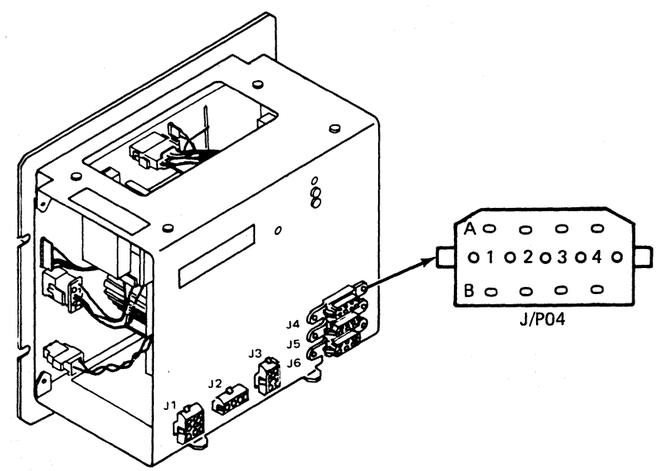
These Ref Codes indicate the +6V from PS107 is out of tolerance at the 01A-A3 board.

Possible causes:

- 01A-A2A5 paddle card
- 01A-A2E2 card
- PS107
- Power supply adjustment.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Diagnostic Power (QWD) screen. 5. Select option H (stop after +6V start). 6. Measure for +1.5 Vdc at the following points: - lead to 01A-A2E2D08 + lead to 01A-A2E2D12. [A]
2	Is voltage +1.42 to +1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
3	Go to **Instructions** column.	Measure for +1.5 Vdc at the following points: - lead to 01A-A2A5D08 + lead to 01A-A2A5B05. [B]
4	Is voltage +1.42 to +1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



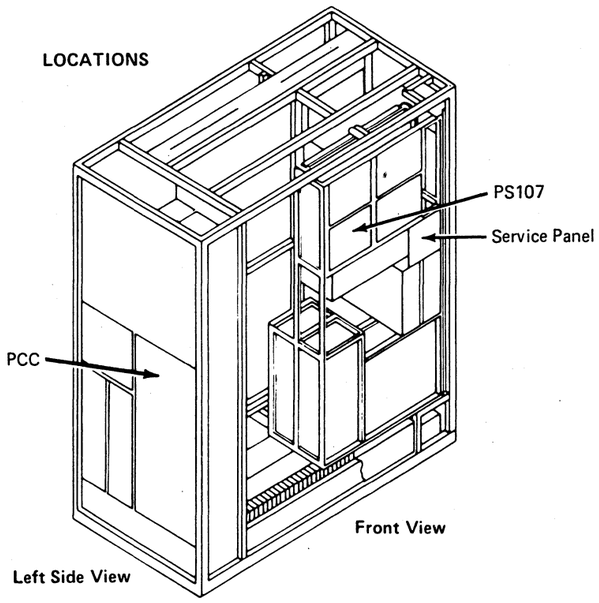


PS107

Step	Conditions	Instructions
5	Go to **Instructions** column.	Measure for +6 Vdc at the following points: - lead to 01A-A3P2D08 + lead to 01A-A3V1D08. [C]
6	Is voltage +5.82 to +6.18 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A3YH to 01A-A2A5. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	Measure for +6 Vdc at the following points: - lead to 01A-A3K2J08 + lead to 01A-A3K2J12. [D]
8	Is voltage +5.82 to +6.18 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A3 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	Measure for +6 Vdc at the following points: - lead to PS107 J/P04-B + lead to PS107 J/P04-A. [E]
10	Is voltage +5.82 to +6.18 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cables from PS107 J/P04, J/P05 to 01A-A3ZB, ZF. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS107. **Note:** Check cable connectors for pushed in pins and seating or power supply adjustment before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



Seq DA230	PN 0445975 Pg 2 of 2

EC A02214 15 SEP 83	EC A02215 01 NOV 83	EC A02219 29 FEB 84	EC A02220 06 JUN 84	

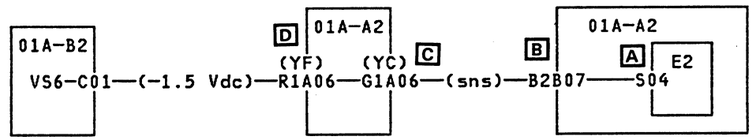
Ref Codes 11A2640E, 11A2650E

These Ref Codes indicate the -1.5 Vdc from PS105 is out of tolerance at the 01A-B2 board.

Possible causes:

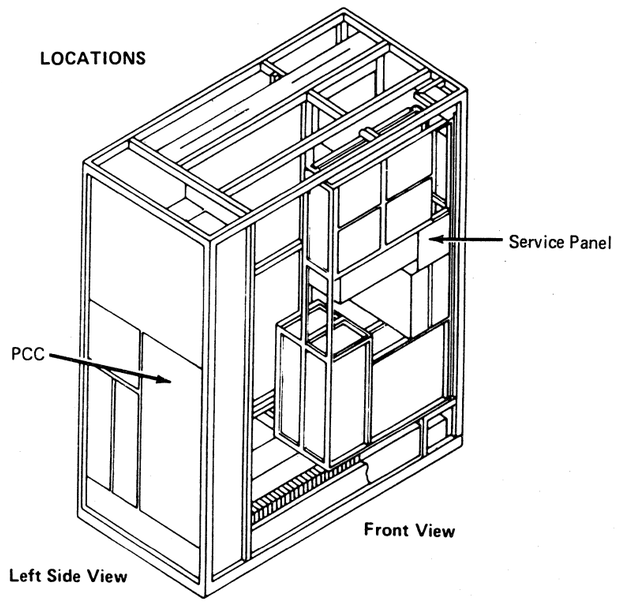
- 01A-A2B2 paddle card
- 01A-A2E2 card
- 01A-A2 board
- 01A-B2 board
- Power supply adjustment.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only). 6. Measure for -1.5 Vdc at the following points: - lead to 01A-A2E2D08 [A] + lead to 01A-A2E2S04. **Note:** Voltage is present for about two seconds.
2	Is voltage -1.44 to -1.56 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001



Step	Conditions	Instructions
3	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead to 01A-A2B2D08 [B] + lead to 01A-A2B2B07. **Note:** Voltage is present for about two seconds.
4	Is voltage -1.44 to -1.56 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead to 01A-A2G2D08 [C] + lead to 01A-A2G1A06. **Note:** Voltage is present for about two seconds.
6	Is voltage -1.47 to -1.53 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2YC to 01A-A2B2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead to 01A-A2R2D08 [D] + lead to 01A-A2R1A06. **Note:** Voltage is present for about two seconds.
8	Is voltage -1.47 to -1.53 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead to 01A-B2 TB1-B bus + lead to 01A-B2 TB1-A bus. **Note:** Voltage is present for about two seconds.
10	Is voltage -1.47 to -1.53 Vdc?	1. Isolate to one of the following: Cable from 01A-B2VS6 to 01A-A2YF 01A-B2 board. 2. Go to page PR 5001.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS105. **Note:** Check cable connector for pushed in pins and seating or power supply adjustment before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



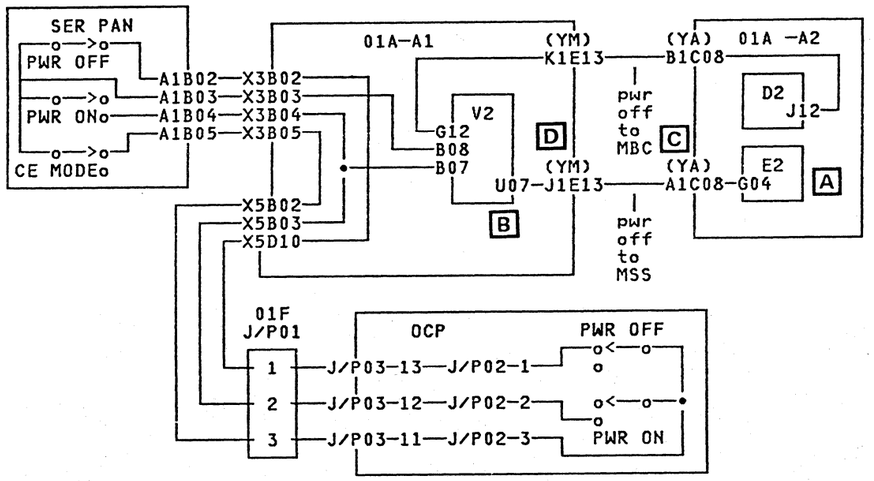
Ref Code 11D1230E

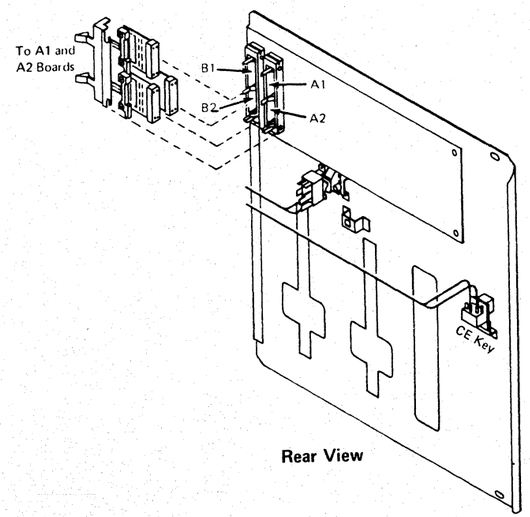
This Ref Code indicates the power off to MSS signal line is at a down level and the MBC has failed to power off the MSS.

Possible causes:

- 01A-A1V2 card
- 01A-A2E2 card.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Set CE Mode switch to CE Mode. 3. Set PCC CB1 and CB2 on. 4. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2G04. [A]
2	Is voltage less than +2.5 Vdc?	Go to step 6.
3	Go to **Instructions** column.	1. Measure for +5 Vdc at the following points: - lead at 01A-A2E2D08 + lead at 01A-A2E2G04. 2. Press service panel Power On.
4	Is voltage less than +2.5 Vdc?	1. Set PCC CB1 and CB2 off. 2. Exchange 01A-A1V2 card. 3. Go to step 21.
5	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Exchange 01A-A2E2 card. 3. Go to step 21.
6	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A1V2D08 + lead at 01A-A1V2U07. [B]
7	Is voltage greater than +2.5 Vdc?	Go to step 11.



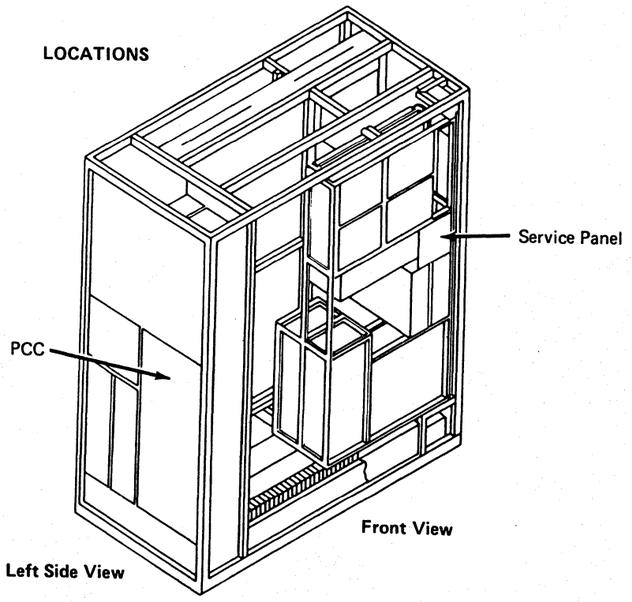


Rear View

Step	Conditions	Instructions
8	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Disconnect cable at 01A-A1YM (card side). 3. Set PCC CB1 and CB2 on. 4. Measure for +5 Vdc at the following points: - lead at 01A-A1V2D08 + lead at 01A-A1V2U07.
9	Is voltage greater than +2.5 Vdc?	Go to step 16.
10	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Exchange 01A-A1V2 card. **Note:** A TCC could also be defective. Ensure TCCs are seated and the TCC arrow is pointing up. 3. Exchange 01A-A1 board if still failing. 4. Go to step 21.
11	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2A1C08. [C]
12	Is voltage greater than +2.5 Vdc?	1. Set PCC CB1 and CB2 off. 2. Exchange 01A-A2 board. 3. Go to step 21.
13	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A1V2D08 + lead at 01A-A1J1E13. [D]
14	Is voltage greater than +2.5 Vdc?	1. Set PCC CB1 and CB2 off. 2. Exchange cable from 01A-A1YM to 01A-A2YA. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 3. Go to step 21.
15	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Exchange 01A-A2 board. 3. Go to step 21.
16	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Reconnect cable at 01A-A1YM (card side). 3. Remove 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Measure for +5 Vdc at the following points: - lead at 01A-A1V2D08 + lead at 01A-A1V2U07.
17	Is voltage greater than +2.5 Vdc?	1. Set PCC CB1 and CB2 off. 2. Exchange 01A-A2E2 card. 3. Go to step 21.
18	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Disconnect cable at 01A-A2YA (card side). 3. Reinstall 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Measure for +5 Vdc at the following points: - lead at 01A-A1V2D08 + lead at 01A-A1V2U07.
19	Is voltage greater than +2.5 Vdc?	1. Set PCC CB1 and CB2 off. 2. Exchange 01A-A2 board. 3. Go to step 21.
20	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Exchange cable from 01A-A1YM to 01A-A2YA. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 3. Go to step 21.

Step	Conditions	Instructions
21	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Check all cables and cards for proper seating in the following areas: 01A-A1 board 01A-A2 board Service panel OCP 01F-J1. 3. Reset any tripped CPs. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



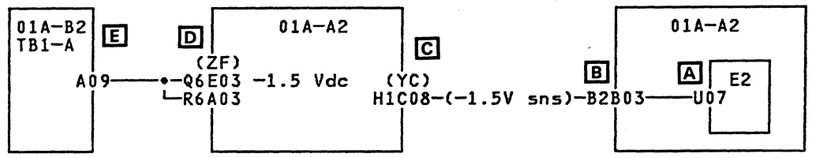
Ref Codes 11A2940E, 11A2950E

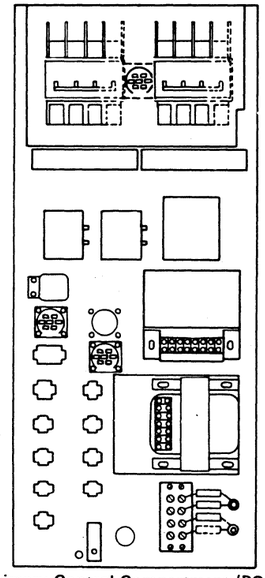
These Ref Codes indicate the -1.5V from PS105 is out of tolerance at the 01A-A2 board.

Possible causes:

- PS105
- 01A-A2E2 sense card.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only). 6. Measure for -1.5 Vdc at the following points: - lead on 01A-A2E2D08 + lead on 01A-A2E2U07. [A] **Note:** Voltage is present for about two seconds.
2	Is voltage -1.44 to -1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
3	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-A2B2D08 + lead at 01A-A2B2B03. [B] **Note:** Voltage is present for about two seconds.

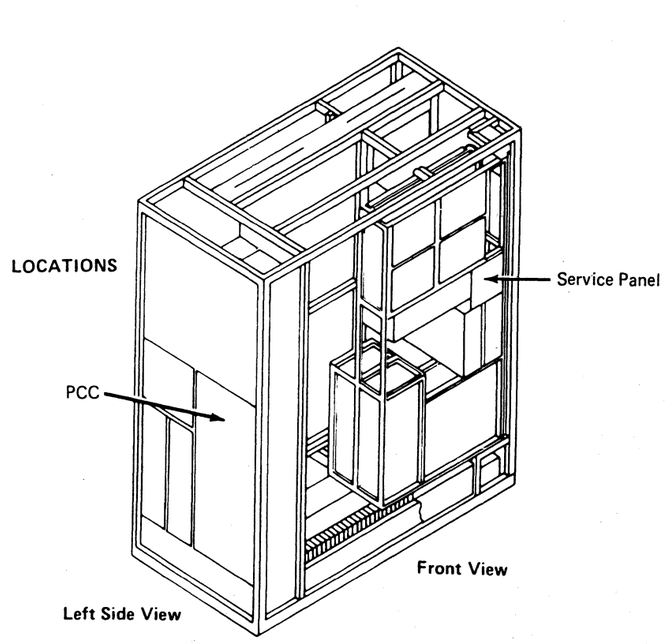




Primary Control Compartment (PCC)

Step	Conditions	Instructions
4	Is voltage -1.44 to -1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-A2H2D08 + lead at 01A-A2H1C08. [C] **Note:** Voltage is present for about two seconds.
6	Is voltage -1.44 to -1.56 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2YC to 01A-A2B2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-A2Q2D08 + lead at 01A-A2Q6E03. [D] **Note:** Voltage is present for about two seconds.

Step	Conditions	Instructions
8	Is voltage -1.44 to -1.56 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-B2 TB1-B bus + lead at 01A-B2 TB1-A bus. [E] **Note:** Voltage is present for about two seconds.
10	Is voltage -1.44 to -1.56 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-B2 TB1-A bus to 01A-A2ZF. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS105. **Note:** Check cable connectors for pushed in pins and seating or power supply adjustment before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



Seq DA250	PN 0445979 Pg 2 of 2

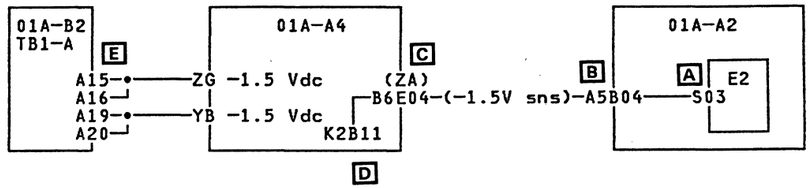
EC A02214 15 SEP 83	EC A02217 10 JAN 84	EC A02219 29 FEB 84	EC A02220 06 JUN 84	

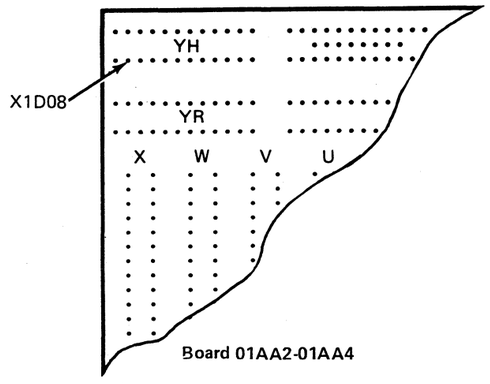
Ref Codes 11A3040E, 11A3050E

These Ref Codes indicate the -1.5V from PS105 out of tolerance at the 01A-A4 board. Possible causes:

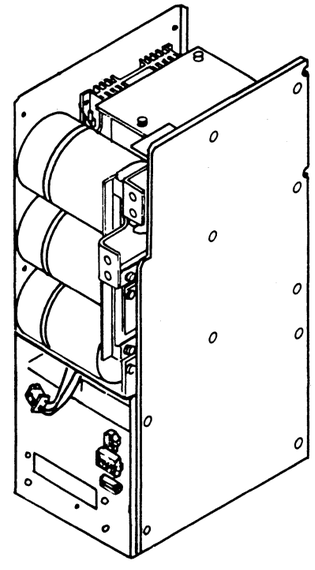
- PS105
- 01A-A2E2 sense card
- Power supply adjustment.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only). 6. Measure for -1.5 Vdc at the following points: - lead on 01A-A2E2D08 [A] + lead on 01A-A2E2S03. **Note:** Voltage is present for about two seconds.
2	Is voltage -1.44 to -1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
3	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-A2A5D08 [B] + lead at 01A-A2A5B04. **Note:** Voltage is present for about two seconds.



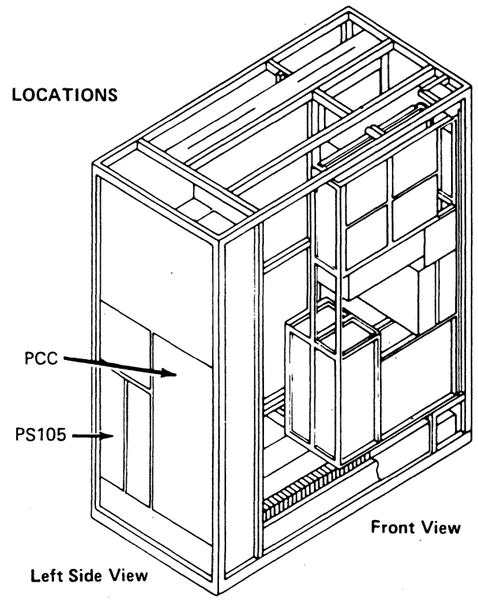


Board 01AA2-01AA4


PS105

Step	Conditions	Instructions
4	Is voltage -1.44 to -1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-A4B5D08 [C] + lead at 01A-A4B6E04. **Note:** Voltage is present for about two seconds.
6	Is voltage -1.42 to -1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A4ZA to 01A-A2A5. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-A4K2D08 [D] + lead at 01A-A4K2B11. **Note:** Voltage is present for about two seconds.

Step	Conditions	Instructions
8	Is voltage -1.42 to -1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A4 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-B2 TB1-B bus + lead at 01A-B2 TB1-A bus. [E] **Note:** Voltage is present for about two seconds.
10	Is voltage -1.42 to -1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-B2 TB1-A bus to 01A-A4YB and ZG. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS105. **Note:** Check cable connectors for pushed in pins and seating or power supply adjustment before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



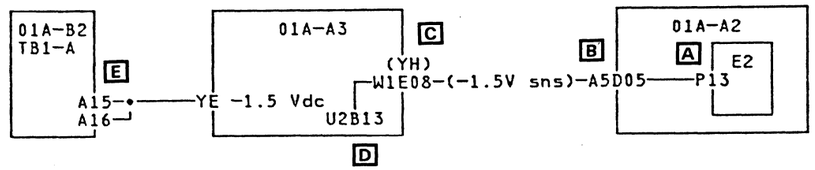
Ref Codes 11A3140E, 11A3150E

These Ref Codes indicate the -1.5V from PS105 is out of tolerance at the 01A-A3 board.

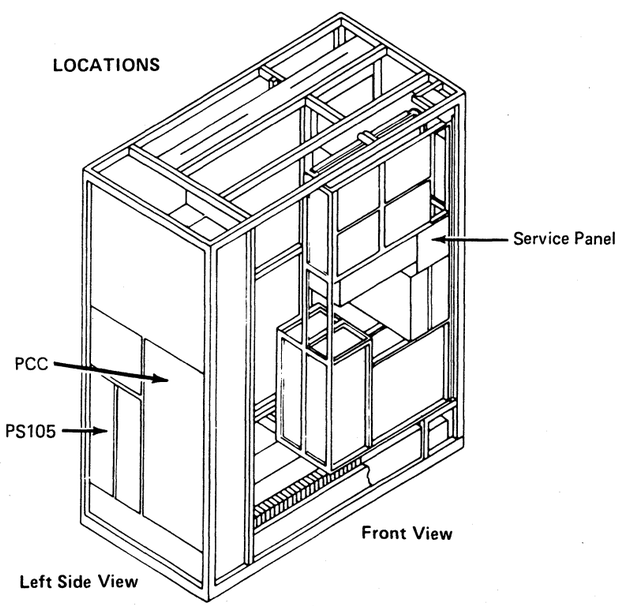
Possible causes:

- 01A-A2E2 sense card
- 01A-A2 board
- 01A-A3 board
- Power supply adjustment.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only). 6. Measure for -1.5 Vdc at the following points: - lead on 01A-A2E2D08 [A] + lead on 01A-A2E2P13. **Note:** Voltage is present for about two seconds.
2	Is voltage -1.44 to -1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
3	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-A2A5D08 [B] + lead at 01A-A2A5D05. **Note**: Voltage is present for about two seconds.



Step	Conditions	Instructions
4	Is voltage -1.44 to -1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-A3W2D08 [C] + lead at 01A-A3W1E08. **Note:** Voltage is present for about two seconds.
6	Is voltage -1.45 to -1.55 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange the cable from 01A-A3YH to 01A-A2A5. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-A3U2J08 [D] + lead at 01A-A3U2B13. **Note:** Voltage is present for about two seconds.



Step	Conditions	Instructions
8	Is voltage -1.45 to -1.55 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A3 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-B2 TB1-B bus [E] + lead at 01A-B2 TB1-A bus. **Note:** Voltage is present for about two seconds.
10	Is voltage -1.45 to -1.55 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-B2 TB1-A bus to 01A-A3YE. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS105. **Note:** Check cable connectors for pushed in pins and seating or power supply adjustment before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

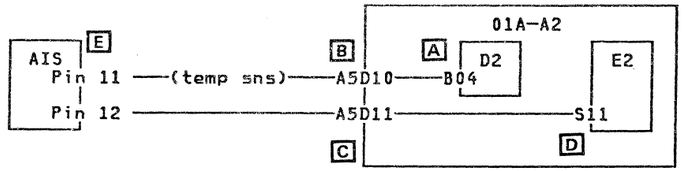
Ref Codes 11A3840E, 11A3850E

These Ref Codes indicate that the air inlet temperature is out of tolerance.

Possible causes:

- Air Inlet Sensor (AIS)
- AIS sense line
- 01A-A2D2 sense card
- 01A-A2E2 sense card
- 01A-A2 board
- Room temperature.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set the CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Analog Voltage/Temp (QWA) screen. 5. Check temperature displayed.
2	Is the temperature less than 5 degrees Celsius or greater than 42 degrees Celsius?	Go to step 4.
3	Go to **Instructions** column.	The input air temperature is in the warning range. 1. Check AMD102 filter for dirt. 2. Ensure ample air flow to processor. 3. Ensure room air conditioner is operating. 4. If there have been repeated temperature warnings, exchange the AIS. 5. Go to page PR 5001.
4	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2B04. [A]



Normal Temperature Ranges

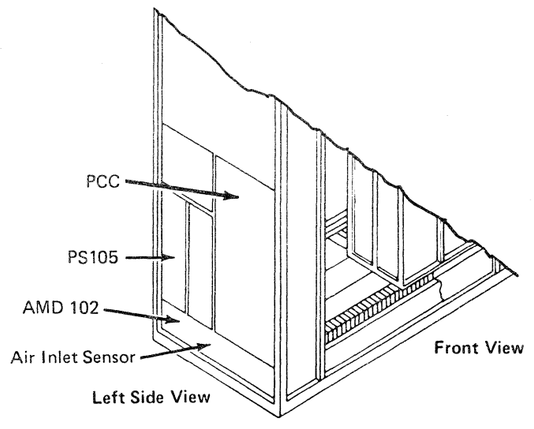
Shutoff: Less than 5 and more than 42 degrees celsius.

Warning: 6 to 7 and 40 to 41 degrees celsius.

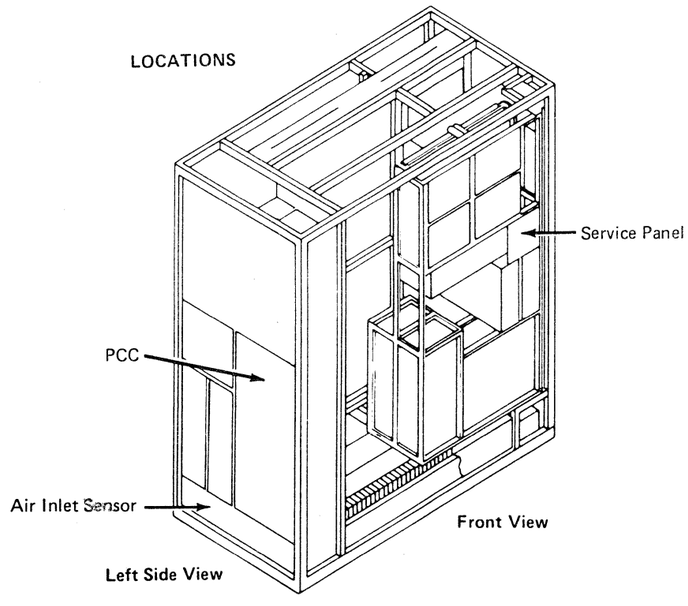
CE Mode Temperature Range

Shutoff: Less than 3 and more than 46 degrees celsius.

Warning: None.



Step	Conditions	Instructions
5	Is voltage +0.4 to +1.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
6	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2A5D08 + lead at 01A-A2A5D10. [B]
7	Is voltage +0.4 to +1.4 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
8	Go to **Instructions** column.	Measure for +3 Vdc at the following points: - lead at 01A-A2A5D08 + lead at 01A-A2A5D11. [C]
9	Is voltage +2.7 to +3.3 Vdc?	Go to step 13.
10	Go to **Instructions** column.	Measure for +3 Vdc at the following points: - lead at 01A-A2E2D08. + lead at 01A-A2E2S11. [D]
11	Is voltage +2.7 to +3.3 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
12	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2E2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
13	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Measure resistance at the following points: 01A-A2A5D10 to AIS pin 11 01A-A2A5D11 to AIS pin 12. [E]
14	Is an open indicated at either point?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from AIS to 01A-A2A5. **Note:** Check loose wires and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
15	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange the AIS. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



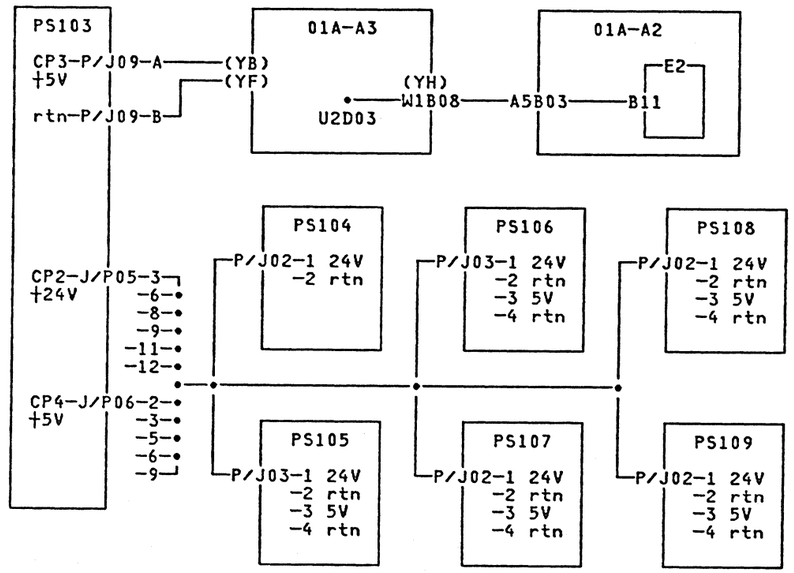
Ref Codes 1115050E, 1115250E, 11A4240E, 11A4250E

These Ref Codes indicate CP2, CP3, or CP4 are tripped on PS103.

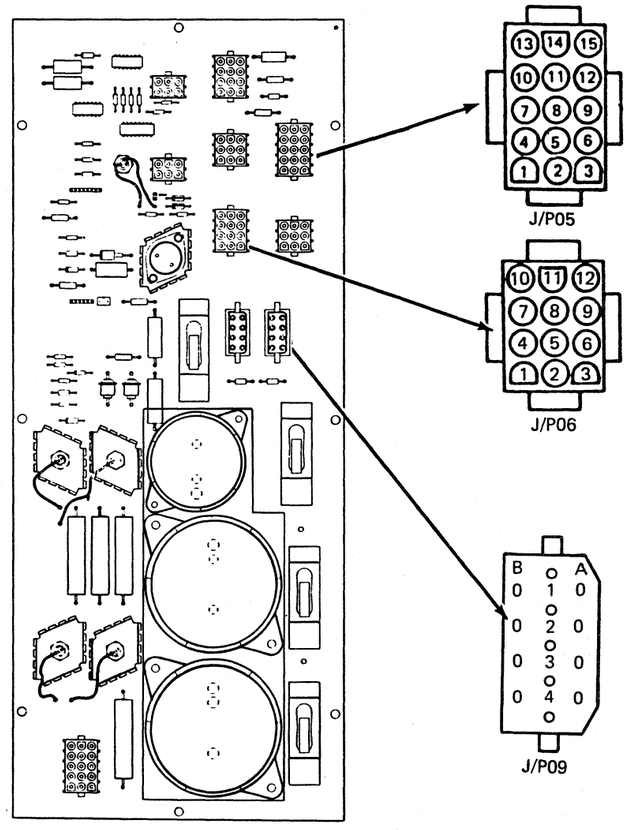
Possible causes:

- PS103
- Short on 01A-A3 board
- Short on PS104 through PS109.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Check for any tripped PS103 CPs. 3. Reset any tripped CP and press Power On. 4. If CP trips again or same Ref Code, go to step 2. 5. If power complete, go to page END 001.
2	Is CP2 or CP4 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set the CE Mode switch to CE Mode. 3. Reset tripped CP. 4. Go to step 19.
3	Is CP3 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set the CE Mode switch to CE Mode. 3. Reset tripped CP. 4. Go to step 5.
4	Are all CPs in the On position?	Use Ref Code 1124240E and the Ref Code list on PR 1001 to determine the PR entry page.
5	Go to **Instructions** column.	1. Disconnect PS103 P09. 2. Press service panel Power On. 3. Select the Partial Power Up/Down (QWW) screen. 4. Select UP (power-up processor only).

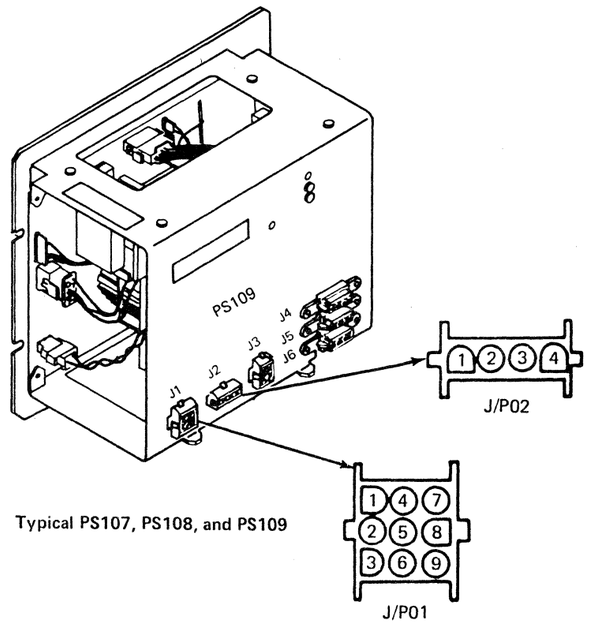


Step	Conditions	Instructions
6	Is CP3 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS103. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Go to step 35.
7	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Reconnect cable PS103 P09. 3. Disconnect cable at 01A-A3YB and YF (pin side). 4. Press service panel Power On. 5. Select the Partial Power Up/Down (QWW) screen. 6. Select UP (power-up processor only).
8	Is CP3 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Reset CP3. 4. Exchange cable from PS103 P09 to 01A-A3YB and YF. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 5. Go to step 35.
9	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Reconnect cable at 01A-A3YB and YF (pin side). 3. Remove all cards from the 01A-A3 board. 4. Press service panel Power On. 5. Select the Partial Power Up/Down (QWW) screen. 6. Select UP (power-up processor only).
10	Is CP3 tripped?	Go to step 14.

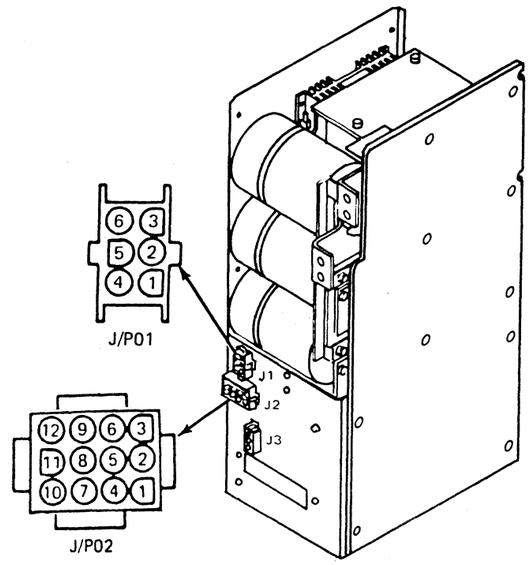


PS103

Step	Conditions	Instructions
11	Go to **Instructions** column.	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DP (power-down processor only). 3. Reinstall one card in the 01A-A3 board. 4. Select the Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only).
12	Is CP3 tripped?	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DP (power-down processor only) 3. Exchange card. 4. Reset CP3. 5. Repeat steps 11, 12, and 13 until all cards have been reinstalled, then go to step 35.
13	Go to **Instructions** column.	1. Repeat steps 11, 12, and 13 until all cards have been reinstalled, then go to step 35.
14	Go to **Instructions** column.	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DP (power-down processor only). 3. Remove all cables from the 01A-A3 board (card side only). 4. Reset CP3. 5. Select the Partial Power Up/Down (QWW) screen. 6. Select UP (power-up processor only).
15	Is CP3 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A3 board. 4. Reset CP3. 5. Go to step 35.



Typical PS107, PS108, and PS109



Typical PS105 and PS106

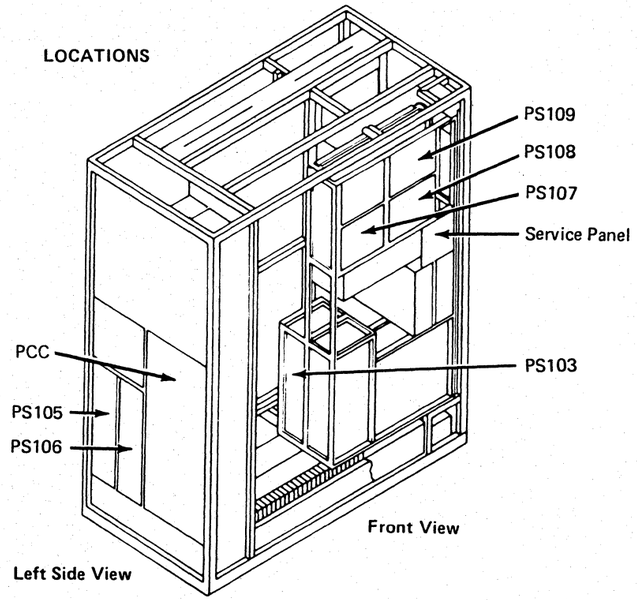
Step	Conditions	Instructions
16	Go to **Instructions** column.	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DP (power-down processor only). 3. Reinstall one cable in the 01A-A3 board. 4. Select the Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only).
17	Is CP3 tripped?	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DP (power-down processor only). 3. Exchange cable. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 4. Reset CP3. 5. Repeat steps 16, 17, and 18 until all cables have been reinstalled, then go to step 35.
18	Go to **Instructions** column.	1. Repeat steps 16, 17, and 18 until all cables have been reinstalled, then go to step 35.
19	Go to **Instructions** column.	1. Disconnect cables PS103 P05 and P06. 2. Press service panel Power On. 3. Select the Partial Power Up/Down (QWW) screen. 4. Select UP (power-up processor only).
20	Is CP2 or CP4 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS103. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Reset CP2 or CP4. 5. Go to step 35.
21	Go to **Instructions** column.	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DP (power-down processor only). 3. Reconnect cables PS103 P05 and P06. 4. Disconnect the following cables: PS104 P02 PS105 P03 PS106 P03 PS107 P02 PS108 P02 PS109 P02. 5. Select the Partial Power Up/Down (QWW) screen. 6. Select UP (power-up processor only).
22	Is CP2 or CP4 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS103 P05 and P06 to PS104 through PS109. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 4. Reset CP2 or CP4. 5. Go to step 35.
23	Go to **Instructions** column.	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DP (power-down processor only). 3. Reconnect cable PS104 P02. 4. Select the Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only).

Step	Conditions	Instructions
24	Is CP2 or CP4 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS104. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Reset CP2 or CP4. 5. Go to step 35.
25	Go to **Instructions** column.	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DP (power-down processor only). 3. Reconnect cable PS105 P03. 4. Select the Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only).
26	Is CP2 or CP4 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS105. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Reset CP2 or CP4. 5. Go to step 35.
27	Go to **Instructions** column.	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DP (power-down processor only). 3. Reconnect cable PS106 P03. 4. Select the Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only).

Step	Conditions	Instructions
28	Is CP2 or CP4 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS106. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Reset CP2 or CP4. 5. Go to step 35.
29	Go to **Instructions** column.	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DP (power-down processor only). 3. Reconnect cable PS107 P02. 4. Select the Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only).
30	Is CP2 or CP4 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS107. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Reset CP2 or CP4. 5. Go to step 35.
31	Go to **Instructions** column.	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DP (power-down processor only). 3. Reconnect cable PS108 P02. 4. Select the Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only).

Step	Conditions	Instructions
32	Is CP2 or CP4 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS108. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Reset CP2 or CP4. 5. Go to step 35.
33	Go to **Instructions** column.	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DP (power-down processor only). 3. Reconnect cable PS109 P02. 4. Select the Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only).
34	Is CP2 or CP4 tripped?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS109. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Reset CP2 or CP4. 5. Go to step 35.
35	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Check all cables and cards for proper seating in the following areas: PS103 01A-A3 board PS104 through PS109. 3. Reset any tripped CPs. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



Seq DA280	PN 0445985 Pg 2 of 2	EC A02214 15 SEP 83	EC A02215 01 NOV 83			

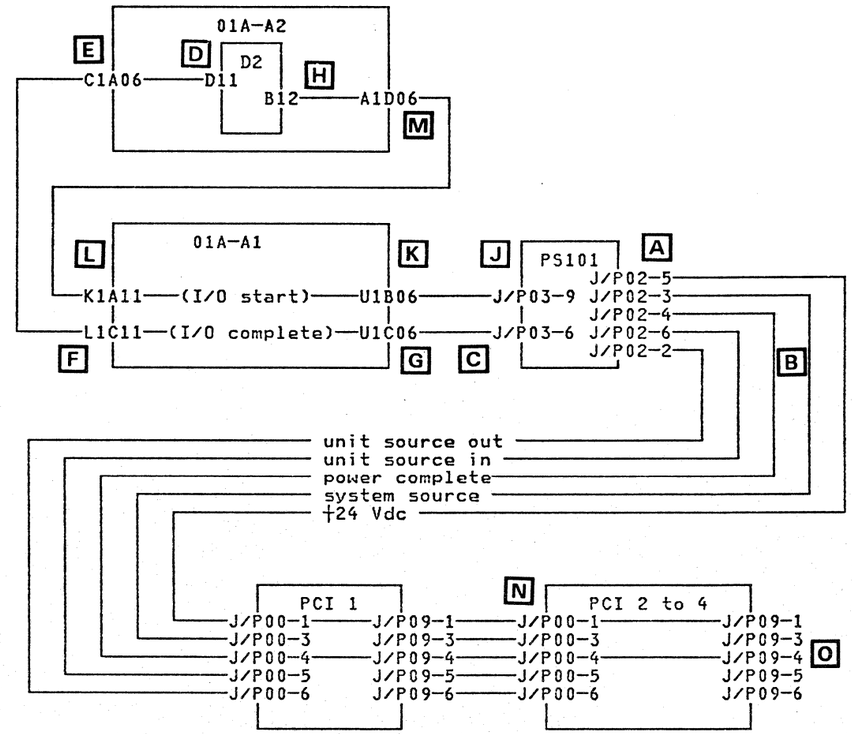
Ref Codes 11A4330E, 17A4330E

These Ref Codes indicate the I/O Power Hold failed to power on.

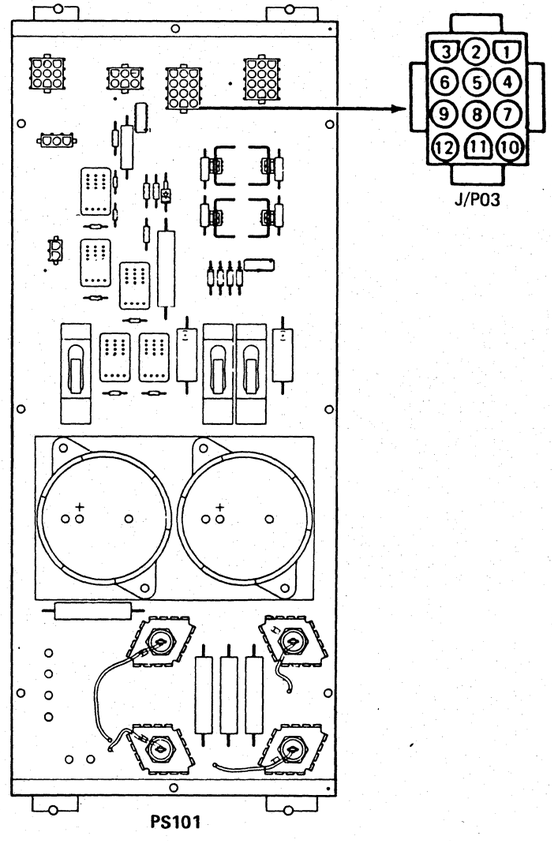
Possible causes:

- I/O control unit
- Power control cable
- PCI panel
- PS101
- 01A-A2D2 sense card
- I/O timeout value.

Step	Conditions	Instructions
1	Is this a new installation? or Did you just add control units?	Go to step 45.
2	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. **CAUTION** **+24V may be present on power control cable.** 3. Plug the PCI dummy plug into PCI panel No.1 CU1 position. 4. Press service panel Power On. 5. Select the Partial Power Up/Down (QWW) screen. 6. Select UI (power-up I/O only). 7. Check the I/O status (displayed on QWW screen).
3	Does I/O Status equal power is on?	Go to step 37.



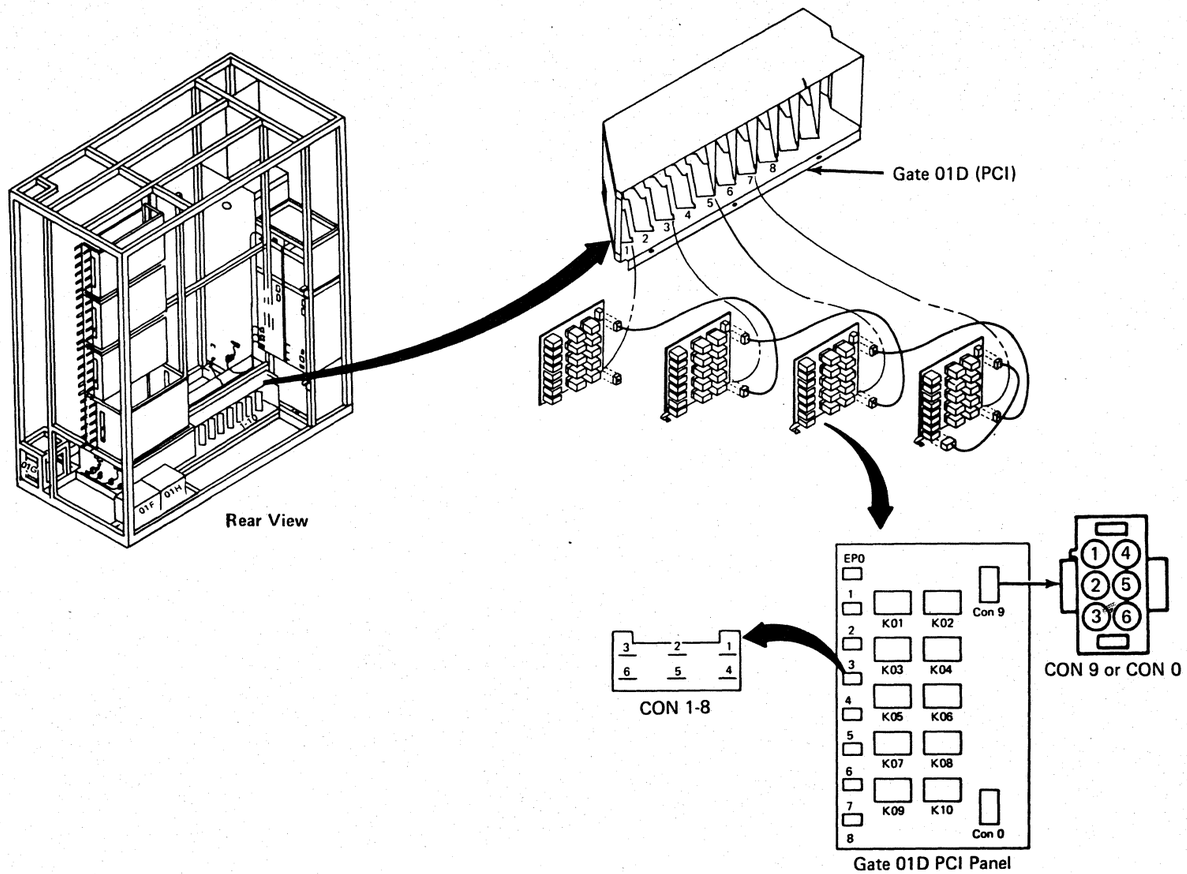
Step	Conditions	Instructions
4	Go to **Instructions** column.	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DI (power-down I/O only). **CAUTION** **+24V may be present on power control cable.** 3. Reconnect power control cable to PCI panel No.1 CU1 position. 4. Return dummy plug to original position. 5. Select the Diagnostic Power Up (QWD) screen. 6. Select option I (stop after power-up I/O). 7. Measure for +24 Vdc at the following points: - lead at frame ground + lead at PS101 P02-3.
5	Is voltage less than +22 Vdc?	Go to step 23.
6	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at frame ground + lead at PS101 P02-5. [A]
7	Is voltage less than +22 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS101. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.
8	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at frame ground + lead at PS101 P02-4. [B]
9	Is voltage less than +22 Vdc?	Go to step 36.



PS101

Step	Conditions	Instructions
10	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS101 P03-6. C
11	Is voltage less than +2.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS101. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.
12	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2D11. D
13	Is voltage greater than +2.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.
14	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2C1A06. E
15	Is voltage greater than +2.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.
16	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2C1A06.
17	Is voltage greater than +2.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.
18	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A1D2D08 + lead at 01A-A1L1C11. F
19	Is voltage greater than +2.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2YA to 01A-A1YM. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.
20	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A1D2D08 + lead at 01A-A1U1C06. G
21	Is voltage greater than +2.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A1 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.

Step	Conditions	Instructions
22	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A1YG to PS101 P03. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.
23	Go to **Instructions** column.	1. Press ENTER to end Diagnostic Stop. 2. Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2B12. H
24	Is voltage less than +2.5 Vdc?	Go to step 27.
25	Go to **Instructions** column.	1. Select the Diagnostic Power Up (QWD) screen. 2. Select option I (stop after power-up I/O). 3. Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS101 P03-9.
26	Is voltage greater than +2.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.
27	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Exchange PS101. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 3. Set PCC CB1 and CB2 on. 4. Go to step 48.



Gate 01D PCI Panel

Step	Conditions	Instructions
28	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS101 P03-9. [J]
29	Is voltage less than +2.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS101. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.
30	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A1D2D08 + lead at 01A-A1U1B06. [K]
31	Is voltage less than +2.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS101 P03 to 01A-A1YG: **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.
32	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A1D2D08 + lead at 01A-A1K1A11. [L]
33	Is voltage less than +2.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A1 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.

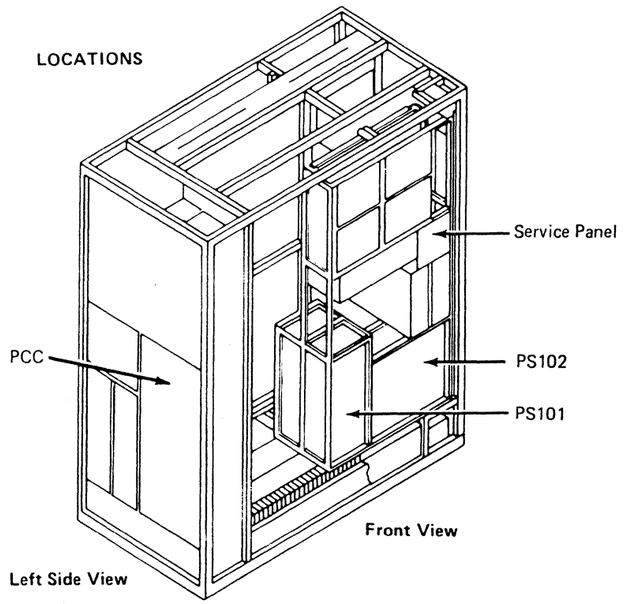
Step	Conditions	Instructions
34	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2A1D06. [M]
35	Is voltage less than +2.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2YA to 01A-A1YM. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.
36	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.
37	Go to **Instructions** column.	1. Select the Partial Power Up/Down (QWW) screen. 2. Select DI (power-down I/O only). **CAUTION** **+24V may be present On power control cable.** 3. Reconnect power control cable to PCI panel No.1 CU1 position. 4. Return dummy plug to original position. 5. Select the Diagnostic Power Up (QWD) screen. 6. Select option I (stop after power-up I/O). 7. Locate the last PCI panel J/P09. 8. Measure for +24 Vdc at the following points: - lead at frame ground + lead at J/P09-1 (last PCI panel). [N]

Step	Conditions	Instructions
38	Is voltage less than +22 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. One of the following cables is open (see note). PS101 P02-5 to PCI panel No.1 P00-1. PCI panel No.1 P09-1 to PCI panel No. 2 P00-1. PCI panel No.2 P09-1 to PCI panel No. 3 P00-1. PCI panel No.3 P09-1 to PCI panel No. 4 P00-1. **Note:** PCI panels 5 through 8 use same points. 4. Exchange the failing cable. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 5. Set PCC CB1 and CB2 on. 6. Go to step 48.
39	Go to **Instructions** column.	1. Locate last PCI panel. 2. Measure for +24 Vdc at the following points: - lead at frame ground + lead at J/P09-4 (last PCI panel). O

Step	Conditions	Instructions
40	Is voltage greater than +22 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. One of the following cables is open (see note). PS101 P02-4 to PCI panel No.1 P00-4. PCI panel No.1 P09-4 to PCI panel No. 2 P00-4. PCI panel No.2 P09-4 to PCI panel No. 3 P00-4. PCI panel No.3 P09-4 to PCI panel No. 4 P00-4. **Note:** PCI panels 5 through 8 use same points. 4. Exchange failing cable. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 5. Set PCC CB1 and CB2 on. 6. Go to step 48.
41	Go to **Instructions** column.	1. This is a common procedure to isolate an I/O power timeout to a PCI panel or control unit. Start with PCI panel 1 P01 and continue sequentially until each control unit plug has been metered. 2. Measure for +24 Vdc at the following points: - lead at frame ground + lead at PCI P0X-4 (X is P01 through P08 on each PCI).

Step	Conditions	Instructions
42	Is voltage less than +22 Vdc?	The I/O power on sequence is failing at this plug position. 1. Isolate to one of the following: I/O control unit Power control cable PCI panel. 2. Go to step 48.
43	Last PCI panel and plug position. or Dummy plug position.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange last PCI panel or dummy plug cable assembly. 4. Set PCC CB1 and CB2 on. 5. Go to step 48.
44	Is voltage greater than +22 Vdc?	Go to step 41 and next sequential plug position.
45	Is this a new installation or Did you just add control units?	The I/O timeout value may not be long enough to allow the I/O to power up. Verify or change the timeout value. 1. Set CE Mode switch to CE Mode. 2. Select the System Configuration (QFO) screen. 3. Check the I/O timeout value (value should equal 1 to 2 minutes for each control unit). 4. If necessary, increase the I/O timeout value; re-IML. 5. Select the Partial Power Up/Down (QWW) screen. 6. Select UC (power-up processor and I/O).
46	Is power complete?	1. Set CE Mode switch to Normal. 2. Go to page END 001.
47	Go to **Instructions** column.	Go to step 2.
48	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Check all cables and cards for proper seating in the following areas: PS101 01A-A1 board 01A-A2 board PCI panels 1 to 4. 4. Reset any tripped CPs. 5. Set PCC CB1 and CB2 on. 6. Go to page PR 5001.

LOCATIONS



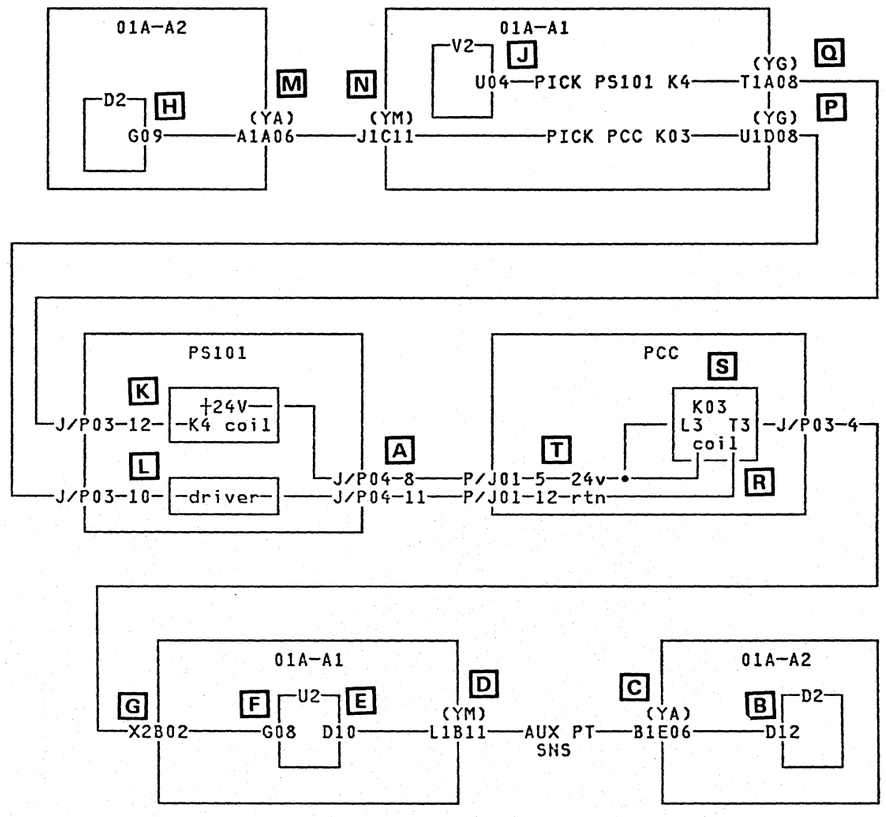
Ref Codes 1114250E, 11A4440E, 11A4450E

These Ref Codes indicate that PCC K03 has failed to pick or the K03 picked sense line is failing.

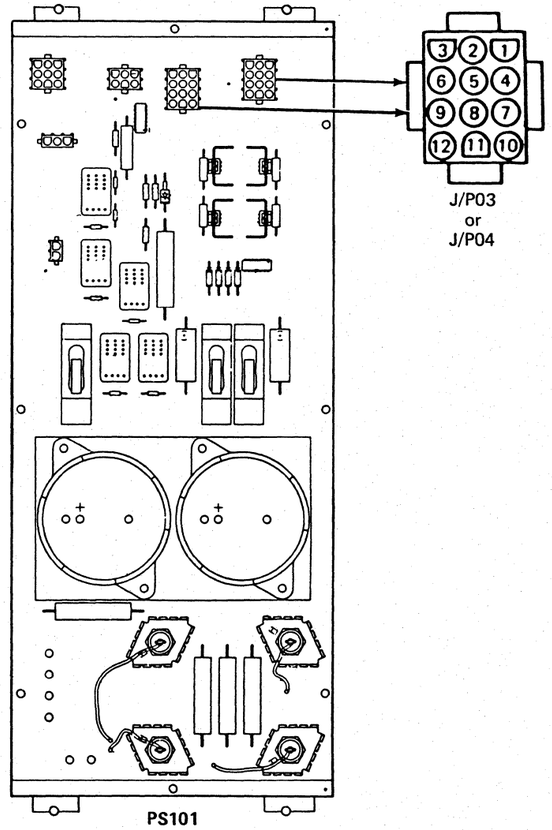
Possible causes:

- 01A-A2D2 card
- 01A-A1V2 card
- 01A-A1U2 card
- PCC K03
- PS101.

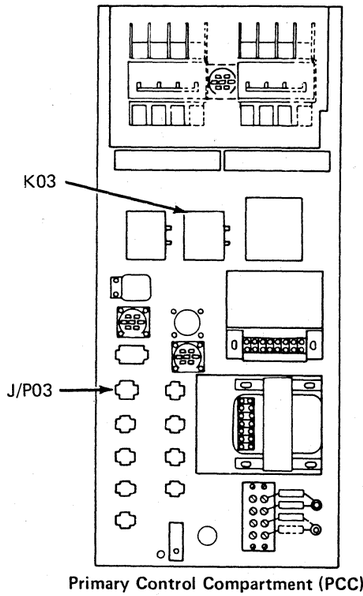
Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Check for PS101 CP3 tripped.
2	Is CP3 tripped?	Go to page PR 0141.
3	Go to **Instructions** column.	1. Press service panel Power On. 2. Select the Diagnostic Power Up (QWD) screen. 3. Select option A (stop after K03 picked). 4. Measure for +24 Vdc at the following points: - lead at PS101 P04-11 + lead at PS101 P04-8. A
4	Is voltage less than +22 Vdc?	Go to step 20.
5	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at 01A-A2D2D08 + lead at PCC P03-4.
6	Is voltage less than +22 Vdc?	Go to step 43.
7	Go to **Instructions** column.	Measure for +4 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2D2D12. B



Step	Conditions	Instructions
8	Is voltage greater than +3.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Go to step 51.
9	Go to **Instructions** column.	Measure for +4 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2B1E06. C
10	Is voltage greater than +3.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Go to step 51.
11	Go to **Instructions** column.	Measure for +4 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A1L1B11. D
12	Is voltage greater than +3.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A1YM to 01A-A2YA. **Note**: Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Go to step 51.
13	Go to **Instructions** column.	Measure for +4 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A1U2D10. E
14	Is voltage greater than +3.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A1 board. 4. Go to step 51.



Step	Conditions	Instructions
15	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at 01A-A2D2D08 F + lead at 01A-A1U2G08.
16	Is voltage greater than +22 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A1U2 card. 4. Go to step 51.
17	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at 01A-A2D2D08 G + lead at 01A-A1X2B02.
18	Is voltage greater than +22 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A1 board. 4. Go to step 51.
19	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PCC P03 to 01A-A1X2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Go to step 51.
20	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 H + lead at 01A-A2D2G09.
21	Is voltage less than +4.5 Vdc?	Go to step 29.



Primary Control Compartment (PCC)

Step	Conditions	Instructions
22	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A1V2D08 [J] + lead at 01A-A1V2U04.
23	Is voltage less than +4.5 Vdc?	Go to step 38.
24	Go to **Instructions** column.	1. Press Service Panel Power On 2. Select the Diagnostic Power Up (QWD) screen. 3. Select option A (stop after K03 picked). 4. Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS101 J/P03-12. [K]
25	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A1V2 card. 4. Go to step 51.
26	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS101 J/P03-10. [L]
27	Is voltage greater than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Go to step 51.
28	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS101. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Go to step 51.

Step	Conditions	Instructions
29	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A2A1A06. [M]
30	Is voltage greater than +4.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Go to step 51.
31	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A1V2D08 + lead at 01A-A1J1C11. [N]
32	Is voltage greater than +4.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2YA to 01A-A1YM. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Go to step 51.
33	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A1U1D08. [P]
34	Is voltage greater than +4.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A1 board. 4. Go to step 51.
35	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS101 J/P03-10.

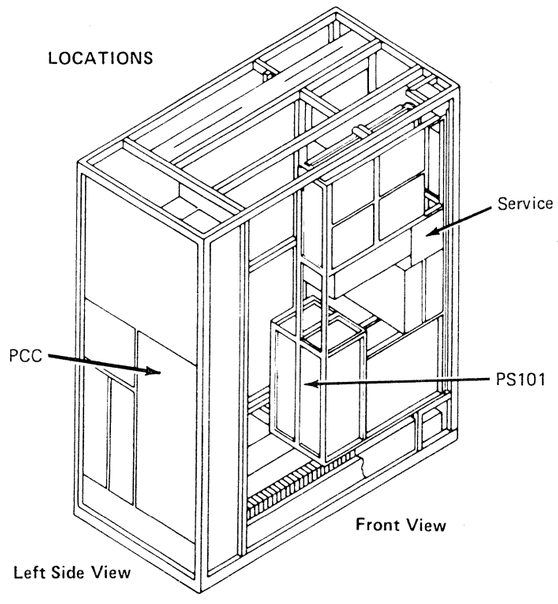
Step	Conditions	Instructions
36	Is voltage greater than +4.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS101 P03 to 01A-A1YG. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Go to step 51.
37	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS101. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Go to step 51.
38	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at 01A-A1V2D08 [Q] + lead at 01A-A1T1A08.
39	Is voltage greater than +4.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A1 board. 4. Go to step 51.
40	Go to **Instructions** column.	Measure for +5 Vdc at the following points: - lead at frame ground + lead at PS101 J/P03-12.

Step	Conditions	Instructions
41	Is voltage greater than +4.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS103 P03 to 01A-A1YG. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Go to step 51.
42	Go to **Instructions** column.	1. Set service panel Power OffZswitch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS101. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Go to step 51.
43	Go to **Instructions** column.	Measure for +25 Vdc at the following points: - lead at PCC K03-B(coil) [R] + lead at PCC K03-A(coil).
44	Is voltage less than +0.8 Vdc.	Go to step 48.
45	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at PCC K03-T3 [S] + lead at PCC K03-L3.
46	Is voltage greater than +22 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PCC K03 contactor. 4. Set PCC CB1 and CB2 on. 5. Go to step 51.

Step	Conditions	Instructions
47	Is voltage less than +0.8 Vdc.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PCC K03 to PCC P03. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 4. Go to step 51.
48	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at PCC J/P01-12 + lead at PCC J/P01-5. T
49	Is voltage greater than +22 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PCC P01 to PCC K03 contactor. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 4. Go to step 51.
50	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PCC P01 to PS101 P04. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 4. Go to step 51.

Step	Conditions	Instructions
51	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Check all cables and cards for proper seating in the following areas: PS101 PCC box 01A-A1 board 01A-A2 board. 3. Reset any tripped CPs. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



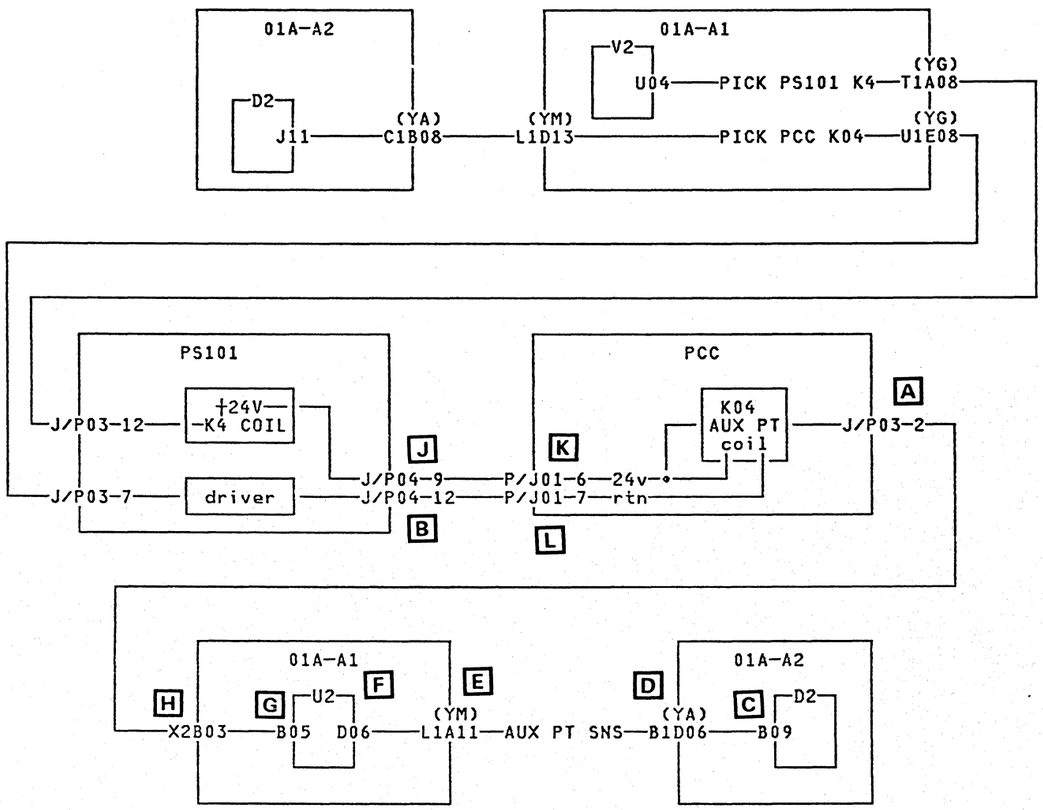
Ref Codes 1114350E, 11A4540E, 11A4550E

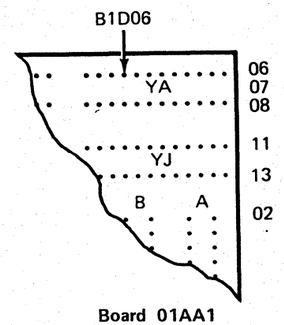
These Ref Codes indicate that PCC K04 has failed to pick or the sense line is failing.

Possible causes:

- 01A-A2D2 sense card
- 01A-A1U2 reset card
- PCC K04
- PS101.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Measure for +24 Vdc at the following points: - lead at frame ground + lead at PCC P03-2. [A] 5. Select the Partial Power Up/Down (QWW) screen. 6. Select UP (power-on processor only). **Note:** Voltage is present for about four seconds.
2	Is voltage greater than +22 Vdc?	Go to step 8.
3	Go to **Instructions** column.	1. Select the Diagnostic Power Up (QWD) screen. 2. Select option A (stop after K03 picked). 3. Measure for +24 Vdc at the following points: - lead at frame ground + lead at PS101 P04-12. [B]
4	Is voltage less than +22 Vdc?	Go to step 21.

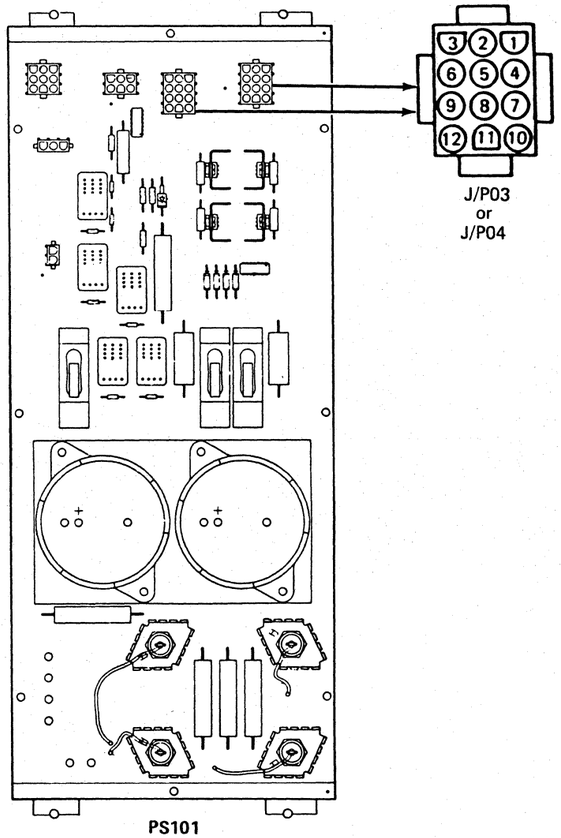




Board 01AA1

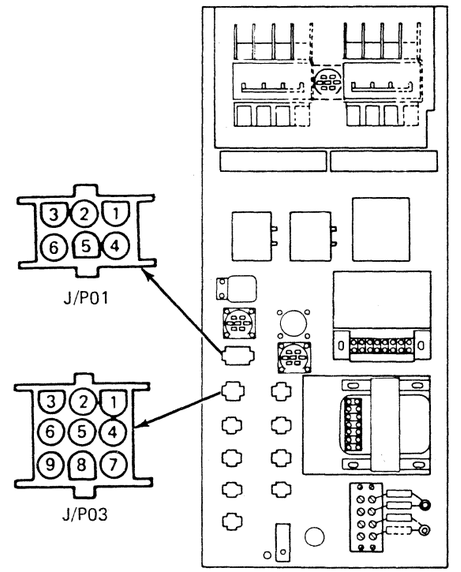
Seq DA315	PN 0445992 Pg 1 of 2	EC A02214 15 SEP 83				

Step	Conditions	Instructions
5	Go to **Instructions** column.	1. Press ENTER to end Diagnostic Stop. 2. Measure for +24 Vdc at the following points: - lead at frame ground + lead at PS101 P04-12. 3. Select the Partial Power Up/Down (QWW) screen. 4. Select UP (power-on processor only). **Note:** Voltage is present for about 4 seconds.
6	Is voltage less than +0.8 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PCC K04 contactor. 4. Go to step 31.
7	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS101. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Go to step 31.
8	Go to **Instructions** column.	1. Measure for +4 Vdc at the following points: - lead at 01A-A2D2D08 [C] + lead at 01A-A2D2B09. [C] 2. Select the Partial Power Up/Down (QWW) screen. 3. Select UP (power-on processor only). **Note:** Voltage is present for about 4 seconds.



PS101

Step	Conditions	Instructions
9	Is voltage greater than +3.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Go to step 31.
10	Go to **Instructions** column.	1. Measure for +4 Vdc at the following points: - lead at 01A-A2D2D08 [D] + lead at 01A-A2B1D06. 2. Select the Partial Power Up/Down (QWW) screen. 3. Select UP (power-on processor only). **Note:** Voltage is present for about four seconds.
11	Is voltage greater than +3.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Go to step 31.
12	Go to **Instructions** column.	1. Measure for +4 Vdc at the following points: - lead at 01A-A2D2D08 [E] + lead at 01A-A1L1A11. 2. Select the Partial Power Up/Down (QWW) screen. 3. Select UP (power-on processor only). **Note:** Voltage is present for about 4 seconds.

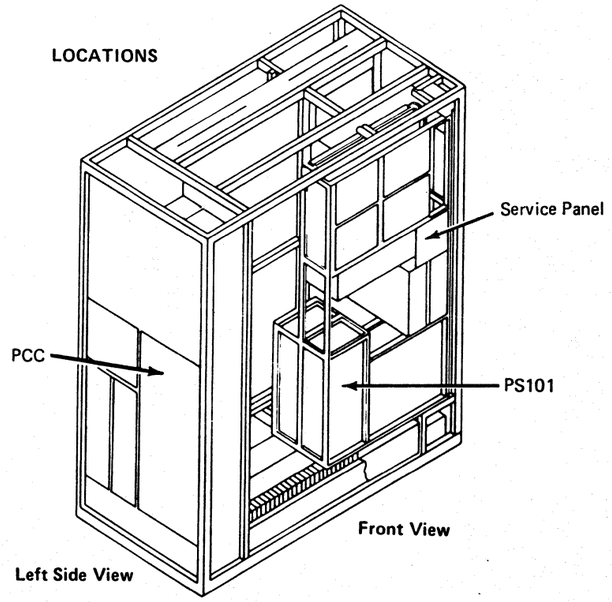


Primary Control Compartment (PCC)

Step	Conditions	Instructions
13	Is voltage greater than +3.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A1YM to 01A-A2YA. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Go to step 31.
14	Go to **Instructions** column.	1. Measure for +4 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A1U2D06. [F] 2. Select the Partial Power Up/Down (QWW) screen. 3. Select UP (power-on processor only). **Note:** Voltage is present for about four seconds.
15	Is voltage greater than +3.5 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A1 board. 4. Go to step 31.
16	Go to **Instructions** column.	1. Measure for +24 Vdc at the following points: - lead at 01A-A2D2D08 + lead at 01A-A1U2B05. [G] 2. Select the Partial Power Up/Down (QWW) screen. 3. Select UP (power-on processor only). **Note:** Voltage is present for about four seconds.
17	Is voltage greater than +22 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A1U2 card. 4. Go to step 31.
18	Go to **Instructions** column.	1. Measure for +24 Vdc at the following points: - lead at 01A-A2D2D08 [H] + lead at 01A-A1X2B03. 2. Select the Partial Power Up/Down (QWW) screen. 3. Select UP (power-on processor only). **Note:** Voltage is present for about four seconds.
19	Is voltage greater than +22 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A1 board. 4. Go to step 31.
20	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PCC J/P03 to 01A-A1X2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Go to step 31.
21	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at frame ground + lead at PS101 J/P04-9. [J]

Step	Conditions	Instructions
22	Is voltage less than +22 Vdc?	1. Set PCC CB1 and CB2 off. 2. Exchange PS101. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 3. Go to step 31.
23	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at frame ground + lead at PCC P01-6. K
24	Is voltage less than +22 Vdc?	1. Set PCC CB1 and CB2 off. 2. Exchange cable from PCC P01 to PS101 P04. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 3. Go to step 31.
25	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at frame ground + lead at both sides of PCC K04 coil.
26	Is voltage greater than +22 Vdc on one side only?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PCC K04 contactor. 4. Go to step 31.
27	Is voltage greater than +22 Vdc missing on both sides?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PCC K04 to PCC P01. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 4. Go to step 31.

LOCATIONS



Step	Conditions	Instructions
28	Go to **Instructions** column.	Measure for +24 Vdc at the following points: - lead at frame ground + lead at PCC P01-7. L
29	Is voltage less than +22 Vdc?	1. Set PCC CB1 and CB2 off. 2. Exchange cable from PCC K04 to PCC P01. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 3. Go to step 31.
30	Go to **Instructions** column?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS101 P04 to PCC P01. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 4. Go to step 31.
31	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Check all cables and cards for proper seating in the following areas: PCC box PS101 01A-A1 board 01A-A2 board. 3. Reset any tripped CPs. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

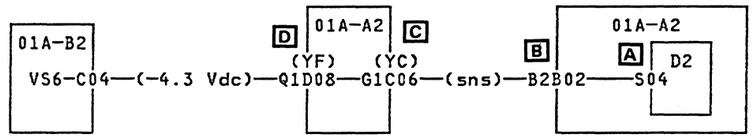
Ref Codes 11A5840E, 11A5850E

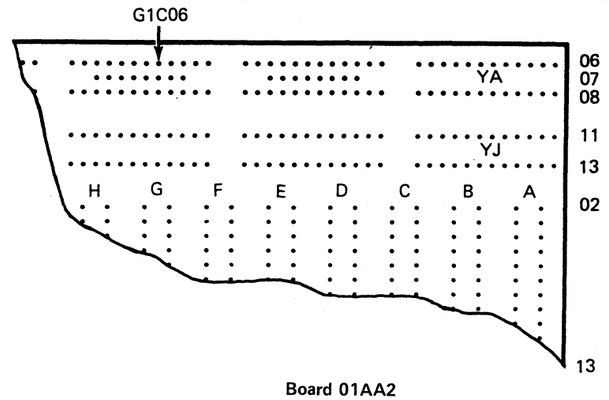
These Ref Codes indicate the -4.3V from PS106 is out of tolerance at the 01A-B2 board.

Possible causes:

- 01A-A2B2 paddle card
- 01A-A2A2 board
- 01A-A2B2 board
- 01A-A2D2 sense card
- Power supply adjustment.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only). 6. Measure for -1.5 Vdc at the following points: - lead on 01A-A2D2D08 [A] + lead on 01A-A2D2S04. **Note:** Voltage is present for about two seconds.
2	Is voltage -1.44 to -1.56 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
3	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-A2B2D08 [B] + lead at 01A-A2B2B02. **Note:** Voltage is present for about two seconds.

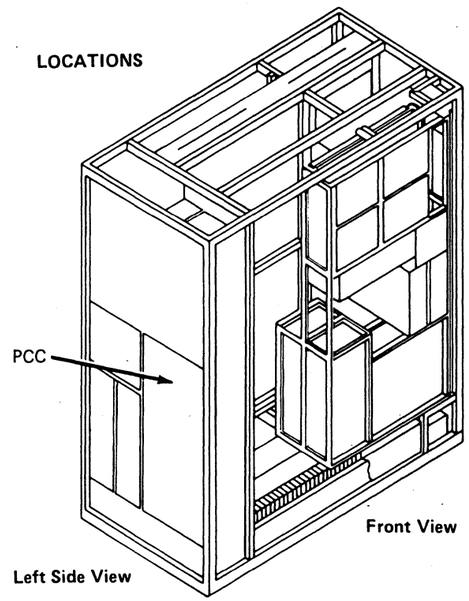




Board 01AA2

Step	Conditions	Instructions
4	Is voltage -1.44 to -1.56 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -4.3 Vdc at the following points: - lead at 01A-A2G2D08 [C] + lead at 01A-A2G1C06. **Note:** Voltage is present for about two seconds.
6	Is voltage -4.24 to -4.42 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2YC to 01A-A2B2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -4.3 Vdc at the following points: - lead at 01A-A2Q2D08 [D] + lead at 01A-A2Q1D08. **Note:** Voltage is present for about two seconds.
8	Is voltage -4.24 to -4.42 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -4.3 Vdc at the following points: - lead to 01A-B2 TB1-B bus + lead to 01A-B2 TB1-C bus. **Note:** Voltage is present for about two seconds.
10	Is voltage -4.24 to -4.42 Vdc?	1. Isolate to one of the following: Cable from 01A-B2VS6 to 01A-A2YF 01A-B2 board. 2. Go to page PR 5001.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS106. **Note:** Check cable connectors for pushed in pins and seating or power supply adjustment before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

LOCATIONS



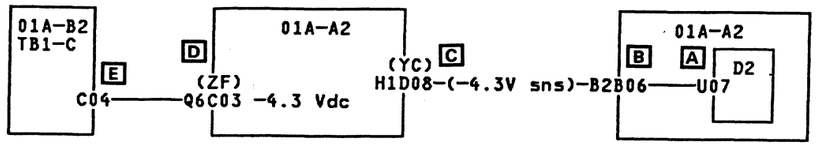
Ref Codes 11A6140E, 11A6150E

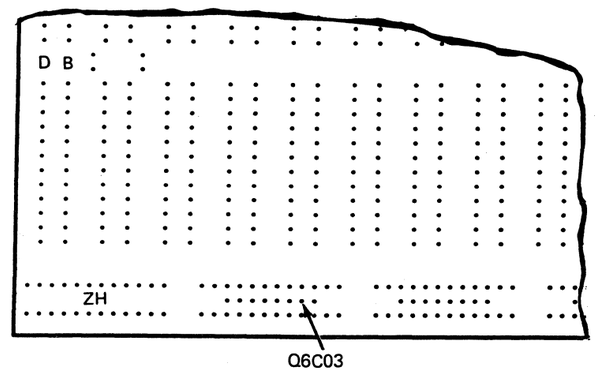
These Ref Codes indicate the -4.3V from PS106 is out of tolerance at the 01A-A2 board.

Possible causes:

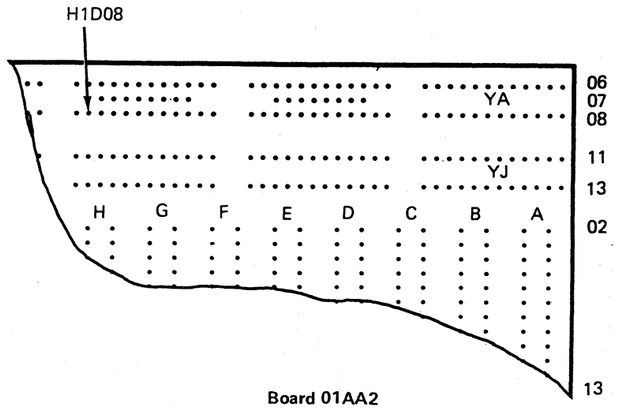
- PS106
- 01A-A2D2 sense card
- Power supply adjustment.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only). 6. Measure for -1.5 Vdc at the following points: - lead on 01A-A2D2D08 [A] + lead on 01A-A2D2U07. **Note:** Voltage is present for about two seconds.
2	Is voltage -1.42 to -1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
3	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead at 01A-A2B2D08 [B] + lead at 01A-A2B2B06. **Note:** Voltage is present for about two seconds.





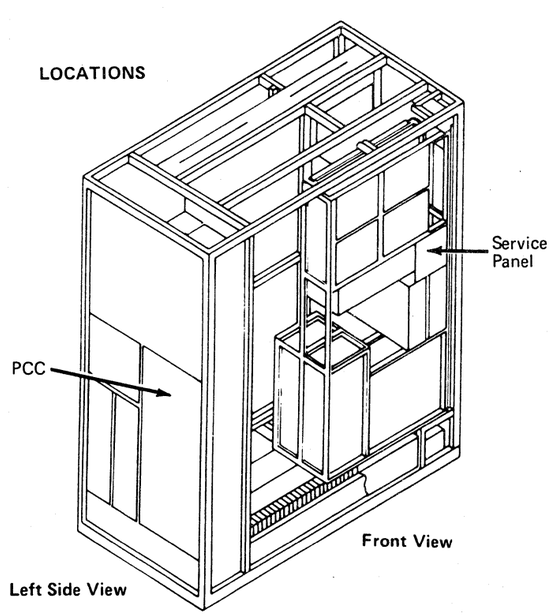
Board 01AA2



Board 01AA2

Step	Conditions	Instructions
4	Is voltage -1.42 to -1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -4.3 Vdc at the following points: - lead at 01A-A2H2D08 [C] + lead at 01A-A2H1D08. **Note:** Voltage is present for about two seconds.
6	Is voltage -4.16 to -4.51 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2YC to 01A-A2B2. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -4.3 Vdc at the following points: - lead at 01A-A2Q2D08 [D] + lead at 01A-A2Q6C03. **Note:** Voltage is present for about two seconds.

LOCATIONS



Step	Conditions	Instructions
8	Is voltage -4.16 to -4.51 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -4.3 Vdc at the following points: - lead at 01A-B2 TB1-B bus + lead at 01A-B2 TB1-C bus. [E] **Note:** Voltage is present for about two seconds.
10	Is voltage -4.16 to -4.51 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-B2 TB1-C bus to 01A-A2ZF. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS106. **Note:** Check cable connectors for pushed in pins and seating or power supply adjustment before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.

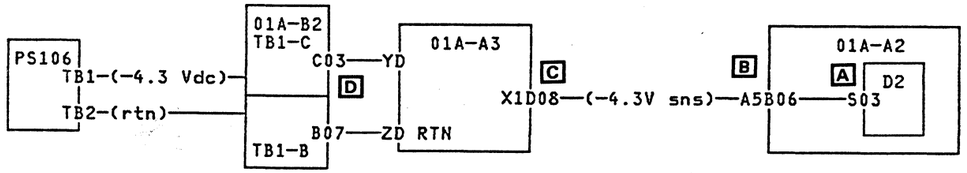
Ref Codes 11A6240E, 11A6250E

These Ref Codes indicate the -4.3 Vdc from PS106 is out of tolerance at the 01A-A3 board.

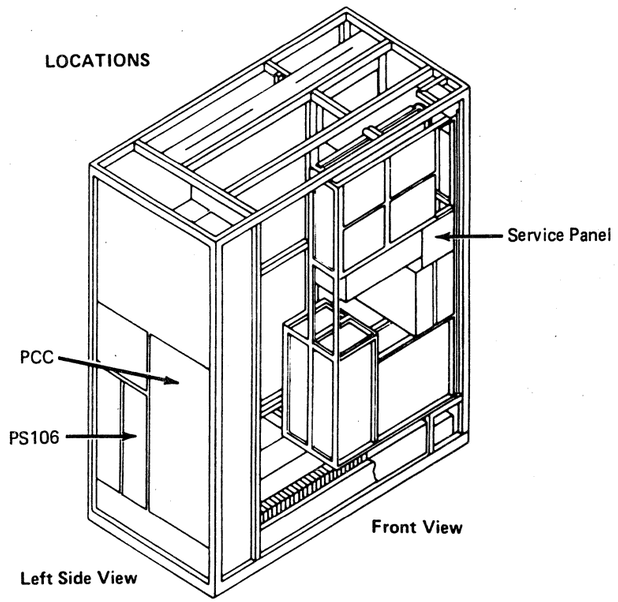
Possible causes:

- 01A-A2A5 paddle card
- 01A-A2D2 card
- 01A-A2 board
- 01A-A3 board
- Power supply adjustment.

Step	Conditions	Instructions
1	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set CE Mode switch to CE Mode. 3. Press service panel Power On. 4. Select Partial Power Up/Down (QWW) screen. 5. Select UP (power-up processor only). 6. Measure for -1.5 Vdc at the following points: - lead to 01A-A2D2U08 [A] + lead to 01A-A2D2S03. **Note:** Voltage is present for about two seconds.
2	Is voltage -1.42 to -1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2D2 card. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
3	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -1.5 Vdc at the following points: - lead to 01A-A2A5D08 [B] + lead to 01A-A2A5B06. **Note:** Voltage is present for about two seconds.



Step	Conditions	Instructions
4	Is voltage -1.42 to -1.58 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A2 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
5	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -4.3 Vdc at the following points: - lead to 01A-A3X2D08 [C] + lead to 01A-A3X1D08. **Note:** Voltage is present for about two seconds.
6	Is voltage -4.20 to -4.46 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-A2A5 to 01A-A3YH. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
7	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -4.3 Vdc at the following points: - lead to 01A-A3K2D08 + lead to 01A-A3K2B06. **Note:** Voltage is present for about two seconds.
8	Is voltage -4.20 to -4.46 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange 01A-A3 board. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
9	Go to **Instructions** column.	1. Select Partial Power Up/Down (QWW) screen. 2. Select UP (power-up processor only). 3. Measure for -4.3 Vdc at the following points: - lead to 01A-B2 TB1-B bus [D] + lead to 01A-B2 TB1-C bus. **Note:** Voltage is present for about two seconds.
10	Is voltage -4.20 to -4.46 Vdc?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from 01A-B2 TB1-C bus to 01A-A3YD. **Note:** Check board for bent pins and cable connector forZpushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS106. **Note:** Check cable connectors for pushed in pins and seating or power supply adjustment before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.



Seq DA340	PN 0445997 Pg 2 of 2

EC A02214 15 SEP 83	EC A02219 29 FEB 84	EC A02220 06 JUN 84		

Step	Conditions	Instructions
10	Go to **Instructions** column.	1. Repeat steps 8, 9, and 10 until all cards have been reinstalled, then go to step 22.
11	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Disconnect the cable at 01A-A4ZA (card side). 3. Disconnect the cables at 01A-A4ZC, 01A-A4ZE, 01A-A4YD, and 01A-A4YF. 4. Measure resistance at the following points: 01A-B6D04 to frame ground 01A-C6B04 to frame ground (if PS109 J/P04 installed).
12	Is a short indicated?	1. Set PCC CB1 and CB2 off. 2. Exchange 01A-A4 board. 3. Set PCC CB1 and CB2 on. 4. Go to step 22.
13	Go to **Instructions** column.	1. Reconnect the cable at 01A-A4ZA (card side). 2. Disconnect the cable at 01A-A2A5. 3. Measure resistance at the following points: 01A-B6D04 to frame ground 01A-C6B04 to frame ground (if PS109 J/P04 installed).
14	Is a short indicated?	1. Set PCC CB1 and CB2 off. 2. Exchange cable from 01A-A2A5 to 01A-A4ZA. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 3. Set PCC CB1 and CB2 on. 4. Go to step 22.
15	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Reconnect PS109 P04. 3. Disconnect PS108 P04. 4. Press service panel Power On. 5. Select the Partial Power Up/Down (QWW) screen. 6. Select UP (power-up processor only).
16	Is the displayed Ref Code 11D0540E?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cable from PS109 P04 to PS108 P04. **Note:** Check cable connectors for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
17	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Reconnect PS108 P04. 3. Disconnect PS108 P05 and P06. 4. Press service panel Power On. 5. Select the Partial Power Up/Down (QWW) screen. 6. Select UP (power-up processor only).
18	Is the displayed Ref Code 11D0540E?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange PS108. **Note:** Check cable connectors for pushed in pins and seating before exchanging power supply. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.

Step	Conditions	Instructions
19	Go to **Instructions** column.	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Reconnect PS108 P05 and P06. 3. Disconnect cables at 01A-A4ZB, Zf, YC, and YF. 4. Press service panel Power On. 5. Select the Partial Power Up/Down (QWW) screen. 6. Select UP (power-up processor only).
20	Is the displayed Ref Code 11D0540E?	1. Set service panel Power Off switch to Power Off and then back to Normal. 2. Set PCC CB1 and CB2 off. 3. Exchange cables from 01A-A4ZB, Zf, YC, and YF to PS108 P05 and P06. **Note:** Check board for bent pins and cable connector for pushed in pins and seating before exchanging cable. 4. Set PCC CB1 and CB2 on. 5. Go to step 22.
21	Go to **Instructions** column.	Go to step 6.
22	Go to **Instructions** column.	1. Set PCC CB1 and CB2 off. 2. Check all cables and cards for proper seating in the following areas: PS109 PS108 01A-A4 board 01A-A2 board. 3. Reset any tripped CPs. 4. Set PCC CB1 and CB2 on. 5. Go to page PR 5001.