

ENTRY POINTS

FROM	ENTER THIS MAP		
MAP NUMBER	ENTRY POINT	PAGE NUMBER	STEP NUMBER
1470	A	1	001
1470	J	17	123
1470	K	21	164
1470	P	14	099
1470	ACC	3	016
1470	BU	3	012
1470	CD	4	025
1470	CCR	9	063
1470	DCC	17	121
1470	FN	14	094
1470	ISS	19	141
1470	NS	4	019
1470	RL	7	045
1470	SG	15	106

EXIT POINTS

EXIT THIS MAP		TO	
PAGE NUMBER	STEP NUMBER	MAP NUMBER	ENTRY POINT
24	191	0070	A
9	061	1471	A
9	062	1471	A
13	090	1475	A
18	135	1475	A
20	156	1475	A
24	192	1475	A

001  
 (ENTRY POINT A)

- SEE THE CHART --->.

THIS IS A CHART FOR LOCATING MIM SECTIONS FOR VARIOUS MACHINES.

DANGER

WEAR SAFETY GLASSES IF THE POWER SUPPLY ASSEMBLY IS PARTIALLY REMOVED FROM THE MACHINE HOUSING, AND IF THE POWER SUPPLY IS POWERED ON. ENSURE THAT YOUR EYES ARE PROTECTED FROM INJURY.

REMOVE ALL METAL WORN ON YOUR BODY BEFORE WORKING ON THE MACHINES BECAUSE THE MACHINES CAN TAKE YOUR METAL IN ITS MOVING PARTS OR YOU CAN GET A BAD BURN FROM HIGH CURRENT. IF YOU HAVE LONG HAIR TIE IT TO ENSURE YOUR SAFETY.

BEFORE POWER IS APPLIED TO ANY UNIT (IF IT IS IN THE 4997 RACK OR NOT) ENSURE THAT THE UNIT'S FRAME IS PROPERLY GROUNDED.

1) BEFORE TROUBLESHOOTING POWER PROBLEMS IN THE PROCESSING UNIT THE FRONT COVER MUST BE REMOVED. ALSO THE PROGRAMMER CONSOLE GATE MUST BE OPEN.

2) WHEN A BAD POWER SUPPLY IS TO BE EXCHANGED WITH A GOOD POWER SUPPLY, SEE MIM SECTION 4.14 FOR THE PROCEDURE.

3) SEE LOGIC PAGES YA450, YA455, YA460, AND YA465. AND THE MAINTENANCE INFORMATION MANUAL FOR REPAIR, REMOVAL AND INSTALLATION PROCEDURES OR PARTS LOCATIONS.

LINE	TASK TO BE DONE BY THE C E.	PROCESSING UNIT MIM SECTION FOR:
		4955F
1	CABLING DIAGRAM	3.9
2	POWER SUPPLY DIAGRAM	3.10
3	SWITCH REMOVAL	4.16
4	BASIC CONSOLE REMOVAL	4.6
5	VOLTAGE TEST POINTS	4.13
6	POWER SUPPLY REMOVAL	4.14
7	VOLTAGE CHANGE	4.15
8	SURGE RELAY REMOVAL	4.16
9	CAPACITOR REMOVAL	4.16
10	CIRCUIT BREAKER REMOVAL	4.16
11	FILTER REMOVAL	4.17
12	LINE CORD REMOVAL	4.18
13	LOGIC BOARD REMOVAL	4.19
14	FAN ASSEMBLY REMOVAL	4.20

- POWER OFF ALL MODULES AND DEVICES ON THE SYSTEM.

IS THE PROCESSING UNIT'S POWER OFF?

N

002  
 THE POWER ON SWITCH IS DEFECTIVE.

- EXCHANGE THE POWER ON SWITCH.  
 GO TO PAGE 15, STEP 106, ENTRY POINT SG.

003

- SEE THE NOTE -->
- WAIT THIRTY (30) SECONDS.
- POWER ON THE PROCESSING UNIT.
- SEE IF THE PROCESSING UNIT FAN IS RUNNING.

DANGER

TO ENSURE THAT THERE IS NO HAZARDOUS ELECTRICAL DIFFERENCE BETWEEN MACHINES WHEN A MODULE IS REMOVED FROM THE RACK, DO THE FOLLOWING TEST. ENSURE THE MULTIMETER TEST LEADS ARE CONNECTED TO METAL PARTS OF THE MACHINE.

- 1) POWER CABLES MUST BE CONNECTED TO THE OUTLETS.
- 2) MACHINE POWER SWITCHES MUST BE OFF.
- 3) YOU MUST NOT TOUCH BOTH MACHINES AT THE SAME TIME UNTIL A NO VOLTAGE READING IS VERIFIED.

CHECKING FOR A GOOD GROUND CAN BE TESTED BY ONE OF THE FOLLOWING THREE METHODS:

FIRST METHOD

- PLACE THE MULTIMETER BETWEEN A MACHINE THAT IS NOT INSTALLED IN THE RACK AND A MACHINE THAT IS PLUGGED INTO THE RACK.
- GO TO \*\*\*\*\* BELOW.

SECOND METHOD

- PLACE THE MULTIMETER BETWEEN THE RACK AND A WATER PIPE.
- PLACE THE MULTIMETER BETWEEN A UNIT THAT IS NOT INSTALLED IN THE RACK AND A WATER PIPE.
- GO TO \*\*\*\*\* BELOW.

THIRD METHOD

- PLACE THE MULTIMETER BETWEEN A UNIT THAT IS NOT INSTALLED IN THE RACK AND THE OUTLET GROUND CONNECTION.
- THEN PLACE THE MULTIMETER BETWEEN THE RACK AND THE OUTLET GROUND CONNECTION.

\*\*\*\*\*

- SET THE MULTIMETER TO VOLTS.

IF THERE IS A NO VOLTAGE READING:

- SET THE MULTIMETER TO READ OHMS.

IF THE MULTIMETER READS LESS THAN 2 OHMS THE MACHINE OUTSIDE THE RACK IS PROPERLY GROUNDED. IF THE MULTIMETER READS MORE THAN 2 OHMS THERE IS A POOR ELECTRICAL GROUND. IF THE MULTIMETER READS MORE THAN 50K OHMS THERE IS NO GROUND PRESENT AND THE GROUND MUST BE CHECKED OR A GROUND MUST BE INSTALLED.

IS THE PROCESSING UNIT FAN RUNNING?

N

004

THE FAN IS NOT RUNNING.

- SEE IF THE POWER ON LED IS ON.
- SEE IF THE POWER ON LED IS ON FOR AT LEAST 15 SECONDS.

IS THE POWER ON LED ON AS NOTED ABOVE?

N

005

- SEE IF THE POWER ON LED IS FLASHING.

IS THE POWER ON LED FLASHING?

N

006

- SEE IF THE PROCESSING UNIT'S CIRCUIT BREAKER IS SWITCHED ON.

IS THE PROCESSING UNIT'S CIRCUIT BREAKER SWITCHED ON?

N

007

- SWITCH OFF THE PROCESSING UNIT'S AC POWER SWITCH.
- SWITCH ON THE PROCESSING UNIT'S AC CIRCUIT BREAKER.
- SWITCH ON THE PROCESSING UNIT'S AC POWER SWITCH.

DID THE CIRCUIT BREAKER SWITCH OFF?

Y

N

1 1 1 3 3 3  
7 4 3 3 3 3  
B C D E F G

008  
- SEE IF THE PROCESSING UNIT POWER ON IS ON.

DID THE PROCESSING UNIT POWER ON?  
N

009  
GO TO STEP 012,  
ENTRY POINT BU.

010  
- VERIFY THE REPAIR.

011  
GO TO PAGE 4, STEP 025, ENTRY POINT CD.

012  
(ENTRY POINT BU)

THE POWER ON LED IS OFF (POSSIBLE DC FAILURE).  
THE FAN IS OFF (POSSIBLE AC FAILURE).  
THERE IS NO POWER.

- SEE IF A 4999 BATTERY BACKUP (BBU) IS INSTALLED AS PART OF THE SYSTEM.

IS A 4999 INSTALLED AS PART OF THE SYSTEM?

N

013  
- SEE IF A 4997 RACK IS PART OF THE SYSTEM.

IS A 4997 RACK USED?

N

014  
- SEE IF THE PROCESSING UNIT'S AC POWER CABLE IS CONNECTED TO THE CUSTOMER'S AC POWER OUTLET.

IS THE CABLE CONNECTED AS NOTED ABOVE?

N

015  
- CONNECT THE PROCESSING UNIT'S AC POWER CABLE TO THE CUSTOMER'S AC POWER OUTLET.  
- VERIFY THE REPAIR.

016  
(ENTRY POINT AC)

- SWITCH OFF THE PROCESSING UNIT AC POWER SWITCH.
- DISCONNECT THE AC POWER CABLE FROM THE CUSTOMER'S AC POWER OUTLET.
- ON THE AC SETTING, SET THE MULTIMETER TO 25 VOLTS MORE THAN THE AC POWER VOLTAGE'S RATING FOR THE PROCESSING UNIT.

DANGER  
ENSURE THAT YOUR BODY DOES NOT TOUCH ANY NOT INSULATED CONDUCTOR.

- MEASURE THE PROCESSING UNIT'S AC INPUT VOLTAGE AT THE CUSTOMER'S AC POWER OUTLET.
- ENSURE THAT THE INDICATED AC VOLTAGE IS APPROXIMATELY THE POWER SUPPLY'S SPECIFIED AC POWER INPUT VOLTAGE.

IS THE VOLTAGE BETWEEN 90 AND 136V OR 180 AND 256V?

N

- 017
- THE PROBLEM IS IN THE WIRING IN THE CUSTOMER'S BUILDING. HAVE CUSTOMER FIX THE PROBLEM.
- DO NOT CONNECT THE AC PROCESSING UNIT AC POWER CABLE TO THE CUSTOMER'S AC POWER OUTLET.
- ENSURE THE CUSTOMER DOES IT WHEN THE PROBLEM IS REPAIRED.
- VERIFY THE REPAIR.

018  
GO TO PAGE 9, STEP 063,  
ENTRY POINT CR.

019  
(ENTRY POINT NS)

- SEE IF THE UNIT(S) IN THE 4997 RACK POWER ON.

DO THE UNIT(S) IN THE 4997 RACK POWER ON?

N

020  
- SEE IF THE 4997 CIRCUIT BREAKER IS SWITCHED ON.

IS THE 4997 CIRCUIT BREAKER SWITCHED ON?

N

021  
- SWITCH OFF ALL UNITS WHICH ARE CONNECTED TO THE 4997 AC POWER OUTLETS.  
- SWITCH ON THE 4997 AC POWER CIRCUIT BREAKER.  
- SWITCH ON ALL UNITS.

DID THE 4997 CIRCUIT BREAKER SWITCH OFF?

N

022  
- VERIFY THE REPAIR.

023  
- SWITCH OFF ALL UNITS WHICH ARE CONNECTED TO THE 4997 AC POWER OUTLETS.  
- DISCONNECT ALL AC POWER CABLE PLUGS FROM THE 4997 AC POWER OUTLETS EXCEPT THE PROCESSING UNIT'S AC POWER CABLE PLUG.  
- SWITCH ON THE 4997 AC POWER CIRCUIT BREAKER.  
- SWITCH ON THE PROCESSING UNIT'S AC POWER SWITCH.

DID THE 4997 AC POWER CIRCUIT BREAKER SWITCH OFF?

N

024  
THERE IS A SHORT CIRCUIT IN THE POWER CIRCUIT OF ONE OF THE OTHER UNITS WHICH WAS CONNECTED TO THE 4997 AC POWER OUTLET. TO FIND THE UNIT WITH THE SHORT CIRCUIT, CONNECT THE UNITS ONE AT A TIME TO THE 4997 AC POWER OUTLETS UNTIL THE 4997 AC POWER CIRCUIT BREAKER SWITCHES OFF.

CAUTION

- SWITCH OFF EACH UNIT BEFORE CONNECTING ITS AC POWER CABLE TO THE 4997 AC POWER OUTLET.
- SWITCH THE UNIT ON AFTER IT IS CONNECTED.
- AFTER THE DEFECTIVE MACHINE IS IDENTIFIED GO TO THE MAP FOR THAT UNIT.
- IF IT IS NOT AN IBM MACHINE, NOTIFY THE CUSTOMER.

025  
(ENTRY POINT CD)

- SEE THE CHART -->
- POWER OFF THE PROCESSING UNIT.
- DISCONNECT THE AC POWER CABLE.
- SWITCH ON THE CIRCUIT BREAKER OF THE PROCESSING UNIT.
- SWITCH ON THE PROCESSING UNIT'S AC POWER SWITCH.
- SET THE MULTIMETER TO MEASURE APPROXIMATELY 1K OHMS.
- IDENTIFY EACH PIN OF THE PROCESSING UNIT'S AC POWER CABLE PLUG WITH ONE EACH OF THE FOLLOWING NUMBERS: 1, 2 AND 3.
- CONNECT THE TEST LEADS OF THE MULTIMETER TO THE PINS OF THE AC POWER CABLE PLUG AS INDICATED IN THE TABLE.

SEE THE INDICATED RESISTANCE AT EACH STEP. THERE ARE THREE RESISTANCE READINGS. SEE IF TWO OF THE INDICATED RESISTANCES ARE MORE THAN 1K OHMS. SEE IF THE OTHER INDICATED RESISTANCE IS MORE THAN 50 OHMS.

ARE ALL THE READINGS AS INDICATED ABOVE?

N

STEP NUMBER	PROCESSING UNIT AC POWER CABLE PLUG	PROCESSING UNIT AC POWER CABLE PLUG
STEP 1	PIN 3	PIN 1
STEP 2	PIN 3	PIN 2
STEP 3	PIN 1	PIN 2

- 026  
 - SEE THE CHART -->  
 - REMOVE THE UNIT FROM THE RACK AND DISCONNECT THE FAN.  
 - SEE THE MIN SECTION CHART AT ENTRY POINT A.  
 - SET THE LINE NUMBER FOURTEEN (14).  
 - SET THE MULTIMETER TO THE RX1 SETTING.  
 - CONNECT THE TEST LEADS OF THE MULTIMETER TO THE PINS OF THE AC POWER CABLE PLUG AS INDICATED IN THE TABLE.  
 - NOTE THE INDICATED RESISTANCE AT EACH STEP.

STEP NUMBER	PROCESSING UNIT AC POWER CABLE PLUG	PROCESSING UNIT AC POWER CABLE PLUG
STEP 1	PIN 3	PIN 1
STEP 2	PIN 3	PIN 2
STEP 3	PIN 1	PIN 2

ARE ALL OF THE RESISTANCES MORE THAN 50 OHMS?

N

- 027  
 - SEE THE CHART -->  
 - SWITCH OFF THE PROCESSING UNIT AC CIRCUIT BREAKER.  
 - SET THE MULTIMETER TO THE RX10K SETTING.  
 - CONNECT THE TEST LEADS OF THE MULTIMETER TO THE PINS OF THE AC POWER CABLE PLUG AS INDICATED IN THE TABLE.  
 - NOTE THE INDICATED RESISTANCE AT EACH STEP.

STEP NUMBER	PROCESSING UNIT AC POWER CABLE PLUG	PROCESSING UNIT AC POWER CABLE PLUG
STEP 1	PIN 3	PIN 1
STEP 2	PIN 3	PIN 2
STEP 3	PIN 1	PIN 2

ARE ALL OF THE RESISTANCES MORE THAN 50K OHMS?

N

- 028  
 - SEE THE CHART -->  
 - DISCONNECT CONNECTOR P9 FROM THE POWER SUPPLY. SEE LOGIC PAGE YA450 FOR LOCATION OF CONNECTOR P9.  
 - CONNECT THE TEST LEADS OF THE MULTIMETER TO THE PINS OF THE AC POWER CABLE PLUG AS INDICATED IN THE CHART.  
 - NOTE THE INDICATED RESISTANCE AT EACH STEP.

STEP NUMBER	PROCESSING UNIT AC POWER CABLE PLUG	PROCESSING UNIT AC POWER CABLE PLUG
STEP 1	PIN 3	PIN 1
STEP 2	PIN 3	PIN 2
STEP 3	PIN 1	PIN 2

ARE ALL OF THE INDICATED RESISTANCES MORE THAN 50K OHMS?

N

- 029  
 - SEE THE CHART -->  
 - SWITCH OFF THE PROCESSING UNIT AC POWER SWITCH.  
 - CONNECT THE TEST LEADS OF THE MULTIMETER TO THE PINS OF THE AC POWER CABLE PLUG AS INDICATED IN THE CHART.  
 - NOTE THE INDICATED RESISTANCE AT EACH STEP.

STEP NUMBER	PROCESSING UNIT AC POWER CABLE PLUG	PROCESSING UNIT AC POWER CABLE PLUG
STEP 1	PIN 3	PIN 1
STEP 2	PIN 3	PIN 2
STEP 3	PIN 1	PIN 2

ARE ALL OF THE INDICATED RESISTANCES MORE THAN 50K OHMS?

N

- 030  
 - REMOVE THE FRONT COVER OF THE SWITCH BOX.  
 - SEE LOGIC PAGE YA450.  
 - INSPECT THE CONDUCTOR WHICH CONNECTS TERMINAL 2 OF THE AC POWER SWITCH TO TERMINAL C OF THE AC POWER FILTER AND THE CONDUCTOR WHICH CONNECTS TERMINAL 5 OF THE AC POWER SWITCH TO TERMINAL D OF THE AC POWER FILTER.  
 - INSPECT FOR DAMAGED INSULATION AND THAT THE NOT INSULATED PART OF THESE WIRES DO NOT TOUCH ANY OTHER NOT INSULATED CONDUCTOR.  
 - ENSURE THAT THEIR CONNECTING TERMINALS DO NOT TOUCH THE SWITCH BOX.

IS THE WIRING CORRECT?

Y N

- 031  
- EXCHANGE THE CABLE BETWEEN THE AC POWER SWITCH AND THE AC POWER FILTER WITH A NEW ONE. SEE LOGIC PAGE YA450.  
- VERIFY THE REPAIR.

- 032  
- SEE THE CHART -->.  
- SEE LOGIC PAGE YA450.  
- DISCONNECT, AT TERMINAL C AND TERMINAL D OF THE AC POWER FILTER, THE WIRE WHICH CONNECTS TERMINAL C OF THE AC POWER FILTER TO TERMINAL 2 OF THE AC POWER SWITCH AND THE WIRE WHICH CONNECTS TERMINAL D OF THE AC POWER FILTER TO TERMINAL 5 OF THE AC POWER SWITCH.  
- CONNECT THE TEST LEADS OF THE MULTIMETER TO THE PINS OF THE AC POWER CABLE AS INDICATED IN THE CHART.  
- NOTE THE INDICATED RESISTANCE AT EACH STEP.

STEP NUMBER	PROCESSING UNIT AC POWER CABLE PLUG	PROCESSING UNIT AC POWER CABLE PLUG
STEP 1	PIN 3	PIN 1
STEP 2	PIN 3	PIN 2
STEP 3	PIN 1	PIN 2

ARE ALL OF THE INDICATED RESISTANCES MORE THAN 50K OHMS?  
Y  
N

- 033  
- SEE THE CHART -->.  
- RECONNECT THE WIRES AT TERMINAL D OF THE AC POWER FILTER AND AT TERMINAL C OF THE AC POWER FILTER.  
- INSPECT THE CONNECTING TERMINALS OF THE PROCESSING UNIT'S AC POWER CABLE AT THE FILTER TERMINALS.  
- ENSURE THAT THE NOT INSULATED PARTS OF THE CABLE DOES NOT TOUCH ANY OTHER NOT INSULATED CONDUCTOR.  
- DISCONNECT THE PROCESSING UNIT'S AC POWER CABLE AT TERMINAL B OF THE AC POWER FILTER AND AT TERMINAL A OF THE AC POWER FILTER.  
- SEE LOGIC PAGE YA450.  
- CONNECT THE TEST LEADS OF THE MULTIMETER TO THE PINS OF THE AC POWER CABLE PLUG AS INDICATED IN THE CHART.  
- NOTE THE INDICATED RESISTANCE AT EACH STEP.

STEP NUMBER	PROCESSING UNIT AC POWER CABLE PLUG	PROCESSING UNIT AC POWER CABLE PLUG
STEP 1	PIN 3	PIN 1
STEP 2	PIN 3	PIN 2
STEP 3	PIN 1	PIN 2

ARE ALL OF THE INDICATED RESISTANCES MORE THAN 50K OHMS?  
Y  
N

- 034  
- REMOVE THE PROCESSING UNIT'S AC POWER CABLE AND INSTALL A NEW POWER CABLE.  
- VERIFY THE REPAIR.

- 035  
- REMOVE THE AC POWER FILTER AND INSTALL A NEW AC POWER FILTER. SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER ELEVEN (11).  
- VERIFY THE REPAIR.

- 036  
- INSTALL A NEW CABLE BETWEEN THE AC POWER FILTER AND THE AC POWER SWITCH. SEE LOGIC PAGE YA450.  
- ENSURE THAT THE NOT INSULATED PARTS OF THE CABLE DOES NOT TOUCH ANY OTHER NOT INSULATED CONDUCTOR.  
- VERIFY THE REPAIR.

- 037  
- SEE LOGIC PAGE YA450.  
- REMOVE THE FRONT COVER OF THE SWITCH BOX.  
- INSPECT THE CONDUCTOR WHICH CONNECTS TERMINALS 3 AND 6 OF THE AC POWER SWITCH TO THE CONNECTOR P9. CONNECTOR P9 GOES TO THE POWER SUPPLY.  
- INSPECT FOR DAMAGED INSULATION AND ANY NOT INSULATED PART OF THESE WIRES DO NOT TOUCH ANY OTHER NOT INSULATED CONDUCTOR.  
- INSPECT THAT THEIR CONNECTING TERMINALS DO NOT TOUCH THE SWITCH BOX.

IS THE WIRING CORRECT?  
Y  
N

- 038  
- REPAIR THE DAMAGED WIRES OR REMOVE THE CABLE AND INSTALL A NEW ONE BETWEEN THE AC POWER SWITCH AND CONNECTORS P9 (WHICH CONNECTS TO THE POWER SUPPLY) AND J2 (WHICH CONNECTS TO THE FAN).  
- VERIFY THE REPAIR.

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MAP 1477-6

039  
- EXCHANGE THE AC POWER SWITCH.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER THREE (3).  
GO TO PAGE 15, STEP 106,  
ENTRY POINT SG.

040  
- EXCHANGE THE CIRCUIT BREAKER AND THE WIRES CONNECTING IT TO THE "U" TERMINALS ON THE POWER SUPPLY ASSEMBLY FOR A NEW ONE. SEE LOGIC PAGE YA465.  
GO TO PAGE 15, STEP 106,  
ENTRY POINT SG.

041  
GO TO PAGE 14, STEP 099,  
ENTRY POINT P.

042  
- EXCHANGE THE FAN ASSEMBLY.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER FOURTEEN (14).  
- VERIFY THE REPAIR.

043  
- CHECK THE POWER SUPPLY VOLTAGE JUMPER CONFIGURATION.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER SEVEN (7).

ARE THE JUMPER CONNECTIONS CORRECT FOR SUPPLY VOLTAGE?

Y  
N

044  
- CHANGE THE JUMPER CONNECTION TO THE SUPPLY VOLTAGE USED FOR THE SYSTEM.  
- VERIFY THE REPAIR.

045  
(ENTRY POINT RL)

- CHECK THE POWER SUPPLY SURGE RELAY.  
- REMOVE THE RELAY FROM THE POWER SUPPLY.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER EIGHT (8).  
- SET THE MULTIMETER TO THE RX1 SETTING.  
- MEASURE THE RESISTANCE OF EACH CONTACT BETWEEN TERMINALS 1 AND 7, TERMINALS 2 AND 8 AND TERMINALS 3 AND 9.

ARE THE RESISTANCES LESS THAN 1 OHM?

Y  
N

046  
- INSTALL A NEW SURGE RELAY.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER EIGHT (8).

IF NO REPAIR:

- REPLACE THE POWER SUPPLY.  
- VERIFY THE REPAIR.

047  
- SET THE MULTIMETER TO MEASURE MORE THAN 50K OHMS.  
- MEASURE THE RESISTANCE OF EACH CONTACT BETWEEN TERMINALS 4 AND 7, TERMINALS 5 AND 8 AND TERMINALS 6 AND 9.

ARE THE RESISTANCES MORE THAN 50K OHMS?

Y  
N

048  
- INSTALL A NEW SURGE RELAY.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER EIGHT (8).

IF NO REPAIR:

- REPLACE THE POWER SUPPLY.  
- VERIFY THE REPAIR.

049  
- MEASURE THE RESISTANCE BETWEEN TERMINALS A AND B.

THE RESISTANCE SHOULD BE BETWEEN 2.6K AND 4.0K OHMS.

IS THE RESISTANCE CORRECT?

Y  
N

8 8  
W X

050

- INSTALL A NEW SURGE RELAY.
- SEE MIM SECTION CHART AT ENTRY POINT A.
- SEE LINE NUMBER EIGHT (8).

IF NO REPAIR:

- REPLACE THE POWER SUPPLY.
- VERIFY THE REPAIR.

051

- CHECK THE POWER SUPPLY CAPACITORS BEFORE REINSTALLING THE SURGE RELAY.
- SET THE MULTIMETER TO THE RX1 SETTING.
- CONNECT THE POSITIVE TEST LEAD OF THE METER TO THE RIGHT TERMINAL (+ TERMINAL) OF THE RIGHT CAPACITOR.
- CONNECT THE NEGATIVE TEST LEAD OF THE METER TO THE LEFT TERMINAL (- TERMINAL) OF THE RIGHT CAPACITOR.

SEE IF THE INDICATED RESISTANCE INCREASED FROM APPROXIMATELY ONE OHM TO APPROXIMATELY 10,000 OHMS.

DID THE INDICATED RESISTANCE INCREASE?

Y  
N

052

- REMOVE THE CAPACITOR AND INSTALL A NEW ONE. (SEE MIM SECTION 4.16.2).
- REINSTALL THE SURGE RELAY.

IF NO REPAIR:

- REPLACE THE POWER SUPPLY.
- VERIFY THE REPAIR.

053

- CONNECT THE POSITIVE TEST LEAD OF THE METER TO THE RIGHT TERMINAL (+ TERMINAL) OF THE LEFT CAPACITOR.
- CONNECT THE NEGATIVE TEST LEAD OF THE METER TO THE LEFT TERMINAL (- TERMINAL) OF THE LEFT CAPACITOR.

SEE IF THE INDICATED RESISTANCE INCREASED FROM APPROXIMATELY ONE OHM TO APPROXIMATELY 10,000 OHMS.

DID THE INDICATED RESISTANCE INCREASE?

Y  
N

054

- REMOVE THE CAPACITOR AND INSTALL A NEW ONE. (SEE MIM SECTION 4.16.2).
- REINSTALL THE SURGE RELAY.
- VERIFY THE REPAIR.

055

- EXCHANGE THE POWER SUPPLY FOR A NEW ONE.
- SEE MIM SECTION CHART AT ENTRY POINT A.
- SEE LINE NUMBER SIX (6).
- VERIFY THE REPAIR.

056

- SEE IF THE 4997 AC POWER CABLE PLUG IS CONNECTED TO THE CUSTOMER'S AC POWER OUTLET.

IS THE 4997 AC POWER CABLE CONNECTED AS NOTED ABOVE?

Y  
N

057

- CONNECT THE 4997 AC POWER CABLE TO THE CUSTOMER'S AC POWER OUTLET.
- VERIFY THE REPAIR.



- 058  
- POWER OFF THE PROCESSING UNIT.  
- DISCONNECT THE AC POWER CABLE FROM THE CUSTOMER'S AC POWER OUTLET.  
- SET THE MULTIMETER TO 25 VOLTS AC MORE THAN THE AC POWER VOLTAGE RATING OF THE MACHINE.

DANGER  
ENSURE THAT YOUR BODY DOES NOT TOUCH ANY NOT INSULATED CONDUCTOR.

- MEASURE THE PROCESSING UNIT'S AC INPUT VOLTAGE AT THE CUSTOMER'S AC POWER OUTLET.

ENSURE THAT THE INDICATED AC VOLTAGE IS APPROXIMATELY THE POWER SUPPLY'S SPECIFIED AC POWER INPUT VOLTAGE.

IS THERE 90 - 136V OR 180 - 256V?

Y  
N

059  
THIS IS A CUSTOMER PROBLEM.

- DO NOT CONNECT THE 4997 AC POWER CABLE TO THE CUSTOMER'S POWER OUTLET UNTIL THERE IS A VOLTAGE READING THAT IS BETWEEN 90 AND 136V OR A READING THAT IS BETWEEN 180 AND 256V.  
- BEFORE CONNECTING THE 4997 AC POWER CABLE TO THE CUSTOMER'S AC POWER OUTLET, ENSURE THAT THERE IS NO SHORT CIRCUIT IN THE 4997 AC POWER INPUT CIRCUIT WHICH CAUSED THE CUSTOMER'S AC POWER TO FAIL.

IS THERE A SHORT CIRCUIT IN THE 4997 UNIT?

Y  
N

- 060  
- CONNECT THE 4997 AC POWER CABLE TO THE CUSTOMER'S AC POWER OUTLET.  
- VERIFY THE REPAIR.

061  
GO TO MAP 1471, ENTRY POINT A.

062  
GO TO MAP 1471, ENTRY POINT A.

063  
(ENTRY POINT CR)

- SEE THE CHART -->  
- SET THE MULTIMETER TO MEASURE APPROXIMATELY 1K OHMS.  
- POWER OFF THE PROCESSING UNIT.  
- DISCONNECT THE AC POWER CABLE.  
- PUT THE AC POWER SWITCH IN THE ON POSITION.  
- PUT THE CIRCUIT BREAKER IN THE ON POSITION.

IDENTIFY EACH PIN OF THE PROCESSING UNIT'S AC POWER CABLE PLUG WITH ONE EACH OF THE FOLLOWING NUMBERS: 1, 2, 3.

- CONNECT THE TEST LEADS OF THE MULTIMETER TO THE PINS OF THE AC POWER CABLE PLUG AS INDICATED IN THE CHART.  
- NOTE THE INDICATED RESISTANCE AT EACH STEP.

IS ONE OF THE INDICATED RESISTANCES LESS THAN 50 OHMS?

Y  
N

- 064  
- SEE THE CHART -->  
- DISCONNECT THE PROCESSING UNIT'S POWER SUPPLY AT CONNECTOR P9. SEE LOGIC PAGE YA450 FOR THE LOCATION OF CONNECTOR P9.  
- SET THE MULTIMETER TO THE RX1 SETTING.  
- CONNECT ONE TEST LEAD OF THE MULTIMETER TO THE PINS OF THE AC POWER CABLE PLUG.  
- CONNECT THE OTHER TEST LEAD OF THE MULTIMETER TO THE INDICATED PINS OF THE CONNECTOR P9. P9 IS ON THE CABLE.  
- NOTE THE INDICATED RESISTANCE AT EACH STEP.

IS ONLY ONE RESISTANCE LESS THAN 1 OHM?

Y  
N

1 1  
0 0  
A A  
B B

STEP NUMBER	PROCESSING UNIT AC POWER CABLE PLUG	PROCESSING UNIT AC POWER CABLE PLUG
STEP 1	PIN 3	PIN 1
STEP 2	PIN 3	PIN 2
STEP 3	PIN 2	PIN 1

STEP NUMBER	PROCESSING UNIT AC POWER CABLE PLUG	P9 (ON THE CABLE)
STEP 1	PIN 1	PIN 1
STEP 2	PIN 1	PIN 3
STEP 3	PIN 2	PIN 1
STEP 4	PIN 2	PIN 3
STEP 5	PIN 3	PIN 1
STEP 6	PIN 3	PIN 3

- 065  
 - REMOVE THE POWER SUPPLY.  
 - INSPECT THE CONDUCTOR WHICH CONNECTS THE CIRCUIT BREAKER TO THE "U" CONNECTORS ON THE POWER SUPPLY. SEE LOGIC PAGE YA465 FOR LOCATION OF THE CONNECTORS "U".  
 - INSPECT FOR DAMAGED INSULATION AND THAT THE NOT INSULATED PART OF THESE WIRES DO NOT TOUCH ANY OTHER NOT INSULATED CONDUCTOR.

IS THE WIRING CORRECT?

Y N

- 066  
 - EXCHANGE THE CIRCUIT BREAKER AND THE WIRES CONNECTING IT TO THE "U" CONNECTORS ON THE POWER SUPPLY.  
 - SEE LOGIC PAGE YA465.  
 - SEE MIM SECTION CHART AT ENTRY POINT A.  
 - SEE LINE NUMBER TWO (2).  
 - VERIFY THE REPAIR.

067

- SEE THE CHART -->  
 - SET THE MULTIMETER TO THE RX1 SETTING.  
 - CONNECT ONE TEST LEAD OF THE MULTIMETER TO THE PINS OF THE AC CIRCUIT BREAKER.  
 - CONNECT THE OTHER TEST LEAD OF THE METER TO THE TERMINALS OF THE AC CIRCUIT BREAKER.  
 - NOTE THE INDICATED RESISTANCE AT EACH STEP.

STEP NUMBER	A C CIRCUIT BREAKER	A C CIRCUIT BREAKER
STEP 1	PIN C	PIN A
STEP 2	PIN D	PIN B
STEP 3	PIN D	PIN A
STEP 4	PIN C	PIN B

ARE TWO OF THE INDICATED RESISTANCES LESS THAN 1 OHM?

Y N

- 068  
 - REMOVE THE AC CIRCUIT BREAKER AND THE WIRES CONNECTING IT TO THE "U" CONNECTORS ON THE POWER SUPPLY.  
 - INSTALL A NEW CIRCUIT BREAKER ASSEMBLY.  
 - SEE MIM SECTION CHART AT ENTRY POINT A.  
 - SEE LINE NUMBER TEN (10).  
 - SEE LOGIC PAGE YA465.  
 GO TO PAGE 15, STEP 106,  
 ENTRY POINT 5G.

069

- EXCHANGE THE POWER SUPPLY FOR A NEW ONE.  
 - SEE MIM SECTION CHART AT ENTRY POINT A.  
 - SEE LINE NUMBER SIX (6).  
 - VERIFY THE REPAIR.

070

- REMOVE THE FRONT COVER OF THE SWITCH BOX.  
 - INSPECT THE CONDUCTOR WHICH CONNECTS TERMINAL 3 OF THE AC POWER SWITCH TO PIN 1 OF THE CONNECTOR P9.

P9 IS THE CONNECTOR ON THE CABLE, NOT THE POWER SUPPLY.

- INSPECT THE CONDUCTOR WHICH CONNECTS TERMINAL 6 OF THE AC POWER SWITCH TO PIN 3 OF THE CONNECTOR P9.  
 - INSPECT FOR DAMAGED INSULATION AND THAT THE NOT INSULATED PART OF THE WIRE DOES NOT TOUCH THE SWITCH BOX.

IS THE WIRING CORRECT?

Y N

- 071  
 - REPAIR THE DAMAGED WIRES OR REMOVE THE CABLE BETWEEN THE AC POWER SWITCH AND THE CONNECTORS P9 AND J2.  
 - SEE LOGIC PAGE YA450.  
 - VERIFY THE REPAIR.

A  
C  
0

072

- SEE THE CHART -->
- SET THE MULTIMETER TO THE RX1 SETTING.
- CONNECT ONE TEST LEAD OF THE MULTIMETER TO THE PINS OF THE AC POWER CABLE PLUG.
- CONNECT THE OTHER TEST LEAD OF THE METER TO THE PINS OF THE AC POWER SWITCH.
- SEE LOGIC PAGE YA450 FOR LOCATION OF PINS 3 AND 6 ON THE SWITCH.
- NOTE THE INDICATED RESISTANCE AT EACH STEP.

STEP NUMBER	PROCESSING UNIT AC POWER CABLE PLUG	AC POWER SWITCH
STEP 1	PIN 1	PIN 3
STEP 2	PIN 1	PIN 6
STEP 3	PIN 2	PIN 3
STEP 4	PIN 2	PIN 6
STEP 5	PIN 3	PIN 3
STEP 6	PIN 3	PIN 6

ARE TWO OF THE INDICATED RESISTANCES LESS THAN 1 OHM?  
Y  
N

073

- SEE THE CHART -->
- SET THE MULTIMETER TO THE RX1 SETTING.
- CONNECT ONE TEST LEAD OF THE MULTIMETER TO THE PINS OF THE AC POWER CABLE PLUG.
- CONNECT THE OTHER TEST LEAD OF THE METER TO THE PINS OF THE AC POWER SWITCH.
- SEE LOGIC PAGE YA450 FOR LOCATION OF PINS 2 AND 5 ON THE SWITCH.
- NOTE THE INDICATED RESISTANCE AT EACH STEP.

STEP NUMBER	PROCESSING UNIT AC POWER CABLE PLUG	AC POWER SWITCH
STEP 1	PIN 1	PIN 2
STEP 2	PIN 1	PIN 5
STEP 3	PIN 2	PIN 2
STEP 4	PIN 2	PIN 5
STEP 5	PIN 3	PIN 2
STEP 6	PIN 3	PIN 5

ARE TWO OF THE INDICATED RESISTANCES LESS THAN 1 OHM?  
Y  
N

074

- SEE THE CHART -->
- SET THE MULTIMETER TO THE RX1 SETTING.
- CONNECT ONE TEST LEAD OF THE MULTIMETER TO THE PINS OF THE AC POWER CABLE PLUG.
- CONNECT THE OTHER TEST LEAD OF THE METER TO THE PINS OF THE AC POWER FILTER.
- SEE LOGIC PAGE YA450 FOR LOCATION OF PINS C AND D ON THE FILTER.
- NOTE THE INDICATED RESISTANCE AT EACH STEP.

STEP NUMBER	PROCESSING UNIT AC POWER CABLE PLUG	A C POWER FILTER
STEP 1	PIN 1	PIN C
STEP 2	PIN 1	PIN D
STEP 3	PIN 2	PIN C
STEP 4	PIN 2	PIN D
STEP 5	PIN 3	PIN C
STEP 6	PIN 3	PIN D

ARE TWO OF THE INDICATED RESISTANCES LESS THAN 1 OHM?  
Y  
N

075

- SEE THE CHART -->
- SET THE MULTIMETER TO THE RX1 SETTING.
- CONNECT ONE TEST LEAD OF THE MULTIMETER TO THE PINS OF THE AC POWER CABLE PLUG.
- CONNECT THE OTHER TEST LEAD OF THE METER TO THE PINS OF THE AC POWER FILTER.
- SEE LOGIC PAGE YA450 FOR LOCATION OF PINS A AND B ON THE FILTER.
- NOTE THE INDICATED RESISTANCE AT EACH STEP.

STEP NUMBER	PROCESSING UNIT AC POWER CABLE PLUG	A C POWER FILTER
STEP 1	PIN 1	PIN A
STEP 2	PIN 1	PIN B
STEP 3	PIN 2	PIN A
STEP 4	PIN 2	PIN B
STEP 5	PIN 3	PIN A
STEP 6	PIN 3	PIN B

ARE TWO OF THE INDICATED RESISTANCES LESS THAN 1 OHM?  
Y  
N

1 2 A H  
1 2 A F  
1 2 A G  
1 2 A H

- 076
    - REMOVE THE PROCESSING UNIT'S AC POWER CABLE.
    - INSTALL A NEW POWER CABLE.
    - VERIFY THE REPAIR.
  - 077
    - REMOVE THE AC POWER FILTER.
    - INSTALL A NEW AC POWER FILTER.
    - SEE MIM SECTION CHART AT ENTRY POINT A.
    - SEE LINE NUMBER ELEVEN (11).
    - VERIFY THE REPAIR.
  - 078
    - INSTALL NEW WIRES BETWEEN THE AC POWER SWITCH AND THE AC FILTER BOX.
    - SEE LOGIC PAGE YA450.
    - VERIFY THE REPAIR.
  - 079
    - GO TO PAGE 15, STEP 106, ENTRY POINT 5G.
  - 080
    - CONNECTORS P9 AND J2 ARE ON THE CABLE.
    - EXCHANGE THE WIRES BETWEEN THE AC POWER SWITCH AND THE CONNECTORS P9 AND J2 FOR NEW WIRES.
    - SEE LOGIC PAGE YA450.
    - VERIFY THE REPAIR.
  - 081
    - CHECK THE POWER SUPPLY VOLTAGE JUMPER CONFIGURATION.
    - SEE MIM SECTION CHART AT ENTRY POINT A.
    - SEE LINE NUMBER SEVEN (7).
- ARE THE JUMPER CONNECTIONS CORRECT FOR SUPPLY VOLTAGE?  
N
- 082
    - CHANGE THE JUMPER CONNECTION TO THE SUPPLY VOLTAGE USED FOR THE SYSTEM.
    - VERIFY THE REPAIR.
  - 083
    - GO TO PAGE 17, STEP 121, ENTRY POINT DC.

084

- SEE IF THE 4999 IS SWITCHED ON.

IS THE 4999 SWITCHED ON?

Y N

085

- SWITCH ON THE 4999.
- PRESS AND RELEASE THE 4999 RESET SWITCH.
- VERIFY THE REPAIR.

086

- POWER OFF THE PROCESSING UNIT.
- DISCONNECT THE 4999 AC POWER INPUT CABLE FROM ITS AC POWER OUTLET.
- DISCONNECT THE PROCESSING UNIT'S AC POWER CABLE FROM THE 4999 AC POWER OUTLET AND CONNECT THE PROCESSING UNIT'S AC POWER CABLE TO THE OUTLET INTO WHICH THE 4999 AC POWER CABLE WAS CONNECTED.
- POWER ON THE PROCESSING UNIT.

IS THE PROCESSING UNIT POWERED ON?

Y N

087

- POWER OFF THE PROCESSING UNIT.
- DISCONNECT THE PROCESSING UNIT'S AC POWER CABLE FROM THE AC POWER OUTLET AND CONNECT THE POWER CABLE TO THE 4999 AC POWER OUTLET.
- CONNECT THE 4999 AC POWER CABLE TO THE AC POWER OUTLET.
- SWITCH ON THE 4999.
- PRESS AND RELEASE THE 4999 RESET SWITCH.

IS A 4997 USED?

Y N

088

GO TO PAGE 3, STEP 016,  
ENTRY POINT AC.

089

GO TO PAGE 4, STEP 019,  
ENTRY POINT NS.

090

GO TO MAP 1475, ENTRY POINT A.

091

- SWITCH OFF THE PROCESSING UNIT AC POWER SWITCH.
- DISCONNECT THE AC POWER CABLE FROM THE CUSTOMER'S AC POWER OUTLET.
- ON THE AC SETTING, SET THE MULTIMETER TO 25 VOLTS MORE THAN THE AC POWER VOLTAGE'S RATING FOR THE PROCESSING UNIT.

**DANGER**

ENSURE THAT YOUR BODY DOES NOT TOUCH ANY NOT INSULATED CONDUCTOR.

- MEASURE THE PROCESSING UNIT'S AC INPUT VOLTAGE AT THE CUSTOMER'S AC POWER OUTLET.
- ENSURE THAT THE INDICATED AC VOLTAGE IS APPROXIMATELY THE POWER SUPPLY'S SPECIFIED AC POWER INPUT VOLTAGE.

IS THE VOLTAGE BETWEEN 90 AND 136V OR 180 AND 256V?

Y N

092

- THE PROBLEM IS IN THE WIRING IN THE CUSTOMER'S BUILDING. HAVE CUSTOMER FIX THE PROBLEM.
- DO NOT CONNECT THE AC PROCESSING UNIT AC POWER CABLE TO THE CUSTOMER'S AC POWER OUTLET. HAVE THE CUSTOMER DO IT WHEN THE VOLTAGE PROBLEM IS FIXED.
- VERIFY THE REPAIR.

093

- EXCHANGE THE POWER SUPPLY FOR A NEW ONE.
- SEE MIM SECTION CHART AT ENTRY POINT A.
- SEE LINE NUMBER SIX (6).
- VERIFY THE REPAIR.

C  
2

094  
(ENTRY POINT FN)

THERE IS A FAN PROBLEM.

- SEE THE CHART -->
- POWER OFF THE PROCESSING UNIT.
- DISCONNECT PROCESSING UNIT'S AC POWER CABLE FROM THE AC POWER OUTLET.
- REMOVE THE PROCESSING UNIT FROM THE RACK.
- REMOVE THE COVER THAT IS ON TOP OF THE PROCESSING UNIT'S POWER SUPPLY.
- SET THE MULTIMETER TO THE RX1 SETTING.
- DISCONNECT THE FAN CONNECTOR, P2.

- SEE MIM SECTION CHART AT ENTRY POINT A.
- SEE LINE NUMBER ONE (1) FOR THE LOCATION OF CONNECTOR P2. SEE EACH PIN OF THE AC POWER CABLE PLUG WITH ONE EACH OF NUMBERS 1, 2 AND 3.
- SWITCH ON THE AC POWER SWITCH. ENSURE THAT THE CIRCUIT BREAKER IS SWITCHED ON.
- CONNECT ONE TEST LEAD OF THE MULTIMETER TO THE AC POWER CABLE PLUG.
- CONNECT THE OTHER TEST LEAD OF THE METER TO CONNECTOR J2, LOCATED ON MODULE NOT ON THE FAN ASSEMBLY.
- NOTE THE INDICATED RESISTANCE AT EACH STEP.

IS ONE OF THESE RESISTANCES LESS THAN ONE OHM?

N

095  
GO TO STEP 099, ENTRY POINT P.

- 096
- SEE THE CHART -->
  - REPEAT THE TEST FOR THE PIN NUMBERS IN THE CHART.

IS ONE OF THESE RESISTANCES LESS THAN ONE OHM?

N

097  
GO TO STEP 099, ENTRY POINT P.

- 098
- SEE THE CHART -->
  - REPEAT THE TEST FOR THE PIN NUMBERS IN THE CHART.

IS ONE OF THESE RESISTANCES LESS THAN ONE OHM?

N

099  
(ENTRY POINT P)

- SEE THE CHART -->
- SET THE MULTIMETER TO THE RX1 SETTING.
- DISCONNECT CONNECTOR P9 WHICH IS ON THE POWER SUPPLY CARD.
- SEE MIM SECTION CHART AT ENTRY POINT A.
- SEE LINE NUMBER ONE (1) AND LOGIC PAGE YA450 FOR THE LOCATION OF CONNECTOR P9.
- CONNECT ONE TEST LEAD OF THE MULTIMETER TO THE CONNECTOR J2 LOCATED ON THE MODULE NOT ON THE FAN ASSEMBLY.
- CONNECT THE OTHER TEST LEAD OF THE MULTIMETER TO CONNECTOR P9.
- NOTE THE INDICATED RESISTANCE AT EACH STEP.

ARE TWO OF THE RESISTANCES LESS THAN ONE OHM?

Y

N

1 1 1  
7 5 5  
A A A  
J R L

STEP NUMBER	PROCESSING UNIT AC POWER CABLE	CONNECTOR J2 ON THE MODULE
STEP 1	PIN 1	PIN 1
STEP 2	PIN 1	PIN 2
STEP 3	PIN 1	PIN 3

STEP NUMBER	PROCESSING UNIT AC POWER CABLE	CONNECTOR J2 ON THE MODULE
STEP 1	PIN 2	PIN 1
STEP 2	PIN 2	PIN 2
STEP 3	PIN 2	PIN 3

STEP NUMBER	PROCESSING UNIT AC POWER CABLE	CONNECTOR J2 ON THE MODULE.
STEP 1	PIN 3	PIN 1
STEP 2	PIN 3	PIN 2
STEP 3	PIN 3	PIN 3

STEP NUMBER	CONNECTOR P9 ON POWER SUPPLY CABLE	CONNECTOR J2 ON THE MODULE
STEP 1	PIN 6	PIN 1
STEP 2	PIN 6	PIN 2
STEP 3	PIN 6	PIN 3
STEP 4	PIN 4	PIN 1
STEP 5	PIN 4	PIN 2
STEP 6	PIN 4	PIN 3

A  
K  
L  
1  
4

100  
P9 AND J2 ARE ON THE CABLE.

- EXCHANGE THE CABLE THAT CONNECTS THE AC POWER SWITCH TO THE CONNECTORS P9 AND J2 FOR A NEW ONE.
- VERIFY THE REPAIR.

101  
- REMOVE THE POWER SUPPLY.

INSPECT THE CONDUCTOR WHICH CONNECTS THE CIRCUIT BREAKER TO THE "U" CONNECTORS ON THE POWER SUPPLY. SEE LOGIC PAGE YA465 FOR LOCATION OF THE CONNECTORS "U". INSPECT FOR DAMAGED INSULATION AND THE NOT INSULATED PART OF THESE WIRES DO NOT TOUCH ANY OTHER NOT INSULATED CONDUCTOR.

IS THE WIRING CORRECT?

Y  
N

102  
- EXCHANGE THE CIRCUIT BREAKER AND THE WIRES CONNECTING IT TO THE "U" CONNECTORS ON THE POWER SUPPLY. SEE LOGIC PAGE YA465.  
- VERIFY THE REPAIR.

103  
- SEE THE CHART -->  
- SET THE MULTIMETER TO THE RX1 SETTING.  
- CONNECT ONE TEST LEAD OF THE MULTIMETER TO THE PINS OF THE AC CIRCUIT BREAKER.  
- CONNECT THE OTHER TEST LEAD OF THE METER TO THE TERMINALS OF THE AC CIRCUIT BREAKER.  
- NOTE THE INDICATED RESISTANCE AT EACH STEP.

STEP NUMBER	A C CIRCUIT BREAKER	A C CIRCUIT BREAKER
STEP 1	PIN C	PIN A
STEP 2	PIN D	PIN B
STEP 3	PIN D	PIN A
STEP 4	PIN C	PIN B

ARE TWO OF THE INDICATED RESISTANCES LESS THAN 1 OHM?

Y  
N

104  
- REMOVE THE AC CIRCUIT BREAKER AND THE WIRES CONNECTING IT TO THE "U" CONNECTORS ON THE POWER SUPPLY.  
- INSTALL A NEW CIRCUIT BREAKER ASSEMBLY.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER TEN (10) AND LOGIC PAGE YA465.

IS THE ACTION COMPLETE?

Y  
N

105  
COMPLETE THE ACTION AND:  
GO TO STEP 106,  
ENTRY POINT SG.

106  
(ENTRY POINT SG)

- CHECK THE POWER SUPPLY SURGE RELAY.
- REMOVE THE RELAY FROM THE POWER SUPPLY.
- SEE MIM SECTION CHART AT ENTRY POINT A.
- SEE LINE NUMBER EIGHT (8).
- SET THE MULTIMETER TO THE RX1 SETTING.
- MEASURE THE RESISTANCE OF EACH CONTACT BETWEEN TERMINALS 1 AND 7, TERMINALS 2 AND 8 AND TERMINALS 3 AND 9.

ARE THE RESISTANCES LESS THAN 1 OHM?

Y  
N

107  
- INSTALL A NEW SURGE RELAY.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER EIGHT (8).

IF NO REPAIR:

- REPLACE THE POWER SUPPLY.
- VERIFY THE REPAIR.

1  
6  
A  
N

A  
M  
5

PROCESSING UNIT POWER SUPPLY MAP  
PAPER ONLY MAP  
PAGE 16 OF 24

MAP 1477-16

- 108  
- SET THE MULTIMETER TO MEASURE MORE THAN 50K OHMS.  
- MEASURE THE RESISTANCE OF EACH CONTACT BETWEEN TERMINALS 4 AND 7, TERMINALS 5 AND 8 AND TERMINALS 6 AND 9.
- ARE THE RESISTANCES MORE THAN 50K OHMS?  
Y  
N
- 109  
- INSTALL A NEW SURGE RELAY.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER EIGHT (8).
- IF NO REPAIR:  
- REPLACE THE POWER SUPPLY.  
- VERIFY THE REPAIR.
- 110  
- MEASURE THE RESISTANCE BETWEEN TERMINALS A AND B.
- THE RESISTANCE SHOULD BE BETWEEN 2.6K AND 4.0K OHMS.
- IS THE RESISTANCE CORRECT?  
Y  
N
- 111  
- INSTALL A NEW SURGE RELAY.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER EIGHT (8).
- IF NO REPAIR:  
- REPLACE THE POWER SUPPLY.  
- VERIFY THE REPAIR.
- 112  
- CHECK THE POWER SUPPLY CAPACITORS BEFORE REINSTALLING THE SURGE RELAY.  
- SET THE MULTIMETER TO THE RX1 SETTING.  
- CONNECT THE POSITIVE TEST LEAD OF THE METER TO THE RIGHT TERMINAL (+ TERMINAL) OF THE RIGHT CAPACITOR.  
- CONNECT THE NEGATIVE TEST LEAD OF THE METER TO THE LEFT TERMINAL (- TERMINAL) OF THE RIGHT CAPACITOR.
- SEE IF THE INDICATED RESISTANCE INCREASED FROM APPROXIMATELY ONE OHM TO APPROXIMATELY 10,000 OHMS.
- DID THE INDICATED RESISTANCE INCREASE?  
Y  
N
- 113  
- EXCHANGE THE CAPACITOR FOR A NEW ONE. (SEE MIM SECTION 4.16.2).  
- REINSTALL THE SURGE RELAY.  
- VERIFY THE REPAIR.
- 114  
- CONNECT THE POSITIVE TEST LEAD OF THE METER TO THE RIGHT TERMINAL (+ TERMINAL) OF THE LEFT CAPACITOR.  
- CONNECT THE NEGATIVE TEST LEAD OF THE METER TO THE LEFT TERMINAL (- TERMINAL) OF THE LEFT CAPACITOR.
- SEE IF THE INDICATED RESISTANCE INCREASED FROM APPROXIMATELY ONE OHM TO APPROXIMATELY 10,000 OHMS.
- DID THE INDICATED RESISTANCE INCREASE?  
Y  
N
- 115  
- EXCHANGE THE CAPACITOR FOR A NEW ONE. (SEE MIM SECTION 4.16.2).  
- REINSTALL THE SURGE RELAY.  
- VERIFY THE REPAIR.
- 116  
- REINSTALL THE SURGE RELAY.  
- VERIFY THE REPAIR.
- 117  
- EXCHANGE THE POWER SUPPLY FOR A NEW ONE.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER SIX (6).  
- VERIFY THE REPAIR.

10JUL81 PN6030932  
EC994400 PEC988081  
MAP 1477-16



B A  
2 }  
4 }

PROCESSING UNIT POWER SUPPLY MAP  
PAPER ONLY MAP  
PAGE 17 OF 24

MAP 1477-17

118  
- EXCHANGE THE FAN ASSEMBLY FOR A NEW ONE.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER FOURTEEN (14).  
- VERIFY THE REPAIR.

119  
THE FAN IS RUNNING.  
- POWER OFF THE PROCESSING UNIT.  
- WAIT 15 SECONDS.  
- POWER ON THE PROCESSING UNIT.  
- SEE IF THE POWER ON LED IS ON.

IS THE POWER ON LED ON?

N  
120  
- SET THE MULTIMETER TO AT LEAST THE 5VDC SCALE.  
- PLACE THE BLACK TEST LEAD ON TEST POINT T4D10.  
- PLACE THE OTHER TEST LEAD ON THE TEST POINT T4B08.  
- SEE MIM SECTION CHART AT ENTRY POINT A..  
- SEE LINE NUMBER FIVE (5).

IF THERE IS +5VDC, THE VOLTAGE IS GOOD.

IS THE +5VDC CORRECT?

N  
121  
(ENTRY POINT DC)  
THERE IS A DC POWER PROBLEM.  
- CHECK THE 5 VOLT INTERNAL SUPPLY LEVEL BY PLACING ONE TEST LEAD OF THE MULTIMETER ON THE PIN T4B13 ON THE BACKBOARD.  
- PLACE THE BLACK LEAD OF THE MULTIMETER ON PIN T4D06.

IS THE +5VDC CORRECT?

Y  
N  
122  
- EXCHANGE THE POWER SUPPLY FOR A NEW ONE.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER SIX (6).  
- VERIFY THE REPAIR.

123  
(ENTRY POINT J)  
- SEE THE CHART -->.

THE CHART SHOWS TWO (2) FAILURE TEST POINTS AND THREE (3) FAILURE CONDITIONS THAT COULD OCCUR. EACH GROUP OF TEST POINTS INDICATES A FAILURE CONDITION.

- PLACE THE BLACK LEAD OF THE MULTIMETER ON PIN T4D11.  
- PLACE THE OTHER TEST LEAD OF THE MULTIMETER ON THE TEST POINTS INDICATED IN THE CHART.  
- SET THE MULTIMETER TO MEASURE +5VDC.

DOES CONDITION '1' MATCH YOUR SYMPTOMS?

N  
124  
- SEE IF CONDITION '2' MATCHES YOUR SYMPTOMS.

DOES CONDITION '2' MATCH YOUR SYMPTOMS?

N  
125  
- SEE IF CONDITION '3' MATCHES YOUR SYMPTOMS.

DOES CONDITION '3' MATCH YOUR SYMPTOMS?

2 1 1 1 1  
1 1 1 1 1  
P A Q R S T U

CONDITION	FAILURE LEVELS AT TEST POINTS	
	PORN T4B04	THERMAL FAIL NOT T4B02
1	LOW	HIGH
2	LOW	LOW
3	HIGH	HIGH

HIGH LEVEL = 3.5 - 5.5 VDC  
LOW LEVEL = LESS THAN 1 VDC  
- SEE MIM SECTION AT ENTRY POINT A.  
- SEE LINE NUMBER FIVE (5).

A A A  
S I U  
7 7 7

PROCESSING UNIT POWER SUPPLY MAP  
PAPER ONLY MAP  
PAGE 18 OF 24

MAP 1477-18

- 126  
- EXCHANGE THE POWER SUPPLY FOR A NEW ONE.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER SIX (6).  
- TEST AGAIN.

IS THE ORIGINAL POWER SUPPLY PROBLEM STILL PRESENT?

Y N

- 127  
- VERIFY THE REPAIR.

128  
GO TO PAGE 17, STEP 123,  
ENTRY POINT J.

- 129  
- ENSURE THE POWER SUPPLY IS LOADED:  
- MEASURE THE OUTPUT VOLTAGE LEVELS ON THE BACKBOARD.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER FIVE (5).

IS ONE OR MORE OF THESE VOLTAGES MISSING?

Y N

- 130  
- POWER OFF THE PROCESSING UNIT.  
- POWER ON THE PROCESSING UNIT.  
- PLACE THE BLACK TEST LEAD ON PIN T4D11.  
- PLACE THE OTHER TEST LEAD OF THE MULTIMETER ON PIN T4B04.  
- A READING OF 3.5 TO 5.5VDC INDICATES A HIGH LEVEL.

DID THE PORN TEST POINT GO TO A HIGH LEVEL?

Y N

- 131  
- SEE IF A BATTERY BACKUP UNIT (4999) IS USED.

IS THE BATTERY BACKUP UNIT (4999) USED?

Y N

132  
GO TO PAGE 19, STEP 141,  
ENTRY POINT IS.

- 133  
- SET THE MULTIMETER TO THE 10VDC SCALE.  
- PLACE THE BLACK LEAD ON PIN T4D11.  
- PLACE THE OTHER TEST LEAD ON T4B10.

IS THERE +5VDC?

Y N

134  
GO TO PAGE 19, STEP 141,  
ENTRY POINT IS.

135  
GO TO MAP 1475, ENTRY POINT A.

136  
GO TO PAGE 19, STEP 141,  
ENTRY POINT IS.

- 137  
- EXCHANGE THE POWER SUPPLY FOR A NEW ONE.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER SIX (6).  
- VERIFY THE REPAIR.

138  
GO TO PAGE 21, STEP 164, ENTRY POINT K.

10JUL81 PN6030932  
EC994400 PEC988081  
MAP 1477-18

A  
R  
1  
7

139  
CONDITION '1' (PORN IS AT A LOW VTL VOLTAGE LEVEL) INDICATES THE POWER SUPPLY SWITCHED OFF BECAUSE OF A PRIMARY OVERCURRENT, UNDERVOLTAGE OR A PROBLEM ON ONE OF THE OUTPUT VOLTAGE LEVELS.

- POWER OFF THE PROCESSING UNIT.
- POWER ON THE PROCESSING UNIT.
- PLACE THE BLACK TEST LEAD ON PIN T4D11.
- PLACE THE OTHER TEST LEAD OF THE MULTIMETER ON PIN T4B04.

DID THE PORN TEST POINT GO TO A HIGH LEVEL?

Y  
N

140

- SEE IF A BATTERY BACKUP UNIT (4999) IS USED.

IS A BATTERY BACKUP UNIT (4999) USED?

Y  
N

141

(ENTRY POINT IS)

- POWER OFF THE PROCESSING UNIT.
- SEE THE LOCATION OF THE PROCESSING UNIT CARD(S).
- UNSEAT THE PROCESSING UNIT CARD(S).

THE POWER SUPPLY WILL OPERATE WITH NO CURRENT USING DEVICES CONNECTED TO IT'S OUTPUTS.

- POWER ON THE PROCESSING UNIT.

DID THE PORN FAILURE TEST POINT GO TO A HIGH LEVEL?

Y  
N

142

- POWER OFF THE PROCESSING UNIT.
- SEE MIM SECTION CHART AT ENTRY POINT A.
- SEE LINE NUMBER SIX (6).
- PULL THE POWER SUPPLY OUT APPROXIMATELY ONE (1) INCH TO DISCONNECT IT FROM THE PROCESSING UNIT'S BACK BOARD.
- SET THE MULTIMETER TO THE RX10K SETTING.
- CONNECT ONE TEST LEAD ON THE GROUND PIN, T4D11.
- CONNECT THE OTHER TEST LEAD ON EACH OF THE VOLTAGE LEVEL TEST POINTS ON THE BACKBOARD.

SEE LOGIC PAGE YA455 FOR THE LOCATION OF THE FOLLOWING TEST POINTS:  
+8.5VDC, +5VDC, -5VDC, +12VDC AND -12VDC.

KEEP THE TEST LEAD ON THE GROUND PIN AS YOU CONNECT THE OTHER TEST LEAD TO THE OTHER VOLTAGE LEVELS.

- NOTE THE INDICATED RESISTANCE EACH TIME.

ARE ALL OF THE RESISTANCES MORE THAN 50K OHMS?

Y  
N

143

- SEE IF ANY PINS ARE TOUCHING OTHER PINS ON THE BACKBOARD.

ARE ANY PINS TOUCHING OTHER PINS ON THE BACKBOARD?

Y  
N

2 2 2 2 2  
I A W X Y Z  
A O O O O  
V W X Y Z A

144  
- EXCHANGE THE BACKBOARD FOR A NEW ONE.  
- VERIFY THE REPAIR.

145  
- REPAIR THE BACK BOARD OR EXCHANGE THE BACKBOARD FOR A NEW ONE.  
- VERIFY THE REPAIR.

146  
GO TO PAGE 7, STEP 045,  
ENTRY POINT RL.

147  
- INSERT THE REMOVED CARD(S) ONE AT A TIME.  
- POWER UP AFTER EACH CARD IS INSERTED.  
- CHECK THE FAILURE TEST POINTS.  
- POWER DOWN BEFORE INSERTING THE NEXT CARD.  
CONTINUE THIS PROCEDURE UNTIL ONE OR MORE OF THE FAILURE TEST POINTS GO TO A LOW LEVEL.  
IS THE ORIGINAL POWER SUPPLY PROBLEM STILL PRESENT?  
Y  
N

148  
- REMOVE THE FAILING CARD(S) AND INSTALL GOOD ONE(S).  
NOTE:  
IF, AFTER GOOD CARDS ARE INSTALLED, THE POWER SUPPLY STILL HAS THE SAME PROBLEM, INSTALL A NEW POWER SUPPLY.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER SIX (6).  
- VERIFY THE REPAIR.

149  
- POWER OFF THE PROCESSING UNIT.  
- WAIT 2 MINUTES THEN REMOVE THE POWER SUPPLY.  
- ENSURE THAT THE WIRES CONNECTED TO THE CAPACITORS ARE NOT DAMAGED.  
ARE THE WIRES DAMAGED?  
Y  
N

150  
- ENSURE THAT ALL THE CAPACITOR SCREWS ARE TIGHT.  
ARE THE CAPACITOR SCREWS TIGHT?  
Y  
N

151  
TIGHTEN THE SCREWS.  
VERIFY THE REPAIR.  
IF NO REPAIR:  
- EXCHANGE THE BACKBOARD FOR A NEW ONE.  
- SEE MIM CHART AT ENTRY POINT A, LINE NUMBER 13.  
- VERIFY THE REPAIR.

152  
- EXCHANGE THE BACKBOARD FOR A NEW ONE.  
- SEE THE MIM CHART AT ENTRY POINT A.  
- SEE LINE NUMBER 13.  
- VERIFY THE REPAIR.

153  
- EXCHANGE THE POWER SUPPLY FOR A NEW ONE.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER SIX (6).  
- VERIFY THE REPAIR.

154  
- SET THE MULTIMETER TO THE 10VDC SCALE.  
- PLACE THE BLACK LEAD ON PIN T4D11.  
- PLACE THE OTHER TEST LEAD ON T4B10.  
IS THERE +5VDC?  
Y  
N

155  
GO TO PAGE 19, STEP 141, ENTRY POINT IS.

156  
GO TO MAP 1475, ENTRY POINT A.

A  
P  
1  
7  
A  
Q  
1  
7  
V  
9

PROCESSING UNIT POWER SUPPLY MAP  
PAPER ONLY MAP  
PAGE 21 OF 24

MAP 1477-21

157  
GO TO PAGE 19, STEP 141,  
ENTRY POINT IS.

158  
- CHECK FOR VOLTAGE ACROSS THE LED AT THE  
BACK OF THE CONSOLE.

A VOLTAGE HIGHER THAN TWO (2) VDC INDICATES  
A BAD LED.

IS THE VOLTAGE HIGHER THAN TWO (2) VDC?

Y  
N

159  
- TEST THE CABLE CONNECTING THE BACKBOARD  
TO THE BASIC CONSOLE.  
- SEE IF THE BLACK WIRE OF THE CABLE IS  
CONNECTED TO THE PIN T4D08 ON THE  
BACKBOARD.  
- SEE IF THE OTHER WIRE IS CONNECTED TO  
PIN T4B08 ON THE BACKBOARD.  
- ENSURE THERE IS NO DAMAGED INSULATION.  
- TEST THE CABLE FOR CONTINUITY.

IS THE CABLE CORRECT?

Y  
N

160  
- EXCHANGE THE CABLE FOR A NEW ONE.  
- VERIFY THE REPAIR.

161  
GO TO PAGE 17, STEP 121,  
ENTRY POINT DC.

162  
- EXCHANGE THE BASIC CONSOLE FOR A NEW ONE.  
- VERIFY THE REPAIR.

163  
IF THERE IS A POWER THERMAL PROBLEM ON THE  
SYSTEM, THE POWER SUPPLY WILL POWER OFF AFTER  
ABOUT TWO (2) MINUTES. WAIT AT LEAST TWO (2)  
MINUTES BEFORE YOU ANSWER THE FOLLOWING  
QUESTION.

- WAIT 2 MINUTES.

SEE IF THE PROCESSING UNIT'S FAN IS STILL  
WORKING AND IF THE POWER ON LED IS STILL ON.  
IF THE POWER IS ON AFTER TWO (2) MINUTES,  
THERE IS NO THERMAL PROBLEM.

IS THE POWER CORRECT AS NOTED ABOVE AFTER TWO  
(2) MINUTES?

Y  
N

164  
(ENTRY POINT K)

THERE MAY BE A THERMAL PROBLEM.

- SEE IF THE FAN IS WORKING.

IS THE FAN IN THE PROCESSING UNIT WORKING?

Y  
N

165  
- EXCHANGE THE FAN.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER FOURTEEN (14).  
- VERIFY THE REPAIR.

166  
SEE IF THE INPUT OPENING AND THE OUTPUT  
OPENING FOR THE AIR ARE FREE OF ANY  
OBSTRUCTION.

ARE THEY FREE OF OBSTRUCTION?

Y  
N

167  
- REMOVE THE OBSTRUCTION AND:  
- VERIFY THE REPAIR.

168  
- SEE IF THERE IS DUST ON THE THERMISTORS.  
- SEE LOGIC PAGE YA455.

IS THERE DUST ON THE THERMISTORS?

Y  
N

B  
2  
B  
C  
2  
B  
C  
2  
B  
D

10JUL81 PN6030932  
EC994400 PEC988081  
MAP 1477-21

B B B  
B C D  
I I I

169  
- CHECK ROOM TEMPERATURE TO ENSURE THAT IT IS BELOW 50 DEGREES CELSIUS.

IS THE ROOM TEMPERATURE BELOW 50 DEGREES CELSIUS?  
Y N

170  
- ASK THE CUSTOMER TO LOWER THE ROOM TEMPERATURE TO BELOW 40.6 DEGREES CELSIUS.  
- VERIFY THE REPAIR.

171  
THE FAILURE IS IN THE THERMAL CIRCUIT. IT IS NOT A THERMAL FAILURE.

- EXCHANGE THE POWER SUPPLY FOR A NEW ONE.  
- VERIFY THE REPAIR.

172  
- CLEAN DUST FROM THE THERMISTORS. ENSURE THAT THE THERMISTOR TRI IS IN AN UPRIGHT POSITION. SEE LOGIC PAGE YA455.  
- VERIFY THE REPAIR.

173  
- POWER OFF THE PROCESSING UNIT.  
- POWER ON THE PROCESSING UNIT.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER FIVE (5).  
- CHECK THE FOLLOWING OUTPUT VOLTAGES ON THE BACKPANEL.

+ 5 VDC - 5 VDC  
+ 12 VDC - 12 VDC  
+ 8.5 VDC

ARE THE VOLTAGES CORRECT AS NOTED ABOVE?

Y N

174  
GO TO PAGE 17, STEP 123, ENTRY POINT J.

175  
- SEE THE NOTE -->

SEE IF PTWN (POWER THERMAL WARNING NOT) IS AT A POSITIVE VTL LEVEL (3.5 - 5.5 VOLTS DC).

- POWER ON THE PROCESSING UNIT.  
- MEASURE THE TEST POINT WITH A MULTIMETER ON THE 'T' COLUMN OF THE LOGIC BOARD.  
- PLACE THE BLACK TEST LEAD ON THE PIN T4D11.  
- PLACE THE OTHER TEST LEAD OF THE MULTIMETER ON T4B05.  
- T4B05 IS THE PTWN TEST POINT.

'PTWN AND PORN' (POWER THERMAL WARNING NOT AND POWER ON RESET NOT) ARE THE ONLY OUTPUT SIGNALS TO THE PROCESSING UNIT.

PTWN - POWER THERMAL WARNING NOT - DOWN LEVEL INFORMS THE PROCESSING UNIT THAT THE POWER SUPPLY WILL SWITCH OFF IN 20 MILLISECONDS OR MORE.

DURING NORMAL OPERATION THE CORRECT OUTPUT SIGNAL IS:

PTWN (POWER THERMAL WARNING NOT) = VTL UP (POSITIVE) LEVEL (3.5 VOLTS TO 5.5 VOLTS DC).  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER FIVE (5).

IS PTWN AT A POSITIVE VTL LEVEL (3.5 - 5.5 VOLTS DC)?

Y N

176  
- POWER OFF THE PROCESSING UNIT.  
- SEE THE LOCATION OF THE PROCESSOR CARD(S).  
- REMOVE THE CARD(S) FROM THE PROCESSING UNIT'S BACKBOARD.  
- POWER ON THE PROCESSING UNIT.

DID THE PTWN LEVEL REMAIN LOW?

Y N

177  
THE PROBLEM IS THE CARD(S) THAT WAS REMOVED FROM THE PROCESSING UNIT.

- POWER OFF THE PROCESSING UNIT.  
- REINSERT A CARD.  
- POWER ON THE PROCESSING UNIT.

DID THE PTWN LEVEL GO TO A LOW LEVEL?

Y N

178  
THE CARD THAT WAS NOT REINSERTED INTO THE PROCESSING UNIT IS THE FAILING CARD.

- EXCHANGE THIS CARD FOR A NEW ONE.  
- VERIFY THE REPAIR.

B B B  
B C D  
I I I

2222  
2222  
2222

PROCESSING UNIT POWER SUPPLY MAP  
PAPER ONLY MAP  
PAGE 23 OF 24

MAP 1477-23

179  
THIS IS THE FAILING CARD.

- EXCHANGE THE FAILING CARD FOR A NEW CARD.
- VERIFY THE REPAIR.

180  
- EXCHANGE THE POWER SUPPLY FOR A NEW ONE.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER SIX (6).  
- VERIFY THE REPAIR.

THIS IS THE FAILING CARD.

- EXCHANGE THE FAILING CARD FOR A NEW CARD.
- VERIFY THE REPAIR.

181  
- SEE THE NOTE -->  
- SEE IF PORN (POWER ON RESET NOT) IS AT A POSITIVE VTL LEVEL (3.5 - 5.5 VOLTS DC).  
- POWER ON THE PROCESSING UNIT.  
- MEASURE THE TEST POINT WITH A MULTIMETER ON THE 'T' COLUMN OF THE LOGIC BOARD.  
- PLACE THE BLACK TEST LEAD ON THE PIN T4D11.  
- PLACE THE OTHER TEST LEAD OF THE MULTIMETER ON T4B04.

T4B04 IS THE PORN TEST POINT.

IS PORN AT A POSITIVE VTL LEVEL (3.5 - 5.5 VOLTS DC)?

Y  
N

182  
- POWER OFF THE PROCESSING UNIT.  
- SEE THE LOCATION OF THE PROCESSING UNIT CARD(S).  
- REMOVE THE CARD(S) FROM THE PROCESSING UNIT'S BACKBOARD.  
- POWER ON THE PROCESSING UNIT.

DID THE PORN LEVEL REMAIN LOW?

Y  
N

183  
PROBLEM IS ONE OF THE CARDS REMOVED FROM THE PROCESSING UNIT.

- POWER OFF THE PROCESSING UNIT.
- INSERT A REMOVED CARD.
- POWER ON THE PROCESSING UNIT.

DID THE PORN LEVEL REMAIN LOW?

Y  
N

184  
- POWER OFF THE PROCESSING UNIT.  
- CONTINUE TO INSERT THE REMOVED CARDS UNTIL ALL CARDS ARE INSERTED.  
- SWITCH ON THE POWER AFTER EACH CARD IS INSERTED.  
- TEST EACH TIME TO SEE IF PORN IS AT A HIGH LEVEL.  
- ISOLATE TO THE FAILING CARD(S).  
- EXCHANGE THE FAILING CARD(S) FOR NEW CARD(S) IF PORN IS AT A HIGH LEVEL AFTER THE LAST CARD IS INSTALLED.  
- VERIFY THE REPAIR.

185  
- POWER OFF THE PROCESSING UNIT.  
- REMOVE THE CARD THAT WAS REINSERTED.  
- EXCHANGE THIS FAILING CARD FOR A NEW CARD.  
- CONTINUE TO INSERT THE REMOVED CARDS UNTIL ALL CARDS ARE INSERTED.  
- SWITCH ON THE POWER AFTER EACH CARD IS INSERTED.  
- TEST EACH TIME TO SEE IF PORN IS AT A HIGH LEVEL.  
- ISOLATE TO THE FAILING CARD(S).  
- EXCHANGE THE FAILING CARD(S) FOR NEW CARD(S) IF PORN IS AT A HIGH LEVEL AFTER THE LAST CARD IS INSTALLED.  
- VERIFY THE REPAIR.

186  
- EXCHANGE THE POWER SUPPLY FOR A NEW ONE.  
- SEE MIM SECTION CHART AT ENTRY POINT A.  
- SEE LINE NUMBER SIX (6).  
- VERIFY THE REPAIR.

PORN (POWER ON RESET NOT - UP LEVEL - INFORMS THE PROCESSING UNIT THAT THE POWER SUPPLY IS UP AND GOOD.

DURING NORMAL OPERATION THE CORRECT OUTPUT SIGNAL IS:

PORN (POWER ON RESET NOT) = VTL UP (POSITIVE) LEVEL (3.5 VOLTS TO 5.5 VOLTS DC).

- SEE MIM SECTION CHART AT ENTRY POINT A.
- SEE LINE NUMBER FIVE (5).

2222

10JUL81 PN6030932  
EC994400 PEC988081  
MAP 1477-23

B  
H  
2  
3

PROCESSING UNIT POWER SUPPLY MAP  
PAPER ONLY MAP  
PAGE 24 OF 24

MAP 1477-24

187  
- SEE IF THE CABLES FROM THE CONSOLE TO THE  
PROCESSING UNIT CARD ARE SEATED IN THE CARD.

ARE THE CABLES SEATED AS NOTED?

Y  
N

188  
- SEAT THE CABLES.  
- VERIFY THE REPAIR.

189  
- SEE IF THE PROBLEM IS REPAIRED.

IS THE PROBLEM REPAIRED?

Y  
N

190  
- SEE IF A 4999 IS PART OF THE SYSTEM.

IS A 4999 PART OF THE SYSTEM?

Y  
N

191  
GO TO MAP 0070, ENTRY POINT A.

192  
GO TO MAP 1475, ENTRY POINT A.

193  
GOOD END THIS MAP.