ENTRY POINTS

FROM MAP NUMBER	ENTER THIS MAP: ENTRY POINT	PAGE NUMBER	STEP NUMBER
0000	A	1	001
0000	B	3	034
0000	C	5	055
0000	D	5	028
0000	CR	7	081
0000	CS	16	138
0000	CT	1	002
0000	IO	15	135
0000	LS	18	150
0000	PT	19	155
0000	PV	12	117
0000	ST	11	106
0000	TR	17	144

EXIT POINTS

EXIT THIS MAP: PAGE NUMBER	STEP NUMBER	TO MAP NUMBER	ENTRY POINT
16	139	0015	A
16	142	0015	A
2	008	0070	A
2	018	0070	A
4	039	0070	A
5	060	0070	A
1	004	1071	A
6	076	1071	A
6	067	1470	A
20	159	1470	A
21	166	1470	A
21	168	1470	A

001
(ENTRY POINT A)

SEE THE CUSTOMER PROBLEM. REVIEW ANY ERROR MESSAGE THE CUSTOMER MAY HAVE.

IS THE FAILURE ON THE SYSTEM NOW?
Y N

002
(ENTRY POINT CT)

SEE IF YOU SUSPECT A POWER PROBLEM ON THE SYSTEM OR MODULE.

IS THE PROBLEM AS NOTED ABOVE?
Y N

003
SEE IF YOU HAVE VERIFIED THE CONSOLE OPERATION.

HAVE YOU VERIFIED THE CONSOLE OPERATION?
Y N

004
GO TO MAP 1071, ENTRY POINT A.

005
DO YOU KNOW WHAT TO DO TO SOLVE THE PROBLEM?
Y N

006
SEE IF THE PROBLEM IS AN INTERMITTENT.

IS THE PROBLEM AS NOTED ABOVE?
Y N

007
THE PROBLEM IS SPECIFIC AND SOLID. SEE IF YOU HAVE BEEN IN MAP 0070 BEFORE THIS.

HAVE BEEN IN MAP 0070 BEFORE THIS?
Y N

008
GO TO MAP 0070, ENTRY POINT A.

009
GO TO PAGE 7, STEP 081, ENTRY POINT CR.

010
SEE IF THE PROBLEM APPEARS TO BE CAUSED BY HARDWARE.

IS THE PROBLEM AS NOTED ABOVE?
Y N

011
GO TO THE SOFTWARE PROBLEM SOLVING PROCEDURE.

012
HAS THE CUSTOMER USED IBM'S 'ERROR LOG' OR IT'S EQUAL?
Y N

013
- IPL THE DIAGNOSTIC DISKETTE UNIT.
- RUN THE AUTOMATIC DIAGNOSTIC(S).

IS A PROBLEM FOUND?
Y N

014
RUN THE DIAGNOSTIC(S) FOR THE DEVICE(S) SUSPECTED FROM THE CUSTOMER'S PROBLEM OR FAILURE .

- LOOP FOR 'X' MINUTES.

IS A PROBLEM FOUND?
Y N

015
RUN THE SYSTEM TEST.

IS A PROBLEM FOUND?
Y N

016
GO TO THE SOFTWARE PROBLEM SOLVING PROCEDURE.

017
CAN THE PROBLEM BE ISOLATED TO ONE DEVICE AND/OR ATTACHMENT?
Y N

018
REVIEW THE CLASS OF DEVICE(S) FAILING AND SYSTEM TEST FAILURES, IF ANY. IT IS PROBABLE ONE DEVICE IS CAUSING THE OTHER TO FAIL. THERE IS A PROBABLE BOARD, POWER SUPPLY, CHANNEL REPOWER CARD OR A CABLE PROBLEM. MAP 0070 MAY BE USEFUL. IT IS A MAP USED TO ISOLATE THE CHANNEL.
GO TO MAP 0070, ENTRY POINT A.

019
PREPARE THE SYSTEM ERROR CONDITIONS USING THE 'FRIEND' PROGRAM, SIMILAR TO THE SYSTEM TEST. LOOP ON THIS SEQUENCE AND PROBE ATTACHMENT/DEVICE INTERFACE PER THE LINE LOGIC(S).

020
- GO TO THE DEVICE MAP PROLOG.

021
- GO TO THE DEVICE MAP PROLOG.

022
RUN ERAP FOR ERROR HISTORY (RESET ALL ERRORS).

ARE THERE ANY DEVICE(S) WITH A NUMBER OF ERRORS?
Y N

023
A SOFTWARE PROBLEM IS SUSPECTED, OR THE ERRORS HAVE BEEN RESET. GET MORE INFORMATION FROM THE CUSTOMER.

024
SEE THE DEVICE(S) WITH THE 'LATEST' ERRORS.
'LATEST' HERE IS RELATIVE TO THE CUSTOMER'S TIME OF PROBLEM OR FAILURE.

ARE THE DEVICE(S) WITH ERRORS 'LATEST'?
Y N

025
DO THE ERRORS APPEAR TO BE SIMILAR TO THE CUSTOMER'S PROBLEM?
Y N

026
GO TO STEP 034,
ENTRY POINT B.

027
GO TO STEP 028, ENTRY POINT D.

028
(ENTRY POINT D)

THE ERAP ERRORS APPEAR TO BE SIMILAR TO THE CUSTOMER'S PROBLEM.
SEE THE DEVICE(S) WITH THE 'STAND OUT' ERRORS.

'STAND OUT' IS THE NUMBER OF ERRORS FOR A GIVEN DEVICE THAT ARE LARGE RELATIVE TO THE NUMBER OF I/O OPERATION(S), OR A RECORD OF A PERMANENT ERROR.

DOES A SPECIFIC DEVICE 'STAND OUT' IN THE ERAP PRINTOUT?
Y N

029
OBSERVE THOSE DEVICE(S) IN THE ERAP PRINTOUT WHICH HAVE A LARGE NUMBER OF I/O OPERATION(S).

DO ALL THOSE DEVICE(S) HAVE ERROR(S)?
Y N

030
ARE ERRORS LIMITED TO I/O DEVICE(S) AND NOT THE PROCESSING UNIT?
Y N

031
LOOP ON PROCESSING UNIT DIAGNOSTIC(S).
REFERENCE USERS GUIDE, 02.01.00., FOR PROCESSING UNIT DIAGNOSTIC(S).

032
SEE THE DEVICE(S) AND THE 'CLASS' OF ERRORS.

'CLASS' MAY BE DEVICE(S) OF ALL THE SAME TYPE, OR ALL DEVICE(S) IN A COMMON BOARD, AND SO ON.

ARE THE ERRORS LIMITED TO A SPECIFIC 'CLASS' OF DEVICE(S)?
Y N

033
GO TO PAGE 5, STEP 055,
ENTRY POINT C.

034
(ENTRY POINT B)

- IPL THE DIAGNOSTIC DISKETTE UNIT.
- RUN THE AUTOMATIC DIAGNOSTIC(S).

IS A PROBLEM FOUND?
Y N

035
RUN ALL DIAGNOSTIC(S) FOR THE CLASS OF DEVICE(S).

IS A PROBLEM FOUND?
Y N

036
RUN THE SYSTEM TEST.

IS A PROBLEM FOUND?
Y N

037
REVIEW THE ERAP PRINTOUT AGAIN.

038
DOES THE INDICATED PROBLEM COMPARE WITH THE ERAP PRINTOUT?
Y N

039
YOU HAVE AN INTERMITTENT FAILURE.
GO TO MAP 0070, ENTRY POINT A.

040
CAN THE PROBLEM BE ISOLATED TO ONE DEVICE AND/OR ATTACHMENT?
Y N

041
REVIEW THE CLASS OF DEVICE(S) FAILING, THE LOG INFORMATION, AND THE SYSTEM TEST FAILURES, IF ANY. PROBABLE ACTION BETWEEN DEVICE(S). PROBABLE POWER PROBLEM COMMON TO DEVICE(S). MAP 0070 MAY BE USEFUL. IT IS A MAP USED TO ISOLATE THE CHANNEL.

042
- LOOP FOR 'X' MINUTES.

IS A PROBLEM FOUND?
Y N

043
PREPARE THE SYSTEM ERROR CONDITIONS USING THE 'FRIEND' PROGRAM, SIMILAR TO THE SYSTEM TEST. LOOP ON THIS SEQUENCE AND PROBE ATTACHMENT/DEVICE INTERFACE PER THE LINE LOGIC(S).

044
- GO TO THE DEVICE MAP PROLOG.

045
- GO TO THE DEVICE MAP PROLOG.

046
- GO TO THE DEVICE MAP PROLOG.

047
A PROBLEM ON THE I/O INTERFACE IS SUSPECTED. ANALYZE THE INCIDENT LOG TO SEE IF THE PROBLEM CAN BE ISOLATED OR, IPL THE DIAGNOSTIC DISKETTE AND RUN THE AUTOMATIC DIAGNOSTIC(S) TO SEE IF THE PROBLEM CAN BE FOUND.

HAS THE PROBLEM BEEN ISOLATED?
Y N

048
SET UP CONDITIONS USING 'FRIEND' SIMULATING THE I/O INTERFACE PROBLEM. PROBE THE INTERFACE PER THE LINE LOGIC(S).

049
- GO TO THE DEVICE MAP PROLOG.

050
- IPL THE DIAGNOSTIC DISKETTE UNIT.
- RUN THE AUTOMATIC DIAGNOSTIC(S).

IS A PROBLEM FOUND?
Y N

051
SEE THE DEVICE(S) WITH THE 'STAND OUT' ERRORS.

'STAND OUT' IS THE NUMBER OF ERRORS FOR A GIVEN DEVICE THAT ARE LARGE RELATIVE TO THE NUMBER OF I/O OPERATION(S), OR A RECORD OF A PERMANENT ERROR.

DOES A SPECIFIC ERROR CONDITION 'STAND OUT' FOR A DEVICE?
Y N

052
GO TO PAGE 5, STEP 055,
ENTRY POINT C.

053
RUN ALL DIAGNOSTIC(S) FOR THAT CONDITION.

IS A PROBLEM FOUND?
Y N

054
- LOOP FOR 'X' MINUTES.

IS A PROBLEM FOUND?
Y N

055
(ENTRY POINT C)

RUN THE SYSTEM TEST.

IS A PROBLEM FOUND?
Y N

056
CONTINUE RUNNING SYSTEM TEST, AS YOU PUT PRESSURE ON ONE CABLE AT A TIME.

IS A PROBLEM FOUND?
Y N

057
REVIEW ERAP PRINTOUT AGAIN. ANALYZE CUSTOMER'S USE FOR MORE INFORMATION.

058
- GO TO THE DEVICE MAP PROLOG.

059
DOES THE PROBLEM COMPARE WITH THE ERAP PRINTOUT?
Y N

060
YOU HAVE AN INTERMITTENT FAILURE.
GO TO MAP 0070, ENTRY POINT A.

061
PREPARE THE SYSTEM ERROR CONDITIONS USING THE 'FRIEND' PROGRAM, SIMILAR TO THE SYSTEM TEST. LOOP ON THIS SEQUENCE AND PROBE ATTACHMENT/DEVICE INTERFACE PER THE LINE LOGIC(S).

062
- GO TO THE DEVICE MAP PROLOG.

063
- GO TO THE DEVICE MAP PROLOG.

064
- GO TO THE DEVICE MAP PROLOG.

065
- USE IT.

066
HAVE YOU COME TO THIS MAP FROM A POWER SUPPLY MAP?
Y N

067
USE MAP 1470 TO FIND THE CORRECT POWER SUPPLY MAP TO GO TO.
IF NO REPAIR, RETURN HERE AND TAKE THE 'YES' COLUMN.
GO TO MAP 1470, ENTRY POINT A.

068
POWER ON.

DOES MODULE POWER ON AND POWER GOOD LED REMAIN OFF?
Y N

069
THERE IS A POWER SUPPLY PROBLEM TO A MODULE.

- POWER OFF

USING THE POWER SUPPLY LOGIC, DISCONNECT LOAD TO THE SUSPECTED POWER SUPPLY.
REFERENCE PROCESSING UNIT MIM FOR ANY CAUTION TO OBSERVE.

- POWER ON

DOES THE POWER PROBLEM REMAIN ON SYSTEM?
Y N

070
- POWER OFF

PROBLEM IS NOT PART OF THE POWER SUPPLY.
ATTEMPT TO ISOLATE TO FAILING WIRE BY CONNECTING WIRE(S) ONE OR TWO AT A TIME TO THE TB TERMINAL(S).

ISOLATED TO A FAILING FIELD REPLACEMENT UNIT?
Y N

071
USE MAP 0070 TO AID IN ISOLATING TO THE FIELD REPLACEMENT UNIT.
PROBLEM MAY BE CAUSED BY AN I/O ATTACHMENT.
IF THE PROBLEM CANNOT BE ISOLATED USING MAP 0070, OBTAIN AID.

072
- VERIFY THE REPAIR.

073
- POWER OFF

TEST THE FUSE(S).
TEST FOR MISSING OR FAILING REGULATOR CARD(S).

DOES THE FAILURE REMAIN?
Y N

074
- VERIFY THE REPAIR.

075
EXCHANGE THE POWER SUPPLY.
IF THIS HAS ALREADY BEEN DONE, MAKE AN INSPECTION OF THE VOLTAGE DISTRIBUTION NETWORK.
REQUEST AID.

076
THE LED IS SUSPECT.
GO TO MAP 1071, ENTRY POINT A.

077
IS THE 'CHECK' LED ON?
Y N

078
GO TO PAGE 1, STEP 002, ENTRY POINT CT.

079
IS ANY LEVEL LAMP ON?
Y N

080
- PRESS THE PROCESSING UNIT STATUS WORD KEY.

RECORD THE PROCESSING UNIT STATUS WORD FOR YOUR INFORMATION.
GO TO PAGE 1, STEP 002, ENTRY POINT CT.

081
(ENTRY POINT CR)

- PRESS THE STOP KEY.
- PRESS THE PROCESSING UNIT STATUS WORD KEY.

RECORD THE PROCESSING UNIT STATUS WORD.
DO NOT PRESS ANY OTHER KEY OR SWITCH.
YOU HAVE THE FAILURE ON THE SYSTEM WITH THE PROCESSING UNIT STATUS WORD BIT(S) AT THE TIME OF THE FAILURE.

PROCESSING UNIT STATUS WORD

CLASS	BIT	MEANING
PROGRAM CHECK	0	SPECIFICATION CHECK
	1	NOT VALID STORAGE ADDRESS
	2	PRIVILEGE VIOLATE
	3	PROTECT CHECK (4955)
	4	NOT VALID FUNCTION
SOFT EXCEPTION	5	FLOATING POINT EXCEPTION
	6	STACK EXCEPTION
	7	RESERVED
MACHINE CHECK	8	STORAGE PARITY CHECK
	9	RESERVED
	10	CONTROL CHECK
	11	INPUT/OUTPUT CHECK
STATUS FLAGS	12	SEQUENCE INDICATOR
	13	AUTO IPL
	14	TRANSLATOR ENABLED
	15	POWER THERMAL WARNING

SEE THE PROCESSING UNIT STATUS WORD

IS BIT 15 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

082
SEE THE PROCESSING UNIT STATUS WORD BIT 14.

IS BIT 14 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

083
SEE THE PROCESSING UNIT STATUS WORD BIT 13.

IS BIT 13 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

084
SEE THE PROCESSING UNIT STATUS WORD BIT 12.

IS BIT 12 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

085
SEE THE PROCESSING UNIT STATUS WORD BIT 11.

IS BIT 11 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

1 1 1 1 1 1
9 7 6 6 5 8
T U V W X Y

086
SEE THE PROCESSING UNIT STATUS WORD BIT 10.

IS BIT 10 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

087
SEE THE PROCESSING UNIT STATUS WORD BIT 09.

IS BIT 09 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

088
SEE THE PROCESSING UNIT STATUS WORD BIT 08.

IS BIT 08 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

089
SEE THE PROCESSING UNIT STATUS WORD BIT 07.

IS BIT 07 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

090
SEE THE PROCESSING UNIT STATUS WORD BIT 06.

IS BIT 06 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

091
SEE THE PROCESSING UNIT STATUS WORD BIT 05.

IS BIT 05 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

092
SEE THE PROCESSING UNIT STATUS WORD BIT 04.

IS BIT 04 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

093
SEE THE PROCESSING UNIT STATUS WORD BIT 03.

IS BIT 03 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

094
SEE THE PROCESSING UNIT STATUS WORD BIT 02.

IS BIT 02 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

095
SEE THE PROCESSING UNIT STATUS WORD BIT 01.

IS BIT 01 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

096
SEE THE PROCESSING UNIT STATUS WORD BIT 00.

IS BIT 00 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

097
GO TO PAGE 1, STEP 002, ENTRY POINT CT.

098
BIT 00 IS ON IN THE PROCESSING UNIT STATUS WORD.
THIS IS A SPECIFICATION CHECK.
BIT 00 IS ON WHEN THE STORAGE ADDRESS IS NOT INSIDE THE BOUNDARY SPECIFICATION(S).
(IT IS ON AN ODD-NUMBERED ADDRESS).

- PRESS THE STOP KEY.
- PRESS THE STORAGE ADDRESS REGISTER KEY.

SEE THE STORAGE ADDRESS REGISTER BIT 15.

IS BIT 15 ON IN THE STORAGE ADDRESS REGISTER?
Y N

099
IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ROS CARD.
ADDRESS CARD.
DATA CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

100
SEE THE PROCESSING UNIT STATUS WORD BIT 14.

IS BIT 14 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

101
DISPLAY AND RECORD THE FOLLOWING:
OP REGISTER.
CURRENT INSTRUCTION ADDRESS REGISTER.
INSTRUCTION ADDRESS REGISTER.
LEVEL.

THE INSTRUCTION ADDRESS REGISTER IS THE STORAGE ADDRESS OF THE INSTRUCTION.
DISPLAY THE STORAGE LOCATION.
DECODE INSTRUCTION TO DETERMINE WHAT COMMAND AND REGISTER WAS USED WHEN THE FAILURE OCCURRED.
THE SOURCE OF THE STORAGE ADDRESS REGISTER, BIT 15 MUST BE DETERMINED.
IF YOU CAN NOT DETERMINE THE SOURCE OF BIT 15:

IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ROS CARD.
ADDRESS CARD.
DATA CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

102
THE SYSTEM FAILED IN TRANSLATED MODE.
THE ADDRESS OF THE INSTRUCTION AND COMMAND MUST BE DETERMINED.
THE TRANSLATOR ENTRY POINT OF THIS MAP DOES THIS .

DO YOU KNOW THE TRANSLATED ADDRESS THAT FAILED?
Y N

103
GO TO ENTRY POINT INDICATED.
RETURN HERE WHEN ADDRESS IS DETERMINED, AND ANSWER ABOVE QUESTION 'YES'
GO TO PAGE 17, STEP 144, ENTRY POINT TR.

104
THE INSTRUCTION ADDRESS REGISTER IS THE STORAGE LOCATION OF THE INSTRUCTION.

DISPLAY THE STORAGE LOCATION.
DECODE THE INSTRUCTION TO DETERMINE WHAT COMMAND AND REGISTER WAS USED WHEN THE FAILURE OCCURRED.
THE SOURCE OF THE STORAGE ADDRESS REGISTER, BIT 15 MUST BE DETERMINED.

IF YOU CAN NOT DETERMINE THE SOURCE OF BIT 15:
IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ROS CARD.
DATA CARD.
ADDRESS CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

105
BIT 01 IS ON IN THE PROCESSING UNIT STATUS WORD.
A NOT VALID STORAGE ADDRESS.
BIT 01 IS ON WHEN AN ATTEMPT IS MADE TO ADDRESS A STORAGE LOCATION THAT IS NOT INSTALLED ON THE SYSTEM.

SEE THE PROCESSING UNIT STATUS WORD BIT 14.

IS BIT 14 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

106
(ENTRY POINT ST)

SEE THE STORAGE ADDRESS REGISTER.

IS THE STORAGE ADDRESS REGISTER VALID FOR THE SYSTEM?
Y N

107
RECORD THE STORAGE ADDRESS REGISTER, INSTRUCTION ADDRESS REGISTER, CURRENT INSTRUCTION ADDRESS REGISTER AND REGISTERS 0 - 7.
DECODE THE INSTRUCTION LOCATED AT THE CURRENT INSTRUCTION ADDRESS REGISTER ADDRESS AND THE EFFECTIVE ADDRESS OF THE COMMAND.

IS THE EFFECTIVE ADDRESS OF EITHER COMMAND HIGHER THAN THE INSTALLED STORAGE?
Y N

108
IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ROS CARD.
ADDRESS CARD.
DATA CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

109
THE EFFECTIVE ADDRESS IS NOT CORRECT.
SUSPECT EITHER A SOFTWARE PROBLEM OR THAT STORAGE HAS BEEN WRITTEN OVER.
IF THE EFFECTIVE ADDRESS WAS DETERMINED USING A REGISTER, IT IS PROBABLE THE WRONG INFORMATION WAS IN THE REGISTER.

110
IS MORE THAN ONE STORAGE CARD (MODULE) INSTALLED ON THE SYSTEM?
Y N

111
EXCHANGE THE STORAGE CARD (MODULE) SUSPECTED.

112
REFERENCE PROCESSING UNIT LOGIC AX3XX FOR STORAGE CARD JUMPERS, IF INSTALLED.
EXCHANGE STORAGE CARD(S) ON SYSTEM.

DID THE PROBLEM FOLLOW THE STORAGE CARD (MODULE)?
Y N

113
IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ROS CARD.
ADDRESS CARD.
DATA CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

114
EXCHANGE STORAGE CARD (MODULE) SUSPECTED.
- VERIFY THE REPAIR.

115
THE SYSTEM WAS RUNNING IN TRANSLATED MODE.
THE ADDRESS MUST BE TRANSLATED BY YOU.
GO TO PAGE 17, STEP 144, ENTRY POINT TR.

WHEN THE ADDRESS HAS BEEN TRANSLATED BY YOU,
GO TO PAGE 11, STEP 106, ENTRY POINT ST.

116
BIT 02 IS ON IN THE PROCESSING UNIT STATUS WORD.
REFERENCE 'PROCESSING UNIT THEORY DIAGRAMS', 'PROCESSING UNIT STATUS WORD', 'BIT 02, PRIVILEGE VIOLATE'.

BIT 02 IS ON WHEN A PRIVILEGE INSTRUCTION IS ATTEMPTED, AND THE SUPERVISOR STATUS BIT (BIT 8) IN THE LSR IS OFF.

- DISPLAY THE CURRENT INSTRUCTION ADDRESS REGISTER.
- DECODE THE INSTRUCTION IN THE CURRENT INSTRUCTION ADDRESS REGISTER.

IS BIT 14 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

117
(ENTRY POINT PV)

IS THE INSTRUCTION A 'PRIVILEGE' INSTRUCTION?
Y N

118
IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ADDRESS CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.
DATA CARD.
ROS CARD.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

119
IS BIT 08 ON IN THE LSR?
Y N

120
YOU MUST DETERMINE WHY BIT 08 IN THE LSR IS OFF.
THIS MAY BE A SOFTWARE PROBLEM.
REQUEST AID.

121
IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ADDRESS CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.
DATA CARD.
ROS CARD.

122
THE SYSTEM WAS RUNNING IN TRANSLATED MODE.
THE ADDRESS MUST BE TRANSLATED BY YOU.
GO TO PAGE 17, STEP 144,
ENTRY POINT TR.

WHEN THE ADDRESS HAS BEEN TRANSLATED BY YOU,
GO TO PAGE 12, STEP 117,
ENTRY POINT PV.

123
BIT 03 IS ON IN THE PROCESSING UNIT STATUS WORD.
THIS IS A PROTECT CHECK.
IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ADDRESS CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.
DATA CARD.
ROS CARD.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

124
BIT 04 IS ON IN THE PROCESSING UNIT STATUS WORD.
REFERENCE 'PROCESSING UNIT THEORY DIAGRAMS',
'PROCESSING UNIT STATUS WORD',
'BIT 04, NOT VALID FUNCTION'.

BIT 04 IS ON WHEN THE OP CODE AND FUNCTION DOES NOT DECODE TO A CORRECT FUNCTION.

- PRESS THE OP REGISTER KEY.

DOES THE OP REGISTER CONTAIN A VALID FUNCTION?
Y N

125
THIS CAN BE A SOFTWARE PROBLEM.
THE PROGRAM CAN BE WRITTEN OVER.
THE PROGRAM CAN HAVE A BAD BRANCH IN IT.
THE PROGRAM CAN HAVE AN ASSEMBLY PROBLEM.
REQUEST SOFTWARE AID.

126
IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ROS CARD.
DATA CARD.
ADDRESS CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

127
BIT 05 IS ON IN THE PROCESSING UNIT STATUS WORD.
THIS IS A FLOATING POINT EXCEPTION.

EXCHANGE THE FOLLOWING:
FLOATING POINT CARD.
DATA CARD.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

128
BIT 06 IS ON IN THE PROCESSING UNIT STATUS WORD.
THIS IS A STACK EXCEPTION.
BIT 06 IS ON WHEN AN ATTEMPT IS MADE TO POP A COMMAND FROM AN EMPTY STACK, OR TO PUSH A COMMAND INTO A STACK THAT IS FILLED.

IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ADDRESS CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.
DATA CARD.
ROS CARD.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

129
BIT 07 IS ON IN THE PROCESSING UNIT STATUS WORD.
BIT 07 IS NOT USED.

IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ADDRESS CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.
DATA CARD.
ROS CARD.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

130
BIT 08 IS ON IN THE PROCESSING UNIT STATUS WORD.
THIS IS A STORAGE PARITY CHECK.

- PRESS THE STOP KEY.
- PRESS THE LEVEL 3 KEY.
- PRESS THE REGISTER 7 KEY.

REGISTER 7 CONTENT IS THE STORAGE ADDRESS REGISTER.
USING THIS ADDRESS, DETERMINE WHICH 16K AREA OF STORAGE FAILED.

STORAGE ADDRESS REGISTER CONTENT	STORAGE AREA
0000--3FFF	16K
4000--7FFF	32K
8000--BFFF	48K
C000--FFFF	64K

EXCHANGE THE STORAGE CARD (MODULE) THAT INCLUDES THE SUSPECT 16K AREA WITH A KNOWN GOOD STORAGE CARD (MODULE) OF THE SAME TYPE.

- RUN THE FAILING DIAGNOSTIC.

DOES THE SYSTEM RUN O.K.?
Y N

131
IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
DATA CARD.
ROS CARD.
ADDRESS CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

132
- VERIFY THE REPAIR.

133
BIT 09 IS ON IN THE PROCESSING UNIT STATUS WORD.
THIS BIT IS NOT USED.
THERE IS A PROBABLE SHORT TO GROUND BETWEEN THE STORAGE ADDRESS LINE(S) OF THE PROCESSING UNIT.

IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ADDRESS CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.
DATA CARD.
ROS CARD.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

134
BIT 10 IS ON IN THE PROCESSING UNIT STATUS WORD.
THIS IS A CONTROL CHECK
IT IS A SUSPECTED PROCESSING UNIT PROBLEM.

IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ADDRESS CARD.
ADDRESS TRANSLATOR CARD, IF INSTALLED.
DATA CARD.
ROS CARD.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

135
(ENTRY POINT IO)

BIT 11 IS ON IN THE PROCESSING UNIT STATUS WORD.

THIS IS AN I/O CHECK.
THERE WAS A WRONG CHANNEL SEQUENCE OF EVENTS.
THE PROBLEM IS ANY CARD ON THE CHANNEL, OR ANY CARD WITH A SIGNAL TO THE CHANNEL.

IS BIT 12 ON IN THE PROCESSING UNIT STATUS WORD?
Y N

136
THE I/O CHECK OCCURRED IN A DIRECT PROGRAM CONTROL OPERATION.

- PRESS THE INSTRUCTION ADDRESS REGISTER KEY.

'XXXX' IS DISPLAYED.
'XXXX' IS THE INSTRUCTION ADDRESS REGISTER USED WHEN THE CHECK OCCURRED.

- KEY 'XXXX' ON CONSOLE.
- PRESS THE STORE KEY.
- PRESS THE MAIN STORAGE KEY.
- PRESS THE MAIN STORAGE KEY.

'YYYY' IS DISPLAYED.
'YYYY' IS THE IDCB ADDRESS.

- KEY 'YYYY' ON CONSOLE.
- PRESS THE STORE KEY.
- PRESS THE MAIN STORAGE KEY.

'ZZZZ' IS DISPLAYED.
'ZZZZ' IS THE IDCB USED WHEN CHECK OCCURRED.

BIT(S) 08 TO 15 OF THE IDCB (ZZZZ) CONTAIN THE DEVICE ADDRESS OF THE FAILING ATTACHMENT/DEVICE.

EXCHANGE THE ATTACHMENT CARD OF THIS ATTACHMENT/DEVICE.
IF NO REPAIR, THE DEVICE IS PROBABLY BAD.

137
GO TO PAGE 16, STEP 138, ENTRY POINT CS.

138
(ENTRY POINT CS)

THE SEQUENCE INDICATOR (BIT 12) IS ON.
THIS IS NOT AN ERROR ITSELF.
THE BIT INDICATES THE LAST INTERFACE SEQUENCE AT ANY TIME.

WHEN BIT 12 AND BIT 11 ARE ON IN THE PROCESSING UNIT STATUS WORD, THE I/O CHECK OCCURRED IN A CYCLE STEAL OPERATION.
IF RUNNING A DEVICE TYPE, THE IDCB INDICATES THE ADDRESS OF THE DEVICE CAUSING THE I/O CHECK.
THE CHECK OCCURRED IN A CYCLE STEAL OPERATION AND THIS MAY NOT BE CORRECT.

- PRESS THE INSTRUCTION ADDRESS REGISTER KEY.

'XXXX' IS DISPLAYED.
'XXXX' IS THE INSTRUCTION ADDRESS REGISTER USED WHEN THE CHECK OCCURRED.

- KEY 'XXXX' ON CONSOLE.
- PRESS THE STORE KEY.
- PRESS THE MAIN STORAGE KEY.

'YYYY' IS DISPLAYED.
'YYYY' IS THE IDCB ADDRESS.

- KEY 'YYYY' ON THE CONSOLE.
- PRESS THE STORE KEY.
- PRESS THE MAIN STORAGE KEY.

'ZZZZ' IS DISPLAYED.
'ZZZZ' IS THE IDCB USED WHEN CHECK OCCURRED.

BIT(S) 08 TO 15 OF THE IDCB (ZZZZ) CONTAIN THE DEVICE ADDRESS OF THE FAILING ATTACHMENT/DEVICE.

IS IDCB ADDRESS EQUAL TO THE ADDRESS OF DEVICE RUNNING WHEN ERROR OCCURRED?
Y N

139
NOTE THE ATTACHMENT CARD INDICATED BY THE IDCB ADDRESS.
NOTE ALL CYCLE STEAL ATTACHMENTS INSTALLED ON THE SYSTEM.
GO TO MAP 0015, ENTRY POINT A.

140
EXCHANGE THE ATTACHMENT CARD INDICATED BY THE DEVICE ADDRESS OF THE IDCB, BIT(S) 08 TO 15.
RUN THE FAILING PROGRAM AGAIN.

DID THE SAME FAILURE OCCUR?
Y N

141
- VERIFY THE REPAIR.

142
THE ATTACHMENT CARD INDICATED BY THE IDCB IS GOOD.
NOTE ALL OTHER CYCLE STEAL ATTACHMENTS INSTALLED ON THE SYSTEM THAT WERE RUNNING AT TIME OF FAILURE.
NOTE THE DEVICE THAT IS CONNECTED TO THE CARD JUST TESTED, IF ANY. THE DEVICE MAY BE CAUSING THE PROBLEM.
GO TO MAP 0015, ENTRY POINT A.

143
BIT 13 IS ON IN THE PROCESSING UNIT STATUS WORD.
THIS IS THE AUTO IPL BIT.
WHEN THE SWITCH ON THE BASIC CONSOLE IS IN 'AUTO IPL' MODE, AND THE HOST SYSTEM IS READY, ANY POWER ON CAUSES AN IPL TO OCCUR AND THIS BIT TO BE ON.

IF A 4955 PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
ROS CARD,
DATA CARD,
ADDRESS CARD,
ADDRESS TRANSLATOR CARD, IF INSTALLED.

IF A 495X PROCESSING UNIT IS INSTALLED,
EXCHANGE THE FOLLOWING:
PROCESSING UNIT CARD.

BIT 12 ON = CYCLE STEAL OPERATION.
BIT 12 OFF = DIRECT PROGRAM CONTROL OPERATION

144
(ENTRY POINT TR)

BIT 14 IS ON IN THE PROCESSING UNIT STATUS WORD.
THE TRANSLATOR IS ENABLED.
IF YOU WANT TO DETERMINE THE STORAGE ADDRESS THAT IS FAILING AND CHANGE OR DISPLAY IT, INDICATE THIS NOW.

DO YOU WANT TO CHANGE, DISPLAY OR DETERMINE A STORAGE ADDRESS?
Y N

145
EXCHANGE THE FOLLOWING:
RELOCATION TRANSLATOR CARD.

146
- SEE THE NOTE TO THE RIGHT.

DO NOT RESET THE SYSTEM AS YOU FOLLOW THESE INSTRUCTION(S).

RECORD THE FOLLOWING:
1. PROCESSING UNIT STATUS WORD
2. STORAGE ADDRESS REGISTER

```
  ************************************
  * THE STORAGE ADDRESS REGISTER IS: *
  *              RECORD 1            *
  ************************************
```

3. INSTRUCTION ADDRESS REGISTER
4. CURRENT INSTRUCTION ADDRESS REGISTER
5. LEVEL STATUS REGISTER
6. LEVEL = LEVEL
7. OP CODE
8. REGISTERS 0 - 7.

- PRESS THE INSTRUCTION STEP MODE KEY.
- PRESS THE START KEY.

THE MICRO PROGRAM WILL LOAD THE HARDWARE LSB TO STORAGE.

IS THIS A PROGRAM CHECK?
Y N

147
THIS IS A MACHINE CHECK.
BIT(S) 8, 10, OR 11 ON IN THE PROCESSING UNIT STATUS WORD.

- DISPLAY STORAGE LOCATION '0008'

'0008' CONTENT IS THE ADDRESS OF THE LSB.
RECORD THIS ADDRESS.
GO TO PAGE 18, STEP 150, ENTRY POINT LS.

148
THIS IS A PROGRAM CHECK.
BIT(S) 0 - 4 OF THE PROCESSING UNIT STATUS WORD ARE ON FOR A PROGRAM CHECK.

- DISPLAY STORAGE LOCATION '000C'

'000C' CONTENT IS THE ADDRESS OF THE LSB.
RECORD THIS ADDRESS.

DID YOU RECORD THE ADDRESS?
Y N

149
RECORD AND CONTINUE ON THE 'YES' COLUMN.

BIT(S) 0 - 4 OF THE PROCESSING UNIT STATUS WORD ARE ON FOR A PCK.
BIT(S) 8, 10, OR 11 OF THE PROCESSING UNIT STATUS WORD ARE ON FOR A MCK.

```
  -----
 | LSB | (LEVEL STATUS BLOCK)
  -----
```

LSB WORD	CONTENT
0	INSTRUCTION ADDRESS REGISTER
1	ADDRESS KEY REGISTER
2	LEVEL STATUS REGISTER
3	REGISTER 0
4	REGISTER 1
5	REGISTER 2
6	REGISTER 3
7	REGISTER 4
8	REGISTER 5
9	REGISTER 6
10	REGISTER 7

150
(ENTRY POINT LS)

- SEE THE NOTE TO THE RIGHT.

DISPLAY AND RECORD 11 LSB WORDS:
(STORED SEQUENTIALLY IN STORAGE, STARTING AT ADDRESS OF THE LSB)

- PRESS THE INSTRUCTION STEP MODE KEY.

- INSERT PROGRAM 1.
- STORE ZEROS INTO THE INSTRUCTION ADDRESS REGISTER.
- PRESS THE START KEY.
- DISPLAY AND RECORD LOCATION '0006'.

LOCATION '0006' CONTENT IS THE 'AKR'.
BIT(S) 5 - 7 EQUAL OPIK KEY OF THE FAILING STORAGE ADDRESS REGISTER.

```
**************
* OP1 KEY IS: *
*   RECORD 2  *
**************
```

TO DETERMINE THE CONTENTS OF THE SEGMENTATION REGISTER USED, INSERT PROGRAM 2.

REFERENCE RECORD 1 AND RECORD 2 ABOVE.

- PRESS THE START KEY.
- DISPLAY AND RECORD LOCATION '0006'

THE CONTENTS OF LOCATION '0006' IS THE SEGMENTATION REGISTER.

```
*********************************
* THE SEGMENTATION REGISTER IS: *
*          RECORD 3             *
*********************************
```

YOU NOW HAVE THE SEGMENTATION REGISTER AND THE STORAGE ADDRESS REGISTER YOU NEED TO DETERMINE THE 24 BIT PHYSICAL ADDRESS.
BIT(S) 0 - 12 OF THE SEGMENTATION REGISTER (RECORD 3) AND BIT(S) 5 - 15 OF THE STORAGE ADDRESS REGISTER (RECORD 1) ARE EQUAL TO THE 24 BIT PHYSICAL ADDRESS.

DO YOU NEED TO DISPLAY BIT(S) AT A STORAGE LOCATION?
Y N

151
DO YOU NEED TO CHANGE BIT(S) AT A STORAGE LOCATION?
Y N

152
RETURN TO THE STEP NUMBER THAT SENT YOU HERE

THE AKR (LSB WORD 1) CONTENT IS THE THREE ADDRESS KEY(S) USED BY THE PROGRAM AT THE TIME OF FAILURE.
AKR (LSB WORD 1)

BIT(S) 05 - 07	EQUAL TO OP1 KEY.
BIT(S) 09 - 11	EQUAL TO OP2 KEY.
BIT(S) 13 - 15	EQUAL TO ISK KEY.

PROGRAM 1

THIS PROGRAM WILL PUT THE AKR INTO LOCATION '0006' AND STOP.

LOCATION	INSTRUCTION
0000	5B2A
0002	0006
0004	6400
0006	0000

PROGRAM 2

THIS PROGRAM WILL PUT THE SEGMENTATION REGISTER INTO LOCATION '0006' AND STOP.

LOCATION	INSTRUCTION
0000	5829
0002	0006
0004	6400
0006	XXXX

LOAD REGISTER 0, BIT(S) 0-4 FROM BIT(S) 0-4 (RECORD 1)
LOAD REGISTER 0, BIT(S) 5-7 FROM BIT(S) 5-7 (RECORD 2)

153
REFERENCE THE PROCESSING UNIT THEORY DIAGRAMS, 'STORING INTO MAIN STORAGE'.

- PRESS THE STOP KEY.
- PRESS THE AKR KEY.
- KEY '000X'.

'X' = BIT(S) 5 -7 OF AKR FROM 'RECORD 2'.

- PRESS THE STORE KEY.
- PRESS THE STORAGE ADDRESS REGISTER KEY.
- KEY 'YYYY'.

'YYYY' = STORAGE ADDRESS REGISTER FROM 'RECORD 1'.

- PRESS THE STORE KEY.
- PRESS THE MAIN STORAGE KEY.

- KEY 'ZZZZ'.

'ZZZZ' = DATA TO BE STORED INTO MAIN STORAGE.

- PRESS THE STORE KEY.

THE DATA THAT IS DISPLAYED IS STORED AT THAT STORAGE LOCATION. EACH PRESSING OF THE STORE KEY CAUSES THE STORAGE ADDRESS REGISTER TO BE INCREASED BY +2, AND THE DATA THAT IS DISPLAYED IS STORED AT THAT LOCATION.

RETURN TO STEP NUMBER THAT SENT YOU HERE

154
REMEMBER - TRANSLATOR BIT 14 OF THE PROCESSING UNIT STATUS WORD MUST BE ON. IF OFF, THE INFORMATION MAY NOT BE CORRECT.

REFERENCE PROCESSING UNIT THEORY DIAGRAMS, 'TO DISPLAY A MAIN STORAGE LOCATION'.

- PRESS THE STOP KEY.
- PRESS THE AKR KEY.
- KEY '000X'.

'X' = BIT(S) 5 -7 OF AKR FROM 'RECORD 2'.

- PRESS THE STORE KEY.
- PRESS THE STORAGE ADDRESS REGISTER KEY.
- KEY 'YYYY'.

'YYYY' = STORAGE ADDRESS REGISTER FROM 'RECORD 1'.

- PRESS THE STORE KEY.
- PRESS THE MAIN STORAGE KEY.

THE CONTENTS OF THE STORAGE LOCATION ARE DISPLAYED IN THE DATA LEDS. TO DISPLAY SEQUENTIAL MAIN STORAGE LOCATION(S), CONTINUE PRESSING THE MAIN STORAGE KEY. THE STORAGE ADDRESS IS INCREASED BY +2 EACH TIME THE MAIN STORAGE KEY IS PRESSED, AND THE CONTENTS OF THE STORAGE LOCATION IS DISPLAYED IN THE DATA LEDS.

RETURN TO STEP NUMBER THAT SENT YOU HERE

155
(ENTRY POINT PT)

BIT 15 IS ON IN THE PROCESSING UNIT STATUS WORD.
THIS IS A POWER/THERMAL WARNING.

SEE IF A THERMAL LED AND/OR POWER ON RESET LED ARE INSTALLED ON THE POWER SUPPLY.
IF A THERMAL LED AND/OR POWER ON RESET LED IS NOT INSTALLED ON THE POWER SUPPLY:
ANSWER THE FOLLOWING QUESTION 'NO'.

IS THE THERMAL AND/OR POWER ON RESET (POR) LED(S) ON POWER SUPPLY 'ON'?
Y N

156
IS THE OVERLOAD LED ON, IF INSTALLED?
Y N

157
THE POWER ON RESET LINE TO A BOARD MAY BE OPEN.
SEE THE LOGIC FOR THE SUSPECT BOARD.
SEE THE LOGIC FOR THE SUSPECT POWER SUPPLY.
PROBE THE LINE(S) FOR THE CORRECT LEVEL(S).

LOCATE POWER SUPPLY ON SUSPECT MODULE.
REFERENCE PROCESSING UNIT MIH, 'POWER SUPPLY LOCATION'.
REFERENCE POWER SUPPLY LOGIC(S) YA32X.
LOCATE POR LED ON POWER SUPPLY.
POR LED WILL GO ON, THEN OFF WHEN MODULE IS POWERED ON.

- POWER OFF

- WAIT 15 SECONDS.

- POWER ON

DID THE POR LED GO ON, THEN OFF AS INDICATED ABOVE?
Y N

158
- POWER OFF

REMOVE THE POWER CABLE(S) IN THE REAR OF THE BOARD.
REFERENCE YA34X.
- POWER ON

DID THE POR LED GO ON, THEN OFF?
Y N

159
GO TO MAP 1470, ENTRY POINT A.

160
THE PROBLEM IS IN THE CABLE FROM THE POWER SUPPLY TO THE BOARD, THE BOARD ITSELF, OR SOME CARD INSTALLED ON THE BOARD.
SUSPECT A 'GROUND' IN THIS AREA.
ISOLATE AND REPAIR THE PROBLEM.
- VERIFY THE REPAIR.

161
- SEE THE NOTE TO THE RIGHT.

THE POR PULSE IS CORRECT IN THE POWER SUPPLY.

PROBE THE POR PIN S05 ON ALL THE I/O CARD POSITION(S) ON THE BOARD.
NOTE THE POR PIN ON THE 'A' CARD POSITION.
REFERENCE A3XXX OR A5XXX AS NEEDED.

- POWER OFF

WHEN PROBING THE POR PULSE, THE PROBE WILL SHOW THE FOLLOWING SEQUENCE WHEN THE SYSTEM IS POWERED ON.

PROBE	MEANING OF INDICATION.
UP	+5V IS AT THE PROBE.
DOWN	POR PULSE.
UP	POR PULSE NOT.

- POWER ON

OBSERVE THE INDICATOR(S) ON THE PROBE.

IS THE POR PULSE CORRECT ON ALL THE S05 I/O PINS?
Y N

162
THE POWER ON RESET IS CORRECT IN THE POWER SUPPLY, BUT IT IS NOT CORRECT ON THE BOARD.
THE POR WIRE IS OPEN IN THE CABLE FROM THE POWER SUPPLY TO THE BOARD.
THE POR WIRE NETWORK IS OPEN ON BOARD.
REFERENCE THE CORRECT LOGIC(S) FOR THE POWER SUPPLY AND THE BOARD WITH THE PROBLEM.
- CORRECT THE PROBLEM.
- VERIFY THE REPAIR.

HOW TO USE THE GENERAL LOGIC PROBE:

THE BLACK (MINUS) WIRE CAN BE CONNECTED TO ANY GROUND PIN ON THE BOARD. PIN(S) D08, J08, P08 OR U08.

THE RED (PLUS) WIRE CAN BE CONNECTED TO ANY +5V PIN ON THE BOARD. PIN(S) D03, J03, P03 OR U03.

SET THE SWITCH TO:

TECHNOLOGY	MULTI
LATCH	NONE
GATE REFERENCE	GROUND

REFERENCE THE DIAGNOSTIC SERVICE GUIDE -11.00.00-, 'GENERAL LOGIC PROBE SUMMARY' FOR INSTRUCTION(S) ON HOW TO USE THE GENERAL LOGIC PROBE.

163
THE POWER/THERMAL LINE MAY BE A PROBLEM:

THE POWER/THERMAL LINE TO A BOARD MAY BE OPEN.
SEE THE LOGIC FOR THE SUSPECT BOARD.
SEE THE LOGIC FOR THE SUSPECT POWER SUPPLY.
PROBE THE POWER/THERMAL LINE(S) FOR THE CORRECT LEVEL.

IS THE 'POWER/THERMAL WARNING INDICATOR' LINE UP?
Y N

164
THE POWER/THERMAL WIRE IS OPEN IN THE CABLE FROM THE POWER SUPPLY TO THE BOARD, OR THE WIRE NETWORK IS OPEN ON THE BOARD.
REFERENCE THE CORRECT LOGIC(S) FOR THE POWER SUPPLY AND THE BOARD WITH THE PROBLEM.
- CORRECT THE PROBLEM.
- VERIFY THE REPAIR.

165
THIS MAY BE A POWER SUPPLY PROBLEM:

A VOLTAGE IS NOT PRESENT.
THE POWER TO A BOARD MAY BE BAD.
SEE THE LOGIC FOR THE SUSPECT BOARD.
SEE THE LOGIC FOR THE SUSPECT POWER SUPPLY.
TEST THE VOLTAGE LINE(S) FOR CORRECT LEVEL(S).

166
THE DC POWER SUPPLY OR REGULATOR CARD IS SUSPECT.
GO TO MAP 1470, ENTRY POINT A.

167
ARE ALL THE MODULE AND DEVICE FAN(S) OPERATING?
Y N

168
USE 'WILL NOT POWER UP AND THERMAL AND POR FAILURE LEDS ON' FOR FAILURE SYMPTOM.
GO TO MAP 1470, ENTRY POINT A.

169
- EXCHANGE THE THERMAL SWITCH.
- VERIFY THE REPAIR.