



Maintenance Library

VOLUME 01	VOLUME 02	VOLUME 03	VOLUME 13/16	VOLUME 17	VOLUME 18
MAINTENANCE ANALYSIS PROCEDURE	MAINTENANCE ANALYSIS PROCEDURE	MAINTENANCE ANALYSIS PROCEDURE	SUPPLEMENT MAINTENANCE INFORMATION	GENERAL INFORMATION	GENERAL INFORMATION
START EXIT UU = 00 02	UU = 1X	UU = 4X 5X EX FX	LOCATIONS TOOLS REMOVAL/ REPLACEMENT ADJUSTMENTS SERVICE AIDS DISKETTE DRIVE PROCESSOR POWER	GENERAL DESCRIPTION FUNCTIONAL UNITS DIAGNOSTIC INFORMATION PROCESSOR LOGS SYSTEM TESTS FEATURES	CONSOLE FUNCTIONS INDEX INSTALLATION



Maintenance Analysis Procedures

EC 376695 16Aug79 EC 379585 14Sep79	PN 5666444 1 of 4	SEQ001
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PREFACE

Volumes 1, 2, and 3 contain the Maintenance Analysis Procedures (MAPs) for service personnel who are assumed to be familiar with operating principles and mechanical construction of the 4341 Processor. The MAPs are step-by-step instructions that direct you in problem determination on the processor. Each MAP is identified by title and number.

Related Publications

3278 2A Operators Console Maintenance Information, SY27-2546.

3278 2A Operators Console, Problem Determination Guide, GA23-0020.

First Edition, August 1979

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

IBM has prepared this maintenance documentation for the use of IBM customer engineers in the installation, maintenance, and repair of the specific machines indicated. IBM makes no representations that it is suitable for any other purpose.

Information contained in this documentation is subject to change from time to time. Changes will be reflected in subsequent revisions.

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SAFETY

PERSONAL SAFETY

Personal safety cannot be overemphasized: it is a vital part of customer engineering. To ensure your safety and that of co-workers, always observe the safety precautions given during your safety training and adhere to the following:

Danger Notices

Observe all DANGER notices in this manual.

DANGER

The springs on the console file load arms are compressed. Either ensure that the springs are held safe by the safety rods before separating the items or, if renewing a spring or arm, release the compression of the spring carefully.

General Safety Practices

Observe the general safety practices and the procedure for performing artificial respiration outlined in the *CE Safety Practices* card shown on this page.

Grounding

Ground current may reach dangerous levels. Never operate the system with the grounding conductor removed.

Line-Powered Equipment

Ground all line-powered test equipment through the third-wire grounding conductor in the power cord of the machine being tested.

Machine Warning Labels

Heed the warning labels placed in hazardous areas of the machines.

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CE Safety Practices

All Customer Engineers are expected to take every safety precaution possible, and to observe the following safety practices while maintaining IBM equipment:

1. You should not work alone under hazardous conditions or around equipment with dangerous voltage. Always advise your manager if you **MUST** work alone.
2. Remove all power ac and dc when removing or assembling major components, working in the immediate area of power supplies, performing mechanical inspection of power supplies, and installing changes in machine circuitry.
3. Wall box power switch, when turned off, should be locked or tagged in off position. 'Do Not Operate' tags, order number S229-1266, should be affixed when applicable. Pull power supply cord whenever possible.
4. When it is absolutely necessary to work on equipment having exposed operating mechanical parts or exposed live electrical circuitry anywhere in the machine, the following precautions must be followed:
 - a. Another person familiar with power off controls must be in the immediate vicinity.
 - b. Rings, wrist watches, chains, bracelets, and metal cuff links shall not be worn.
 - c. Only insulated pliers and screwdrivers shall be used.
 - d. Keep one hand in pocket.
 - e. When using test equipment, be certain that controls are set correctly and to the proper capacity, and that insulated probes are used.
 - f. Avoid contacting ground potential (metal floor strips, machine frames, etc. - use suitable rubber mats, purchased locally if necessary).
5. Safety glasses must be worn when:
 - a. Using a hammer to drive pins, riveting, staking, etc.
 - b. Power hand drilling, reaming, grinding, etc.
 - c. Using spring hooks, or attaching springs.
 - d. Soldering, wire cutting, or removing steel bands.
 - e. Parts cleaning using solvents, sprays, cleaners, chemicals, etc.
 - f. Exposed to any other condition that may be hazardous to your eyes. **REMEMBER, THEY ARE YOUR EYES.**
6. Special safety instructions, such as for handling cathode ray tubes and extreme high voltages, must be followed as outlined in CEMs and in the Safety section of the Maintenance Manuals.
7. Do not use solvents, chemicals, greases, or oils that have not been approved by IBM.
8. Avoid using tools or test equipment that has not been approved by IBM.
9. Replace worn or broken tools and test equipment.
10. The maximum load to be lifted is that which, in the opinion of you and of management, does not jeopardize your own health or well-being, or that of other employees.
11. All safety devices, such as guards, shields, signs, ground wires, etc., shall be restored after maintenance.
12. Each Customer Engineer is responsible to be certain that no action on his part renders a product unsafe, or exposes hazards to customer personnel.
13. Place removed covers in an out-of-the-way place where no one can trip over them.
14. All machine covers must be in place before the machine is returned to the customer.
15. Always place CE tool kit away from walk areas (that is, under desk or table) where no one can trip over it.

16. Avoid touching moving mechanical parts (that is, when lubricating, checking for play, etc.).
17. When using stroboscope, do not touch **ANYTHING**; it may be moving.
18. Avoid wearing loose clothing that may become caught in machinery. Shirt sleeves must be left buttoned, or rolled to above the elbow.
19. Ties must be tucked in shirt or fastened with a tie clasp (preferably non-conductive), approximately 3 inches from the end. Tie chains are not recommended.
20. Before starting equipment, make certain that fellow CEs and customer personnel are not in a hazardous position.
21. Maintain good housekeeping in the area of machines while performing, and after completing, maintenance.

Artificial Respiration

General Considerations

1. Start Immediately. Seconds Count.
Do not move victim unless absolutely necessary to remove from danger. Do not wait or look for help or stop to loosen clothing, warm the victim, or apply stimulants.
2. Check Mouth for Obstructions.
Remove foreign objects; pull tongue forward.
3. Loosen Clothing; Keep Warm.
Take care of these items after victim is breathing by himself, or when help becomes available.
4. Remain in Position.
After victim revives, be ready to resume respiration if necessary.
5. Call a Doctor.
Have someone summon medical aid.
6. Don't Give Up.
Continue without interruption until victim is breathing without help, or until victim is certainly dead.

Rescue Breathing for Adults

Victim on His Back Immediately.

1. Clear throat of water, food, or foreign matter.
2. Tilt head back to open air passage.
3. Lift jaw up to keep tongue out of air passage.
4. Pinch nostrils to prevent air leakage when you blow.
5. Blow until you see the chest rise.
6. Remove your lips and allow the lungs to empty.
7. Listen for snoring and gurgling, signs of throat obstruction.
8. Repeat mouth-to-mouth breathing 10-20 times per minute. Continue rescue breathing until victim breathes for himself.



Thumb and finger position



Final mouth-to-mouth position

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MAPS and MAP PACKAGING

MAPs guide you to the failing field replaceable unit (FRU) or to a procedure to correct the problem. Many sections in the MIM can help you when servicing with the MAPs. Volume 13/16 in particular includes sections on tools, adjustments, service aids, a power description, and other supplemental maintenance information.

A reference code is used as a pointer to a specific section in the MAPs.

For the layout of the reference code see 'Reference Codes' in the Diagnostic Information section of Volume 17.

MAP description and packaging are:

Volume 01

START MAP: This MAP directs you in the gathering of necessary symptom information. It then aids in determining whether the problem is external (I/O) or internal to the 4341. It then directs you to the proper trouble isolation MAP or device problem determination procedure. All service actions begin at the START MAP.

EXIT MAP: After the trouble isolation MAPs have repaired the problem, you are sent to the EXIT MAP. The EXIT MAP directs the gathering and recording of repair action information, and returning the repaired machine to the customer.

02 MAPs: These MAPs analyze and isolate the hard-wire sequence that initiates and monitors the power on sequencing of the Support Processor.

Volume 02

1X MAPs: Analyze processor power problems that are indicated on the screen by a 1xxxxxx reference code.

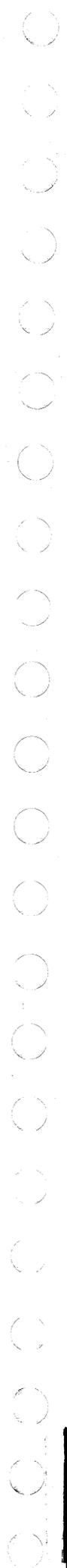
Volume 03

4X MAPs: Analyze processor main storage logic.

5X, 6X MAPs: These analyze the processor logic, except for the Maintenance Support Subsystem.

EX MAPs: Analyze microcode related problems.

FX MAPs: These analyze the Maintenance Support Subsystem.



CONTENTS

TITLE	MAP	PART
Start MAP	0000F	2676460
Common Exit MAP	0001F	2676461
HWS Power Entry	0200	8633136
Test CE Panel	0205	8632905
Conv Outlet	0207	8632925
TR/PS101 Failure	0210	8632906
PS101 CP2 Trip	0211	8633137
TR101 +5V Missing	0212	8632927
TR101 24V Missing	0214	8632917
TR/PS104 Failures	0220	8632908
24V Fail	0230	8632907
+5V Fail	0231	8633138
-5V Fail	0232	8632991
+8.5V Fail	0233	8632992
+12V Fail	0234	8632993
-12V Fail	0235	8632994
Power-On Failure	0237	8632914
Failure to Power Off	0238	8632915
Power-Off Failure	0239	8632926
CP5 Trip (+5V)	0241	8632995
CP1 Trip (-5V)	0242	8632996
CP4 Trip (+8.5V)	0243	8632997
CP2 Trip (+12V)	0244	8632998
CP3 Trip (-12V)	0245	8632959
CP6 Trip (+5V)	0246	8633140
Blower Failure	0250	8632922
AFS Failure	0255	8632923
Thermal Switch	0260	8632960
HWS Power Exit	0290	5666226
Power Entry MAP	1000C	2676016
Voltage Adjustment MAP	1003C	2676017
Test Station Usage	1004C	2676018
Hardwire Sequence w/Ref	1012	8632952
Thermal	1101C	2676019
204/206 Thermal	1102C	2676020
Remote Sense	1103C	2676021
Analog	1110C	2676022
AC PS205	1118C	2676023
Bias CP	1120C	2676024
PS205 Bias	1126C	2676025
Bulk CP	1131C	2676026
PS204/206 CP	1132C	2676027
PS204 Bulk/TR204 AC	1134C	2676028
IPS 5V Bias	1138C	2676029
IPS101 5V Bias	1139C	2676030

Deleted in EC 379837

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Volts CHDR	1140C	2676031
Start Line	1143C	2676032
IPS OV and CL	1146C	2676034
IPS UV	1152C	2676035
No AC to 2nd Frame	1161C	2676036
Temperature	1165C	2676037
Air Moving Device	1170C	2676038
Air Flow Sensor	1171C	2676039
AC TR201	1172C	2676040
AC TR202	1173C	2676041
PS201Bulk	1174C	2676042
AC TR206	1175C	2676043
Reverse and Digital/Analog	1182C	2676044
PS206 Bulk/Bias	1183C	2676045
Ref Code 1FF0-1FF2	11FFC	2676046
CTCA Entry MAP	1400	8632978
CTCA Thermal	1401	8633141
CTCA Analog	1410	8633142
CTCA AC TR301	1418	8633143
CTCA CP	1420	8633144
CTCA IPS 5V Bias	1438	8633145
CTCA IPS OV and OC	1446	8633146
CTCA IPS UV	1452	8633147
CTCA Air Moving Device	1470	8633148
CTCA PS301	1474	8633149
I/O Reference Code	1701	8632953
EMC MAP	1E01	4109240
Main Storage	4000F	2676080
Scan String Isolation	5010F	2676082
Scan String Voltage Check	5011F	2676086
FRU Replacement	5040F	2676087
CH/SP Hardware Isolation	5115F	2676088
I/O Interface	6500F	2676089
Metering Test	6600F	2676090
SP Microcode Det. Error	EC00F	2676091
LCA or Chan 0 Isolation	ED00F	2676092
PU Microcode Det Error	EE00F	2676093
CE Panel Coded Stop	F000F	2676473
Adapter Exchange MAP	F003	8632892
Diskette Drive 2D	F500	8632976
Power Controller	F600	8632977

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ACRONYMS AND ABBREVIATIONS

ac	alternating current	IPO	immediate power off
addr	address	IPS	integrated power system
AFS	air flow sensor	IR	incident report
ALD	automated logic diagram	K	contactor
AMD	air moving device	LCA	local channel adapter
aux	auxiliary	LED	light emitting diode
BSM	basic storage module	MAP	maintenance analysis procedure
CB	circuit breaker	max	maximum
CE	customer engineer	MI	maintenance information
CEP	customer engineer panel	MS	main storage
CHDR	channel driver	MSMD	machine speed micro diagnostics
CL	current limit	MSS	maintenance support subsystem
com	common	N/C	normally closed
compl	complete	N/O	normally open
conn	connector	NST	new system test
CP	circuit protector	OC	overcurrent
CR	rectifier	OCP	operator control panel
CSW	channel status word	OLTS	online tests
CTCA	channel-to-channel adapter	OV	overvoltage
CU	control unit	PC	power controller
dc	direct current	PCA	power controller adapter
DCA	device cluster adapter	PCC	primary control compartment
DDA	disk drive adapter	pg	page
dev	dévice	pgm	program
DIAG1	diagnostic disk 1	PS	power supply
DIAG2	diagnostic disk 2	PSR	program support representative
DIAG3	diagnostic disk 3	PSW	program status word
DIAG4	diagnostic disk 4	RSF	remote support facility
DR	driver	rtn	return
DR/REC	driver/receiver	S	switch
EC	engineering change	sec	second
ELA	error log analysis	seq	sequence
EMC	electromagnetic compatability	SP	support processor
EREP	environment recording, editing, and printing	SPI	standard power interface
ESD	electrostatic discharge	sw	switch
FDS	flexible distribution system	sys	system
FRU	field replaceable unit	TB	terminal block
HWS	hard wired sequence	temp	temperature
ID	identifier	TH	thermal
IFA	interface adapter	TR	transformer
IFCC	interface control check	UCW	unit control word
IML	initial microcode load	UV	undervoltage
incompl	incomplete	V	volts
intv	intervention		
I/O	input/output		
IPI	initial program load		

Note: Definition of diagnostic error messages is contained in "Diagnostic Information" in the MI.

SEQ1T1
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 PN 5666246
 1 of 2

MAP CODE 0000FXXX FIX 0003

SEQ101F MAP 0000-1

START MAP

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ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
ED00	C	14	088
F000	A	2	001
F003	A	2	001
F500	A	2	001
F600	A	2	001
1X00	A	2	001
5040	T	15	096
6600	A	2	001
6600	B	19	118
6600	M	19	115

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
13	085	ED00	A
10	057	ED00	A
3	011	F000	A
3	014	F000	A
13	083	F000	A
17	103	F000	B
18	112	F000	F
13	082	F000	A1
12	073	F003	T
13	077	F003	T
13	084	F600	A
14	091	F600	A
20	123	XXXX	A
20	124	XXXX	A
18	110	XXXX	A
8	046	0001	A
10	051	0001	A
10	053	0001	A
12	071	0001	A
19	117	0001	A
20	120	0001	A
20	121	0001	A
3	008	0200	A
3	015	0200	A
17	104	0200	A
3	010	0237	A
3	016	0239	A
15	097	5040	A
20	122	6500	B

001

Start all repair actions at Entry Point A.

```

*****
* Intermittent Problems *
* ----- *
* The CE log function is *
* available. *
* *
* If the problem is intermit- *
* tent, check this log WHEN *
* REQUESTED BY THE MAPs to see *
* if there had been an earlier *
* repair action. For infor- *
* mation, see "CE Logs" in the *
* "Service Aids" section of the *
* MI manual. *
*****

```

```

*****
(Entry Point A)
*****

```

START ALL REPAIR ACTIONS HERE. If possible, ensure that THE MACHINE IS IN THE FAILING CONDITION.

NOTES:

1. When a procedure requested in the MAPs cannot be performed, or when results are not as expected, there may be another failure on the machine. This failure must be repaired before continuing with the original problem.

IGNORE THE OLD SYMPTOM OR REFERENCE CODE AND RESTART HERE WITH THE NEW SYMPTOM OR REFERENCE CODE.

2. If the machine is not available (customer using) and a reference code was reported, record the reference code and do the following.

- Set the CE MODE switch ON. Press MODE SEL key. When the GENERAL SELECTION screen displays, type in QEI and press ENTER. When the CAP screen displays, type in the reference code.

(Step 001 continues)

(Step 001 continued)

This will display a FRU list. Order these FRUs now. This will speed the repair action when the machine does become available.

3. If error or status messages are displayed on lines 20, 23, or 25 (at the bottom of the screen), write these messages on paper. Pressing some keys (such as MODE SEL and ENTER) or changing the CE MODE switch setting clears these messages.

For Error or Status message descriptions, refer to Volume 18, Console Functions, 'Messages.'

By using the problem analysis (PA) option of the GENERAL SELECTION screen, a customer may have called in an ERROR CODE ('PAnn' and a related FRU list).

Do you have such an ERROR CODE with you?

Y N

002

(Entry Point H)

A reference code (RC) may be either displayed on the screen or reported by the customer.

Do you have a reference code (RC)?

Y N

003

Is a 'CHANNEL 0 UNAVAILABLE' message displayed on the screen?

Y N

004

Is 'INVALID PROCESSOR ID' displayed on the screen?

Y N

```

1 1 1 1 1
4 3 3 3 3
A B C D E

```

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 EC 379829 PEC 379827
 SEQ101F MAP 0000-2

E
2

MAP CODE 0000FXXX

F G H

SEQ101F

MAP 0000-3

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005

Place the CE MODE switch to the NORMAL position.

INDICATOR LIGHTS USED IN THIS MAP

The Power Complete, Power in Process, and Basic Check indicators on the operator control panel (OCP) are used for analysis in this MAP. When the system is available for maintenance, press the Lamp Test switch on the OCP to verify that all indicators light.

To repair failing OCP indicators, go to MAP 0200, Entry Point A. (If no indicators fail, continue analysis in the MAPs.)

Is the POWER COMPLETE indicator on?

Y N

006

Is the BASIC CHECK indicator on?

Y N

007

Is the POWER IN PROCESS indicator on?

Y N

008

This is a hardwired sequence (HWS) problem.

Go To Map 0200, Entry Point A.

009

Two air moving devices (AMDs) are located on the 01A gate: 102 and 103. AMD 103 is nearest the hinge end of the gate.

Is AMD 103 running?

Y N

010

Go To Map 0237, Entry Point A.

F G H

011

The basic MSS diagnostic tests have sensed a failure. The failure is indicated by an SP Stop Word.

Go To Map F000, Entry Point A.

012

Look at the power failure indicators (red lights) on the CE panel.

Is only the PWR OFF FAILURE indicator ON with the BASIC CHECK indicator?

Y N

013

Is any other red power failure indicator on?

Y N

014

The basic check indicator is on.

Go To Map F000, Entry Point A.

015

This may be an SP power problem.

Go To Map 0200, Entry Point A.

016

This is a timeout problem.

Go To Map 0239, Entry Point A.

017

Is the BASIC CHECK indicator on?

Y N

018

Is 'CLOCK STOP' displayed on the screen?

Y N

1 1
3 3 4
J K L

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EC 379829 PEC 379827

SEQ101F MAP 0000-3

L
3.

019

Observe the screen for any of the following IPL failure messages.

- LONG IPL PROCEEDING
- IPL DEVICE UNAVAIL-SELIN
- IPL I/O ERROR
- IPL I/O ERROR, US/CS=xxxx
- IPL PSW FORMAT ERROR

Is an IPL failure message displayed on the screen?

Y N

020

Wrong output on the console display or on an I/O device means that output data is missing or not valid.

Do you have wrong output on the console display or on an I/O device?

Y N

1 1
3 2
M N P

P

021

Look for the failure symptoms in the following chart and go to the indicated MAP, or, if the symptoms are not shown in the chart, continue in this MAP.

FAILURE SYMPTOM	GO TO:
Power indicator or switch on the OCP or CE Panel does not operate.	MAP 0200 Entry A
Power On/IML switch on OCP does not start SP IML	MAP F000 Entry A2
Pressing Power Off fails to sequence power off.	MAP 0238 Entry A
Ch-Ch is suspected. See "Channel to Channel Adapter Test."	"Features" M.I. manual
Suspected remote support adapter problem when using RSF or ROCF.	MAP F000 Entry A
I/O meters do not run or run all the time.	MAP 6600 Entry A
No power at the convenience outlets.	MAP 0207 Entry A
"DISKETTE CHECK" displays or diskette drive failure	MAP F003 Entry D
"DISKETTE NOT READY" shows on console.	MAP F000 Entry 6

Look for indications of a console printer or display failure. Observe failure symptoms, system messages, EREP printouts and sense information, when they are available.

(Step 021 continues)

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 SEQ101F MAP 0000-4

(Step 021 continued)

Is a console printer or display failure indicated?

Y N

022

Ensure that the customer screen is displayed. If it is not, press the CHG DPLY key.

Messages from a system control program (SCP) or program product (PP) are displayed on lines 1 through 20 of the screen or printed on the system printer.

Do you have an SCP or PP message?

Y N

023

To check if system messages 'CHANNEL 0 UNAVAILABLE' or 'INSTR STOP' display, press the STOP key.

Wait about 30 seconds before answering the following question.

Is 'CHANNEL 0 UNAVAILABLE' displayed on the screen?

Y N

024

Is 'INSTR STOP' displayed on the screen?

Y N

025

Go to Page 16, Step 101, Entry Point E.

026

A program loop or wait is indicated when a job does not end or change status when expected.

Do you suspect a program loop or wait?

Y N

027

Go to Page 6, Step 029, Entry Point J.

1 1 1
2 1 0
Q R S T

028

The next steps check for a wait condition.

NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

DISPLAY THE PSW:

1. Press the MODE SEL key. The GENERAL SELECTION screen is displayed.
2. Key in QDP and press ENTER
The current program status word (PSW) is displayed.

Look at the W (wait) bit in the CMWP field of the PSW.

Is the wait bit on?

Y N

029

(Entry Point Q)

Program loops can be caused by:

- Program problems
- Processor failures that were not sensed
- Channel or I/O failures.

NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

RUN A PROGRAM TRACE:

1. Press the MODE SEL key. The GENERAL SELECTION screen is displayed.
2. Key in QATC and press ENTER
3. Press the START key. This starts the trace (Step 029 continues)

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EC 379829 PEC 379827

SEQ101F MAP 0000-5

7
U

MAP CODE 0000FXXX

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(Step 029 continued)
function. ADDR-COMP is displayed when the trace
buffer is full (128 addresses).

- 4. Key in QDTI and press ENTER

The first 64 addresses are displayed. Copy the
screen. (For information on how to copy screens, see
the Service Aids section of the MI manual.)

- 5. Press and hold the ALT key and press the 'Page Up'
key to display the next 64 addresses. Copy the
display.

Keep the screen copies for possible reference later.

(Entry Point J)

NOTE: If the following procedures do not generate the
described results, ignore the old symptom and start
again at MAP 0000, ENTRY POINT A with the new
symptom.

Display the processing unit logout directory:

- 1. Ensure that the CE MODE switch is set to ON.
2. Press the MODE SEL key.
3. Key in QECD and press ENTER.

A reference code may have been logged at the time of
failure indicating a SUCCESSFUL RETRY or
SUCCESSFUL CC=1 ON I/O.

NOTE: IF YOU ARE NOT SURE ABOUT THE TIME
STAMP, ANSWER THE NEXT QUESTION 'NO.'

Was such a RC logged at the time of failure?

Y N
| |
| |
| |
7 7
V W

W SEQ101F MAP 0000-6

030
NOTE: If the following procedures do not generate the
described results, ignore the old symptoms and start
again at MAP 0000, ENTRY POINT A with the new
symptom.

DISPLAY THE PSW and I/O TRACE SCREEN:

- 1. Press the MODE SEL key.
2. Key in QDTP and press ENTER.
3. Key in QDTS and press ENTER. This stores the
related IFCCs on the diskette for later reference. (In
case the following procedures alter the Trace Buffer.)

NOTE: The newest trace buffer entry is displayed at the
top of the screen. If there are no trace buffer entries,
only the screen title and options are displayed. If many
entries have been made, use the ALT and paging keys to
look at earlier entries. For additional information, see
'IFCC Trace' in the 'Service Aids' section of the MI
manual.

Look for more than one IFCC trace entry for the same
channel or device.

Have the operator print-out EREP/SYS1.LOGREC and
look for more than one IFCC entry for the same channel
or device.

More than one IFCC entry for the same channel or
device?

Y N
031
Do you suspect a channel or I/O device failure?
Y N

032
To run all diagnostic tests,
Go to Page 16, Step 101, Entry Point F.

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EC 379829 PEC 379827
SEQ101F MAP 0000-6
7 7
X Y

V X Y
6 6 6

MAP CODE 0000FXXX

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033

For most I/O devices, unit check conditions include command reject, intervention required, bus-out check, equipment check, data check, and overrun. (These checks are indicated from sense information or from a message.)

Is a unit check condition indicated?

Y N

034

Go to Page 18, Step 114, Entry Point D.

035

Do you have a bus-out check?

Y N

036

Use device maintenance procedures (such as OLTs) to repair the problem.

037

Go to Page 18, Step 114, Entry Point D.

038

Using the addresses given in the trace or from EREP/SYS1.LOGREC, determine the failing channel.

Go to Page 19, Step 115, Entry Point M.

039

Write this reference code on paper.

Go to Page 14, Step 088, Entry Point C.

U
5

SEQ101F MAP 0000-7

040

The PSW wait bit is on. Use the following procedure to verify the wait condition.

A wait condition is indicated if the INSTRUCTION ADDRESS does not change when the START key is pressed while in instruction step mode.

NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

VERIFY THE WAIT CONDITION:

1. Key in QOI and press ENTER.
This sets instruction step mode.
2. Observe the INSTRUCTION ADDRESS and press the START key several times to see if it changes.

Did the INSTRUCTION ADDRESS change?

Y N

041

This is a wait condition.

Key in QDP and press ENTER

The current program status word (PSW) displays.

To determine if I/O interrupts are enabled, look first at the C bit in the CMWP field:

- C = 1 indicates EC (extended control) mode. When in EC mode, PSW bit 6 (the I bit) is the I/O mask bit. I/O interrupts are enabled when the I/O mask bit is set to 1.
- C = 0 indicates BC (basic control) mode. When in BC mode, PSW bits 0 through 5 are the channel mask bits (one for each channel). When any of these bits are 1, I/O interrupts are enabled on that channel.

(Step 041 continues)

1
0
Z

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SEQ101F MAP 0000-7

(Step 041 continued)
Are I/O interrupts enabled?

Y N

042

PSW bit 7 (the E bit) is the external mask bit. External interrupts are enabled when the external mask bit is set to 1.

Are external interrupts enabled?

Y N

043

The system is in a hard wait.

To run processing unit diagnostic tests (basics and MSMDs),

Go to Page 17, Step 108, Entry Point G.

044

The PSW indicates that the program is waiting for an external interrupt.

NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

To see if this is a normal programmed condition:

1. Key in QON and press ENTER.
2. Press the START key to put the processing unit back in the OPERATING status.
3. Press the INTR key on the console keyboard.

If this was a normal programmed condition, processing will continue.

Did processing continue?

Y N

A A A
A B C

045

To run processing unit diagnostic tests (basics and MSMDs),

Go to Page 17, Step 108, Entry Point G.

046

Go To Map 0001, Entry Point A.

047

This is a wait condition with I/O interrupts enabled.

- If you know which device failed to interrupt, use device maintenance procedures (such as OLTs or FRIEND) to repair.
- If you do not know which device failed to interrupt or if you suspect a processor failure, continue with the next steps to run diagnostic tests.

NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

Run the BASIC diagnostic tests on the DIAG1 diskette:

1. Ensure that the CE MODE switch is set to ON.
2. Insert the DIAG1 diskette.
3. Press the MODE SEL key, and the GENERAL SELECTION screen displays.
4. Press and hold the ALT key and operate the MODE SEL key. The DIAGNOSTIC MODE SELECTION screen displays.
5. Select the B option. The system responds with ENTER TEST ID(S).
6. Key in B1 and press ENTER.

(Step 047 continues)

(Step 047 continued)

Run time is about 6 minutes. Normal end is indicated by a SELECTED TESTS D001 TO D2FF PROCESSED message. A reference code with a 'UU' field (UUrrrris) of '5x', '6X', or 'EX' is the expected failure indication.

Observe the lower left corner of the screen while tests are running. TEST IDs (Dxxx) should change often while tests are running.

Is a reference code displayed on the screen?

Y N

048

NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

Run the MSMDs:

1. Ensure that the CE MODE switch is set to ON and insert the DIAG4 diskette.
2. Press and hold the ALT key and press the DIAG (MODE SEL) key. The DIAGNOSTIC MODE SELECTION screen is displayed.
3. Select option G.

Run time is about 7 minutes. Normal end is indicated by a END OF MSMDs message. A reference code with a 'UU' field (UUrrrris) of '4X', '5x', '6X', or 'EX' is the expected failure indication.

Is a reference code displayed on the screen?

Y N

I O A
O O A
D E F

A
F

049

Run the ST4300 system test:

1. Ensure that the FUNCT diskette is inserted.
2. Press the PWR ON/IML switch to perform an SP IML.
3. Display the program load screen: key in QL and press ENTER. (Ensure that 370 MODE is set. If it is not, enter QLIW1 to set it.)
4. IML the processing unit: key in an M and press ENTER. (IM if QLIW1 was entered.)
5. Ensure that all I/O devices that were active when the failure occurred are ready and enabled.
6. Run the ST4300 system test. (For run information, see the 'System Test' section of the MI manual.)

Did ST4300 sense the failure?

Y N

050

The failure is intermittent. An I/O trace may aid in determining which device failed to interrupt if the failure occurs with I/O trace set.

SET I/O TRACE:

1. Key in QA+ and press ENTER.
2. Key in QAWW and press ENTER.
3. Key in QAWO and press ENTER. (NOTE: alpha O)

With I/O trace set, IPL and start the failing job again.

Did the job fail again?

Y N

I O A
O O A
G H J

A A
H J
9 9

MAP CODE 0000FXXX

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051

The failure is intermittent. When you make your CE log entry in the next steps, record that I/O trace is set and direct the next repair action to this point in the MAPs to display the I/O trace.

Go To Map 0001, Entry Point A.

052

NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the the new symptom.

DISPLAY THE I/O TRACE:

1. Press the STOP key.
2. Press the RESET key (on the keyboard).
3. Press the MODE SEL key. The GENERAL SELECTION screen is displayed.
4. Key in QDTP and press ENTER.
The first I/O trace screen is displayed. Copy this screen (to be used when communicating with your support structure). (For information on how to copy screens, see the Service Aids section of the MI manual.)
5. Press and hold the ALT key and press the 'Page Up' key. The next I/O TRACE screen is displayed. Copy this screen.
6. Reset the trace function: key in QAN and press ENTER.

To run processing unit diagnostic tests (basics and MSMDs),

Go to Page 17, Step 108, Entry Point G.

S Z A A
5 7 D E
9 9 9 9

SEQ101F MAP 0000-10

053

If ST4300 indicated an I/O device failure, use that device maintenance procedure to make the repair.

If ST4300 indicated any other failure, you will need aid.

Go To Map 0001, Entry Point A.

054

An MSMD test has sensed a failure.

Write the displayed test ID, reference code, MAP name, and FRU list on paper. Go to Entry Point A of the MAP that is indicated.

055

A BASIC test has sensed a failure.

Write the displayed test ID, reference code, MAP name, and FRU list on paper. Go to Entry Point A of the MAP that is indicated.

056

Start the clock:

1. Key in QON and press ENTER
2. Press the START key.

Go to Page 5, Step 029, Entry Point Q.

057

'CHANNEL 0 UNAVAILABLE' is displayed.

Go To Map ED00, Entry Point A.

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SEQ101F MAP 0000-10

058

A message from the system control program (SCP) or a program product (PP) is displayed in the program area of the screen (lines 1 through 20), or printed on the system printer. Look up the message in the manual for your system.

SCP MESSAGE MANUALS:

SCP	MANUAL
DOS/VSE	GC33-5379
VM370	GC20-1808
OS/VS1	GC38-1001
OS/VS2	GC38-1002

Verify that the message is not displayed because of an operational problem as described in the message description.

Does the message indicate a device is not available or not operational (CC=3)?

Y N

059

Does the message indicate a channel control check?

Y N

060

Does the message indicate a channel data check (CDC)?

Y N

061

Does the message indicate any other channel or I/O device failure?

Y N

062

Does the message indicate a Machine Check?

Y N

1
2
A A A A A A
K L M N P Q

063

You have a message from the SCP that does not indicate a channel or I/O device failure or a machine check.

The message may have resulted from a program check, program problem, or processor failure. Before moving to the next step, verify that the customer has followed his problem determination procedures and has kept all needed information.

To run processing unit diagnostic tests,

Go to Page 17, Step 108, Entry Point G.

064

Go to Page 6, Step 029, Entry Point J.

065

You have a message from the SCP that indicates a channel or I/O device failure.

Go to Page 6, Step 029, Entry Point J.

066

A message from the SCP indicates a channel data check. The problem is probably in the indicated control unit. If you cannot repair the problem using the control unit maintenance procedures,

Go to Page 19, Step 115, Entry Point M.

067

NOTE: If the following procedures do not generate the described results, ignore the old symptom and start again at MAP 0000, ENTRY POINT A with the new symptom.

Display the processing unit logout directory:

1. Ensure that the CE MODE switch is set to ON.
2. Press the MODE SEL key.
3. Key in QECD and press ENTER.

(Step 067 continues)

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EC 379829 PEC 379827

SEQ101F MAP 0000-11

A
K
I

MAP CODE 0000FXXX

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(Step 067 continued)

A reference code may have been logged at the time of failure indicating a SUCCESSFUL RETRY or SUCCESSFUL CC=1 ON I/O.

NOTE: IF YOU ARE NOT SURE ABOUT THE TIME STAMP, ANSWER THE NEXT QUESTION 'NO.'

Was such a RC logged at the time of failure?
Y N

068
Go to Page 18, Step 114, Entry Point D.

069
Write this reference code on paper.

Go to Page 14, Step 088, Entry Point C.

070
NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

DISPLAY THE UCW COMPRESSED DIRECTORY:

1. Ensure that the CE MODE switch is set to ON and press the MODE SEL key. The GENERAL SELECTION screen is displayed.
2. Key in QDUC and press the ENTER key. The UCW COMPRESSED DIRECTORY is displayed.

Is the device address (cuu) in the directory?
Y N

071
Configure the device using the 'UCW Assignment Procedure' in the 'Service Aids' section of the MI manual. IML and IPL again: key in QLM and press ENTER.

Go To Map 0001, Entry Point A.

A
R

N O A
4 5 R

SEQ101F MAP 0000-12

072
Verify that the device and control unit are ready and enabled.

Go to Page 19, Step 115, Entry Point M.

073
Go To Map F003, Entry Point T.

074
NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

Run the MSMDs:

1. Insert the DIAG4 diskette and ensure that the CE MODE switch is set to ON.
2. Press the MODE SEL key. The GENERAL SELECTION Screen is displayed.
3. Press and hold the ALT key and press the MODE SEL key. The DIAGNOSTIC MODE SELECTION Screen is displayed.
4. Select the G option.

Run time is about 7 minutes. Normal end is indicated by END OF MSMDs message. A reference code with a 'UU' field (UUrrris) of '4X', '5x', '6X', or 'EX' is the expected failure indication.

Is a reference code displayed?
Y N

075
Is this a console display failure?
Y N

076
Output data is missing or not valid. This is probably an I/O device failure, use the device maintenance procedures to repair.

1 1
3 3
A A
S T

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SEQ101F MAP 0000-12

J 3
K 3
M 4
A 1
A 2

MAP CODE 0000FXXX

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077
Go To Map F003, Entry Point T.

078
An MSMD test has sensed a failure.

Write the displayed test ID, reference code, MAP name, and FRU list on paper. Go to Entry Point A of the MAP that is indicated.

079
An IPL failure is indicated.

Go to Page 21, Step 125, Entry Point K.

080
'CLOCK STOP' is displayed. Do not reset the clock stop condition.

Go to Page 16, Step 101, Entry Point E.

081
You have no Reference Code, the BASIC CHECK indicator is on and the CE MODE switch is set to NORMAL.

Check for an operating console:
As you watch the console display screen for changes, first press the RESET key, then the MODE SEL key, and then the CHG DPLY key.
If the screen changes, the console is operational.

Is the console operational?

Y N

082
The console is not operational.

Go To Map F000, Entry Point A1.

083
You have these symptoms: a BASIC CHECK, NO RC, and POWER COMPLETE is ON.

Go To Map F000, Entry Point A.

B 2
C 2
D 2

SEQ101F MAP 0000-13

084
'INVALID PROCESSOR ID' is displayed.

Go To Map F600, Entry Point A.

085
Go To Map ED00, Entry Point A.

086
A reference code (RC) is displayed or reported by the customer. Write the RC on paper.

(Entry Point R)

Check for an operating console:
As you watch the console display screen for changes, first press the RESET key, then the MODE SEL key, and then the CHG DPLY key.
If the display screen does not change, the console is failing.

Is the console failing?

Y N

087

Is the UU-field 'F6' (UUrrris)?

Y N

1 1 1
4 4 4
A A A
U V W

A
W
1
3

MAP CODE 0000FXXX

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088

(Entry Point C)

WARNING: If the customer is using the 4341, do not invoke PUMA. Instead use 'QEI' as described in Step 001, NOTE 2, Page 2.

NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

Run the processing unit maintenance algorithm (PUMA):

1. Ensure that the CE MODE switch is set to ON.
2. Press the MODE SEL key. The GENERAL SELECTION screen is displayed.
3. Press and hold the ALT key and press the DIAG (MODE SEL) key. The DIAGNOSTIC MODE SELECTION screen is displayed.
4. Press only the ENTER key to select the PUMA. The PUMA requests that the reference code be entered.
5. Key in the reference code and press ENTER.

Is a processing unit power down message displayed?
Y N

089

Follow the displayed instructions.

NOTES:

1. A FRU list generated by PUMA replaces any other FRU list.
2. Go to the MAP that PUMA indicates.
If PUMA does not specify a MAP Entry Point, go to Entry Point A of the MAP indicated.

A
X

A
2
A
U
1
3
A
V
1
3
A
X

SEQ101F MAP 0000-14

090

Power-on the processing unit:

1. Press the MODE SEL key. The GENERAL SELECTION screen is displayed.
2. Key in QMW and press ENTER
The PARTIAL POWER UP AND DOWN screen displays.
3. Key in 00 00 and press the ENTER key.

Power on takes about 30 seconds. The system responds with ACTION DONE.

Go to Step 088, Entry Point C.

091

Go To Map F600, Entry Point A.

092

Is this the second pass through this path?
Y N

093

We shall attempt to reset the console.

Go to Page 16, Step 098, Entry Point S.

094

Ignore the reference code, and answer 'NO' to the Reference Code question at Entry Point A.

Go to Page 2, Step 001, Entry Point A.

095

Do you have FRUs with you?

Y N

1
5
A
Y
1
5
A
Z

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SEQ101F MAP 0000-14

A
Z
1
4

MAP CODE 0000FXXX

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096

(Entry Point T)

Find the Reference Code for the most recent failure (if one is available) by doing the following.

1. Ensure that the functional diskette is installed, and that the CE MODE switch is in the ON position.
2. Press the MODE SEL key and the GENERAL SELECTION screen displays.
3. Key in PA and press ENTER. The PROBLEM ANALYSIS OPTION screen displays.
4. Key in a 7 and press ENTER. The CARD LOCATIONS AND PART NUMBERS screen displays.

NOTE: If there was a System Reference Code for the most recent failure, it shows on the bottom right of the screen next to the 'PAnn' number (RC=XXXXXXXX).

5. If there is a System Reference Code displayed, write it on paper.
6. Place the CE MODE switch to the NORMAL position.

Go to Page 2, Step 002, Entry Point H.

A
Y
1
4

SEQ101F MAP 0000-15

097

To find the locations of these FRUs, do the following.

1. Ensure that the functional diskette is installed, and that the CE MODE switch is in the ON position.
2. Press the MODE SEL key and the GENERAL SELECTION screen displays.
3. Key in PA and press ENTER.
4. When the PROBLEM ANALYSIS OPTION screen displays, key in a 7 and press ENTER.
5. When the CARD LOCATIONS AND PART NUMBERS screen displays, key in the 'PAnn' (from the ERROR CODE that the customer called in) and press ENTER. The FRU list is intensified, and the FRU replacement order is shown by a preceding * and number.
6. Check your FRU part numbers with the part numbers on the screen (intensified), and write the card locations on paper.

Go To Map 5040, Entry Point A.

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EC 379829 PEC 379827
SEQ101F MAP 0000-15

098

(Entry Point S)

NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

The following procedure resets the console.

1. Ensure that all control unit LOCAL/REMOTE switches are set to LOCAL.
2. Press the POWER OFF key on the OCP.
3. Ensure that the CE MODE switch (CE Panel) is set to ON.
4. Press the CE Panel POWER-ON switch.
5. After the PARTIAL POWER UP DOWN screen displays, key in '00 00' and press ENTER.

In about 30 seconds the machine will respond with 'ACTION DONE' displayed.

Was 'ACTION DONE' displayed?

Y N

099

Use the new symptoms, and

Go to Page 2, Step 001, Entry Point A.

100

Press the MODE SEL key.

Go to Page 13, Step 086, Entry Point R.

101

(Entry Point E)

Before running diagnostic tests, use the procedure shown below to display the CSAR backup trace (QVAB). CSAR backup contains the addresses of the last 32 microwords that have executed.

NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

DISPLAY CSAR BACKUP:

1. Ensure that the CE MODE switch set to ON.
2. Press MODE SEL. The GENERAL SELECTION screen is displayed.
3. Key in QOC and press ENTER. This sets C-STEP mode.
4. Key in QVAB and press ENTER. Addresses of the last 32 microwords that have executed are displayed.

Copy the QVAB screen so that the information is available for analysis later (with possible aid from your support structure) if the diagnostic tests do not sense the failure. (For information on how to copy screens, see the Service Aids section of the MI manual.)

(Entry Point F)

NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

(Step 101 continues)

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SEQ101F MAP 0000-16

MAP CODE 0000FXXX

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(Step 101 continued)
Run the MSS diagnostic tests:

1. Ensure that the LOCAL/REMOTE switches on all I/O control units are set to LOCAL.
2. Set the CE MODE switch to NORMAL and press the POWER OFF key on the CE Panel. The POWER IN PROCESS indicator goes off inside of 30 seconds.
3. Insert the DIAG4 diskette and press the POWER ON/IML switch on the OCP. The basic MSS diagnostic tests execute automatically.

Did the MSS DIAGNOSTIC SELECTION screen appear in 30 seconds?

Y N

102

Is the BASIC CHECK indicator on ?

Y N

103

Go To Map F000, Entry Point B.

104

Go To Map 0200, Entry Point A.

105

To run the SP extended and optional DDA/Drive MSS Diagnostics, key in A0 and press ENTER.

When done, they sound the audible alarm, and position the cursor for a new selection.

Is a reference code displayed on the screen WITHIN 2 minutes?

Y N

106

Is 'TESTxx RUNNING' displayed on the screen AFTER 2 minutes?

Y N

1 1
8 8
B B
A B C

B
C

SEQ101F MAP 0000-17

107

To run the optional console/printer diagnostics, key in C0 and press ENTER.

When done, they sound the audible alarm, and position the cursor for a new selection.

Is a reference code displayed on the screen WITHIN 2 minutes?

Y N

108

(Entry Point G)

NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

Insert the FUNCT Diskette and press the POWER ON/IML key. The POWER COMPLETE indicator turns on.

Run the processing unit BASIC diagnostic tests:

1. Ensure that the CE MODE switch is set to ON.
2. Insert the DIAG1 Diskette.
3. Press and hold the ALT key and press the MODE SEL key. The DIAGNOSTIC MODE SELECTION Screen is displayed.
4. Select the F option.

Run time is about 26 minutes. Normal end is indicated by a BASIC DIAGNOSTICS ENDED message. A reference code with a 'UU' field (UUrrrris) of '5x', '6x', or 'Ex' is the expected failure indication.

Observe the lower left corner of the screen while (Step 108 continues)

1 8
B B
D

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SEQ101F MAP 0000-17

B B B
A B D
1 1 1
7 7 7

MAP CODE 0000FXXX

SEQ101F MAP 0000-18

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(Step 108 continued)
tests are running. TEST IDs (Dxxx) should
change often while tests are running.

Is a reference code displayed on the screen ?

Y N

109
Go to Page 19, Step 115, Entry Point M.

110
Write the new reference code, extension, FRU
list, DIAG. EC number, and TEST ID on the
paper pad.

Go to the Map=XXXX displayed on the
screen, or to Map 5040 if no Map=XXXX is
displayed, for FRU replacement procedure.

Go To Map XXXX, Entry Point A.

111
Follow the instructions on the console display.

112
Go To Map F000, Entry Point F.

113
Follow the instructions on the console display.

114

(Entry Point D)

NOTE: If the following procedures do not generate the
described results, ignore the old symptoms and start
again at MAP 0000, ENTRY POINT A with the new
symptom.

Ensure that the CE MODE switch is set to ON and run
the clock diagnostic tests:

1. Insert the DIAG1 Diskette.
2. Press the MODE SEL key. The GENERAL SELECTION
screen is displayed:
3. Press and hold the ALT key and press the MODE SEL
key. The DIAGNOSTIC MODE SELECTION Screen is
displayed.
4. Select the B option. The system responds with
ENTER TEST ID(S).
5. Key in B1 and press ENTER.

Run time is about 6 minutes. Normal end is indicated
by a SELECTED TESTS D001 TO D2FF PROCESSED
message. A reference code with a 'UU' field (UUrrrris)
of '5x', '6x', or 'Ex' is the expected failure indication.

Observe the lower left corner of the screen while tests
are running. TEST IDs (Dxxx) should change often while
tests are running.

Is a reference code displayed on the screen?

Y N

2 1
O B
D B
E F

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SEQ101F MAP 0000-18

B
H
J

MAP CODE 0000FXXX

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115

(Entry Point M)

NOTE: If the following procedures do not generate the described results, ignore the old symptoms and start again at MAP 0000, ENTRY POINT A with the new symptom.

Run the MSMDs:

1. Install the DIAG4 diskette and ensure that the CE MODE switch is set to ON.
2. Press the MODE SEL key. The GENERAL SELECTION screen is displayed.
3. Press and hold the ALT key and press the MODE SEL key. The DIAGNOSTIC MODE SELECTION Screen is displayed.
4. Select the G option to run all MSMDs.

Run time is about 7 minutes. Normal end is indicated by an END OF MSMDs message. A reference code with a 'UU' field (UUrrris) of '4x', '5x', '6x', or 'Ex' is the expected failure indication.

Is a reference code displayed on the screen?

Y N

116

The PU diagnostic tests have sensed no failure.

Do you suspect a channel or I/O device failure?

Y N

NOBON
B B
H J

B B
H J

SEQ101F MAP 0000-19

117

Using the diagnostics, you can not make the problem occur again.

The diagnostics can not isolate the problem or there is a micro-code problem.

This may also be an intermittent problem and if it occurs again you will need aid. Make an entry in the CE LOG screen.

Go-To Map 0001, Entry Point A.

118

(Entry Point B)

The following procedure tests the suspected channel.

RUN THE CHANNEL CWT:

1. Exchange the standard channel terminators on the suspected channel with the cable wrap terminators, P/N 8483772 (BUS) - P/N 8483773 (TAG).

WARNING:

If a Channel Switching Unit is attached to the channel being tested, place the Cable Wrap Terminators in the channel-side BUS/TAG OUT I/O connector positions, and not in the switched-side I/O connector positions.

For more information, use the attached switching unit's maintenance documentation.

2. Ensure that the DIAG4 diskette is installed and that the CE MODE switch is set to ON.
3. Press and hold the ALT key and press the DIAG (MODE SEL) key. The DIAGNOSTIC MODE SELECTION screen is displayed.
4. Select option B.
5. Key in M7 (test ID) and press ENTER.
The SPECIAL CHANNEL TESTS SELECTION screen is displayed when CS load 7 is loaded (about 3 minutes).
(Step 118 continues)

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EC 379829 PEC 379827

SEQ101F MAP 0000-19

(Step 118 continued)

- 6. Select option 02 and follow the displayed instructions.
- 7. For possible later use, record the test ID and option that you have selected.

Did the channel CWT sense a failure?

Y N

119

Use the procedure below to run the channel command device exerciser (CMDE) on the suspected channel.

For additional information, see 'Channel Command Device Exerciser (CMDE) in the 'Diagnostic Information' section of the MI manual.

RUN THE CMDE:

- 1. Remove the cable wrap terminators and put the standard system terminators back on the suspected channel.
- 2. Ensure that the DIAG4 diskette is inserted and that the CE MODE switch is set to ON.
- 3. Press and hold the ALT key and press the DIAG (MODE SEL) key. The DIAGNOSTIC MODE SELECTION screen is displayed.
- 4. Key in B and press the ENTER key.
- 5. When the system responds with ENTER TEST ID, key in M7 and press the ENTER key.

The SPECIAL CHANNEL TESTS SELECTION screen is displayed when CS load 7 is loaded (about 3 minutes).

- 6. Select option 01 and follow the displayed instructions.
- 7. For possible later use, record the test ID and option that you have selected.

(Step 119 continues)

B
K

B B B
E G K
1 1 1
8 9

(Step 119 continued)

Did the channel CMDE sense a failure?

Y N

120

The failure is intermittent. Using the device maintenance package, attempt to repair the machine. If you can not solve the problem, make an entry in the CE log.

Go To Map 0001, Entry Point A.

121

Using the device maintenance package and CMDE, attempt to solve the problem. If you can not repair the problem,

Go To Map 0001, Entry Point A.

122

The channel CWT has sensed a failure.

Go To Map 6500, Entry Point B.

123

Write the new reference code, extension, FRU list, DIAG. EC number, and TEST ID on the paper pad.

Go to the Map=XXXX displayed on the screen, or to Map 5040 if no Map=XXXX is displayed, for FRU replacement procedure.

Go To Map XXXX, Entry Point A.

124

Write the new reference code, extension, FRU list, DIAG. EC number, and TEST ID on the paper pad.

Go to the Map=XXXX displayed on the screen, or to Map 5040 if no Map=XXXX is displayed, for FRU replacement procedure.

Go To Map XXXX, Entry Point A.

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EC 379829 PEC 379827

SEQ101F MAP 0000-20

125

(Entry Point K)

Is 'LONG IPL PROCEEDING' displayed on the screen?

Y N

126

Is 'IPL PSW FORMAT ERROR' displayed on the screen?

Y N

127

Is 'IPL DEVICE UNAVAIL - SEL IN' displayed on the screen?

Y N

128

Is 'IPL I/O ERROR US/CS = xxxx' displayed on the screen?

Y N

129

Is 'IPL I/O ERROR' displayed on the screen?

Y N

130

Go to Page 22, Step 136, Entry Point L.

131

'IPL I/O ERROR' is displayed. This can indicate one of the following:

- The specified IPL device address is not correct. Verify this on the PROGRAM LOAD screen (QL).
- The IPL device has no UCW. Verify this on the UCW DIRECTORIES DISPLAY screen. To display this screen, ensure that the CE MODE switch is set to ON, press the MODE SEL key, key QDUC and press ENTER.

Configure the device by using the 'UCW' (Step 131 continues)

(Step 131 continued)
Assignment Procedure' in the Service Aids section of the Maintenance Information (MI) manual. IML and IPL again.

- The IPL record is not valid. Verify that the correct tape, disk, or cards are loaded. To determine if an IPL record has been damaged, use a backup IPL file.

If the message continues to be displayed, Go to Page 22, Step 136, Entry Point L.

132

'IPL I/O ERROR US/CS = xxxx' is displayed.

This indicates that the IPL device failed. Unit and channel status is displayed (xxxx). If US/CS = 0200, ensure that the IPL device is ready and enabled.

If the message continues to be displayed, Go to Page 22, Step 136, Entry Point L.

133

'IPL DEVICE UNAVAIL - SEL IN' is displayed.

This indicates that the IPL device may not be attached. Verify that the device is powered-up, enabled, and attached to the system (through switching units, if installed).

If the message continues to be displayed, Go to Page 22, Step 136, Entry Point L.

134

'IPL PSW FORMAT ERROR' is displayed.

This indicates that the PSW loaded during the IPL is not valid. Look at the PROGRAM LOAD screen (QL) and verify that the IPL device address is correct. Also verify that the correct tape, disk, or cards are loaded in the IPL device.

If the message continues to be displayed, Go to Page 22, Step 136, Entry Point L.

B
L
2
1

MAP CODE 0000FXXX

SEQ101F MAP 0000-22

PAGE 22 OF 22

135

A long chain of CCWs is executed during an IPL operation. 'LONG IPL PROCEEDING' is displayed after about 12 seconds. This may be a normal condition, and indicates an error only if the message remains displayed beyond a reasonable length of time.

If you suspect an error during IPL, press the MODE SEL key to stop the operation and
Go to Step 136, Entry Point L.

136

(Entry Point L)

The IPL device or channel may be failing. If possible, attempt an IPL from a different device on the same channel. (If a different device on the same channel is not available, answer 'NO' to the next question.)

Was IPL OK from a different device on the same channel?

Y N

137

If possible, attempt an IPL using a different channel. (If you cannot IPL from a different channel, answer 'NO' to the next question.)

Was IPL OK on a different channel?

Y N

138

To verify the processing unit and channels,
Go to Page 18, Step 114, Entry Point D.

139

Using the original IPL channel ID, isolate the failure to the channel, cables or control unit.
Go to Page 18, Step 114, Entry Point D.

140

The IPL device is failing. Use the I/O device maintenance procedures to repair.

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EC 379829 PEC 379827

SEQ101F MAP 0000-22

COMMON EXIT MAP

PAGE 1 OF 2

001
** FROM FUNCTIONAL UNIT MAPS **

(Entry Point A)

Is the machine still failing?

Y N

002

1. Ensure that the FUNCT diskette is installed and that the CE MODE switch is in the NORMAL position.
2. Press the POWER ON/IML switch on the OCP.
3. When the POWER COMPLETE indicator comes ON, set the CE MODE switch to ON and press the MODE SEL key.

Was the failure intermittent?

Y N

003

The following procedure first saves, then purges, the PU Logout Directory.

1. Key in QL and press ENTER. (This displays the Program Load screen.)
2. Record the COPY key selection, shown on the screen, (so that it can be put back later). Key in KD and press ENTER (this allows copying screens into the saved screens area of the FUNCT diskette).
3. Display the Saved Screens List screen: Key in QEWT and press the ENTER key. Ensure that there are no more than 3 Saved Screens List screens. (Erase screens if necessary.)
4. Display the Processing Unit Directory Logout file: Press the MODE SEL key, key in QECD, and press the ENTER key. If there are entries in the QECD log, do the following.
(Step 003 continues)

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MODEL GROUP 2

(Step 003 continued)

- a. Press the COPY key. This stores the QECD screen in the saved screens area of the FUNCT diskette.
- b. Press the ERASE INPUT key.
- c. Key in CP and press the ENTER key.
- d. Key in P and press ENTER (this purges the logs).

5. Return to the Program Load screen: Press the MODE SEL key, key in QL and press the ENTER key. Key in the COPY key selection, that you recorded above, and press ENTER.

(Entry Point B)

To complete the call:

1. Set the CE MODE switch to NORMAL and ensure that all other switches (including control unit Local/Remote switches) are set to their normal positions. Return all board and machine covers to their normal positions.
2. Ensure that the FUNCT diskette is installed.
3. Press the POWER ON/IML switch on the operator control panel (OCP) to IML the support processor.
4. Start a processing unit IML: Key in QLM and press the ENTER key. The machine may be returned to the customer when 'IML COMPLETE' is displayed.
5. If you have changed the system configuration or UCWs, transfer the UCW and configuration data to the other functional and DIAG4 diskettes.

For information, see Volume 13/16, section 14, 'Module Transfer.'

6. Complete your report. Record your time on the correct unit.

2 2
A B

26Jun82 PN 2676461
EC 379829 PEC 379827
SEQ102F MAP 0001-1

PAGE 2 OF 2

004

Make a CE Log as follows.

Note: For information concerning CE Logs see Volume 13/16, 'Service Aids' section, 'CE Logs.'

1. Key in QEW and press ENTER. (This displays the Saved Screens List Screen.)
2. If a CE log exists for this symptom, key in an E and the two digit Saved Screen number and then press ENTER. When the screen displays, move the cursor to the various fields that are displayed, and update the existing log. Do not press ENTER until you have finished all your entries. Then go to ENTRY POINT B.
3. If this is the first error with this symptom, key in QEWE and press ENTER (if space is available, two blank CE logs display). Move the cursor to the various fields displayed and key in the information describing the repair action that you have done. Do not press ENTER until all your entries have been made.
4. If an error message 'LOG AREA FULL' displays, space must be made available before you make a new log entry.

See Volume 13/16, 'Service Aids' section, 'CE Logs.'

Go to Page 1, Step 003, Entry Point B.

005

Invoke your support structure. When the problem has been repaired, go to Entry Point B to complete the call.

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EC 379829 PEC 379827

SEQ102F MAP 0001-2

HWS POWER ENTRY

PAGE 1 OF 9

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0000	A	2	001
0205	C	3	012

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
4	018	F000	A
9	055	0000	A
6	031	0000	A
8	038	0205	C
3	008	0205	D
3	010	0205	E
3	002	0210	A
3	004	0212	A
3	006	0214	A
9	054	0220	A
9	047	0230	A
9	052	0231	A
9	051	0232	A
9	050	0233	A
9	048	0234	A
9	049	0235	A
4	015	0237	A
8	043	0241	A
8	044	0242	A
8	042	0243	A
8	040	0244	A
8	041	0245	A
8	039	0246	A
8	045	0250	A
9	053	0255	A
9	046	0260	A
9	056	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****

```

1. Record the position of all switches on the CE PANEL and any indicators which may be lighted. If a ref code is displayed on the OPERATOR CONTROL PANEL(OCP) record it also.
2. Set the CE MODE switch and CEP POWER OFF switch to NORMAL.
3. Remove power from the machine by placing CB1 and CB2 in the OFF position. Check the cards located in 01AD2 BOARD to ensure they are correctly seated.
4. Check the following cable positions to ensure the connectors are correctly seated.
 - 01AD2Y1
 - 01AD2Z1
 - 01AD2Y2
 - 01AD2Z2
 - 01AD2F3
 - 01AD2F4
 - 01AD2F5
 - 01AB2Z1
 - 01AB2Z5

(Step 001 continues)

02OCT81 PN 8633136
 EC 379814 PEC 379607
 SEQ202 MAP 0200-2

(Step 001 continued)

5. Place CB1 and CB2 in the ON position.

6. CONV. OUTLET PROBLEMS:

PCC CP1 indicator is lighted and/or the CONV. OUTLETS not working. See Map 0207.

(Do not troubleshoot the CONV. OUTLETS if the +24V GREEN INDICATOR is not lighted.)

The following indicators should be lighted on the CE PANEL.

- +5V/PS101 GREEN INDICATOR lighted
- +24V/PS101 GREEN INDICATOR lighted

Are either of the above indicators on the CE PANEL lighted?

Y N

002

Go To Map 0210, Entry Point A.

003

Is the +5V/PS101 GREEN INDICATOR lighted?

Y N

004

Go To Map 0212, Entry Point A.

005

Is the +24V/PS101 GREEN INDICATOR lighted?

Y N

006

Go To Map 0214, Entry Point A.

007

(Entry Point B)

Press the LAMP TEST switch on the CE PANEL.

Are all of the indicators lighted?

Y N

008

Go To Map 0205, Entry Point D.

A

009

(Entry Point D)

Press the LAMP TEST switch on the OPERATOR CONTROL PANEL(OCP) The following indicators should be lighted:

- BASIC CHECK
- POWER COMPLETE
- POWER IN PROCESS

The power related indicators on the CE PANEL should also be lighted.)

Are all of the indicators lighted?

Y N

010

Go To Map 0205, Entry Point E.

011

Press the POWER OFF switch on the OPERATOR CONTROL PANEL(OCP).

If the POWER ON switch is pressed before AMD103 has stopped turning from a prior power on condition, AMD103 and BASIC CHECK indicators will be lighted. A short delay must be maintained between POWER OFF and POWER ON.

Is PS104 CP OPEN INDICATOR lighted, on the CE-PANEL?

Y N

012

(Entry Point C)

Press the POWER ON switch on the OPERATOR CONTROL PANEL(OCP).

Did the system power up correctly?

Y N

9 9 4
B C D

D
3

F

013

Is the CE PANEL BASIC CHECK INDICATOR lighted?
(Verify that the CE MODE switch is in the NORMAL position)

Y N

014

Is the POWER IN PROCESS indicator lighted?

Y N

015

Go To Map 0237, Entry Point A.

016

- Set your CE METER to measure 5Vdc and connect as follows.
Negative test lead to 01AD2B2D08
Positive test lead to 01AD2A1D13
- Press the POWER OFF switch on the CE PANEL.
- Press the POWER ON switch on the CE PANEL and observe the meter. The level should change from less than 0.8Vdc to more than 2.4 volts.

Did the level change as described?

Y N

017

The PC Reset line has a problem. See ALD YA717. Locate position 01AD2A1D13 of Connector Y1 and complete repair using ALD.

018

Go To Map F000, Entry Point A.

019

Is REF. CODE displayed?

Y N

9
E F

020

```
#####
##### CE PANEL #####
##### LIST 1 #####
#####
% %
% %
% -5V PS104 VOLT FAIL %
% +5V PS104 VOLT FAIL %
% +8.5V PS104 VOLT FAIL %
% +12V PS104 VOLT FAIL %
% -12V PS104 VOLT FAIL %
% %
% %
-----
```

Are all 5 indicators in List 1 lighted?

Y N

021

```
#####
##### CE PANEL #####
##### LIST 2 #####
#####
% %
% %
% AFS 103 FAIL %
% %
% %
-----
```

Is the indicator in list 2 lighted?

Y N

9 9 5
G H J

(Step 028 continued)

026

```
#####
##### CE PANEL #####
##### LIST 7 #####
#####
%                               %
%                               %
%   +12 PS104 VOLT FAIL   %
%                               %
%                               %
```

Is the indicator in list 7 lighted?

Y N

027

```
#####
##### CE PANEL #####
##### LIST 8 #####
#####
%                               %
%                               %
%   +24V PS101 VOLT FAIL   %
%                               %
%                               %
```

Is the indicator in list 8 lighted?

Y N

028

```
#####
##### CE PANEL #####
##### LIST 9 #####
#####
%                               %
%                               %
%   TH SW TR104/         %
%   01A-B2 BOARD         %
%                               %
%                               %
```

(Step 028 continues)

Is the indicator in list 9 lighted?

Y N

029

```
#####
##### CE PANEL #####
##### LIST 10 #####
#####
%                               %
%                               %
%   AMD 103 FAIL         %
%                               %
%                               %
```

Is the indicator in list 10 lighted?

Y N

030

```
#####
##### CE PANEL #####
##### LIST 11 #####
#####
%                               %
%                               %
%   PS104 CP OPEN       %
%                               %
%                               %
```

Is the indicator in list 11 lighted?

Y N

031

Press the CHECK RESET switch.
Go To Map 0000, Entry Point A.

V
6

MAP CODE 0200XXXX

Y

SEQ202

MAP 0200-7

PAGE 7 OF 9

032

034

Check PS104 for the CIRCUIT PROTECTOR
which is in the OFF position.

```
#####
##### PS104 #####
##### LIST 12 #####
#####
%                               %
%                               %
% PS104 CP 1                   %
%                               %
%                               %
%                               %
%                               %
-----
```

Is the CIRCUIT PROTECTOR in list 12 in the
OFF position?

Y N

033

```
#####
##### PS104 #####
##### LIST 14 #####
#####
%                               %
%                               %
% PS104 CP 5                   %
%                               %
%                               %
%                               %
%                               %
-----
```

Is the CIRCUIT PROTECTOR in list 14 in the
OFF position?

Y N

8 8
W X Y

```
#####
##### PS104 #####
##### LIST 15 #####
#####
%                               %
%                               %
% PS104 CP 4                   %
%                               %
%                               %
%                               %
%                               %
-----
```

Is the CIRCUIT PROTECTOR in list 15 in the
OFF position?

Y N

035

```
#####
##### PS104 #####
##### LIST 16 #####
#####
%                               %
%                               %
% PS104 CP 3                   %
%                               %
%                               %
%                               %
%                               %
-----
```

Is the CIRCUIT PROTECTOR in list 16 in the
OFF position?

Y N

8 8
8 A A
Z A B

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EC 379814 PEC 379607

SEQ202 MAP 0200-7

A
B
7

MAP CODE 0200XXXX

U W X Z A A
6 7 7 7 A C
7

SEQ202

MAP 0200-8

PAGE 8 OF 9

036

```
#####
##### PS104 #####
##### LIST 17 #####
#####
%                               %
%                               %
% PS104 CP 2                    %
%                               %
%                               %
%                               %
-----
```

Is the CIRCUIT PROTECTOR in list 17 in the OFF position?

Y N

037

```
#####
##### PS104 #####
##### LIST 18 #####
#####
%                               %
%                               %
% PS104 CP 6                    %
%                               %
%                               %
%                               %
-----
```

Is the CIRCUIT PROTECTOR in list 18 in the OFF position?

Y N

038

PS104 CP LIGHT is lighted but the circuit protectors are in the ON position.
Go To Map 0205, Entry Point C.

039

Go To Map 0246, Entry Point A.

A
C

```
040
Go To Map 0244, Entry Point A.

041
Go To Map 0245, Entry Point A.

042
Go To Map 0243, Entry Point A.

043
Go To Map 0241, Entry Point A.

044
Go To Map 0242, Entry Point A.
```

045

Go To Map 0250, Entry Point A.

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 EC 379814 PEC 379607
 SEQ202 MAP 0200-8

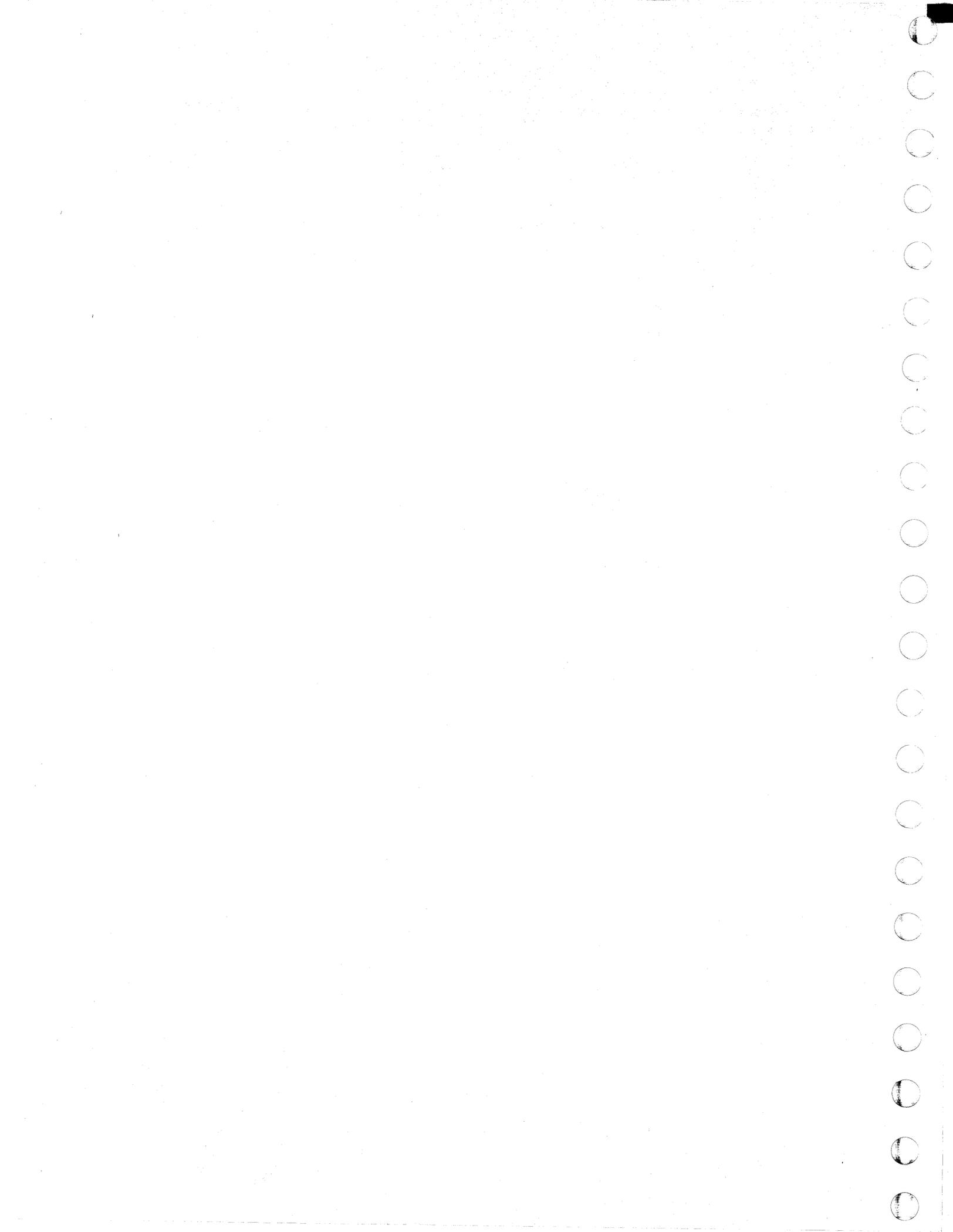
PAGE 9 OF 9

- 046
Go To Map 0260, Entry Point A.
- 047
Go To Map 0230, Entry Point A.
- 048
Go To Map 0234, Entry Point A.
- 049
Go To Map 0235, Entry Point A.
- 050
Go To Map 0233, Entry Point A.
- 051
Go To Map 0232, Entry Point A.

- 052
Go To Map 0231, Entry Point A.
- 053
Go To Map 0255, Entry Point A.
- 054
Go To Map 0220, Entry Point A.
- 055
Go To Map 0000, Entry Point A.
- 056
The problem is intermittent.
Record in the Account Management Record any action taken as a result of the symptoms of this problem. Record such items as the date, FRU's replaced, and any power supply adjustments made.
Note: AMD Failures which occur as intermittent faults may be the result of AMD motors not turning correctly and/or filters which are not clean.
If the Account Management Record indicates an earlier failure of similar symptoms contact your Remote Support Structure for aid.
If Map 0000 indicates your machine contains the CE Log Function, display the information before replacing FRU's. Record action taken as a result of this of this maintenance action.

Go To Map 0290, Entry Point A.

- 057
Set PS104 Circuit Protectors in the ON position.
Press the CHECK RESET switch on the CE-PANEL.
Go to Page 3, Step 012, Entry Point C.



Test CE PANEL

PAGE 1 OF 9

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	C	3	015
0200	D	4	023
0200	E	5	039
0237	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	006	0001	A
9	078	0200	C
3	022	0207	A
2	002	0210	A
9	079	0290	A

001

(Entry Point A)

This map will test the CE PANEL to ensure it is operating correctly.

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

Set the CE MODE switch and CE POWER OFF switch to NORMAL.

(Step 001 continues)

(Step 001 continued)

Are the +5V/PS101 and +24V/PS101 INDICATORS lighted?

Y N

002

Go To Map 0210, Entry Point A.

003

(Entry Point B)

Use the following procedure to check the INITIAL RESET signal. (ALD YA721)

1. Connect oscilloscope probe to 01AD2D2G11.
2. The normal status of the signal is between +2.4Vdc and +5Vdc. Set the oscilloscope as follows:
Vert. scale 2volts
Horz. scale 20millisec.
3. Switch PS101-CP1 off.
4. Allow approximately one minute and reset the PS101 CP1 and observe the oscilloscope.

Did the oscilloscope indicate a pulse going to 0Vdc for a period of approximately 10 milliseconds?

Y N

004

1. Exchange the cards in positions 01AD2D2, 01AD2E2, and 01AD2C4 with new cards.
2. Check the pulse as described in Step 003.

Did the oscilloscope indicate a pulse going to 0Vdc for a period of approximately 10 milliseconds?

Y N

005

See ALD's and locate problem. (Ref: YA721FC14)

Did you locate the problem?

Y N

006

Go To Map 0001, Entry Point A.

A B C

A B C

007

Go to Step 003, Entry Point B.

008

Go to Step 003, Entry Point B.

009

1. Set PCC-CB1 in the OFF position to disconnect power from the machine.
2. Using your CE Meter check the following net:
01AD2C5D09 (ALD YA753)
01AD2D2G11 (ALD YA721)
01AD2E2D07 (ALD YA741)

Was continuity present between the above pins?

Y N

010

Using blue and white wire, wire-wrap a wire to repair the net as needed.

Go to Step 003, Entry Point B.

011

Use the following procedure to check the OSCILLATOR PULSE signal. (ALD YA721)

1. Connect oscilloscope probe to 01AD2D2G06.
2. Place PCC CB1 in the ON position.
3. The signal is a pulse between gnd and +5Vdc.
Set the oscilloscope as follows:
Vert. scale 2volts
Horz. scale 1millisec.

Does the oscilloscope indicate a train of pulses approximately a period of 1.5milliseconds?

Y N

012

Exchange the card in position 01AD2D2
Go to Step 003, Entry Point B.

3
D

D
2

MAP CODE 0205XXXX

PAGE 3 OF 9

013

Set your CE METER to check the 4.4Vdc reference voltage. Connect your meter as follows:(ALD YA721)
Positive test lead 01AD2D3D05
Negative test lead 01AD2D2D08

Did the meter indicate approximately 4.4Vdc?

Y N

014

Exchange the card in position 01AD2D2.
Go to Page 2, Step 003, Entry Point B.

015

(Entry Point C)

The following should be the status of the indicators located on the CE PANEL.

LIGHTED

- +5V/PS101
- +24V/PS101

NOT LIGHTED

- PWR COMPLETE
- PWR IN PROCESS
- BASIC CHECK
- POWER OFF FAILURE
- TH SW TR104/01AB2 BOARD
- PS104 CP OPEN
- PCC CP1 OPEN
- AMD 103 FAIL
- AFS 103 FAIL
- 5V PS104
- +5V PS104
- +8.5V PS104
- +12V PS104
- 12V PS104
- +24V PS101

Are all the indicators as indicated?

Y N

4
E F

F

SEQ205

MAP 0205-3

016

Is the PCC-CP1 indicator lighted?

Y N

017

Observe the status of the following indicators on the CE PANEL.

- PWR COMPLETE
- PWR IN PROCESS
- BASIC CHECK
- TH SW TR104/01A GATE
- PS104 CP OPEN

Are any of the above indicators lighted?

Y N

018

Are either of the following indicators lighted?

- AMD 103 FAIL
- AFS 103 FAIL

Y N

019

Exchange the card located in position 01AD2C4.
Go to Step 015, Entry Point C.

020

Exchange the card located in position 01AD2C2.
Go to Step 015, Entry Point C.

021

Exchange the card in position 01AD2E2.
Go to Step 015, Entry Point C.

022

Go To Map 0207, Entry Point A.

05JUN81 PN 8632905

EC 379607 PEC 379605

SEQ205 MAP 0205-3

F
3

J K

023

(Entry Point D)

Press the LAMP TEST switch on the CE PANEL.

- PWR COMPLETE
- PWR IN PROCESS
- BASIC CHECK
- POWER OFF FAILURE
- TH SW TR104/01AB2 BOARD
- PS104 CP OPEN
- PCC CP1 OPEN
- AMD 103 FAIL
- AFS 103 FAIL
- 5V PS104
- +5V PS104
- +8.5V PS104
- +12V PS104
- 12V PS104
- +24V PS101

Were all of the indicators listed above lighted when the LAMP TEST switch was pressed on the CE PANEL?

Y N

024

Did some of the indicators listed in the above step turn on with the LAMP TEST switch?

Y N

025

1. Connect your CE METER to measure approximately five volts as follows. (ALD YA741)
Positive test lead 01AD2E3D09
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the CE PANEL and observe the meter.

Did the meter indicate a level greater than 2.4Vdc?

Y N

Y N
Y N
Y N

5 5
G H J K

026

1. Connect your CE Meter to measure approximately five volts as follows.(ALD YA715)
Positive test lead 01AD2F6A02
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the CE PANEL and observe the meter.

Did the meter indicate a level greater than 2.4Vdc?

Y N

027

1. Connect your CE Meter to measure approximately five volts as follows.
Positive test lead CE PANEL CONN03-D11
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the CE PANEL and observe the meter.

Did the meter indicate a level greater than 2.4Vdc?

Y N

028

Exchange the printed circuit board which is located in the CE PANEL.
Go to Step 023, Entry Point D.

029

Exchange the flat cable which connects to CONN03 on the CE PANEL
Go to Step 023, Entry Point D.

030

The tests you have made indicate a net is broken on the 01AD2 BOARD. Using blue and white wire, wire wrap a wire between the following points. (Disconnect power from the machine before making repair action)
01AD2F6A02 to 01AD2E3D09
Go to Step 023, Entry Point D.

031

Exchange the card in 01AD2E2 position.
Go to Step 023, Entry Point D.

H
4

MAP CODE 0205XXXX

PAGE 5 OF 9

032

1. Disconnect power from the machine by placing PCC CB1 in the OFF position.
2. Using your CE Meter continuity check the following following net.

- 01AD2E3D12 (ALD YA741)
- 01AD2C2B03 (ALD YA761)
- 01AD2C4D09 (ALD YA751)
- 01AD2C5B08 (ALD YA751)

Was a break in the net found?

Y N

033

1. Reset PCC CB1.
2. The following indicators should be lighted on the CE PANEL when the LAMP TEST switch is pressed.

- PWR COMPLETE
- PWR IN PROCESS
- BASIC CHECK
- TH SW TR104/01AB2 BOARD
- PS104 CP OPEN
- PCC CP1 OPEN

Are the above indicators lighted?

Y N

034

Exchange the card located in position 01AD2E2.
Go to Page 4, Step 023, Entry Point D.

035

Are all the following indicators lighted on the CE PANEL when the LAMP TEST switch is pressed?

- AMD 103 FAIL
- AFS 103 FAIL

Y N

036

Exchange the card located in position 01AD2C2.
Go to Page 4, Step 023, Entry Point D.

037

Exchange the card located in position 01AD2C4.
Go to Page 4, Step 023, Entry Point D.

L

G L
4

SEQ205

MAP 0205-5

038

The tests you have made indicate a net is broken. Using blue and white wire, wire wrap a wire between the points in the net which did not indicate continuity. Go to Page 4, Step 023, Entry Point D.

039

(Entry Point E)

Press the LAMP TEST switch on the OPERATOR CONTROL PANEL(OCP). The following indicators should light when the switch is pressed. (If the OCP is located such that the CE PANEL cannot be observed, obtain aid to press the switch.)

- PWR COMPLETE
- PWR IN PROCESS
- BASIC CHECK
- POWER OFF FAIL
- TH SW TR104/01AA2 BOARD
- PS104 CP OPEN
- PCC CP1 OPEN
- AMD 103 FAIL
- AFS 103 FAIL
- 5V PS104
- +5V PS104
- +8.5V PS104
- +12V PS104
- 12V PS104
- +24V PS101

Were all of the indicators listed above lighted on the CE PANEL with the OPERATOR CONSOLE PANEL LAMP TEST switch pressed?

Y N

6 6
M N

05JUN81

PN 8632905

EC 379607

PEC 379605

SEQ205

MAP 0205-5

N
5

MAP CODE 0205XXXX

PAGE 6 OF 9

040

1. Connect your CE Meter to measure approximately five volts as follows.(ALD YA723)
Positive test lead 01AD2D2M08
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the OPERATOR CONSOLE PANEL and observe the meter.

Did the meter indicate a level greater than 2.4Vdc?

Y N

041

1. Connect your CE Meter to measure approximately 24Vdc as follows.(ALD YA723)
Positive test lead 01AD2D2P06
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the OPERATOR CONSOLE PANEL and observe the meter.

Did the meter indicate a level of approximately 24Vdc?

Y N

042

1. Disconnect power from the machine by tripping PCC CB1.
2. Remove the keyboard from the OCP.
3. See logic ALD YA785 and continuity check the LAMP TEST switch circuit. Connect the meter as follows:
DISPLAY TERMINAL CONNJ2-010
DISPLAY TERMINAL CONNJ2-015

When the LAMP TEST switch is pressed, does the meter indicate continuity?

Y N

043

Exchange the SWITCH AND LED ASSEMBLY in the OCP KEYBOARD.
Go to Page 5, Step 039, Entry Point E.

P Q R

M P Q R
5

SEQ205

MAP 0205-6

044

The tests you have made indicate a problem in one of the connecting cables. Continuity check the cables and repair the problem.
See logic ALD YA785.
Go to Page 5, Step 039, Entry Point E.

045

Exchange the card in position 01AD2D2
Go to Page 5, Step 039, Entry Point E.

046

The tests you have made indicate a net is broken on the 01AD2 BOARD. Using blue and white wire, wire wrap a wire between the following points. (Disconnect power from the machine before making repair action)
01AD2D2M08 to 01AD2E2J09
Go to Page 5, Step 039, Entry Point E.

047

The following OPERATOR CONSOLE PANEL KEYBOARD INDICATORS should light when the LAMP TEST switch is pressed on the OPERATOR CONSOLE
PWR IN PROCESS
PWR COMPLETE
BASIC CHECK
Press the LAMP TEST switch and observe the indicators.

Did all the above indicators light?

Y N

048

Press the LAMP TEST switch on the OPERATOR CONSOLE PANEL and observe the PWR COMPLETE indicator on the OPERATOR CONSOLE PANEL.

Did the PWR COMPLETE indicator light?

Y N

9 7 7
S T U

05JUN81

PN 8632905

EC 379607

PEC 379605

SEQ205

MAP 0205-6

U
6

MAP CODE 0205XXXX

PAGE 7 OF 9

049

1. Connect your CE Meter to measure approximately 5Vdc as follows.(ALD YA741)
Positive test lead 01AD2E2J13
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the OPERATOR CONSOLE PANEL Keyboard and observe the meter.

Did the meter indicate a level greater than 2.4Vdc?

Y N

050

Exchange the card in 01AD2E2 position.
Go to Page 5, Step 039, Entry Point E.

051

1. Connect your CE METER to measure approximately 5Vdc as follows.(ALD YA721)
Positive test lead 01AD2D2D10
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the OPERATOR CONSOLE PANEL Keyboard and observe the meter.

Did the meter indicate a level greater than 2.4Vdc?

Y N

052

The tests you have made indicate a net is broken on the 01AD2 BOARD. Using blue and white wire, wire wrap a wire between the following points. (Disconnect power from the machine before making repair action)
01AD2D2D10 to 01AD2E2J13
Go to Page 5, Step 039, Entry Point E.

053

1. Connect your CE METER to measure approximately 24Vdc as follows.(ALD YA721)
Positive test lead 01AD2D2B09
Negative test lead 01AD2D2D08

Does the meter indicate a level of approximately 24Vdc?

Y N

V W

T V W
6

SEQ205

MAP 0205-7

054

The tests you have made indicate a problem in one of the connecting cables. Continuity check the cables and repair the problem.
See logic ALD YA785(YA713FD1 -OCP LAMPS)
Go to Page 5, Step 039, Entry Point E.

055

1. Connect your CE METER to measure approximately 24Vdc as follows.(ALD YA721)
Positive test lead 01AD2D2B09
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the CE PANEL and observe the meter.

Did the meter indicate a level of less than 0.8Vdc?

Y N

056

Exchange the card in 01AD2D2 position.
Go to Page 5, Step 039, Entry Point E.

057

Exchange the SWITCH AND LED ASSEMBLY in the OPERATOR CONTROL PANEL KEYBOARD.
Go to Page 5, Step 039, Entry Point E.

058

Press the LAMP TEST switch on the OPERATOR CONSOLE PANEL and observe the PWR IN PROCESS indicator on the OPERATOR CONSOLE PANEL.

Did the PWR IN PROCESS indicator light?

Y N

8 8
X Y

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EC 379607 PEC 379605

SEQ205 MAP 0205-7

Y
7

MAP CODE 0205XXXX

PAGE 8 OF 9

059

1. Connect your CE Meter to measure approximately 5 Vdc as follows.(ALD YA741)
Positive test lead 01AD2E2B02
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the OPERATOR CONSOLE PANEL Keyboard and observe the meter.

Did the meter indicate a level greater than 2.4Vdc?

Y N

060

Exchange the card in 01AD2E2 position.
Go to Page 5, Step 039, Entry Point E.

061

1. Connect your CE METER to measure approximately 5Vdc as follows.(ALD YA721)
Positive test lead 01AD2D2B04
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the OPERATOR CONSOLE PANEL Keyboard and observe the meter.

Did the meter indicate a level greater than 2.4Vdc?

Y N

062

The tests you have made indicate a net is broken on the 01AD2 BOARD. Using blue and white wire, wire wrap a wire between the following points.
(Disconnect power from the machine before making repair action)
01AD2D2B04 to 01AD2E2B02
Go to Page 5, Step 039, Entry Point E.

063

1. Connect your CE METER to measure approximately 24Vdc as follows.(ALD YA721)
Positive test lead 01AD2D2G04
Negative test lead 01AD2D2D08

Does the meter indicate a level of approximately 24Vdc?

Y N

Z A

X
7

Z A
A

SEQ205

MAP 0205-8

064

The tests you have made indicate a problem in one of the connecting cables. Continuity check the cables and repair the problem.
See logic ALD YA785(YA713FD1 -OCP LAMPS)
Go to Page 5, Step 039, Entry Point E.

065

1. Connect your CE Meter to measure approximately 24Vdc as follows.(ALD YA721)
Positive test lead 01AD2D2G04
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the CE PANEL and observe the meter.

Did the meter indicate a level of less than 0.8Vdc?

Y N

066

Exchange the card in 01AD2D2 position.
Go to Page 5, Step 039, Entry Point E.

067

Exchange the SWITCH AND LED ASSEMBLY in the OPERATOR CONTROL PANEL KEYBOARD.
Go to Page 5, Step 039, Entry Point E.

068

1. Connect your CE METER to measure approximately 5Vdc as follows.(ALD YA741)
Positive test lead 01AD2E2G08
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the OPERATOR CONSOLE PANEL and observe the meter.

Did the meter indicate a level greater than 2.4Vdc?

Y N

069

Exchange the card in 01AD2E2 position.
Go to Page 5, Step 039, Entry Point E.

9
A
B

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PN 8632905

EC 379607

PEC 379605

SEQ205

MAP 0205-8

A
B
8

MAP CODE 0205XXXX

S
6
A
C

SEQ205

MAP 0205-9

PAGE 9 OF 9

070

1. Connect your CE METER to measure approximately 5Vdc as follows.(ALD YA721)
Positive test lead 01AD2D2B08
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the OPERATOR CONSOLE PANEL and observe the meter.

Did the meter indicate a level greater than 2.4Vdc?

Y N

071

The tests you have made indicate a net is broken on the 01AD2 BOARD. Using blue and white wire, wire wrap a wire between the following points.
(Disconnect power from the machine before making repair action)

01AD2D2B08 to 01AD2E2G08

Go to Page 5, Step 039, Entry Point E.

072

1. Connect your CE METER to measure approximately 24Vdc as follows.(ALD YA721)
Positive test lead 01AD2D2J09
Negative test lead 01AD2D2D08

Does the meter indicate a level of approximately 24Vdc?

Y N

073

The tests you have made indicate a problem in one of the connecting cables. Continuity check the cables and repair the problem.

See logic ALD YA785(YA713FD1 -OCP LAMPS)

Go to Page 5, Step 039, Entry Point E.

A
C

074

1. Connect your CE METER to measure approximately 24Vdc as follows.(ALD YA721)
Positive test lead 01AD2D2J09
Negative test lead 01AD2D2D08
2. Press LAMP TEST switch on the CE PANEL and observe the meter.

Did the meter indicate a level of less than 0.8Vdc?

Y N

075

Exchange the card in 01AD2D2 position.
Go to Page 5, Step 039, Entry Point E.

076

Exchange the SWITCH AND LED ASSEMBLY in the OPERATOR CONTROL PANEL KEYBOARD.
Go to Page 5, Step 039, Entry Point E.

077

Is the problem corrected?

Y N

078

Go To Map 0200, Entry Point C.

079

Go To Map 0290, Entry Point A.

05JUN81 PN 8632905

EC 379607 PEC 379605

SEQ205 MAP 0205-9



CONV OUT

PAGE 1 OF 5

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	002	0290	A
2	006	0290	A
4	024	0290	A
5	028	0290	A
5	030	0290	A
5	031	0290	A
5	034	0290	A
5	035	0290	A
3	015	0290	A
3	018	0290	A
4	021	0290	A
3	019	0290	A
4	022	0290	A
3	010	0290	A
3	013	0290	A
3	012	0290	A
3	011	0290	A
5	032	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

(Step 001 continues)

(Step 001 continued)

SYMPTOM:

The CONV. OUTLETS are not working.

Is PCC CP1 INDICATOR lighted?

Y N

002

DANGER

Testing within the PRIMARY CONTROL COMPARTMENT will be required to complete the repair action using the ALD's. Observe all safety procedures while measuring PRIMARY POWER VOLTAGES. (Do not remove connectors or connecting cables with CB1 and/or CB2 in the on position.

See ALD YA421 and complete repair action. Go To Map 0290, Entry Point A.

003

Is PCC-CP1 in the OFF position?

Y N

004

Connect your CE METER to measure 5Vdc as follows: (ALD YA723) Negative test lead 01AD2D2D08 Positive test lead 01AD2D2M13

Does the meter indicate a reading greater than 2.4Vdc?

Y N

Vertical line for Y/N selection

4 3 A B C

005

Connect your CE METER to measure 24Vdc as follows: (ALD YA723) Negative test lead 01AD2D2D08 Positive test lead 01AD2D2P11

Does the meter indicate a reading of approximately 0Vdc?

Y N

006

Exchange the card in position 01AD2D2. Go To Map 0290, Entry Point A.

007

Connect your CE Meter to measure 24Vdc as follows: Negative test lead 01AD2D2D08 Positive test lead 01AD2F4D05

Does the meter indicate a reading of approximately 24Vdc?

Y N

008

DANGER

To locate and repair the fault, you will be working with PRIMARY POWER VOLTAGES within the PRIMARY POWER COMPARTMENT. Before making any repairs remove the customer's power source from the machine.

Connect your CE METER to measure 24Vdc as follows:

Negative test lead 01AD2D2D08 Positive test lead PCC-CP1 AUX POINT NO

Does the meter indicate a reading of approximately 24Vdc.

Y N

Vertical line for Y/N selection

3 3 3 D E F

B D E F
2 2 2 2

REF.CODE 0207XXXX

G H

SEQ207

MAP 0207-3

PAGE 3 OF 5

009

Connect your CE METER to measure 24Vdc as follows:

Negative test lead 01AD2D2D08

Positive test lead PCC-CP1 AUX point COM

Does the meter indicate a reading of approximately 24Vdc?

Y N

010

Exchange PCC-CB1.

Go To Map 0290, Entry Point A.

011

Check and repair the wire which connects between PCC-CONN10-002 and PCC-CP1 AUX point COM.

Go To Map 0290, Entry Point A.

012

Check and repair the following net.

CP1-NO to CONN10-003

D2D4D05 to CONN10-003

Go To Map 0290, Entry Point A.

013

Repair the 01AD2 BOARD.

Wire wrap a blue and white wire between the following points.

01AD2F4D05

01AD2P2D11

Go To Map 0290, Entry Point A.

014

Connect your CE METER to measure 5Vdc as follows: (ALD YA741)

Negative test lead 01AD2D2D08

Positive test lead 01AD2E2D04

Does the meter indicate a reading greater than 2.4Vdc?

Y N

G H

015

Repair the 01AD2 BOARD

Wire wrap a blue and white wire between the following points.

01AD2D2M13

01AD2E2D04

Go To Map 0290, Entry Point A.

016

1. Disconnect power from the machine by placing PCC-CB1 in the OFF position.
2. Remove the connector located on 01AD2Y2 position.
3. Connect your CE Meter to measure 5Vdc as follows:(ALD YA741)
Negative test lead 01AD2D2D08
Positive test lead 01AD2E2D12
4. Reset PCC-CB1.

Does the meter indicate a reading less than 0.8Vdc?

Y N

017

1. Disconnect power from the machine by placing PCC-CB1 in the OFF position.
2. Reconnect the connector removed from 01AD2Y2 position.
3. Connect your CE Meter to measure 5Vdc as follows:(ALD YA741)
Negative test lead 01AD2D2D08
Positive test lead 01AD2E2D12
4. Reset PCC-CB1.

Does the meter indicate a reading less than 0.8Vdc?

Y N

018

Exchange the printed circuit board located in the CE PANEL.

Go To Map 0290, Entry Point A.

019

Exchange the flat cable which connects between CE PANEL CONN02 and the 01AD2Y2 BOARD.

Go To Map 0290, Entry Point A.

4
J

14MAY80 PN 8632925

EC 379599 PEC -----

SEQ207 MAP 0207-3

A J
2 3

K

020

1. Disconnect power from the machine by placing PCC-CB1 in the OFF position.
2. Remove the card located in 01AD2E2 position.
3. Connect your CE METER to measure 5Vdc as follows:(ALD YA741)
Negative test lead 01AD2D2D08
Positive test lead 01AD2E2D12
4. Reset PCC-CB1.

Does the meter indicate a reading less than 0.8Vdc?

Y N

021

Exchange the card located in position 01AD2D2.
Go To Map 0290, Entry Point A.

022

Repair the 01AD2 BOARD.
Wire wrap a blue and white wire between the following points.
01AD2D1D13
01AD2E2D12
Go To Map 0290, Entry Point A.

023

1. Remove the plugs which are connected to the convenience outlets.
2. Reset PCC-CP1.

Did the PCC-CP1 trip after being reset?

Y N

024

DANGER

Remove PRIMARY POWER from the machine before removing TR107 cover.

If your machine uses 110Vac, 115Vac, or 120Vac for the convenience outlets remove the the cover from TR107 and check the fuse.
Go To Map 0290, Entry Point A.

025

1. Disconnect power from the machine by placing PCC-CB1 in the OFF position.
2. Remove the cable from PCC CONN 54.
3. Reset PCC-CB1 and PCC-CP1.

Did PCC-CP1 trip as a result of resetting the circuit breaker and circuit protector.?

Y N

026

Is one of the following voltages to be supplied by the convenience outlets?

- .200Vac
- .220Vac
- .230Vac
- .240Vac

Y N

027

DANGER

Testing and repair of the convenience outlet transformer and cables will be required to complete this repair action. Observe all safety procedures while measuring PRIMARY POWER VOLTAGES. (Do not remove connectors or connecting cables with CB1 and/or CB2 in the on position.

1. Disconnect power from the machine by placing PCC-CB1 in the OFF position.
2. Reconnect the cable removed from PCC CONN 54.
3. Remove the cable from TR107 CONN. (Located under the transformer cover)
4. Reset PCC-CB1.

Did PCC-CB1 trip as a result of resetting the circuit breaker and circuit protector.?

Y N

K

5 5 5 5
L M N P

M N P
4 4 4

REF.CODE 0207XXXX

L
4

SEQ207

MAP 0207-5

PAGE 5 OF 5

028

The tests you have made indicate a problem exists in the cables to the convenience outlets. Inspect the cables and outlets for damage which would result in an overcurrent condition. If the problem cannot be located, exchange the cables. (Disconnect power from the machine by placing PCC-CB1 in the OFF position before disconnecting cables.)

Go To Map 0290, Entry Point A.

029

Remove the cable which is located in position PCC-CONN54 at the PCC end and at TR107. Using your CE Meter on the ohms scale check the cable for short circuits between conductors.

Was the cable found to be failing?

Y N

030

Exchange TR107.

Go To Map 0290, Entry Point A.

031

Repair or exchange the failing cable.

Go To Map 0290, Entry Point A.

032

DANGER

Disconnect power from the machine by placing PCC-CB1 in the OFF position before disconnecting cables.

The tests you have made indicate a problem exists in the cables to the convenience outlets. Inspect the cables and sockets for damage which would result in an overcurrent condition. If the problem cannot be located, exchange the cables.

Go To Map 0290, Entry Point A.

033

DANGER

To locate and repair the fault, you will be working with PRIMARY POWER VOLTAGES within the PRIMARY POWER COMPARTMENT. Before making any repairs remove the customer's power source from the machine.

Refer to ALD YA411 and YA413, check the cable which connects between PCC TB2, PCC K01, PCC CP1 and CONN54. Visually check for damage or shorts to frame using your CE Meter. Visually inspect the cable terminations. (Disconnect power from the machine by placing PCC-CB1 in the OFF position.)

Were all the cable wires and terminations found to be free of short circuits or problems?

Y N

034

Make the necessary repairs to the cable wires or exchange the cables.

Go To Map 0290, Entry Point A.

035

Exchange the failing relay K01.

Go To Map 0290, Entry Point A.

14MAY80

PN 8632925

EC 379599

PEC -----

SEQ207

MAP 0207-5



TR/PS101 Failure

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001
0205	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
4	029	0211	A
2	003	0290	A
2	007	0290	A
2	008	0290	A
3	011	0290	A
3	016	0290	A
3	018	0290	A
4	021	0290	A
4	022	0290	A
4	023	0290	A
4	025	0290	A
4	027	0290	A
4	028	0290	A

001
(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

SYMPTOM:

The machine fails to power on and the following
(Step 001 continues)

(Step 001 continued)

power indicators are not lighted.

+5V/PS101

+24V/PS101

Is PS101 CP02 tripped?

Y N

002

Check the following machine conditions:

- a. PCC-CB1 in ON position.
- b. UNIT EMERGENCY POWER OFF (UEPO) switch in the POWER ENABLE position.
- c. CE PANEL DISPLAY (if any) in the ON position.
- d. Customer power source ON.

Are PCC-CB1, UEPO, CE PANEL DISPLAY switch (if any) and the customer power switch set in the ON position?

Y N

003

Set any of the following to the ON position which was found to be in the OFF position.

- a. PCC-CB1
- b. UEPO switch
- b. CE PANEL DISPLAY switch
- d. Customer power switch.

Go To Map 0290, Entry Point A.

004

Set your CE Meter to measure 24vdc at the following points.

- PS101-CONN05-1 Positive test lead
- PS101-CONN05-6 Negative test lead

Does the meter indicate 24vdc?

Y N

4 4
A B C

005

DANGER

Remove power from the machine before exchanging or checking the fuse in TR101 assembly.

1. Set PCC-CB1 in the OFF position to disconnect power from the machine.
2. Set your CE Meter to the ohms scale (R x 1) and check the fuse located in TR101.

Was the fuse good?

Y N

006

1. Exchange the failing fuse in TR101.
2. Reset CB1 to the ON position.

Are the green '+5V/PS101' and '+24V/PS101' indicators on the CE Panel lighted ?

Y N

007

DANGER

Remove the power from the machine by placing PCC CB1 in the OFF position before removing TR101.

Exchange TR101.

Go To Map 0290, Entry Point A.

008

Go To Map 0290, Entry Point A.

3
D

D
2

MAP CODE 0210XXXX

E F G

SEQ210

MAP 0210-3

PAGE 3 OF 4

009

DANGER

Testing within the PRIMARY CONTROL COMPARTMENT will be required to complete this repair action. Observe all safety procedures while measuring PRIMARY POWER VOLTAGES. (Do not remove connectors or connecting cables with CB1 and/or CB2 in the on position.

1. Reset CB1.
2. Set your CE Meter to measure the ac line voltage at the following points.
PCC-TB2-2
PCC-TB2-3

Does the meter indicate the ac line voltage ?

Y N

010

Check the ac line input to the machine as follows:
Set the CE meter to measure the ac line voltage.
Locate CB1 in the PCC (See the label on the cover of the PCC).
Connect the CE meter to PCC CB1 Pins L1 and L2.

Did the meter indicate ac line voltage ?

Y N

011

(Entry Point W)

The ac input to the machine is failing (NOTE:
The ac input from the customer receptacle could be failing).

Find and fix the failure.

Go To Map 0290, Entry Point A.

012

Connect the CE meter to PCC CB1 Pins L1 and L3.

Did the meter indicate ac line voltage ?

Y N

E F G

013

Go to Step 011, Entry Point W.

014

Connect the CE meter to PCC CB1 Pins L2 and L3

Did the meter indicate ac line voltage ?

Y N

015

Go to Step 011, Entry Point W.

016

See ALD YA411 (YA411CA24 AC TO CONN 27/TR101) to locate and repair the problem in AC wiring inside the PRIMARY CONTROL COMPARTMENT.

Go To Map 0290, Entry Point A.

017

1. Disconnect power from the machine by placing PCC-CB1 and PCC-CB2 in the OFF position.
2. Using your CE Meter check the continuity of the following wires.
TB2-2 to PCC-CONN27-2
TB2-7 to PCC-CONN27-4

Was continuity present for the wires checked?

Y N

018

Repair the wiring in which continuity was not found.

Go To Map 0290, Entry Point A.

019

Set your CE Meter to measure 25Vac at the following points.

- PS101 CONN01-12
- PS101 CONN01-14

Does the meter indicate 25Vac?

Y N

4 4
H J

02OCT81 PN 8632906

EC 379814 PEC 379599

SEQ210 MAP 0210-3

B H J
2 3 3

MAP CODE 0210XXXX

A K L
2

SEQ210

MAP 0210-4

PAGE 4 OF 4

020

DANGER

Remove the power from the machine by placing PCC CB1 in the OFF position before removing TR101.

Exchange TR101 with a new unit.

Are the green '+5V/PS101' and '+24V/PS101' indicators on the CE Panel lighted ?

Y N

021

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS101.

Exchange PS101 with a new unit.

Go To Map 0290, Entry Point A.

022

Go To Map 0290, Entry Point A.

023

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS101.

Exchange PS101 with a new unit.

Go To Map 0290, Entry Point A.

024

Set your CE Meter to measure 24vdc at the following points.

PS101-CONN05-3 Positive test lead

PS101-CONN05-6 Negative test lead

Does the meter indicate 24vdc?

Y N

K L

025

The tests you have made indicate a problem exists in the UEPO control circuit. See ALD YA601 ('UEPO SWITCH'). Continuity check the circuit from PS101-CONN05-1 to PS101-CONN05-3 and repair the problem.(Pull connector from PS101 before starting to make a continuity check.)

Go To Map 0290, Entry Point A.

026

Set your CE Meter to measure 24vdc at the following points.(ALD YA719)

01AD2B2A14 Positive test lead

01AD2B2D08 Negative test lead

Does the meter indicate 24vdc?

Y N

027

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS101.

Exchange PS101 with a new unit.

Go To Map 0290, Entry Point A.

028

Check the cable which connects between 01AD222 and CEP-CONN03. If the cables are correctly seated and in position replace the cable with a new one.

Go To Map 0290, Entry Point A.

029

Go To Map 0211, Entry Point A.

02OCT81 PN 8632906

EC 379814 PEC 379599

SEQ210 MAP 0210-4

MAP CODE 0211XXXX FIX 0002

SEQ211

MAP 0211-1

PS101 CP2 TRIP

PAGE 1 OF 7

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0210	A	2	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
6	041	F005	S
3	005	0290	A
3	010	0290	A
3	007	0290	A
3	006	0290	A
3	013	0290	A
4	015	0290	A
4	017	0290	A
4	020	0290	A
4	021	0290	A
4	023	0290	A
5	026	0290	A
5	029	0290	A
5	027	0290	A
5	031	0290	A
5	033	0290	A
5	034	0290	A
3	011	0290	A
6	039	0290	A
7	048	0290	A
7	050	0290	A
7	049	0290	A
7	045	0290	A
6	043	0290	A
7	044	0290	A
7	051	0290	A

001
(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****

```

SYMPTOM

The following power indicators are not lighted and PS101 CP2 is in the OFF position.

- +5V/PS101
- +24V/PS101

PS101 CP2 tripped

Reset PS101 CP2 to the ON position.

Did the circuit protector remain in the ON position?

Y N

002

1. Remove the PS101 connectors CONN07 and CONN09.
2. Reset PS101 CP2.

Did the circuit protector remain in the ON position?

Y N

6	3	3
A	B	C

003

1. Remove the PS101 connector CONN05.
2. Connect the connectors removed in the above step.
3. Reset PS101 CP2.

Did the circuit protector trip?

Y N

004

Check the following wires to the IPO switch for short circuits or damage which might cause a short circuit.

- PS101 CONN05-1 to IPO switch 002
- PS101 CONN05-3 to IPO switch 001

Was the problem found?

Y N

005

The tests you have made indicate a problem exists in the SPI(Standard Power Interface, Gate 01D) cable which supplies 24Vdc to the SPI circuit boards or one of SPI circuit boards is failing. See to ALD YA601 (YA601CA15) and locate and repair the problem.

Go To Map 0290, Entry Point A.

006

Repair the wire which was failing or correct the failure which caused the problem.

Go To Map 0290, Entry Point A.

007

DANGER

Remove power from the machine by placing CB1 in the OFF position before changing PS101. Hazardous voltages may be generated when disconnecting TR101 from PS101.

Exchange PS101.
Go To Map 0290, Entry Point A.

008

1. Connect PS101 connector CONN09.
2. Reset PS101 CP2.

Did the circuit protector trip?

Y N

009

1. Connect PS101 connector CONN07.
2. Reset PS101 CP2.
3. Remove the connector which connects to the IPS (Integrated Power System) test station.

Did the circuit protector remain in the ON position?

Y N

010

The tests you have made indicate a problem exists in one or more of the following wires.

- PS101 CONN07-007 to TB206-5
- PS101 CONN07-001 to TB206-6
- TB206-5 to TEST STATION CONN-03
- TB206-6 to TEST STATION CONN-04

Go To Map 0290, Entry Point A.

011

Exchange the IPS TEST STATION.
Go To Map 0290, Entry Point A.

012

1. Remove the two power connectors which connect to the pin side of the 01AD2 BOARD.
2. Reset PS101 CP2.

Did the circuit protector remain reset?

Y N

013

The tests you have made indicate there is a problem in one of the following wires. Check and repair the damage or exchange the cable.

- PS101 CONN09-10 to 01AD2B5E01
- PS101 CONN09-04 to 01AD2B2A14

Go To Map 0290, Entry Point A.

28JUN82 PN 8633137

EC 379837 PEC 379599

SEQ211 MAP 0211-3

D
3

MAP CODE 0211XXXX

PAGE 4 OF 7

014

1. Connect the connectors removed in the above step to the 01AD2 BOARD.
2. Remove all the HWS (Hardwire Sequence) cards from the 01AD2 BOARD.
2. Reset PS101 CP2.

Did the circuit protector trip?

Y N

015

Connect the HWS (Hardwire Sequence) cards one card at a time to locate the failing card or cards. Exchange any cards which were found failing.
Go To Map 0290, Entry Point A.

016

1. Remove the following connectors from the 01AD2 BOARD.
 01AD2Z2
 01AD2F3
 01AD2F4
 01AD2F5
2. Reset PS101 CP2.

Did the circuit protector remain in the ON position?

Y N

017

The tests you have made indicate a short circuit exists on the 01AD2 BOARD. Check the pin side of the board for bent or broken pins. If the problem cannot be isolated and repaired, exchange the board.
Go To Map 0290, Entry Point A.

018

1. Connect the connector removed from 01AD2Z2 position.
2. Reset PS101 CP2.

Did the circuit protector remain in the ON position?

Y N

Y N

E F

E F

SEQ211

MAP 0211-4

019

1. Remove the cable connector from position CONN03 of the CEP (CE Panel).
2. Reset PS101 CP2.

Did the circuit protector trip?

Y N

020

Exchange the flat cable which connects between the 01AD2Z2 BOARD and CEP-CONN03.
Go To Map 0290, Entry Point A.

021

Exchange the printed circuit board of the CEP (CE Panel).
Go To Map 0290, Entry Point A.

022

1. Connect the connector removed from 01AD2F5 position.
2. Reset PS101 CP2.

Did the circuit protector remain in the ON position?

Y N

023

See ALD YA713 (YA713FD3) and locate the problem. The tests you have made indicate a problem exists in the cables related to the OCP(Operator Control Panel)
Go To Map 0290, Entry Point A.

024

1. Connect the connector removed from 01AD2F3 position.
2. Reset PS101 CP2.

Did the circuit protector remain in the ON position?

Y N

Y N

5 5
G H

28JUN82 PN 8633137

EC 379837 PEC 379599

SEQ211 MAP 0211-4

G H
4 4

MAP CODE 0211XXXX

PAGE 5 OF 7

025

1. Disconnect AFS103 connector.
2. Reset PS101-CP2.

Did the circuit protector remain in the ON position?

Y N

026

There is a short circuit in the CP/Thermal Switch circuit for PS104/TR104. See ALD YA711FF1 (+24Volt PS101-K01 to PS104) and locate your problem. Make the necessary repairs.
Go To Map 0290, Entry Point A.

027

Exchange AFS103.

Go To Map 0290, Entry Point A.

028

1. Connect the connector removed from 01AD2F4 position.
2. Reset PS101-CP2.
3. Remove the connector connected to PCC-CONN10.

Did the circuit protector remain in the ON position?

Y N

029

Repair the wire which connects between PCC-CONN10-01 and 01AD2F4B11.
Go To Map 0290, Entry Point A.

J

SEQ211

MAP 0211-5

030

DANGER

Testing within the PRIMARY CONTROL COMPARTMENT will be required. Place PCC CB1 and PCC CB2 in the OFF position before removing cable wires, connectors, or relay K01 and suppression diode. Observe all safety procedures while measuring PRIMARY POWER VOLTAGES.

1. Connect the connector removed from PCC-CONN10 position of the PCC (Power Control Compartment) in the above step.
2. Remove terminals from the relay coil of K01 in the Power Control Compartment.
3. Reset PS101-CP2.

Did the circuit protector remain in the ON position?

Y N

031

Exchange the relay K01.
Go To Map 0290, Entry Point A.

032

1. Check the diode CR1 which is used to suppress the coil of K01 (terminals A and B) and is attached to the cable wires of K01.

Did the diode check good?

Y N

033

Exchange the diode CR1.(PN2111232)
Go To Map 0290, Entry Point A.

034

The tests you have made indicate there is a problem in the following wires:

- PCC-CONN10-1 to PCC-K01-A
 - PCC-CONN10-2 to PCC-K01-B
- Go To Map 0290, Entry Point A.**

28JUN82 PN 8633137

EC 379837 PEC 379599

SEQ211 MAP 0211-5

J

A
2

MAP CODE 0211XXXX

PAGE 6 OF 7

035

1. Check PS104 for circuit protectors in the OFF position. Place all circuit protectors in the ON position.
2. Press the CHECK RESET switch at the CE PANEL.
3. Place the CE MODE SWITCH in the ON position.
4. Press the POWER ON switch at the CE PANEL.

Did PS101 CP2 remain in the ON position?

Y N

036

1. Remove PS101 connectors CONN04 and CONN07.
2. Press the POWER ON KEY at the CE PANEL.

Did the circuit protector trip when the POWER ON KEY was pressed?

Y N

037

1. Connect PS101-CONN07 which was removed in the above step.
2. Press the POWER ON KEY at the CE PANEL.

Did the circuit protector trip when THE POWER ON KEY was pressed?

Y N

038

1. Connect PS101-CONN04 which was removed in the above step.
2. Remove the cable connector which is located in in CONN02 of DISKETTE DRIVE 2D.
3. Press the POWER ON KEY at the CE PANEL.

Did the circuit protector trip when THE POWER ON KEY was pressed?

Y N

7 7 7
K L M N P

N P

SEQ211

MAP 0211-6

039

Repair or exchange the cable which connects to DISKETTE DRIVE 2D connector position CONN02 and the LOGIC RESET switch. The tests you have made indicate a short circuit exists in the 24Volt line which supplies voltage to the LOGIC RESET switch. Go To Map 0290, Entry Point A.

040

1. Connect File CONN02.
2. Remove the cable connector which is located A1 position of DISKETTE DRIVE 2D.
3. Press the POWER ON KEY at the CE PANEL.

Did the circuit protector trip when THE POWER ON KEY was pressed?

Y N

041

Go To Map F005, Entry Point S.

042

1. Connect the cable to the A1 position of DISKETTE DRIVE 2D which was removed in the above step.
2. Remove the cable connector which is located in 01AB2Y6.
3. Press the POWER ON KEY at the CE PANEL.

Did the circuit protector trip when THE POWER ON KEY was pressed?

Y N

043

Check the following lines for short circuits to other pins and any D08 pin on the 01AB2 BOARD using your CE Meter. The tests you have made indicate a short circuit exists related to one of these lines.

01AB2B6A02 to 01AB2U1D13

01AB2B6A02 to 01AD2A6D02

01AD2A6D02 to 01AD2D2S09

Go To Map 0290, Entry Point A.

7
Q

28JUN82 PN 8633137

EC 379837 PEC 379599

SEQ211 MAP 0211-6

L M Q
6 6 6

MAP CODE 0211XXXX

PAGE 7 OF 7

044

The tests you have made indicate a problem exists in the cable which connects to PS101-CONN04. Check the cable for damage. If the problem cannot be found, exchange the cable.
Go To Map 0290, Entry Point A.

045

See ALD YA603 (YA603DA46). The tests you have made indicate a short circuit is present on the 24volt line which distributes 24Vdc to power supply circuit protector and thermal sense circuits. See ALD's and locate the problem.
Go To Map 0290, Entry Point A.

046

DANGER

Testing within the PRIMARY CONTROL COMPARTMENT will be required. Place PCC CB1 and PCC CB2 in the OFF position before removing cable wires, connectors, or relay K02 and suppression diode. Observe all safety procedures while measuring PRIMARY POWER VOLTAGES.

1. Remove the wire which connects to PCC-K02 A Coil.
2. Press the POWER ON KEY at the CE PANEL.

Did the circuit protector trip when THE POWER ON KEY was pressed?

Y N

047

Check the diode CR2 which is used as a suppressor for K02 contactor.

Was the diode found to be good?

Y N

048

Exchange the suppression diode CR2.(PN2542049)
Go To Map 0290, Entry Point A.

R S

K R S
6

SEQ211

MAP 0211-7

049

Exchange contactor K02.
Go To Map 0290, Entry Point A.

050

The tests you have made indicate a problem exists in the wiring to K02 contactor. Check the following wiring and repair any problems.

PS101-CONN08-01 to 01AD2F3D13

01AD2F3D13 to 01AD2F4D10

01AD2F4D10 to PCC-CONN10-08

PCC-CONN10-08 to K02 Coil A

Go To Map 0290, Entry Point A.

051

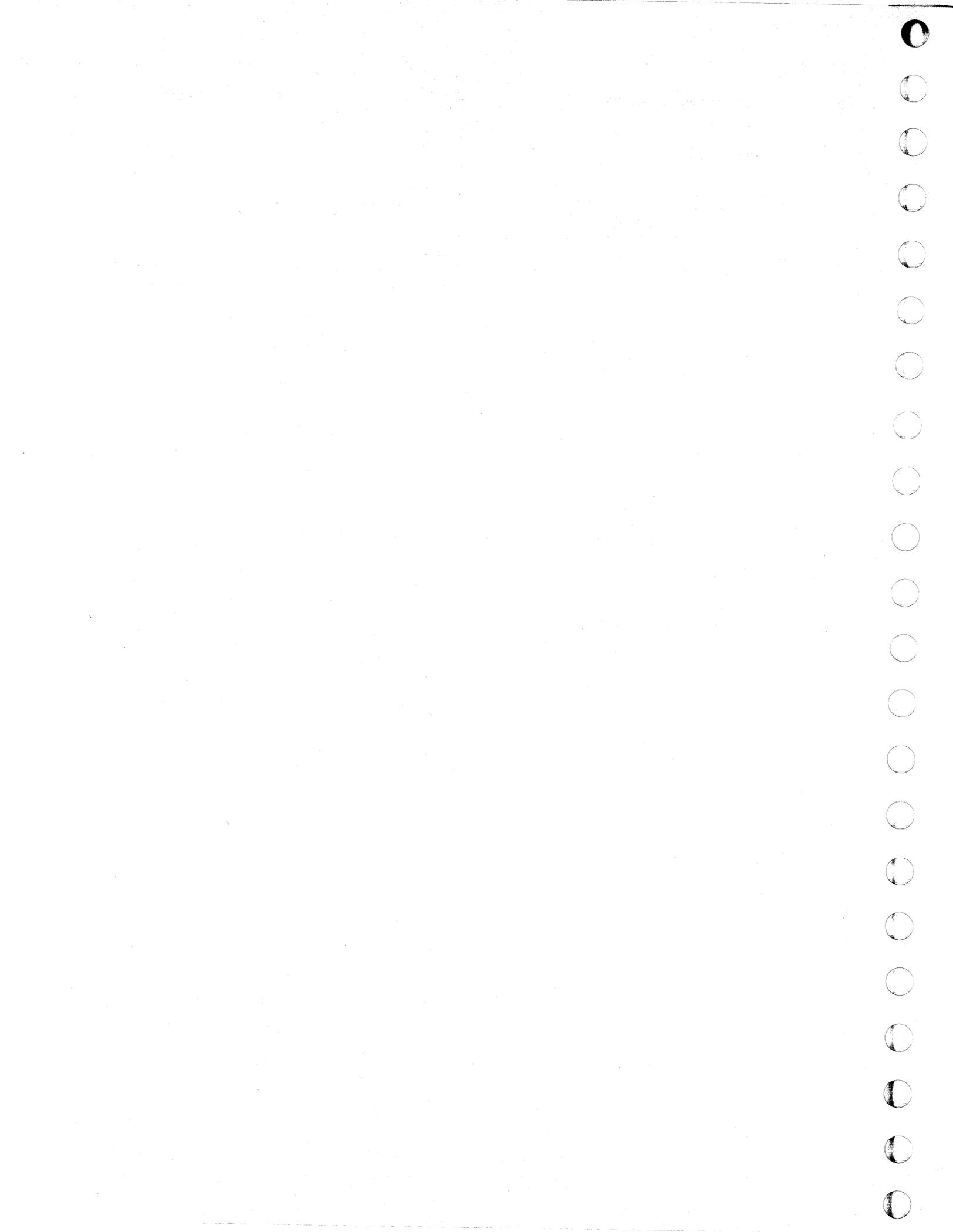
Locate the SPI PANELS which control the I/O power on sequence. The indications are a short circuit is present on one of the SPI PANELS. To locate the failing panel use the following procedure.

1. Remove the I/O Power Interface Cable from the last position of the first SPI PANEL.
2. Plug the DUMMY PLUG into the position from which the I/O Power Interface Cable was removed in the above step. (The DUMMY PLUG will be found in the last panel for which I/O Power Interface Cables are plugged or if all the available I/O positions are used the DUMMY PLUG will not be plugged.)
3. Using the PARTIAL POWER SCREEN power the I/O on only.
4. If the I/O plugged to the SPI PANEL did not power on successfully, THE SPI PANEL IS FAILING. Repeat the procedure for each SPI PANEL until the failing panel is located.
5. Exchange the failing SPI PANEL.
Go To Map 0290, Entry Point A.

28JUN82 PN 8633137

EC 379837 PEC 379599

SEQ211 MAP 0211-7



TR101-+5V Missing

PAGE 1 OF 4

ENTRY POINTS

FROM		ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER	
0200	A	1	001	

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	005	0290	A
2	007	0290	A
2	006	0290	A
3	015	0290	A
3	018	0290	A
4	025	0290	A
4	026	0290	A
4	028	0290	A
4	029	0290	A
3	020	0290	A
3	022	0290	A
3	023	0290	A
2	009	0290	A
2	011	0290	A
3	012	0290	A

001
(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related and/or assemblies.
*
*****
    
```

The following is the status of the +5Vdc and +24Vdc PS101 indicators at the CE PANEL.
(Step 001 continues)

(Step 001 continued)
+5V/PS101 OFF
+24V/PS101 ON

Is PS101-CP1 tripped?

Y N

002

Connect the CE Meter to measure 5Vdc as follows:
(ALD YA731)

- 01AD2B2D03 Positive test lead
- 01AD2B2D08 Negative test lead

Does the meter indicate 5Vdc?

Y N

003

Connect the CE Meter to measure 5Vdc as follows:

- PS101 CONN09-1 Positive test lead
- PS101-CONN09-3 Negative test lead

Does the meter indicate 5Vdc?

Y N

004

Connect the CE Meter to measure 5Vac as follows:

- PS101-CONN01-4 Positive test lead
- PS101-CONN01-5 Negative test lead

Does the meter indicate 5Vac?

Y N

005

DANGER

Remove power from the machine by placing PCC CB1 in the OFF position before removing TR101.

Exchange TR101.
Go To Map 0290, Entry Point A.

006

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS101.

Exchange PS101.
Go To Map 0290, Entry Point A.

007

The tests you have made indicate there is a problem in the cable which distributes the +5Volts to the 01AD2 board. Using your CE Meter check the following wires for short circuits and repair or exchange the cable.

- PS101-CONN09-01 to 01AD2B5A01
- PS101-CONN09-02 to 01AD2B3A01
- PS101-CONN09-03 to 01AD2B4E14
- PS101-CONN09-06 to 01AD2B5E14

Go To Map 0290, Entry Point A.

008

Connect the CE Meter to measure 5Vdc as follows:

- 01AD2F6B04 Positive test lead
- 01AD2E6C02 Negative test lead

Does the meter indicate 5Vdc?

Y N

009

Repair the 01AD2 board by connecting a blue and white wire between 01AD2F5D03 and 01AD2F6B04.
Go To Map 0290, Entry Point A.

010

Connect the CE Meter to measure 5vdc as follows:

- CONN03-B12 Positive test lead
- CONN03-D08 Negative test lead

Does the meter indicate 5Vdc?

Y N

011

Exchange the flat cable which connects to CONN03 of the CE Panel and the 01AD2 board.
Go To Map 0290, Entry Point A.

A E
2 2

REF.CODE 0212XXXX

G H J

SEQ212

MAP 0212-3

PAGE 3 OF 4

012

Exchange the CE PANEL printed circuit board.
Go To Map 0290, Entry Point A.

013

Will PS101-CP1 reset and remain reset with PCC-CB1 on and only trip when the POWER ON KEY is pressed?

Y N

014

1. Remove the cable connector located in PS101-CONN07 position.
2. Reset PS101-CP1

Did the circuit protector trip after being reset?

Y N

015

You have a problem in the +5volt distribution which supplies the TEST STATION for the IPS SYSTEM. Refer to ALD YA601 PS101-CONN07 and locate problem.
Go To Map 0290, Entry Point A.

016

1. Connect the cable connector removed in the above step.
2. Remove the two connectors at the rear of the 01AD2 board.
3. Reset PS101-CP1

Did the circuit protector trip after being reset?

Y N

017

1. Disconnect power from the machine via PCC-CB1.
2. Remove the HWS (Hardwire Sequence) cards from the 01AD2 board.
3. Connect cable removed in above step.
4. Reset PS101-CP1.
5. Reset PCC-CB1.

Did the circuit protector trip after being reset?

Y N

4
F G H J

018

The tests you have made indicate one of the HWS (Hardwire Sequence) cards removed in the above step is failing. Locate the bad card by inserting one at a time. Disconnect power before adding or removing a card.
Go To Map 0290, Entry Point A.

019

1. Remove the flat cable connector from CEP-CONN03.
2. Reset PS101-CP1.

Did the circuit protector trip after being reset?

Y N

020

Exchange the CEP(CE Panel) printed circuit panel.
Go To Map 0290, Entry Point A.

021

1. Remove connector in position 01AD2Z2.
2. Reset PS101-CP1.

Did the circuit protector trip after being reset?

Y N

022

Exchange the flat cable which connects to CEP-CONN03.
Go To Map 0290, Entry Point A.

023

Check the 01AD2 board for bent or failing pins. If the problem cannot be located, exchange the board.
Go To Map 0290, Entry Point A.

024

1. Remove the cable connector located in PS101 CONN09 position.
2. Connect the cable removed in the above step.
3. Reset PS101 CP1.

Did the circuit protector trip after being reset?

Y N

4 4
K L

14MAY80 PN 8632927

EC 379599 PEC -----

SEQ212 MAP 0212-3

PAGE 4 OF 4

025

The tests you have made indicate there is a problem in the cable which distributes the +5Volts to the 01AD2 board. Using your CE Meter check the following wires for short circuits and repair or exchange the cables.

PS101-CONN09-01 to 01AD2B5A01

PS101-CONN09-02 to 01AD2B3A01

PS101-CONN09-03 to 01AD2B4E14

PS101-CONN09-06 to 01AD2B2E14

Go To Map 0290, Entry Point A.

026

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS101.

Exchange PS101.

Go To Map 0290, Entry Point A.

027

1. Remove the wire located in PS101 CONN07-03.
2. Reset PS101-CP1.
3. Press the POWER ON KEY at the CE PANEL.

Did the circuit protector trip?

Y N

028

The tests which you have made indicate a problem is present on the wire which connects to PS101-CONN07-03. Refer to ALD YA601 and locate your problem with the aid of the logic diagrams.

Go To Map 0290, Entry Point A.

029

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS101.

Exchange PS101.

Go To Map 0290, Entry Point A.

TR101-+24V Missing

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	002	0290	A
2	004	0290	A
2	006	0290	A
2	007	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****

```

The following is the status of the +5Vdc and +24Vdc PS101 indicators at the CE PANEL.

- +5V/PS101 ON
- +24V/PS101 OFF

Connect the CE Meter to measure 24Vdc as follows:

- PS101-CONN09-10 Positive test lead
- PS101-CONN09-3 Negative test lead

Does the meter indicate 24Vdc?

Y N

||

||

2 2
A B

A B
1 1

REF.CODE 0214XXXX

PAGE 2 OF 2

002

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS101.

PS101 is failing. Exchange PS101.
Go To Map 0290, Entry Point A.

003

Connect the CE Meter to measure 24Vdc as follows:
01AD2F6C04 Positive test lead
01AD2E6C02 Negative test lead

Does the meter indicate 24Vdc?

Y N

004

Check the following net and repair any breaks with blue and white wire.

01AD2F6C02
01AD2F6C04
01AD2B2A14
01AD2B2J02
01AD2D2S11
01AD2F3B13
01AD2F4B11
01AD2F4D13
01AD2F5B12
01AD2F3B12

Also check the following cable wires for continuity.
Repair breaks or exchange the cable.

PS101-CONN09-10 to 01AD2B2A14
PS101-CONN09-4 to 01AD2B5E01

Go To Map 0290, Entry Point A.

005

Connect the CE Meter to measure 24Vdc at the CE Panel as follows:

CONN03-B13 Positive test lead
CONN03-D08 Negative test lead

Does the meter indicate 24Vdc?

Y N

C D

C D

SEQ214

MAP 0214-2

006

Exchange the flat cable which connects be CONN03 of the CE Panel and the 01AD2 BOARD.
Go To Map 0290, Entry Point A.

007

Exchange the CE PANEL printed circuit board
Go To Map 0290, Entry Point A.

14MAY80 PN 8632917

EC 379599 PEC -----

SEQ214 MAP 0214-2

TR/PS104 FAILURES

PAGE 1 OF 5

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	2	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	002	0290	A
4	012	0290	A
4	016	0290	A
4	014	0290	A
4	013	0290	A
5	017	0290	A
5	020	0290	A
5	023	0290	A
5	024	0290	A
5	021	0290	A
5	025	0290	A

001
(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* remove power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****

```

SYMPTOM:

- The following CE PANEL indicators are lighted.
- 5V PS104 VOLT FAIL
- +5V PS104 VOLT FAIL
- +8.5V PS104 VOLT FAIL
- +12V PS104 VOLT FAIL
- 12V PS104 VOLT FAIL
- BASIC CHECK

DANGER

Testing within the PRIMARY CONTROL COMPARTMENT will be required. Observe all safety procedures for measuring PRIMARY POWER VOLTAGES.

Check the ac line input to the machine as follows:
 Set the CE meter to measure the ac line voltage.
 Ensure Primary Control Compartment (PCC) CB1 is set to the ON position.
 Locate TB2 in the PCC (See the label on the cover of (Step 001 continues)

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 EC 379814 PEC 379599
 SEQ220 MAP 0220-2

(Step 001 continued)
the PCC).

Connect the CE meter to PCC TB2 Pins 1 and 2.

Did the meter indicate ac line voltage ?

Y N

002

(Entry Point W)

The ac input to the machine is failing. The failure could be one of the following:

Failing ac line between PCC CB1 and PCC TB2.

Failing PCC CB1.

Failing ac line input to PCC CB1 (NOTE: The ac input from the customer receptacle could be failing).

Find and fix the failure.

Go To Map 0290, Entry Point A.

003

Connect the CE meter to PCC TB2 Pins 1 and 3.

Did the meter indicate ac line voltage ?

Y N

004

Go to Step 002, Entry Point W.

005

Connect the CE meter to PCC TB2 Pins 2 and 3.

Did the meter indicate ac line voltage ?

Y N

006

Go to Step 002, Entry Point W.

A

007

Set the CE meter to measure +5Vdc.

Connect the meter to measure the HWS reference voltage as follows:

Positive lead (wire) to 01AD2D2J05

Negative lead (wire) to 01AD2D2J08

Use a digital voltmeter for the this measurement if one can be obtained. (Ref: YA723DB74)

Did the meter indicate a reading of less than 4.3Vdc or greater than 4.5Vdc?

Y N

008

1. Press CHECK RESET at the CE PANEL.

2. Observe AMD103 and blower. Press POWER ON.

Did AMD103 start to turn for a short period during the power-on cycle?

Y N

009

DANGER

Testing within the PRIMARY CONTROL COMPARTMENT will be required. Place PCC CB1 and PCC CB2 in the OFF position before removing cable wires, connectors, or relay K02 and suppression diode. Observe all safety procedures for measuring PRIMARY POWER VOLTAGES.

1. Place Trip CB1 and CB2 in the OFF position.
2. Connect the wires of your CE Meter to the coil of PCC-K02 to measure 24Vdc as follows:

Positive lead (wire) to the red wire

Negative lead (wire) to the black wire.

(Set the meter on top of the machine so it can be read from the CE Panel.)

3. Reset CB1 and observe the meter as you press the POWER ON switch.

Did the CE Meter indicate 24Vdc for a short period of time during the power on cycle?

Y N

5 5 4 4
B C D E

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SEQ220 MAP 0220-3

A

010

1. Connect your CE Meter as follows:
Positive lead (wire) PS101-CONN8-1
Negative lead (wire) PS101-CONN5-6
Set the meter to measure 24Vdc and position it such that it can be observed from the CE Panel.
2. Press CHECK RESET at the CE Panel.
3. Press the POWER ON and observe the meter.

Did the CE Meter indicate 24Vdc for a short period of time during the power on cycle?

Y N

011

1. Connect the positive lead (wire) of the meter to PS101- CONN08-3 and the negative lead (wire) to PS101- CONN5-6.
2. Set the meter to measure 5Vdc.
3. Press CHECK RESET at the CE Panel.
4. Press the POWER ON Key and observe the meter. (The CE Meter should drop from a reading greater than 2.4Vdc to near 0Vdc when power is turned on.)

Did the CE Meter indicate 0Vdc for a short period of time during the power on cycle?

Y N

012

The indications are a wire is open in one of the following circuits:

PS101-CONN08-3 to 01AD2F3D11
(YA601/YA711)

01AD2E2G11 to 01AD2F3D11
(YA741/YA711)

Use your ohmmeter and check the following lines for continuity and repair.

Go To Map 0290, Entry Point A.

013

DANGER

Remove power from the machine by placing CB1 in the OFF position before to exchanging PS101.

Exchange PS101 as the driver for PCC-K02 Contactor is failing.
Go To Map 0290, Entry Point A.

014

The tests you have made indicate the 24-volt signal is not reaching the coil of K02 contactor. Check the following wires and repair the damage.

PS101 CONN08-1 (YA601) to 01AD2F3D13
(YA711)

01AD2F3D13 (YA711) to 01AD2F4D10 (YA713)

01AD2F4D10 (YA713) to PCC-CONN10-8 (YA415)

PCC-CONN10-8 (YA415) to PCC-K02-L1 (YA415)

01AD2F4D09 (YA713) to PCC-CONN10-9 (YA415)

PCC-CONN10-9 (YA415) to PCC-K02-L2 (YA415)

Go To Map 0290, Entry Point A.

015

Set the meter to measure 250VAC. Measure the primary voltage at the terminals of PCC-K02 L1 and L3.

Was the primary voltage present at the input terminals to the contactor?

Y N

016

Trip PCC-CB1. Check the following wires and make the necessary repairs.

PCC-TB2-2 to PCC-K02 L1
(YA411)

PCC-TB2-5 to PCC-K02 L3
(YA411)

Go To Map 0290, Entry Point A.

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SEQ220 MAP 0220-4

C H
3 4

MAP CODE 0220XXXX

PAGE 5 OF 5

017

Exchange the contactor PCC-K02.
Go To Map 0290, Entry Point A.

018

DANGER

Be certain to remove power from the machine by placing PCC CB1 in the OFF position before exchanging or checking the fuse in TR104 assembly.

1. Place PCC-CB1 in the OFF position.
2. Remove the fuse for TR104 located in the face plate of the assembly.
3. Check the fuse for continuity using your ohmmeter?

Did the fuse fail?

Y N

019

DANGER

Testing within the PRIMARY CONTROL COMPARTMENT will be required. Place PCC CB1 and PCC CB2 in the OFF position before removing cable wires, connectors, or relay K02 and suppression diode. Observe all safety procedures for measuring PRIMARY POWER VOLTAGES.

Check the following wires for continuity as it appears a break in the wires exists.

PCC-K02-T1 to PCC-CONN26-1
(YA411/YA413)

PCC-K02-T3 to PCC-CONN26-5
(YA411/YA413)

Was any damage located in the wires checked?

Y N

J K L

B J K L
3

SEQ220

MAP 0220-5

020

DANGER

Be certain to remove power from the machine by placing PCC CB1 in the OFF position before removing TR104.

Exchange TR104 and PS104.
Go To Map 0290, Entry Point A.

021

Repair the damage found in the wires.
Go To Map 0290, Entry Point A.

022

1. Exchange the fuse located TR104.
2. Reset PCC-CB1.
3. Press the POWER ON.

Did the fuse blow?

Y N

023

Go To Map 0290, Entry Point A.

024

DANGER

Be certain to remove power from the machine by placing PCC CB1 in the OFF position before removing TR104.

Visually inspect TR104 for any shorted wires. If no damage is found. Exchange TR104 and PS104.
Go To Map 0290, Entry Point A.

025

Adjust the reference voltage to 4.4Vdc by turning the adjustment screw at the bottom of the 01AD2D2 card. If the voltage cannot be adjusted, exchange the card in 01AD2D2 with new a card from stock.
Go To Map 0290, Entry Point A.

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SEQ220 MAP 0220-5



MAP CODE 0230XXXX FIX 0005

SEQ230

MAP 0230-1

24V VOLT FAIL

PAGE 1 OF 5

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	2	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	002	0290	A
4	011	0290	A
4	012	0290	A
4	016	0290	A
4	018	0290	A
4	017	0290	A
5	020	0290	A
5	022	0290	A
5	023	0290	A
5	024	0290	A
5	025	0290	A

001
(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****

```

SYMPTOM

The following indicators on the CE PANEL are lighted.
+24V PS101 VOLT FAIL
BASIC CHECK

DANGER

Testing within the PRIMARY CONTROL COMPARTMENT will be required. Observe all safety procedures for measuring PRIMARY POWER VOLTAGES.

Check the ac line input to the machine as follows:
Set the CE meter to measure the ac line voltage.
Ensure Primary Control Compartment (PCC) CB1 is set to the ON position.
Locate TB2 in the PCC (See the label on the cover of the PCC).
Connect the CE meter to PCC TB2 Pins 1 and 2.
(Step 001 continues)

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SEQ230 MAP 0230-2

(Step 001 continued)

Did the meter indicate ac line voltage ?

Y N

002

(Entry Point W)

The ac input to the machine is failing. The failure could be one of the following:

- Failing ac line between PCC CB1 and PCC TB2.
- Failing PCC CB1.
- Failing ac line input to PCC CB1 (NOTE: The ac input from the customer receptacle could be failing).

Find and fix the failure.

Go To Map 0290, Entry Point A.

003

Connect the CE meter to PCC TB2 Pins 1 and 3.

Did the meter indicate ac line voltage ?

Y N

004

Go to Step 002, Entry Point W.

005

Connect the CE meter to PCC TB2 Pins 2 and 3.

Did the meter indicate ac line voltage ?

Y N

006

Go to Step 002, Entry Point W.

A

A

007

Connect a voltmeter to measure the Hard Wired Sequence (HWS) reference voltage as follows:

- Positive test lead to 01A-D2D2J05
- Negative test lead to 01A-D2D2J08

Use a digital voltmeter meter for this measurement if one can be obtained. (Ref: YA721DB74)

Did the meter indicate a reading of less than 4.3Vdc or greater than 4.5Vdc?

Y N

008

1. Press the CHECK RESET switch at the CE PANEL.
 2. Place the CE MODE switch in the ON position.
 3. Press the POWER ON switch at the CE PANEL.
- Is the POWER INCOMPLETE LIGHT lighted and the 24V PS101 VOLT FAIL not lighted?

Y N

009

1. Connect your CE Meter to measure 24Vdc as follows.

- Positive test lead 01A-B2U1D13
- Negative test lead 01A-B2U1B11

2. Press CHECK RESET at the CE PANEL.
3. Press the POWER ON switch at the CE PANEL and observe meter indication.

Was +24Vdc present for a short period of time when POWER was pressed?

Y N

010

1. Connect your CE Meter to measure 24Vdc as follows.

- Positive test lead PS101 Conn04-06
- Negative test lead PS101 Conn04-04

2. Press CHECK RESET at the CE PANEL.
3. Press the POWER ON switch at the CE PANEL and observe the meter indication.

Was +24Vdc present for a short period of time when the POWER-ON switch was pressed?

Y N

5 5 4 4 4
B C D E F

D E F
3 3 3

MAP CODE 0230XXXX

PAGE 4 OF 5

011

DANGER

Remove power from the machine by placing
CB1 in the OFF position before exchanging PS101.

Exchange PS101.
Go To Map 0290, Entry Point A.

012

Check and repair the wires which connect the
following points.

PS101 Conn04-06 to 01A-B2U1D13
PS101 Conn04-04 to 01A-B2U1B11

Go To Map 0290, Entry Point A.

013

1. Connect your CE Meter to measure 24Vdc as follows.
(ALD YA723)
Positive test lead 01A-D2D2S09
Negative test lead 01A-D2D2D08
2. Press CHECK RESET at the CE PANEL.
3. Press the POWER-ON switch at the CE PANEL and
observe the meter indication.

**Was +24Vdc present for a short period of time when
the POWER-ON switch was pressed?**

Y N

014

1. Connect your CE Meter to measure 24Vdc as
follows. (ALD YA717)
Positive test lead 01A-D2A6D02
Negative test lead 01A-D2D2D08
2. Press CHECK RESET at the CE PANEL.
3. Press the POWER ON switch at the CE PANEL and
the observe meter indication.

**Was +24Vdc present for a short period of time
when POWER-ON was pressed at the CE PANEL?**

Y N

5
H J

H J

SEQ230

MAP 0230-4

015

1. Connect your CE Meter to measure 24Vdc as
follows.
Positive test lead 01A-B2B6A02
Negative test lead 01A-B2B5D08
2. Press CHECK RESET at the CE PANEL.
3. Press the POWER ON switch at the CE PANEL and
the observe meter indication.

**Was +24Vdc present for a short period of time
when the POWER-ON switch was pressed?**

Y N

016

The tests you have made indicate a land is
broken on the 01A-B2 board. Check the following
and make the necessary repairs using blue and
white wire.

01A-B2U1D13
01A-B2B6A02
01A-B2A2B02
01A-B2A4D13
01A-B2B3B02
01A-B2B4B12

Go To Map 0290, Entry Point A.

017

Exchange the flat cable which connects between
01A-D2Z1 and 01A-B2Z1. (ALD YA717)

Go To Map 0290, Entry Point A.

018

Check the following net and repair the broken land
using blue and white wire.

01A-D2D2S09 to 01A-D2A6D02

Problem corrected.

Go To Map 0290, Entry Point A.

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SEQ230 MAP 0230-4

G
4

MAP CODE 0230XXXX

B C
3 3

SEQ230

MAP 0230-5

PAGE 5 OF 5

019

1. Connect your CE Meter to measure 5Vdc as follows.
The meter should indicate a level between 2.4Vdc and 5Vdc. (ALD YA721)
Positive test lead 01A-D2D2D13
Negative test lead 01A-D2D2D08
2. Press CHECK RESET at the CE PANEL.
3. Press the POWER-ON switch at the CE PANEL and the observe the meter.

Was the up level as described above and a measurement of less than 0.8Vdc present for a short period of time when POWER-ON was pressed at the CE PANEL?

Y N

020

Exchange the card located in position 01A-D2D2.
Go To Map 0290, Entry Point A.

021

1. Connect your CE Meter to measure 5Vdc as follows.
The meter should indicate a level between 2.4Vdc and 5Vdc. (ALD YA751)
Positive test lead 01A-D2C4D06
Negative test lead 01A-D2D2D08
2. Press CHECK RESET at the CE PANEL.
3. Press the POWER ON switch at the CE PANEL and the observe the meter.

Was the up level as described above and a measurement of less than 0.8Vdc present for a short period of time when POWER-ON was pressed at the CE PANEL?

Y N

022

Check the following net and repair the broken land using blue and white wire.
01A-D2C4D06 to 01A-D2D2D13
Go To Map 0290, Entry Point A.

023

Exchange the card located in position 01A-D2C4.
Go To Map 0290, Entry Point A.

024

Locate the SPI PANELS which control the I/O power on sequence. The indications are a short circuit is present on one of the SPI PANELS to locate the failing panel use the following procedure.

1. Remove the I/O interface cable from the last position of the first panel.
2. Plug the DUMMY PLUG into the position from which the I/O Power Interface Cable was removed in the above step. (The DUMMY PLUG will be found in the last panel for which I/O Power Interface Cables are plugged or if all the available I/O positions are used the DUMMY PLUG will not be plugged.)
3. Using the PARTIAL POWER SCREEN power the I/O on only.
4. If the I/O plugged to the SPI PANEL did not power on successfully, the SPI PANEL is failing. Repeat the procedure for each SPI PANEL until the failing panel is located.
5. Exchange the failing SPI PANEL.
Go To Map 0290, Entry Point A.

025

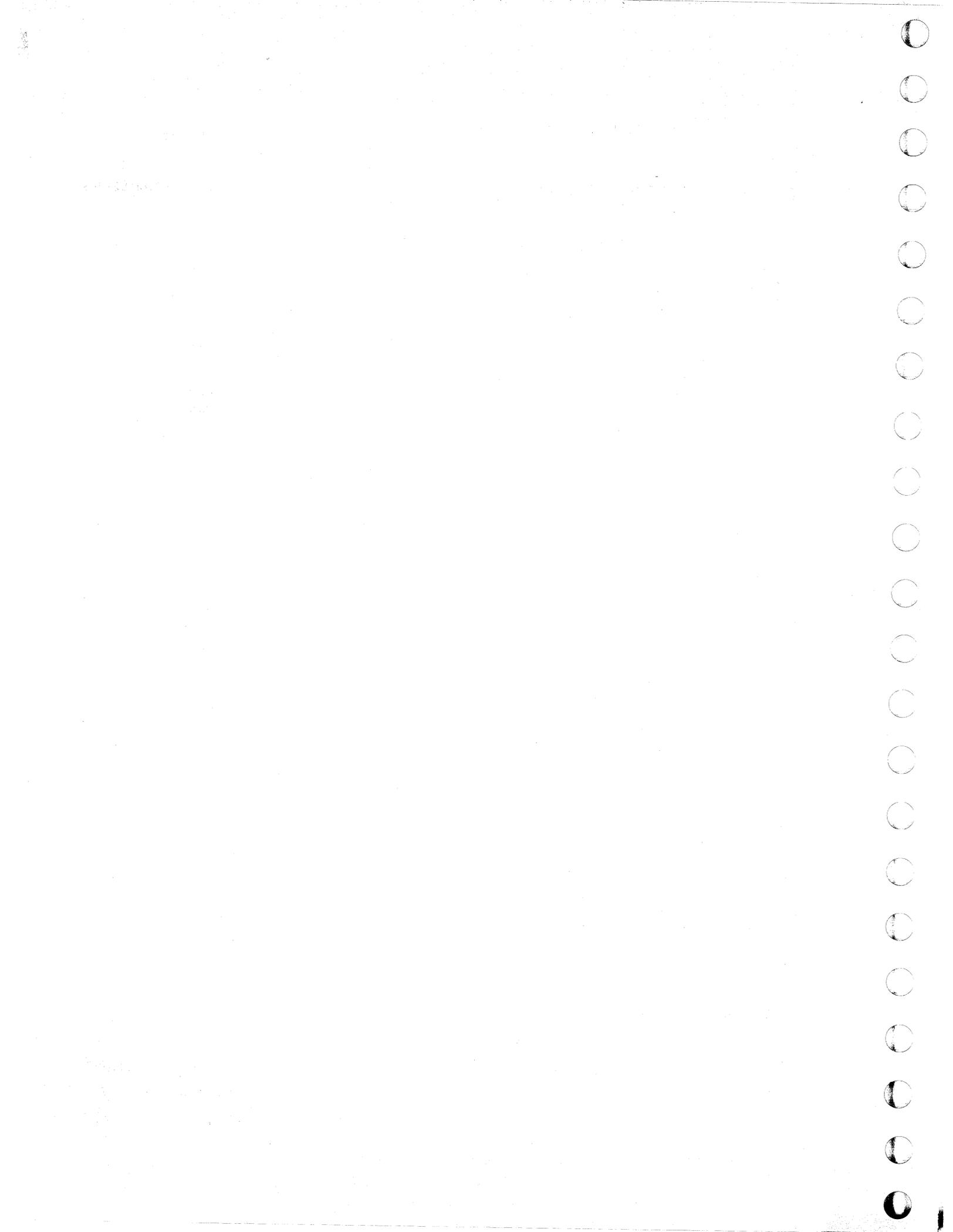
Adjust the reference voltage to 4.4Vdc by turning the adjustment screw located at the bottom of the 01A-D2D2 card. If the reference voltage cannot be adjusted, exchange the card in position 01AD2D2 with a new card from stock.

Go To Map 0290, Entry Point A.

28JUN82 PN 8632907

EC 379837 PEC 379814

SEQ230 MAP 0230-5



+5V VOLT FAIL

PAGE 1 OF 5

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	006	0290	A
3	007	0290	A
3	009	0290	A
3	010	0290	A
3	012	0290	A
3	013	0290	A
4	017	0290	A
4	019	0290	A
4	020	0290	A
4	021	0290	A
4	023	0290	A
5	025	0290	A
5	027	0290	A
5	028	0290	A
5	029	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

(Step 001 continues)

(Step 001 continued)

SYMPTOM

The following indicators on the CE PANEL are lighted.

BASIC CHECK

+5Vdc PS104

Connect a voltmeter to measure the HWS reference voltage as follows:

Positive test lead to 01AD2D2J05

Negative test lead to 01AD2D2J08

Use a digital voltmeter meter for this measurement if one can be obtained. (Ref: YA721DB74)

Did the meter indicate a reading of less than 4.3Vdc or greater than 4.5Vdc?

Y N

002

The +5Vdc from PS104 to 01AB2 and/or 01AA2 board(s) is missing.

1. Press the CHECK RESET switch at the CE PANEL.

2. To determine which board does not have +5Vdc, Connect the CE METER to measure 5Vdc as follows:

Positive test lead to 01AD2B2G06 (ALD YA731)

Negative test lead to 01AD2B2D08

The CE METER should indicate between +2.4Vdc and +5Vdc

The CE METER should indicate less than 0.8Vdc for a short period of time when the POWER ON KEY is pressed.

3. Press the POWER ON switch at the CE PANEL, observe the CE METER.

Did the CE METER indicate less than 0.8Vdc for a short period of time?

Y N

5 3
A B C

003

The problem is in the 01AB2 BOARD distribution.

1. Press the CHECK RESET switch at the CE PANEL.

2. To determine if the +5Vdc is supplied to the 01AB2 BOARD connect the CE METER as follows:

Positive test lead to 01AB2B6D02

Negative test lead to 01AB2B5D08

3. Set the CE METER to measure +5Vdc.

4. Press the POWER ON switch on the CE PANEL and observe the meter. The meter should indicate +5Vdc for a short period of time.

Did the CE METER indicate +5Vdc?

Y N

004

The +5Vdc from PS104 to 01AB2 BOARD is missing.

1. Press the CHECK RESET switch at the CE PANEL.

2. To determine if PS104 is supplying +5Vdc to the 01AB2 BOARD connect the CE METER as follows:

Positive test lead to PS104 TB1-1

Negative test lead to PS104 TB2-1

3. Set the CE METER to measure +5Vdc.

The CE METER should indicate +5Vdc for a short period of time when the POWER ON switch is pressed.

4. Press the POWER ON switch at the CE PANEL and observe the meter.

Did the CE METER indicate the +5Vdc for a short period of time?

Y N

3 3 3
D E F

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EC 379600 PEC 379599

SEQ231 MAP 0231-2

005

1. Press the CHECK RESET switch at the CE PANEL.
2. Connect the CE Meter to measure approximately 5.4Vac between the following terminals:
PS104 CONN07-1
PS104 CONN07-3
3. Press the POWER ON switch on the CE PANEL observe the meter.

Was 5.4Vac present for a short period of time when the POWER ON switch was pressed?

Y N

006**DANGER**

Be certain to remove power from the machine by placing PCC CB1 in the OFF position before removing TR104.

Exchange TR104

Go To Map 0290, Entry Point A.

007**DANGER**

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.

Exchange PS104

Go To Map 0290, Entry Point A.

008

Check for an open circuit in the distribution from PS104 terminals TB1 and TB2 to 01AB2 BOARD SOCKETS A4, V4, A5 and V5 (ALD YA603).

Was the problem located?

Y N

009

Repair or exchange the 01AB2 BOARD.
Go To Map 0290, Entry Point A.

010

Repair or exchange the cable.
Go To Map 0290, Entry Point A.

011

1. Press the CHECK RESET switch on the CE PANEL.
2. To check if +5Vdc is supplied to the 01AD2D2 card position, connect the CE Meter as follows: (ALD YA721)
Positive test lead to 01AD2B6B02
Negative test lead to 01AD2B5D08
3. Set the CE METER to measure +5Vdc.

Press the POWER ON switch on the CE PANEL, did the CE METER indicate 5Vdc for a short period of time?

Y N

012

Check the circuit for an open from 01AB2 BOARD to 01AD2B6B02. Repair or exchange the cable.

Go To Map 0290, Entry Point A.

013

Exchange the card in 01AD2 BOARD D2 position
Go To Map 0290, Entry Point A.

014

1. Press the CHECK RESET switch on CE PANEL.
2. Connect the CE Meter as follows: (ALD YA731)
Positive test lead to 01AD2B2J05
Negative test lead to 01AD2B2D08
3. Set the CE METER to measure +5Vdc.
4. The CE METER should indicate +5Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL, observe the CE METER for +5Vdc.

Did the CE METER indicate the +5Vdc VOLT?

Y N

30JUN80 PN 8633138

EC 379600 PEC 379599

SEQ231 MAP 0231-3

H
3

REF. CODE 0231XXXX

G J K
3

SEQ231

MAP 0231-4

PAGE 4 OF 5

015

The problem is in the 01AA2 BOARD distribution.

1. Press the CHECK RESET switch on the CE PANEL
2. To determine if +5Vdc is supplied to the 01AA2 BOARD connect the CE METER as follows:
Positive test lead to 01AA2V2D09
Negative test lead to 01AA2V2D08
3. Set the CE METER to measure +5Vdc.
The CE METER should indicate +5Vdc for a short period of time when the POWER ON switch is pressed.
4. Press the POWER ON switch at the CE PANEL and observe the meter.

Did the CE METER indicate +5Vdc?

Y N

016

The +5Vdc from PS104 to 01AA2 BOARD is missing.

1. Press the CHECK RESET switch on the CE PANEL
2. To determine if PS104 is supplying +5Vdc to the 01AA2 BOARD connect the CE METER as follows:
Positive test lead to PS104 CONN04-01
Negative test lead to PS104 CONN04-02
3. Set the CE METER to measure +5Vdc.
4. The CE METER should indicate +5Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch at the CE PANEL and observe the meter.

Did the CE METER indicate the +5Vdc?

Y N

017

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.
Exchange PS104.
(Check the connectors for damage before replacing PS104.)
Go To Map 0290, Entry Point A.

J K

018

Check the following distribution wires for an open circuit. (ALD YA603).

- PS104 CONN04-001 to 01AA2B3E01
- PS104 CONN04-003 to 01AA2B4E01
- PS104 CONN04-002 to 01AA2B2E14
- PS104 CONN04-004 to 01AA2B3E14

Was the problem located?

Y N

019

Repair or exchange the 01AA2 BOARD.
Go To Map 0290, Entry Point A.

020

Repair or exchange the cable.
Go To Map 0290, Entry Point A.

021

Check the circuit for an open from 01AA2 BOARD to 01AD2B2J05.(REF: ALD YA731) Repair or exchange the cable.
Go To Map 0290, Entry Point A.

022

1. Press the CHECK RESET switch on the CE PANEL.
2. Set the CE METER to measure +5Vdc.
3. Connect the CE METER as follows:
Positive test to 01AD2B2G03 (ALD YA731)
Negative test to 01AD2B2D08
The CE METER should read between +2.4Vdc and +5Vdc
4. The CE METER should indicate less than 0.8Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch at the CE PANEL and observe the meter.

Did the CE METER indicate less than 0.8Vdc?

Y N

023

Exchange the card in 01AD2 BOARD B2 position
Go To Map 0290, Entry Point A.

5
L

30JUN80 PN 8633138
EC 379600 PEC 379599
SEQ231 MAP 0231-4

PAGE 5 OF 5

024

1. Press the CHECK RESET switch on the CE PANEL.
2. Connect the CE METER as follows:
Positive test lead to 01AD2C4B05(ALD YA751)
Negative test lead to 01AD2C2D08
3. Set the CE METER to measure +5Vdc.
The CE METER should read between +2.4Vdc and +5Vdc
4. The CE METER should indicate less than 0.8Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL and observe the meter.

Did the CE METER indicate less than 0.8Vdc for a short period of time?

Y N

025

Wire-wrap a blue and white wire from 01AD2G03 to 01AD2C4B05.
Go To Map 0290, Entry Point A.

026

Exchange the card in 01AD2C4 position.
press the power on switch on the CE PANEL.

Did the machine power up correctly?

Y N

027**DANGER**

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.

Replace PS104
Go To Map 0290, Entry Point A.

028

Go To Map 0290, Entry Point A.

029

Adjust the reference voltage to 4.4Vdc by means of the adjustment screw located at the bottom of the 01AD2D2 card. If the reference voltage cannot be adjusted, exchange the card in position 01AD2D2 with a new card from stock.

Go To Map 0290, Entry Point A.

30JUN80 PN 8633138

EC 379600 PEC 379599

SEQ231 MAP 0231-5



-5V VOLT FAIL

PAGE 1 OF 4

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	003	0290	A
2	006	0290	A
3	009	0290	A
3	010	0290	A
3	011	0290	A
3	014	0290	A
4	019	0290	A
4	020	0290	A
3	016	0290	A
4	017	0290	A
4	021	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

(Step 001 continues)

(Step 001 continued)

SYMPTOM:

The following indicators on the CE Panel are lighted.
-5V VOLT FAIL
Basic Check

Connect a voltmeter to measure the HWS reference voltage as follows:

Negative test lead to 01AD2D2J08

Positive test lead to 01AD2D2J05

Use a digital voltmeter meter for this measurement if one can be obtained. (See YA721DB74)

Did the meter indicate a reading of less than 4.3Vdc or greater than 4.5Vdc?

Y N

002

Remove power from the machine by placing PCC-CB1 in the OFF position.

Use the CE METER to check continuity between the following points:

01AB2C6A02 to 01AD2B6D02

01AD2D2J04 TO 01AD2B6D02

01AD2D2P12 TO 01AD2B2G07

01AD2A2B03 TO 01AD2B2J06

01AA2V2D11 TO 01AD2A2B03

Was continuity maintained for all the points given?

Y N

003

Exchange any flat cables or repair any broken nets in 01AD2. (To repair any broken nets wire-wrap a wire between the effected pins.)

Go To Map 0290, Entry Point A.

4
A B

004

1. Reset PCC CB1.
2. Connect your CE Meter to measure 10Vdc as follows:
(See ALD YA717)
Negative test lead 01AD2B6D02
Positive test lead 01AD2C2D08

Is -5Vdc present for a short period of time when the POWER ON switch is pressed at the CE PANEL?

Y N

005

Remove power from the machine by placing PCC-CB1 in the OFF position.

Remove CONN03 from PS104 and check the -5volt distribution from PS104-CONN03 to 01AB2 as follows. (check for continuity-See YA601/YA665)

01AB2U4E01 to PS104 CONN03-001

01AB2U3E14 to PS104 CONN03-003

Was continuity present for the distribution wires?

Y N

006

Repair distribution.

Go To Map 0290, Entry Point A.

007

1. Reset PCC CB1.
2. Connect PS104-CONN03.
3. Connect CE Meter to 01AB2U4E01(-5Vdc) and 01AB2U3E14(-5V Return)

Is -5Vdc present for a short period of time at the connector pins when the POWER ON switch is pressed at the CE PANEL?

Y N

3 3 3
C D E

008

1. Press the CHECK RESET switch on the CE PANEL.
2. Connect the CE Meter to measure approximately 5.4Vac between the following terminals:
PS104 CONN6-1
PS104 CONN6-3
3. Press the POWER ON switch on the CE PANEL observe the meter.

Was 5.4Vac present for a short period of time when the POWER ON switch was pressed?

Y N

009

DANGER

Be certain to remove power from the machine by placing PCC CB1 in the OFF position before removing TR104.

Exchange TR104

Go To Map 0290, Entry Point A.

010

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.

Exchange PS104

(Check the connectors which connect TR104 to PS104 for wires which are not properly placed in the connector housing.)

Go To Map 0290, Entry Point A.

011

Repair 01AB2 wiring:

Wire wrap a blue and white wire between the following points:

01AB2C6A02 and 01AB2H2B06

Go To Map 0290, Entry Point A.

012

1. Press the CHECK RESET switch on the CE PANEL.
2. Connect your CE Meter to measure 10Vdc as follows:
Negative test lead to 01AD2A2B03
Positive test lead to 01AD2A2D08
(YA701)

Is 5Vdc present for a short period of time when the POWER ON switch is pressed at the CE PANEL?

Y N

013

Check the -5Volt distribution from PS104 to 01AA2 as follows. (Remove the cable at the power supply and check for continuity-See YA601/YA667)

01AA2U4A01 to PS104 CONN05-3

01AA2U3A14 to PS104 CONN05-6

Reconnect cable when check is complete

Did distribution check good?

Y N

014

Repair distribution.

Go To Map 0290, Entry Point A.

015

1. Press the CHECK RESET switch to reset error indication at the CE PANEL.
2. Connect CE Meter to 01AA2U4A01(-5Vdc) and 01AA2U3A14(-5V Return)

Is -5Vdc present at connector pins?

Y N

016

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.

Exchange PS104

Go To Map 0290, Entry Point A.

PAGE 4 OF 4

017

Repair 01AA2 BOARD. Wire wrap a blue and white wire between the following points:

01AA2U3A14 and 01AA2V2B11

Go To Map 0290, Entry Point A.

018

Exchange all three of the following cards.

01AD2B2

01AD2C4

01AD2D2

Press the POWER ON switch on the CE PANEL.

Did the machine power up correctly?

Y N

019**DANGER**

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.

Exchange PS104.

Go To Map 0290, Entry Point A.

020

Go To Map 0290, Entry Point A.

021

Adjust the reference voltage to 4.4Vdc turning the adjustment screw located at the bottom of the 01AD2D2 card. If the reference voltage cannot be adjusted, exchange the card in position 01AD2D2 with a new card from stock.

Go To Map 0290, Entry Point A.

05DEC80 PN 8632991

EC 379604 PEC 379602

SEQ232 MAP 0232-4

+8.5V VOLT FAIL

PAGE 1 OF 5

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	006	0290	A
3	007	0290	A
3	009	0290	A
3	010	0290	A
3	012	0290	A
3	013	0290	A
4	017	0290	A
4	019	0290	A
4	020	0290	A
4	021	0290	A
4	023	0290	A
5	025	0290	A
5	026	0290	A
5	027	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

SYMPTOM:
(Step 001 continues)

(Step 001 continued)

The following indicators on the CE PANEL are lighted.
BASIC CHECK
+8.5V PS104

Connect a voltmeter to measure the HWS reference voltage as follows:

Positive test lead to 01AD2D2J05

Negative test lead to 01AD2D2J08

Use a digital voltmeter meter for this measurement if one can be obtained. (See YA721DB74)

Did the meter indicate a reading of less than 4.3Vdc or greater than 4.5Vdc?

Y N

002

The +8.5Vdc from PS104 to 01AB2 and/or 01AA2 BOARD is missing.

1. Press the CHECK RESET switch on the CE PANEL.
2. Connect your CE Meter as follows to determine which board is missing the +8.5Vdc. (ALD YA721)
Positive test lead to 01AD2B2G05
Negative test lead to 01AD2B2D08
3. Set the CE METER to measure +5Vdc. The CE METER should indicate between +2.4Vdc and +5Vdc
4. The CE METER should indicate less than 0.8Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate less than 0.8Vdc?

Y N

5 3
A B C

003

The problem is on the 01AB2 BOARD circuit.

1. Press the CHECK RESET switch on the CE PANEL.
2. To determine if +8.5Vdc is supplied to the 01AB2 BOARD connect the CE Meter as follows: (ALD YA717)
Positive test lead to 01AB2C6B02
Negative test lead to 01AB2C5D08
3. Set the CE METER to measure +8.5Vdc.
4. Press the POWER ON switch on the CE PANEL, the meter should indicate the presence of +8.5Vdc for a short period of time.

Did the CE METER indicate +8.5Vdc?

Y N

004

The +8.5Vdc from PS104 to 01AB2 BOARD is missing.

1. Press the CHECK RESET switch on the CE PANEL.
2. To determine if PS104 is supplying the +8.5Vdc to 01AB2 BOARD connect the CE METER as follows:
Positive test lead to PS104 CONN03-11
Negative test lead to PS104 CONN03-6.
3. Set the CE METER to measure +8.5Vdc.
4. The meter should indicate +8.5Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate +8.5Vdc?

Y N

005

1. Press the CHECK RESET switch on the CE PANEL.
2. Connect the CE Meter to measure approximately 8.9Vac between the following terminals:
PS104 CONN6-7
PS104 CONN6-10
3. Press the POWER ON switch on the CE PANEL observe the meter.
(Step 005 continues)

3 3
D E

E
2

REF. CODE 0233XXXX

B D
2 2

SEQ233

MAP 0233-3

PAGE 3 OF 5

(Step 005 continued)

Was 8.9Vac present for a short period of time when the POWER ON switch was pressed?

Y N

006

DANGER

Be certain to remove power from the machine by placing PCC CB1 in the OFF position before removing TR104.

Exchange TR104

Go To Map 0290, Entry Point A.

007

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.

Exchange PS104

Go To Map 0290, Entry Point A.

008

Check for an open circuit distribution from PS104 CONN04 using your CE Meter to make a continuity check. (ALD page YA603 and YA665).

PS104 CONN03-006 to 01AB2U2A14

PS104 CONN03-009 to 01AB2U4A14

PS104 CONN03-011 to 01AB2U3A01

PS104 CONN03-012 to 01AB2U5A01

Was a problem found in the distribution checked?

Y N

009

Exchange the 01AB2 BOARD.

Go To Map 0290, Entry Point A.

010

Repair or exchange the cable.
Go To Map 0290, Entry Point A.

011

1. Press the CHECK RESET switch on the CE PANEL.
2. To determine if +8.5Vdc is supplied to the 01A2D2D2 card position connect your CE Meter as follows: (ALD YA717)
Positive test lead to 01A2D2B6E02
Negative test lead to 01A2D2B6D08
3. Set the CE METER to measure +8.5Vdc.
4. The meter should indicate +8.5Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate +8.5Vdc?

Y N

012

Repair or exchange the cable which connects between 01AB2B02 and 01AD2B6E02.
Go To Map 0290, Entry Point A.

013

Exchange the card in 01AD2D2 position
Go To Map 0290, Entry Point A.

014

1. Press the CHECK RESET switch on CE PANEL.
2. Connect the CE Meter as follows:
Positive test lead to 01AD2B2J04
Negative test lead to 01AD2B2D08
3. Set the CE METER to measure +8.5Vdc.
4. The CE METER should indicate +8.5Vdc for a short period of time when the CE PANEL POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate +8.5Vdc?

Y N

4 4
F G

15SEP80 PN 8632992
EC 379602 PEC 379600
SEQ233 MAP 0233-3

G
3

REF. CODE 0233XXXX

F H J
3

SEQ233

MAP 0233-4

PAGE 4 OF 5

015

The problem is on the A2 BOARD circuit.

1. Press the CHECK RESET switch on the CE PANEL.
2. To determine if +8.5Vdc is supplied to the 01AA2 BOARD connect the CE Meter as follows:
Positive test lead to 01AA2V2D06
Negative test lead to 01AA2G2D08
3. Set the CE METER to measure +8.5Vdc.
4. The CE METER should indicate +8.5Vdc for a short period of time when the CE PANEL POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate +8.5Vdc?

Y N

016

The +8.5Vdc from PS104 to A2 BOARD is missing.

1. Press the CHECK RESET switch on the CE PANEL.
2. To determine if PS104 is supplying the +8.5Vdc to 01AA2 BOARD connect the meter as follows:
Positive test lead to PS104 CONN05-001
Negative test lead to PS104 CONN05-004
3. Set the CE METER to measure +8.5Vdc.
4. The CE METER should indicate +8.5Vdc for a short period of time when the CE PANEL POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate +8.5Vdc?

Y N

017

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.

Exchange PS104.
Go To Map 0290, Entry Point A.

H J

018

Check for an open circuit in the distribution from PS104 CONN05. (ALD page YA603 and YA663).

PS104 CONN05-001 to 01AA2U3A01
PS104 CONN05-002 to 01AA2U5A01
PS104 CONN05-004 to 01AA2U2A14
PS104 CONN05-005 to 01AA2U2A14

Was continuity present for the distribution wires checked?

Y N

019

Repair or exchange the 01AA2 BOARD.
Go To Map 0290, Entry Point A.

020

Repair or exchange the cable.
Go To Map 0290, Entry Point A.

021

Check the cable wire and nets from the 01AA2 BOARD to 01AD2B2J04 (ALD page YA663 and YA701).
Repair the nets and/or exchange the cable.
Go To Map 0290, Entry Point A.

022

1. Press the CHECK RESET switch on the CE PANEL.
2. Connect the CE Meter as follows: (ALD YA731)
Positive test lead to 01AD2B2G02
Negative test lead to 01AD2B2D08
3. Set the CE METER to measure +5Vdc. The CE METER should read between +2.4Vdc and +5Vdc
4. The CE METER should indicate less than 0.8Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate less than 0.8Vdc?

Y N

023

Exchange the card in 01AD2B2 position.
Go To Map 0290, Entry Point A.

5
K

15SEP80 PN 8632992
EC 379602 PEC 379600
SEQ233 MAP 0233-4

PAGE 5 OF 5

024

1. Press the CHECK RESET switch on the CE PANEL.
2. Set the CE METER to measure +5Vdc.
3. Connect the CE Meter as follows:
 - Positive test lead to 01AD2C4B06
 - Negative test lead to 01AD2C4D08The CE METER should indicate between +2.4Vdc and +5Vdc
4. The CE METER should indicate less than 0.8Vdc for a short period of time when the POWER ON switch is pressed.
5. Press the POWER ON switch on the CE PANEL and check the CE METER for a reading of less than 0.8Vdc.

Did the CE METER indicate less than 0.8Vdc?

Y N

025

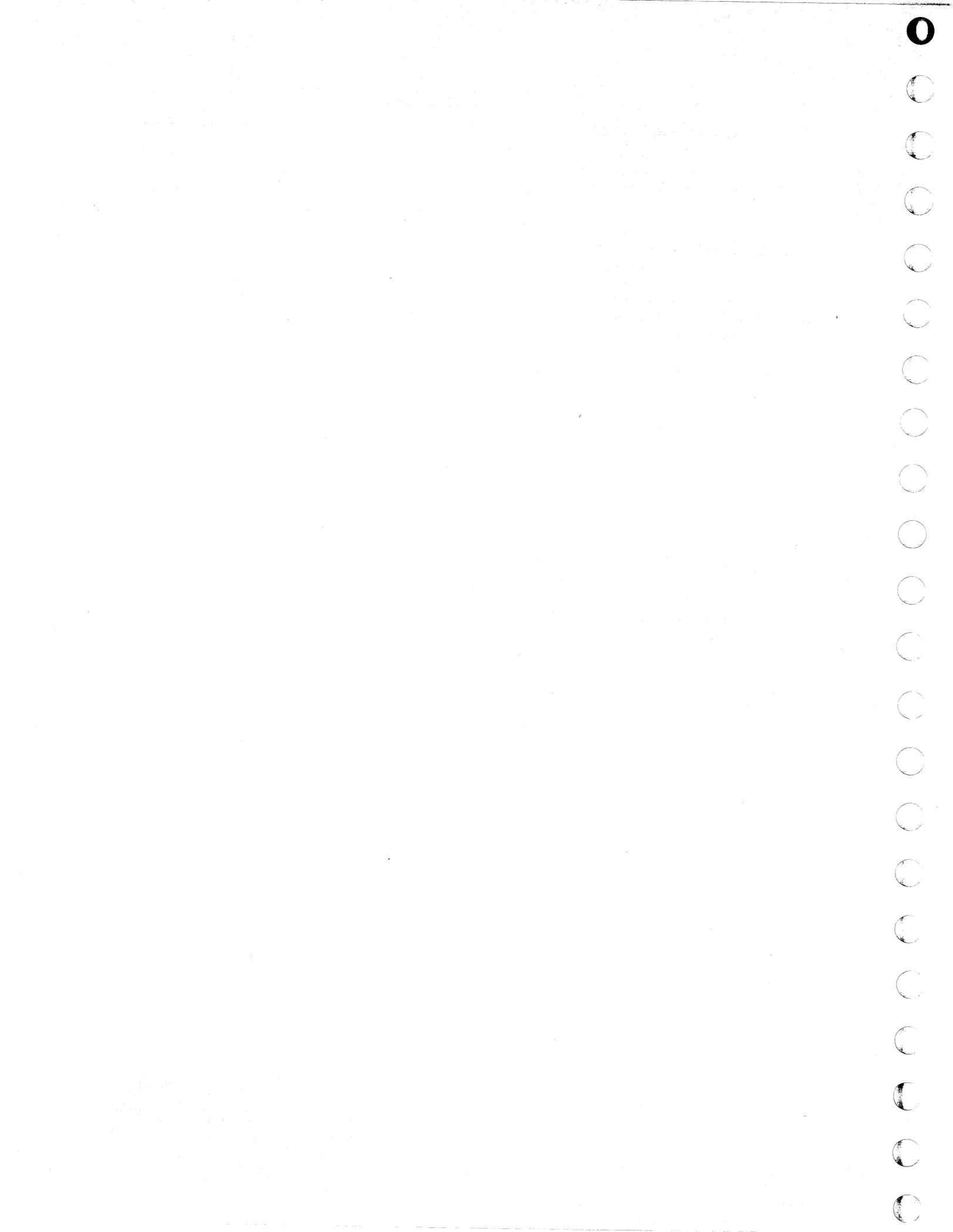
Check the circuit for an open on the 01AD2 BOARD from 01AD2B2G02 to 01AD2C4B06 (ALD page YA731 and YA751).
Repair or exchange 01AD2 BOARD.
Go To Map 0290, Entry Point A.

026

Exchange the card in 01AD2 BOARD C4 position
Go To Map 0290, Entry Point A.

027

Adjust the reference voltage to 4.4Vdc by turning the adjustment screw located at the bottom of the 01AD2D2 card. If the reference voltage cannot be adjusted, exchange the card in position 01AD2D2 with a new card from stock.
Go To Map 0290, Entry Point A.



+12V VOLT FAIL

PAGE 1 OF 4

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	006	0290	A
2	007	0290	A
3	008	0290	A
3	010	0290	A
3	011	0290	A
3	013	0290	A
3	015	0290	A
3	016	0290	A
4	017	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

SYMPTOM

The following indicators on the CE PANEL are lighted.
BASIC CHECK and +12V PS104 .

The +12V from PS104 to 01AB2 and/or 01AD2
BOARD(S) is missing.
(Step 001 continues)

(Step 001 continued)

Connect a voltmeter to measure the HWS reference voltage as follows:

Positive test lead to 01AD2D2J05

Negative test lead to 01AD2D2J08

Use a digital voltmeter meter for this measurement if one can be obtained. (Ref: YA721DB74)

Did the meter indicate a reading of less than 4.3Vdc or greater than 4.5Vdc?

Y N

002

1. Press the CHECK RESET switch on the CE PANEL.
2. Set the CE METER to measure +12Vdc.
3. To determine if +12Vdc is supplied to 01AD2 BOARD D2 card position, connect your CE Meter as follows. (ALD YA723)
 - Positive test lead to 01AD2D2P13
 - Negative test lead to 01AD2D2D08 (ALD YA723).
4. The the CE METER should indicate +12V for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate about +12V for a short period of time?

Y N

003

1. Press the CHECK RESET switch on the CE PANEL.
2. Set the CE METER to measure +12Vdc.
3. To determine if +12Vdc is supplied to 01AB2 BOARD connect your CE Meter as follows: (To connect the meter remove the FDS connector on the wiring side of V4 socket.)
 - Positive test lead to 01AB2V4B03
 - Negative test lead to 01AB2V4D08
4. The CE METER should indicate +12Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate approximately +12Vdc?

Y N

4 3 3
A B C D

004

The +12V from PS104 to 01AB2 BOARD is missing.

1. Set the CE METER to measure +12Vdc.
2. Press the CHECK RESET switch on the CE PANEL.
3. To determine if PS104 is supplying the +12V to 01AB2 BOARD connect your CE Meter as follows.
 - Positive test lead to PS104 CONN3-7
 - Negative test lead to PS104 CONN3-14.
4. The CE METER should indicate +12Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate approximately +12Vdc?

Y N

005

1. Press the CHECK RESET switch on the CE PANEL.
2. Connect the CE Meter to measure approximately 12.6Vac between the following terminals:
 - PS104 CONN06-12
 - PS104 CONN06-9
3. Press the POWER ON switch on the CE PANEL observe the meter.

Was 12.6Vac present for a short period of time when the POWER ON switch was pressed?

Y N

006**DANGER**

Be certain to remove power from the machine by placing PCC CB1 in the OFF position before removing TR104.

Exchange TR104

Go To Map 0290, Entry Point A.

007**DANGER**

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.

Exchange PS104

Go To Map 0290, Entry Point A.

30JUN80 PN 8632993

EC 379600 PEC 379599

SEQ234 MAP 0234-2

3
E

C E
2 2

REF. CODE 0234XXXX

B
2

SEQ234

MAP 0234-3

PAGE 3 OF 4

008

Locate the problem and repair or exchange the cable. (YA603 AND YA665)

PS104 CONN3-7 to 01AB2V4B03

PS104 CONN3-8 to 01AB2V4B04

PS104 CONN3-14 to 01AB2V4D08

PS104 CONN3-15 to 01AB2V4D08

NOTE: V4 socket is located on the card socket of the board.

Go To Map 0290, Entry Point A.

009

1. Press the CHECK RESET switch on the CE PANEL.
2. Connect your CE Meter as follows.
Positive test lead to 01AB2B6B02
Negative test lead to 01AB2B6D08
3. Check if the CE METER indicates +12Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate approximately +12Vdc?

Y N

010

Repair or exchange the 01AB2 BOARD.

Go To Map 0290, Entry Point A.

011

Locate the problem and repair or exchange the open circuit in the distribution from 01AB2B6B02 through the connector at location 01AD2Z1 to 01AD2D2P13.

(ALD.YA665, YA717, and YA723)

Go To Map 0290, Entry Point A.

012

1. Press the CHECK RESET switch on the CE PANEL.
2. Set the CE METER to measure +5Vdc and connect as follows. (ALD YA723)
Positive test lead to 01AD2D2P04
Negative test lead to 01AD2D2D08
The CE METER should indicate a reading between +2.4V and +5Vdc.
3. Check if the CE METER indicates less than 0.8Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate less than 0.8Vdc for a short period of time?

Y N

013

Exchange the card in 01AD2 BOARD D2 position.

Go To Map 0290, Entry Point A.

014

1. Press the CHECK RESET switch on the CE PANEL.
2. Set the CE METER to measure +5Vdc and connect as follows. (ALD YA751)
Positive test lead to 01AD2C4B10
Negative test lead to 01AD2C4D08
3. The CE METER should indicate a reading between +2.4Vdc and +5Vdc.
4. The CE METER should indicate less than 0.8Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate less than 0.8Vdc for a short period of time?

Y N

015

Locate and repair the open circuit in the 01AD2 BOARD from 01AD2D2P04 to 01AD2C4B10 (ALD page YA723 and YA751).

Go To Map 0290, Entry Point A.

016

Exchange the card in 01AD2 BOARD C4 position.

Go To Map 0290, Entry Point A.

30JUN80

PN 8632993

EC 379600

PEC 379599

SEQ234

MAP 0234-3

A
2

REF. CODE 0234XXXX

SEQ234

MAP 0234-4

PAGE 4 OF 4

017

Adjust the reference voltage to 4.4Vdc by means of the adjustment screw located at the bottom of the 01AD2D2 card. If the reference voltage cannot be adjusted, exchange the card in position 01AD2D2 with a new card from stock.

Go To Map 0290, Entry Point A.

30JUN80 PN 8632993

EC 379600 PEC 379599

SEQ234 MAP 0234-4

-12V VOLT FAIL

PAGE 1 OF 4

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	006	0290	A
3	007	0290	A
3	008	0290	A
3	010	0290	A
3	011	0290	A
3	013	0290	A
3	015	0290	A
4	016	0290	A
4	017	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and assemblies.
*
*****

```

SYMPTOM

The following indicators on the CE PANEL are lighted. BASIC CHECK and -12Vdc PS104 .

(Step 001 continues)

PAGE 2 OF 4

(Step 001 continued)

Connect a voltmeter to measure the HWS reference voltage as follows:

Positive test lead to 01AD2D2J05

Negative test lead to 01AD2D2J08

Use a digital voltmeter meter for this measurement if one can be obtained. (Ref: YA721DB74)

Did the meter indicate a reading of less than 4.3Vdc or greater than 4.5Vdc?

Y N

002

The -12Vdc from PS104 to the 01AB2 and/or 01AD2 board(s) is missing.

1. Press the CHECK RESET switch on the CE PANEL.
2. Set the CE METER to measure 12Vdc.
3. To determine if -12Vdc is supplied to 01AD2 Board D2 card position connect the CE Meter as follows. (See ALD YA721)
 - Negative test lead to 01AD2D2J12
 - Positive test lead to 01AD2D2D08
4. The CE METER should indicate 12Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER read approximately -12Vdc for a short period of time?

Y N

003

1. Press the CHECK RESET switch on the CE PANEL.
 2. Set the CE METER to measure 12Vdc.
 3. To determine if -12Vdc is supplied to 01AB2 Board connect your CE Meter as follows. (To connect the meter remove the FDS Connector on the wiring side of V4 Socket.)
 - Negative test lead to 01AB2V4B07
 - Positive test lead to 01AB2V4D08
 4. The CE METER should indicate -12Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.
- (Step 003 continues)

4 3
A B

(Step 003 continued)

Did the CE METER indicate approximately 12Vdc?

Y N

004

The -12Vdc from PS104 to 01AB2 Board is missing.

1. Set the CE METER to measure 12Vdc.
2. Press the CHECK RESET switch on the CE PANEL.
3. To determine if PS104 is supplying the -12Vdc to 01AB2 Board connect your CE METER as follows:
 - Negative test lead to PS104 CONN3-4
 - Positive test lead to PS104 CONN3-10
4. The CE METER should indicate -12Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL to power up HWS.

Did the CE METER indicate approximately -12Vdc?

Y N

005

1. Press the CHECK RESET switch on the CE PANEL.
2. Connect the CE Meter to measure approximately 12.6Vac between the following terminals:
 - PS104 CONN06-12
 - PS104 CONN06-9
3. Press the POWER ON switch on the CE PANEL observe the meter.

Was 12.6Vac present for a short period of time when the POWER ON switch was pressed?

Y N

006**DANGER**

Be certain to remove power from the machine by placing PCC CB1 in the OFF position before removing TR104.

Exchange TR104

Go To Map 0290, Entry Point A.

3 3 3
C D E

05JUN81 PN 8632994
EC 379607 PEC 379605
SEQ235 MAP 0235-2

C D E
2 2 2

REF. CODE 0235XXXX

B
2

SEQ235

MAP 0235-3

PAGE 3 OF 4

007

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.

Exchange PS104
Go To Map 0290, Entry Point A.

008

Find and repair the open circuit in the distribution.
(See YA603 and YA665)

PS104 CONN3-4 to 01AB2V4BO7.
PS104 CONN3-5 to 01AB2V4BO8.
PS104 CONN3-10 to 01AB2V4DO8.
PS104 CONN3-13 to 01AB2V4DO8.

NOTE: V4 connector inserts to card side of the board.

Go To Map 0290, Entry Point A.

009

1. Press the CHECK RESET switch on the CE PANEL.
2. Connect the CE Meter as follows.
Negative test lead to 01AB2B6C02
Positive test lead to 01AB2B5D08
3. Check if the CE METER indicates -12Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate approximately -12Vdc?

Y N

010

Repair or exchange the 01AB2 BOARD.
Go To Map 0290, Entry Point A.

011

Locate the problem and repair or exchange the distribution from 01AB2B6C02 through the connector at location 01AD2Z1 to 01AD2D2J12.
(ALD.YA665, YA717, AND YA721)
Go To Map 0290, Entry Point A.

012

1. Press the CHECK RESET switch on CE PANEL.
2. Set the CE METER to measure +5Vdc.
3. Connect your CE Meter as follows. (ALD YA723)
Positive test lead to 01AD2D2M12
Negative test lead to 01AD2D2D08
The CE METER should indicate a reading between +2.4V and +5Vdc.
4. The CE METER should indicate less than 0.8Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate less than 0.8Vdc for short period of time?

Y N

013

Exchange the card in 01AD2 BOARD D2 position.
Go To Map 0290, Entry Point A.

014

1. Press the CHECK RESET switch on the CE PANEL.
2. Set the CE Meter to measure 5Vdc and as follows:
(ALD YA751)
Positive test lead to 01AD2C4B08
Negative test lead to 01AD2D2D08
3. The CE METER should indicate a reading between +2.4V and +5Vdc.
4. The CE METER should indicate less than 0.8Vdc for a short period of time when the POWER ON switch is pressed. Press the POWER ON switch on the CE PANEL.

Did the CE METER indicate less than 0.8Vdc for a short period of time?

Y N

015

Locate and repair the open circuit in the 01AD2 BOARD from 01AD2D2M12 to 01AD2C4B08.
(See ALD. YA723 AND YA751).
Go To Map 0290, Entry Point A.

4
F

05JUN81

PN 8632994

EC 379607

PEC 379605

SEQ235

MAP 0235-3

A F
2 3

REF. CODE 0235XXXX

SEQ235

MAP 0235-4

PAGE 4 OF 4

016

Exchange the card in 01AD2 BOARD C4 position.
Go To Map 0290, Entry Point A.

017

Adjust the reference voltage to 4.4Vdc by turning the adjustment screw located at the bottom of the 01AD2D2 card. If the reference voltage cannot be adjusted, exchange the card in position 01AD2D2 with a new card from stock.
Go To Map 0290, Entry Point A.

05JUN81 PN 8632994

EC 379607 PEC 379605

SEQ235 MAP 0235-4

Power-on Failure

PAGE 1 OF 9

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0000	A	2	001
0200	A	2	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
8	053	0205	A
3	007	0290	A
6	034	0290	A
6	035	0290	A
7	038	0290	A
8	051	0290	A
8	052	0290	A
7	041	0290	A
7	044	0290	A
7	042	0290	A
4	011	0290	A
4	014	0290	A
4	013	0290	A
4	012	0290	A
4	017	0290	A
4	018	0290	A
5	021	0290	A
5	024	0290	A
5	025	0290	A
5	027	0290	A
5	028	0290	A
6	030	0290	A
6	031	0290	A
8	055	0290	A
8	057	0290	A
9	059	0290	A
9	061	0290	A
9	062	0290	A
7	046	0290	A
8	048	0290	A
8	049	0290	A
9	063	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****

```

Symptom:

The machine fails to power on but no error indicators are lighted.

Remove the cards located in the 01AD2 Board and ensure the following connectors are correctly seated.

- 01AD2Y1
- 01AD2Y2
- 01AD2Z1
- 01AD2Z2
- 01AD2F3
- 01AD2F4
- 01AD2F5

Replace the cards removed.

Remove the CE Panel cover and check the connectors, which connect to the CE Panel printed circuit board, to ensure they are properly seated in their respective socket locations. Replace the cover after the connectors have been checked.

Press the OCP POWER ON switch.
(Step 001 continues)

(Step 001 continued)

Did the machine power on from the OCP POWER ON switch?

Y N

002

Set the CE MODE switch and CE POWER OFF switch to normal.

Press the CEP(CE Panel) POWER ON switch.

Did the machine power on from the CE Panel POWER ON switch?

Y N

003

- 1. Set your CE Meter to measure approximately 5 Vdc as follows: (ALD YA721FC14)
Positive test lead 01AD2D2G11
Negative test lead 01AD2E2J08

Does the meter indicate a reading less than 0.4 Vdc?

Y N

004

- 1. Set your CE Meter to measure approximately 5 Vdc as follows: (ALD YA741)
Positive test lead 01AD2E2G13
Negative test lead 01AD2E2J08
- 2. Press the CHECK RESET switch.(CEP POWER OFF switch must be in the NORMAL position).

Does the meter indicate a reading greater than 1.8Vdc when the POWER ON switch is pressed?

Y N

9 8 8 6
A B C D E

005

Set your CE Meter to measure approximately 24 Vdc as follows: (ALD YA721)

Positive test lead 01AD2D6E02

Negative test lead 01AD2E2J08

Does the meter indicate a reading of 24Vdc?

Y N

006

Set your CE Meter to measure approximately 24 Vdc as follows: (ALD YA713)

Positive test lead 01AD2F5B12

Negative test lead 01AD2E2J08

Does the meter indicate a reading of 24Vdc?

Y N

007

The test you have made indicates there is an open in the 24 volt net on the 01AD2 BOARD. Check the net which is listed below. Repair the net using blue and white wire.

01AD2B2A14

01AD2B3D02

01AD2D5B11

01AD2F3B12

01AD2F3B13

01AD2F4B11

01AD2F4D13

01AD2F5B12

01AD2F6C02

01AD2F6C04

Go To Map 0290, Entry Point A.

008

Set your CE Meter to measure approximately 24 Vdc as follows: (ALD YA713)

Positive test lead 01AD2F5D02

Negative test lead 01AD2E5D08

Does the meter indicate a reading of 24 Vdc?

Y N

4 4 4
F G H

H
3

MAP CODE 0237XXXX

F G J
3 3

SEQ237

MAP 0237-4

PAGE 4 OF 9

009

1. Remove power from the machine by placing PCC-CB1 in the OFF position.
2. Remove the cable which attaches to the OPERATOR CONSOLE PANEL(OCP) at the CPU end.
3. Using your CE Meter on the ohm scale check the following wires.(ALD YA785):

01AD2F5B12 to Connector 01FJ2 Position 15
 01AD2F5D02 to Connector 01FJ2 Position 1

Was one of the wires found to be open?

Y N

010

1. Remove the cable at the OCP end which was removed at the CPU end in the above step.
2. Using your CE Meter on the ohm scale check the following wires.(ALD YA785)

Display Terminal J3 Position 24 to Display Terminal J2 Position 15
 Display Terminal J3 Position 13 to Display Terminal J2 Position 1
 Display Terminal J2 Position 1 to Plug 01FJ2 Position 1
 Display Terminal J2 Position 15 to Plug 01FJ2 Position 15

Was one of the wires found to be open?

Y N

011

The tests you have made indicate the (OCP) KEYBOARD is failing. Exchange the OCP Switch and Led Assenbly.

Go To Map 0290, Entry Point A.

012

Repair the cable if possible, if not exchange it with a new one.

Go To Map 0290, Entry Point A.

J

013

The tests you have made indicate an open in one of the following wires. Check the cable and connector and repair the problem. (ALD YA713)
 01AD2F5B12 to Connector 01FJ2 Position 15
 01AD2F5D02 to Connector 01FJ2 Position 1
Go To Map 0290, Entry Point A.

014

Repair 01AD2 BOARD, wire wrap a wire from 01AD2F5D02 to 01AD2D6E02 using blue and white wire.

Go To Map 0290, Entry Point A.

015

Set your CE Meter to measure approximately 24 Vdc as follows. (ALD YA715)

Positive test lead 01AD2E6A02
 Negative test lead 01AD2E2J08

Does the meter indicate a reading of 24Vdc?

Y N

016

Using your CE Meter on the ohm scale check the following wire. (ALD YA715)
 CEP CONN03-D05 to 01AD2D6E02

Was one of the wires found to be open?

Y N

017

Exchange the CE Panel printed circuit board.

Go To Map 0290, Entry Point A.

018

Repair or exchange the cable.
Go To Map 0290, Entry Point A.

5
K

05JUN81 PN 8632914
 EC 379607 PEC 379605
 SEQ237 MAP 0237-4

K
4

MAP CODE 0237XXXX

M N P

SEQ237

MAP 0237-5

PAGE 5 OF 9

019

1. Set your CE Meter to measure approximately 24 Vdc as follows: (ALD YA723)
Positive test lead 01AD2D5D11
Negative test lead 01AD2D2D08
2. Press the CHECK RESET switch.(CEP POWER OFF switch must be in the NORMAL position).
3. Press the POWER ON switch at the CE PANEL and observe the meter.

Does the meter indicate a reading of 24Vdc when the POWER ON switch is pressed?

Y N

020

1. Remove power from the machine by placing PCC-CB1 in the OFF position.
2. Remove the card located in 01AD2D2.
3. Set your CE meter to the RX1 scale.
4. Check pin 01AD2D5D11 to DC gnd(01AD2D2D08).

Did the meter indicate a short circuit to gnd?

Y N

021

Exchange the CE PANEL printed circuit board.
Go To Map 0290, Entry Point A.

022

1. Remove the cable which connects to the OCP at the CPU end.
2. Check pin 01AD2D5D11 to DC gnd(01AD2D2D08).

Did the meter indicate a short circuit to gnd?

Y N

023

1. Reconnect the cable removed in the above step.
2. Disconnect the other end of this cable at the OCP end.(Terminal Display)
3. Check pin 01AD2D5D11 to DC gnd(01AD2D2D08).

Did the meter indicate a short circuit to gnd?

Y N

024

Exchange OCP Switch and Led Assembly.
Go To Map 0290, Entry Point A.

025

The tests you made indicate a short circuit is present in the cable which connects to the OCP. Check the cable ,if the short circuit cannot be found exchange the cable with a new one.
Go To Map 0290, Entry Point A.

026

1. Remove the connector located in position 01AD2Z2. (ALD YA715)
2. Reconnect the cable removed in the above step.
3. Check pin 01AD2D5D11 to DC gnd(01AD2D2D08).

Did the meter indicate a short circuit to gnd?

Y N

027

Exchange the flat cable which connects between 01AD2Z2 and Connector 03 of the CE Panel.
Go To Map 0290, Entry Point A.

028

Continuity check the following wires on the 01AD2 BOARD.
01AD2E6B02 to 01AD2F5D04
01AD2F5D05 to 01AD2D5D11
01AD2D6E04 to 01AD2D5D11
Repair the wire(s) which do not have continuity with blue and white wire.
Go To Map 0290, Entry Point A.

6

L M N P

05JUN81

PN 8632914

EC 379607

PEC 379605

SEQ237

MAP 0237-5

D L
3 5

MAP CODE 0237XXXX

PAGE 6 OF 9

029

1. Set your CE Meter to measure approximately 5 Vdc as follows:
Positive test lead 01AD2D5B12
Negative test lead 01AD2D2D08
2. Press the CHECK RESET switch.(CEP POWER OFF switch must be in the NORMAL position).
3. Press the POWER ON switch the CE PANEL and observe the meter.

Did the meter indicate a reading of greater than 1.8Vdc when the POWER ON switch was pressed?

Y N

030

Exchange the card in position 01AD2D2.
Go To Map 0290, Entry Point A.

031

The tests you have made indicate a net is broken between D2S12 and E2G13 of the 01AD2 BOARD. Using blue and white wire connect a wire between these two points.
Go To Map 0290, Entry Point A.

032

1. Set your CE Meter to measure approximately 5 Vdc as follows: (ALD YA741)
Positive test lead 01AD2E2J05
Negative test lead 01AD2E2J08
2. Press the POWER ON switch at the CE PANEL.

Does the meter indicate a down level of less than 0.8Vdc?

Y N

Q R

Q R

SEQ237

MAP 0237-6

033

Set your CE Meter to measure approximately 5 Vdc as follows: (ALD YA761)
Positive test lead 01AD2C2J02
Negative test lead 01AD2E2J08

Does the meter indicate a down level of less than 0.8Vdc?

Y N

034

The tests you have made indicate a net is broken on the 01AD2 BOARD. Using blue and white wire install a lead (wire) between 01AD2C2J02 and 01AD2E2J05.
Go To Map 0290, Entry Point A.

035

Exchange the card in position 01AD2C2.
Go To Map 0290, Entry Point A.

036

Set your CE Meter to measure approximately 5 Vdc as follows: (CEP POWER OFF switch must be in the NORMAL position): (ALD YA741)
Positive test lead 01AD2E2B10
Negative test lead 01AD2E2J08

Does the meter indicate an up level of greater than 2.4Vdc?

Y N

037

Set your CE Meter to measure approximately 5 Vdc as follows: (ALD YA751)
Positive test lead 01AD2C4J02
Negative test lead 01AD2E2J08

Does the meter indicate a down level of less than 0.8Vdc?

Y N

8 7 7
S T U

05JUN81

PN 8632914

EC 379607

PEC 379605

SEQ237

MAP 0237-6

T U
6 6

MAP CODE 0237XXXX

V

SEQ237

MAP 0237-7

PAGE 7 OF 9

038

The tests you have made indicate a net is broken on the 01AD2 BOARD. Using blue and white wire, install a wire between 01AD2E2B10 and 01AD2C4J02.

Go To Map 0290, Entry Point A.

039

Set your CE Meter to measure approximately 5 Vdc as follows: (ALD YA751)

Positive test lead 01AD2C4G07

Negative test lead 01AD2E2J08

Does the meter indicate a down level of less than 0.8Vdc?

Y N

040

Set your CE Meter to measure approximately 5 Vdc as follows: (ALD YA741)

Positive test lead 01AD2E2D06

Negative test lead 01AD2E2J08

Does the meter indicate a down level of less than 0.8Vdc?

Y N

041

Exchange the card in position 01AD2E2 position.

Go To Map 0290, Entry Point A.

042

The tests you have made indicate a net is broken on the 01AD2 BOARD. Using blue and white wire install a wire between 01AD2E2D06 and 01AD2C4G07.

Go To Map 0290, Entry Point A.

043

Set your CE Meter to measure approximately 5 Vdc as follows: (ALD YA751)

Positive test lead 01AD2C4J10

Negative test lead 01AD2E2J08

Does the meter indicate a down level of less than 0.8Vdc?

Y N

044

Exchange the card in position 01AD2C4 position.

Go To Map 0290, Entry Point A.

045

Set your CE Meter to measure approximately 5 Vdc as follows: (ALD YA751)

Positive test lead 01AD2D2M02

Negative test lead 01AD2E2J08

Does the meter indicate a down level of less than 0.8Vdc?

Y N

046

The tests you have made indicate a net is broken on the 01AD2 BOARD. Using blue and white wire, install a wire between 01AD2D2M02 and 01AD2C4J10.

Go To Map 0290, Entry Point A.

047

Set your CE Meter to measure approximately 24 Vdc as follows: (ALD YA751)

Positive test lead 01AD2D2P02

Negative test lead 01AD2E2J08

Does the meter indicate 24Vdc?

Y N

V

8 8
W X

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EC 379607 PEC 379605

SEQ237 MAP 0237-7

PAGE 8 OF 9

048

The tests you have made indicate the -POWER OFF OCP/CEP signal net is broken. See ALD YA723 and complete repair action. (Note: The -POWER OFF OCP/CEP signal should be less than 0.8Vdc only when the POWER switch OFF is pressed.)
Go To Map 0290, Entry Point A.

049

Exchange the card in position 01AD2D2 position.
Go To Map 0290, Entry Point A.

050

Set your CE Meter to measure approximately 5 Vdc as follows: (ALD YA751)
Positive test lead 01AD2C4J06
Negative test lead 01AD2E2J08

Does the meter indicate a up level greater than 2.4Vdc?

Y N

051

Exchange the following cards
01AD2D2
01AD2C4
01AB2D2
Go To Map 0290, Entry Point A.

052

Exchange the card in position 01AD2E2 position.
Go To Map 0290, Entry Point A.

053

Go To Map 0205, Entry Point A.

054

1. Set PCC-CB1 in the OFF position.
2. Remove the connector from position 03 of the CE PANEL.
3. Using your CE Meter continuity check the following circuit on the CE PANEL.
CEP CONN03-B05 to CEP CONN03-D07

Was continuity present between the points indicated with the CE PANEL POWER ON switch pressed?

Y N

055

Exchange the CE PANEL printed circuit board.
Go To Map 0290, Entry Point A.

056

1. Remove the connecting cable from OCP(Operator Control Panel) connector in the processor.
2. Continuity check the following circuit.
D07 position of the cable which connects to CONN03 of the CE PANEL and 01FJ2 Connector position 2.

Was continuity present between the points indicated?

Y N

057

1. Connect the flat cable in the CE PANEL connector CONN03 position.
2. Check the following nets and make the required repairs.
CEP CONN03-D07
01AD2E6B02
01AD2F5D04
01FJ2 Connector position 2
(If repair is required for the 01AD2 BOARD, wire wrap using blue and white wire.)
Go To Map 0290, Entry Point A.

A Y
3 8

MAP CODE 0237XXXX

SEQ237

MAP 0237-9

PAGE 9 OF 9

058

1. Continuity check the following circuit.
01AD2D5D11 to 01FJ2 Connector position 3.

Was continuity present between the points indicated?

Y N

059

- Repair the following net.
01AD2D5D11
01AD2F5D05
01FJ2 Connector position 3
(If repair is required for the 01AD2 BOARD, wire wrap using blue and white wire.
Go To Map 0290, Entry Point A.

060

- Check the continuity of the cable which connects the CPU and OCP.
Using your CE Meter check the following wire(s).
01FJ2 Position 002 to Terminal Display J2 position 2
01FJ2 Position 003 to Terminal Display J2 position 3

Was continuity present between the points indicated?

Y N

061

- Repair or exchange cable.
Go To Map 0290, Entry Point A.

062

- Exchange the OCP Switch and Led Assembly.
Go To Map 0290, Entry Point A.

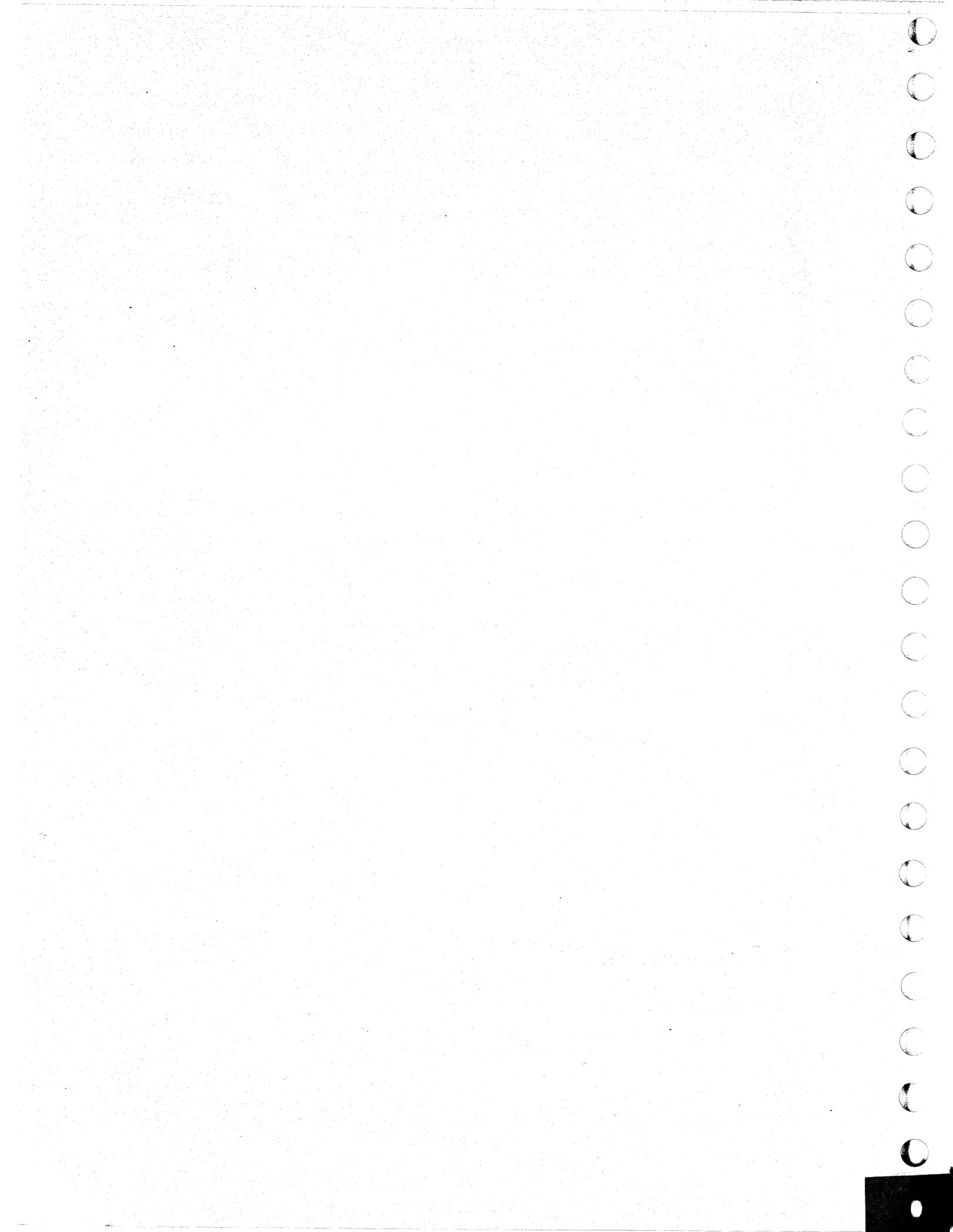
063

- Go To Map 0290, Entry Point A.**

05JUN81 PN 8632914

EC 379607 PEC 379605

SEQ237 MAP 0237-9



Failure to Power Off

PAGE 1 OF 5

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
F000	A	1	001
0000	B	4	018
0255	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
5	027	0001	A
2	008	0290	A
5	029	0290	A
3	013	0290	A
3	015	0290	A
3	017	0290	A
4	019	0290	A
4	021	0290	A
4	024	0290	A
5	026	0290	A
4	025	0290	A
3	011	0290	A
3	010	0290	A
2	009	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

Symptom:
(Step 001 continues)

(Step 001 continued)

The machine fails to power off.

Set the CE MODE switch and CE POWER OFF switch to normal.

Press the CEP(CE Panel) POWER OFF switch.

Did the machine power off from the CE Panel?

Y N

002

1. Set the CE POWER OFF switch to normal.
2. Remove power from the machine by the following manual sequence:
 - a. Set PCC-CB1 in the OFF position.
 - b. Set PCC-CB2 in the OFF position.
 - c. Reset any circuit protectors which may have tripped in PS104 during the power down.
 - d. Set PCC-CB1 in the ON position.

Is blower AMD103 running as a result of resetting PCC-CB1?

Y N

003

1. Set the CE MODE switch on.
2. Press the POWER ON switch at the CE PANEL.
The machine should power on with the POWER IN PROCESS indicator lighted.
3. Press the POWER OFF switch at the CE PANEL.

Did the machine power down when the POWER OFF switch was pressed.

Y N

004

1. Connect your CE Meter to measure approximately 5 Vdc as follows: (ALD YA723)
Positive test lead 01AD2D2M02
Negative test lead 01AD2D2D08
2. Observe the meter and press the POWER OFF switch at the CE PANEL.

Does the meter indicate a reading of less than 0.8 Vdc?

Y N

5 5 5 3
A B C D E

005

1. Connect your CE Meter to measure approximately 24 Vdc as follows: (ALD YA723)
Positive test lead 01AD2D2P02
Negative test lead 01AD2D2D08
2. Observe the meter and press the POWER OFF switch at the CE PANEL.

Does the meter indicate a reading of less than 0.8 Vdc?

Y N

006

1. Connect your CE Meter to measure approximately 24 Vdc as follows: (ALD YA715)
Positive test lead 01AD2E6A02
Negative test lead 01AD2D2D08
2. Observe the meter and press the POWER OFF switch at the CE PANEL.

Does the meter indicate a reading of less than 0.8 Vdc?

Y N

007

1. Set PCC-CB1 in the OFF position.
2. Check PS104 circuit protectors and reset any which may have tripped during power down.
3. Using your CE Meter check the continuity between the following two points:
01AD2E6A02 to CE PANEL CONN03-D06

Was continuity present for the points indicated above?

Y N

008

Exchange the flat cable which connects between the 01AD2Z2 socket and the CE PANEL.
Go To Map 0290, Entry Point A.

009

Exchange the CE PANEL printed circuit board.
Go To Map 0290, Entry Point A.

3 3
F G

D F G
2 2 2

MAP CODE 0238XXXX

PAGE 3 OF 5

010

The tests you have made indicate a net is broken on the 01AD2 BOARD. Using blue and white wire, wire wrap a wire between the following pins:

01AD2E6A02

01AD2D2P02

(Trip PCC-CB1 before repairing the board)

Go To Map 0290, Entry Point A.

011

Exchange the card located in position 01AD2D2.

Go To Map 0290, Entry Point A.

012

1. Connect your CE Meter to measure approximately 5 Vdc as follows: (ALD YA751)

Positive test lead 01AD2C4J10

Negative test lead 01AD2D2D08

2. Observe the meter and press the POWER OFF switch at the CE PANEL.

Does the meter indicate a reading of less than 0.8 Vdc?

Y N

013

The tests you have made indicate a net is broken on the 01AD2 BOARD. Using blue and white wire, wire wrap a wire between the following pins: (ALD YA751)

01AD2C4J10

01AD2D2M02

(Set PCC-CB1 in the OFF position before repairing the board)

Go To Map 0290, Entry Point A.

H

SEQ238

MAP 0238-3

014

1. Connect your CE Meter to measure approximately 5 Vdc as follows: (ALD YA751)

Positive test lead 01AD2C4J02

Negative test lead 01AD2D2D08

2. Observe the meter and press the POWER OFF switch at the CE PANEL.

Does the meter indicate a reading of less than 0.8 Vdc?

Y N

015

Exchange the card located in position 01AD2C4.

Go To Map 0290, Entry Point A.

016

1. Connect your CE Meter to measure approximately 5 Vdc as follows: (ALD YA741)

Positive test lead 01AD2E2B10

Negative test lead 01AD2D2D08

2. Observe the meter and press the POWER OFF switch at the CE PANEL.

Does the meter indicate a reading of less than 0.8 Vdc?

Y N

017

The tests you have made indicate a net is broken on the 01AD2 BOARD. Using blue and white wire, wire wrap a wire between the following pins: (ALD YA751)

01AD2C4J02

01AD2E2B10

(Set PCC-CB1 in the OFF position before repairing the board)

Go To Map 0290, Entry Point A.

H

4
J

06MAR81

PN 8632915

EC 379605

PEC 379599

SEQ238

MAP 0238-3

018

(Entry Point B)

1. Connect your CE Meter to measure approximately 5 Vdc as follows: (ALD YA741)
 Positive test lead 01AD2E2G11
 Negative test lead 01AD2D2D08
2. Observe the meter and press the POWER OFF switch at the CE PANEL.

Does the meter indicate a reading greater than 2.4 Vdc when the POWER OFF switch is pressed?

Y N

019

Exchange the card located in position 01AD2E2.
 Go To Map 0290, Entry Point A.

020

1. Connect your CE Meter to measure approximately 5 Vdc as follows: (ALD YA711)
 Positive test lead 01AD2F3D11
 Negative test lead 01AD2D2D08
2. Observe the meter and press the POWER OFF switch at the CE PANEL.

Does the meter indicate a reading greater than 2.4 Vdc when the POWER OFF switch is pressed?

Y N

021

The tests you have made indicate a net is broken on the 01AD2 BOARD. Using blue and white wire, wire wrap a wire between the following pins: (ALD YA741)
 01AD2E2G11
 01AD2F3D11
 (Set PCC-CB1 in the OFF position before repairing the board)
 Go To Map 0290, Entry Point A.

K

K

SEQ238

MAP 0238-4

022

1. Connect your CE Meter to measure approximately 24 Vdc as follows: (ALD YA771)
 Positive test lead 01AD2F4D10
 Negative test lead 01AD2D2D08
2. Observe the meter and press the POWER OFF switch at the CE PANEL.

Does the meter indicate a reading less than 0.8 Vdc when the POWER OFF switch is pressed?

Y N

023

1. Connect your CE Meter to measure approximately 5 Vdc as follows:
 Positive test lead PS101 CONN.08-03
 Negative test lead PS101 CONN.05-06
2. Observe the meter and press the POWER OFF switch at the CE PANEL.

Does the meter indicate a reading less than 0.8 Vdc when the POWER OFF switch is pressed?

Y N

024

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS101.

Exchange PS101
 Go To Map 0290, Entry Point A.

025

Repair the cable wire which connects 01AD2F3D11 to PS101 CONN.08-03
 Go To Map 0290, Entry Point A.

5
L

06MAR81

PN 8632915

EC 379605

PEC 379599

SEQ238

MAP 0238-4

A B C L
2 2 2 4

MAP CODE 0238XXXX

SEQ238

MAP 0238-5

PAGE 5 OF 5

026

DANGER

Testing within the PRIMARY CONTROL COMPARTMENT will be required. Place PCC CB1 and PCC CB2 in the OFF position before removing cable wires, connectors, or relay K02 and suppression diode. Observe all safety procedures for measuring PRIMARY POWER VOLTAGES.

Exchange contactor K02 in the PCC.
Go To Map 0290, Entry Point A.

027

Problem is not corrected.
Go To Map 0001, Entry Point A.

028

Go to Page 4, Step 018, Entry Point B.

029

Exchange the SWITCH AND LED ASSEMBLY at the OCP.
Go To Map 0290, Entry Point A.

06MAR81 PN 8632915
EC 379605 PEC 379599
SEQ238 MAP 0238-5



Power Off Failure

PAGE 1 OF 2

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
F600	A	1	001
0000	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	F000	A2
2	006	0290	A
2	007	0290	A
2	005	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
*   Before removing cards, cables, or power supplies,
*   disconnect power from the machine. If the POWER IN
*   PROCESS or POWER COMPLETE indicators are lighted,
*   press the POWER OFF switch and allow the machine
*   to power off. Place CB1 and CB2, which are
*   located in the POWER CONTROL COMPARTMENT, in the
*   OFF position.
*
*   Use the SUPPLEMENT TO MAINTENANCE INFORMATION
*   manual to locate contactors, circuit breakers,
*   circuit protectors, terminal blocks and various
*   other related parts and/or assemblies.
*
*****
    
```

Symptom:

The following indicators are lighted
 PWR OFF FAILURE
 BASIC CHECK

(Step 001 continues)

(Step 001 continued)

Remove the cards located in the 01AD2 Board and ensure the following connectors are correctly seated.

- 01AD2Y1
- 01AD2Y2
- 01AD2Z1
- 01AD2Z2
- 01AD2F3
- 01AD2F4
- 01AD2F5

Replace the cards removed.

Remove the CE Panel cover and check the connectors, which connect to the CP Panel printed circuit board, to ensure they are properly seated. Replace the CE Panel cover after connectors have been checked.

Power on the machine to ensure the failure symptoms are still present before proceeding further. If the failure systems have changed Go to MAP 0290, Entry Point A.

1. Press the CEP POWER OFF switch.
2. Set the CE-MODE switch to CE-MODE ON and the POWER OFF switch to NORMAL.
3. Connect the oscilloscope to 01AD2C4G13 as follows: (ALD YA751)
4. Press the CHECK RESET switch at the CE PANEL.
 - Horz. 1millisecond/div.
 - Vert. 2Vdc/div.

The signal to be observed will be a down level pulse lasting less than a millisecond. The down level will be less than +0.8Vdc and the up level will be greater +2.4Vdc. The pulse must be present at least once every 25 seconds for the system to maintain a power-on state. If the pulse does not come at least once within the specified period the indicators in the above symptom will be present and the processing portion of the machine will be powered down.

(NOTE: The pulse will occur only after the message ACTION 00 COMPLETE.

5. Press the POWER ON switch

Is the pulse described above present?

Y N

||

A B

002

Using the oscilloscope settings in the above step move the oscilloscope probe to 01AB2D2G09.

Is the pulse described in the previous step present at this location?

Y N

003

Exchange the card located in position 01AB2D2 01AD2D2, and 01AD2C4.

Verify correct location of jumper on 01AB2D2 card. Refer to P.C.A. card jumpering VOL16.

Is the pulse described in the previous step present with the new card?

Y N

004

Go To Map F000, Entry Point A2.

005

Go To Map 0290, Entry Point A.

006

1. Press the POWER OFF switch
2. Set PCC-CB1 in the OFF position.
3. Using your CE Meter continuity check the following net.

- 01AB2D2G09
- 01AB2A6E04
- 01AD2A6C04
- 01AD2D2S05
- 01AD2C4G13

Locate the discontinuity and make the necessary repairs.

Go To Map 0290, Entry Point A.

007

Exchange the card located in 01AD2C2, 01AD2E2, and 01AD2C4 positions .

Go To Map 0290, Entry Point A.

CP-5 TRIP (+5V)

PAGE 1 OF 3

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0290	A
3	013	0290	A
2	006	0290	A
2	009	0290	A
2	007	0290	A
3	012	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

+5VOLT OVERCURRENT

(Step 001 continues)

(Step 001 continued)

SYMPTOM:

The following indicators on the CE PANEL are lighted.
 PS104 CP OPEN
 BASIC CHECK

The following circuit protector is tripped.
 PS104 CP5
 (ALD YA603)

1. Reset PS104-CP5.
2. Press the CHECK RESET switch at the CE-PANEL
2. Remove the FDS Distribution from 01AB2 BOARD positions A4 and V4. (ALD YA665)
4. Press the POWER ON switch.

Is PS104-CP5 in the OFF position?

Y N

002

1. Connect the connectors removed from the 01AB2 BOARD positions A4 and V4.
2. Remove the connector located in 01AB2Z1. (Connector 01AB2Z1 is located on card side of board.)
3. Press the POWER ON switch.

Is PS104-CP5 in the OFF position?

Y N

003

1. Connect the cable connector removed from 01AB2Z1.
2. Remove the logic card located in 01AD2D2. (ALD YA721)
3. Using your CE Meter measure the resistance G12 position to the D08 position.

Was the measurement greater than 500 ohms?

Y N

004

The card removed was failing.
 Exchange with a new card.
 Go To Map 0290, Entry Point A.

005

1. Replace card removed from 01AD2D2 position.
2. Remove cable connector in 01AD2Z1 (ALD YA717) and 01AB2Z1 and measure the cable position D07 to the pin positions nearby and D08 for short circuits. Visually inspect the cable for damage.

Was a problem found?

Y N

006

1. Check the 01AD2 BOARD for bent or broken pins which which may cause a short circuit.
2. Check the following pins by measuring for a short circuit to gnd. (ALD YA717/YA721)

01AD2B6B02

01AD2D2G12

If no short circuits are located, exchange 01AD2 BOARD.

Go To Map 0290, Entry Point A.

007

Exchange the cable which plugs into 01AD2Z1 (ALD YA717).
 Go To Map 0290, Entry Point A.

008

1. Reset PS104 CP5. Press the CHECK RESET switch at the CE PANEL.
2. Remove the cards from the 01AB2 BOARD
3. Press the POWER ON switch.

Is PS104 CP5 in the OFF position?

Y N

009

There is an overload condition caused by one or more of the cards removed from the 01AB2 BOARD. Isolate the failing card by inserting them one at time and going through the partial power on process. Check all cards and exchange any cards which cause the PS104 CP5 to trip.
 Go To Map 0290, Entry Point A.

010

Inspect the board for bent or broken pins which might relate to the problem. If no repairable damage is found, exchange the 01AB2 BOARD.

14MAY80 PN 8632995

EC 379599 PEC -----

SEQ241 MAP 0241-2

A
2

REF. CODE 0241XXXX

SEQ241

MAP 0241-3

PAGE 3 OF 3

011

1. Reset PS104-CP5.
2. Press the CHECK RESET switch at the CE-PANEL
2. Remove the FDS DISTRIBUTION from PS104 TB1 and TB2. (ALD YA665)
4. Press the POWER ON switch.

Is PS104 CP5 in the OFF position?

Y N

012

Check the FDS DISTRIBUTION from the 01AB2 BOARD to PS104. If no visible short circuits are found, exchange it.

Go To Map 0290, Entry Point A.

013

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.

Exchange PS104

Go To Map 0290, Entry Point A.

14MAY80 PN 8632995

EC 379599 PEC -----

SEQ241 MAP 0241-3



CP-1 Trip (-5V)

PAGE 1 OF 6

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	006	0290	A
6	035	0290	A
5	028	0290	A
6	033	0290	A
5	030	0290	A
5	031	0290	A
6	034	0290	A
4	019	0290	A
5	025	0290	A
4	023	0290	A
5	024	0290	A
4	021	0290	A
4	020	0290	A
3	014	0290	A
3	010	0290	A
3	012	0290	A
3	011	0290	A
3	013	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

(Step 001 continues)

(Step 001 continued)
-5V OVERCURRENT

The following indicators on the CE PANEL are lighted.
PS104 CP OPEN
BASIC CHECK

The following circuit protector is tripped:
PS104-CP1 (YA603),

1. Remove the following connectors from PS104.
CONN05
CONN03
CONN02
2. Reset PS104-CP1.
3. Press the CHECK RESET switch at the CE PANEL.
4. Press the POWER ON switch at the CE PANEL.

Did PS104-CP1 trip as a result of pressing the
POWER ON switch?

Y N

002

1. Connect PS104 CONN02 into the position from which it was removed in the above step.
2. Press the CHECK RESET switch at the CE PANEL.
4. Press the POWER ON switch at the CE PANEL.

Did PS104-CP1 trip as a result of pressing the
POWER ON switch?

Y N

003

1. Connect PS104 CONN05 into the position from which it was removed in the above step.
2. Press the CHECK RESET switch at the CE PANEL.
3. Press the POWER ON switch at the CE PANEL.

Did PS104-CP1 trip as a result of pressing the
POWER ON switch?

Y N

6 5 3
A B C D

004

1. Connect PS104 CONN03 into the position from which it was removed in the above step.
2. Remove the voltage distribution cable which connects to the 01AB2 BOARD pins U4A01 and U3A14. (YA665)
3. Press the CHECK RESET switch at the CE PANEL.
4. Press the POWER ON switch at the CE PANEL.

Did PS104-CP1 trip as a result of pressing the
POWER ON switch?

Y N

005

1. Connect the voltage distribution cable which connects to the 01AB2 BOARD pins U4A01 and U3A14. (YA665)
2. Remove the logic cards from 01AB2 BOARD.
3. Press the CHECK RESET switch at the CE PANEL.
4. Press the POWER ON switch at the CE PANEL.

Did PS104-CP1 trip as a result of pressing the
POWER ON switch?

Y N

006

Insert the logic cards removed in the above step one at a time. Test the machine for a PS104 CP1 trip as each card is inserted. Exchange any cards which cause a trip condition.
Go To Map 0290, Entry Point A.

007

1. Trip PCC CB1 to disconnect power from the machine.
2. Remove the flat cable from Z1 position of the 01AB2 BOARD. Using your CE Meter measure the resistance between D09 and D08 of the connector. Record your reading.

Was the reading taken greater than 500 ohms?

Y N

3 3 3
E F G

008

1. Remove the flat cable from Z1 position of the 01AD2 BOARD.
2. Using your CE Meter measure the resistance between B6D02 and B5D08 of the 01AD2 BOARD. Record your reading.

Was the reading taken greater than 500 ohms?

Y N

009

1. Remove the card located in position D2 of the 01AD2 BOARD.
2. Repeat the resistance measurement between B6D02 and B5D08 of the 01AD2 BOARD. Record your reading.

Was the reading taken greater than 500 ohms?

Y N

010

The measurement taken indicates a problem exists on the 01AD2 BOARD. Check the board for bent or broken pins. If the problem cannot be isolated and repaired, exchange the board.
Go To Map 0290, Entry Point A.

011

From the measurements and tests made the indications are that a problem exists in the card which was removed from the 01AD2D2 socket position. Exchange the card.
Go To Map 0290, Entry Point A.

012

From the measurements and tests made the indications are that a problem exists in the flat cable which connects between the Z1 positions of the 01AD2 and 01AB2 BOARDS. Exchange the cable.
Go To Map 0290, Entry Point A.

013

From the measurements and tests made the indications are that a problem exists on the 01AB2 BOARD. Remove the remaining connectors and connect the ohmmeter across the -5Vdc distribution input pins (U4A01 and U3A14). Refer to ALD page YA665. Check from the -5Vdc pin to the other voltage pins indicated on the ALD page for that board. There should be no cards or cables connected or plugged in the board; therefore, the ohmmeter check will be for a short or open circuit condition. Exchange the board if it cannot be repaired.
Go To Map 0290, Entry Point A.

014

Check and repair the cable which connects PS104 and the 01AB2 BOARD. Remove the cable at the power supply and board before making any continuity or short circuit tests. Using your CE Meter continuity check the following wires. Check the remaining wires of the cable for a shorted condition.

- PS104 CONN03-001 to U4A01
- PS104 CONN03-003 to U4A14

Go To Map 0290, Entry Point A.

015

1. Remove connector located on the 01AA2 BOARD which connects to positions U4A01 and U3A14.(ALD YA719).
2. Reset PS104-CP1.
3. Press the CHECK RESET switch at the CE PANEL.
4. Press the POWER ON switch at the CE PANEL.

Did PS104-CP1 trip as a result of pressing the POWER ON switch?

Y N

J
3

K L

016

1. Connect the connector removed in the preceding step.
2. Trip PCC CB1 to disconnect power from the machine.
3. Remove the cable plugged in position 01AA2V2. Measure the resistance between D11 and D08 of the connector removed.

Was the reading taken greater than 500 ohms?

Y N

017

1. Remove the card located in position 01AD2B2.
2. Measure the resistance between A2B03 and C3D08 of the 01AD2 BOARD.

Was the reading taken greater than 500 ohms?

Y N

018

1. Remove the cable connector located in position 01AD2B2. (ALD YA731)
2. Measure the resistance between A2B03 and C3D08 of the 01AD2 BOARD.

Was the reading taken greater than 500 ohms?

Y N

019

Exchange the card located in position 01AD2B2.
Go To Map 0290, Entry Point A.

020

From the tests and measurements made the indications are that a problem exists on 01AD2 BOARD. Check the board for bent or broken pins. If the problem cannot be isolated, exchange the board.
Go To Map 0290, Entry Point A.

K L

021

From the tests and measurements made, the indications are a problem exists in the cable which connects between the 01AA2 board and 01AD2 BOARD. Check the following wires in the cable to locate and repair the problem.

(YA665/701)

- 01AA2V2D09 to 01AD2A2B02 (+5v)
- 01AA2V2D11 to 01AD2A2B03 (-5v)
- 01AA2V2D06 to 01AD2A2B04 (+8.5v)
- 01AA2V2D08 to 01AD2A2D08 (Gnd)

If the problem cannot be located, exchange the cable.

Go To Map 0290, Entry Point A.

022

1. Connect the connector removed from the 01AD2A2 position. (ALD YA701).
2. Reset PCC CB1.
3. Remove the cards from the 01AA2 BOARD in rows K through P. The cards located in the rows K through P are supplied power by PS104-CP1, the remaining cards are powered via another source.
4. Press the POWER ON switch at the CE PANEL.

Did PS104-CP1 trip as a result of pressing the POWER ON switch?

Y N

023

Insert the logic cards removed in the above step one at a time. Test the machine for a PS104 CP1 trip as each card is inserted. Exchange any cards which cause a trip condition.
Go To Map 0290, Entry Point A.

5
M

024

From the measurements and tests made, the indications are that a problem exists in the 01AA2 BOARD. Remove the remaining cards and connectors from the BOARD. Place the ohmmeter across the -5Vdc distribution input pins (U4E01 and U3E14). Refer to ALD page YA665. Check the -5VDC pin to the other voltage pins indicated on the ALD page for that board. There should be no cards or cables connected or plugged in the board; therefore, the ohmmeter check will be for a short or open circuit condition. Exchange the board if the problem cannot be found.

Go To Map 0290, Entry Point A.

025

Check and repair the cable which connects PS104 and the 01AA2 BOARD. Using your CE Meter continuity check the following wires. Check the remaining wires of the cable for a short circuit condition relative to these wires. Remove the cable at the power supply and board before making any continuity checks.

PS104 CONN05-003 to U4E01

PS104 CONN05-006 to U4E14

Go To Map 0290, Entry Point A.

026

1. Remove PS101-CONN04.
2. Reset PS104-CP1.
3. Press the CHECK RESET switch at the CE PANEL.
4. Press the POWER ON switch at the CE PANEL.

Did PS104-CP1 trip as a result of pressing the POWER ON switch?

Y N

6
N P

027

1. Connect PS101-CONN04.
2. Locate the the cable which connects to the DISKETTE DRIVE 2D. Follow this cable back and locate a branch which connects to another cable whose connector is labeled DISKETTE DRIVE 2D CONN02. Disconnect the branch which connects to the DISKETTE DRIVE 2D CONN01. (YA951)

Did PS104-CP1 trip as a result of pressing the POWER ON switch?

Y N

028

Exchange card in DISKETTE DRIVE 2D.
Go To Map 0290, Entry Point A.

029

1. Connect the cable connector removed from the DISKETTE DR 2D.
2. Disconnect DISKETTE DRIVE 2D CONN02 from the branch located in the above step.
3. Press the CHECK RESET switch at the CE PANEL.
4. Press the POWER ON switch at the CE PANEL.

Did PS104-CP1 trip as a result of pressing the POWER ON switch?

Y N

030

1. Reconnect DISKETTE DRIVE 2D CONN02 and visually check the connection for any short circuits.
2. Remove the connector card from position 01AB2B4. Visually check the connector card for any short circuits or other problems. If no repairable problems are found exchange the cable which connects between 01AB2B4 and and DISKETTE DRIVE 2D CONN02.

Go To Map 0290, Entry Point A.

031

Check the cable which connects between the PS101-CONN04 and the DISKETTE DRIVE 2D. The tests you have made indicate a problem exists in the cable. If this problem cannot be located, exchange the cable.

Go To Map 0290, Entry Point A.

PAGE 6 OF 6

032

1. Connect the connector from PS101-CONN04.
2. Remove PS101 CONN03.
3. Press the CHECK RESET switch at the CE PANEL.
4. Press the POWER ON switch at the CE PANEL.

Did PS104-CP1 trip as a result of pressing the POWER ON switch?

Y N

033

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS101.

Exchange PS101.
Go To Map 0290, Entry Point A.

034

The tests you have made indicate a problem exists in the cable which connects between PS104 and PS101. Check the following wires for continuity and the other wire in the cable for short circuits. Remove both ends of the cable before making your tests.

(YA601/603)

PS101 CONN03-004 to PS104 CONN02-003
PS101 CONN03-003 to PS104 CONN02-004
Go To Map 0290, Entry Point A.

035

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104. Hazardous voltages may be generated when disconnecting TR104 from PS104.

Exchange PS104.
Go To Map 0290, Entry Point A.

14MAY80 PN 8632996

EC 379599 PEC -----

SEQ242 MAP 0242-6

CP-4 Trip (8.5V)

PAGE 1 OF 4

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	004	0290	A
4	022	0290	A
4	023	0290	A
3	015	0290	A
3	019	0290	A
3	020	0290	A
3	017	0290	A
3	016	0290	A
2	008	0290	A
3	011	0290	A
3	010	0290	A
2	009	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

(Step 001 continues)

(Step 001 continued)

8.5VOLT OVERCURRENT

Symptom:

The following CE PANEL Indicators are lighted:

BASIC CHECK
PS104 CP OPEN

The following circuit protector is tripped:

PS104 CP4 (ALD603)

1. Reset PS104 CP4.
2. Press the CHECK RESET switch on the CE PANEL.
3. Remove the connectors from to the following board pins. (YA663)
 - 01AA2U3A01
 - 01AA2U5A01
 - 01AB2U2A14
 - 01AB2U4A14
4. Press the POWER ON switch at the CE PANEL.

Did PS104 CP4 trip?

Y N

002

1. Press the CHECK RESET switch at the CE PANEL.
2. Connect the cable connectors removed in the above step to the 01AB2 board only (Do not connect the 01AA2 board at this time). (ALD YA663)
3. Press the POWER ON switch.

Did PS104 CP4 Trip?

Y N

003

1. Connect the connectors to 01AA2 board. (ALD YA603)
2. Remove the logic cards in positions K through P of the 01AA2 board.
3. Press the POWER ON switch at the CE PANEL.

Did PS104 CP4 Trip?

Y N

3 3
A B C D**004**

Insert the cards one at a time, exchanging any which cause the PS104 CP4 to trip. Do a partial power on for each card inserted.

Go To Map 0290, Entry Point A.**005**

1. Remove the connector which is located in position 01AV2V2
2. Remove power from the machine by placing PCC CB1 in the OFF position.
3. Using your CE Meter measure position B11 to D08 of the cable connector removed from 01AV2V2.

Was the resistance recorded greater than 500 Ohms?

Y N

006

1. Remove the card from position 01AD2B2.(YA723)
2. Repeat the measurement made in the preceding step. Record your measurement.

Was the resistance greater than 500 ohms?

Y N

007

1. Remove the cable connector located in 01AD2A2. (ALD YA701)
2. Again repeat the measurement made in the preceding step.

Was the resistance recorded greater than 500 ohms?

Y N

008

Repair or exchange the cable.
Go To Map 0290, Entry Point A.

009

The symptoms indicate that a short circuit condition exists on the 01AD2 BOARD. Check the board for bent and broken pins. If the problem cannot be located and repaired, exchange the board.

Go To Map 0290, Entry Point A.3 3
E F

15SEP80 PN 8632997
EC 379602 PEC 379599
SEQ243 MAP 0243-2

B E F
2 2 2

REF. CODE 0243XXXX

A G H J
2

SEQ243

MAP 0243-3

PAGE 3 OF 4

010

The removed card was failing. Replace with a new card.

Go To Map 0290, Entry Point A.

011

The indications are that a short circuit condition exists on the 01AA2 BOARD. Check for broken or bent pins. If short circuit condition cannot be located and repaired, exchange the board.

Go To Map 0290, Entry Point A.

012

1. Reset PS104 CP4.
2. Trip PCC CB1.
3. Remove the cable connector which is connected in location 01AB2Z1.
4. Using your CE Meter on the ohms scale measure the resistance between D08 and D10 of the connector removed. Record your measurement.

Was the reading recorded greater than 500 ohms?

Y N

013

1. Remove the cable connector located in 01AD2Z1.
2. Using your CE Meter measure the resistance between pins 01AD2B6E02 (YA717) and 01AD2B5D08.

Was the measurement greater than 500 ohms?

Y N

014

1. Remove the card located in 01AD2D2 position.
2. Using your CE Meter measure the resistance between pins 01AD2B6E02(YA717) and 01AD2E5D08. Record your measurement.

Was the resistance recorded more than 500 ohms?

Y N

015

Check the 01AD2 BOARD for bent or broken pins. If no damage is found, exchange the board.

Go To Map 0290, Entry Point A.

016

The card which was located in the 01AD2D2 position is failing, exchange it with a new card.

Go To Map 0290, Entry Point A.

017

Exchange the cable which connects between 01AB2Z1 and 01AD2Z1 (YA717).

Go To Map 0290, Entry Point A.

018

1. Reinstall the connector removed in the above step.
2. Remove the cards from the B2 BOARD.
3. Reset PCC CB1
4. Press the POWER ON switch at the CE PANEL.

Did PS104 CP4 trip?

Y N

019

Insert the cards one at a time, exchanging any which cause a PS104 CP4 trip.

Go To Map 0290, Entry Point A.

020

Check the 01AB2 BOARD for bent or broken pins which may have caused this problem, if no problems are found exchange the board.

Go To Map 0290, Entry Point A.

021

Check the cables which connect between PS104 and the 01AB2 and 01AA2 BOARDS. Using your CE Meter check the following wires. Remove the cable at the PS104 end.(YA603)

PS104 CONN03-011 to 01AB2U2A14

PS104 CONN03-012 to 01AB2U4A14

PS104 CONN03-006 to 01AB2U2E14

PS104 CONN03-009 to 01AB2U4E14

PS104 CONN05-001 to 01AA2U3A01

PS104 CONN05-002 to 01AA2U5A01

PS104 CONN05-004 to 01AA2U2A14

PS104 CONN05-005 to 01AA2U4A14

Visually inspect all wires in the connector and check from each wire to the other wires in the cable connectors for short circuit conditions or other damage. (Step 021 continues)

15SEP80

PN 8632997

EC 379602

PEC 379599

SEQ243

MAP 0243-3

G H J

(Step 021 continued)

Were any problems found which would cause the failure indicated by the CE PANEL indicators?

Y N

022

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.

Exchange PS104.

Go To Map 0290, Entry Point A.

023

Repair the problems found or exchange the cable which has the damage.

Go To Map 0290, Entry Point A.

CP-2 Trip (+12V)

PAGE 1 OF 3

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	005	0290	A
2	006	0290	A
3	015	0290	A
3	014	0290	A
2	009	0290	A
2	010	0290	A
3	012	0290	A
3	013	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

SYMPTOM:

The following CE PANEL indicators are lighted.

P104 CP OPEN

BASIC CHECK

The following circuit protector is tripped.

PS104 CP2

(Step 001 continues)

PAGE 2 OF 3

(Step 001 continued)

1. Reset PS104 CP2.
2. Press Check Reset on the CE PANEL.
3. Remove pins 7 and 8 from cable connector PS104 CONN03. (Position the wires such that a short circuit will not occur when power is turned on.)
4. Press the POWER ON switch.

Is PS104 CP2 in the OFF position?

Y N

002

1. Press the CHECK RESET switch on the CE PANEL.
2. Insert pins 7 and 8 in CONN03 removed in the above step. Do not insert the connector.
3. Remove Connector Card from 01AB2V4. '+12V PS104 TO 01AB2' (See ALD-YA665)
4. Using your CE Meter check between pins 7 and 8 in PS104 CONN03 and the remaining pins in the connector for short circuits.

Was the problem found?

Y N

003

1. Press the POWER OFF switch on the CE PANEL.
2. Reconnect VOLTAGE CONNECTOR 01AB2V4 and PS104 CONN03.
3. Remove PC-SENSE CARDS from positions 01AB2C2 and 01AB2D2.
4. Press the POWER ON switch.

Is PS104 CP2 in the OFF position?

Y N

004

There is a short circuit on one of the PC SENSE CARDS.

1. Insert one of the removed sense cards into position 01AB2D2.
2. Press the CHECK RESET switch.
3. Press the POWER ON switch.

Is PS104 CP2 in the OFF position?

Y N

005

Exchange the SENSE CARD which is not inserted and insert the new card into position 01AB2C2.

Go To Map 0290, Entry Point A.

006

Exchange the SENSE CARD which is inserted in position 01AB2D2 and insert second SENSE CARD in position 01AB2C2.

Go To Map 0290, Entry Point A.

007

1. Switch PCC-CB1 off.
2. Disconnect VOLTAGE CONNECTOR from 01AB2V4.
3. Remove connector from position 01AB2B6.
4. Connect Ohm-Meter to pin 01AB2V4B03/B04 and 01AB2C2D08 and measure the resistance. Record your measurement. (See ALD YA665)

Is the resistance measured greater than 500 ohms?

Y N

008

1. Remove HWS CARD from position 01AD2D2.
2. Repeat measurement made in earlier step.

Is the resistance measured by your CE-METER greater than 500 ohms?

Y N

009

Suspect a short circuit on 01AB2 BOARD. Make visual inspection for bent or broken pins. If no trouble is found, exchange 01AB2 BOARD. Go To Map 0290, Entry Point A.

010

1. Exchange the HWS-CARD which was removed from position 01AD2D2.
2. Insert all the cards that were removed and reconnect all the connectors.

Go To Map 0290, Entry Point A.

3 3
A B C D E3
F

14MAY80 PN 8632998

EC 379599 PEC -----

SEQ244 MAP 0244-2

B F
2 2

REF. CODE 0244XXXX

A
2

SEQ244

MAP 0244-3

PAGE 3 OF 3

011

1. Insert resistor card into position 01AB2B3.
2. Repeat resistance measurement made in earlier step.

Is the resistance measured greater than 500 ohms?

Y N

012

1. Exchange the resistor card in position 01AB2B3.
2. Reconnect PC-SENSE CARDS in positions 01AB2C2 and 01AB2D2.
3. Reconnect voltage connector to 01AB2V4B03/B04.

Go To Map 0290, Entry Point A.

013

Suspect an intermittent short circuit. Make a visual inspection of the following parts:

1. Cable from PS104 CONN04 (See ALD-YA603) to 01AB2 BOARD (See ALD-YA665)
2. Resistors on card in position 01AB2B3.
3. Check 01AB2 BOARD for bent or broken pins.
4. PC-SENSE CARDS in positions 01AB2C2 and 01AB2D2.
5. HWS CARD in position 01AD2D2. If no trouble is found, use Power Manual and ALD'S for more trouble shooting or call for aid.

Go To Map 0290, Entry Point A.

014

Check and repair wiring from PS104 CONN04 (ALD-YA603) to BOARD 01AB2. (ALD-YA665)

Check the following lines

- PS104 CONN03-7 to 01AB2V4B03 (+12)
- PS104 CONN03-8 to 01AB2V4B04 (+12)
- PS104 CONN03-14 to 01AB2V4D08 (+12 Return)
- PS104 CONN03-15 to 01AB2V4D08 (+12 Return)

Go To Map 0290, Entry Point A.

015

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.

1. Exchange PS104.
 2. Reconnect PS104 CONN03.
- Go To Map 0290, Entry Point A.

14MAY80 PN 8632998

EC 379599 PEC -----

SEQ244 MAP 0244-3



CP-3 Trip (-12V)

PAGE 1 OF 4

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	005	0290	A
2	006	0290	A
4	020	0290	A
4	021	0290	A
2	009	0290	A
2	010	0290	A
3	012	0290	A
3	016	0290	A
3	018	0290	A
3	017	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****

```

-12V OVERCURRENT

SYMPTOM:

The following CE PANEL indicators are lighted.

- P104 CP OPEN
- BASIC CHECK

The following PS104 CP is tripped.

CP3

(Step 001 continues)

(Step 001 continued)

1. Reset PS104 CP3
2. Press the CHECK RESET switch on the CE PANEL.
3. Remove the connector which is located in position 01AB2V4 (Connector located on the card side).
4. Remove the connector which attaches to position 01AA2B5E01.
5. Press the POWER ON switch.

Is PS104-CP3 in the OFF position?

Y N

002

1. Press the CHECK RESET switch at CE PANEL.
2. Reconnect at the power connector to the 01AA2 board which was removed in the above step.
3. Press the POWER ON switch.

Is PS104-CP3 in the OFF position?

Y N

003

1. Press POWER OFF switch.
2. Reconnect VOLTAGE CONNECTOR 01AB2V4.
3. Remove PC-SENSE CARDS from positions 01AB2C2 and 01AB2D2.
4. Press the POWER ON switch.

Is PS104 CP3 in the OFF position?

Y N

004

- There is a short circuit on one of the PC SENSE CARDS.
1. Insert one of the removed sense cards into position 01AB2D2.
 2. Press the CHECK RESET switch.
 3. Press POWER ON switch.

Is PS104 CP3 in the OFF position?

Y N

005

- Exchange the SENSE CARD which is remaining and insert the new card into position 01AB2C2.
Go To Map 0290, Entry Point A.

006

- Exchange the SENSE CARD which is in position 01AB2D2 and insert second SENSE CARD into position 01AB2C2.
Go To Map 0290, Entry Point A.

007

1. Switch PCC-CB1 OFF.
2. Disconnect FDS VOLTAGE CONNECTOR from 01AB2V4.
3. Remove card from position 01AB2B6 (Resistor Card)
4. Connect Ohm-Meter to pin 01AB2V4B07/B08 and 01AB2C2D08 and measure the resistance. Record your measurement.(REF YA665)

Is the resistance measured greater than 500 ohms?

Y N

008

- Remove HWS CARD from position 01AD2D2.
Repeat measurement made in earlier step.

Is the resistance measured greater than 500 ohms?

Y N

009

- Suspect short circuit on 01AB2 BOARD. Make a visual inspection for bent or broken pins., If no trouble found, exchange the 01AB2 BOARD.
Go To Map 0290, Entry Point A.

010

1. Exchange HWS-CARD which was removed from position 01AD2D2.
 2. Insert all removed cards and connect all connectors.
- Go To Map 0290, Entry Point A.

011

- Insert Resistor Card into position 01AB2B3.
Repeat resistance measurement made in earlier step.

Is the resistance measured greater than 500 ohms?

Y N

3 3
A B C D

3 3
E F

14MAY80 PN 8632959
EC 379599 PEC -----
SEQ245 MAP 0245-2

B E F
2 2 2

REF. CODE 0245XXXX

A G H
2

SEQ245

MAP 0245-3

PAGE 3 OF 4

012

1. Exchange Resistor Card in position 01AB2B3.
2. Reconnect PC-SENSE CARDS in positions 01AB2C2 and 01AB2D2
3. Reconnect voltage connector to 01AB2V4B07/B08.

Go To Map 0290, Entry Point A.

013

Suspect an intermittent short circuit. Make a visual inspection of the following parts.

1. Cable from PS104 CONN04 (See ALD-YA603) to 01AB2 (See ALD-YA665).
2. Resistors connector card in position 01AB2B3.
3. 01AB2 BOARD. Check for bent or broken pins.
4. PC-SENSE CARDS in positions 01AB2C2 and 01AB2D2.
5. HWS CARD in position 01AD2D2.

IF no trouble is found, use Power Manual and ALDS for further trouble shooting or call for aid.

014

1. Reset PS104 CP-3.
2. Press the CHECK RESET switch at CE PANEL.
3. Disconnect Voltage Connector 01AA2B4E01/01AA2B5E14. '-12V PS104 TO 01AA2.' (See ALD-YA663)
4. Press POWER ON switch.

Is PS104-CP3 in the OFF position?

Y N

015

1. Press POWER OFF switch.
2. Reconnect VOLTAGE CONNECTOR 01AA2B4E01/01AA2B5E14.
3. Remove card from position 01AA2K4.
4. Press the POWER ON switch.

Is PS104 CP3 in the OFF position?

Y N

016

Exchange the card which was removed from position 01AA2K4.

Go To Map 0290, Entry Point A.

017

Check the -12Vdc distribution on 01AA2BOARD for a short circuit.

1. Check for bent or broken pins at position locations 01AA2B4E14 and 01AA2B5E01 and the card socket 01AA2K4.
2. a. Remove the power cable connector from 01AA2B04E14 and 01AA2B05E01.
- b. Remove the card from position 01AA2K4.
- c. Check the 01AA2B5E01 to 01AA2D5D08 for a short circuit using your CE meter on the ohms scale. The meter should indicate an open circuit.

Exchange or repair the board.

Go To Map 0290, Entry Point A.

018

Check and repair wiring from PS104 CONNECTOR 04 (See ALD-YA603) to 01AB2 BOARD. (See ALD-YA663).

Check the following lines:

- PS104 CONN04-5 to 01AA2B4E01 (-12)
- PS104 CONN04-6 to 01AA2B5E14 (-12 Return)

Go To Map 0290, Entry Point A.

019

1. Remove power from machine by placing PCC circuit breakers CB1 and CB2 in the OFF position.
2. Using your CE meter check the following wires for short circuits by measuring to the other related pins in the connectors. Remove connectors at PS104 CONN04 before making measurement.
 - PS104 CONN04-005 to CONN01AA2B5E01
 - PS104 CONN03-004 to CONN01AB2V4B07
 - PS104 CONN03-005 to CONN01AB2V4B08
3. Check the cable visually for damage which may have caused the problem

Was the cause of the overcurrent located?

Y N

G H

J K

14MAY80 PN 8632959

EC 379599 PEC -----

SEQ245 MAP 0245-3

J K
3 3

REF. CODE 0245XXXX

SEQ245

MAP 0245-4

PAGE 4 OF 4

020

DANGER

Remove power from the machine by placing CB1
in the OFF position before exchanging PS104.

Exchange PS104.
Go To Map 0290, Entry Point A.

021

Repair cable damage if possible, if not exchange
cable.

Go To Map 0290, Entry Point A.

14MAY80 PN 8632959
EC 379599 PEC -----
SEQ245 MAP 0245-4

CP-6 Trip (+5V)

PAGE 1 OF 4

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	006	0290	A
4	023	0290	A
3	015	0290	A
3	017	0290	A
4	020	0290	A
3	018	0290	A
4	021	0290	A
3	011	0290	A
3	010	0290	A
2	008	0290	A
2	009	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

+5VOLT OVERCURRENT
(Step 001 continues)

(Step 001 continued)

Symptom:

The following indicators on the CE PANEL are lighted.

PS104 CP OPEN
BASIC CHECK

The following circuit protector is tripped.

PS104 CP6
(ALD YA603)

1. Reset PS104-CP6.
2. Press the CHECK RESET switch at the CE-PANEL.
3. Remove PS104 CONN02.
4. Remove PS104 CONN04.
5. +5.1V PS104 to PS101 (ALD YA603)
6. Press the POWER ON switch.

Is PS104 in the OFF position?

Y N

002

1. Reconnect PS104 CONN04.
2. Press the CHECK RESET switch at the CE PANEL.
3. Press the POWER ON switch at the CE PANEL.

Is PS104 in the OFF position?

Y N

003

1. Connect PS104 CONN 02.
2. Press the CHECK RESET switch at the CE PANEL.
3. Remove PS101 CONN03.
4. Press the POWER ON switch at the CE PANEL.

Is PS104 in the OFF position?

Y N

004

1. Connect PS101 CONN03.
2. Remove PS101 CONN04.
3. Press the POWER ON switch at the CE PANEL.

Is PS104 CP6 in the OFF position?

Y N

4 3 3 3
A B C D E

005

1. Connect PS101 CONN04.
2. Locate the cable which connects to the DISKETTE DRIVE 2D. Disconnect DISKETTE DRIVE 2D-CONN02.
3. Press the POWER ON switch.

Is PS104 in the OFF position?

Y N

006

1. Connect DISKETTE DRIVE 2D CONN02 and visually check connector for any short circuits.
2. Remove the connector card from position 01AB2B4.
3. Visually check the connector card for any short circuits or other problems.
4. If no repairable problems are found exchange the cable

Go To Map 0290, Entry Point A.

007

1. Reconnect DISKETTE DRIVE 2D CONN02.
2. Remove the cable connector card from position A1 of the DISKETTE DRIVE 2D?.
(The other connector card located in position A2 connects to the DISKETTE DRIVE 2D motor and is not to be removed.)
3. Press the CHECK RESET switch and reset PS101 CP6
4. Press the POWER ON switch.

Is PS101 CP6 in the OFF position?

Y N

008

Exchange the card in DISKETTE DRIVE 2D.
Go To Map 0290, Entry Point A.

009

Visually check the cable for short circuit conditions to DISKETTE DRIVE 2D CONN01 and visually check the connector. (This cable connects between PS104 and Diskette Drive 2D) If no problems are found, exchange the cable.

Go To Map 0290, Entry Point A.

15SEP80 PN 8633140

EC 379602 PEC 379599

SEQ246 MAP 0246-2

B C D
2 2 2

REF. CODE 0246XXXX

H

SEQ246

MAP 0246-3

PAGE 3 OF 4

010

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS101.

Exchange PS101
Go To Map 0290, Entry Point A.

011

It would appear there is a problem between PS104 CONN02 and PS101 CONN03. Visually check the connectors and trace the cable wires checking for problems.

If no problems are found, exchange the cable.
Go To Map 0290, Entry Point A.

012

1. Connect CONN02.
2. Reset PS104 CP6.
3. Press the CHECK RESET switch at the CE PANEL.
4. Remove power cable connector from 01AA2 BOARD at positions B2E14/B3E01 and B3E14/B4E01. (ALD YA663)
5. Press the POWER ON switch.

Is PS104 CP6 in the OFF position?

Y N

013

1. Connect the connectors from the 01AA2 board.
2. Remove the connector from 01AA2V2.
3. Check the cable for short circuits using your CE Meter.
4. Connect one test lead of the meter on position D09 and measure the resistance to the other pins in the socket.

Were the measurements greater than 500 ohms?

Y N

4 4
F G H

014

1. Connect the cable connector removed for 01AA2V2.
2. Remove the logic card located in position 01AD2B2
3. Check the card for short circuits using your CE Meter
Connect one test lead of the meter on position J05 and measure the resistance to the D08 pin.

Were the measurements greater than 500 ohms?

Y N

015

The card removed from position 01AD2B2 is failing. Exchange with a new card
Go To Map 0290, Entry Point A.

016

1. Insert the card removed from position 01AD2B2.
2. Reset PS104 CP6. Press CHECK RESET at the CE PANEL.
3. Remove cable connection from 01AD2A2 and 01AA2V2. Using your CE Meter place one test lead on the D09 position of the 01AA2 connector and check the remaining positions for short circuit conditions.

Were any problems found in the in the cables?

Y N

017

1. Check the 01AD2 BOARD for shorted and/or bent pins
2. Check the following pins by measuring for a short circuit to gnd (ALD YA701/YA741).
01AD2A2B02
01AD2B2J05
3. If no short circuits are located, exchange 01AD2 BOARD

Go To Map 0290, Entry Point A.

018

Exchange the cable which connects to 01AD2A2
Go To Map 0290, Entry Point A.

15SEP80

PN 8633140

EC 379602

PEC 379599

SEQ246

MAP 0246-3

PAGE 4 OF 4

019

1. Reset PS104 CP6.
2. Press the CHECK RESET switch at the CE PANEL.
3. Remove the Cards from the 01AA2 BOARD in positions K through P.
4. Press the POWER ON switch.

Is PS104 in the OFF position?

Y N

020

There is an overload condition caused by one or more of the cards removed from the 01AA2 BOARD. Isolate the failing card by inserting them one at a time and pressing the POWER ON switch. Check all cards and exchange any cards which cause the PS104 CP6 to trip
Go To Map 0290, Entry Point A.

021

Exchange the 01AA2 BOARD
Go To Map 0290, Entry Point A.

022

Check the distribution cable for short circuits from the 01AA2 BOARD to PS104.

+5 VOLT CABLE LEADS

- PS104 CONN04-001to 01AA2B3E01
- PS104 CONN04-003to 01AA2B4E01
- PS104 CONN04-002to 01AA2B2E14
- PS104 CONN04-004to 01AA2B4E14

023

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104.

Exchange PS104.

Go To Map 0290, Entry Point A.

BLOWER FAILURE

PAGE 1 OF 3

ENTRY POINTS

FROM		ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER	
0200	A	1	001	

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	003	0290	A
2	004	0290	A
2	006	0290	A
2	009	0290	A
3	011	0290	A
3	014	0290	A
3	016	0290	A
3	018	0290	A
3	019	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
*   Before removing cards, cables, or power supplies,
*   disconnect power from the machine. If the POWER IN
*   PROCESS or POWER COMPLETE indicators are lighted,
*   press the POWER OFF switch and allow the machine
*   to power off. Place CB1 and CB2, which are
*   located in the POWER CONTROL COMPARTMENT, in the
*   OFF position.
*
*   Use the SUPPLEMENT TO MAINTENANCE INFORMATION
*   manual to locate contactors, circuit breakers,
*   circuit protectors, terminal blocks and various
*   other related parts and/or assemblies.
*
*****
    
```

SYMPTOM:

BLOWER FAIL and BASIC CHECK CE PANEL indicators are lighted.
(Step 001 continues)

(Step 001 continued)

1. Press the POWER OFF switch at the CE PANEL
2. Press the CHECK RESET switch at the CE PANEL
3. Press the POWER ON switch and observe AMD103

Did AMD103 run approximately seven seconds before machine turned off?

Y N

002

DANGER

Testing within the PRIMARY CONTROL COMPARTMENT will be required to complete this repair action. Observe all safety procedures while measuring PRIMARY POWER VOLTAGES. (Do not remove connectors or connecting cables with CB1 and/or CB2 in the on position.

1. Check the following wires for continuity. Remove power from the machine via CB1 and CB2.

PCC K02-T1 to PCC CONN22-1
(YA411/YA417)

PCC K02-T1 to PCC CONN22-5
(YA411/YA417)

PCC CONN22-1 to AMD CONN-1
(YA417)

PCC CONN22-5 to AMD CONN-3
(YA417)

2. Inspect the wires connected to the motor for breaks and connector terminal alignment.

Was continuity present and each wire in good repair?

Y N

003

Repair wires.

Go To Map 0290, Entry Point A.

004

Exchange AMD103.

Go To Map 0290, Entry Point A.

A

005

1. Press the POWER OFF switch at the CE PANEL.
2. Check the position of the airflow switch AFS103.

NOTE: The hole on the top of the AFS must be positioned vertically so that the airflow can easily pass through the airflow switch opening.

Was the airflow switch AFS103 properly positioned?

Y N

006

Position airflow switch AFS103 properly.

Go To Map 0290, Entry Point A.

007

1. Disconnect the connector to AFS103.
2. Connect the CE Meter to measure 3.3Vdc to the cable connector after the airflow switch has been disconnected.

Connect meter as follows:

Pin 2 Positive test lead

Pin 3 Negative test lead

Does the meter indicate between +3.0Vdc and +4.0Vdc ?

Y N

008

Set the CE meter to measure ohms.

Connect the meter leads to the following points and check for continuity:

AFS103 Connector Pin 2 to 01A-D2D2S03

Did the meter indicate continuity ?

Y N

009

The line starts at 01A-D2D2S03 (YA723) and goes through 01A-D2F3B09 (YA711) to AFS103 Connector Pin 2 (YA418).

Find and fix the failure. Repair or exchange any failing parts.

Go To Map 0290, Entry Point A.

3 3
B C

28JUN82 PN 8632922

EC 379837 PEC 379599

SEQ250 MAP 0250-2

B C
2 2

MAP CODE 0250XXXX

D

SEQ250

MAP 0250-3

PAGE 3 OF 3

010

Did you just exchange the 01A-D2D2 card ?

Y N

011

Exchange the 01A-D2D2 card.
Go To Map 0290, Entry Point A.

012

Go to Step 013, Entry Point D.

013

(Entry Point D)

Set the CE meter to measure ohms.

Connect one meter lead to 01A-D2D2S03 (YA723).

Connect the other meter lead to the following four points, one at a time (YA761), and check for continuity:

01A-D2C2G12

01A-D2C2G07

01A-D2C2B07

01A-D2C2B09

The meter should indicate continuity between 01A-D2D2S03 and the four points listed.

Did the meter indicate continuity for all four points ?

Y N

014

Use blue and white wire to fix any of the lines that are failing.

Go To Map 0290, Entry Point A.

015

Did you just exchange airflow switch AFS103 ?

Y N

016

Exchange airflow switch AFS103.
Go To Map 0290, Entry Point A.

D

017

Did you just exchange the 01A-D2C2 card ?

Y N

018

Exchange the 01A-D2C2 card.
Go To Map 0290, Entry Point A.

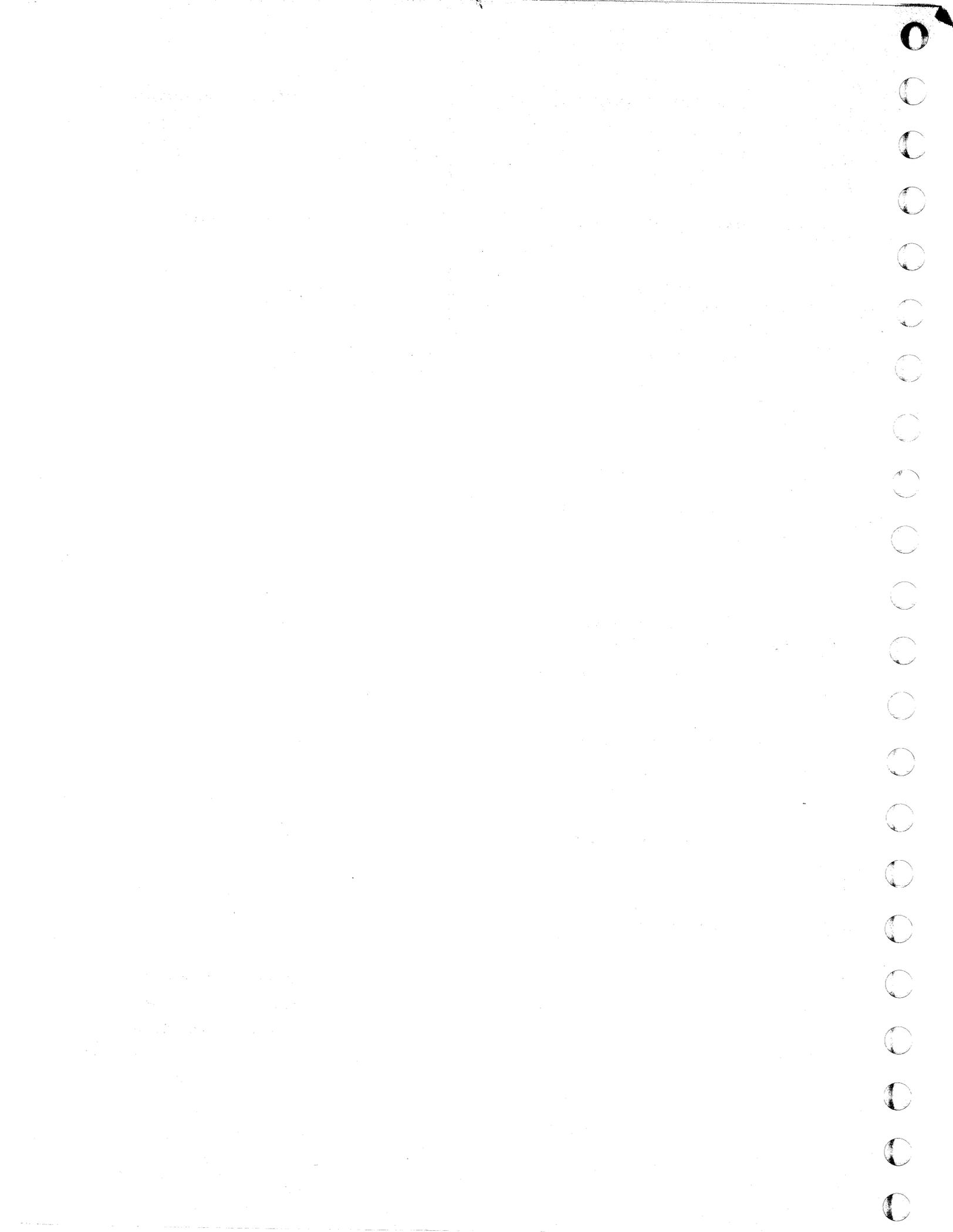
019

Problem is not resolved.
Go To Map 0290, Entry Point A.

28JUN82 PN 8632922

EC 379837 PEC 379599

SEQ250 MAP 0250-3



AFS FAILURE

PAGE 1 OF 3

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
3	017	0238	B
2	006	0290	A
2	009	0290	A
2	008	0290	A
2	007	0290	A
3	012	0290	A
3	013	0290	A
3	015	0290	A
3	016	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

Symptom:

BASIC CHECK and AFS FAIL CE PANEL indicators are lighted.

1. Press the POWER OFF switch on the CE PANEL.
 2. Press the CHECK RESET switch at the CE PANEL.
- (Step 001 continues)

PAGE 2 OF 3

(Step 001 continued)

Is the blower AMD103 running with the CE PANEL
POWER OFF switch in the OFF position?

Y N

002

1. Connect the CE Meter to AFS 103 as follows:
Position 3 (Negative test lead)
Position 2 (Positive test lead)
2. The meter will indicate gnd or 3.3Vdc.

Does the meter indicate gnd?

Y N

003

Measure 24Vdc at AFS103 by connecting the
CE Meter as follows:
Positive test lead Position 1
Negative test lead Position 3

Was 24Vdc present?

Y N

004

Check the following point for 24Vdc. (ALD
YA711)
Positive test lead 01AD2F3B13.
Negative test lead 01AD2D2D08.

Was 24Vdc present?

Y N

005

Remove power from the machine by
manually tripping CB1.

Continuity check the following 24Vdc net.

01AD2B2A14 to 01AD2F3B12
01AD2F3B12 to 01AD2F3B13
01AD2F3B13 to 01AD2F4B11
01AD2F4B11 to 01AD2F4D13
01AD2F5D13 to 01AD2F5B12
01AD2F5B12 to 01AD2F6C04
01AD2F6C04 to 01AD2F6C02
01AD2F6C02 to 01AD2D5B11

(Step 005 continues)

3
A B C D

(Step 005 continued)

Was continuity maintained for the entire
net?

Y N

006

Repair 01AD2 24 volt net using blue and
white wire.
Go To Map 0290, Entry Point A.

007

Repair any open circuits in the following net.
(Use blue and white wire)

01AD2B5E01 to 01AD2F3B08
01AD2F3B08 to 01AD2F3D09
01AD2F3D09 to 01AD2F4B13
01AD2F4B13 to 01AD2F4D09
01AD2F4D09 to 01AD2F4B09

Go To Map 0290, Entry Point A.

008

Repair any open circuits in the following nets.

01AD2F3B13 to AFS103 Conn Position 1
AFS103 Conn position 1 to AFS103 (+)
01AD2F3B08 to AFS103 Conn position 3
AFS103 Conn position 3 to AFS103 (+)

Go To Map 0290, Entry Point A.

009

Exchange airflow switch AFS103

Go To Map 0290, Entry Point A.

010

1. Disconnect the airflow switch AFS103.
2. Connect the CE meter to the connector of the cable
which was connected to the airflow switch as follows.
Set meter to read 5.0Vdc.
Positive test lead to position 2
Negative test lead to position 3

Does the meter indicate a reading greater than
2.4Vdc?

Y N

3 3
E F

15SEP80 PN 8632923
EC 379602 PEC 379599
SEQ255 MAP 0255-2

A E F
2 2 2

REF.CODE 0255XXXX

SEQ255

MAP 0255-3

PAGE 3 OF 3

011

Connect the meter to location 01AD2D2S03

Did the meter indicate 3.3 Vdc?

Y N

012

Exchange the card in position 01AD2D2

Go To Map 0290, Entry Point A.

013

Check and repair the following net. This net connects the airflow switch to the HWS Circuits. The net is as follows:

AFS 103 Conn position 2 to 01AD2F3B09 (ALD YA711)

01AD2F3B09 to 01AD2D2S03 (ALD YA723)

Go To Map 0290, Entry Point A.

014

The following points should indicate a reading greater than 2.4Vdc.

01AD2C2G12

01AD2C2G07

01AD2C2B09

01AD2C2B07

Did all the points indicate greater than 2.4Vdc?

Y N

015

Repair the following net. (Use blue and white wire.)

01AD2D2S03 to 01AD2C2G12

01AD2C2G12 to 01AD2C2G07

01AD2C2G07 to 01AD2C2B09

01AD2C2B09 to 01AD2C2B07

01AD2C2G07 to 01AD2F3B09

Go To Map 0290, Entry Point A.

016

Exchange card in position 01AD2C2.

Go To Map 0290, Entry Point A.

017

Go To Map 0238, Entry Point B.

15SEP80 PN 8632923

EC 379602 PEC 379599

SEQ255 MAP 0255-3



Thermal Switch

PAGE 1 OF 4

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
0200	A	1	001

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
2	005	0290	A
3	011	0290	A
2	008	0290	A
3	009	0290	A
2	006	0290	A
3	013	0290	A
3	015	0290	A
3	016	0290	A
3	018	0290	A
3	020	0290	A
4	022	0290	A
4	023	0290	A

001

(Entry Point A)

```

*****
*
* CAUTION:
* Before removing cards, cables, or power supplies,
* disconnect power from the machine. If the POWER IN
* PROCESS or POWER COMPLETE indicators are lighted,
* press the POWER OFF switch and allow the machine
* to power off. Place CB1 and CB2, which are
* located in the POWER CONTROL COMPARTMENT, in the
* OFF position.
*
* Use the SUPPLEMENT TO MAINTENANCE INFORMATION
* manual to locate contactors, circuit breakers,
* circuit protectors, terminal blocks and various
* other related parts and/or assemblies.
*
*****
    
```

TH SW (THERMAL SWITCH) TR104/01A GATE

Symptom:

The following indicators on the CE PANEL are lighted.

TH SW (THERMAL SWITCH) TR104/01A GATE

BASIC CHECK

(Step 001 continues)

(Step 001 continued)

Connect your CE Meter to measure 24Vdc as follows:
(ALD YA721)

Negative test lead 01AD2D2D08
Positive test lead 01AD2F3D05

Is 24Vdc present?

Y N

002

Connect your CE Meter to measure 24vdc as follows.

Negative test lead PS104 CONN01-6
Positive test lead PS104 CONN06-11

Is 24Vdc present?

Y N

003

Connect your CE Meter to measure 24vdc as follows.

Negative test lead PS104 CONN01-6
Positive test lead PS104 CONN01-1

Is 24Vdc present?

Y N

004

Connect your CE Meter to measure 24VDC as follows: (ALD YA711)

Negative test lead 01AD2D2D08
Positive test lead 01AD2F3B12

Is 24Vdc present?

Y N

3 3
A B C D E

005

The tests you have made indicate a net is broken on the 01AD2 BOARD. Check the following net and repair using blue and white wire.

- 01AD2B2A14
- 01AD2B3D02
- 01AD2F3B12
- 01AD2F3B13
- 01AD2F4B11
- 01AD2F4D13
- 01AD2F5B12
- 01AD2F6C02
- 01AD2F6C04
- 01AD2D5B11.

Go To Map 0290, Entry Point A.

006

Check and repair the following cable wires:

- 01AD2F3B12 to PS104 CONN01-1
- 01AD2F3D08 to PS104 CONN01-6

Go To Map 0290, Entry Point A.

007

Connect your CE Meter to measure 24Vdc as follows.

Negative test lead PS104 CONN01-6
Positive test lead PS104 CONN06-11

Is 24Vdc present?

Y N

008

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104. Hazardous voltages may be generated when disconnecting TR104 from PS104.

Exchange PS104.
Go To Map 0290, Entry Point A.

3
F

B F
2 2

REF. CODE 0260XXXX

A G
2

SEQ260

MAP 0260-3

PAGE 3 OF 4

009

DANGER

Be certain to remove the customer's power from the machine before removing TR104.

Exchange TR104.
Go To Map 0290, Entry Point A.

010

Connect your CE Meter to measure 24Vdc as follows.
Negative test lead PS104 CONN01-6
Positive test lead PS104 CONN01-3

Is 24Vdc present?

Y N

011

DANGER

Remove power from the machine by placing CB1 in the OFF position before exchanging PS104. Hazardous voltages may be generated when disconnecting TR104 from PS104.

Exchange PS104.
Go To Map 0290, Entry Point A.

012

- 1 Locate the thermal switch under the 01AB2 BOARD.
2. Connect the negative test lead of your CE Meter to 01AD2F3D08.
3. Measure both terminals of the thermal switch for 24Vdc.

Is 24Vdc present at either terminal of the thermal switch?

Y N

013

The tests you have made indicate an open circuit in the thermal switch circuit. Refer to ALD YA418 (TR104-TH/TH101 H07 *GND +24V*) Trace the circuit and repair the broken wire.
Go To Map 0290, Entry Point A.

014

Was 24Vdc present on both sides of the thermal switch in the above test?

Y N

015

Check the machine to be certain high temperatures have not occurred. If no damage is found, exchange the thermal switch measured in the above tests.
Go To Map 0290, Entry Point A.

016

Check and repair the open circuit between 01AD2F3D05 and the thermal switch.
Go To Map 0290, Entry Point A.

017

Connect your CE Meter to measure 24Vdc as follows: (ALD YA721)
Negative test lead 01AD2D2D08
Positive test lead 01AD2D2G10

Is 24Vdc present?

Y N

018

The tests you have made indicate a net is broken on the 01AD2 BOARD. Add a blue and white wire from 01AD2F3D05 to 01AD2D2G10.
Go To Map 0290, Entry Point A.

019

Connect your CE Meter to measure 5Vdc as follows: (ALD YA721)
Negative test lead 01AD2D2D08
Positive test lead 01AD2D2J10

Was the level measured greater than 3.0Vdc?

Y N

020

Exchange the card in position 01AD2D2.
Go To Map 0290, Entry Point A.

G

4
H

30JUN80

PN 8632960

EC 379600

PEC 379599

SEQ260

MAP 0260-3

H
3

REF. CODE 0260XXXX

SEQ260

MAP 0260-4

PAGE 4 OF 4

021

Connect your CE Meter to measure 5Vdc as follows:
(ALD YA721)

Negative test lead 01AD2D2D08

Positive test lead 01AD2E2B08

Was the level measured greater than 3.0Vdc?

Y N

022

The tests you have made indicate a net is broken
on the 01AD2 BOARD. Add a blue and white wire
from 01AD2E2B08 to 01AD2D2J10.

Go To Map 0290, Entry Point A.

023

Exchange the card in position 01AD2E2.
Go To Map 0290, Entry Point A.

30JUN80

PN 8632960

EC 379600

PEC 379599

SEQ260

MAP 0260-4

B
1

002

(Entry Point B)

If you have changed parts and/or cables ensure all cables and cards are correctly seated in the affected area.

1. Set the CE MODE switch to NORMAL.
2. Press the POWER OFF switch on the OPERATOR CONTROL PANEL (OCP) and allow the blowers to stop turning.
3. Reset any circuit breakers and/or circuit protectors which may be in the OFF position.
4. Press the POWER ON switch on the OCP.
5. Place the POWER OFF switch in the NORMAL position if it is in the POWER OFF position.

Will the system power on with the POWER COMPLETE indicator lighted?

Y N

003

Is ref code displayed ?

Y N

004

Are the symptoms the same as before the last repair was completed?

Y N

005

(Entry Point S)

Another problem exists in the machine. To locate and repair, start from the system entry MAP as if you just started a new call.

Go To Map 0000, Entry Point A.

3
C D E

D E

006

The FRU which was installed did not repair the problem. If another FRU is available from stock, exchange the FRU just installed, or re-enter the maps based on the current symptom.

If the problem appears to be in the power on controls located in the 01AD2 BOARD area, exchange the cards in the following positions one at a time with new cards from stock until the problem is located. Remove any new cards installed which are not required for this repair action.

NOTE: If you exchange the 01A-D2D2 card, the potentiometers on the card may need adjustment. See Entry Point C, Page 3, Step Number 014.

- 01AD2B2
- 01AD2C2
- 01AD2C4
- 01AD2D2
- 01AD2E2
- 01AD2E4

If you are having power on problems also change the card located in position 01AB2S4.

Did you correct the problem ?

Y N

007

Problem is not resolved.
Go To Map 0001, Entry Point A.

008

Go To Map 0001, Entry Point A.

009

Is the UU code of the displayed ref code 1X ?

Y N

010

This is not a power problem.
Go to Step 005, Entry Point S.

011

Go To Map 1000, Entry Point A.

A C
1 2

MAP CODE 0290XXXX

SEQ290

MAP 0290-3

PAGE 3 OF 3

012

Problem is corrected.

Go To Map 0001, Entry Point A.

013

The 01A-D2D2 card has two potentiometers; the top potentiometer adjusts the EMC reference voltage and the bottom potentiometer adjusts the HWS reference voltage.

Did you adjust the potentiometers on the 01A-D2D2 card ?

Y N

014

(Entry Point C)

The potentiometers on the 01A-D2D2 card may need adjustment.

See MAP 1E01, ENTRY POINT A, to check adjustment of the EMC reference voltage.

See MAP 0231, ENTRY POINT A, to check adjustment of the HWS reference voltage.

Check and adjust (if necessary) the EMC and HWS reference voltages on the NEW 01A-D2D2 card.

Go to Page 2, Step 002, Entry Point B.

015

Go to Page 2, Step 002, Entry Point B.

28JUN82

PN 5666226

EC 379837

PEC 379602

SEQ290

MAP 0290-3

