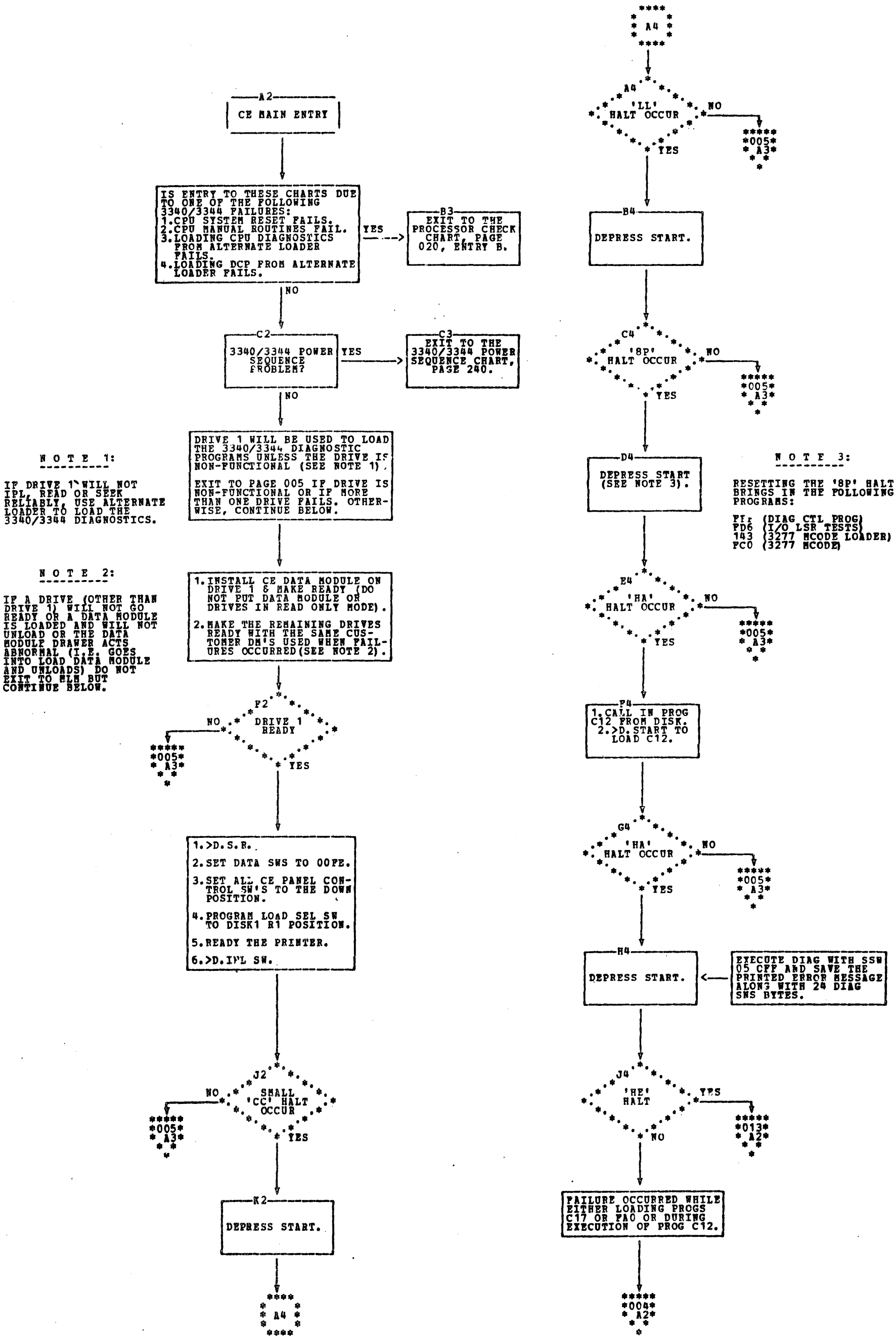
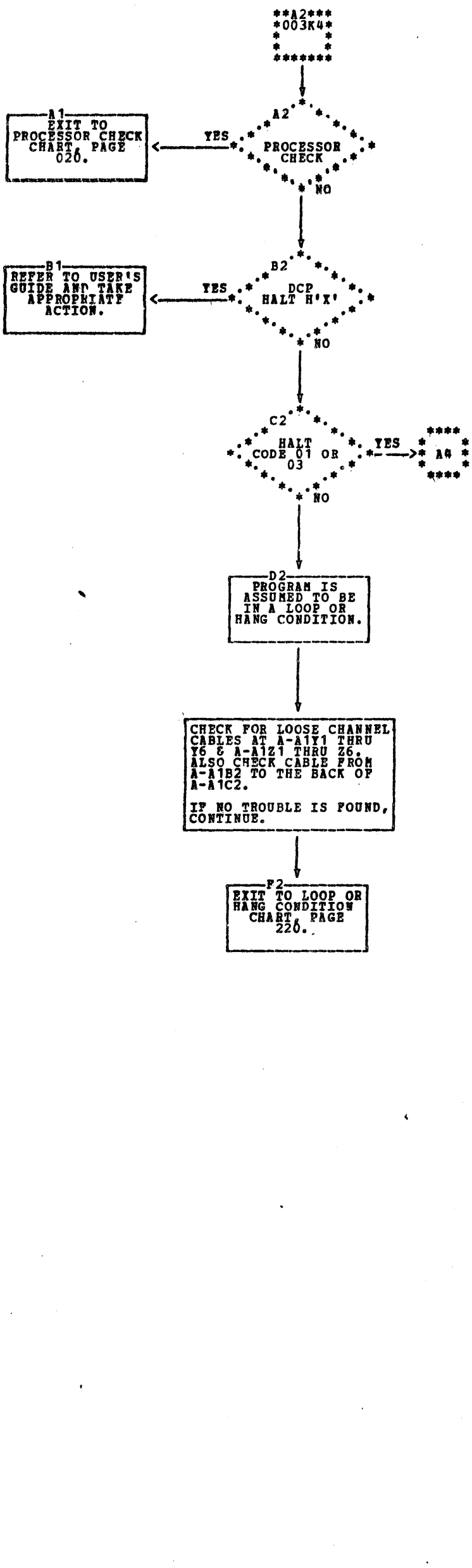
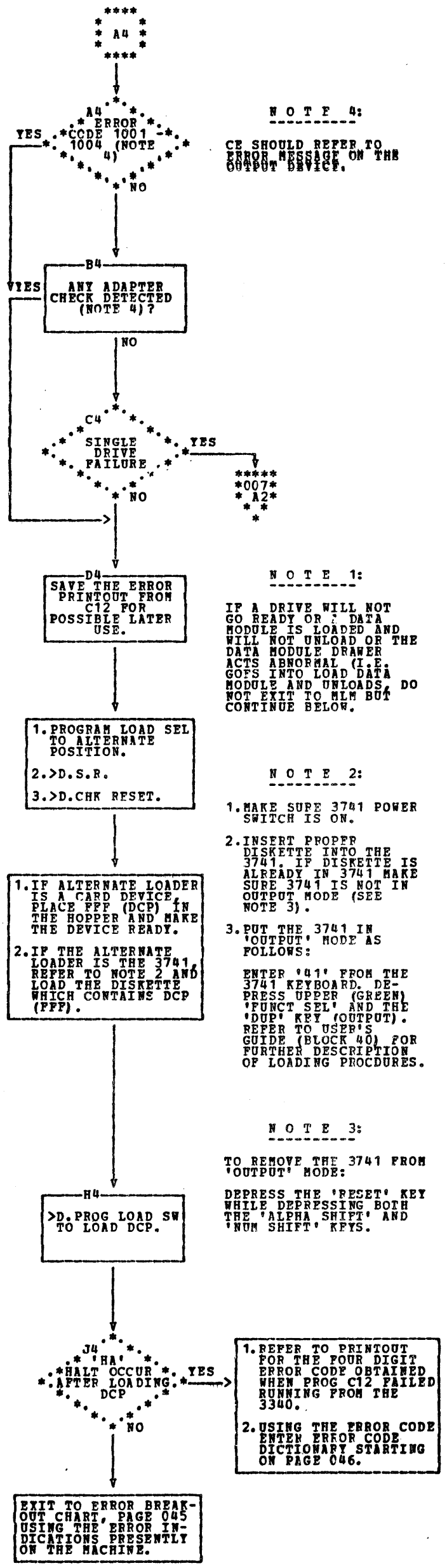

A2
CE MAIN ENTRY
IS ENTRY TO THESE CHARTS DUE TO ONE OF THE FOLLOWING 3340/3344 FAILURES:
1.CPU SYSTEM RESET FAILS.
2.CPU MANUAL ROUTINES FAIL.
3.LOADING CPU DIAGNOSTICS FROM ALTERNATE LOADER FAILS.
4.LOADING DCP FROM ALTERNATE LOADER FAILS.
YES
B3
EXIT TO THE PROCESSOR CHECK CHART, PAGE 020, ENTRY B.
NO
C2
3340/3344 POWER SEQUENCE PROBLEM?
YES
C3
EXIT TO THE 3340/3344 POWER SEQUENCE CHART, PAGE 240.
NO
DRIVE 1 WILL BE USED TO LOAD THE 3340/3344 DIAGNOSTIC PROGRAMS UNLESS THE DRIVE IS NON-FUNCTIONAL (SEE NOTE 1).
EXIT TO PAGE 005 IF DRIVE IS NON-FUNCTIONAL OR IF MORE THAN ONE DRIVE FAILS. OTHERWISE, CONTINUE BELOW.
N O T E 1:
IF DRIVE 1 WILL NOT IPL, READ OR SEEK RELIABLY, USE ALTERNATE LOADER TO LOAD THE 3340/3344 DIAGNOSTICS.
N O T E 2:
IF A DRIVE (OTHER THAN DRIVE 1) WILL NOT GO READY OR A DATA MODULE IS LOADED AND WILL NOT UNLOAD OR THE DATA MODULE DRAWER ACTS ABNORMAL (I.E. GOES INTO LOAD DATA MODULE AND UNLOADS) DO NOT EXIT TO MLM BUT CONTINUE BELOW.
1.INSTALL CE DATA MODULE ON DRIVE 1 & MAKE READY (DO NOT PUT DATA MODULE OR DRIVES IN READ ONLY MODE).
2.MAKE THE REMAINING DRIVES READY WITH THE SAME CUSTOMER DM'S USED WHEN FAILURES OCCURRED(SEE NOTE 2).
F2
DRIVE 1 READY
NO
005 A3
YES
1.>D.S.R.
2.SET DATA SWS TO 00FE.
3.SET ALL CE PANEL CONTROL SW'S TO THE DOWN POSITION.
4.PROGRAM LOAD SEL SW TO DISK1 R1 POSITION.
5.READY THE PRINTER.
6.>D.IPL SW.
J2
SMALL 'CC' HALT OCCUR
NO
005 A3
YES
K2
DEPRESS START.
A4
A4
'LL' HALT OCCUR
NO
005 A3
YES
B4
DEPRESS START.
C4
'8P' HALT OCCUR
NO
005 A3
YES
D4
DEPRESS START (SEE NOTE 3).
N O T E 3:
RESETTING THE '8P' HALT BRINGS IN THE FOLLOWING PROGRAMS:
FF (DIAG CTL PROG)
FD6 (I/O LSR TESTS)
143 (3277 MCODE LOADER)
FC0 (3277 MCODE)
E4
'HA' HALT OCCUR
NO
005 A3
YES
F4
1.CALL IN PROG C12 FROM DISK.
2.>D.START TO LOAD C12.
G4
'HA' HALT OCCUR
NO
005 A3
YES
H4
DEPRESS START.
EXECUTE DIAG WITH SSW 05 OFF AND SAVE THE PRINTED ERROR MESSAGE ALONG WITH 24 DIAG SWS BYTES.
J4
'HE' HALT
YES
013 A2
NO
FAILURE OCCURRED WHILE EITHER LOADING PROGS C17 OR FA0 OR DURING EXECUTION OF PROG C12.
004 A2





N O T E 4:

CE SHOULD REFER TO ERROR MESSAGE ON THE OUTPUT DEVICE.

N O T E 1:

IF A DRIVE WILL NOT GO READY OR A DATA MODULE IS LOADED AND WILL NOT UNLOAD OR THE DATA MODULE DRAWER ACTS ABNORMAL (I.E. GOES INTO LOAD DATA MODULE AND UNLOADS, DO NOT EXIT TO MLM BUT CONTINUE BELOW.

N O T E 2:

1. MAKE SURE 3741 POWER SWITCH IS ON.
2. INSERT PROPER DISKETTE INTO THE 3741. IF DISKETTE IS ALREADY IN 3741 MAKE SURE 3741 IS NOT IN OUTPUT MODE (SEE NOTE 3).
3. PUT THE 3741 IN 'OUTPUT' MODE AS FOLLOWS:

   ENTER '41' FROM THE 3741 KEYBOARD. DEPRESS UPPER (GREEN) 'FUNCT SEL' AND THE 'DUP' KEY (OUTPUT). REFER TO USER'S GUIDE (BLOCK 40) FOR FURTHER DESCRIPTION OF LOADING PROCDURES.

N O T E 3:

TO REMOVE THE 3741 FROM 'OUTPUT' MODE:

DEPRESS THE 'RESET' KEY WHILE DEPRESSING BOTH THE 'ALPHA SHIFT' AND 'NUM SHIFT' KEYS.

*****A3******
003A4 003C4
003E4 003F2
003G4 003J2
****

A3
CHECK FOR LOOSE VOLTAGE JUMPERS ON BOARD A-A1 (SEE NOTE 1)

N O T E 1:

CHECK THAT JUMPERS ARE SECURE ON THE FOLLOWING PINS:

A-A1T2S11 - - - +6V
A-A1L4D03 - - - +3.4V
A-A1L4D07 - - - +8.5V

PLACE THE FOLLOWING CARD DECKS IN THE READER AND MAKE IT READY ALONG WITH THE PRINTER:

FFF DIAG CONTROL PROG (SEE NOTE 2)
C12 3340 FUNCTION TEST
C17 3340 MICROCODE LDR
FA0 3340 MICROCODE

IF THE ALTERNATE LOADER IS THE 3741, REFER TO NOTE 3. READY THE PRINTER.

N O T E 2:

DCP MUST BE PRECEEDED BY THE APPROPRIATE LOADER. FD0 FOR THE 2560 OR FE0 FOR THE 1442.

IF 5424 IS INSTALLED, NO IPL LOADER IS REQUIRED.

1. PROG LOAD SEL SW TO ALTERNATE POSITION.
2. >ALTER MAIN STORAGE TO 'FE'.
3. >D. PROG LOAD SW TO LOAD DCP.

E3
'HA' HALT OCCUR
NO → E4: FAILURE OCCURED WHILE LOADING DCP FROM THE ALTERNATE LOADER.
YES

F3
>D. START TO LOAD PROG C12 (SEE NOTE 5).

F4
EXIT TO THE PROCESSOR CHECK CHART, PAGE 020, ENTRY B.

N O T E 3:

1. MAKE SURE 3741 POWER SWITCH IS ON.
2. INSERT THE PROPER DISKETTE INTO 3741. IF DISKETTE IS ALREADY IN 3741 MAKE SURE 3741 IS NOT IN OUTPUT MODE (SEE NOTE 4).
3. PUT THE 3741 IN 'OUTPUT' MODE AS FOLLOWS:

   ENTER '41' FROM THE 3741 KEYBOARD. DEPRESS UPPER (GREEN) 'FUNCT SEL' AND THE 'DUP' KEY (OUTPUT). REFER TO USER'S GUIDE (BLOCK 40) FOR FURTHER DESCRIPTION OF LOADING PROCDURES.

N O T E 4:

TO REMOVE THE 3741 FROM 'OUTPUT' MODE:

DEPRESS THE 'RESET' KEY WHILE DEPRESSING BOTH THE 'ALPHA SHIFT' AND 'NUM SHIFT' KEYS.

G3
'HA' HALT OCCUR
NO → G4: FAILURE OCCURRED WHILE LOADING C12 FROM THE ALTERNATE LOADER.
YES

H3
>D. START TO LOAD THE MICRO-CODE & EXECUTE PROGRAM C12.

H4
EXIT TO ERROR BREAKOUT CHART, PAGE 045.

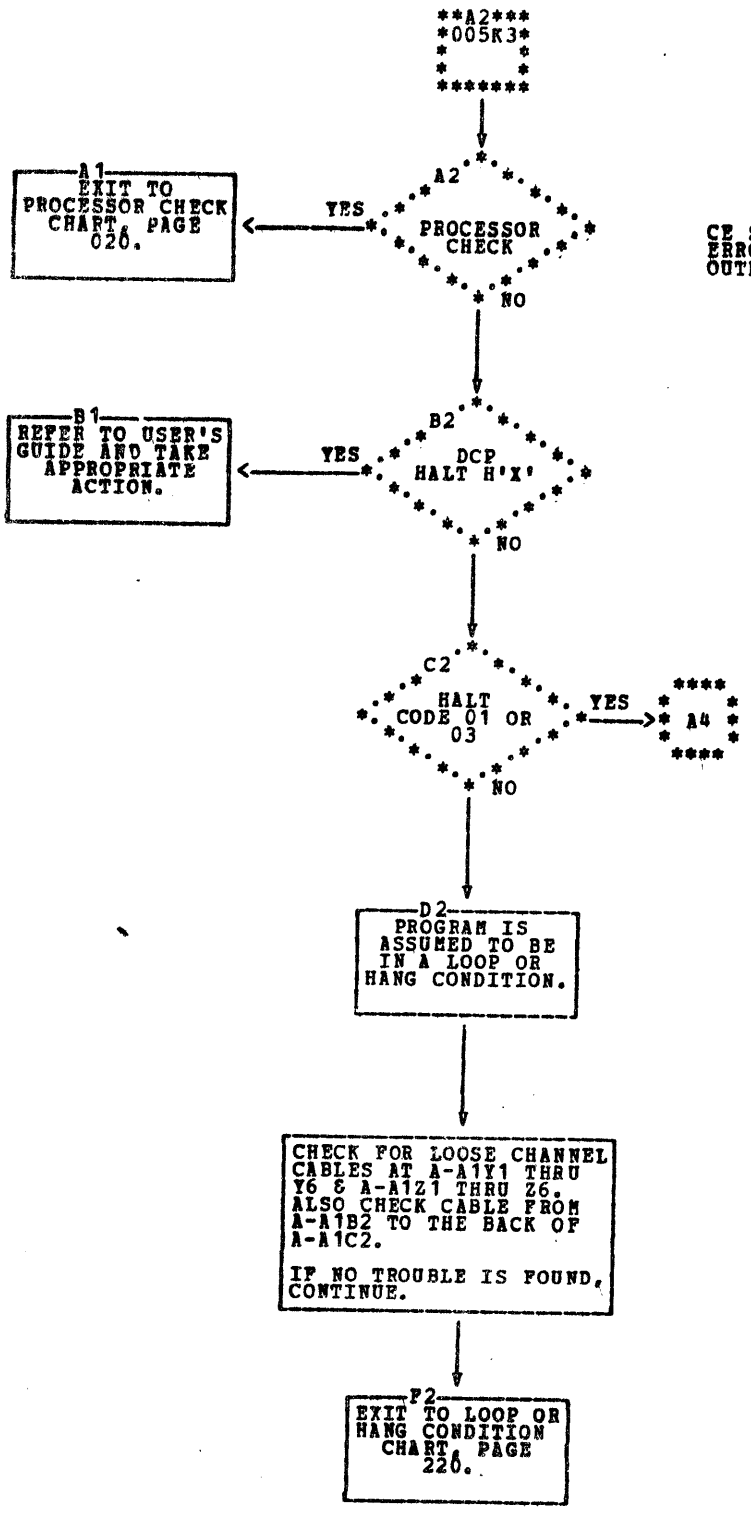
N O T E 5:

PROGRAMS SHOULD BE EXECUTED WITH SSW 05 OFF SO THAT PRINTED ERROR MESSAGES CAN BE SAVED FOR LATER USE IN THE MAPS.

J3
'HE' HALT OCCUR
YES → *****
009
* B4*
NO

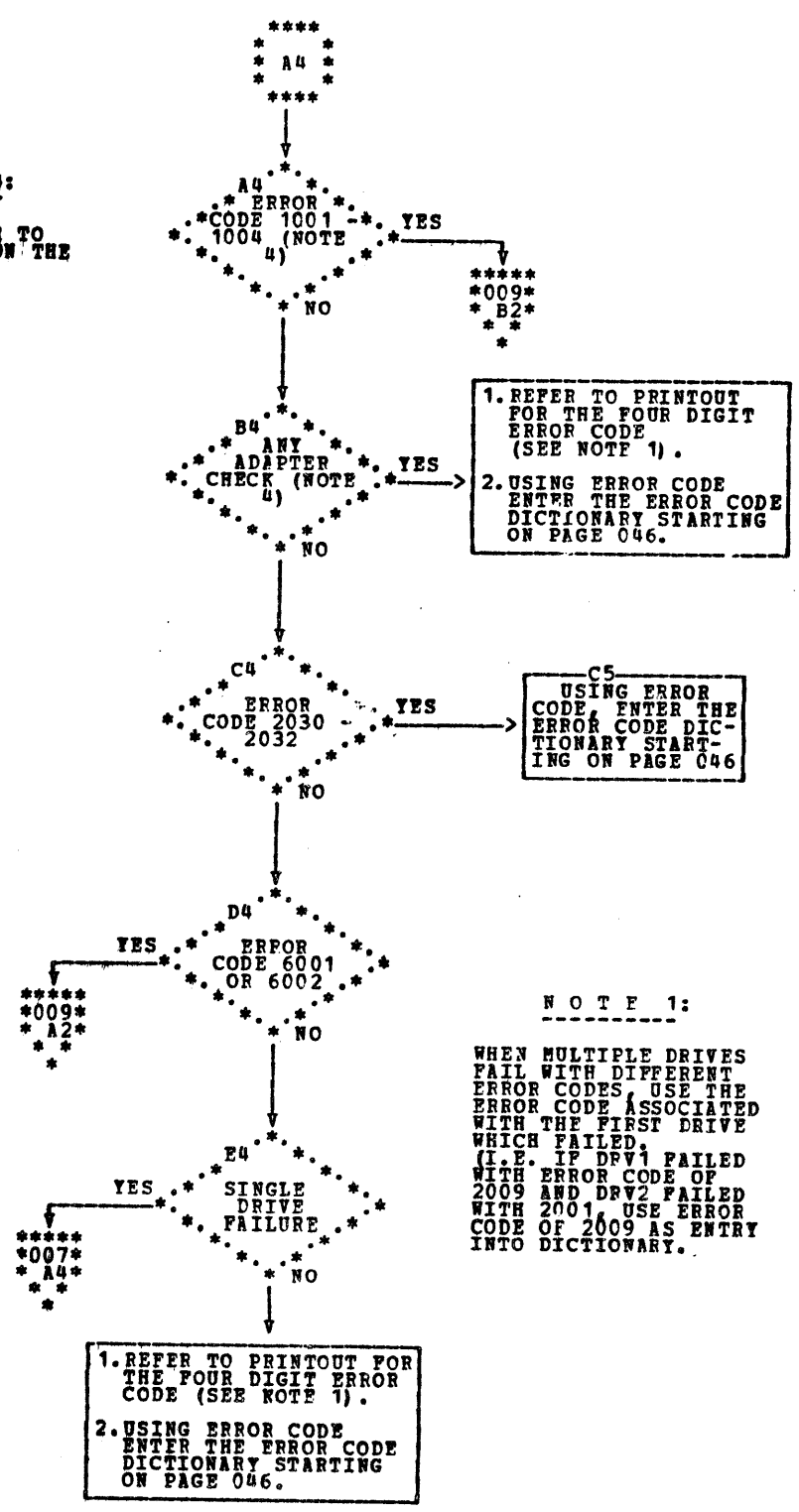
FAILURE OCCURRED WHILE LOADING PROGS C17 OR FA0 OR DURING EXECUTION OF PROG C12.

*****
006
* A2*



N O T E 4:

CE SHOULD REFER TO ERROR MESSAGE ON THE OUTPUT DEVICE.



N O T E 1:

WHEN MULTIPLE DRIVES FAIL WITH DIFFERENT ERROR CODES, USE THE ERROR CODE ASSOCIATED WITH THE FIRST DRIVE WHICH FAILED. (I.E. IF DRV1 FAILED WITH ERROR CODE OF 2009 AND DRV2 FAILED WITH 2001, USE ERROR CODE OF 2009 AS ENTRY INTO DICTIONARY.

N O T E 1:

REFERENCE IS MADE TO THE 24 DIAG SNS BYTES (0-23).

N O T E 2:

PRESSING CE RESET OR CHANGING THE POSITION OF THE START/STOP SWITCH WILL CHANGE THE ERROR STATUS.

N O T E 3:

ROUTINE 11 EFFECTIVELY ANALYZES THE LOAD STATES OF BOTH THE 3340 DATA MODULE AND THE 3344 HDA. THIS ROUTINE GENERATES AN ERROR CODE IN THE SAME MANNER THAT ROUTINES AC AND BA DO USING THE MICRO-DIAGNOSTICS.

N O T E 4:

SNS SW	DRIVE
1A	1
1B	2
1C	3
1D	4

A2
004C4

REFER TO ERROR PRINTOUT FROM DIAG PROG C12

IF THE 24 DIAG SNS BYTES ARE NOT PRINTED OUT, EXIT TO PAGE 008, BLOCK A2.

B2: BYTE 7 = '1X' (SEE NOTE 1)? NO → 008 A2

YES

C2: BYTE 22 = '11' OR '19'? NO → 008 A2

YES

A DATA MODULE OR HDA SEQUENCE CHECK HAS OCCURRED. DO NOT TAMPER WITH THE FAILING DRIVE SO AS TO ALTER LOAD STATES (SEE NOTE 2).

CALL IN ROUTINE 11 (SEE NOTE 3). AT THE 'HA' HALT SPECIFY THE FAILING DRIVE (SEE NOTE 4).

E2: 'HE' HALT OCCUR? YES → WHEN THE DATA MODULE OR HDA STATE ANALYSIS ROUTINE WAS EXECUTED, CONDITIONS DID NOT EXIST TO GENERATE AN ERROR.

NO

F2: ERROR CODE = ACXX? YES → USE ERROR CODE AND EXIT TO THE 3340 MICRO MLM.

THE FOUR BYTES PRINTED OUT WITH THE ERROR CODE ARE BYTES 2,3,4 & 5 REFERENCED IN THE MICRO MLM.

IF FAILURE IS ON DRIVE 2, 3 OR 4, MICRO-DIAGNOSTICS MAY BE RUN FROM DRIVE #1. OTHERWISE, USE THE ALTERNATE LOADER IF IT IS NECESSARY TO RUN ANY MICRODIAGNOSTIC ROUTINES.

NO

ERROR CODE = BAXX.

USE THIS ERROR CODE AND EXIT TO THE 3344 MICRO MLM. THE FOUR BYTES PRINTED OUT WITH THE ERROR CODE ARE BYTES 2, 3,4 & 5 REFERENCED IN THE MICRO MLM.

REFER TO PAGE 096 (NOTE 2) OF THE 3340/3344 ATTACHMENT CHARTS FOR PROCEDURES NECESSARY TO LOAD THE 3344 MICRODIAGNOSTIC ROUTINES FROM THE 3340.

F3: CONTINUE WITH LOADER NOW IN USE? 3340 → 008 A2

ALTERNATE LOADER → 008 A4

A4
006E4

REFER TO ERROR PRINTOUT FROM DIAG PROG C12.

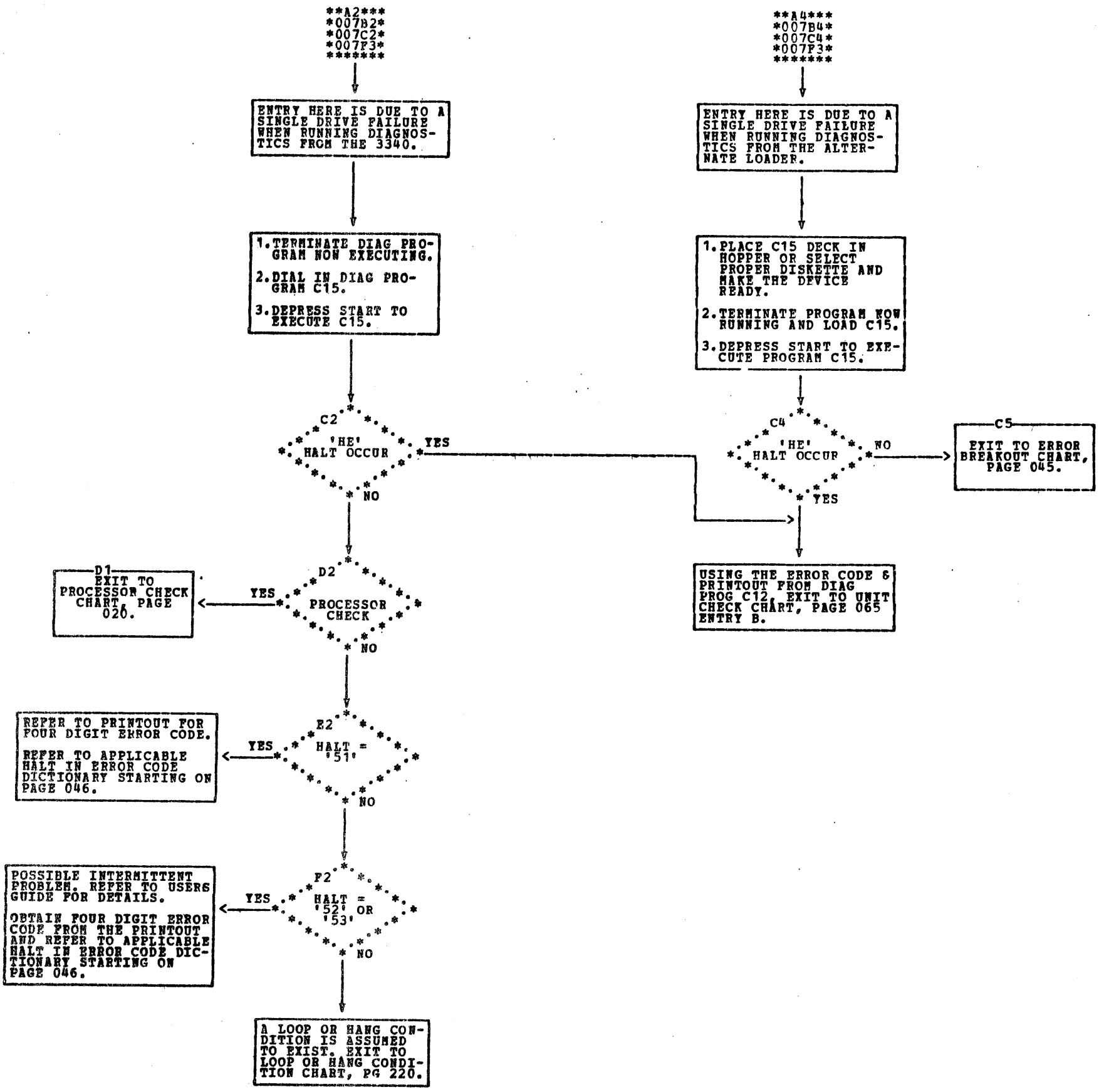
IF THE 24 DIAG SNS BYTES ARE NOT PRINTED OUT, EXIT TO PAGE 008, BLOCK A4.

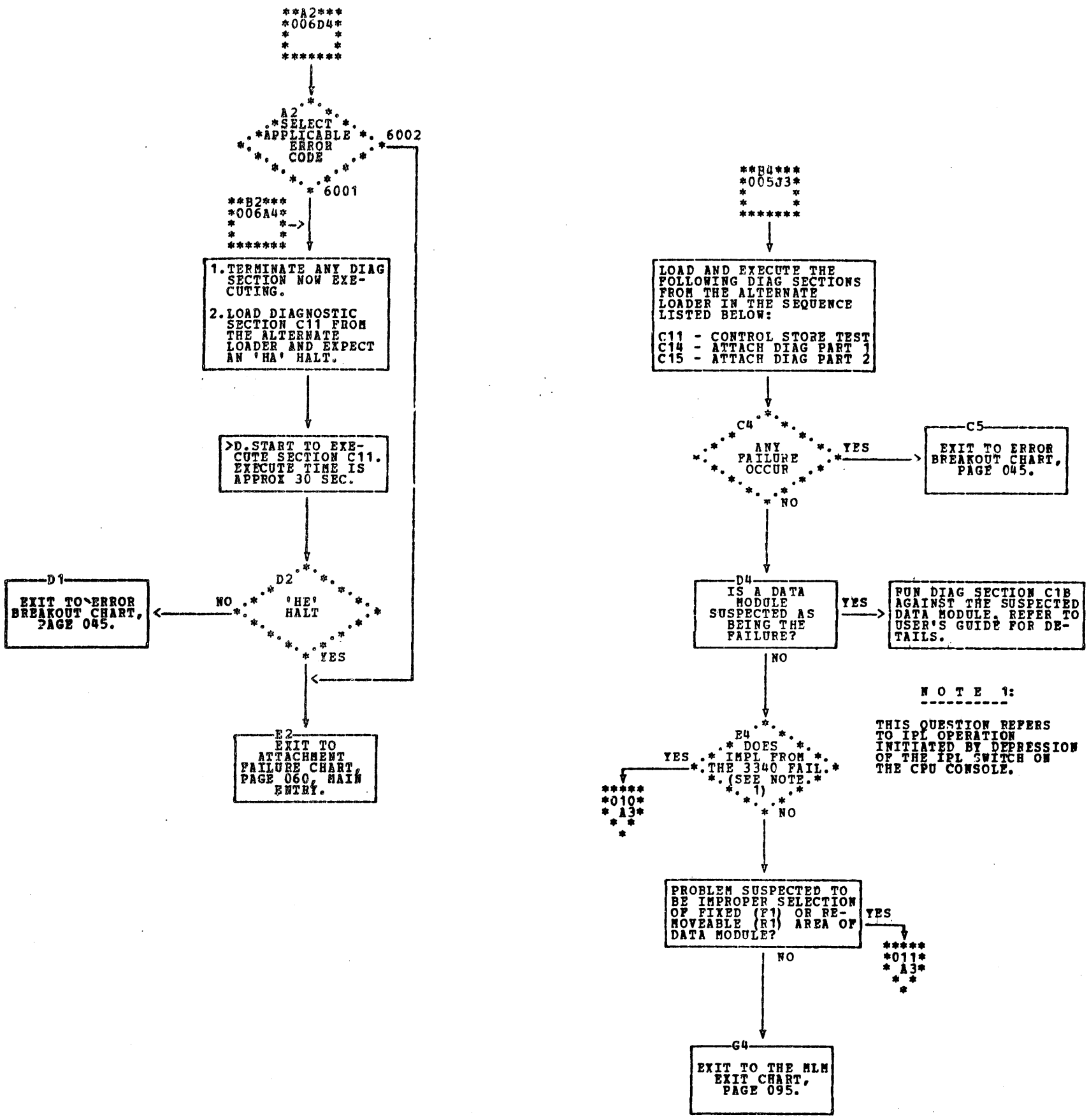
B4: BYTE 7 = '1X' (SEE NOTE 1)? NO → 008 A4

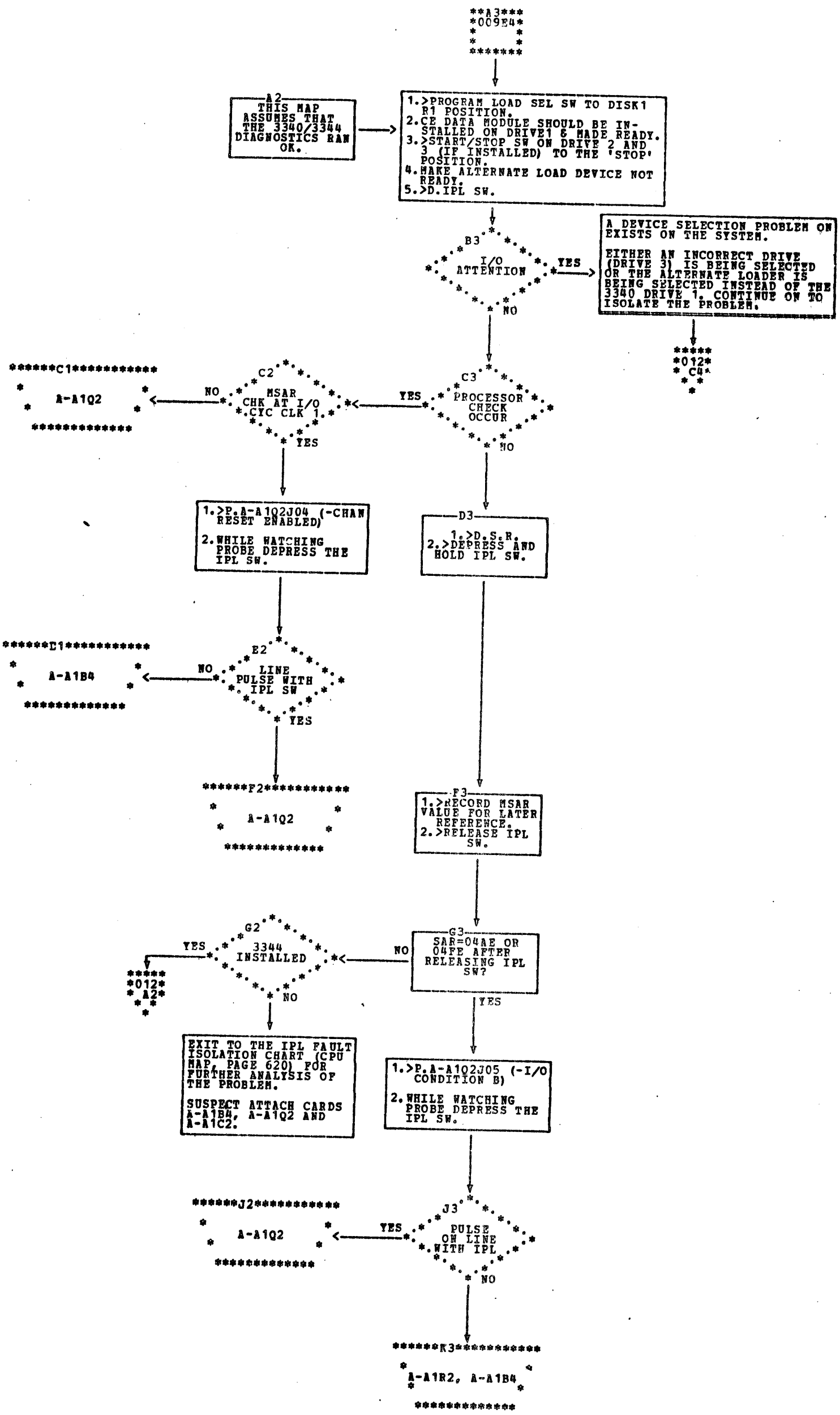
YES

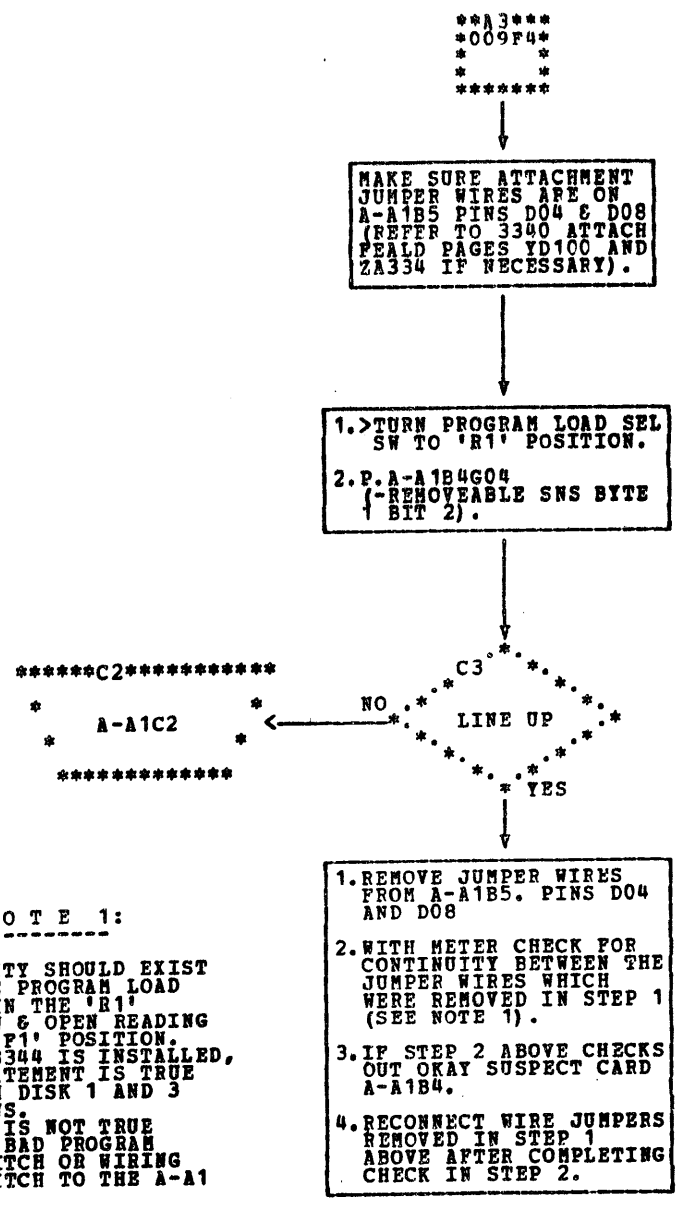
C4: BYTE 22 = '11' OR '19'? NO → 008 A4

YES


A2*
007B2
007C2
007F3
****
ENTRY HERE IS DUE TO A SINGLE DRIVE FAILURE WHEN RUNNING DIAGNOSTICS FROM THE 3340.
1.TERMINATE DIAG PROGRAM NOW EXECUTING.
2.DIAL IN DIAG PROGRAM C15.
3.DEPRESS START TO EXECUTE C15.
C2
'HE' HALT OCCUR
YES
NO
A4*
007B4
007C4
007F3
****
ENTRY HERE IS DUE TO A SINGLE DRIVE FAILURE WHEN RUNNING DIAGNOSTICS FROM THE ALTERNATE LOADER.
1.PLACE C15 DECK IN HOPPER OR SELECT PROPER DISKETTE AND MAKE THE DEVICE READY.
2.TERMINATE PROGRAM NOW RUNNING AND LOAD C15.
3.DEPRESS START TO EXECUTE PROGRAM C15.
C4
'HE' HALT OCCUR
NO
YES
C5
EXIT TO ERROR BREAKOUT CHART, PAGE 045.
USING THE ERROR CODE & PRINTOUT FROM DIAG PROG C12, EXIT TO UNIT CHECK CHART, PAGE 065 ENTRY B.
D2
PROCESSOR CHECK
YES
NO
D1
EXIT TO PROCESSOR CHECK CHART, PAGE 020.
E2
HALT = '51'
YES
NO
REFER TO PRINTOUT FOR FOUR DIGIT ERROR CODE.
REFER TO APPLICABLE HALT IN ERROR CODE DICTIONARY STARTING ON PAGE 046.
F2
HALT = '52' OR '53'
YES
NO
POSSIBLE INTERMITTENT PROBLEM. REFER TO USERS GUIDE FOR DETAILS.
OBTAIN FOUR DIGIT ERROR CODE FROM THE PRINTOUT AND REFER TO APPLICABLE HALT IN ERROR CODE DICTIONARY STARTING ON PAGE 046.
A LOOP OR HANG CONDITION IS ASSUMED TO EXIST. EXIT TO LOOP OR HANG CONDITION CHART, PG 220.


A2*
006D4
A2
SELECT
APPLICABLE ERROR CODE
6002
6001
B2*
006A4
1.TERMINATE ANY DIAG SECTION NOW EXECUTING.
2.LOAD DIAGNOSTIC SECTION C11 FROM THE ALTERNATE LOADER AND EXPECT AN 'HA' HALT.
>D.START TO EXECUTE SECTION C11. EXECUTE TIME IS APPROX 30 SEC.
D2
'HE' HALT
NO
YES
D1
EXIT TO ERROR BREAKOUT CHART, PAGE 045.
E2
EXIT TO ATTACHMENT FAILURE CHART, PAGE 060, MAIN ENTRY.
B4*
005J3
LOAD AND EXECUTE THE FOLLOWING DIAG SECTIONS FROM THE ALTERNATE LOADER IN THE SEQUENCE LISTED BELOW:
C11 - CONTROL STORE TEST
C14 - ATTACH DIAG PART 1
C15 - ATTACH DIAG PART 2
C4
ANY FAILURE OCCUR
YES
C5
EXIT TO ERROR BREAKOUT CHART, PAGE 045.
NO
D4
IS A DATA MODULE SUSPECTED AS BEING THE FAILURE?
YES
RUN DIAG SECTION C1B AGAINST THE SUSPECTED DATA MODULE. REFER TO USER'S GUIDE FOR DETAILS.
NO
E4
DOES IMPL FROM THE 3340 FAIL. (SEE NOTE 1)
YES
010
A3
NO
NOTE 1:
THIS QUESTION REFERS TO IPL OPERATION INITIATED BY DEPRESSION OF THE IPL SWITCH ON THE CPU CONSOLE.
PROBLEM SUSPECTED TO BE IMPROPER SELECTION OF FIXED (F1) OR REMOVEABLE (R1) AREA OF DATA MODULE?
YES
011
A3
NO
G4
EXIT TO THE MLM EXIT CHART, PAGE 095.


A3*
009E4
A2
THIS MAP ASSUMES THAT THE 3340/3344 DIAGNOSTICS RAN OK.
1.>PROGRAM LOAD SEL SW TO DISK1 R1 POSITION.
2.CE DATA MODULE SHOULD BE INSTALLED ON DRIVE1 & MADE READY.
3.>START/STOP SW ON DRIVE 2 AND 3 (IF INSTALLED) TO THE 'STOP' POSITION.
4.MAKE ALTERNATE LOAD DEVICE NOT READY.
5.>D.IPL SW.
B3
I/O ATTENTION
YES
A DEVICE SELECTION PROBLEM ON EXISTS ON THE SYSTEM.
EITHER AN INCORRECT DRIVE (DRIVE 3) IS BEING SELECTED OR THE ALTERNATE LOADER IS BEING SELECTED INSTEAD OF THE 3340 DRIVE 1. CONTINUE ON TO ISOLATE THE PROBLEM.
*****
012
* C4*
NO
******C1**********
A-A1Q2
C2
MSAR CHK AT I/O CYC CLK 1.
NO
YES
C3
PROCESSOR CHECK OCCUR
YES
NO
1.>P.A-A1Q2J04 (-CHAN RESET ENABLED)
2.WHILE WATCHING PROBE DEPRESS THE IPL SW.
D3
1.>D.S.R.
2.>DEPRESS AND HOLD IPL SW.
******E1**********
A-A1B4
E2
LINE PULSE WITH IPL SW
NO
YES
******F2**********
A-A1Q2
F3
1.>RECORD MSAR VALUE FOR LATER REFERENCE.
2.>RELEASE IPL SW.
G2
3344 INSTALLED
YES
NO
*****
012
* A2*
G3
SAR=04AE OR 04FE AFTER RELEASING IPL SW?
NO
YES
EXIT TO THE IPL FAULT ISOLATION CHART (CPU MAP, PAGE 620) FOR FURTHER ANALYSIS OF THE PROBLEM.
SUSPECT ATTACH CARDS A-A1B4, A-A1Q2 AND A-A1C2.
1.>P.A-A1Q2J05 (-I/O CONDITION B)
2.WHILE WATCHING PROBE DEPRESS THE IPL SW.
******J2**********
A-A1Q2
J3
PULSE ON LINE WITH IPL
YES
NO
******K3**********
A-A1R2, A-A1B4



N O T E 1:

CONTINUITY SHOULD EXIST WITH THE PROGRAM LOAD SEL SW IN THE 'R1' POSITION & OPEN READING IN THE 'F1' POSITION. IF THE 3344 IS INSTALLED, THIS STATEMENT IS TRUE FOR BOTH DISK 1 AND 3 POSITIONS. IF THIS IS NOT TRUE SUSPECT BAD PROGRAM LOAD SWITCH OR WIRING FROM SWITCH TO THE A-A1 BOARD.

A2*
010G2
****

A1*****
EXPECT 'CC' HALT IF IPL IS OKAY.
****

A2
IMPL FROM DRIVE 1 OKAY
NO
YES

A3
RECORDED VALUE OF SAR (FROM PAGE 010) EQUAL TO 04AE?
NO
YES

EXIT TO THE IPL FAULT ISOLATION CHART (CPU MAP, PAGE 620) FOR FURTHER ANALYSIS OF THE PROBLEM.

SUSPECT ATTACH CARDS A-A1B4, A-A1Q2 AND A-A1C2.

B2*
013G1
****

1.>PROGRAM LOAD SEL SW TO DISK 3 R1 POSITION.
2.>MAKE DRIVE 3 READY.
3.>START/STOP SW ON DRIVE 1 TO THE 'STOP' POSITION.
4.>D.IPL SW.

B3
SUSPECT DOWN LEVEL CARD IN A-A1B4 POSITION.

C4*
010B4
****

C4
ON THE CPU CHAN BOARD PROBE THE FOLLOWING PIN:
A-B2H2J12
(-MFCU IPL)

C5
MAKE SURE THE PROG LOAD SEL SW IS NOT IN THE 'ALTERNATE POSITION'.

D4
LINE UP
NO
YES

1. SUSPECT CABLING TO PROG LOAD SEL SW (REFER TO 3340 ATTACH FEALD PAGE YD100).
2. PROG LOAD SEL SW OR CABLING TO SW.
3. CPU CARD A-B2U5.

E4
P.A-A1D2M10
(-CARRY FROM EXT)

C2
I/O ATTENTION
NO
YES

SUSPECT BAD OR RANDOM DATA WRITTEN IN IPL AREA ON THE 3344 FIXED STORAGE.

EXIT TO THE IPL FAULT ISOLATION CHART (CPU MAP, PAGE 620) FOR FURTHER ANALYSIS OF PROBLEM.

DRIVE SELECTION PROBLEM.

ROS MICROCODE UPON EXECUTION SELECTS DRIVE 1 INSTEAD OF DRIVE 3 DUE TO A HARDWARE PROBLEM.

1.>CHECK TO MAKE SURE THAT THE IPL JUMPER WIRE IS ON THE A-A1B4B08 PIN (REFER TO 3340 ATT ALD PAGE ZA334 IF NECESSARY).
2.>CHECK THAT THE FEATURE WIRE IS INSTALLED PROPERLY (SEE NOTE 1).
3.>P.A-A1D2M10
(-CARRY FROM EXT)

F2
LINE UP
YES
NO

******F1**********
A-A1D2
****

******F3**********
A-A1D2 OR A-B2H2
****

F4
LINE UP
NO
YES

N O T E 1:

A FEATURE WIRE SHOULD BE WIRED ON THE BOARD FROM A-A1B4J10 TO A-A1D2M10 IF 3344 DRIVES ARE INSTALLED. REFER TO 3340 ATT FEALD LOGIC PAGE EB801 NOTES IF NECESSARY.

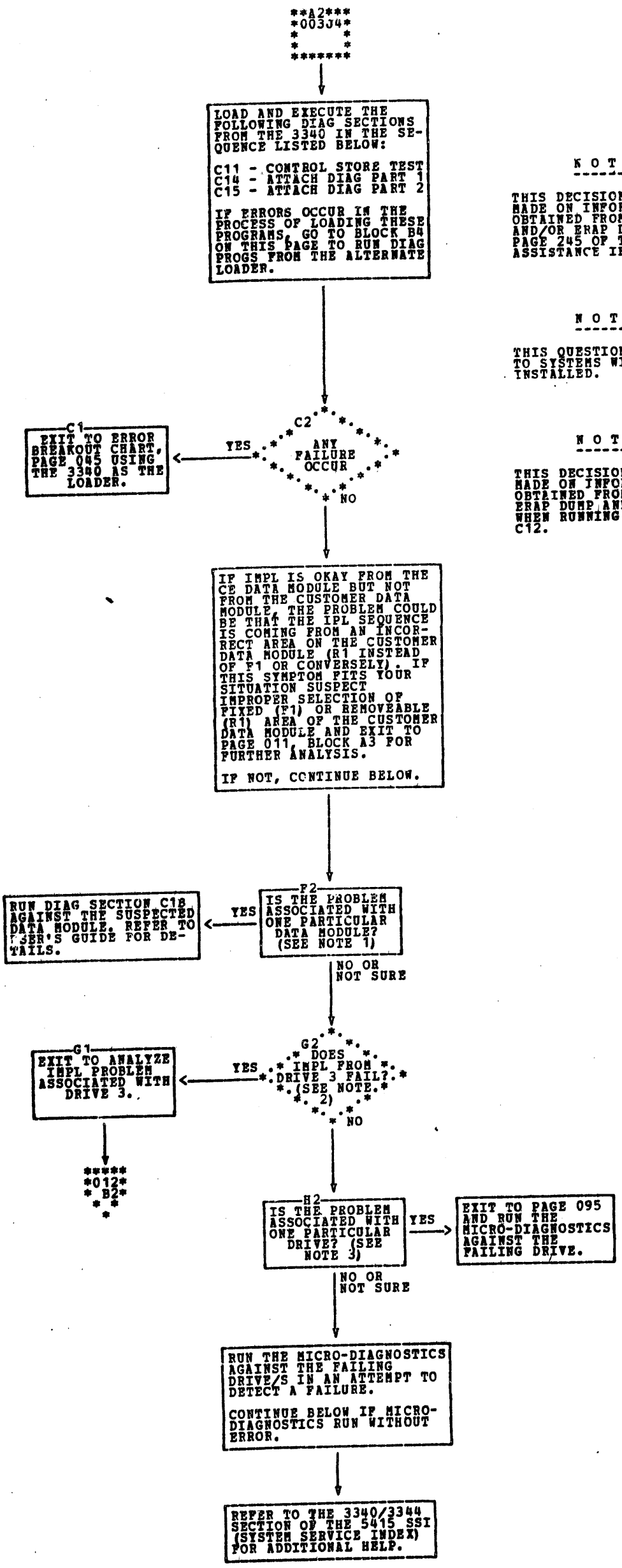
USE THE FOLLOWING PROCEDURE TO ISOLATE PROBLEM TO THE A-A1B4 CARD OR THE IPL SELECT SWITCH AND CABLING (REFER TO PAGE YD100 & ZA334 IN THE 3340 ATT FEALDS).

1.>ON THE 3340 ATTACHMENT BOARD REMOVE JUMPER WIRES FROM A-A1B4B08 & A-A1B5D08.
2.>WITH METER CHECK FOR THE FOLLOWING CONDITIONS BETWEEN THE TWO JUMPER WIRES WHICH WHERE REMOVED IN STEP 1 ABOVE.

WITH THE IPL SELECT SWITCH IN THE DISK 1 R1 OR F1 POSITION, A CONTINUITY CONDITION SHOULD EXIST.

WITH THE IPL SELECT SWITCH IN THE DISK 1 R1 OR F1 POSITION, AN 'OPEN' CONDITION SHOULD EXIST.

3. IF THE CONDITIONS IN STEP 2 ARE OK, REPLACE CARD A-A1B4.
4.>RECONNECT WIRES REMOVED IN STEP 1 ABOVE AFTER COMPLETING CHECK IN STEP 2.



N O T E 1:

THIS DECISION SHOULD BE MADE ON INFORMATION OBTAINED FROM THE CUSTOMER AND/OR ERAP DUMP. REFER TO PAGE 245 OF THESE MAPS FOR ASSISTANCE IF NECESSARY

N O T E 2:

THIS QUESTION APPLYS ONLY TO SYSTEMS WITH THE 3344 INSTALLED.

N O T E 3:

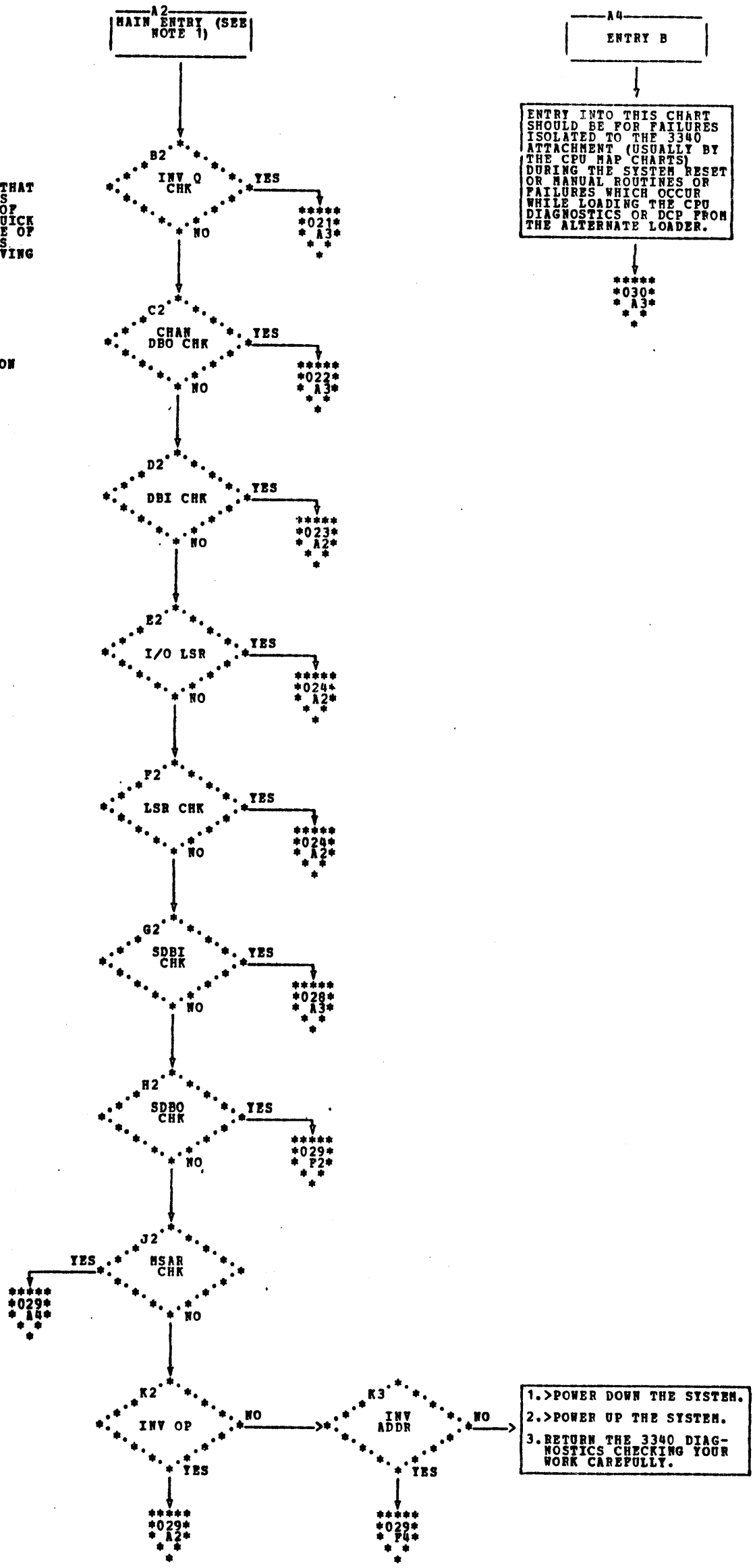
THIS DECISION SHOULD BE MADE ON INFORMATION OBTAINED FROM THE CUSTOMER, ERAP DUMP AND/OR ERRORS WHEN RUNNING DIAG PROGRAM C12.

N O T E 1:

CE SHOULD BE AWARE THAT LOOSE CHANNEL CABLES COULD BE THE CAUSE OF THE PROC CHECK. A QUICK CHECK SHOULD BE MADE OF THE FOLLOWING CABLES ENTERING AND/OR LEAVING THE 3340 ATTACHMENT BOARD:

CHANNEL CABLES:

A-A1Y3 THRU Y6
A-A1Z3 THRU Z6
A-A1Y1 (DUAL BYTE CABLE) TO A-B3A5 ON THE CPU BOARD).



A3*
020B2
*
*
****

A3
INVALID Q PROCESSOR CHECK (SEE NOTE 1)

N O T E 1:

INCORRECT DCP CONFIGURATION (I.E. INCLUDING NON-EXISTENT DEVICES) OR INCORRECT WIRING ON THE A-A1 BOARD FOR THE NUMBER OF ATTACHED DRIVES CAN BOTH BE A CAUSE OF INV Q ERRORS. REFER TO LOGIC PAGE BB531 FOR CORRECT WIRING.

WITH PROCESSOR CHECK ON THE MACHINE PROBE PIN A-A102B09 (+IQ CYCLE ENABLED)

C3 LINE UP
NO
YES

******C2**********
A-A1B4 OR SUSPECT LOOSE CHANNEL CABLES
****

REFER TO THE OP REG (ROLLER POS 3) TO DETERMINE THE I/O INSTRUCTION.

FROM TABLE 1 PROBE THE I/O PIN THAT CORRESPONDS WITH THE INSTR IN THE OP REG.

T A B L E 1

OP REG	INSTR	I/O PIN
30,70,B0	SNS	A-A1Q2M03
31,71,B1	LIO	A-A1Q2P03
C1,D1,E1	TIO	A-A1Q2M02
F3	SIO	A-A1Q2M04

E3 LINE UP
NO
YES

******E2**********
SUSPECT LOOSE CHAN CABLES OR BOARD WIRING
****

E4
1.>D.S.R.
2.>P.A-A1S2P11 (-GENERAL RESET)

F4 LINE PULSING AFTER S.R.
NO
YES

1.P.A-A1Q2M09 (+SYST OR CHK RST)
2.WHILE OBSERVING PROBE DEPRESS SYSTEM RESET.

******G4**********
A-A1B4, A-A1Q2
****

G3 PULSE ON LINE
NO
YES

1.P.A-A1S2P11 (-GENERAL RESET)
2.WHILE OBSERVING PROBE DEPRESS SYSTEM RESET.

H2 PULSE ON LINE
NO
YES

PROBE THE FOLLOWING CLOCK LINES:
A-A1M2D07
A-A1M2D12
A-A1M2G03
A-A1M2J02
A-A1M2J07

PROBE THE FOLLOWING CLOCK LINES:
A-A1M2D13
A-A1M2G02
A-A1M2J03
A-A1M2J04
A-A1M2J06

******J2**********
A-A1S2
****

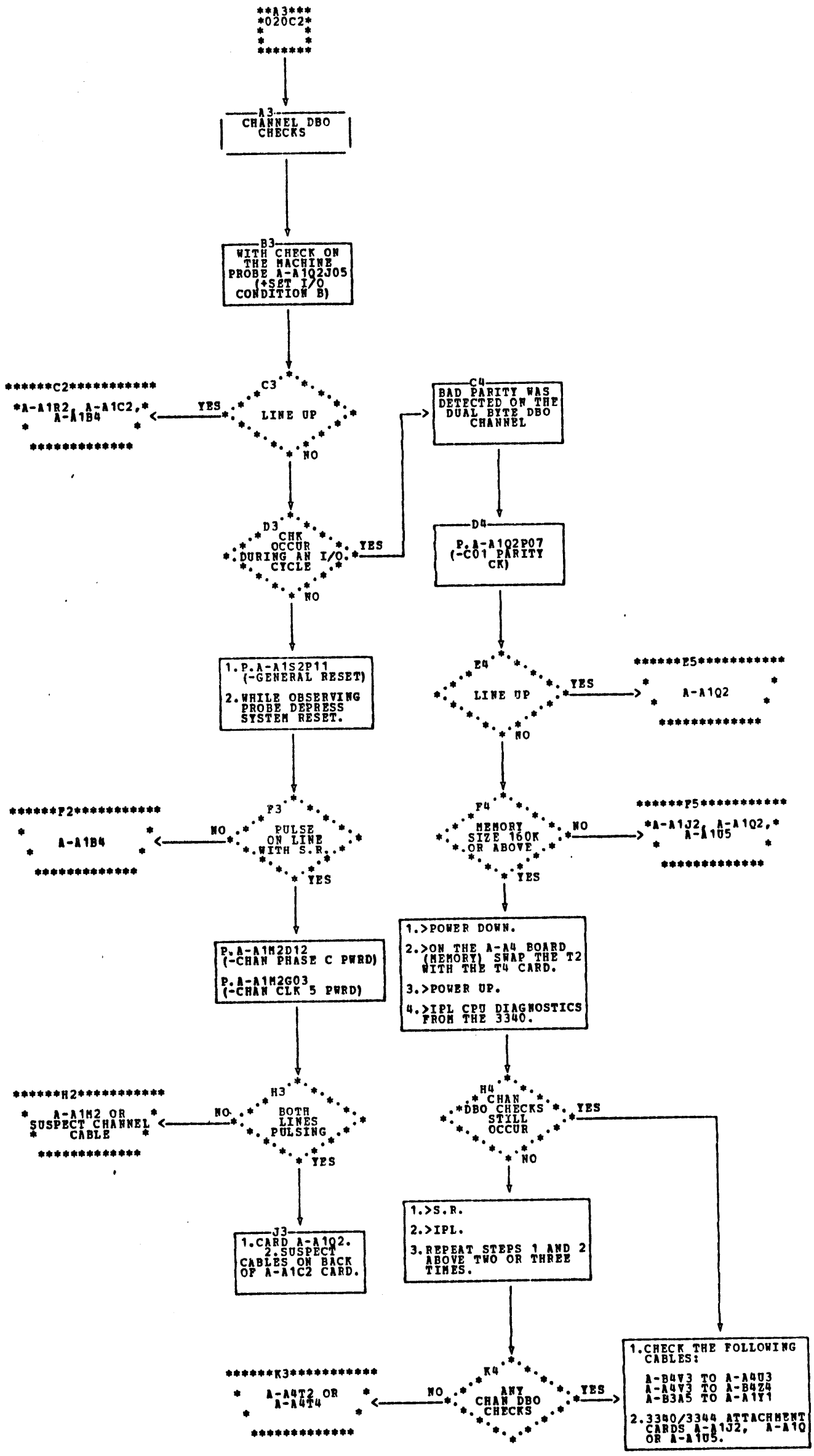
J3 ALL CLOCK LINES PULSING
NO
YES

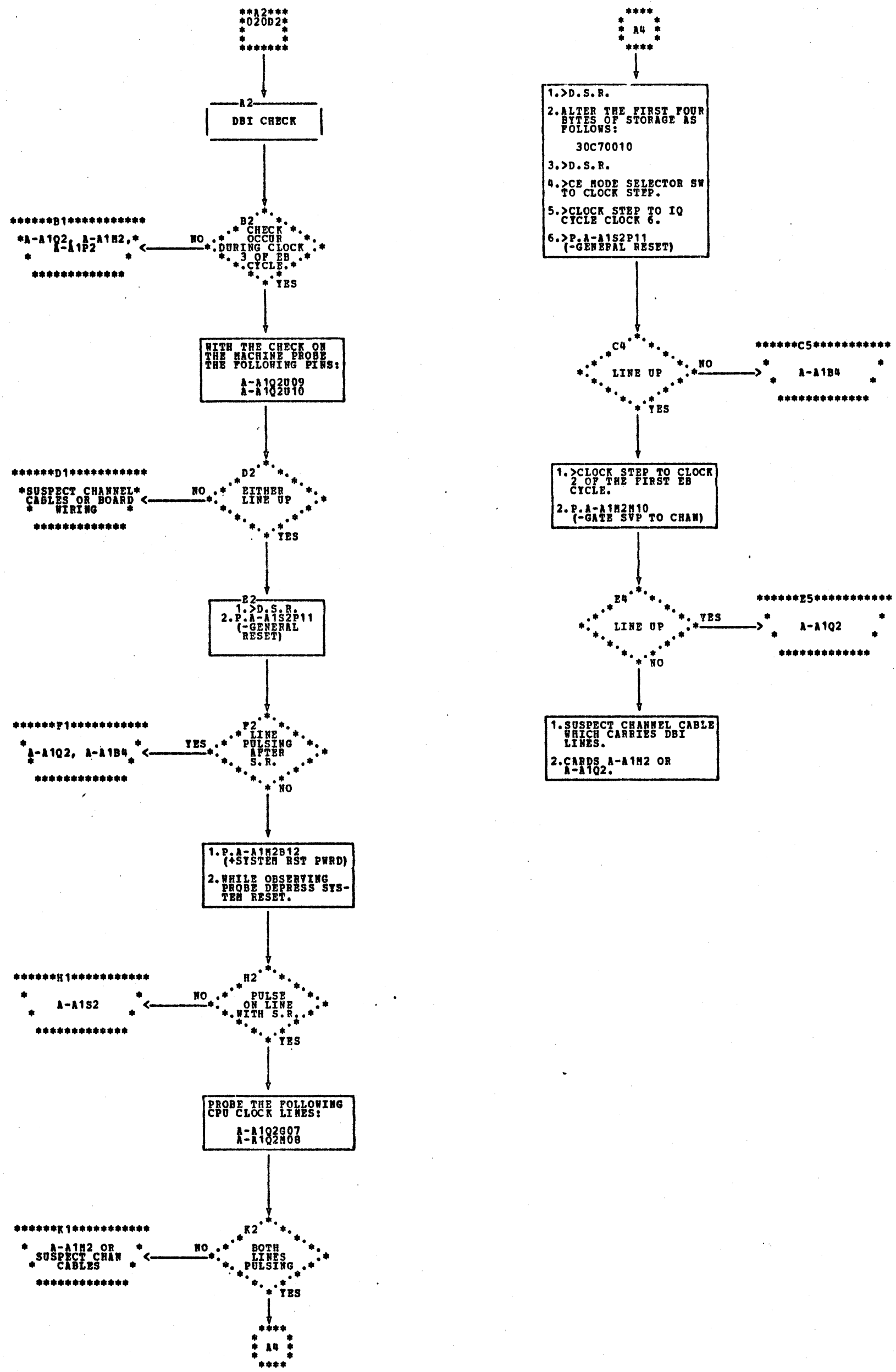
J4 ALL CLOCK LINES PULSING
NO
YES

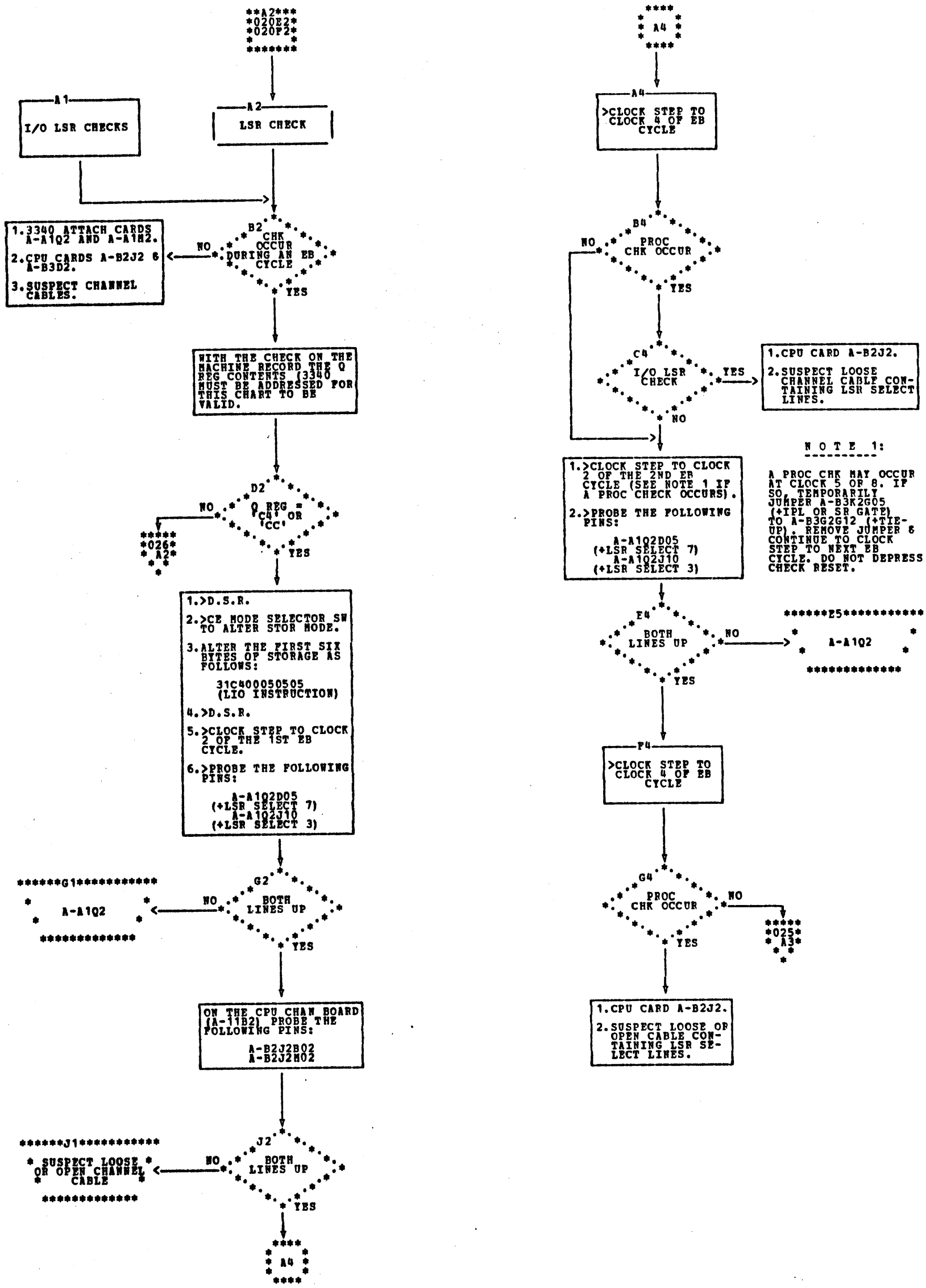
******J5**********
SUSPECT CPU A-B3T2 OR LOOSE CHAN CABLES
****

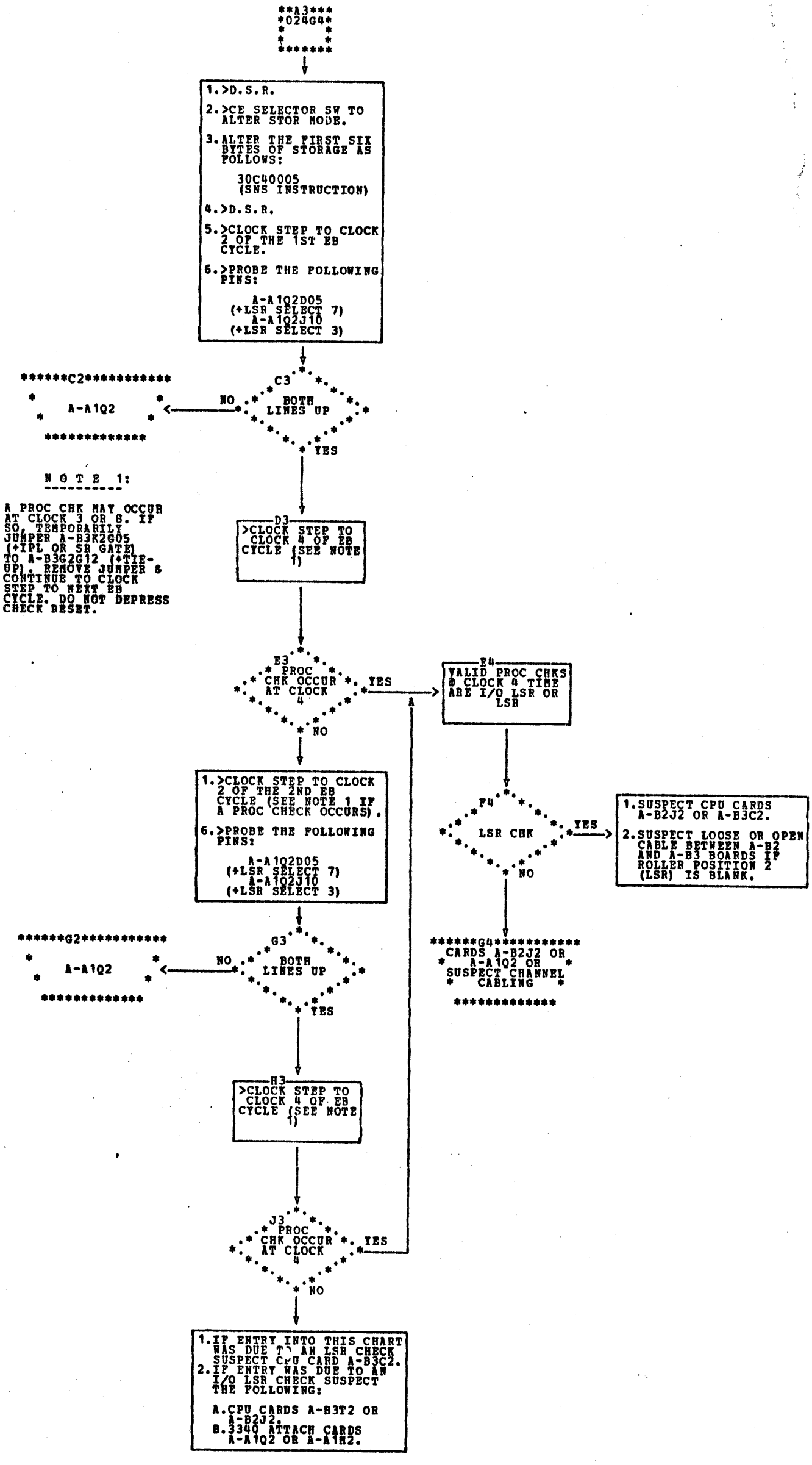
1.CARDS A-A1Q2 OR A-A1B4.
2.SUSPECT LOOSE CHANNEL CABLES.

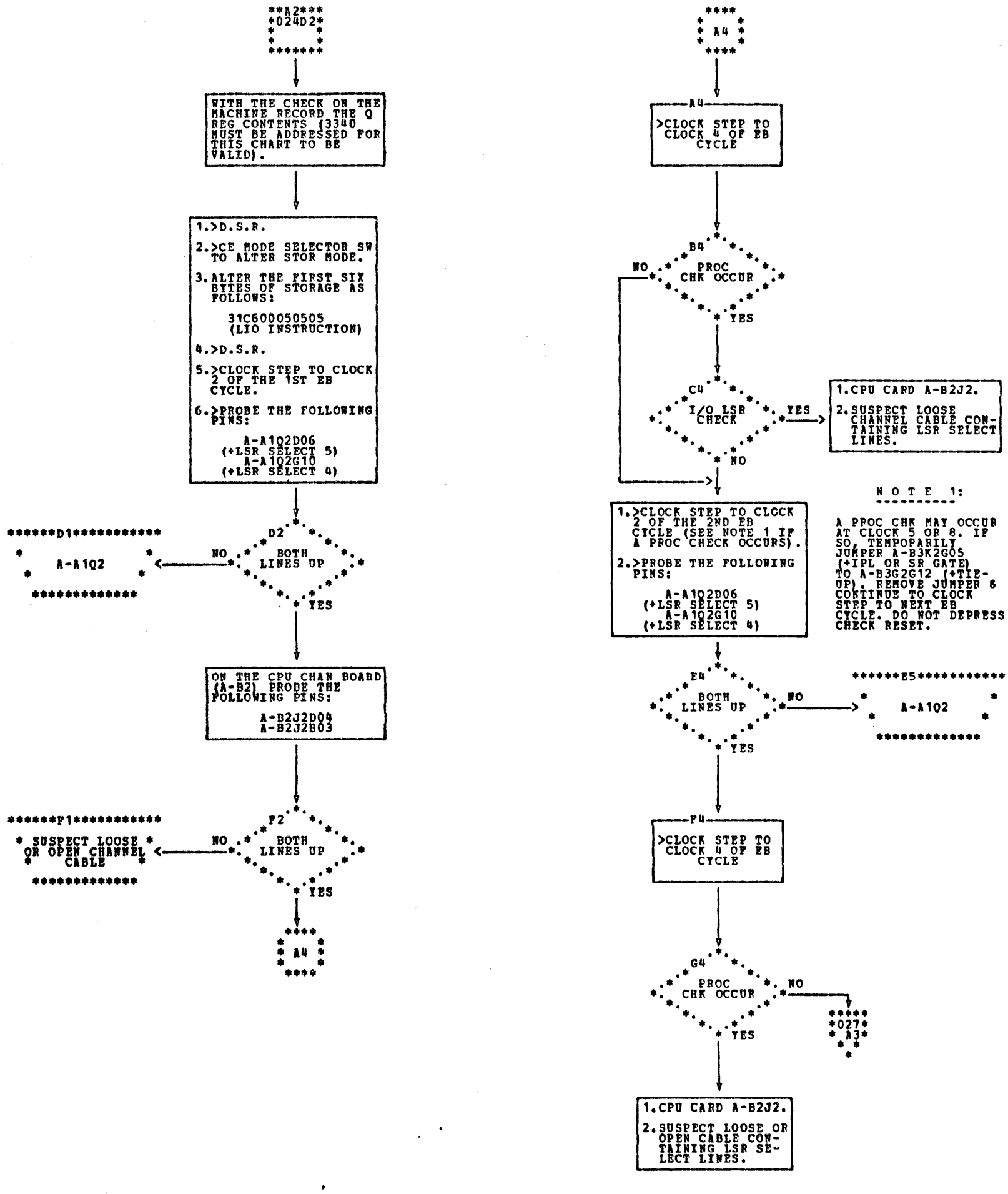
******K4**********
A-A1M2
****

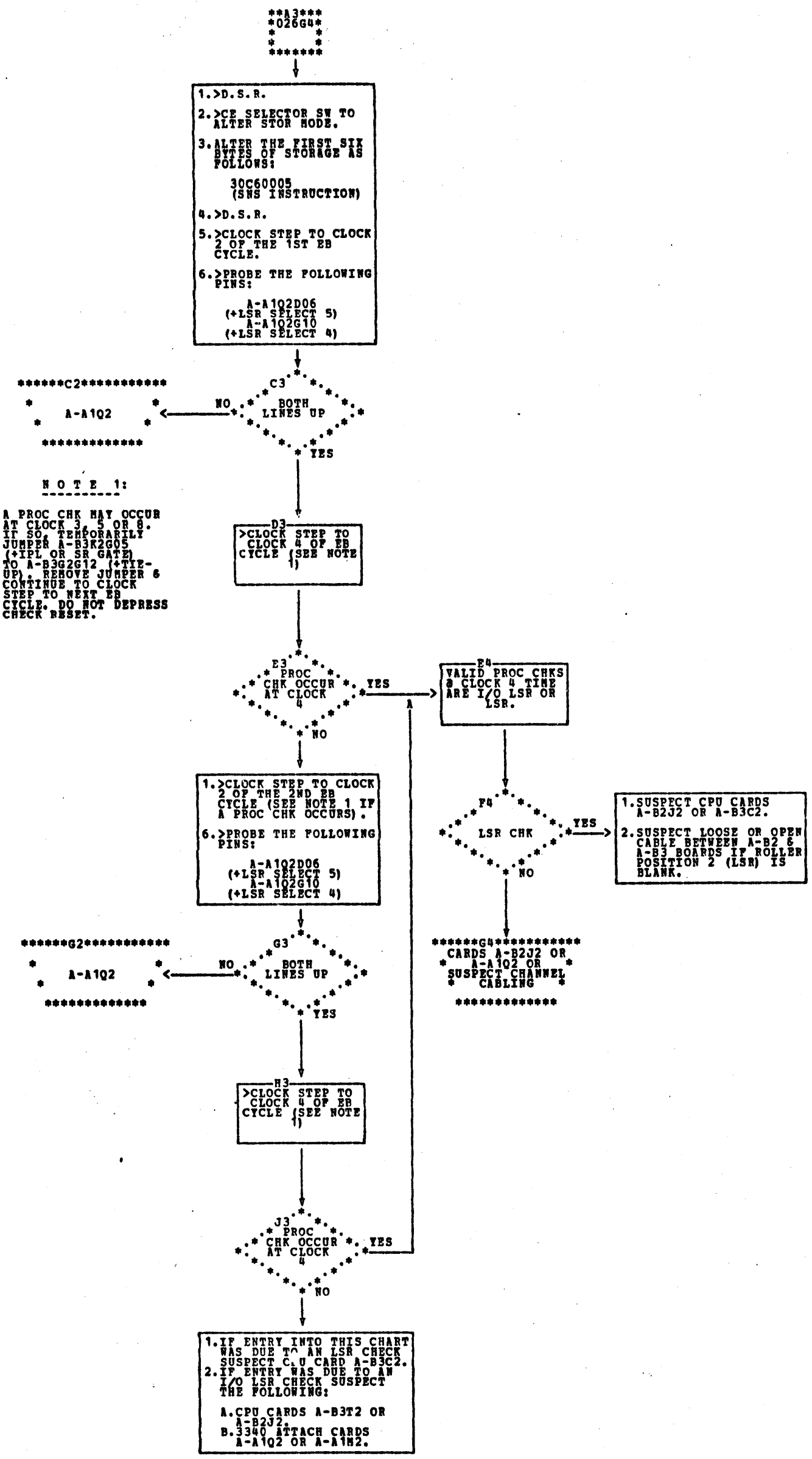

A3*
020C2
A3
CHANNEL DBO CHECKS
B3
WITH CHECK ON THE MACHINE PROBE A-A1Q2J05 (+SET I/O CONDITION B)
C3
LINE UP
YES
NO
******C2**********
A-A1R2, A-A1C2, A-A1B4
C4
BAD PARITY WAS DETECTED ON THE DUAL BYTE DBO CHANNEL
D3
CHK OCCUR DURING AN I/O CYCLE
YES
NO
D4
P.A-A1Q2P07 (-C01 PARITY CK)
1. P.A-A1S2P11 (-GENERAL RESET)
2. WHILE OBSERVING PROBE DEPRESS SYSTEM RESET.
E4
LINE UP
YES
NO
******E5**********
A-A1Q2
******F2**********
A-A1B4
F3
PULSE ON LINE WITH S.R.
NO
YES
F4
MEMORY SIZE 160K OR ABOVE
NO
YES
******F5**********
A-A1J2, A-A1Q2, A-A1U5
P.A-A1M2D12 (-CHAN PHASE C PWRD)
P.A-A1M2G03 (-CHAN CLK 5 PWRD)
1.>POWER DOWN.
2.>ON THE A-A4 BOARD (MEMORY) SWAP THE T2 WITH THE T4 CARD.
3.>POWER UP.
4.>IPL CPU DIAGNOSTICS FROM THE 3340.
******H2**********
A-A1M2 OR SUSPECT CHANNEL CABLE
H3
BOTH LINES PULSING
NO
YES
H4
CHAN DBO CHECKS STILL OCCUR
YES
NO
J3
1.CARD A-A1Q2. 2.SUSPECT CABLES ON BACK OF A-A1C2 CARD.
1.>S.R.
2.>IPL.
3.REPEAT STEPS 1 AND 2 ABOVE TWO OR THREE TIMES.
******K3**********
A-A4T2 OR A-A4T4
K4
ANY CHAN DBO CHECKS
NO
YES
1.CHECK THE FOLLOWING CABLES:
A-B4V3 TO A-A4U3
A-A4V3 TO A-B4Z4
A-B3A5 TO A-A1Y1
2.3340/3344 ATTACHMENT CARDS A-A1J2, A-A1Q OR A-A1U5.

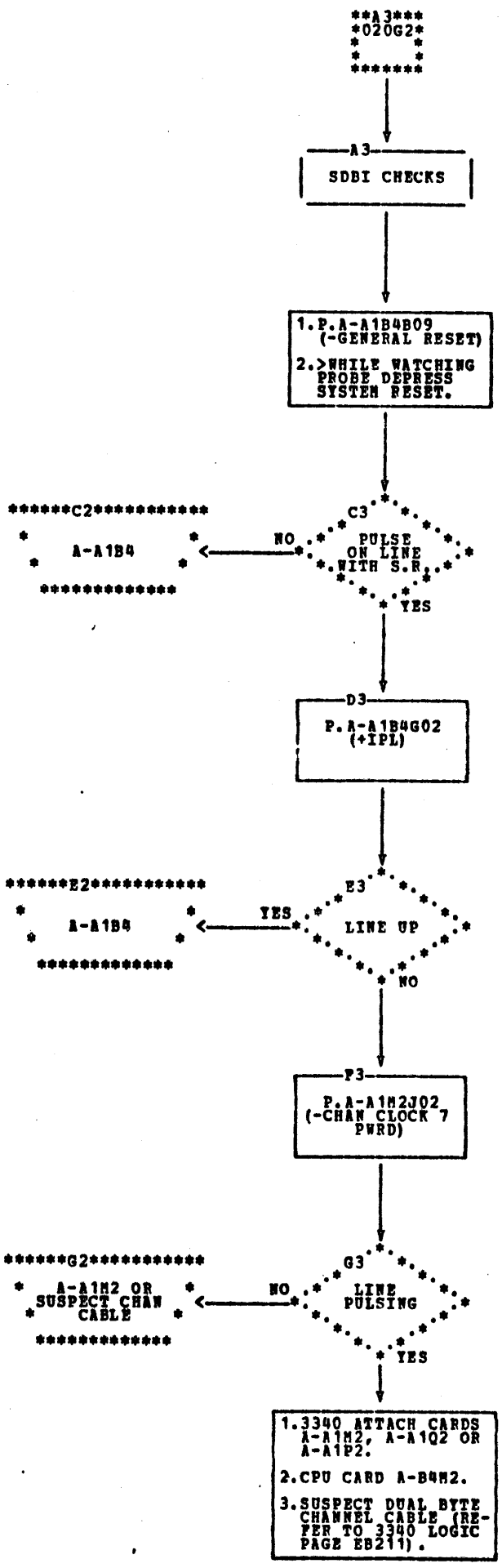

A2*
020D2
A2
DBI CHECK
B2
CHECK OCCUR DURING CLOCK 3 OF EB CYCLE.
NO
YES
******B1**********
A-A1Q2, A-A1H2, A-A1P2
WITH THE CHECK ON THE MACHINE PROBE THE FOLLOWING PINS:
A-A1Q2U09
A-A1Q2U10
D2
EITHER LINE UP
NO
YES
******D1**********
SUSPECT CHANNEL CABLES OR BOARD WIRING
E2
1.>D.S.R.
2.P.A-A1S2P11 (-GENERAL RESET)
F2
LINE PULSING AFTER S.R.
NO
YES
******F1**********
A-A1Q2, A-A1B4
1.P.A-A1M2B12 (+SYSTEM RST PWRD)
2.WHILE OBSERVING PROBE DEPRESS SYSTEM RESET.
H2
PULSE ON LINE WITH S.R.
NO
YES
******H1**********
A-A1S2
PROBE THE FOLLOWING CPU CLOCK LINES:
A-A1Q2G07
A-A1Q2M08
K2
BOTH LINES PULSING
NO
YES
******K1**********
A-A1M2 OR SUSPECT CHAN CABLES
A4
****
A4
1.>D.S.R.
2.ALTER THE FIRST FOUR BYTES OF STORAGE AS FOLLOWS:
30C70010
3.>D.S.R.
4.>CE MODE SELECTOR SW TO CLOCK STEP.
5.>CLOCK STEP TO IQ CYCLE CLOCK 6.
6.>P.A-A1S2P11 (-GENERAL RESET)
C4
LINE UP
NO
YES
******C5**********
A-A1B4
1.>CLOCK STEP TO CLOCK 2 OF THE FIRST EB CYCLE.
2.P.A-A1M2M10 (-GATE SVP TO CHAN)
E4
LINE UP
YES
NO
******E5**********
A-A1Q2
1.SUSPECT CHANNEL CABLE WHICH CARRIES DBI LINES.
2.CARDS A-A1M2 OR A-A1Q2.

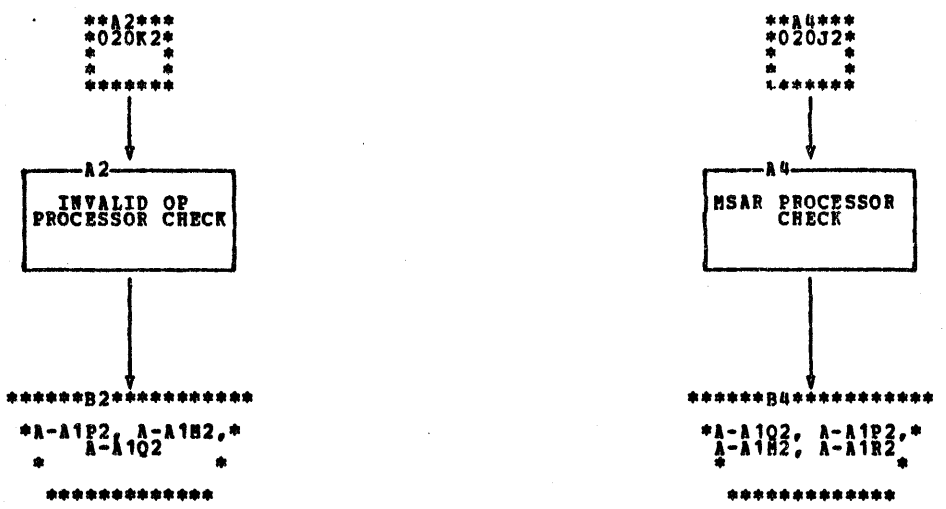

A2*
020E2
020F2
A1
I/O LSR CHECKS
A2
LSR CHECK
1.3340 ATTACH CARDS A-A1Q2 AND A-A1M2.
2.CPU CARDS A-B2J2 & A-B3D2.
3.SUSPECT CHANNEL CABLES.
B2
CHK OCCUR DURING AN EB CYCLE
NO
YES
WITH THE CHECK ON THE MACHINE RECORD THE Q REG CONTENTS (3340 MUST BE ADDRESSED FOR THIS CHART TO BE VALID.
D2
Q REG = C4 OR 'CC'
NO
YES
026 A2*
1.>D.S.R.
2.>CE MODE SELECTOR SW TO ALTER STOR MODE.
3.ALTER THE FIRST SIX BYTES OF STORAGE AS FOLLOWS:
31C400050505
(LIO INSTRUCTION)
4.>D.S.R.
5.>CLOCK STEP TO CLOCK 2 OF THE 1ST EB CYCLE.
6.>PROBE THE FOLLOWING PINS:
A-A1Q2D05
(+LSR SELECT 7)
A-A1Q2J10
(+LSR SELECT 3)
******G1**********
A-A1Q2
G2
BOTH LINES UP
NO
YES
ON THE CPU CHAN BOARD (A-11B2) PROBE THE FOLLOWING PINS:
A-B2J2B02
A-B2J2M02
******J1**********
SUSPECT LOOSE OR OPEN CHANNEL CABLE
J2
BOTH LINES UP
NO
YES
A4
A4
>CLOCK STEP TO CLOCK 4 OF EB CYCLE
B4
PROC CHK OCCUR
NO
YES
C4
I/O LSR CHECK
YES
NO
1.CPU CARD A-B2J2.
2.SUSPECT LOOSE CHANNEL CABLE CONTAINING LSR SELECT LINES.
1.>CLOCK STEP TO CLOCK 2 OF THE 2ND EB CYCLE (SEE NOTE 1 IF A PROC CHECK OCCURS).
2.>PROBE THE FOLLOWING PINS:
A-A1Q2D05
(+LSR SELECT 7)
A-A1Q2J10
(+LSR SELECT 3)
NOTE 1:
A PROC CHK MAY OCCUR AT CLOCK 5 OR 8. IF SO, TEMPORARILY JUMPER A-B3K2G05 (+IPL OR SR GATE) TO A-B3G2G12 (+TIE-UP). REMOVE JUMPER & CONTINUE TO CLOCK STEP TO NEXT EB CYCLE. DO NOT DEPRESS CHECK RESET.
E4
BOTH LINES UP
NO
YES
******E5**********
A-A1Q2
F4
>CLOCK STEP TO CLOCK 4 OF EB CYCLE
G4
PROC CHK OCCUR
NO
YES
025 A3*
1.CPU CARD A-B2J2.
2.SUSPECT LOOSE OR OPEN CABLE CONTAINING LSR SELECT LINES.

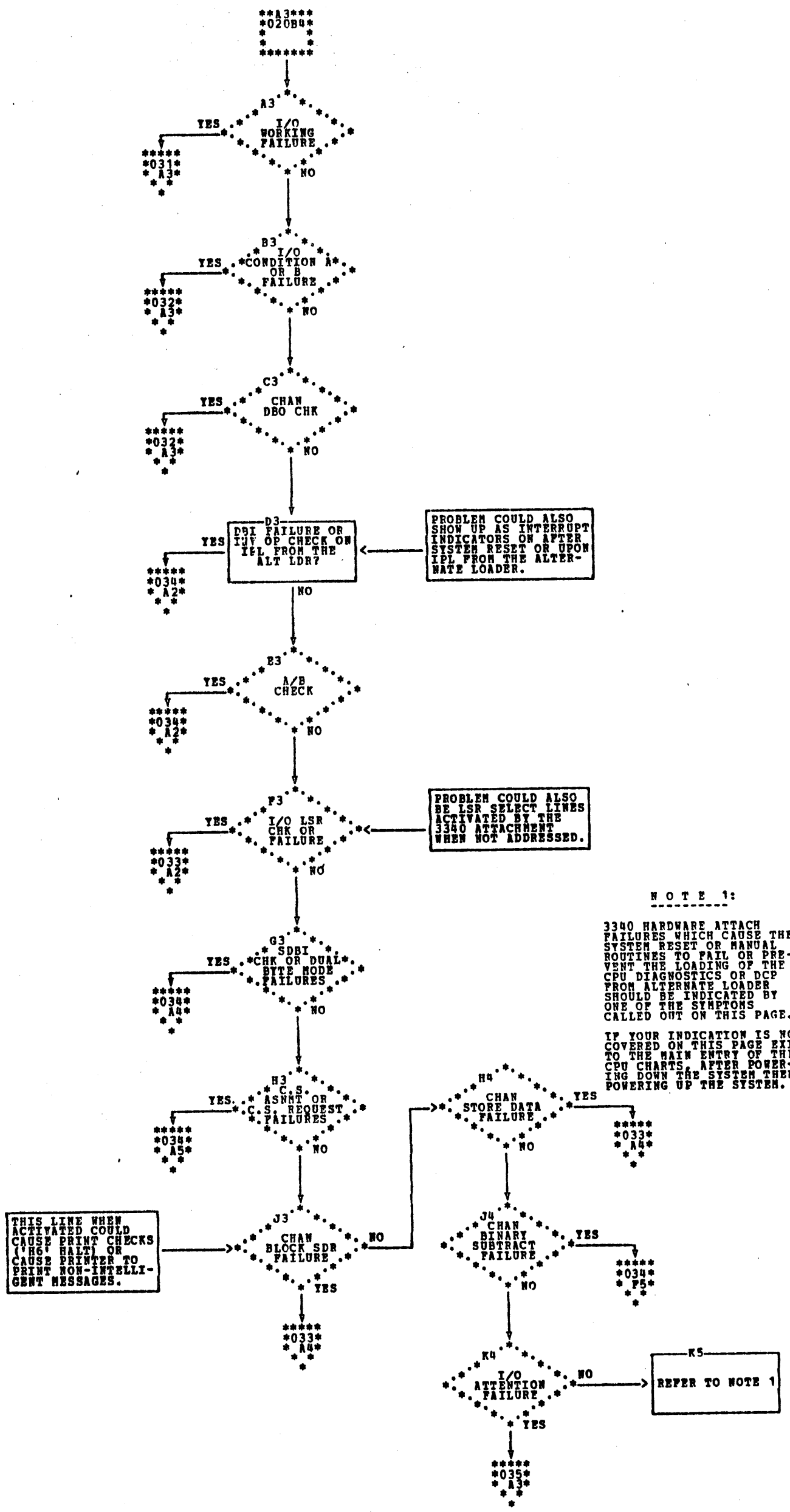

A3*
024G4
****
1.>D.S.R.
2.>CE SELECTOR SW TO ALTER STOR MODE.
3.ALTER THE FIRST SIX BYTES OF STORAGE AS FOLLOWS:
30C40005 (SNS INSTRUCTION)
4.>D.S.R.
5.>CLOCK STEP TO CLOCK 2 OF THE 1ST EB CYCLE.
6.>PROBE THE FOLLOWING PINS:
A-A1Q2D05 (+LSR SELECT 7)
A-A1Q2J10 (+LSR SELECT 3)
C3
BOTH LINES UP
NO
YES
******C2**********
A-A1Q2
****
NOTE 1:
A PROC CHK MAY OCCUR AT CLOCK 3 OR 8. IF SO, TEMPORARILY JUMPER A-B3K2G05 (+IPL OR SR GATE) TO A-B3G2G12 (+TIE-UP). REMOVE JUMPER & CONTINUE TO CLOCK STEP TO NEXT EB CYCLE. DO NOT DEPRESS CHECK RESET.
D3
>CLOCK STEP TO CLOCK 4 OF EB CYCLE (SEE NOTE 1)
E3
PROC CHK OCCUR AT CLOCK 4
YES
NO
E4
VALID PROC CHKS @ CLOCK 4 TIME ARE I/O LSR OR LSR
F4
LSR CHK
YES
NO
1.SUSPECT CPU CARDS A-B2J2 OR A-B3C2.
2.SUSPECT LOOSE OR OPEN CABLE BETWEEN A-B2 AND A-B3 BOARDS IF ROLLER POSITION 2 (LSR) IS BLANK.
******G4**********
CARDS A-B2J2 OR A-A1Q2 OR SUSPECT CHANNEL CABLING
****
1.>CLOCK STEP TO CLOCK 2 OF THE 2ND EB CYCLE (SEE NOTE 1 IF A PROC CHECK OCCURS).
6.>PROBE THE FOLLOWING PINS:
A-A1Q2D05 (+LSR SELECT 7)
A-A1Q2J10 (+LSR SELECT 3)
G3
BOTH LINES UP
NO
YES
******G2**********
A-A1Q2
****
H3
>CLOCK STEP TO CLOCK 4 OF EB CYCLE (SEE NOTE 1)
J3
PROC CHK OCCUR AT CLOCK 4
YES
NO
1.IF ENTRY INTO THIS CHART WAS DUE TO AN LSR CHECK SUSPECT CPU CARD A-B3C2.
2.IF ENTRY WAS DUE TO AN I/O LSR CHECK SUSPECT THE FOLLOWING:
A.CPU CARDS A-B3T2 OR A-B2J2.
B.3340 ATTACH CARDS A-A1Q2 OR A-A1M2.

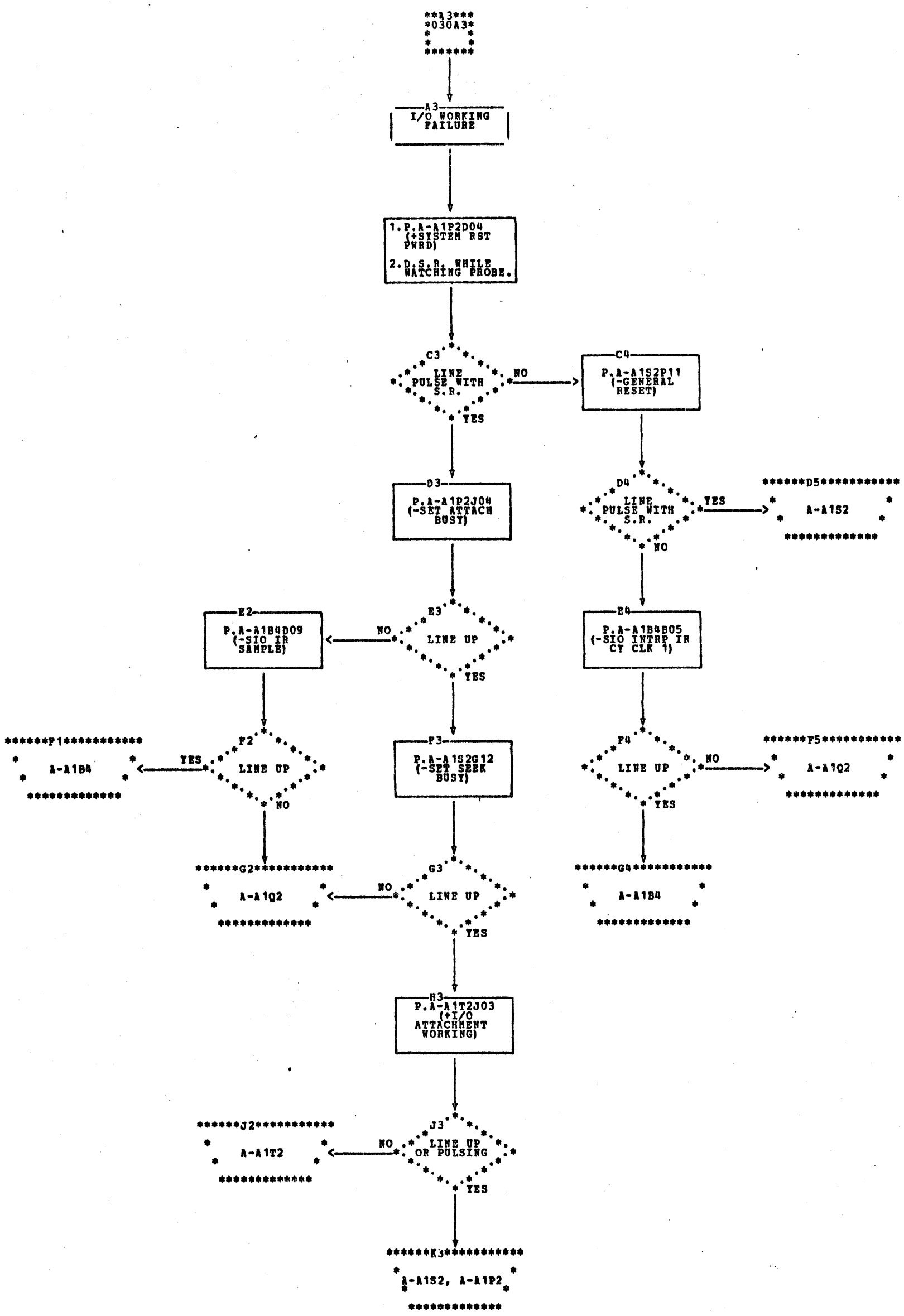

A2*
024D2
****
WITH THE CHECK ON THE MACHINE RECORD THE Q REG CONTENTS (3340 MUST BE ADDRESSED FOR THIS CHART TO BE VALID).
1.>D.S.R.
2.>CE MODE SELECTOR SW TO ALTER STOR MODE.
3.ALTER THE FIRST SIX BYTES OF STORAGE AS FOLLOWS:
31C600050505
(LIO INSTRUCTION)
4.>D.S.R.
5.>CLOCK STEP TO CLOCK 2 OF THE 1ST EB CYCLE.
6.>PROBE THE FOLLOWING PINS:
A-A1Q2D06
(+LSR SELECT 5)
A-A1Q2G10
(+LSR SELECT 4)
D2
BOTH LINES UP
NO
YES
******D1**********
A-A1Q2
****
ON THE CPU CHAN BOARD (A-B2) PROBE THE FOLLOWING PINS:
A-B2J2D04
A-B2J2B03
F2
BOTH LINES UP
NO
YES
******F1**********
SUSPECT LOOSE OR OPEN CHANNEL CABLE
****
A4
A4
>CLOCK STEP TO CLOCK 4 OF EB CYCLE
B4
PROC CHK OCCUR
NO
YES
C4
I/O LSR CHECK
YES
NO
1.CPU CARD A-B2J2.
2.SUSPECT LOOSE CHANNEL CABLE CONTAINING LSR SELECT LINES.
1.>CLOCK STEP TO CLOCK 2 OF THE 2ND EB CYCLE (SEE NOTE 1 IF A PROC CHECK OCCURS).
2.>PROBE THE FOLLOWING PINS:
A-A1Q2D06
(+LSR SELECT 5)
A-A1Q2G10
(+LSR SELECT 4)
NOTE 1:
A PROC CHK MAY OCCUR AT CLOCK 5 OR 8. IF SO, TEMPORARILY JUMPER A-B3K2G05 (+IPL OR SR GATE) TO A-B3G2G12 (+TIE-UP). REMOVE JUMPER & CONTINUE TO CLOCK STEP TO NEXT EB CYCLE. DO NOT DEPRESS CHECK RESET.
E4
BOTH LINES UP
NO
YES
******E5**********
A-A1Q2
****
F4
>CLOCK STEP TO CLOCK 4 OF EB CYCLE
G4
PROC CHK OCCUR
NO
YES
027
A3
1.CPU CARD A-B2J2.
2.SUSPECT LOOSE OR OPEN CABLE CONTAINING LSR SELECT LINES.

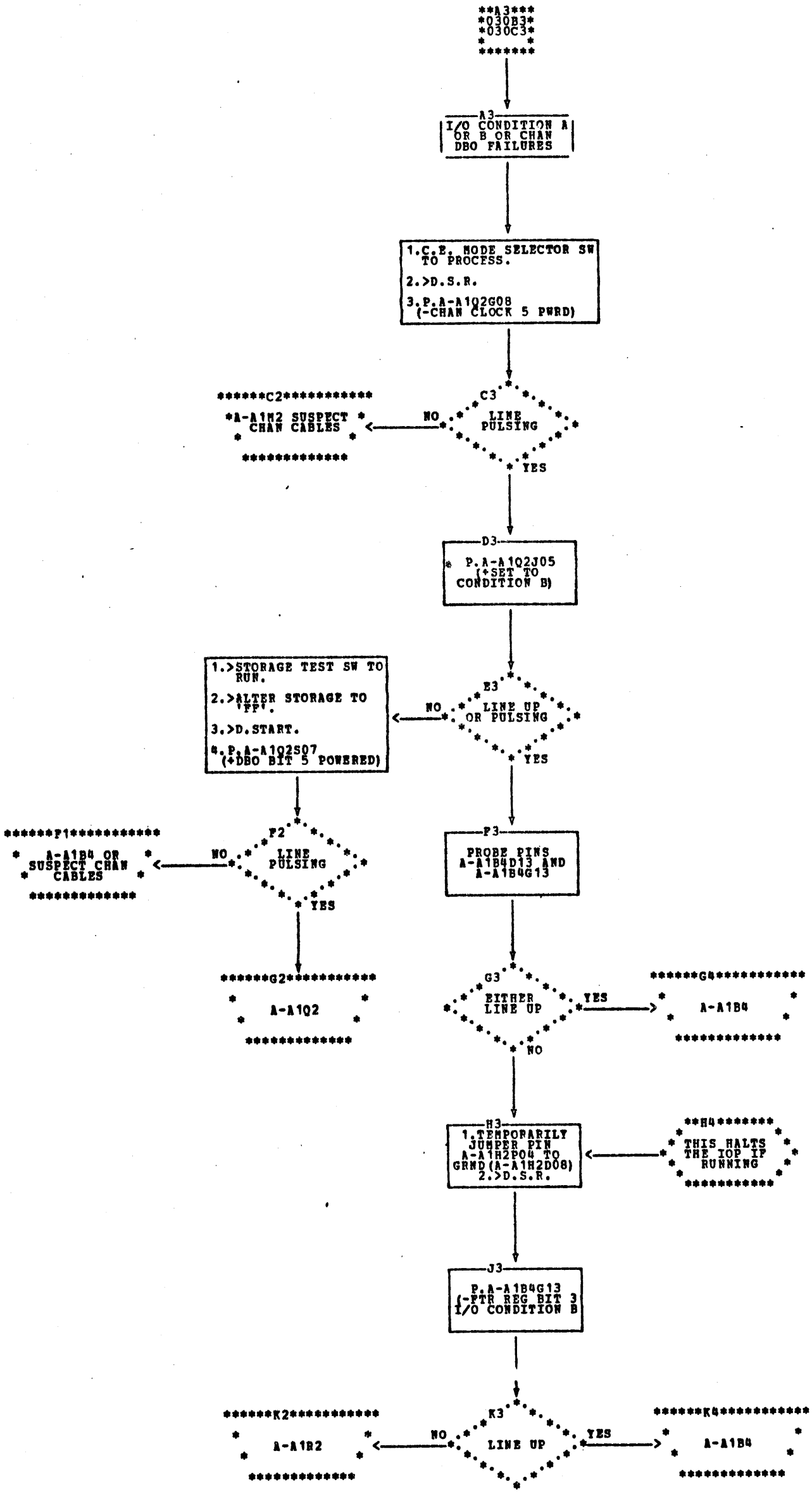

A3*
026G4
1.>D.S.R.
2.>CE SELECTOR SW TO ALTER STOR MODE.
3.ALTER THE FIRST SIX BYTES OF STORAGE AS FOLLOWS:
30C60005 (SNS INSTRUCTION)
4.>D.S.R.
5.>CLOCK STEP TO CLOCK 2 OF THE 1ST EB CYCLE.
6.>PROBE THE FOLLOWING PINS:
A-A1Q2D06 (+LSR SELECT 5)
A-A1Q2G10 (+LSR SELECT 4)
C3
BOTH LINES UP
NO
******C2**********
A-A1Q2
YES
N O T E 1:
A PROC CHK MAY OCCUR AT CLOCK 3, 5 OR 8. IF SO, TEMPORARILY JUMPER A-B3R2G05 (+IPL OR SR GATE) TO A-B3G2G12 (+TIE-UP). REMOVE JUMPER & CONTINUE TO CLOCK STEP TO NEXT EB CYCLE. DO NOT DEPRESS CHECK RESET.
D3
>CLOCK STEP TO CLOCK 4 OF EB CYCLE (SEE NOTE 1)
E3
PROC CHK OCCUR AT CLOCK 4
YES
NO
E4
VALID PROC CHKS @ CLOCK 4 TIME ARE I/O LSR OR LSR.
A
F4
LSR CHK
YES
NO
1.SUSPECT CPU CARDS A-B2J2 OR A-B3C2.
2.SUSPECT LOOSE OR OPEN CABLE BETWEEN A-B2 & A-B3 BOARDS IF ROLLER POSITION 2 (LSR) IS BLANK.
1.>CLOCK STEP TO CLOCK 2 OF THE 2ND EB CYCLE (SEE NOTE 1 IF A PROC CHK OCCURS).
6.>PROBE THE FOLLOWING PINS:
A-A1Q2D06 (+LSR SELECT 5)
A-A1Q2G10 (+LSR SELECT 4)
******G2**********
A-A1Q2
G3
BOTH LINES UP
NO
YES
******G4**********
CARDS A-B2J2 OR A-A1Q2 OR SUSPECT CHANNEL CABLING
H3
>CLOCK STEP TO CLOCK 4 OF EB CYCLE (SEE NOTE 1)
J3
PROC CHK OCCUR AT CLOCK 4
YES
NO
1.IF ENTRY INTO THIS CHART WAS DUE TO AN LSR CHECK SUSPECT CPU CARD A-B3C2.
2.IF ENTRY WAS DUE TO AN I/O LSR CHECK SUSPECT THE FOLLOWING:
A.CPU CARDS A-B3T2 OR A-B2J2.
B.3340 ATTACH CARDS A-A1Q2 OR A-A1M2.

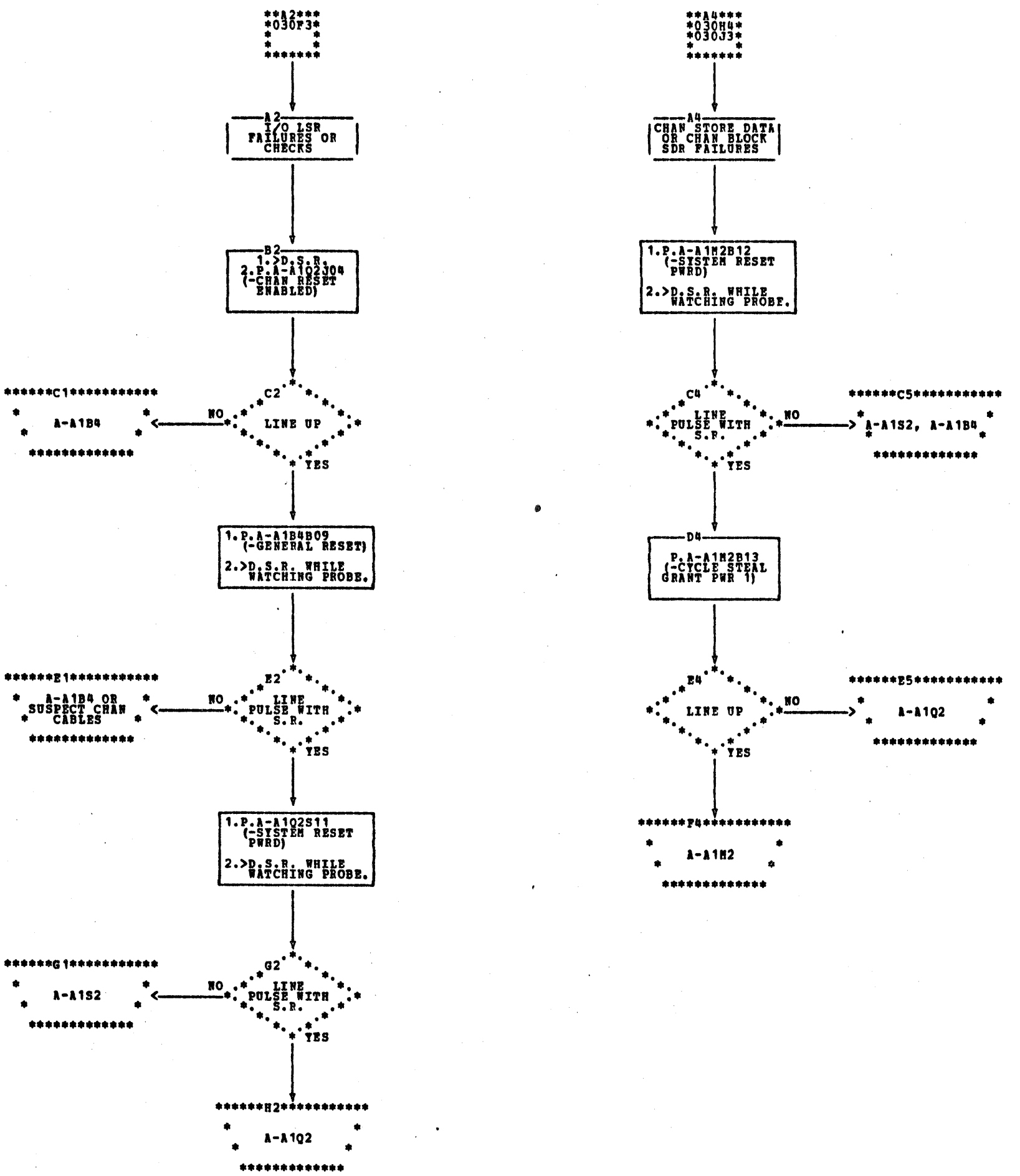

A3*
020G2
A3
SDBI CHECKS
1.P.A-A1B4B09 (-GENERAL RESET)
2.>WHILE WATCHING PROBE DEPRESS SYSTEM RESET.
C3
PULSE ON LINE WITH S.R.
NO
******C2**********
A-A1B4
YES
D3
P.A-A1B4G02 (+IPL)
E3
LINE UP
******E2**********
A-A1B4
YES
NO
F3
P.A-A1M2J02 (-CHAN CLOCK 7 PWRD)
G3
LINE PULSING
******G2**********
A-A1M2 OR SUSPECT CHAN CABLE
NO
YES
1.3340 ATTACH CARDS A-A1M2, A-A1Q2 OR A-A1P2.
2.CPU CARD A-B4M2.
3.SUSPECT DUAL BYTE CHANNEL CABLE (REFER TO 3340 LOGIC PAGE EB211).

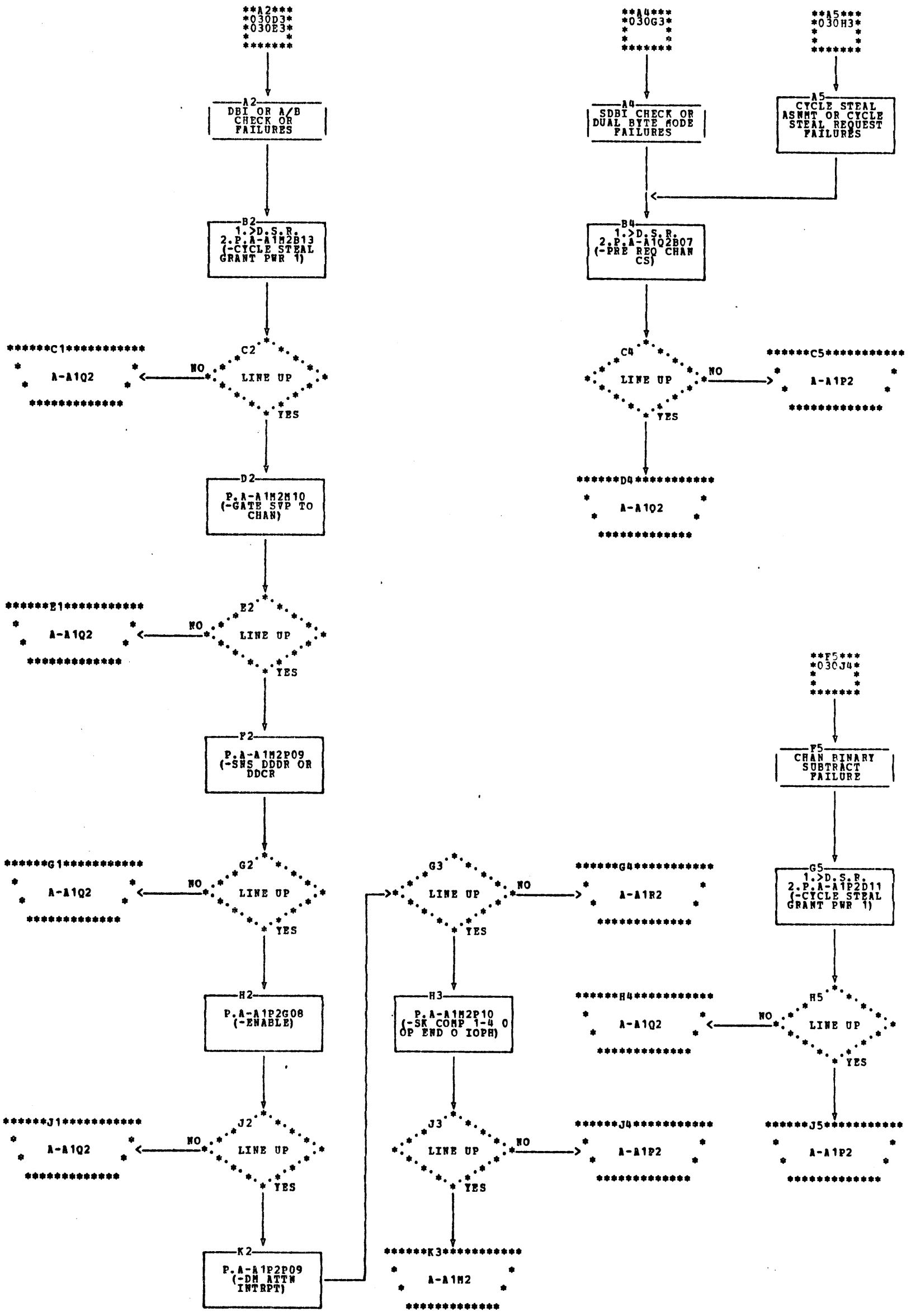

A2*
020K2
A2
INVALID OP PROCESSOR CHECK
******B2**********
A-A1P2, A-A1H2,
A-A1Q2
****
A4*
020J2
A4
MSAR PROCESSOR CHECK
******B4**********
A-A1Q2, A-A1P2,
A-A1H2, A-A1R2
****
F2*
020H2
F2
SDBO PROCESSOR CHECK
******G2**********
A-A1P2
****
F4*
020K3
F4
INV ADDR PROCESSOR CHECK
1.>D.S.R.
2.PROBE THE FOLLOWING CLOCK LINES:
A-A1M2D07
A-A1M2D12
A-A1M2G03
A-A1M2J02
A-A1M2J07
H4
ALL LINES PULSING
NO
YES
1.SUSPECT LOOSE CHAN CABLES:
A-A1Y3 - Y6 OR
A-A1Z3 - Z6.
2.A-A1M2 OR A-B3T2.
******J4**********
A-A1Q2, A-A1R2,
A-A1P2
****

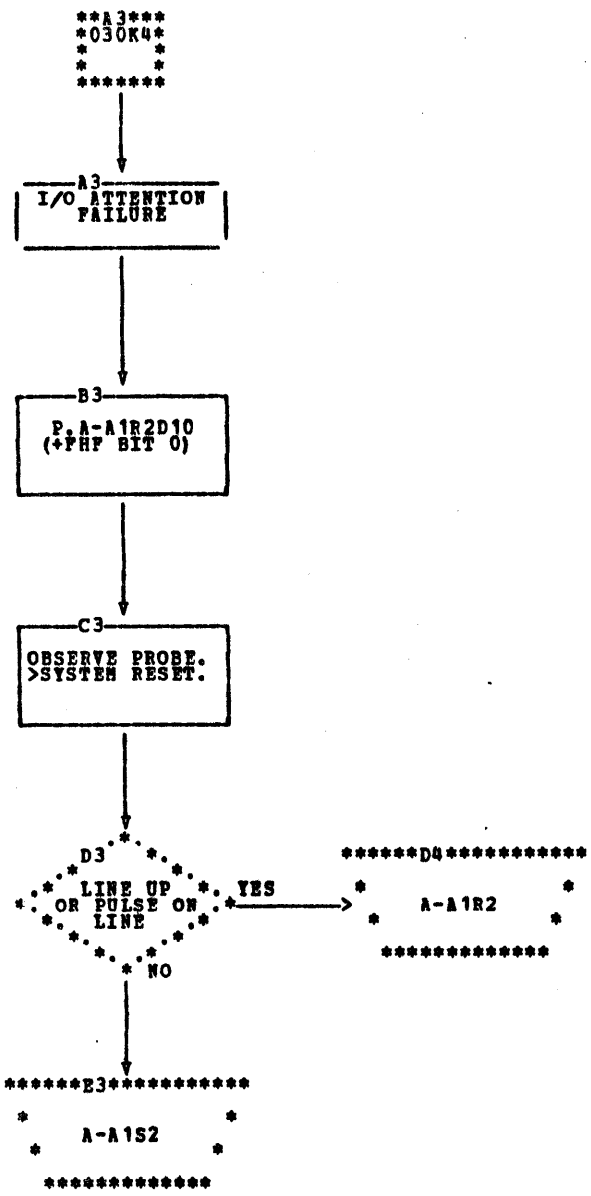

A3*
020B4
A3
I/O WORKING FAILURE
YES
NO
*****
031
* A3*
B3
I/O CONDITION A OR B FAILURE
YES
NO
*****
032
* A3*
C3
CHAN DBO CHK
YES
NO
*****
032
* A3*
D3
D9I FAILURE OR IUV OP CHECK ON IPL FROM THE ALT LDR?
YES
NO
*****
034
* A2*
PROBLEM COULD ALSO SHOW UP AS INTERRUPT INDICATORS ON AFTER SYSTEM RESET OR UPON IPL FROM THE ALTERNATE LOADER.
E3
A/B CHECK
YES
NO
*****
034
* A2*
F3
I/O LSR CHK OR FAILURE
YES
NO
*****
033
* A2*
PROBLEM COULD ALSO BE LSR SELECT LINES ACTIVATED BY THE 3340 ATTACHMENT WHEN NOT ADDRESSED.
G3
SDBI CHK OR DUAL BYTE MODE FAILURES
YES
NO
*****
034
* A4*
H3
C.S. ASNMT OR C.S. REQUEST FAILURES
YES
NO
*****
034
* A5*
THIS LINE WHEN ACTIVATED COULD CAUSE PRINT CHECKS ('H6' HALT) OR CAUSE PRINTER TO PRINT NON-INTELLIGENT MESSAGES.
J3
CHAN BLOCK SDR FAILURE
NO
YES
*****
033
* A4*
H4
CHAN STORE DATA FAILURE
YES
NO
*****
033
* A4*
J4
CHAN BINARY SUBTRACT FAILURE
YES
NO
*****
034
* F5*
K4
I/O ATTENTION FAILURE
NO
YES
*****
035
* A3*
K5
REFER TO NOTE 1
NOTE 1:
3340 HARDWARE ATTACH FAILURES WHICH CAUSE THE SYSTEM RESET OR MANUAL ROUTINES TO FAIL OR PREVENT THE LOADING OF THE CPU DIAGNOSTICS OR DCP FROM ALTERNATE LOADER SHOULD BE INDICATED BY ONE OF THE SYMPTOMS CALLED OUT ON THIS PAGE.
IF YOUR INDICATION IS NOT COVERED ON THIS PAGE EXIT TO THE MAIN ENTRY OF THE CPU CHARTS, AFTER POWERING DOWN THE SYSTEM THEN POWERING UP THE SYSTEM.

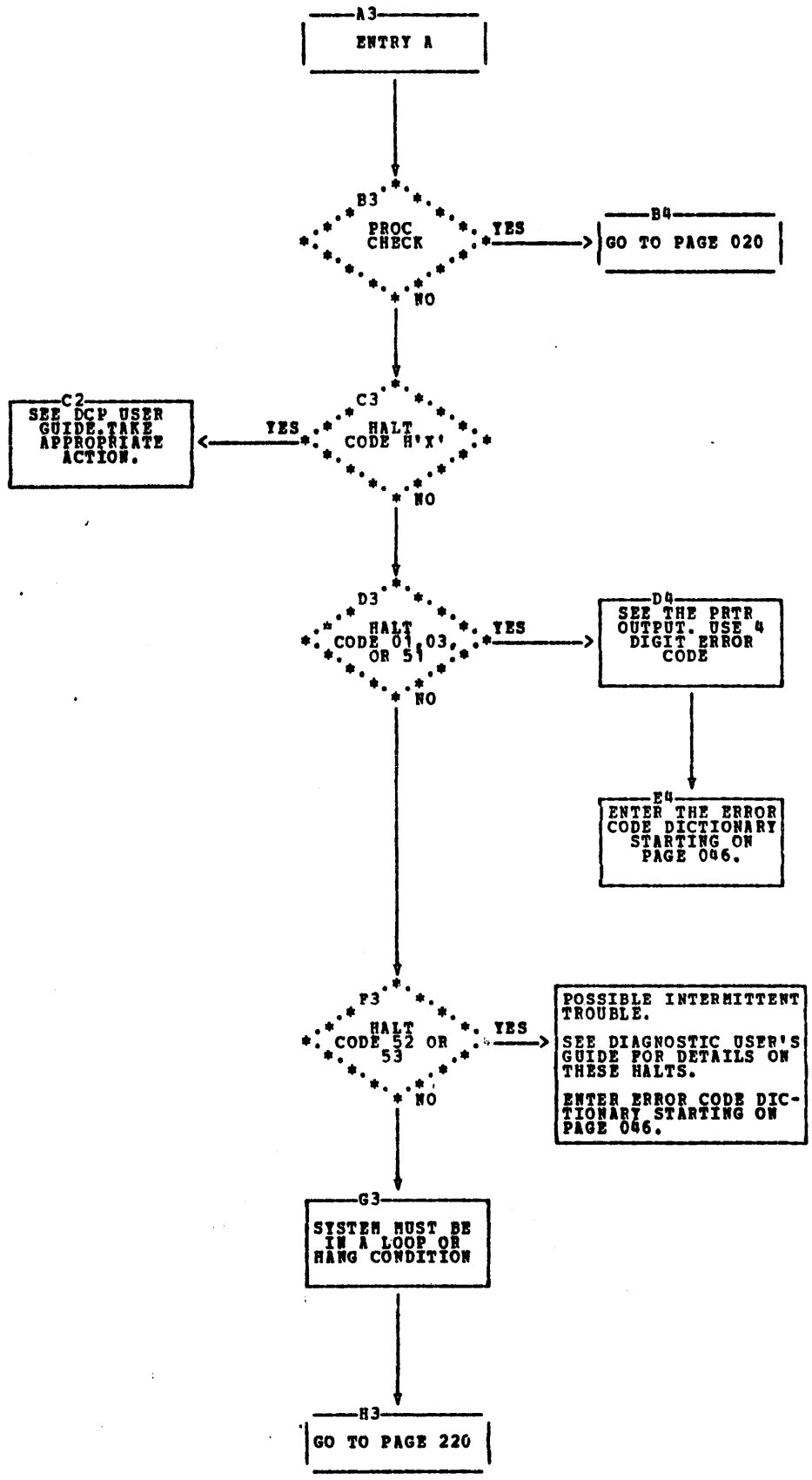

A3*
030A3
A3
I/O WORKING FAILURE
1.P.A-A1P2D04 (+SYSTEM RST PWRD)
2.D.S.R. WHILE WATCHING PROBE.
C3
LINE PULSE WITH S.R.
NO
YES
C4
P.A-A1S2P11 (-GENERAL RESET)
D3
P.A-A1P2J04 (-SET ATTACH BUSY)
D4
LINE PULSE WITH S.R.
YES
NO
******D5**********
A-A1S2
E2
P.A-A1B4D09 (-SIO IR SAMPLE)
E3
LINE UP
NO
YES
E4
P.A-A1B4B05 (-SIO INTRP IR CY CLK 1)
******F1**********
A-A1B4
F2
LINE UP
YES
NO
F3
P.A-A1S2G12 (-SET SEEK BUSY)
F4
LINE UP
NO
YES
******F5**********
A-A1Q2
******G2**********
A-A1Q2
G3
LINE UP
NO
YES
******G4**********
A-A1B4
H3
P.A-A1T2J03 (+I/O ATTACHMENT WORKING)
******J2**********
A-A1T2
J3
LINE UP OR PULSING
NO
YES
******K3**********
A-A1S2, A-A1P2


A3*
030B3
030C3
****
A3
I/O CONDITION A OR B OR CHAN DBO FAILURES
1.C.E. MODE SELECTOR SW TO PROCESS.
2.>D.S.R.
3.P.A-A1Q2G08 (-CHAN CLOCK 5 PWRD)
C3
LINE PULSING
NO
YES
******C2**********
*A-A1N2 SUSPECT CHAN CABLES
****
D3
P.A-A1Q2J05 (+SET TO CONDITION B)
E3
LINE UP OR PULSING
NO
YES
1.>STORAGE TEST SW TO RUN.
2.>ALTER STORAGE TO 'FF'.
3.>D.START.
4.P.A-A1Q2S07 (+DBO BIT 5 POWERED)
F2
LINE PULSING
NO
YES
******F1**********
A-A1B4 OR SUSPECT CHAN CABLES
****
F3
PROBE PINS A-A1B4D13 AND A-A1B4G13
******G2**********
A-A1Q2
****
G3
EITHER LINE UP
YES
NO
******G4**********
A-A1B4
****
H3
1.TEMPORARILY JUMPER PIN A-A1H2P04 TO GRND(A-A1H2D08)
2.>D.S.R.
H4*****
THIS HALTS THE IOP IF RUNNING
****
J3
P.A-A1B4G13 (-PTR REG BIT 3 I/O CONDITION B
K3
LINE UP
NO
YES
******K2**********
A-A1R2
****
******K4**********
A-A1B4
****


A2*
030F3
A2
I/O LSR FAILURES OR CHECKS
B2
1.>D.S.R.
2.P.A-A102J04 (-CHAN RESET ENABLED)
C2
LINE UP
NO
YES
******C1**********
A-A1B4
1.P.A-A1B4B09 (-GENERAL RESET)
2.>D.S.R. WHILE WATCHING PROBE.
E2
LINE PULSE WITH S.R.
NO
YES
******E1**********
A-A1B4 OR SUSPECT CHAN CABLES
1.P.A-A1Q2S11 (-SYSTEM RESET PWRD)
2.>D.S.R. WHILE WATCHING PROBE.
G2
LINE PULSE WITH S.R.
NO
YES
******G1**********
A-A1S2
******H2**********
A-A1Q2
A4*
030H4
030J3
A4
CHAN STORE DATA OR CHAN BLOCK SDR FAILURES
1.P.A-A1M2B12 (-SISTEM RESET PWRD)
2.>D.S.R. WHILE WATCHING PROBE.
C4
LINE PULSE WITH S.P.
NO
YES
******C5**********
A-A1S2, A-A1B4
D4
P.A-A1M2B13 (-CYCLE STEAL GRANT PWR 1)
E4
LINE UP
NO
YES
******E5**********
A-A1Q2
******F4**********
A-A1M2


A2*
030D3
030E3
A2
DBI OR A/B CHECK OR FAILURES
B2
1.>D.S.R.
2.P.A-A1M2B13 (-CYCLE STEAL GRANT PWR 1)
C2
LINE UP
NO
YES
******C1**********
A-A1Q2
D2
P.A-A1M2M10 (-GATE SVP TO CHAN)
E2
LINE UP
NO
YES
******E1**********
A-A1Q2
F2
P.A-A1M2P09 (-SNS DDDR OR DDCR
G2
LINE UP
NO
YES
******G1**********
A-A1Q2
H2
P.A-A1P2G08 (-ENABLE)
J2
LINE UP
NO
YES
******J1**********
A-A1Q2
K2
P.A-A1P2P09 (-DM ATTN INTRPT)
A4*
030G3
A4
SDBI CHECK OR DUAL BYTE MODE FAILURES
B4
1.>D.S.R.
2.P.A-A1Q2B07 (-PRE REQ CHAN CS)
C4
LINE UP
NO
YES
******C5**********
A-A1P2
******D4**********
A-A1Q2
G3
LINE UP
NO
YES
******G4**********
A-A1R2
H3
P.A-A1M2P10 (-SK COMP 1-4 0 OP END O IOPH)
J3
LINE UP
NO
YES
******J4**********
A-A1P2
K3
A-A1M2
A5*
030H3
A5
CYCLE STEAL ASNMT OR CYCLE STEAL REQUEST FAILURES
F5*
030J4
F5
CHAN BINARY SUBTRACT FAILURE
G5
1.>D.S.R.
2.P.A-A1P2D11 (-CYCLE STEAL GRANT PWR 1)
H5
LINE UP
NO
YES
******H4**********
A-A1Q2
******J5**********
A-A1P2


A3*
030K4
A3
I/O ATTENTION FAILURE
B3
P.A-A1R2D10 (+PHF BIT 0)
C3
OBSERVE PROBE. >SYSTEM RESET.
D3
LINE UP OR PULSE ON LINE
YES
NO
******D4**********
A-A1R2
****
******E3**********
A-A1S2
****


A3
ENTRY A
B3
PROC CHECK
YES
B4
GO TO PAGE 020
NO
C3
HALT CODE H'X'
YES
C2
SEE DCP USER GUIDE.TAKE APPROPRIATE ACTION.
NO
D3
HALT CODE 01,03, OR 51
YES
D4
SEE THE PRTR OUTPUT. USE 4 DIGIT ERROR CODE
E4
ENTER THE ERROR CODE DICTIONARY STARTING ON PAGE 046.
NO
F3
HALT CODE 52 OR 53
YES
POSSIBLE INTERMITTENT TROUBLE.
SEE DIAGNOSTIC USER'S GUIDE FOR DETAILS ON THESE HALTS.
ENTER ERROR CODE DICTIONARY STARTING ON PAGE 046.
NO
G3
SYSTEM MUST BE IN A LOOP OR HANG CONDITION
H3
GO TO PAGE 220

ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
1001	CONTROL STORAGE COULD NOT BE LOADED OR TESTED BECAUSE OF AN ERROR IN THE ATTACHMENT	GO TO PAGE 060 TO RUN THE ATTACHMENT TESTS
1002	A FAILURE OCCURRED IN CONTROL STORAGE RIGRT SIDE.	RECORD THE ERROR CODE. GO TO PAGE 100 FOR ANALYSIS.
1003	A FAILURE OCCURRED IN CONTROL STORAGE LEFT SIDE	RECORD THE ERROR CODE. GO TO PAGE 100 FOR ANALYSIS.
1004	FAILURES HAVE BEEN DETECTED IN BOTH LEFT AND RIGHT SIDES OF CONTROL STORAGE. SINCE IT IS UNLIKELY THAT TWO FAILURES ARE OCCURRING, IT PROBABLY IS NOT THE CONTROL STORAGE CARDS THEMSELVES.	GO TO PAGE 060 TO RUN THE ATTACHMENT TESTS.
2000	LIO HUNG IN A REJECTION LOOP	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2001	ATTACHMENT BUSY PRIOR TO A SIO	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2002	DDCR LOADED INCORRECTLY	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2003	DDDR LOADED INCORRECTLY	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2004	SIO HUNG IN A REJECTION LOOP	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2005	DRIVE X NOT READY OR UNIT CHECK PRIOR TO A SIO. SEE NOTE 1 PAGE 65.	USE READ DIAGNOSTIC SENSE DATA AND ENTER PAGE 065
2006	SIO DID NOT SET ATTACHMENT BUSY	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2007	SEEK COMMAND DID NOT SET SEEK BUSY	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2008	SEEK BUSY WITH NO SEEK IN PROGRESS	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2009	ATTACHMENT BUSY DID NOT GO OFF	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
200A	DRIVE X UNIT CHECK OR NO-OP STATUS	USE THE READ DIAGNOSTIC SENSE DATA AND ENTER PAGE 065
200B	NO INTERRUPT PENDING WHEN ONE WAS EXPECTED	ENTER PAGE 065 TO RUN THE ATTACHMENT TESTS.
200C	ADAPTER CHECK	USE READ DIAGNOSTIC SENSE DATA AND ENTER PAGE 069.
200D	UNEXPECTED INTERRUPT	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
200E	INTERRUPT OCCURRED WITH NO INTERRUPT BIT IN THE SENSE INFORMATION.	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
200F	ADAPTER CHECK ON READ DIAGNOSTIC SENSE COMMAND	USE READ DIAGNOSTIC SENSE DATA AND ENTER PAGE 069.
2010	EXPECTED OP END INTERRUPT DID NOT OCCUR	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2011	EXPECTED SEEK COMPLETE INTERRUPT DID NOT OCCUR	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2012	FALSE INTERRUPT PENDING (TIO)	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2013	EXPECTED SCAN SCAN EQUAL DID NOT OCCUR	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.

ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
2014	EXPECTED SCAN HIT DID NOT OCCUR	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2015	UNEXPECTED SCAN HIT	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2016	INCORRECT RESIDUAL DDDR VALUE	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2017	INCORRECT RESIDUAL DDCR VALUE	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2018	INCORRECT RESIDUAL DDCF	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2019	INCORRECT RESIDUAL DDDF	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
201A	UNEXPECTED SCAN EQUAL CONDITION	ENTER PAGE 060 TO RUN THE ATTACHMENT TESTS.
2020	*THE DIAGNOSTIC DETECTED WRITE INHIBITED ON DRIVE X. IF THE ALLOW WRITE PLUG IS INSTALLED IN THE DATA MODULE, THIS IS AN ERROR. IF THE PLUG IS NOT INSTALLED, SET SENSE SW 2X TO BYPASS WRITE TESTING ON THAT DRIVE OR PUT THE ALLOW WR PLUG IN.	IF THIS IS AN ERROR CONDITION GO TO PAGE 095 FOR EXIT TO THE 3340 MLM.
2030	READ IPL FAILURE - THE PROPER NUMBER OF BYTES WERE TRANSFERRED BUT A PROGRAM TIMEOUT OCCURRED.	A-A1B4, A-A1P2 OR A-A1S2
2031	READ IPL FAILURE - NO DATA WAS TRANSFERRED DURING A SOFT IPL COMMAND.	A-A1B4, A-A1Q2 OR CONTROLLER CARD A-A2S2
2032	READ IPL FAILURE - THE REQUIRED NUMBER OF DATA BYTES WAS NOT TRANSFERRED ON A SOFT IPL COMMAND.	A-A1B4 OR A-A1R2

ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
4010	ATT. BUSY 'ON' AFTER SYSTEM RESET	GO TO PAGE 105
4011	DDDR READ NOT AS EXPECTED V1, V2 = EXPECTED DDDR V3, V4 = RECEIVED DDDR	A-A1Q2
4030	X-REG PARITY CHECK	GO TO PAGE 106
4031	X-REG READ NOT AS EXPECTED V1 = X-REG EXPECTED V2 = RECEIVED	GO TO PAGE 106
4050	K-REG READ NOT SET AS EXPECTED V1 = K-REG EXPECTED V2 = K-REG RECEIVED	GO TO PAGE 106
4051	K-REG BITS NOT RESET AS EXPECTED V1 = K-REG EXPECTED V2 = K-REG RECEIVED	GO TO PAGE 107
4052	K BIT 3 FAILED TO INHIBIT SENSE OF X-REG	A-A1C2
4070	OP-REG CHECK	A-A1H2, A-A1C2 OR A-A1G2
4071	FORCED OP-REG CHECK NOT ON	GO TO PAGE 107
4072	OP-REG NOT READ AS EXPECTED (C, CR, Y FIELDS ALL FAILED) V1 - V3 = EXPECTED C, CR, Y V4 - V6 = RECEIVED C, CR, Y	A-A1H2, A-A1C2 OR A-A1G2
4073	OP-REG C, CR OR Y NOT READ AS EXPECTED V1 - V3 = EXPECTED C, CR, Y V4 - V6 = RECEIVED C, CR, Y	A-A1H2 OR A-A1C2
4090	B-REG CHECK NOT ON (FORCED BY DATA FROM HARDWARE 'FF')	A-A1C2, A-A1D2 OR A-A1G2
4091	B-REG CHECK	GO TO PAGE 108
4093	IOP CHECK STOP DID NOT COME ON	GO TO PAGE 108
40B0	D-REG PARITY CHECK	GO TO PAGE 108
40B1	D-REG PATH ERROR, HOT BIT(S)	GO TO PAGE 109
40B2	D-REG PATH ERROR, DROPPED BIT(S)	GO TO PAGE 110
40F0	IMMEDIATE DATA FROM SABI OR SADI INSTRUCTION NOT TRANSFERRED TO D-REG	GO TO PAGE 111
40F1	DATA READ FROM ALSB NOT AS EXPECTED V1 = ALSB EXPECTED V2 = ALSB RECEIVED	GO TO PAGE 111
40F2	DATA READ FROM ALSD NOT AS EXPECTED V1 = ALSD EXPECTED V2 = ALSD RECEIVED	GO TO PAGE 112
40F3	DATA READ FROM BOTH ALSB AND ALSD NOT AS EXPECTED	A-A1F2
4100	SZI INSTRUCTION IMMEDIATE DATA DID NOT GO TO D-REG	A-A1G2 OR A-A1H2
4101	ZLS DATA READ NOT AS EXPECTED (ADDRESSED USING R-BUS) V1 = EXPECTED ZLS DATA V2 = RECEIVED	GO TO PAGE 120
4102	ZLS CHECK (DATA READ AS EXPECTED)	GO TO PAGE 120

ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
4110	CS DATA IN BUFFER 'ALTERNATE' PATH(S) FAILED	GO TO PAGE 120
4111	ALL CONTROL STOR PATHS FAILED	GO TO PAGE 121
4120	TRAP C HOT	GO TO PAGE 122
4121	TRAP B HOT	GO TO PAGE 122
4122	TRAP A HOT	GO TO PAGE 123
4130	INCORRECT ALSB DATA READ USING ACCESS POINTER V1 = EXPECTED DATA V2 = RECEIVED DATA	A-A1F2, A-A1G2 OR A-A1H2
4131	INCORRECT ALSB DATA READ USING PROCESS POINTER V1 = EXPECTED DATA V2 = RECEIVED DATA	A-A1F2 OR A-A1E2
4132	INCORRECT ALSB DATA READ USING INDEX V1 = EXPECTED DATA V2 = RECEIVED DATA	A-A1F2
4133	PROCESS POINTER READ NOT AS EXPECTED V1 = EXPECTED PROCESS POINTER V2 = RECEIVED	A-A1F2 OR A-A1H2
4134	ACCESS POINTER READ NOT AS EXPECTED V1 = ACCESS POINTER EXPECTED V2 = ACCESS POINTER RECEIVED	A-A1F2
4135	'TIME SLICE' FLIP LATCH FAILED TO SET	A-A1F2 OR A-A1G2
4136	'ADDRESS COMPARE' FAILED TO SET	GO TO PAGE 124
4137	ALS/CSAR CHECK	A-A1F2 OR A-A1C2
4140	ZLS DATA READ NOT AS EXPECTED (ADDRESSED USING POINTER)	GO TO PAGE 124
4150	BR DISPLACEMENT DID NOT GO TO D-REG	A-A1H2
4151	MIAR DID NOT ACQUIRE BR ADDRESS	A-A1H2, A-A1G2 OR A-A1D2
4152	MIAR (B) DID NOT ACQUIRE BR ADDRESS	A-A1F2, A-A1H2 OR A-A1G2
4153	MIAR (D) DID NOT ACQUIRE BR ADDRESS	A-A1F2 OR A-A1G2
4154	BU INSTRUCTION DID NOT CAUSE IAR MODE SWITCH	A-A1F2
4155	SUBROUTINE MODE NOT SET IN ACCESS POINTER	A-A1F2 OR A-A1E2
4156	FORCED OP-REG CHECK DID NOT OCCUR	A-A1H2
4157	OP-REG CHECK DID NOT SUPPRESS BRANCH INSTRUCTION	GO TO PAGE 124
4180	SOME DLS LOCATIONS FAILED (WITH DATA = 'FF' ONLY)	A-A1E2
4181	DLS DATA READ NOT AS EXPECTED (ADDRESSED USING R-BUS) V1 = EXPECTED DLS DATA V2 = RECEIVED	GO TO PAGE 125

ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
41A1	'PCR' OR 'SVP REQUEST' FAILED TO SET, X-REG DID ACQUIRE IMMEDIATE DATA	A-A1C2 OR A-A1G2
41A2	X-REG FAILED TO ACQUIRE IMMEDIATE DATA, 'PCR' AND 'SVP REQUEST' SET OK	A-A1C2
41A3	'SABR' AND 'SADR' INSTRUCTIONS FAILED	GO TO PAGE 125
41A4	ALSB AND ALSD FAILED TO ACQUIRE DATA FROM 'SABR' AND 'SADR' INSTRUCTIONS	GO TO PAGE 125
41A5	ALSB OR ALSD FAILED TO ACQUIRE DATA	A-A1F2 OR A-A1G2
41A6	'IOP HALT' BIT IN IDLE SENSE FAILED TO SET	GO TO PAGE 126
41A7	'PREVENT I/O' BIT IN ADAPTER SENSE BYTE 1 FAILED TO SET	A-A1C2
41A8	SZR INSTRUCTION FAILED	A-A1H2 OR A-A1G2
41A9	ZLS REG DID NOT ACQUIRE LOCAL REGISTER DATA FROM 'SZR' INSTRUCTION	A-A1E2
41C0	'PCR' DID NOT RESET (MANUAL CONTROL)	A-A1C2
41C1	'SVP REQUEST' DID NOT SET (MANUAL CONTROL)	A-A1C2
41C2	SLKR INSTRUCTION DID NOT SET 'PCR'	A-A1C2
41C3	SLKR INSTRUCTION DID NOT RESET 'SVP REQUEST'	A-A1C2
41C4	D-REG DID NOT ACQUIRE DLS DATA	A-A1E2 OR A-A1H2
41C5	X-REG DID NOT ACQUIRE DLS DATA	A-A1G2
41C6	LLKR INSTRUCTION FAILED (D-REG DID NOT ACQUIRE X-REG DATA)	A-A1H2, A-A1D2 OR A-A1C2
41C7	DLS DID NOT ACQUIRE X-REG DATA (FF)	GO TO PAGE 126
41C8	D-REG DID NOT ACQUIRE Y-REG 0 - 5, SVP (BIT 6) AND PCR (BIT 7) V1 = EXPECTED D-REG V2 = RECEIVED	A-A1G2, A-A1C2 OR A-A1H2
41C9	DLS DID NOT ACQUIRE Y-REG 0 - 5, SVP (BIT 6) AND PCR (BIT 7) V1 = EXPECTED DLS DATA V2 = RECEIVED	A-A1D2 OR A-A1E2
41CA	'IOP HALT' FAILED TO SET	A-A1C2 OR A-A1G2
41E0	LBI INSTRUCTION FAILED, D-REG DIDN'T ACQUIRE IMMEDIATE DATA	A-A1H2 OR A-A1G2
41E1	LBI INSTRUCTION FAILED, DLS FAILED TO ACQUIRE IIMEDIATE DATA	A-A1D2, A-A1E2 OR A-A1G2
41E2	MV INSTRUCTION FAILED, D-REG FAILED TO ACQUIRE 'FROM' DATA	A-A1H2, A-A1D2 OR A-A1G2

ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
41E3	MV INSTRUCTION FAILED, 'TO' DLS FAILED TO ACQUIRE 'FROM' DATA	A-A1E2
4200	ALU FUNCTION(S) FAILED	A-A1H2, A-A1D2 OR A-A1G2
4260	NO-OP INSTRUCTIONS FAILED V1 = CHECK SENSE	GO TO PAGE 127
4280	BU INSTRUCTION FAILED (MIAR NOT AS EXPECTED)	A-A1F2, A-A1G2 OR A-A1H2
4281	BU INSTRUCTION FAILED (SIAR NOT AS EXPECTED)	A-A1H2 OR A-A1G2
42A0	LBI INSTRUCTION FAILED	A-A1E2, A-A1G2 OR A-A1H2
42A1	ALL LBI INSTRUCTIONS FAILED	A-A1G2
42C0	BR ON CONDITION FOLLOWING ANDI FAILED	A-A1D2, A-A1G2 OR A-A1S2
42C1	BR ON CONDITION FOLLOWING ORI FAILED	A-A1D2 OR A-A1G2
42C2	BR ON CONDITION FOLLOWING EORI FAILED	A-A1D2 OR A-A1S2
42C3	BC FOLLOWING ADDI FAILED	A-A1D2
42C4	BZN FOLLOWING ADDI FAILED	A-A1D2
42C5	BCN FOLLOWING ADDI FAILED	A-A1D2
42C6	BNC FOLLOWING ADDI FAILED	A-A1D2
42CA	'ALU OPERATIONS' PROGRAM FAILED TO COMPLETE	A-A1E2, A-A1D2, A-A1F2 OR A-A1G2
42CB	'TEST' TORI ALTERED DLS	A-A1G2 OR A-A1H2
42CC	'TEST' TEORI ALTERED DLS	A-A1G2
42CD	'TEST' TADDI ALTERED DLS	A-A1G2
42E0	SINC/LINC PROGRAM FAILED TO COMPLETE	GO TO PAGE 128
42E1	LINC INSTRUCTION FAILED	GO TO PAGE 129
42E2	SINC OR SDEC INSTRUCTION FAILED	A-A1J2, A-A1H2 OR A-A1F2
42E3	LINC 'MULTI' FAILED	A-A1D2
42F0	TBOF INSTRUCTION FAILED	GO TO PAGE 129
42F1	TBON INSTRUCTION FAILED	A-A1D2 OR A-A1E2

ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
5020	EXTERNAL ADDRESS ERROR FAILED TO COME ON WHEN EXPECTED.	GO TO PAGE 140
5021	DSA PROCESSOR HALT BIT NOT ON AFTER AN EXTERNAL ADDRESS ERROR	A-A1C2
5022	AN EXTERNAL ADDRESS ERROR WAS DETECTED WHEN NOT EXPECTED.	GO TO PAGE 140
5030	SCN REGISTER DATA NOT CORRECT. RTNE 03 IS TESTING THE DATA PATH TO THE DSA PROCESSOR. DATA SHOULD = '00'	GO TO PAGE 141
5031	SCN REGISTER DATA NOT CORRECT -- SHOULD = 'FF'. V1 = EXPECTED DATA V2 = RECEIVED DATA	GO TO PAGE 142
5032	SCN REGISTER DATA NOT CORRECT PARITY (D REG ERROR--P BIT SHOULD BE ON)	A-A1D2, A-A1R2 OR A-A1S2
5033	SCN REGISTER DATA NOT CORRECT PARITY (D REG ERROR--P BIT SHOULD BE OFF)	GO TO PAGE 143
5050	FTR REGISTER DATA INCORRECT V1 = EXPECTED DATA V2 = RECEIVED DATA	GO TO PAGE 144
5051	FTR REGISTER DATA INCORRECT V1 = EXPECTED DATA V2 = RECEIVED DATA	GO TO PAGE 144
5052	FTR DATA INCORRECT	A-A1R2
5054	INCORRECT PARITY WHILE READING OUT FTR REGISTER	A-A1R2 OR A-A1S2
5055	FTR REG BIT 6 DID NOT PRODUCE EXPECTED PARITY ERROR WHILE WRITING AND READING FTR REGISTER.	A-A1R2, A-A1D2 OR A-A1C2
5056	FTR REG BIT 6 DID NOT PRODUCE ERROR WHILE WRITING AND READING THE SCN REGISTER	A-A1R2 OR A-A1S2
5070	DXC REG NOT EQUAL TO 'FF' OR '00' (SEE V1 FOR EXPECTED) V1 = EXPECTED DATA V2 = RECEIVED DATA	A-A1P2
5072	D REG ERROR WITH DXC = 'FF' OR '00' (SEE V1 FOR EXPECTED) V1 = EXPECTED DATA V2 = RECEIVED DATA	A-A1P2
5090	FTG REG NOT = 'FF' OR '00' (SEE V1 FOR EXPECTED) V1 = EXPECTED DATA V2 = RECEIVED DATA	A-A1R2
5092	D REG ERROR WITH FTG = 'FF' OR '00' (SEE V1 FOR EXPECTED) V1 = EXPECTED DATA V2 = RECEIVED DATA	A-A1R2 OR A-A1S2
50B0	FBO REGISTER NOT = EXPECTED V1 = EXPECTED DATA V2 = RECEIVED DATA	GO TO PAGE 145
50B2	D REG ERROR WITH FBO = 'FF' OR '00'(SEE V1 FOR EXPECTED) V1 = EXPECTED DATA	A-A1T2
50D0	FTO NOT = TO EXPECTED V1 = EXPECTED DATA V2 = RECEIVED DATA	A-A1T2
50D2	D REG ERROR WITH FTO REG = TO 'FF' OR '00' (SEE V1) V1 = EXPECTED DATA V2 = RECEIVED DATA	A-A1T2
50F0	EXTERNAL REGISTER ADDRESSING ERROR. V1-V6 = RCVD VALUE IN FTG, FTO, FTR, FBO, SCN, DXC REGISTERS SHOULD BE 05 06 0D 0E 0F 13	GO TO PAGE 145
5100	TEST BIT OFF (TBOFF) FAILED USING AN EXTERNAL REGISTER	A-A1S2, A-A1G2 OR A-A1T2
5101	TEST BIT ON (TBON) FAILED USING AN EXTERNAL REGISTER	A-A1S2 OR A-A1G2

ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
5110	HOT ERROR IN THE ADS REGISTER AFTER A RESET	GO TO PAGE 160
5111	HOT ERROR IN THE HES REGISTER AFTER A RESET	GO TO PAGE 160
5120	NO BOPAR ERROR WHEN ONE WAS FORCED	GO TO PAGE 161
5121	D REG ERROR READING THE ADS REGISTER	A-A1R2
5122	HES REG BIT 4 NOT ON FOR A BOPAR ERROR	GO TO PAGE 161
5123	D REG ERROR READING THE HES REGISTER	A-A1S2
5124	ADS REGISTER BIT 4 WILL NOT RESET	GO TO PAGE 162
5130	WRONG DATA DURING A TRANSFER FROM FBO->FO->FI->FBI REGISTERS V1 = EXPECTED DATA V2 = RECEIVED DATA	GO TO PAGE 162
5131	BOPAR ERROR WITH DATA IN THE FO REGISTER	A-A1T2
5132	FBI PARITY ERROR V1 = FBI REGISTER VALUE WHEN THE ERROR OCCURED V2 = ADS REGISTER (BIT 7 SHOULD BE OFF)	GO TO PAGE 163
5133	FI PARITY ERROR V1 = FBI VALUE WHEN ERROR OCCURRED V2 = ADS REGISTER (BIT 7 SHOULD BE OFF)	GO TO PAGE 163
5134	FI REG GATING INCORRECT	GO TO PAGE 164
5150	FI PARITY CHECK FAILED TO SET THE ERROR LATCH	GO TO PAGE 164
5151	FI CHECK LATCH RESET FAILED	A-A1R2 OR A-A1J2
5152	FBI PARITY CHECKER FAILED WHILE USING ADDRESS 02 FOR FBI REG	GO TO PAGE 165
5153	FBI PARITY CHECK RESET FAILED	A-A1R2, A-A1T2 OR A-A1F2
5154	FBI REGISTER PARITY CHECKER FAILED WHILE USING ADDRESS 0A FOR THE FBI REGISTER	A-A1T2
5155	FHF REGISTER BIT 0 OR 1 WILL NOT RESET	A-A1S2 OR A-A1T2
5156	DST REGISTER BITS 0-3 NOT = 0100	GO TO PAGE 166
5157	NO TAG BUS ERROR WHEN FORCED	GO TO PAGE 167
5158	TAG BUS PARITY ERROR WON'T RESET	GO TO PAGE 167
5159	FBI ERROR WITH FTG 7 (ALLOW FBI PARITY CHECK) OFF	A-A1T2
5170	DST REG BITS 0-3 NOT = TO '0100'	A-A1S2 OR A-A1P2
5171	DST REGISTER BIT 0 (ATTACHMENT BUSY) NOT ON AFTER A SIO COMMAND	GO TO PAGE 168

ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
5172	DST REGISTER BIT 0 WILL NOT RESET	A-A1P2
5173	D REG ERROR READING THE DST REGISTER	A-A1P2
5174	ONE OR MORE SEEK LATCHES FAILED TO TURN ON	GO TO PAGE 169
5175	DST REGISTER BITS 4-7 NOT ON WITH THE SEEK COMPLETE LATCHES V1 = DST EXPECTED DATA V2 = DST RECEIVED DATA	A-A1P2
5176	'TIO CONDITION MET' NOT ON WITH SEEK COMPLETE LATCHES ON	GO TO PAGE 170
5177	SEEK COMPLETE LATCHES FAILED TO RESET V1 = EXPECTED DATA V2 = RECEIVED DATA	GO TO PAGE 170
5178	DST REGISTER BITS 4-7 FAILED TO RESET	A-A1P2
5179	TIO ON ATTACHMENT BUSY FAILED TO BRANCH	GO TO PAGE 171
517A	TIO ON ATTACHMENT BUSY BRANCHED WHEN IT SHOULD NOT(ATTACHMENT BUSY OFF)	GO TO PAGE 171
517B	SEEK COMPLETE SET WHILE THE ATTACHMENT WAS DISABLED FOR INTERRUPTS	A-A1P2 OR A-A1Q2

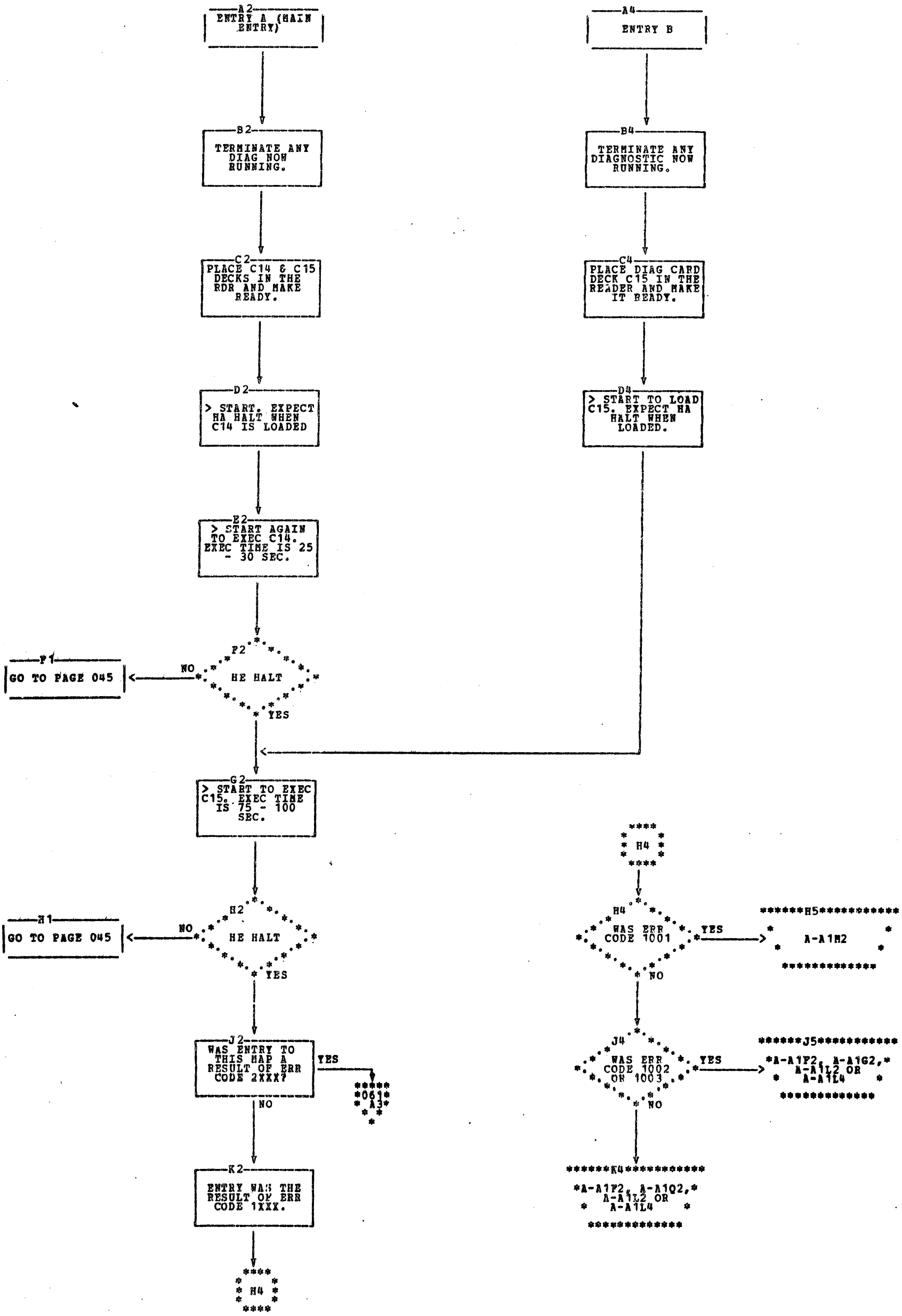
ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
5180	SB0 REG BITS 0-7 NOT = 00 AFTER BEING TURNED OFF.	GO TO PAGE 180
5181	BRANCHED ON A TIO WHEN NO SEEK BUSY WAS ON	GO TO PAGE 180
5182	BRANCHED ON A TIO FOR NOT READY/UNIT CHECK(SHOULD NOT HAVE CONDITION MET)	GO TO PAGE 181
5183	SB0 REGISTER BITS 0-3 DID NOT TURN ON	A-A1S2 OR A-A1Q2
5184	TIO FOR NOT READY/UNIT CHECK FAILED TO BRANCH	GO TO PAGE 181
5185	TIO FOR SEEK BUSY FAILED TO BRANCH	GO TO PAGE 182
5186	SB0 REGISTER BITS 4-7 FAILED TO TURN ON	A-A1S2
5187	ONE OR MORE SEEK BUSY LATCHES FAILED TO RESET	GO TO PAGE 180
5188	D REG ERROR READING SB0 REGISTER	A-A1S2
5189	SENSE BYTE 1 INCORRECT (BITS 0-3 SHOULD BE OFF).	GO TO PAGE 182
518A	SENSE BYTE 1 INCORRECT (BITS 0-3 SHOULD BE ON)	A-A1C2
5190	SB1 REGISTER BITS 1 OR 4 SET OR RESET FAILURE	GO TO PAGE 183
5191	OP END FAILED TO RESET	GO TO PAGE 183
5192	TIO INTERRUPT PENDING BRANCHED WHEN NO INTERRUPT WAS PENDING.	A-A1P2, A-A1Q2 OR A-A1R2
5193	TIO INTERRUPT PENDING FAILED TO BRANCH WHEN AN INTERRUPT SHOULD BE PENDING (USING SB1 BIT 3)	GO TO PAGE 184
5194	OP END BIT NOT IN SENSE BYTE 1	GO TO PAGE 184
5195	OP END WILL NOT RESET	A-A1P2
5196	DSA PROCESSOR HALT DOES NOT CAUSE OP END	A-A1S2
5197	OP END IS ON WITHOUT 'IOP HALT' OR 'SET OP-END '	GO TO PAGE 185
5198	OP END INTERRUPT DID NOT OCCUR WITH OP-END ON	A-A1M2
5199	DATA MODULE ATTENTION BIT FAILS TO TURN OFF	GO TO PAGE 185
519A	DATA MODULE ATTENTION BIT FAILS TO TURN ON	GO TO PAGE 186
51A0	FILE TRAP FAILED TO STEP ALS DATA STORAGE ADDRESS.	GO TO PAGE 187
51A1	FI/FBI ERROR	A-A1R2 OR A-A1T2

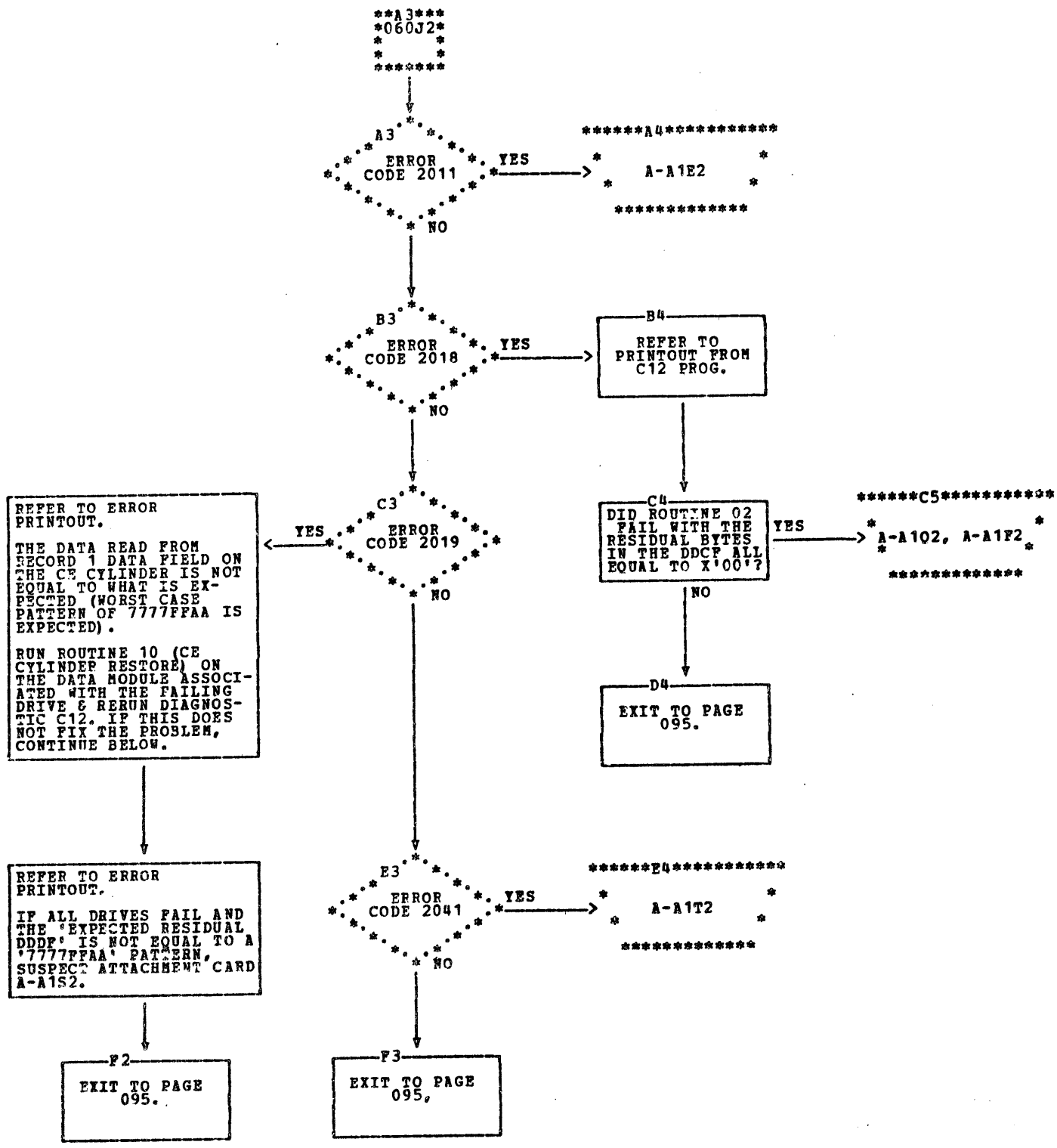
ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
51A2	CONTROL STORAGE CONTENTS (DATA) IS INCORRECT AFTER ODD BYTE TRANSFER DATA AT CS 0600 SHD = 00FF DATA AT CS 0601 SHD = FFXX	A-A1J2, A-A1R2, A-A1S2, A-A1D2 OR A-A1T2
51A3	FHF REGISTER BIT 7 (EOF COUNT) FAILED TO SET.	GO TO PAGE 188
51A4	FHF REGISTER BIT 4 (END OF TRAP COUNT) FAILED TO SET.	GO TO PAGE 189
51A5	CONTROL STORAGE CONTENTS (DATA) INCORRECT. CS 0600 DATA SHD BE = FFFF	A-A1J2, A-A1S2 OR A-A1T2
51A6	FILE TRANSFER ERROR WILL NOT RESET	A-A1J2
51A7	FILE TRANSFER ERROR WILL NOT TURN ON.	GO TO PAGE 189
51A8	FILE TRAPS OCCURRED WITHOUT SCN BIT 4 ON.	A-A1J2
51A9	FILE TRAPS OCCURRED WITHOUT SET FCT (FILE CTR)	GO TO PAGE 190
51AA	FHF REGISTER BIT 4 OR 7 FAILED TO RESET.	GO TO PAGE 190
51AB	FILE TRAPS OCCURRED WITH SCN BIT 7 ON.	A-A1J2
51AC	SET FO SIGNAL FAILED ON A FILE WRITE OPERATION.	GO TO PAGE 191
51AD	TRAP A OCCURRED WITH FTR 4 (DISABLE ERROR TRAP) ON	A-A1S2
51AE	TRAP A DID NOT OCCUR WHEN EXPECTED	GO TO PAGE 191

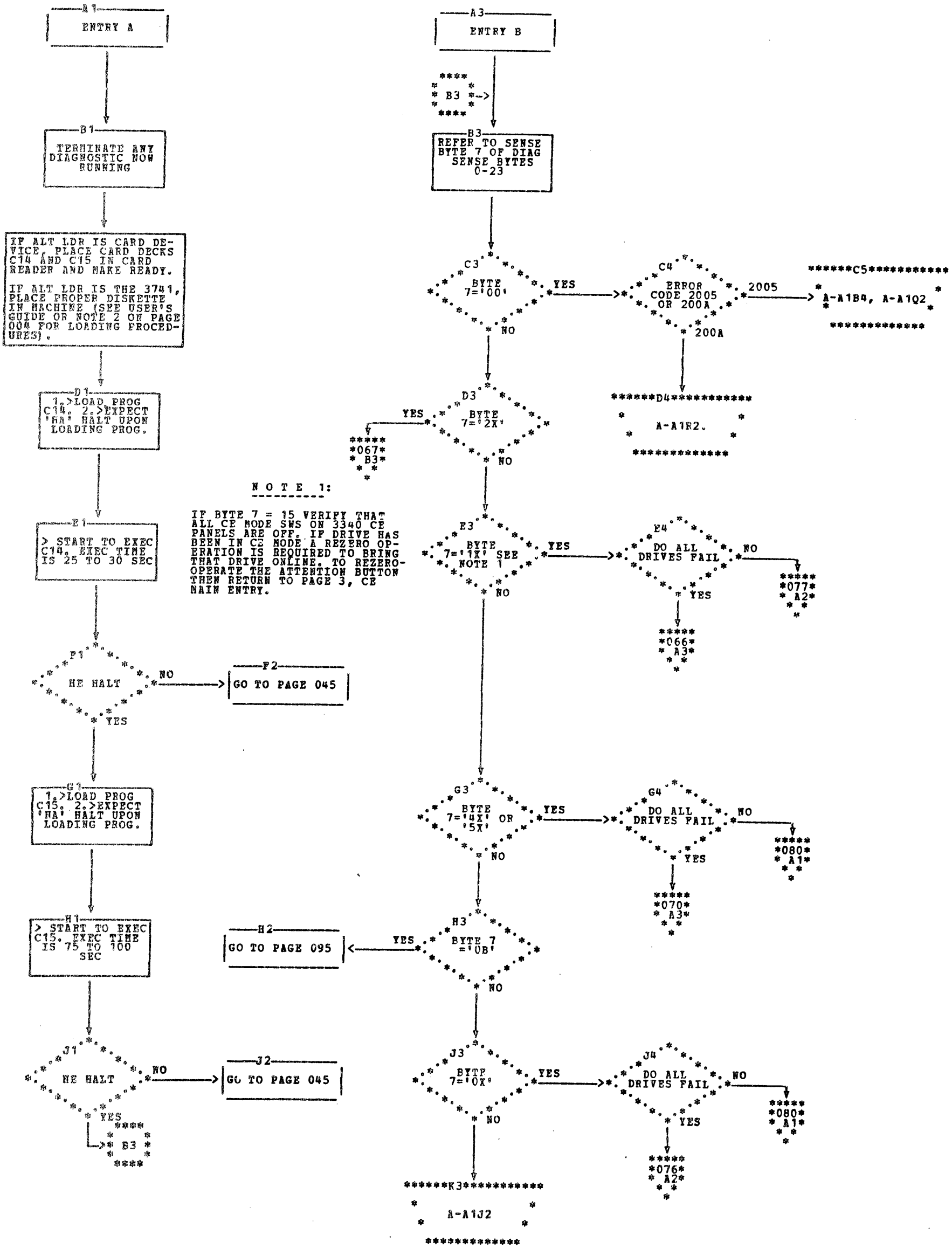
ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
51C0	FHF REGISTER BITS 5 AND/OR 6 FAILED TO RESET.	GO TO PAGE 200
51C1	TRAP C DID NOT FUNCTION FOR A SCAN OPERATION.	GO TO PAGE 200
51C2	SCAN RESULTS INCORRECT (FHF 5 OR 6)	GO TO PAGE 201
51C3	TIO FOR SCAN HIT INDICATES SCAN HIT WHEN NO HIT OCCURRED.	A-A1Q2
51C4	A SCAN HIT OCCURRED, BUT TIO DOES NOT BRANCH.	A-A1Q2
51D0	RECYCLE FAILED TO SET WHEN FILE COUNTER WAS GREATER THAN 7.	GO TO PAGE 201
51D1	RECYCLE FAILED TO RESET WHEN FILE COUNTER WAS EQUAL TO OR LESS THAN 7.	A-A1R2
51D2	END OF FILE TRANSFER (FHF BIT 7) NOT ON WHEN EXPECTED.	A-A1R2
51D3	FORCED RECYCLE CONDITION (FTG REG BIT 2) DID NOT BRING UP RECYCLE.	A-A1R2
51D4	UNEXPECTED TYPE ERROR. PROCESSOR HALTED BEFORE THE TEST WAS COMPLETE.	RE-RUN DIAGNOSTIC C14
51D5	ALS DATA STORAGE ADDRESS NOT INCREMENTED CORRECTLY.	A-A1J2, A-A1R2
51F0	D REG ERROR WHILE TESTING C00 AND C02 DATA PATH IN TO THE ATTACHMENT.	A-A1P2 OR A-A1Q2
51F1	DATA MISCOMPARE WHILE TESTING C00 AND C02 DATA PATH IN TO THE ATTACHMENT.	GO TO PAGE 202
51F3	CI PARITY CHECK DURING A LSR CYCLE STEAL.	GO TO PAGE 202
51F4	DDDR (LSR) NOT UPDATED PROPERLY.	GO TO PAGE 203
51F5	DDDR WAS NOT RECEIVED CORRECTLY IN THE ATTACHMENT WITH LSR CYCLE STEAL.	GO TO PAGE 204
51F6	CI PARITY CHECK FAILED TO DETECT AN ERROR.	GO TO PAGE 204
51F7	CI0 REGISTER GATING FAILED.	GO TO PAGE 205
51F8	CHAN BIN SUBTRACT FAILED ON AN LSR CYCLE STEAL UPDATE	GO TO PAGE 205
5200	CI PARITY CHECK DURING CHANNEL STORE SINGLE BYTE TEST.	A-A1P2
5201	ALS DATA STORAGE ADDRESS FAILED TO INCREMENT TO THE CORRECT VALUE.	GO TO PAGE 206
5202	DDDR OR DDCR FAILED TO INCREMENT CORRECTLY.	GO TO PAGE 207
5203	DDDF OR DDCF IN S/3 MAIN STORAGE IS NOT AS EXPECTED.	A-A1P2, A-A1M2 OR A-A1E2
5204	CHANNEL TRAP PROGRAM EXECUTED, IT SHOULD NOT	A-A1M2

ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
5220	CHANNEL TRANSFER MICRO PROGRAM FAILED TO COMPLETE.	A-A1Q2, A-A1M2, A-A1R2, A-A1H2 OR A-A1J2
5221	DATA IN CONTROL STORAGE NOT AS EXPECTED	GO TO PAGE 208
5222	RCS PARITY CHECK DURING DATA TRANSFER TO THE ATTACHMENT.	GO TO PAGE 209
5223	CHANNEL TRANSFER CHECK DURING DATA TRANSFER	A-A1P2
5224	ALS DATA STORAGE ADDRESS NOT CORRECT AFTER DATA TRANSFER.	GO TO PAGE 206
5225	CI PARITY CHECK DURING DATA TRANSFER	GO TO PAGE 210
5226	DDDF (DATA) IN S/3 MAIN STOR NOT AS EXPECTED	GO TO PAGE 210
5227	DATA IN CONTROL STORAGE NOT AS EXPECTED AFTER DATA TRANSFER TO THE ATTACHMENT STARTING WITH AN ODD ADDRESS IN MAIN STOR.	GO TO PAGE 211
5228	DDDF IN S/3 MAIN STORAGE NOT AS EXPECTED AFTER DATA TRANSFER FROM THE ATTACHMENT	A-A1P2
5229	CI PARITY CHECK DURING DATA TRANSFER FROM THE ATTACHMENT.	A-A1M2
522A	DDDR (LSR) NOT AS EXPECTED AFTER DATA TRANSFER.	A-A1M2
522B	DATA TRANSFER TO THE ATTACHMENT STARTED ON AN EVEN BYTE INSTEAD OF AN ODD BYTE IN CONTROL STORAGE.	GO TO PAGE 211
522C	MAIN STORAGE WAS ALTERED DURING A CHANNEL XFER TO THE FILE ATTACHMENT	A-A1M2
5240	DIFFERENCE COUNTER FAILURE.	A-A1P2 OR A-A1J2
5241	RCS PARITY CHECK FAILED TO COME ON WHEN FORCED (BAD PARITY FORCED WITH FTR 6)	GO TO PAGE 211

ERROR CODE	DESCRIPTION OF ERROR HALT	CE ACTION
6001	UNEXPECTED ERROR IN DSA PROCESSOR	EXECUTE DIAG C11 (CONTROL STOR TEST). IF AN ERROR IS DETECTED ENTER ERROR CODE DICTIONARY. IF NO ERROR GO TO PAGE 060 ENTRY A
6002	UNEXPECTED ERROR IN DSA PROCESSOR	GO TO PAGE 060 ENTRY A
6003	SIO IPL FAILED WHEN ATTEMPTING TO LOAD THE FUNCTIONAL MICROCODE (FA0).	REMOVE DRIVE 1 FROM CE MODE OR IF FAILURE PERSISTS, USE THE ALTERNATE LOAD DEVICE.
6004	UNABLE TO START THE MICROPROCESSOR AFTER LOADING THE FUNCTIONAL MICROCODE (FA0) IN CONTROL STORAGE.	RUN DIAGNOSTICS C11 AND C14 TO DETERMINE FAILURE.

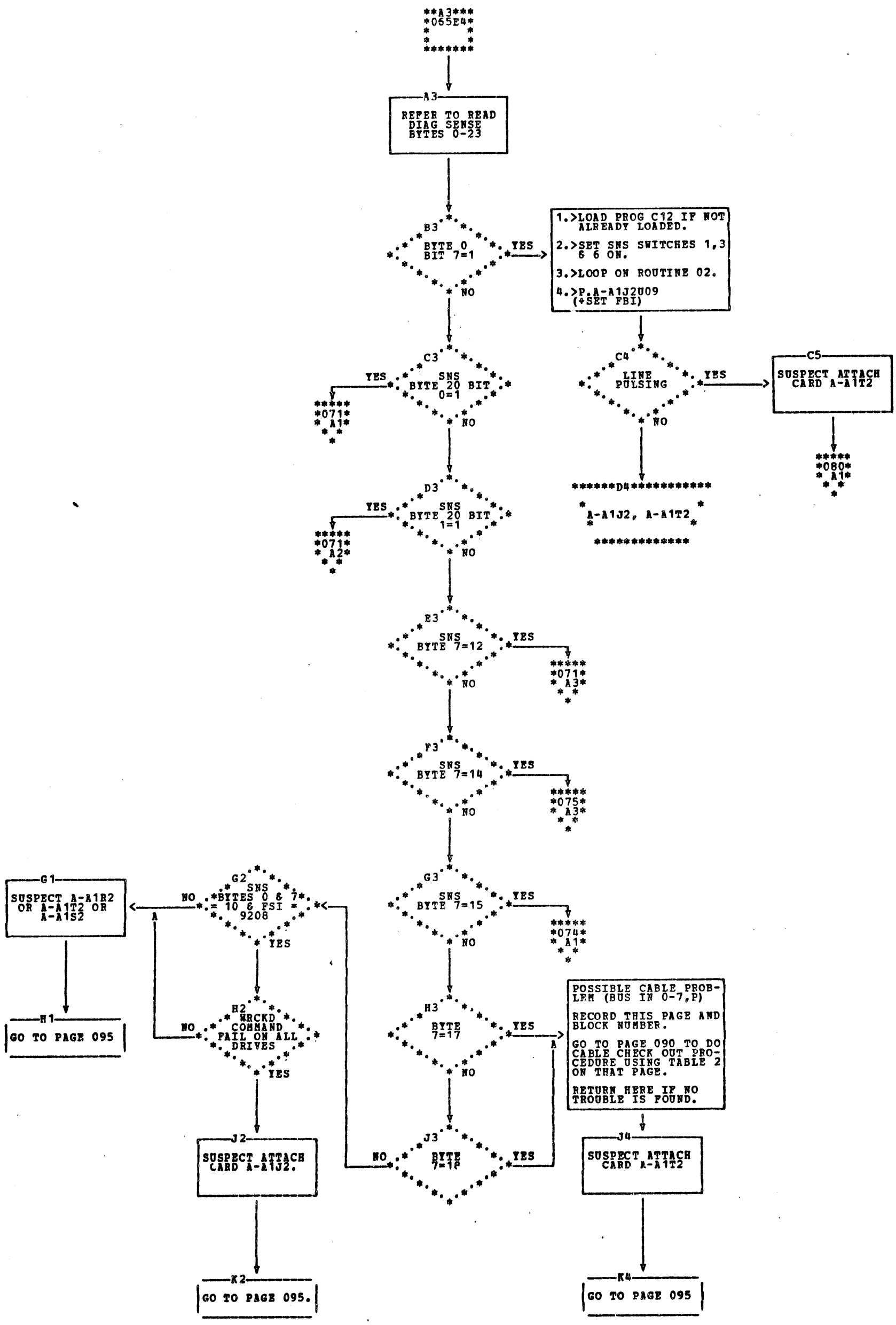

A2
ENTRY A (MAIN ENTRY)
B2
TERMINATE ANY DIAG NOW RUNNING.
C2
PLACE C14 & C15 DECKS IN THE RDR AND MAKE READY.
D2
> START. EXPECT HA HALT WHEN C14 IS LOADED
E2
> START AGAIN TO EXEC C14. EXEC TIME IS 25 - 30 SEC.
F2
HE HALT
NO
F1
GO TO PAGE 045
YES
G2
> START TO EXEC C15. EXEC TIME IS 75 - 100 SEC.
H2
HE HALT
NO
H1
GO TO PAGE 045
YES
J2
WAS ENTRY TO THIS MAP A RESULT OF ERR CODE 2XXX?
YES
061
* A3*
NO
K2
ENTRY WAS THE RESULT OF ERR CODE 1XXX.
****
* H4 *
****
A4
ENTRY B
B4
TERMINATE ANY DIAGNOSTIC NOW RUNNING.
C4
PLACE DIAG CARD DECK C15 IN THE READER AND MAKE IT READY.
D4
> START TO LOAD C15. EXPECT HA HALT WHEN LOADED.
****
* H4 *
****
H4
WAS ERR CODE 1001
YES
******H5**********
A-A1M2
****
NO
J4
WAS ERR CODE 1002 OR 1003
YES
******J5**********
A-A1F2, A-A1G2,
A-A1L2 OR
A-A1L4
****
NO
******K4**********
A-A1F2, A-A1Q2,
A-A1L2 OR
A-A1L4
****

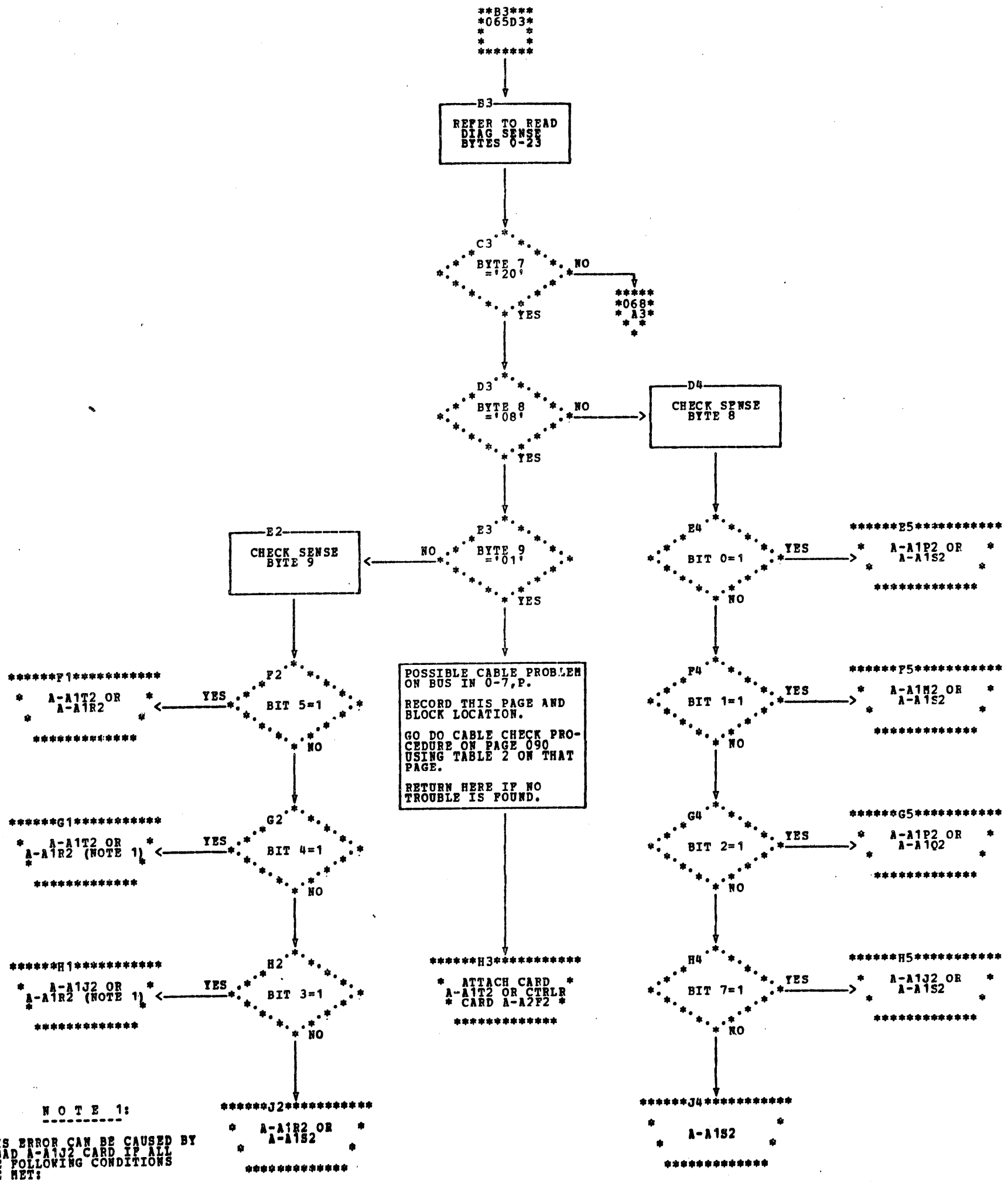

A3*
060J2
A3
ERROR CODE 2011
YES
******A4**********
A-A1E2
NO
B3
ERROR CODE 2018
YES
B4
REFER TO PRINTOUT FROM C12 PROG.
NO
C3
ERROR CODE 2019
YES
REFER TO ERROR PRINTOUT.
THE DATA READ FROM RECORD 1 DATA FIELD ON THE CE CYLINDER IS NOT EQUAL TO WHAT IS EXPECTED (WORST CASE PATTERN OF 7777FFAA IS EXPECTED).
RUN ROUTINE 10 (CE CYLINDER RESTORE) ON THE DATA MODULE ASSOCIATED WITH THE FAILING DRIVE & RERUN DIAGNOSTIC C12. IF THIS DOES NOT FIX THE PROBLEM, CONTINUE BELOW.
NO
C4
DID ROUTINE 02 FAIL WITH THE RESIDUAL BYTES IN THE DDCF ALL EQUAL TO X'00'?
YES
******C5**********
A-A1Q2, A-A1F2
NO
D4
EXIT TO PAGE 095.
E3
ERROR CODE 2041
YES
******E4**********
A-A1T2
REFER TO ERROR PRINTOUT.
IF ALL DRIVES FAIL AND THE 'EXPECTED RESIDUAL DDDF' IS NOT EQUAL TO A '7777FFAA' PATTERN, SUSPECT ATTACHMENT CARD A-A1S2.
NO
F2
EXIT TO PAGE 095.
F3
EXIT TO PAGE 095.



N O T E 1:

IF BYTE 7 = 15 VERIFY THAT ALL CE MODE SWS ON 3340 CE PANELS ARE OFF. IF DRIVE HAS BEEN IN CE MODE A REZERO OPERATION IS REQUIRED TO BRING THAT DRIVE ONLINE. TO REZERO-OPERATE THE ATTENTION BUTTON THEN RETURN TO PAGE 3, CE MAIN ENTRY.


A3*
065E4
A3
REFER TO READ DIAG SENSE BYTES 0-23
B3
BYTE 0 BIT 7=1
YES
NO
1.>LOAD PROG C12 IF NOT ALREADY LOADED.
2.>SET SNS SWITCHES 1,3 6 6 ON.
3.>LOOP ON ROUTINE 02.
4.>P.A-A1J2U09 (+SET FBI)
C3
SNS BYTE 20 BIT 0=1
YES
NO
071 A1*
C4
LINE PULSING
YES
NO
C5
SUSPECT ATTACH CARD A-A1T2
080 A1*
D3
SNS BYTE 20 BIT 1=1
YES
NO
071 A2*
******D4**********
A-A1J2, A-A1T2
****
E3
SNS BYTE 7=12
YES
NO
071 A3*
F3
SNS BYTE 7=14
YES
NO
075 A3*
G3
SNS BYTE 7=15
YES
NO
074 A1*
G1
SUSPECT A-A1R2 OR A-A1T2 OR A-A1S2
G2
SNS BYTES 0 & 7 = 10 & FSI = 9208
NO
YES
A
H1
GO TO PAGE 095
H2
WRCKD COMMAND FAIL ON ALL DRIVES
NO
YES
H3
BYTE 7=17
YES
NO
A
POSSIBLE CABLE PROBLEM (BUS IN 0-7,P)
RECORD THIS PAGE AND BLOCK NUMBER.
GO TO PAGE 090 TO DO CABLE CHECK OUT PROCEDURE USING TABLE 2 ON THAT PAGE.
RETURN HERE IF NO TROUBLE IS FOUND.
J2
SUSPECT ATTACH CARD A-A1J2.
J3
BYTE 7=1?
NO
YES
J4
SUSPECT ATTACH CARD A-A1T2
K2
GO TO PAGE 095.
K4
GO TO PAGE 095

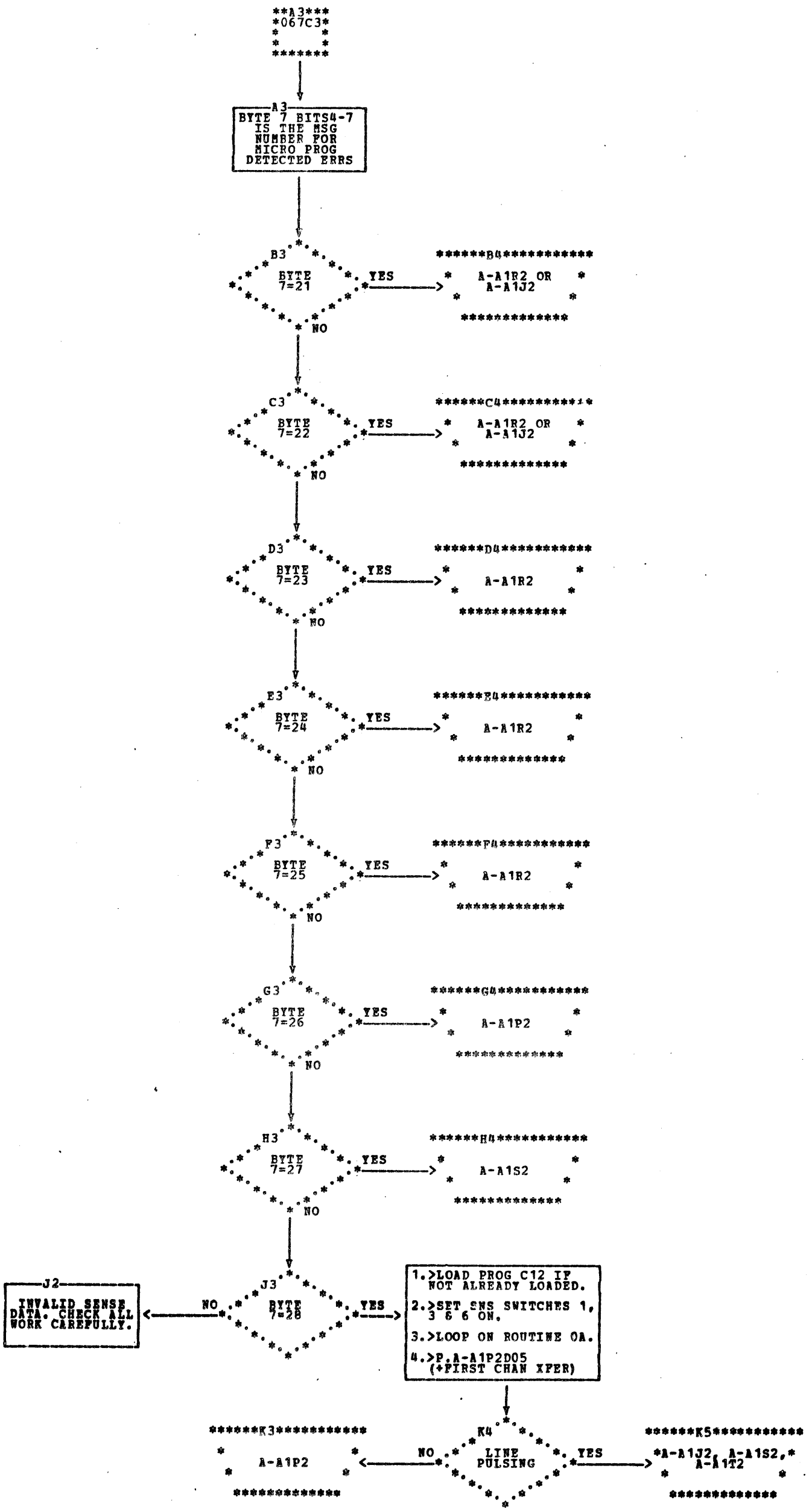


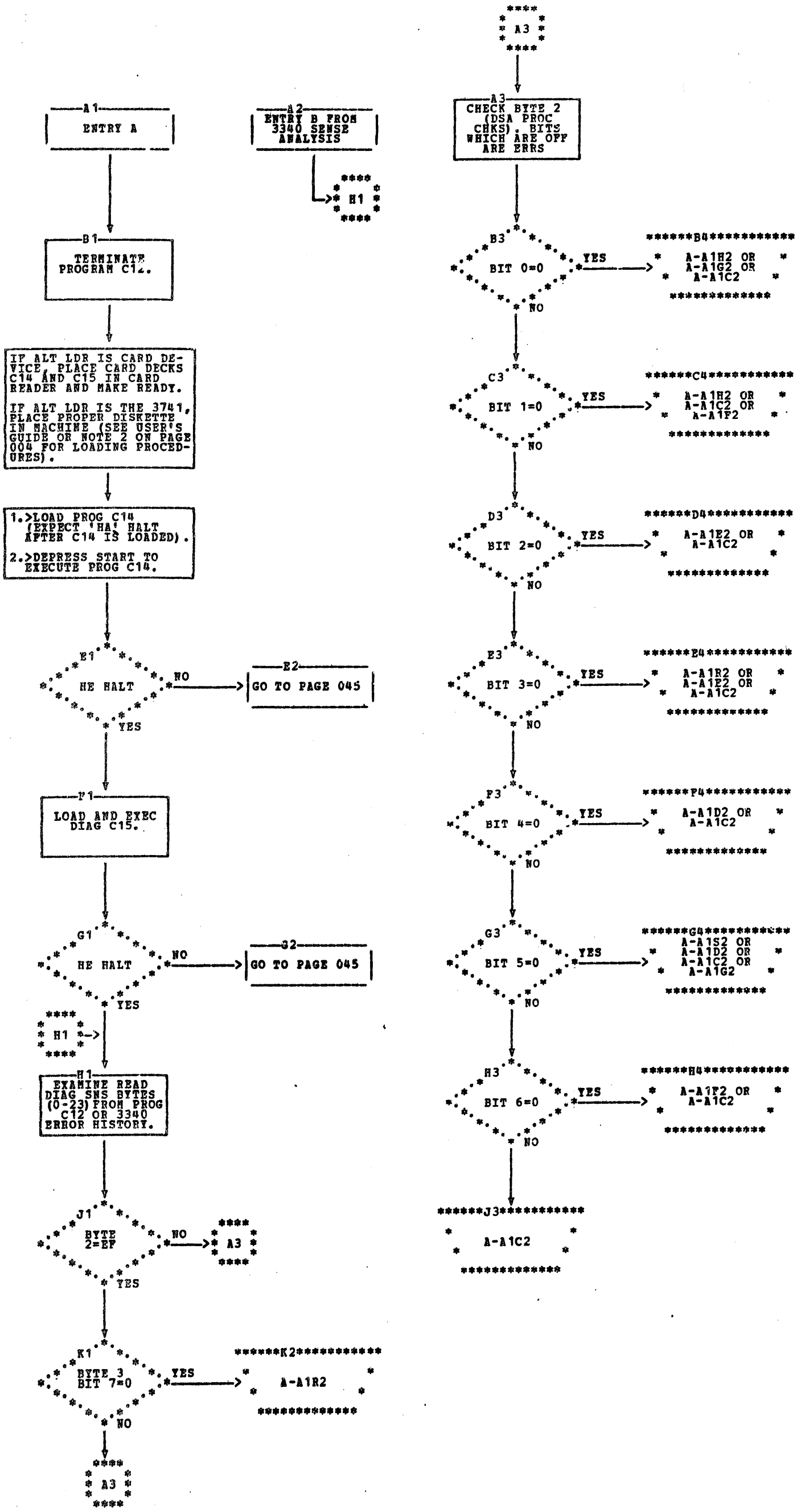
N O T E 1:

THIS ERROR CAN BE CAUSED BY A BAD A-A1J2 CARD IF ALL THE FOLLOWING CONDITIONS ARE MET:

1. A WRCKD COMMAND ISSUED TO EACH DRIVE FAILS.
2. BYTE 9 UNDER FORMAT 2 IS X'10' OR X'18'.

IT SHOULD BE NOTED THAT THE A-A1J2 CARD CAN CAUSE A FORMAT 1 MESSAGE 0 ERROR ON A WCKD COMMAND WITH AN FSI OF 9208.


A3*
067C3
A3
BYTE 7 BITS4-7 IS THE MSG NUMBER FOR MICRO PROG DETECTED ERRS
B3
BYTE 7=21
YES
******B4**********
A-A1R2 OR A-A1J2
NO
C3
BYTE 7=22
YES
******C4**********
A-A1R2 OR A-A1J2
NO
D3
BYTE 7=23
YES
******D4**********
A-A1R2
NO
E3
BYTE 7=24
YES
******E4**********
A-A1R2
NO
F3
BYTE 7=25
YES
******F4**********
A-A1R2
NO
G3
BYTE 7=26
YES
******G4**********
A-A1P2
NO
H3
BYTE 7=27
YES
******H4**********
A-A1S2
NO
J3
BYTE 7=28
NO
YES
J2
INVALID SENSE DATA. CHECK ALL WORK CAREFULLY.
1.>LOAD PROG C12 IF NOT ALREADY LOADED.
2.>SET SNS SWITCHES 1, 3 6 6 ON.
3.>LOOP ON ROUTINE 0A.
4.>P,A-A1P2D05 (+FIRST CHAN XFER)
K4
LINE PULSING
NO
YES
******K3**********
A-A1P2
******K5**********
A-A1J2, A-A1S2, A-A1T2


A1
ENTRY A
A2
ENTRY B FROM 3340 SENSE ANALYSIS
A3
CHECK BYTE 2 (DSA PROC CHKS). BITS WHICH ARE OFF ARE ERRS
B1
TERMINATE PROGRAM C12.
IF ALT LDR IS CARD DEVICE, PLACE CARD DECKS C14 AND C15 IN CARD READER AND MAKE READY.
IF ALT LDR IS THE 3741, PLACE PROPER DISKETTE IN MACHINE (SEE USER'S GUIDE OR NOTE 2 ON PAGE 004 FOR LOADING PROCEDURES).
1.>LOAD PROG C14 (EXPECT 'HA' HALT AFTER C14 IS LOADED).
2.>DEPRESS START TO EXECUTE PROG C14.
E1
HE HALT
NO
YES
E2
GO TO PAGE 045
F1
LOAD AND EXEC DIAG C15.
G1
HE HALT
NO
YES
G2
GO TO PAGE 045
H1
H1
EXAMINE READ DIAG SNS BYTES (0-23) FROM PROG C12 OR 3340 ERROR HISTORY.
J1
BYTE 2=EF
NO
YES
A3
K1
BYTE 3 BIT 7=0
YES
NO
******K2**********
A-A1R2
A3
B3
BIT 0=0
YES
NO
******B4**********
A-A1H2 OR
A-A1G2 OR
A-A1C2
C3
BIT 1=0
YES
NO
******C4**********
A-A1H2 OR
A-A1C2 OR
A-A1F2
D3
BIT 2=0
YES
NO
******D4**********
A-A1E2 OR
A-A1C2
E3
BIT 3=0
YES
NO
******E4**********
A-A1R2 OR
A-A1E2 OR
A-A1C2
F3
BIT 4=0
YES
NO
******F4**********
A-A1D2 OR
A-A1C2
G3
BIT 5=0
YES
NO
******G4**********
A-A1S2 OR
A-A1D2 OR
A-A1C2 OR
A-A1G2
H3
BIT 6=0
YES
NO
******H4**********
A-A1F2 OR
A-A1C2
******J3**********
A-A1C2

A3*
065G4
* *
* *
****

A3
REFER TO READ DIAG SENSE BYTES 0-23

---IMPORTANT---

SSS L DDDD
S S L D D
S L D D
S L D D
S S L D D
SSS LLLLL DDDD

-SLD- LEVEL AND 3340 CONTROLLER BOARD WILL BE PROBED ON THIS PAGE

B3
SNS BYTE 7=43 — NO →
YES ↓

C3
RESIDUAL DDCF DATA LENGTH > 000F (NOTE 1) — NO →
YES ↓

D3
LOAD DIAG C1A FROM CARDS AND EXECUTE

E3
AFTER MSG 'TEST IS LOOPING' IS PRINTED, C1A RUNS CONTINUOUSLY

F3
SLD PROBE IN THE CONTROLLER A-A2G2U12 (+RECYCLE)

G3
LINE PULSING — YES → G4: GO TO PAGE 095
NO ↓

THIS IS A POSSIBLE CABLE PROBLEM (RECYCLE LINE).

RECORD THIS PAGE AND BLOCK LOCATION.

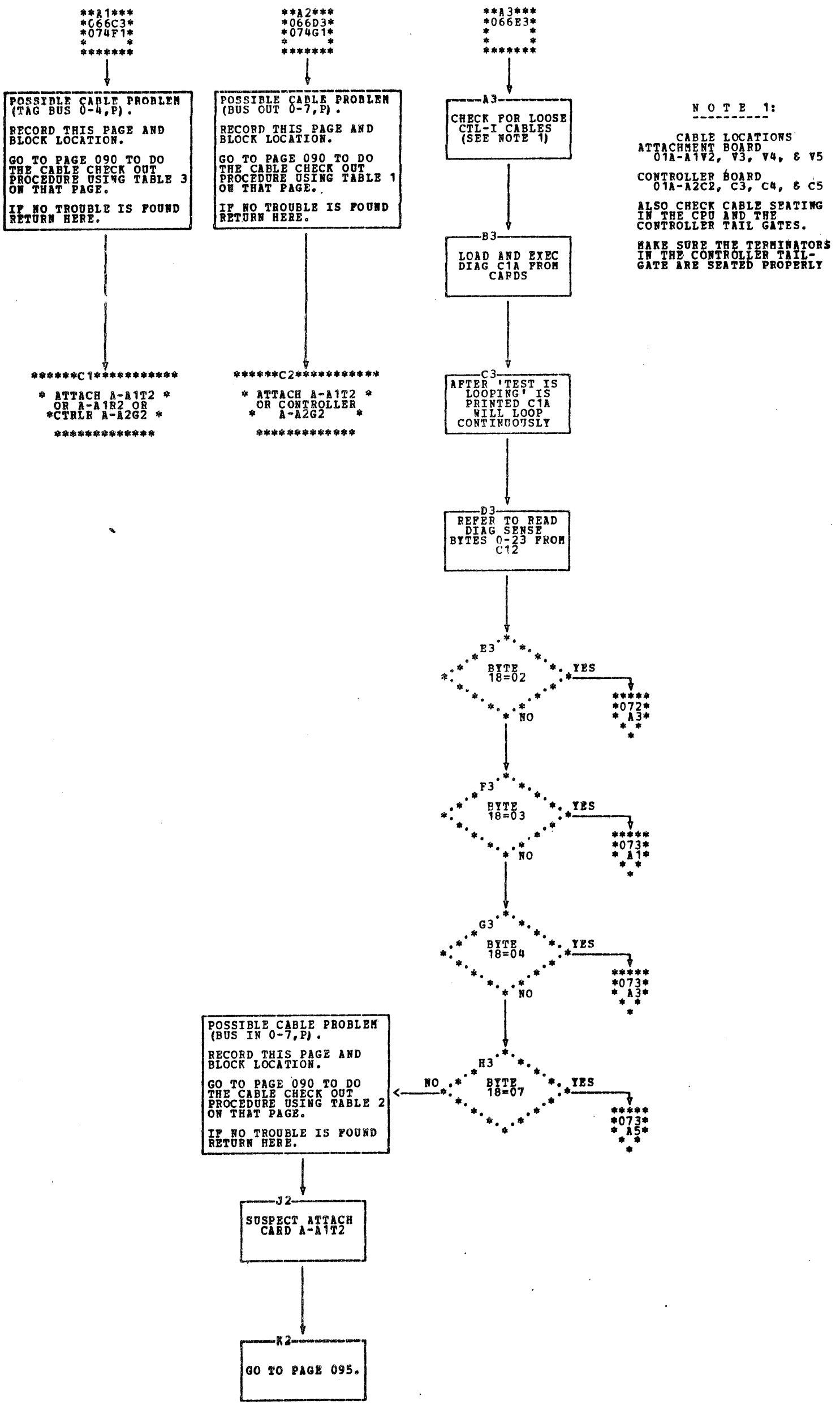
GO TO PAGE 090 TO DO THE CABLE CHECK PROCEDURE USING TABLE 4 ON THAT PAGE.

RETURN HERE IF NO TROUBLE IS FOUND.

******J3**********
*REPLACE ATTACH *
CARD A-A1T2
* *
****

N O T E 1:

RESIDUAL DDCF DATA LENGTH (SHOWN AS 4 HEX DIGITS UNDER 'DLDL') IS DISPLAYED IN THE ERROR PRINT-OUT. USE LINE LABELED 'R' (RESIDUAL)



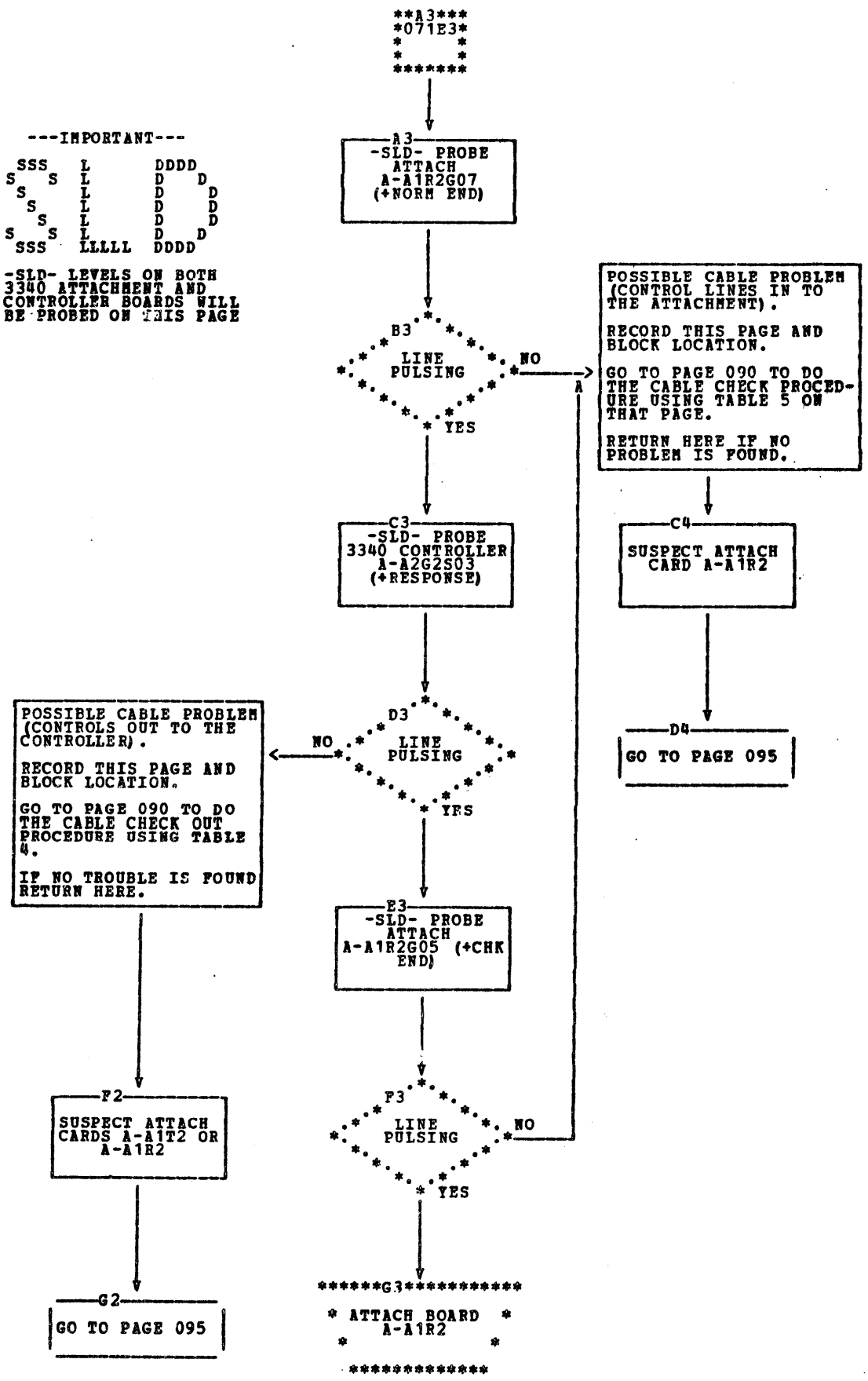
N O T E 1:

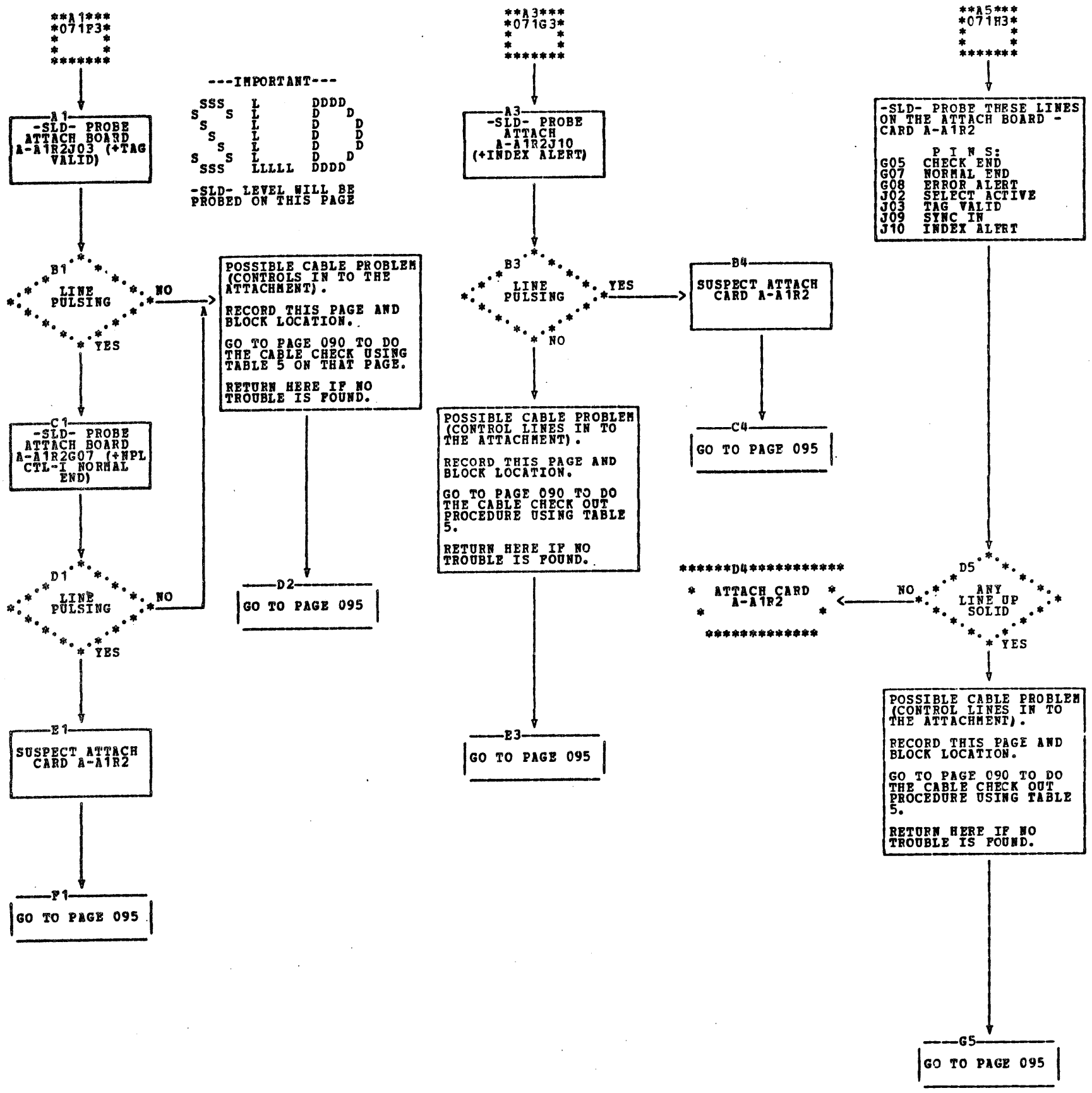
CABLE LOCATIONS
ATTACHMENT BOARD
01A-A1J2, J3, J4, & J5

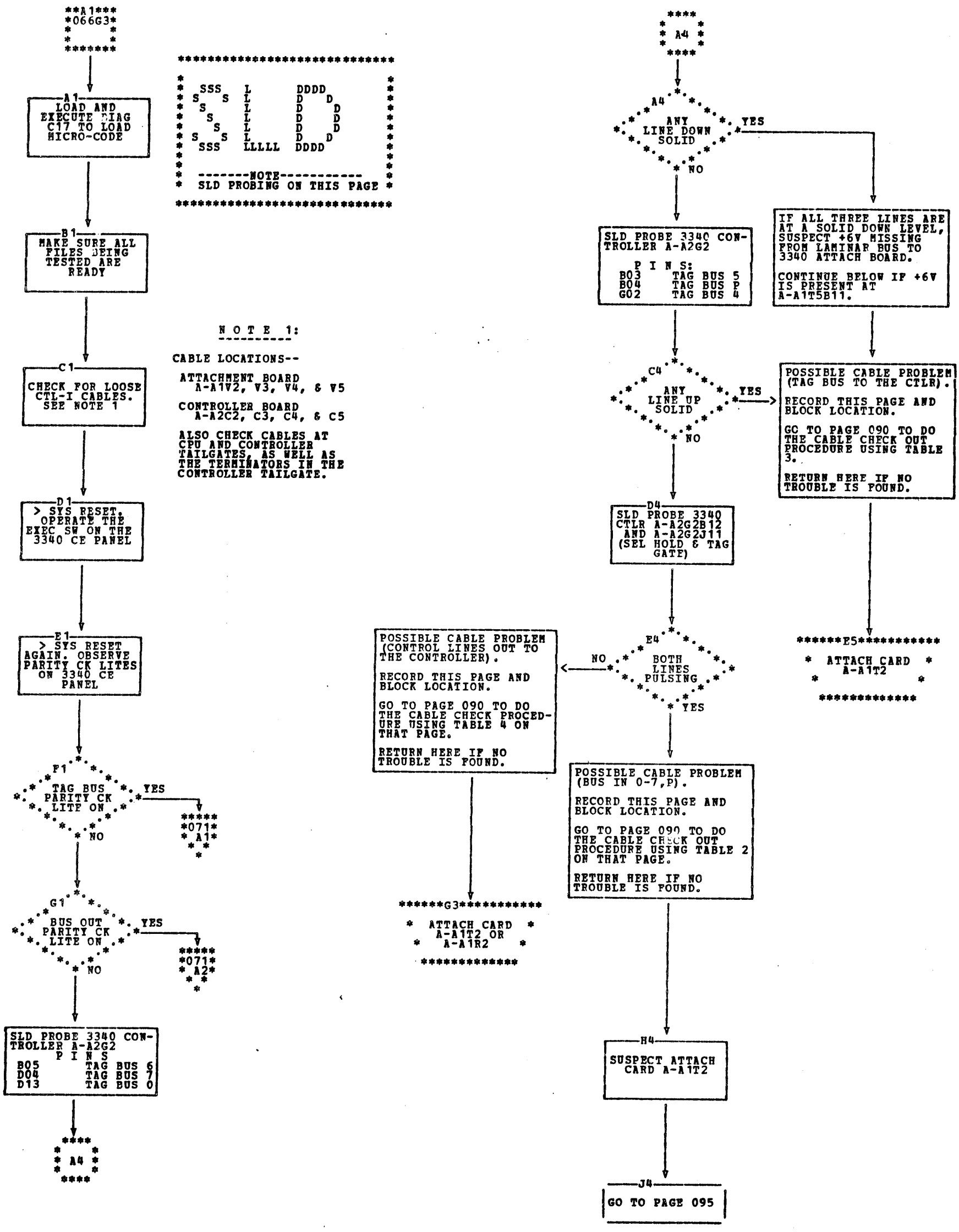
CONTROLLER BOARD
01A-A2C2, C3, C4, & C5

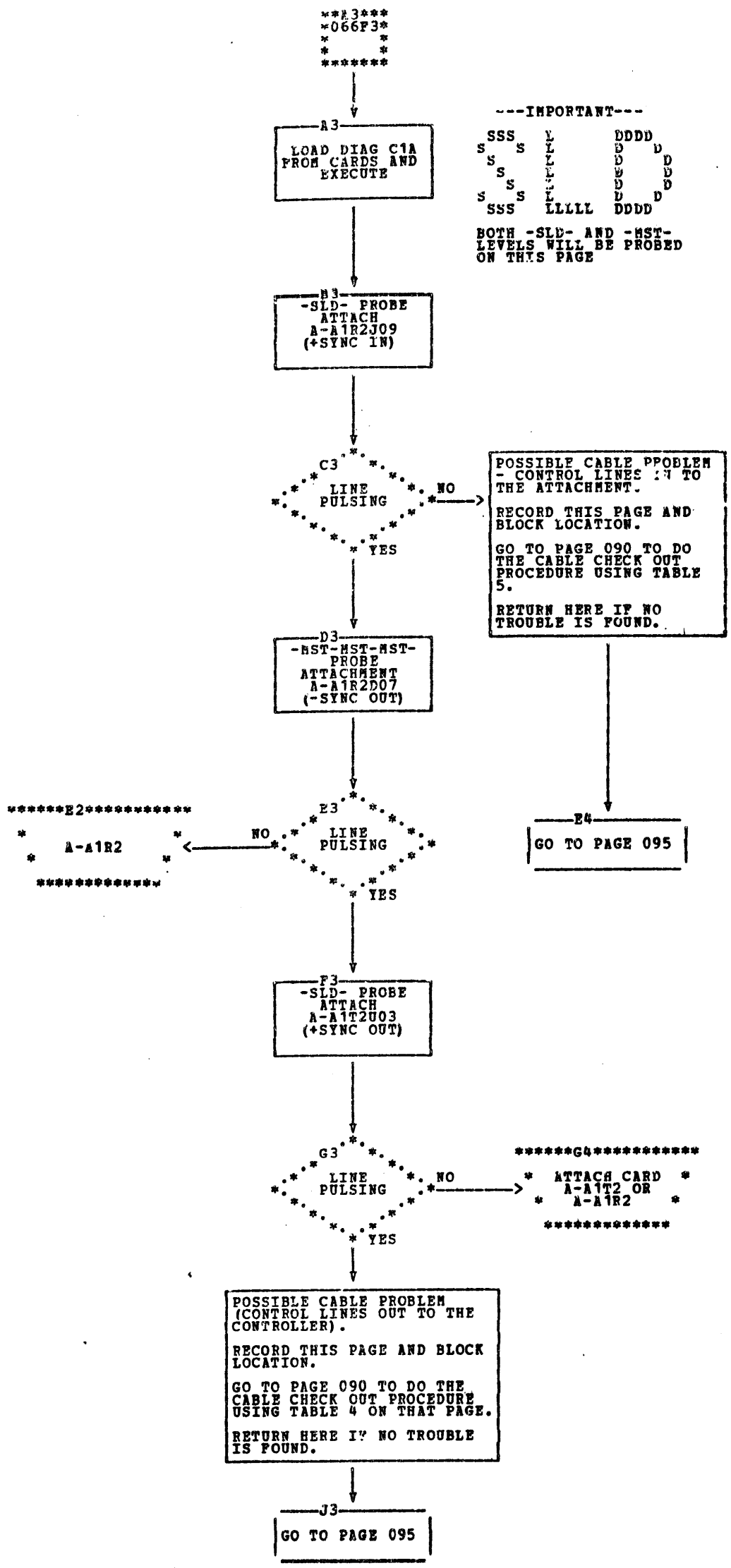
ALSO CHECK CABLE SEATING IN THE CPU AND THE CONTROLLER TAIL GATES.

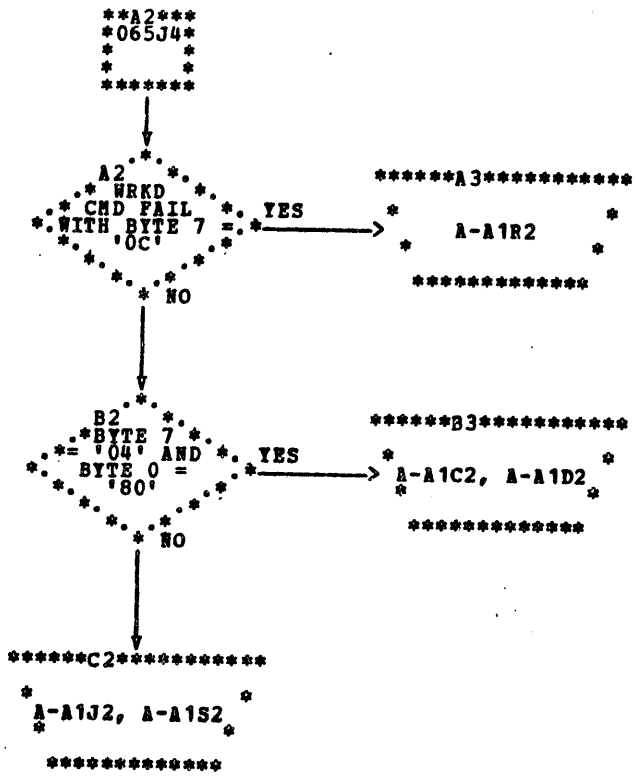
MAKE SURE THE TERMINATORS IN THE CONTROLLER TAIL-GATE ARE SEATED PROPERLY

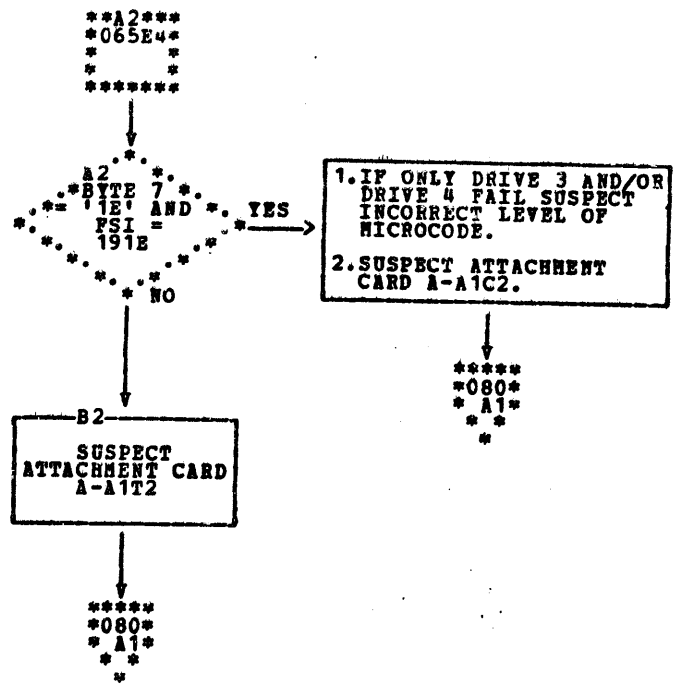

A3*
071E3
****
A3
-SLD- PROBE ATTACH A-A1R2G07 (+NORM END)
---IMPORTANT---
SSS L DDDD
S S L D D
S L D D
S L D D
S S L D D
SSS LLLLL DDDD
-SLD- LEVELS ON BOTH 3340 ATTACHMENT AND CONTROLLER BOARDS WILL BE PROBED ON THIS PAGE
B3
LINE PULSING
NO
YES
A
POSSIBLE CABLE PROBLEM (CONTROL LINES IN TO THE ATTACHMENT).
RECORD THIS PAGE AND BLOCK LOCATION.
GO TO PAGE 090 TO DO THE CABLE CHECK PROCEDURE USING TABLE 5 ON THAT PAGE.
RETURN HERE IF NO PROBLEM IS FOUND.
C3
-SLD- PROBE 3340 CONTROLLER A-A2G2S03 (+RESPONSE)
C4
SUSPECT ATTACH CARD A-A1R2
D3
LINE PULSING
NO
YES
D4
GO TO PAGE 095
POSSIBLE CABLE PROBLEM (CONTROLS OUT TO THE CONTROLLER).
RECORD THIS PAGE AND BLOCK LOCATION.
GO TO PAGE 090 TO DO THE CABLE CHECK OUT PROCEDURE USING TABLE 4.
IF NO TROUBLE IS FOUND RETURN HERE.
E3
-SLD- PROBE ATTACH A-A1R2G05 (+CHK END)
F2
SUSPECT ATTACH CARDS A-A1T2 OR A-A1R2
P3
LINE PULSING
NO
YES
G2
GO TO PAGE 095
******G3**********
* ATTACH BOARD A-A1R2 *
****

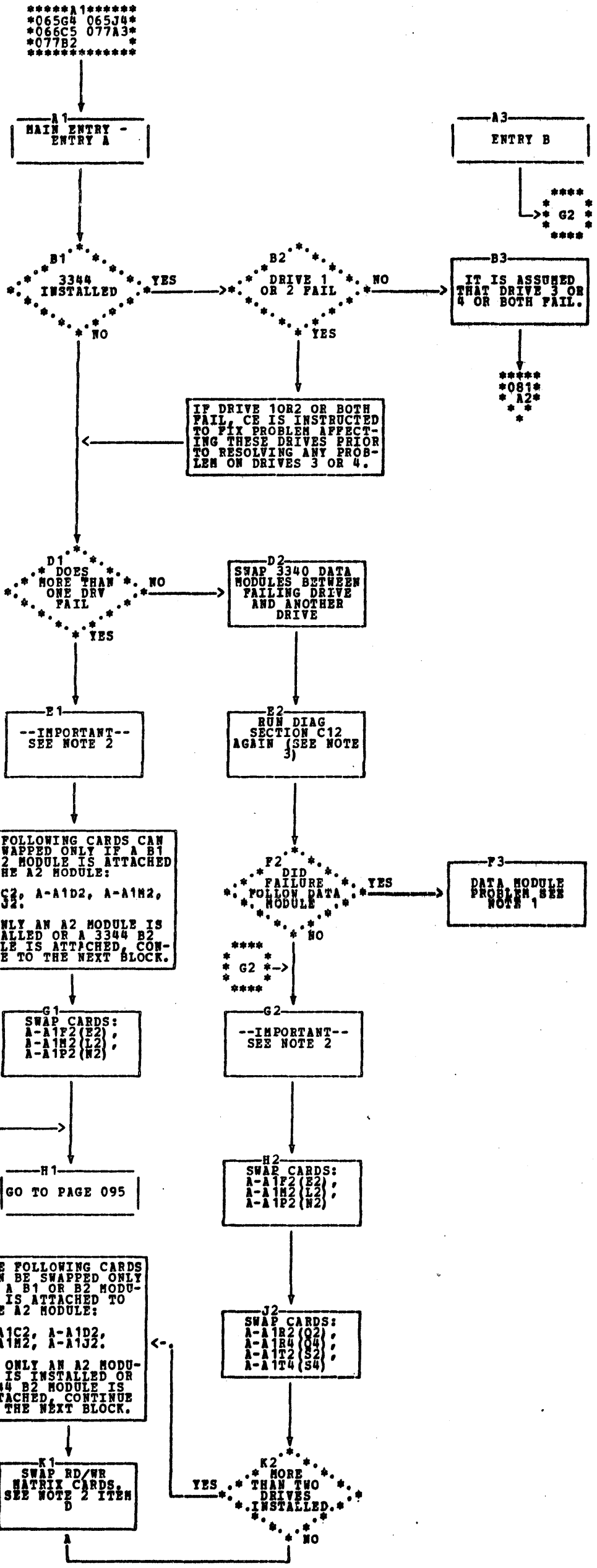

A1*
071F3
A1
-SLD- PROBE ATTACH BOARD A-A1R2J03 (+TAG VALID)
B1
LINE PULSING
NO
YES
C1
-SLD- PROBE ATTACH BOARD A-A1R2G07 (+NPL CTL-I NORMAL END)
D1
LINE PULSING
NO
YES
E1
SUSPECT ATTACH CARD A-A1R2
F1
GO TO PAGE 095
---IMPORTANT---
-SLD- LEVEL WILL BE PROBED ON THIS PAGE
POSSIBLE CABLE PROBLEM (CONTROLS IN TO THE ATTACHMENT).
RECORD THIS PAGE AND BLOCK LOCATION.
GO TO PAGE 090 TO DO THE CABLE CHECK USING TABLE 5 ON THAT PAGE.
RETURN HERE IF NO TROUBLE IS FOUND.
A
D2
GO TO PAGE 095
A3*
071G3
A3
-SLD- PROBE ATTACH A-A1R2J10 (+INDEX ALERT)
B3
LINE PULSING
YES
NO
B4
SUSPECT ATTACH CARD A-A1R2
C4
GO TO PAGE 095
POSSIBLE CABLE PROBLEM (CONTROL LINES IN TO THE ATTACHMENT).
RECORD THIS PAGE AND BLOCK LOCATION.
GO TO PAGE 090 TO DO THE CABLE CHECK OUT PROCEDURE USING TABLE 5.
RETURN HERE IF NO TROUBLE IS FOUND.
E3
GO TO PAGE 095
A5*
071H3
-SLD- PROBE THESE LINES ON THE ATTACH BOARD - CARD A-A1R2
P I N S:
G05 CHECK END
G07 NORMAL END
G08 ERROR ALERT
J02 SELECT ACTIVE
J03 TAG VALID
J09 SYNC IN
J10 INDEX ALERT
D5
ANY LINE UP SOLID
NO
YES
******D4**********
ATTACH CARD A-A1R2
POSSIBLE CABLE PROBLEM (CONTROL LINES IN TO THE ATTACHMENT).
RECORD THIS PAGE AND BLOCK LOCATION.
GO TO PAGE 090 TO DO THE CABLE CHECK OUT PROCEDURE USING TABLE 5.
RETURN HERE IF NO TROUBLE IS FOUND.
G5
GO TO PAGE 095


A1*
066G3
A1
LOAD AND EXECUTE DIAG C17 TO LOAD MICRO-CODE
B1
MAKE SURE ALL FILES BEING TESTED ARE READY
C1
CHECK FOR LOOSE CTL-I CABLES. SEE NOTE 1
D1
> SYS RESET. OPERATE THE EXEC SW ON THE 3340 CE PANEL
E1
> SYS RESET AGAIN. OBSERVE PARITY CK LITES ON 3340 CE PANEL
F1
TAG BUS PARITY CK LITE ON
YES
NO
071 A1*
G1
BUS OUT PARITY CK LITE ON
YES
NO
071 A2*
SLD PROBE 3340 CONTROLLER A-A2G2
P I N S:
B05 TAG BUS 6
D04 TAG BUS 7
D13 TAG BUS 0
A4
SSS L DDDD
S S L D D
S L D D
S L D D
S S L D D
SSS LLLLL DDDD
-------NOTE----------
SLD PROBING ON THIS PAGE
NOTE 1:
CABLE LOCATIONS--
ATTACHMENT BOARD A-A1V2, V3, V4, & V5
CONTROLLER BOARD A-A2C2, C3, C4, & C5
ALSO CHECK CABLES AT CPU AND CONTROLLER TAILGATES, AS WELL AS THE TERMINATORS IN THE CONTROLLER TAILGATE.
A4
A4
ANY LINE DOWN SOLID
YES
NO
SLD PROBE 3340 CONTROLLER A-A2G2
P I N S:
B03 TAG BUS 5
B04 TAG BUS P
G02 TAG BUS 4
IF ALL THREE LINES ARE AT A SOLID DOWN LEVEL, SUSPECT +6V MISSING FROM LAMINAR BUS TO 3340 ATTACH BOARD.
CONTINUE BELOW IF +6V IS PRESENT AT A-A1T5B11.
C4
ANY LINE UP SOLID
YES
NO
POSSIBLE CABLE PROBLEM (TAG BUS TO THE CTLR).
RECORD THIS PAGE AND BLOCK LOCATION.
GO TO PAGE 090 TO DO THE CABLE CHECK OUT PROCEDURE USING TABLE 3.
RETURN HERE IF NO TROUBLE IS FOUND.
D4
SLD PROBE 3340 CTLR A-A2G2B12 AND A-A2G2J11 (SEL HOLD & TAG GATE)
E4
BOTH LINES PULSING
NO
YES
POSSIBLE CABLE PROBLEM (CONTROL LINES OUT TO THE CONTROLLER).
RECORD THIS PAGE AND BLOCK LOCATION.
GO TO PAGE 090 TO DO THE CABLE CHECK PROCEDURE USING TABLE 4 ON THAT PAGE.
RETURN HERE IF NO TROUBLE IS FOUND.
*****E5*****
ATTACH CARD A-A1T2
*****G3*****
ATTACH CARD A-A1T2 OR A-A1R2
POSSIBLE CABLE PROBLEM (BUS IN 0-7,P).
RECORD THIS PAGE AND BLOCK LOCATION.
GO TO PAGE 090 TO DO THE CABLE CHECK OUT PROCEDURE USING TABLE 2 ON THAT PAGE.
RETURN HERE IF NO TROUBLE IS FOUND.
H4
SUSPECT ATTACH CARD A-A1T2
J4
GO TO PAGE 095


A3*
066F3
A3
LOAD DIAG C1A FROM CARDS AND EXECUTE
---IMPORTANT---
SSS L DDDD
S S L D D
S L D D
S L D D
S S L D D
SSS LLLLL DDDD
BOTH -SLD- AND -MST- LEVELS WILL BE PROBED ON THIS PAGE
B3
-SLD- PROBE ATTACH A-A1R2J09 (+SYNC IN)
C3
LINE PULSING
NO
YES
POSSIBLE CABLE PPOBLEM - CONTROL LINES IN TO THE ATTACHMENT.
RECORD THIS PAGE AND BLOCK LOCATION.
GO TO PAGE 090 TO DO THE CABLE CHECK OUT PROCEDURE USING TABLE 5.
RETURN HERE IF NO TROUBLE IS FOUND.
D3
-MST-MST-MST- PROBE ATTACHMENT A-A1R2D07 (-SYNC OUT)
E3
LINE PULSING
NO
YES
******E2**********
A-A1R2
E4
GO TO PAGE 095
F3
-SLD- PROBE ATTACH A-A1T2U03 (+SYNC OUT)
G3
LINE PULSING
NO
YES
******G4**********
ATTACH CARD A-A1T2 OR A-A1R2
POSSIBLE CABLE PROBLEM (CONTROL LINES OUT TO THE CONTROLLER).
RECORD THIS PAGE AND BLOCK LOCATION.
GO TO PAGE 090 TO DO THE CABLE CHECK OUT PROCEDURE USING TABLE 4 ON THAT PAGE.
RETURN HERE IF NO TROUBLE IS FOUND.
J3
GO TO PAGE 095


A2*
065J4
A2
WRKD
CMD FAIL
WITH BYTE 7 =
'0C'
YES
NO
******A3**********
A-A1R2
B2
BYTE 7
= '04' AND
BYTE 0 =
'80'
YES
NO
******B3**********
A-A1C2, A-A1D2
******C2**********
A-A1J2, A-A1S2


A2*
065E4
****
A2 BYTE 7 = '1E' AND FSI = 191E
YES
NO
1. IF ONLY DRIVE 3 AND/OR DRIVE 4 FAIL SUSPECT INCORRECT LEVEL OF MICROCODE.
2. SUSPECT ATTACHMENT CARD A-A1C2.
*****
080
* A1*
B2
SUSPECT ATTACHMENT CARD A-A1T2
*****
080
* A1*



N O T E 1:

A. IF ERRORS OCCUR ONLY ON THE C.E. CYLINDER (3340 PHYSICAL ADDRESS 349), IT IS POSSIBLE THAT THE C.E. CYLINDER FORMAT HAS BEEN ALTERED. SEE DIAGNOSTIC USER'S GUIDE (BLOCK 28 - SECTION C12) FOR INFORMATION ON REFORMATTING THE C.E. CYLINDER.

B. IF ONLY DATA CHECK ERRORS (SENSE BYTE 7=4X OR 5X) HAVE BEEN DETECTED, THE PROBLEM MAY BE CAUSED BY A DEFECTIVE HA OR R0 RECORD. DIAGNOSTIC C1B MAY BE USED TO CHECK THE DATA MODULE FOR DEFECTIVE RECORDS. (SEE DIAGNOSTIC USER'S GUIDE SECTION C1B FOR INFORMATION)

C. REFER TO THE 3340 MLM (DM SECTION) FOR PROCEDURES ON CHECKING FOR PHYSICAL DAMAGE TO THE DATA MODULE.

N O T E 2:

A. ALL CARD SWAPPING IN THIS MAP PROCEDURE IS DONE IN THE FILE SUB-SYSTEM.

B. PROBABLE CAUSE OF FAILURE IS IN THE 3340 SUB-SYSTEM.
SINCE AT LEAST ONE DRIVE IS OPERATING NORMALLY, THE FAILURE CAN PROBABLY BE ISOLATED BY SWAPPING CARDS OF THE SAME TYPE BETWEEN DRIVES AND RE-RUNNING DIAG C12 (SEE NOTE 3).

C. TO PREVENT CARD DAMAGE, POWER DOWN THE 3340 SUB-SYSTEM WHEN SWAPPING CARDS.
TO DO THIS- TURN OFF EACH DRIVE (START/STOP SWITCH), WAIT FOR THE DATA MODULE TO UNLOAD, THEN PRESS THE POWER OFF SWITCH ON THE FRONT OF THE 3340. IT IS NOT NECESSARY TO POWER OFF THE CPU.

D. WHEN SWAPPING CARDS, BE SURE THAT THE SWAP IS BETWEEN A FAILING DRIVE AND ONE WHICH IS OPERATING NORMALLY.
THERE ARE 7 PAIRS OF SWAPPABLE CARDS ON THE A1 (UPPER) BOARD OF A 3340 A2 OR B2 (2 DRIVE) MODULE. (SEE TABLE 1)
IF THREE OR MORE DRIVES ARE INSTALLED, THEN ANY CARD IN THE B1 OR B2 MODULE MAY BE SWAPPED WITH THE CARD IN THE SAME LOCATION IN THE A2 MODULE.
IN ADDITION THE RD/WR MATRIX CARD (LOCATED AT THE REAR OF THE DRIVE-UPPER LEFT) MAY BE SWAPPED BETWEEN ANY TWO 3340 DRIVES.

E. THE MAP AT LEFT SHOWS THE PREFEFRED SEQUENCE FOR SWAPPING CARDS. IN CARD CALL-OUTS OF THE FORM A1XX(YY), XX IS THE LOCATION OF THE CARD AFFECTING THE 'A' DRIVE (DRIVE 1 OR 3), AND YY IS THE LOCATION OF THE CARD AFFECTING THE 'B' DRIVE (DRIVE 2 OR 4).

F. IF BOTH DRIVES IN THE SAME MODULE ARE FAILING, IT MAY BE NECESSARY TO SWAP BOTH CARDS (ONE AT A TIME) WITH CARDS FROM A GOOD DRIVE TO DETERMINE WHICH OF THE TWO IS CAUSING THE PROBLEM.

G. AFTER SWAPPING EACH GROUP OF CARDS, POWER UP THE 3340 AND RE-RUN DIAGNOSTIC C12. IF FAILURE SYMPTOMS CHANGE, RETURN CARDS TO THEIR ORIGINAL POSITIONS ONE PAIR AT A TIME AND RE-RUN C12 UNTIL THE FAILING CARD IS ISOLATED.

**********C A U T I O N**********

H. WHENEVER A1R2 OR A1Q2 IS REPLACED WITH A NEW CARD, THE VELOCITY GAIN ADJUSTMENT FOR THAT CARD SHOULD BE CHECKED. SEE 3340 MICRO MLM (RTN A7) FOR THE PROCEDURE.

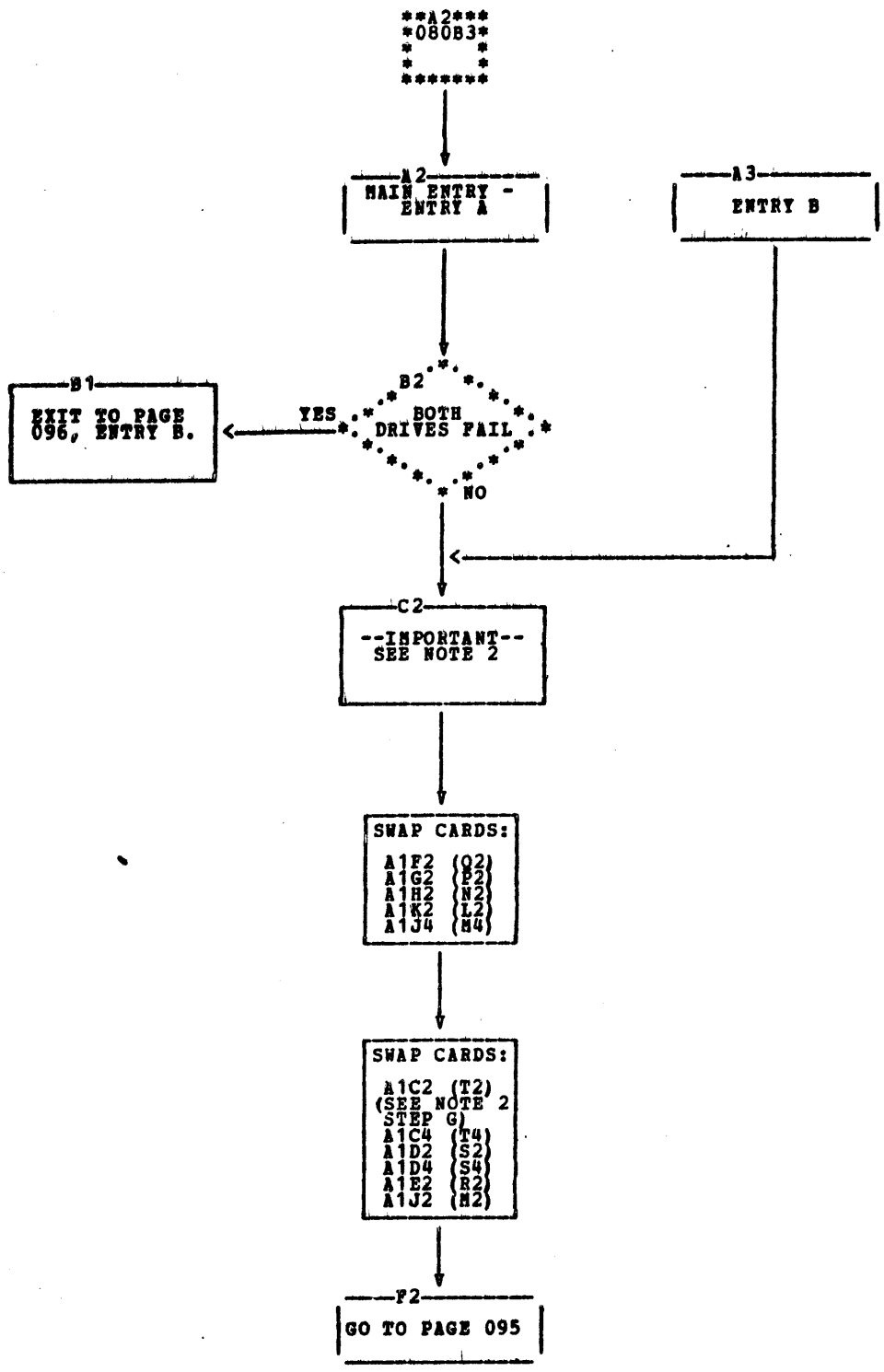
J. IF FAILURE IS NOT ISOLATED BY CARD SWAPPING, GO TO MAP PAGE 095 TO PREPARE FOR ENTRY INTO THE 3340 MLM. KEEP IN MIND THAT CARDS WHICH WERE ALREADY SWAPPED ARE NO LONGER SUSPECT, AND NEED NOT BE CONSIDERED IF CALLED OUT AGAIN IN THE 3340 MLM.

N O T E 3:

A. C12 CAN BE RE-RUN WITHOUT RELOADING (IF IT WAS THE LAST DIAGNOSTIC RUN) BY PRESSING SYSTEM RESET AND START

TABLE 1 - 3340 A1 BOARD - SWAPPABLE CARDS

DRV A (1/3)	DRV B (2/4)	CARD FUNCTION
F2	E2	HEAD SELECTION
M2	L2	CART SEQUENCE
P2	N2	ACCESS AND ATTENTION
R2	Q2	SERVO ANALOG
R4	Q4	SERVO LOGIC
T2	S2	SERVO AMP
T4	S4	MAGNET DRIVERS & INTEGRATERS



N O T E 1:

A. IF ERRORS OCCUR ONLY ON THE C.E. CYLINDER (3344 PHYSICAL ADDRESS 560), IT IS POSSIBLE THAT THE C.E. CYLINDER FORMAT HAS BEEN ALTERED. SEE DIAGNOSTIC USER'S GUIDE (BLOCK 2B - SECTION C12) FOR INFORMATION ON REFORMATTING THE C.E. CYLINDER.

B. IF ONLY DATA CHECK ERRORS (SENSE BYTE 7=4X OR 5X) HAVE BEEN DETECTED, THE PROBLEM MAY BE CAUSED BY A DEFECTIVE HA OR R0 RECORD. DIAGNOSTIC C1B MAY BE USED TO CHECK THE DATA MODULE FOR DEFECTIVE RECORDS. (SEE DIAGNOSTIC USER'S GUIDE SECTION C1B FOR INFORMATION).

N O T E 2:

A. ALL CARD SWAPPING CALLED OUT ON THIS PAGE REFERS ONLY TO THE 3344 BOX.

B. ENTRY ONTO THIS PAGE ASSUMES FAILURE HAS BEEN ISOLATED TO THE 3344 (SYSTEM DRIVE 3 OR 4). SINCE AT LEAST ONE DRIVE IS OPERATING NORMALLY, THE FAILURE CAN PROBABLY BE ISOLATED BY SWAPPING CARDS OF THE SAME TYPE ON LOGIC BOARD A-A1 IN THE 3344 BOX AND THEN RE-RUNNING DIAG PROG C12 (SEE NOTE 3).

C. TO PREVENT CARD DAMAGE, POWER DOWN THE 3340/3344 SUB-SYSTEM WHEN SWAPPING CARDS. TO DO THIS- TURN OFF EACH DRIVE (START/STOP SWITCH), WAIT FOR THE DATA MODULES ON DRIVES 1 AND 2 TO UNLOAD IF LOADED, DEPRESS POWER OFF SWITCH ON FRONT OF THE 3340. IT IS NOT NECESSARY TO POWER OFF THE CPU.

D. THERE ARE TWO SETS OF CARDS ON THE 3344 A-A1 BOARD. SET 'A' FOR DRIVE #3 AND SET 'B' FOR DRIVE #4. SEE TABLE 1 BELOW.

E. THE MAP AT LEFT SHOWS THE PREFERRED SEQUENCE FOR SWAPPING CARDS. IN CARD CALL-OUTS OF THE FORM A1XX(YY), XX IS THE LOCATION OF THE CARD AFFECTING THE 'A' DRIVE (DRIVE 3) AND YY IS THE LOCATION OF THE CARD AFFECTING THE 'B' DRIVE (DRIVE 4).

F. AFTER SWAPPING EACH GROUP OF CARDS, POWER UP THE 3340 SUBSYSTEM AND RE-RUN DIAG C12. IF FAILURE SYMPTOMS CHANGE, RETURN CARDS TO THEIR ORIGINAL POSITIONS ONE PAIR AT A TIME AND RE-RUN C12 UNTIL THE FAILING CARD IS ISOLATED.

**********C A U T I O N**********

G. WHENEVER CARD A1C2 OR A1T2 IS REPLACED WITH A NEW CARD, THE VELOCITY GAIN ADJUSTMENT FOR THAT DRIVE SHOULD BE CHECKED. SEE 3340 MICRO MLM (RTN A7) FOR NECESSARY PROCEDURES. ROUTINE A7 IS IN MICRO DIAGNOSTIC SECTION FAA.

WHENEVER THE C2 AND T2 CARDS ARE SWAPPED, THEY SHOULD BE RETURNED TO THEIR ORIGINAL POSITIONS AFTER DETERMINING WHETHER THE FAILURE INDICATION HAS MOVED FROM ONE DRIVE TO ANOTHER. IF THIS IS NOT DONE, THE VELOCITY GAIN MAY BE OUT OF ADJUSTMENT FOR BOTH DRIVES.

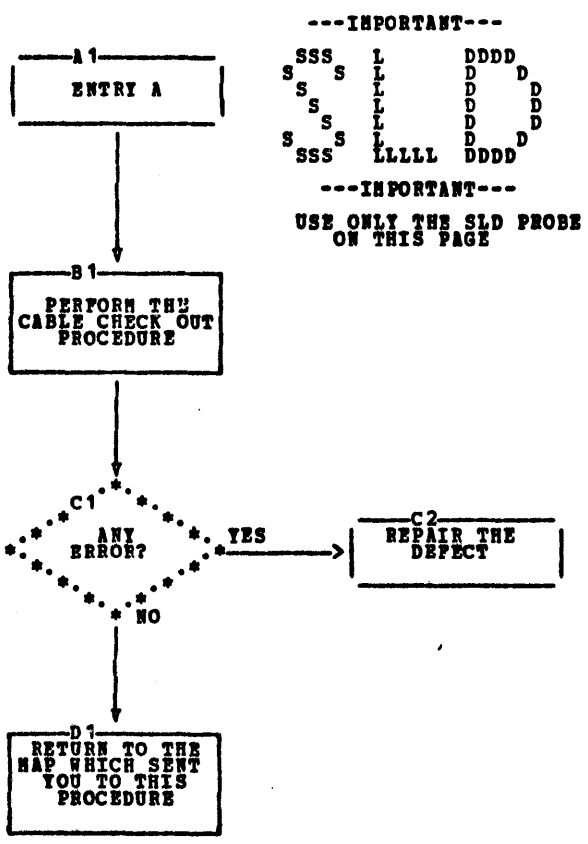
H. IF FAILURE IS NOT ISOLATED BY CARD SWAPPING, GO TO MAP PAGE 095 TO PREPARE FOR ENTRY INTO THE 3344 MLM. KEEP IN MIND THAT CARDS WHICH WERE ALREADY SWAPPED ARE NO LONGER SUSPECT, AND NEED NOT BE CONSIDERED IF CALLED OUT AGAIN IN THE 3344 MLM.

N O T E 3:

A. C12 CAN BE RE-RUN WITHOUT RELOADING (IF IT WAS THE LAST DIAGNOSTIC RUN) BY PRESSING SYSTEM RESET AND START

TABLE 1 - 3344 A1 BOARD - SWAPPABLE CARDS

DRV A	DRV B	CARD FUNCTION
C2	T2	SERVO AMP
C4	T4	SERVO LOGIC
D2	S2	SERVO ANALOG
D4	S4	INDEX/SERVO
E2	R2	SERVO CONTROL
F2	Q2	SEQUENCE CONTROL
G2	P2	HD SELECT AND CAR
H2	N2	R/W CONTROL/IN BUS/PAD CONTROL
J2	M2	RD DETECTOR
J4	M4	TARGET REG
K2	L2	SELECT, CONTROL DEC, OUTBUS



CABLE CHECK-OUT PROCEDURE:

1. IT IS ONLY NECESSARY TO CHECK OUT THAT PART OF THE CABLE NAMED IN THE MAP WHICH CALLED THIS CHECK PROCEDURE.
2. USE ONLY THE - S L D - LEVEL PROBE IN THIS PROCEDURE.
3. LOAD AND EXECUTE DIAGNOSTIC C1A (CTL-I LINE EXERCISER). THE PROGRAM MUST BE RUNNING WHILE PROBING.
4. EACH END OF THE LINES ARE PROBED-- ONE END ON THE ATTACHMENT BOARD, THE OTHER END ON THE CONTROLLER BOARD. THE CABLE PIN LOCATIONS ON THE CABLE CHART ARE THE PROBE POINTS.
5. EACH LINE, WHEN PROBED, MUST INDICATE THE SAME BEHAVIOR ON BOTH ENDS. WITH PROGRAM C1A RUNNING ALL LINES MUST BE PULSING AT BOTH ENDS WITH THE FOLLOWING EXCEPTIONS:

SIGNAL	EXPLANATION OF BEHAVIOR
CE ALERT	THIS LINE SHOULD BE AT A STATIC LEVEL (UP OR DOWN)
ERR ALERT	THIS LINE COULD BE AT A DOWN LEVEL (NO ERRORS) OR PULSING (ERRORS ARE PRESENT)

A DIFFERENCE IN BEHAVIOR BETWEEN THE CABLE ENDS MEANS A CABLE PROBLEM (OPEN SIGNAL LINE, LOOSE CABLE, ETC). CHECK CABLES FROM CONTROLLER TO TAILGATE AND FROM THE TAILGATE TO THE ATTACH BOARD.

NOTE: A CTL-I SIGNAL LINE SHORTED TO GROUND WILL APPEAR AS A DOWN LEVEL ON THE SLD PORTION OF THE PROBE.

CONTROLLER INTERFACE CABLE CHECK OUT CHARTS

TABLE 1 — BUS OUT 0-7,P
ATTACH TO CONTROLLER

ATTACHMENT BOARD A-A1			CONTROLLER BOARD A-A2	
CABLE PIN LOCATION	LOGIC REF	LINE NAME	LOGIC REF	CABLE PIN LOCATION
V2-B03	EB081	BUS OUT P	WK100	C4-B02
V2-B05	EB081	BUS OUT 1	WK100	C4-B05
V2-B08	EB081	BUS OUT 3	WK100	C4-B08
V2-B10	EB081	BUS OUT 5	WK100	C4-B10
V2-B12	EB081	BUS OUT 7	WK100	C4-B12
V2-D04	EB081	BUS OUT 0	WK100	C4-D05
V2-D05	EB081	BUS OUT 2	WK100	C4-D06
V2-D09	EB081	BUS OUT 4	WK100	C4-D09
V2-D11	EB081	BUS OUT 6	WK100	C4-D11

TABLE 2 — BUS IN 0-7,P
CONTROLLER TO ATTACH

ATTACHMENT BOARD A-A1			CONTROLLER BOARD A-A2	
CABLE PIN LOCATION	LOGIC REF	LINE NAME	LOGIC REF	CABLE PIN LOCATION
V3-B03	WJ347	BUS IN P	WK120	C3-B02
V3-B05	WJ347	BUS IN 1	WK120	C3-B05
V3-B08	WJ347	BUS IN 3	WK120	C3-B08
V3-B10	WJ347	BUS IN 5	WK120	C3-B10
V3-B12	WJ347	BUS IN 7	WK120	C3-B12
V3-D04	WJ347	BUS IN 0	WK120	C3-D05
V3-D06	WJ347	BUS IN 2	WK120	C3-D06
V3-D09	WJ347	BUS IN 4	WK120	C3-D09
V3-D11	WJ347	BUS IN 6	WK120	C3-D11

TABLE 3 — TAG BUS 0,4-7,P
ATTACH TO CONTROLLER

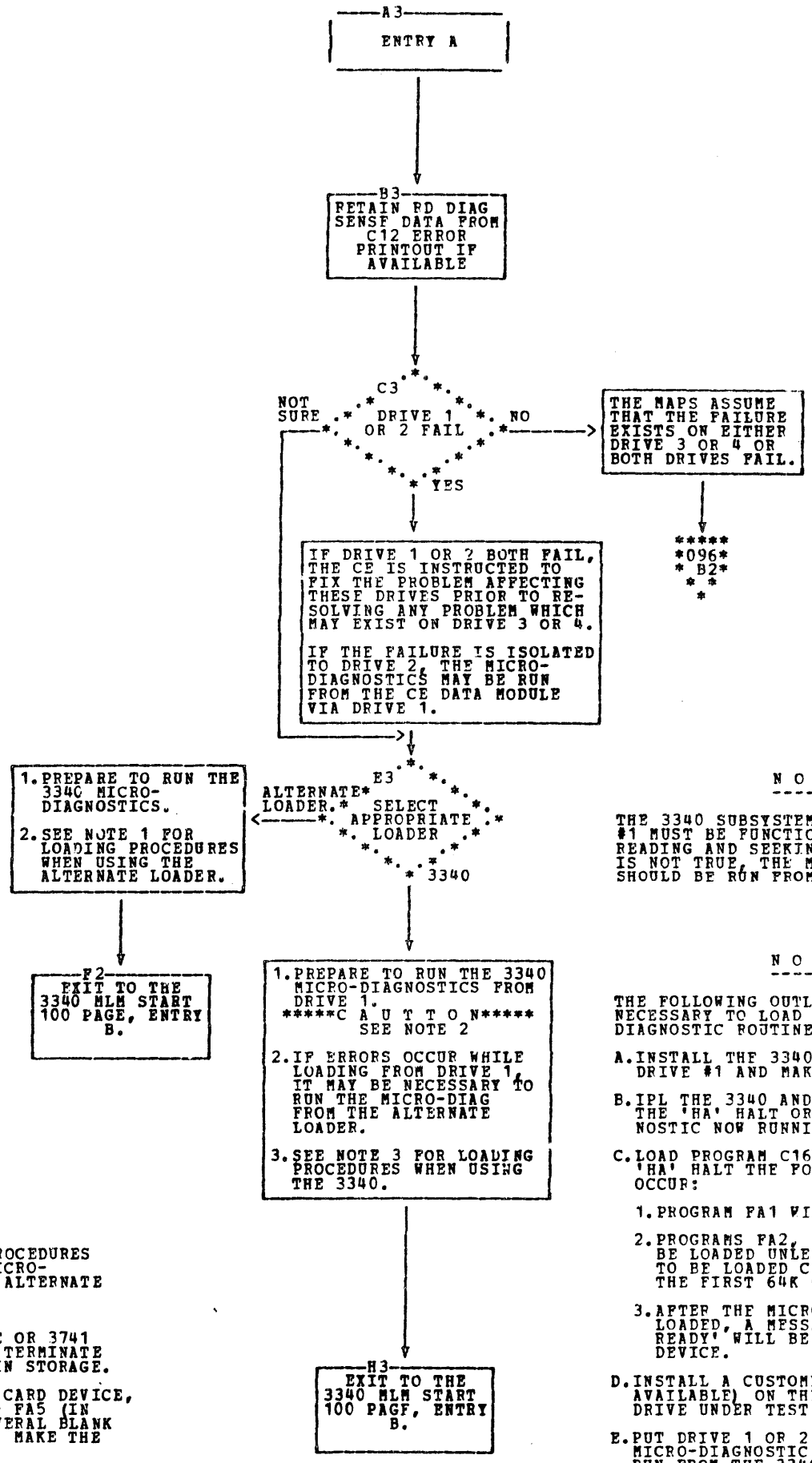
ATTACHMENT BOARD A-A1			CONTROLLER BOARD A-A2	
CABLE PIN LOCATION	LOGIC REF	LINE NAME	LOGIC REF	CABLE PIN LOCATION
V4-B03	EB081	TAG BUS 0	WK110	C5-B02
V4-B05	EB081	TAG BUS 4	WK110	C5-B05
V4-B08	EB081	TAG BUS 6	WK110	C5-B08
V4-D04	EB081	TAG BUS 5	WK110	C5-D05
V4-D06	EB081	TAG BUS 7	WK110	C5-D06
V4-D09	EB081	TAG BUS P	WK110	C5-D09

TABLE 4 — CONTROL LINES
ATTACH TO CONTROLLER

ATTACHMENT BOARD A-A1			CONTROLLER BOARD A-A2	
CABLE PIN LOCATION	LOGIC REF	LINE NAME	LOGIC REF	CABLE PIN LOCATION
V4-B10	EB081	TAG GATE	WK110	C5-B10
V4-B12	EB081	RESPONSE	WK100	C5-B12
V4-D11	EB081	SELECT HOLD	WK110	C5-D11
V4-D13	EB081	RECYCLE	WK110	C5-D13
V2-D13	EB081	SYNC OUT	WK110	C4-D13

TABLE 5 — CONTROL LINES
CONTROLLER TO ATTACH

ATTACHMENT BOARD A-A1			CONTROLLER BOARD A-A2	
CABLE PIN LOCATION	LOGIC REF	LINE NAME	LOGIC REF	CABLE PIN LOCATION
V3-D13	WJ347	SYNC IN	WK120	C3-D13
V5-B03	WJ347	SELECT ACTIVE	WK120	C2-B02
V5-B05	WJ347	NORMAL END	WK120	C2-B05
V5-B08	WJ347	ERR ALERT	WK120	C2-B08
V5-B12	WJ347	CE ALERT	WK120	C2-B12
V5-D04	WJ347	TAG VALID	WK120	C2-D05
V5-D06	WJ347	CHK END	WK120	C2-D06
V5-D09	WJ347	INDEX ALERT	WK120	C2-D09



N O T E 1:

THE FOLLOWING OUTLINES THE PROCEDURES NECESSARY TO LOAD THE 3340 MICRO-DIAGNOSTIC ROUTINES FROM THE ALTERNATE LOADER:

A. LOAD DCF FROM CARD DEVICE OR 3741 IF NOT ALREADY LOADED OR TERMINATE THE DIAGNOSTIC NOW IN MAIN STORAGE.

B. IF ALTERNATE LOADER IS A CARD DEVICE, PLACE SECTIONS C16, FA1 - FA5 (IN SEQUENCE) FOLLOWED BY SEVERAL BLANK CARDS IN THE CARD READER. MAKE THE CARD DEVICE READY.

   IF THE ALTERNATE LOADER IS THE 3741, LOAD THE DISKETTE WHICH CONTAINS THE 3340 MICRO-DIAGNOSTICS AND MAKE THE 3741 READY. SEE USER'S GUIDE BLOCK 40 FOR FURTHER INSTRUCTIONS.

C. DEPRESS CPU START TO LOAD C16. RESETTING THE 'HA' HALT WILL CAUSE C16 AND FA1 PROGRAMS TO LOAD FOLLOWED BY A 'MICRO-DIAGNOSTICS READY' MESSAGE TO BE PRINTED ON THE OUTPUT DEVICE.

D. INSTALL A CUSTOMER DATA MODULE (IF AVAILABLE) ON THE DRIVE UNDER TEST.

E. MICRO-DIAGNOSTIC ROUTINES MAY NOW BE RUN FROM THE 3340 CE PANEL AS DESCRIBED IN THE 3340 MLM. MICROCODE WILL BE LOADED FROM THE CARD READER AS NEEDED.

F. IF AN '01' HALT OCCURS WHILE DIAG C16 IS RUNNING, USE THE 4 DIGIT ERROR CODE PRINTED TO ENTER THE ERROR CODE DICTIONARY, PAGE 046.

N O T E 2:

THE 3340 SUBSYSTEM CONTROLLER AND DRIVE #1 MUST BE FUNCTIONAL TO THE POINT OF READING AND SEEKING RELIABLY. IF THIS IS NOT TRUE, THE MICRO-DIAGNOSTICS SHOULD BE RUN FROM THE ALTERNATE LOADER.

N O T E 3:

THE FOLLOWING OUTLINES THE PROCEDURES NECESSARY TO LOAD THE 3340 MICRO-DIAGNOSTIC ROUTINES FROM THE 3340:

A. INSTALL THE 3340 CE DATA MODULE ON DRIVE #1 AND MAKE THE DRIVE READY.

B. IPL THE 3340 AND RESET HALTS TO OBTAIN THE 'HA' HALT OR TERMINATE ANY DIAGNOSTIC NOW RUNNING.

C. LOAD PROGRAM C16. AFTER RESETTING THE 'HA' HALT THE FOLLOWING SEQUENCE WILL OCCUR:

   1. PROGRAM FA1 WILL BE LOADED.

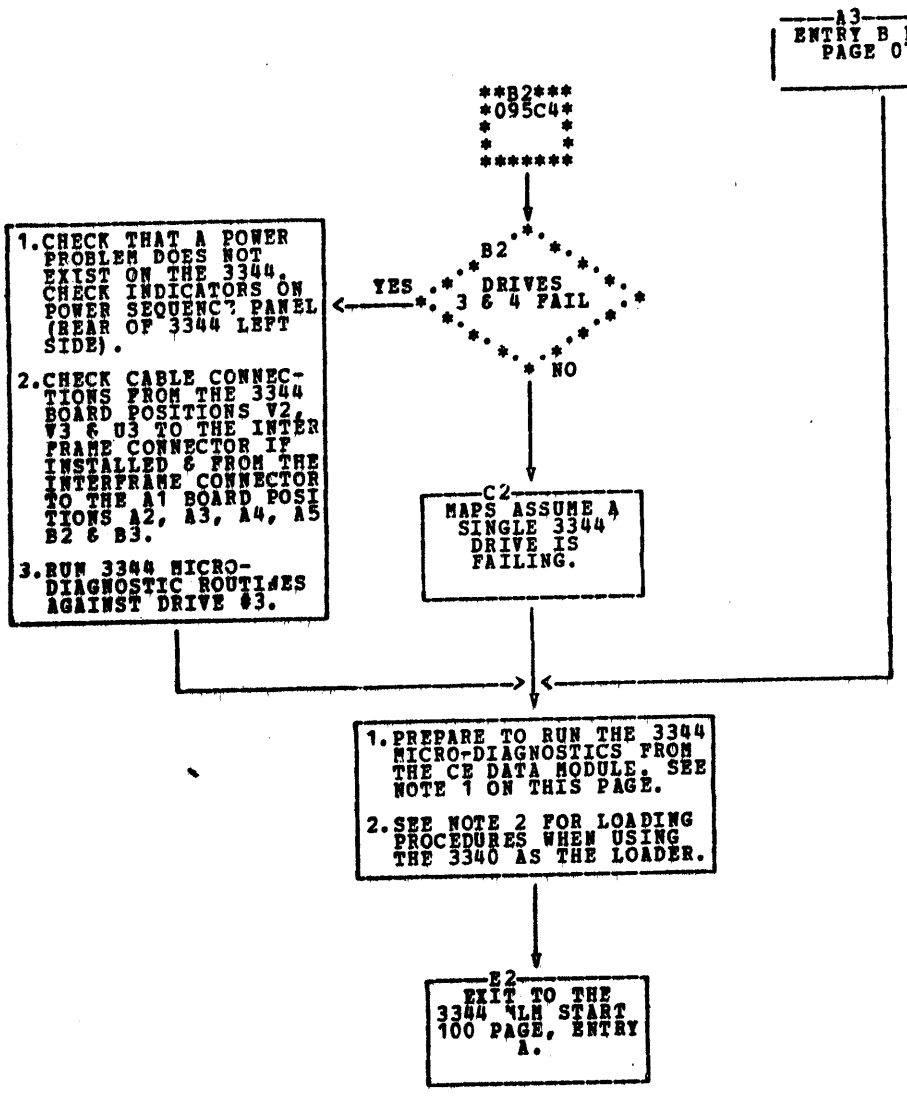
   2. PROGRAMS FA2, FA3, FA4 AND FA5 WILL BE LOADED UNLESS THE NEXT PROGRAM TO BE LOADED CANNOT BE LOADED INTO THE FIRST 64K OF MAIN STORAGE.

   3. AFTER THE MICRO-DIAGNOSTICS ARE LOADED, A MESSAGE 'MICRO-DIAGNOSTICS READY' WILL BE PRINTED ON THE OUTPUT DEVICE.

D. INSTALL A CUSTOMER DATA MODULE (IF AVAILABLE) ON THE DRIVE UNDER TEST. DRIVE UNDER TEST MUST BE DRIVE 1 OR 2.

E. PUT DRIVE 1 OR 2 IN CE MODE. THE 3340 MICRO-DIAGNOSTIC ROUTINES MAY NOW BE RUN FROM THE 3340 CE PANEL AS DESCRIBED IN THE 3340 MLM. ANY ADDITIONAL DIAGNOSTIC MICROCODE NOT IN MAIN STORAGE WILL BE LOADED FROM DRIVE #1 AS NEEDED.

F. TO CALL ANY PROGRAM OTHER THAN THE MICRO-DIAGNOSTICS BY SECTION C16, THE CE CAN ENTER X'30' AT THE 3340 CE PANEL OR SET SENSE SWITCH 1E TO PERFORM A 'SOFT IPL' TO LOAD THE FUNCTIONAL MICROCODE PRIOR TO TERMINATING SECTION C16.



N O T E 1:

THE CONTROLLER, DRIVE #1 AND BOTH INTERFACES (ATTACH & DRIVE) MUST BE FUNCTIONAL TO THE POINT OF READING AND SEEKING RELIABLY. IF THIS IS NOT TRUE THE 3344 MICRO-DIAGNOSTICS SHOULD BE RUN FROM THE ALTERNATE LOADER.

N O T E 2:

THE FOLLOWING OUTLINES THE PROCEDURES NECESSARY TO LOAD THE 3344 MICRO-DIAGNOSTIC ROUTINES FROM THE 3340:

A. INSTALL THE 3340 CE DATA MODULE ON DRIVE #1 AND MAKE THE DRIVE READY.

B. IPL THE 3340 (DRIVE #1) AND RESET HALTS TO OBTAIN THE 'HA' HALT OR TERMINATE ANY DIAGNOSTIC NOW RUNNING.

C. LOAD PROGRAM C16 AND OBTAIN THE 'HA' HALT.

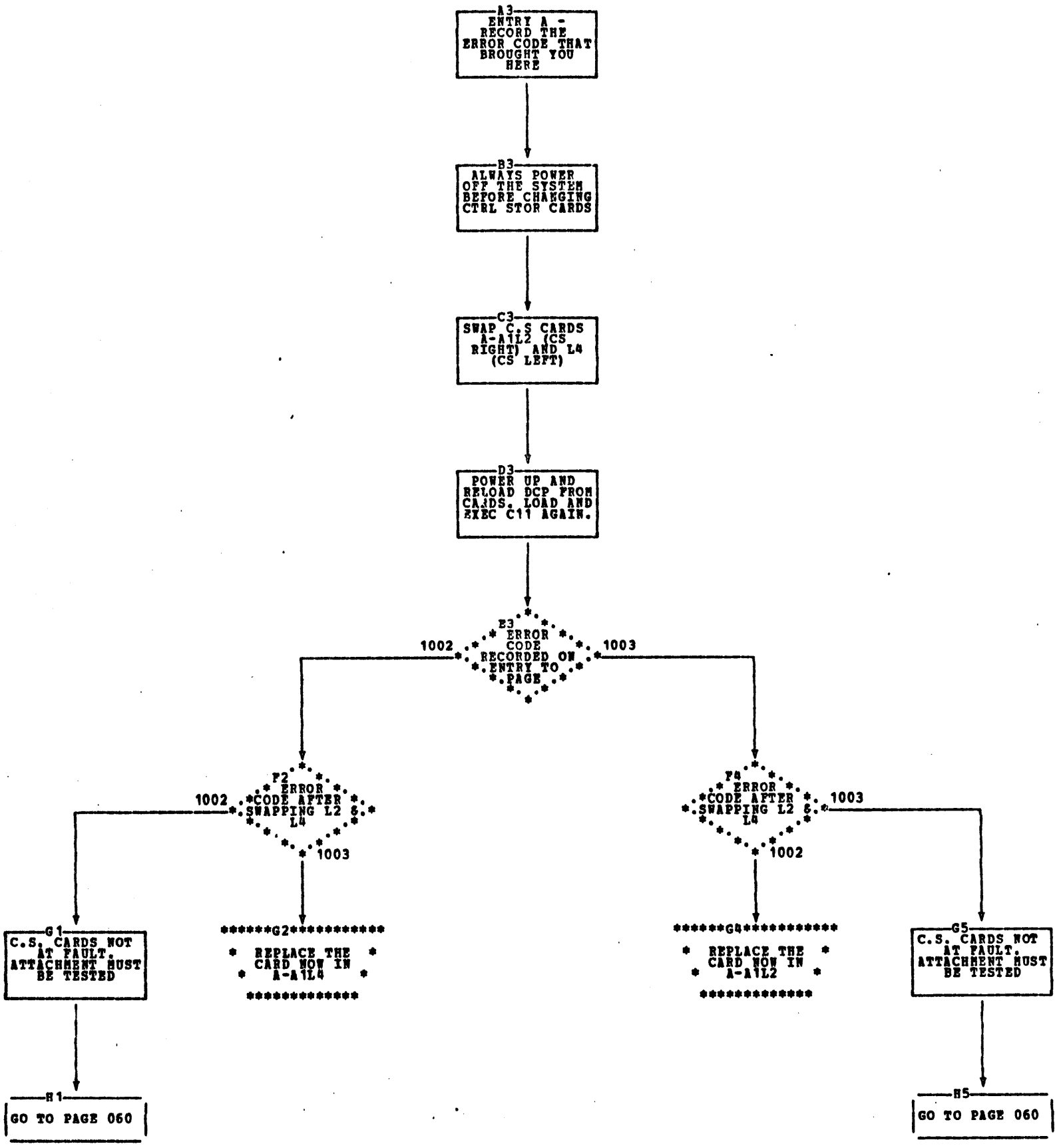
D. SET SNS SW 27 TO LOAD THE 3344 MICRO-DIAGNOSTIC SECTIONS FA1, FA8, FA9 AND FAA.

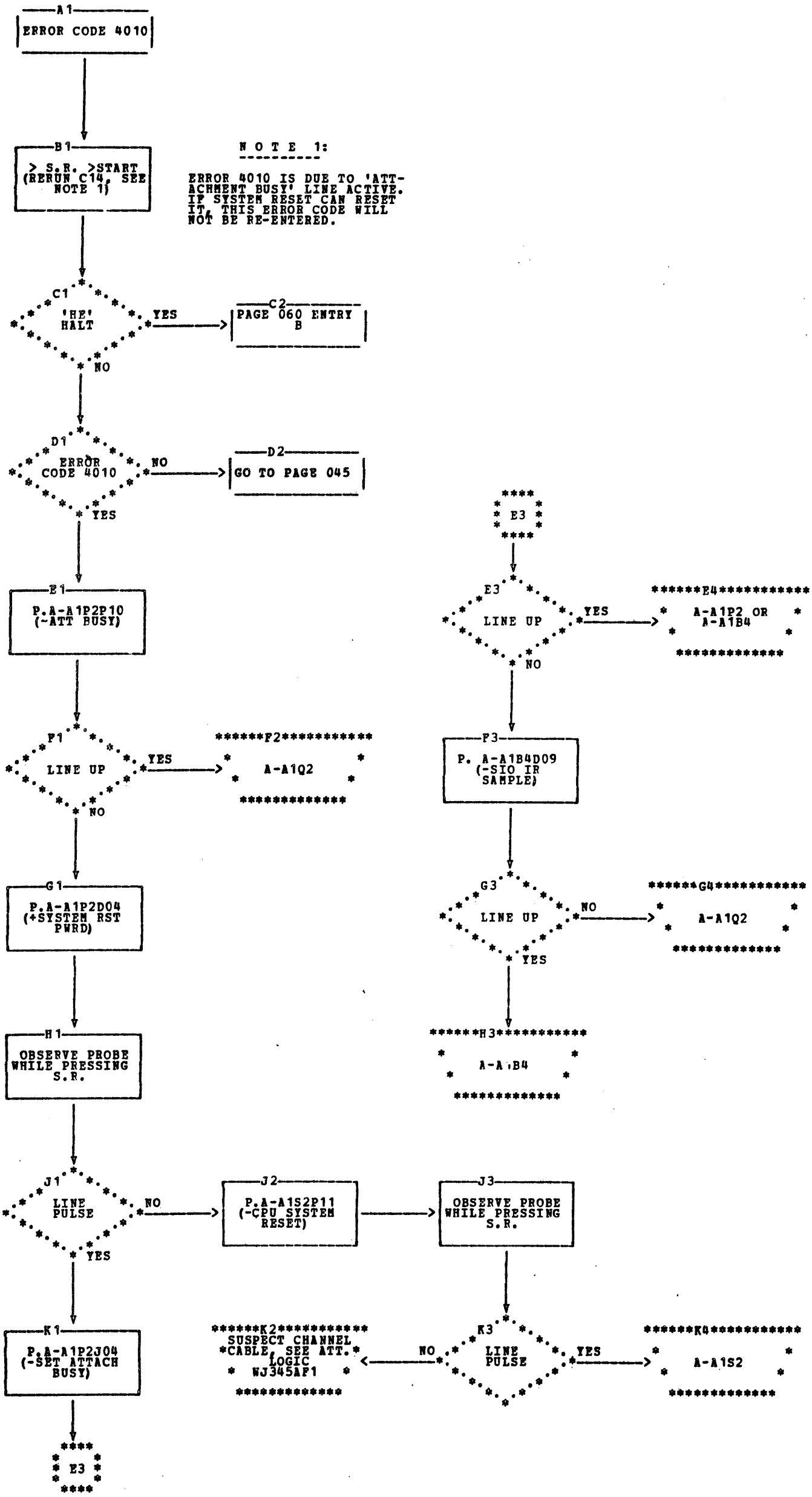
*******W A R N I N G*******

IF THIS SNS SWITCH IS NOT SET ON THE 3340 MICRO-DIAGNOSTIC SECTIONS FA1 - FA5 WILL BE LOADED.

E. PUT DRIVE 3 OR 4 IN CE MODE. THE 3344 MICRO-DIAGNOSTIC ROUTINES MAY NOW BE RUN FROM THE 3340 CE PANEL AS DESCRIBED IN THE 3344 MLM.

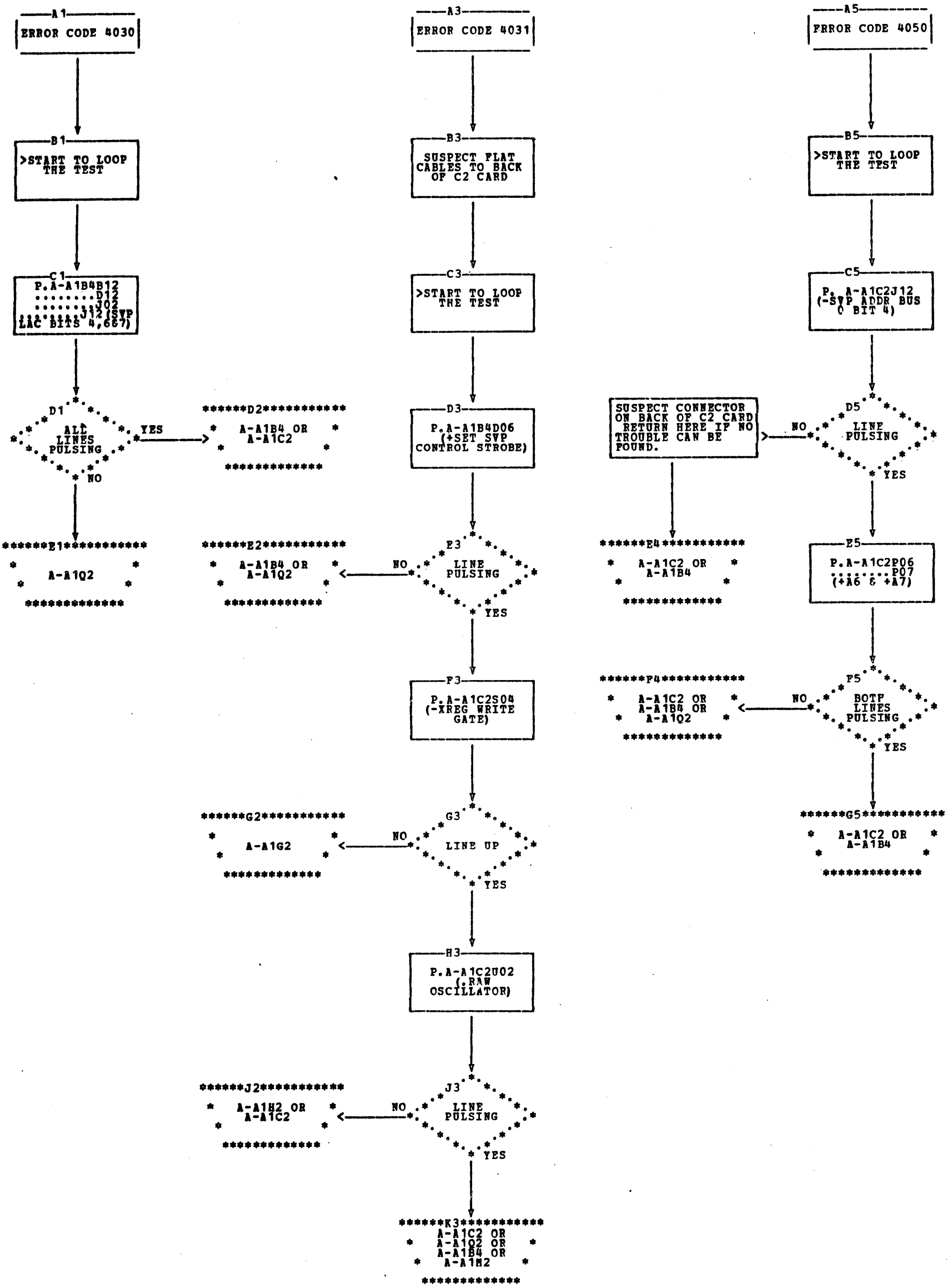
F. TO CALL ANY PROGRAM OTHER THAN THE MICRO-DIAGNOSTICS BY SECTION C16, THE CE CAN ENTER X'30' AT THE 3340 CE PANEL OR SET SENSE SWITCH 1E TO PERFORM A 'SOFT IPL' TO LOAD THE FUNCTIONAL MICROCODE PRIOR TO TERMINATING SECTION C16.

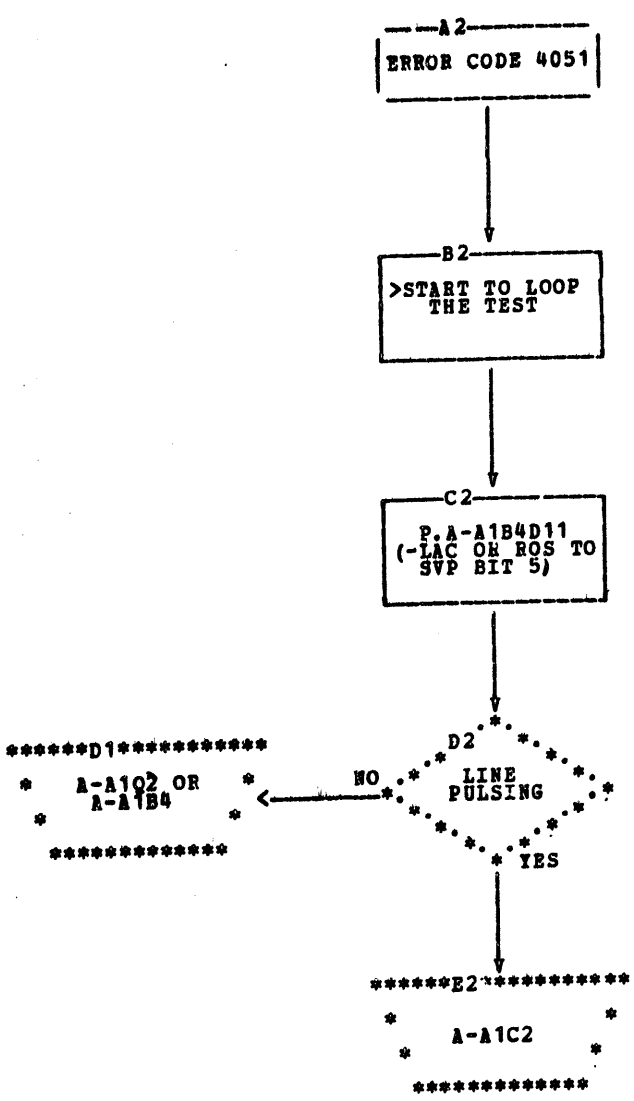

A3
ENTRY A - RECORD THE ERROR CODE THAT BROUGHT YOU HERE
B3
ALWAYS POWER OFF THE SYSTEM BEFORE CHANGING CTRL STOR CARDS
C3
SWAP C.S CARDS A-A1L2 (CS RIGHT) AND L4 (CS LEFT)
D3
POWER UP AND RELOAD DCP FROM CARDS. LOAD AND EXEC C11 AGAIN.
E3
ERROR CODE RECORDED ON ENTRY TO PAGE
1002
1003
F2
ERROR CODE AFTER SWAPPING L2 & L4
1002
1003
F4
ERROR CODE AFTER SWAPPING L2 & L4
1003
1002
G1
C.S. CARDS NOT AT FAULT. ATTACHMENT MUST BE TESTED
G2
REPLACE THE CARD NOW IN A-A1L4
G4
REPLACE THE CARD NOW IN A-A1L2
G5
C.S. CARDS NOT AT FAULT. ATTACHMENT MUST BE TESTED
H1
GO TO PAGE 060
H5
GO TO PAGE 060

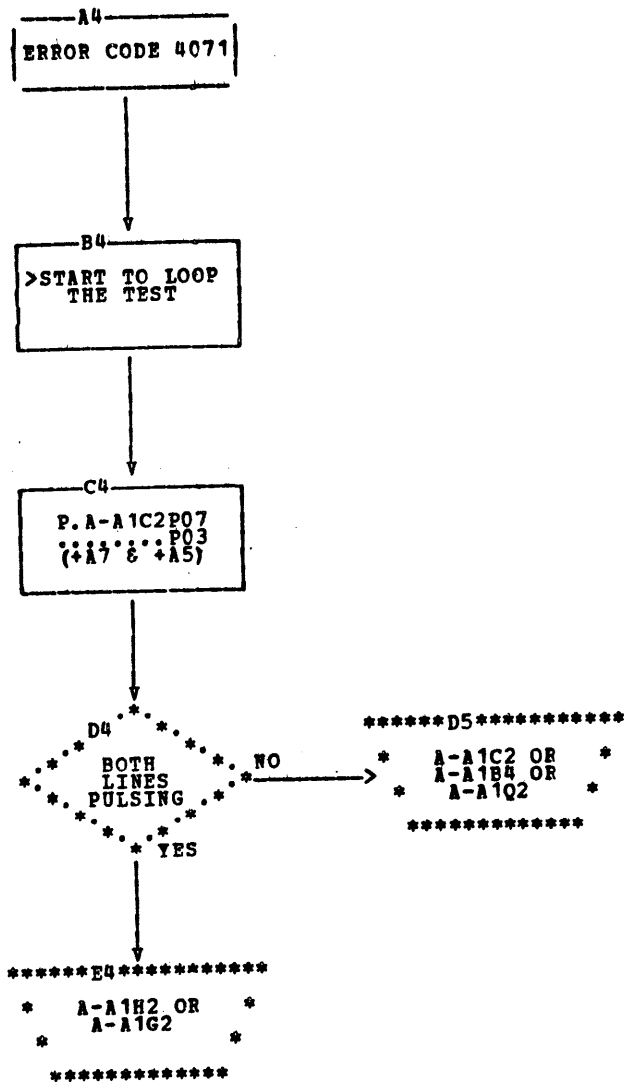


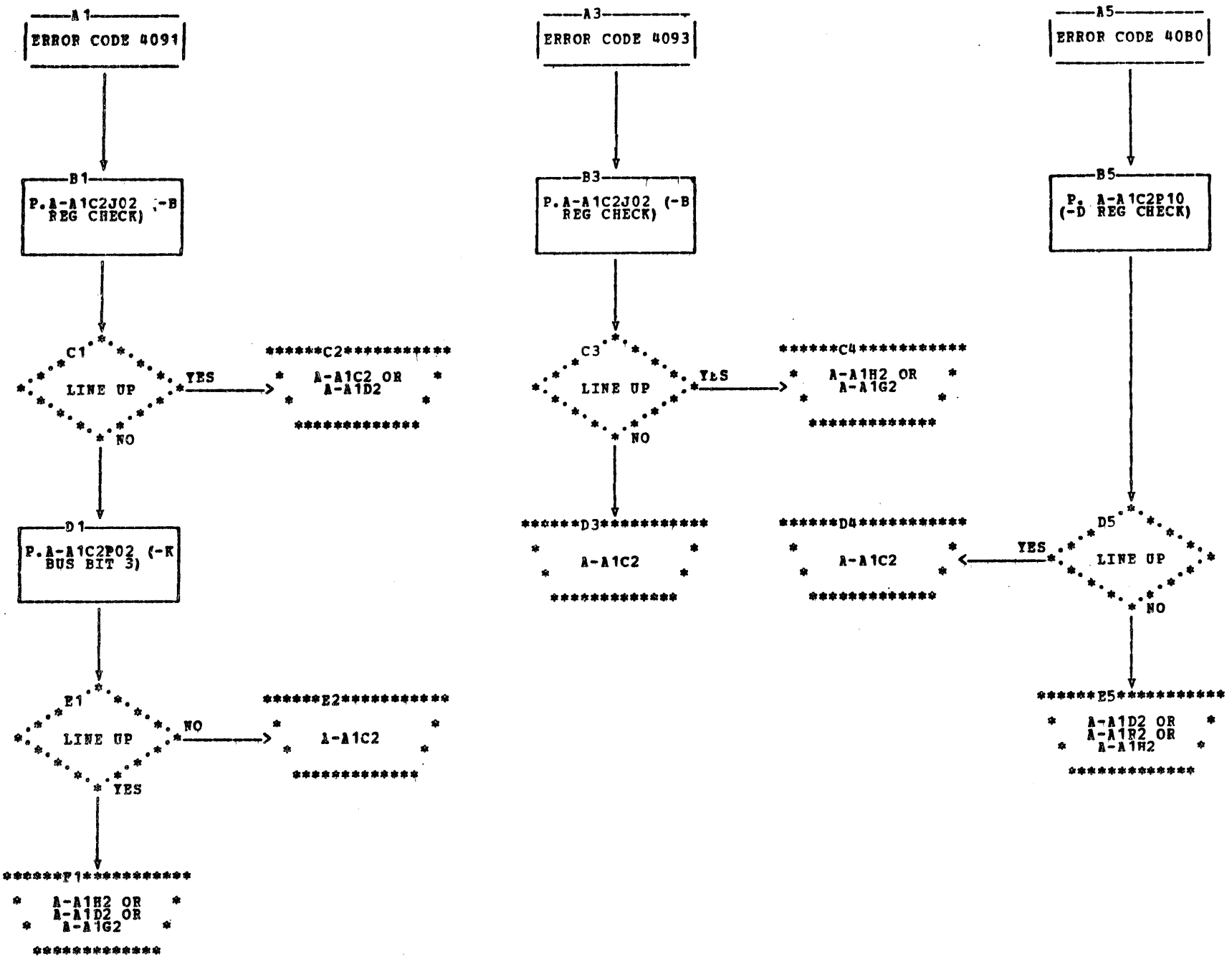
N O T E 1:

ERROR 4010 IS DUE TO 'ATTACHMENT BUSY' LINE ACTIVE. IF SYSTEM RESET CAN RESET IT, THIS ERROR CODE WILL NOT BE RE-ENTERED.


A1
ERROR CODE 4030
B1
>START TO LOOP THE TEST
C1
P.A-A1B4B12
D12
J02
J12 (SVP LAC BITS 4,667)
D1
ALL LINES PULSING
YES
NO
******D2**********
A-A1B4 OR A-A1C2
******E1**********
A-A1Q2
******E2**********
A-A1B4 OR A-A1Q2
A3
ERROR CODE 4031
B3
SUSPECT FLAT CABLES TO BACK OF C2 CARD
C3
>START TO LOOP THE TEST
D3
P.A-A1B4D06 (+SET SVP CONTROL STROBE)
E3
LINE PULSING
NO
YES
F3
P.A-A1C2S04 (-XREG WRITE GATE)
G3
LINE UP
NO
YES
******G2**********
A-A1G2
H3
P.A-A1C2U02 (.RAW OSCILLATOR)
J3
LINE PULSING
NO
YES
******J2**********
A-A1H2 OR A-A1C2
******K3**********
A-A1C2 OR A-A1Q2 OR A-A1B4 OR A-A1H2
A5
ERROR CODE 4050
B5
>START TO LOOP THE TEST
C5
P. A-A1C2J12 (-SVP ADDR BUS 0 BIT 4)
D5
LINE PULSING
NO
YES
SUSPECT CONNECTOR ON BACK OF C2 CARD RETURN HERE IF NO TROUBLE CAN BE FOUND.
******E4**********
A-A1C2 OR A-A1B4
E5
P.A-A1C2P06 .....P07 (+A6 & +A7)
F5
BOTP LINES PULSING
NO
YES
******F4**********
A-A1C2 OR A-A1B4 OR A-A1Q2
******G5**********
A-A1C2 OR A-A1B4

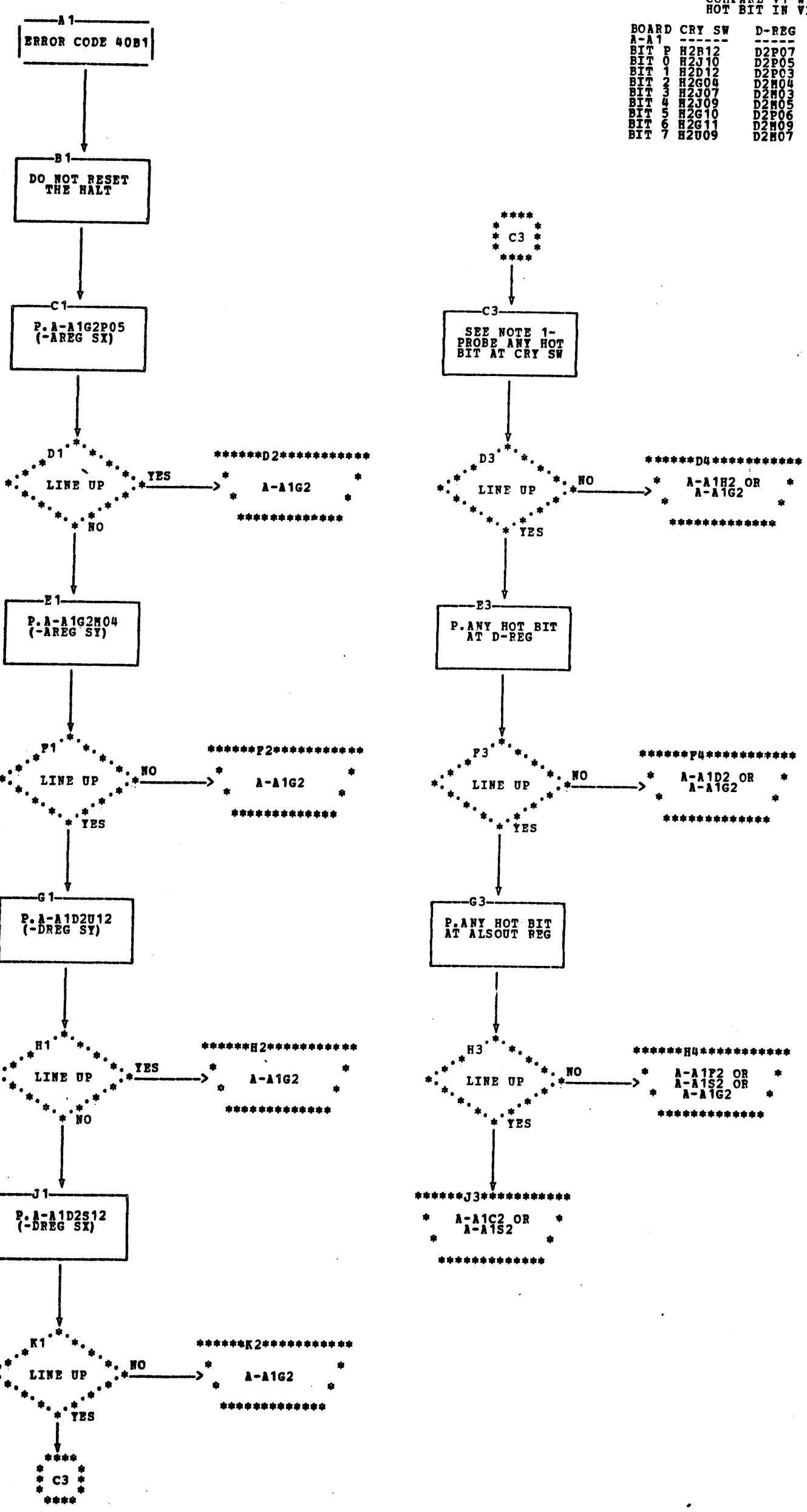

A2
ERROR CODE 4051
B2
>START TO LOOP THE TEST
C2
P.A-A1B4D11 (-LAC ON ROS TO SVP BIT 5)
D2
LINE PULSING
NO
YES
D1
A-A1Q2 OR A-A1B4
E2
A-A1C2


A4
ERROR CODE 4071
B4
>START TO LOOP THE TEST
C4
P.A-A1C2P07 P03 (+A7 & +A5)
D4
BOTH LINES PULSING
NO
YES
D5
A-A1C2 OR A-A1B4 OR A-A1Q2
E4
A-A1H2 OR A-A1G2


A1
ERROR CODE 4091
B1
P.A-A1C2J02 (-B REG CHECK)
C1
LINE UP
YES
******C2**********
A-A1C2 OR A-A1D2
NO
D1
P.A-A1C2P02 (-K BUS BIT 3)
E1
LINE UP
NO
******E2**********
A-A1C2
YES
******F1**********
A-A1H2 OR A-A1D2 OR A-A1G2
A3
ERROR CODE 4093
B3
P.A-A1C2J02 (-B REG CHECK)
C3
LINE UP
YES
******C4**********
A-A1H2 OR A-A1G2
NO
******D3**********
A-A1C2
A5
ERROR CODE 40B0
B5
P. A-A1C2P10 (-D REG CHECK)
D5
LINE UP
YES
******D4**********
A-A1C2
NO
******E5**********
A-A1D2 OR A-A1R2 OR A-A1H2

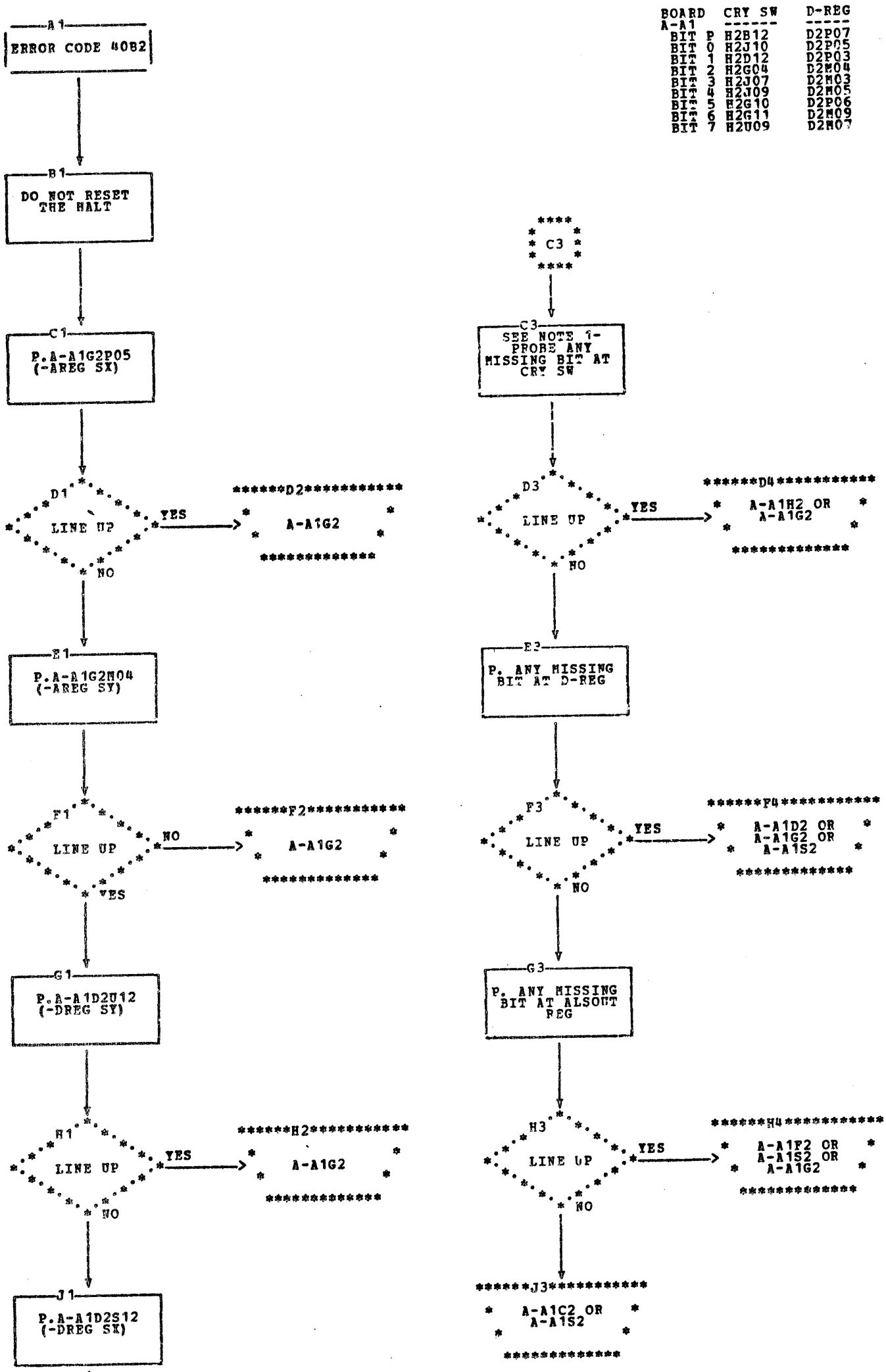
NOTE 1 - SEE ERROR CODE DISPLAYED.
V1 = EXPECTED V2 = D-REG RECIEVED
COMPARE V1 WITH V2, PICK ANY ONE
HOT BIT IN V2 AND CONTINUE.

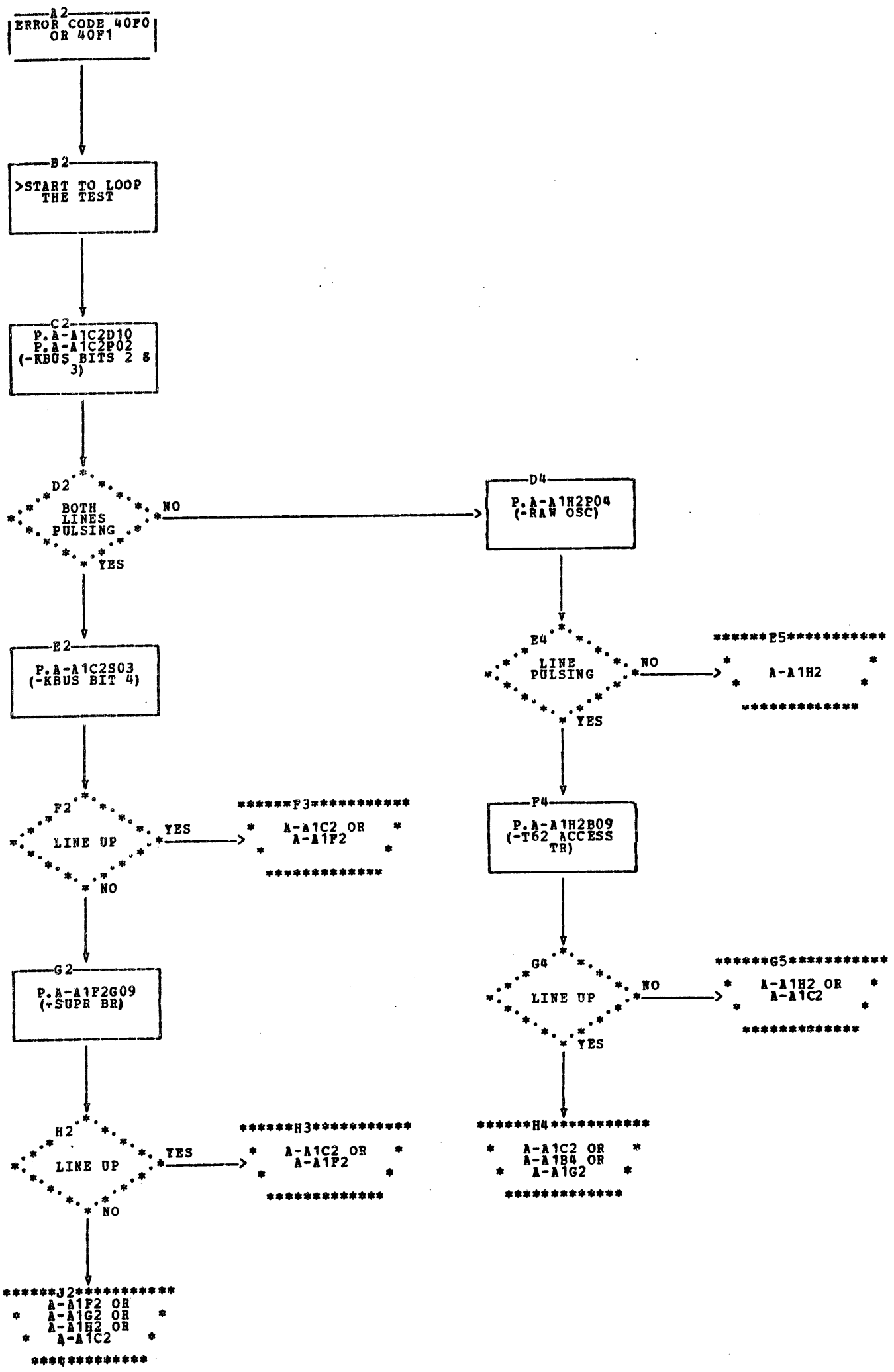
BOARD A-A1	CRY SW	D-REG	ALSOUT REG
BIT P	H2B12	D2P07	F2P05
BIT 0	H2J10	D2P05	F2J05
BIT 1	H2D12	D2P03	F2G07
BIT 2	H2G04	D2M04	F2B13
BIT 3	H2J07	D2M03	F2J03
BIT 4	H2J09	D2M05	F2B09
BIT 5	H2G10	D2P06	F2B10
BIT 6	H2G11	D2M09	F2D03
BIT 7	H2U09	D2M07	F2D02

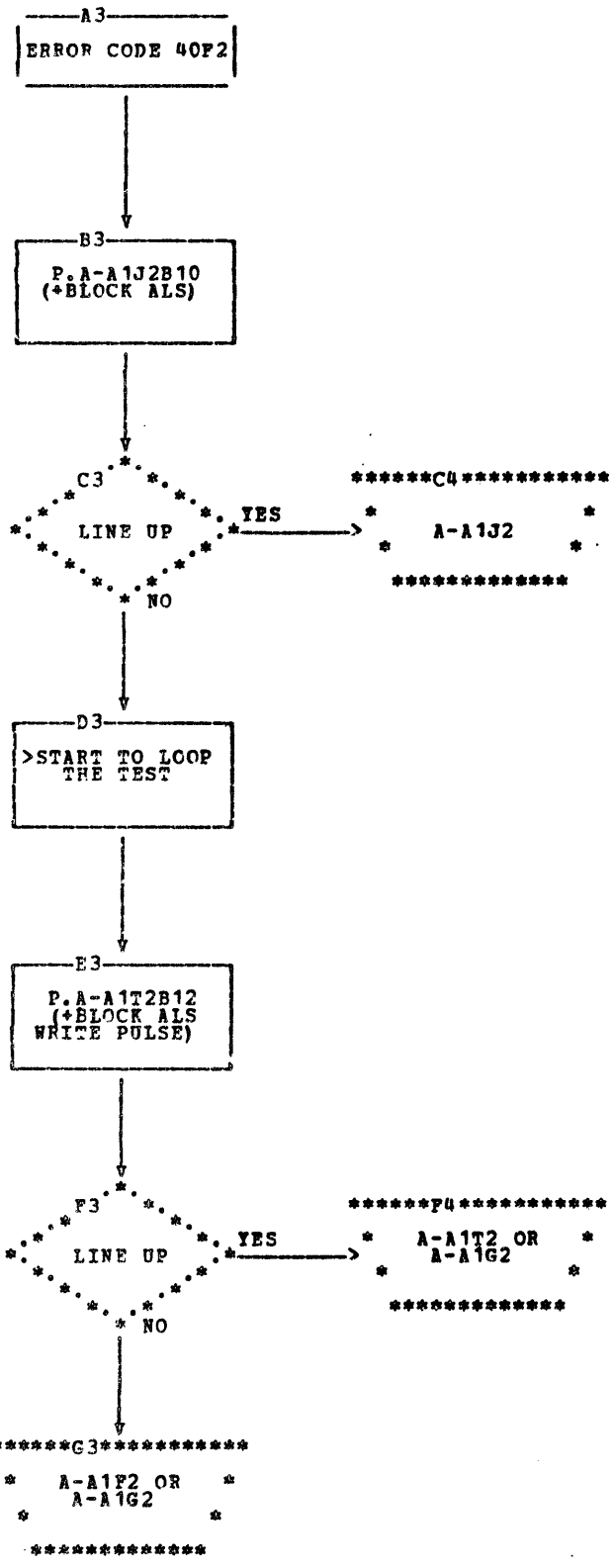


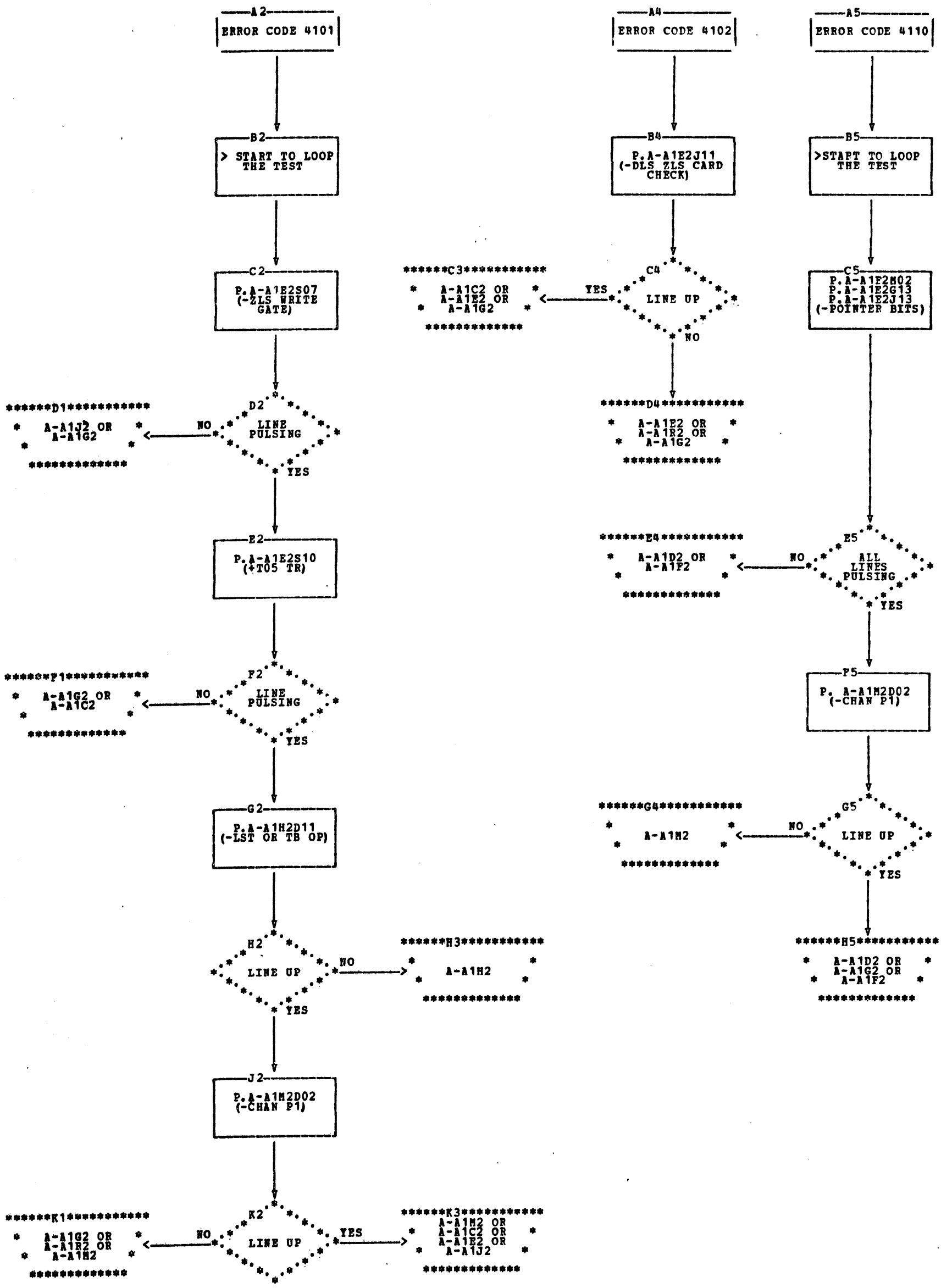
NOTE 1 - SEE ERROR CODE DISPLAYED.
V1 = EXPECTED V2 = D REG RECIEVED
COMPARE V1 WITH V2, PICK ANY ONE
MISSING BIT IN V2 AND CONTINUE.

BOARD A-A1	CRY SW	D-REG	ALSOUT REG
BIT P	H2B12	D2P07	F2P05
BIT 0	H2J10	D2P05	F2J05
BIT 1	H2D12	D2P03	F2G07
BIT 2	H2G04	D2M04	F2B13
BIT 3	H2J07	D2M03	F2J03
BIT 4	H2J09	D2M05	F2B09
BIT 5	H2G10	D2P06	F2B10
BIT 6	H2G11	D2M09	F2D03
BIT 7	H2U09	D2M07	F2D02




A2
ERROR CODE 40F0 OR 40F1
B2
>START TO LOOP THE TEST
C2
P.A-A1C2D10
P.A-A1C2P02
(-KBUS BITS 2 & 3)
D2
BOTH LINES PULSING
NO
YES
D4
P.A-A1H2P04
(-RAW OSC)
E2
P.A-A1C2S03
(-KBUS BIT 4)
E4
LINE PULSING
NO
YES
******E5**********
A-A1H2
****
F2
LINE UP
YES
NO
******F3**********
A-A1C2 OR
A-A1F2
****
F4
P.A-A1H2B09
(-T62 ACCESS TR)
G2
P.A-A1F2G09
(+SUPR BR)
G4
LINE UP
NO
YES
******G5**********
A-A1H2 OR
A-A1C2
****
H2
LINE UP
YES
NO
******H3**********
A-A1C2 OR
A-A1F2
****
******H4**********
A-A1C2 OR
A-A1B4 OR
A-A1G2
****
******J2**********
A-A1F2 OR
A-A1G2 OR
A-A1H2 OR
A-A1C2
****


A3
ERROR CODE 40F2
B3
P.A-A1J2B10
(+BLOCK ALS)
C3
LINE UP
YES
NO
******C4**********
A-A1J2
****
D3
>START TO LOOP
THE TEST
E3
P.A-A1T2B12
(+BLOCK ALS
WRITE PULSE)
F3
LINE UP
YES
NO
******P4**********
A-A1T2 OR
A-A1G2
****
******G3**********
A-A1F2 OR
A-A1G2
****


A2
ERROR CODE 4101
B2
> START TO LOOP THE TEST
C2
P.A-A1E2S07 (-ZLS WRITE GATE)
******C3**********
A-A1C2 OR A-A1E2 OR A-A1G2
****
YES
C4
LINE UP
NO
******D1**********
A-A1J2 OR A-A1G2
****
NO
D2
LINE PULSING
YES
E2
P.A-A1E2S10 (+T05 TR)
******F1**********
A-A1G2 OR A-A1C2
****
NO
F2
LINE PULSING
YES
G2
P.A-A1H2D11 (-LST OR TB OP)
H2
LINE UP
NO
******H3**********
A-A1H2
****
YES
J2
P.A-A1M2D02 (-CHAN P1)
******K1**********
A-A1G2 OR A-A1R2 OR A-A1M2
****
NO
K2
LINE UP
YES
******K3**********
A-A1M2 OR A-A1C2 OR A-A1E2 OR A-A1J2
****
A4
ERROR CODE 4102
B4
P.A-A1E2J11 (-DLS ZLS CARD CHECK)
******D4**********
A-A1E2 OR A-A1R2 OR A-A1G2
****
******E4**********
A-A1D2 OR A-A1F2
****
NO
E5
ALL LINES PULSING
YES
F5
P. A-A1M2D02 (-CHAN P1)
******G4**********
A-A1M2
****
NO
G5
LINE UP
YES
******H5**********
A-A1D2 OR A-A1G2 OR A-A1F2
****
A5
ERROR CODE 4110
B5
>START TO LOOP THE TEST
C5
P.A-A1E2M02 P.A-A1E2G13 P.A-A1E2J13 (-POINTER BITS)

A1
ERROR CODE 4111

B1
> START TO LOOP THE TEST

C1
P.A-A1E2S04 (-T57 CS DATA IN BFR WR PULSE)

D1
LINE PULSING
NO → ******D2********** A-A1E2 OR A-A1G2 **********
YES

E1
P.A-A1L4J10 (+CS WR LEFT)

F1
LINE PULSING
NO → ******F2********** A-A1H2 **********
YES

G1
P.A-A1L2J10 (+CS WRT PULSE RIGHT CARD)

H1
LINE PULSING
NO → ******H2********** A-A1H2 OR A-A1J2 **********
YES

J1
P. A-A1R2G02 (+FTR 6 INVERT PAIRTY)

K1
LINE UP
YES → ******K2********** A-A1R2 OR A-A1E2 **********
NO

A4

NOTE 1:

PROBE INPUT TO CONTROL STOR AS FOLLOWS:

C. S. LEFT (L4)	C. S. RIGHT (L2)
A-A1L4 B05	A-A1L2 B05
B09	B09
B11	B11
D12	D12
G04	G04
G07	G07
G09	G09
J03	J03
J11	J11
J13	J13

A4

A4
P.A-A1M2D02 (-CHAN P1)

B4
LINE DOWN OR PULSING
YES → ******B5********** A-A1M2 OR A-A1F2 **********
NO

C4
SEE NOTE 1- PROBE EACH BIT AT CS LEFT (L4)

D4
ALL LINES PULSING
NO → ******D5********** A-A1D2 OR A-A1H2 **********
YES

E4
SEE NOTE 1- PROBE EACH BIT AT CS RIGHT (L2)

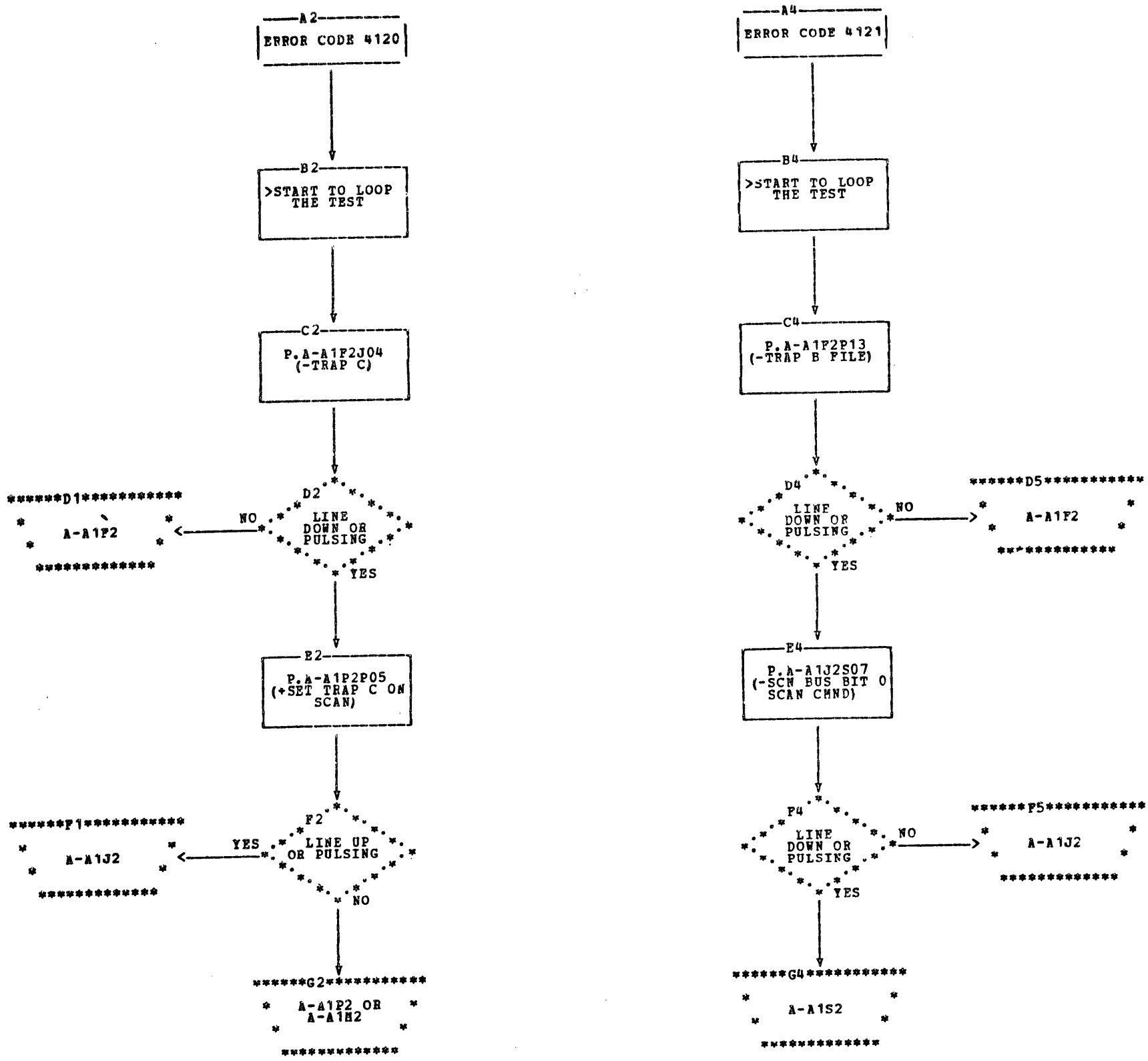
F4
ALL LINES PULSING
NO → ******F5********** A-A1D2 OR A-A1J2 OR A-A1R2 **********
YES

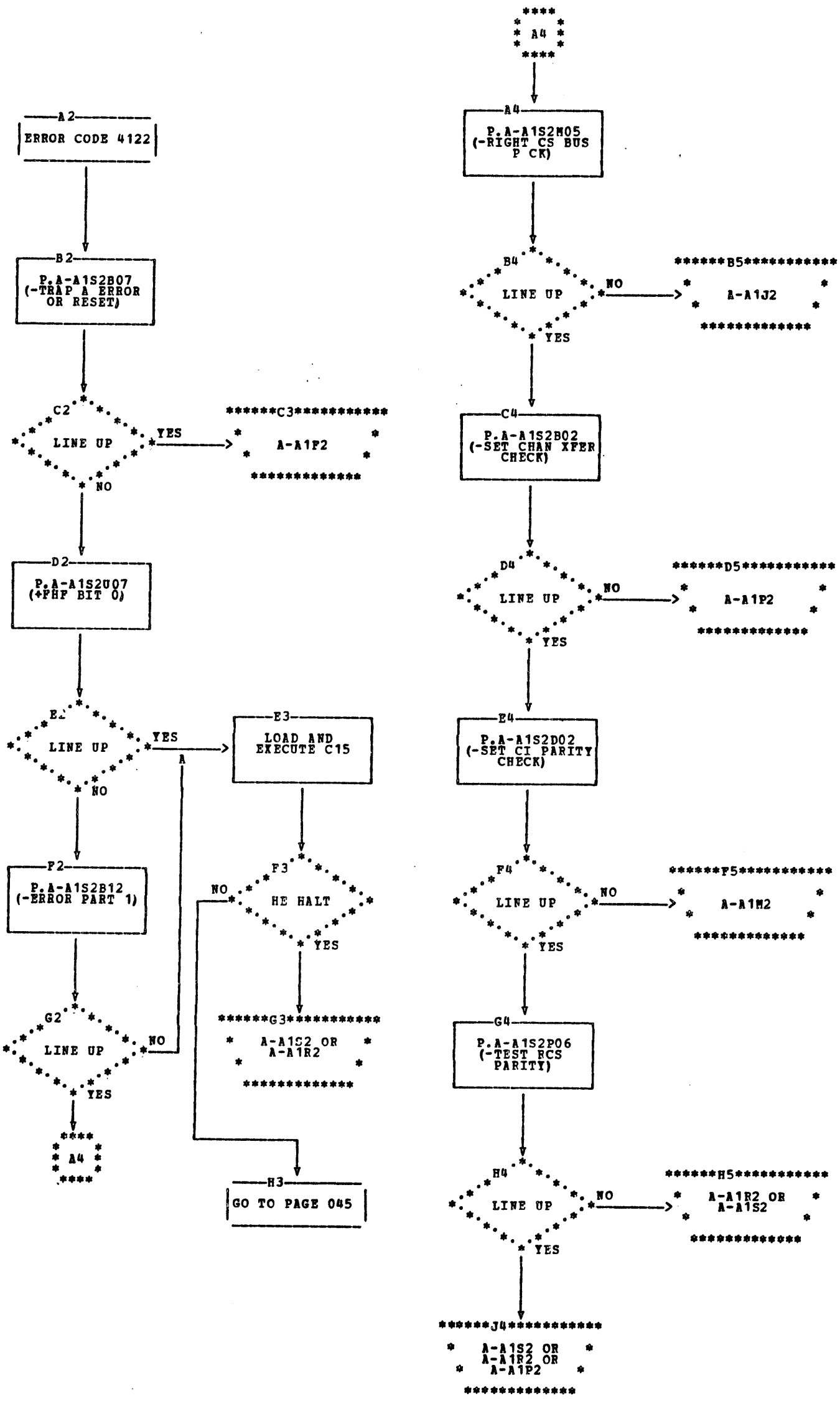
G4
P.A-A1G2B09 (-MODE BFR WRITE GATE)

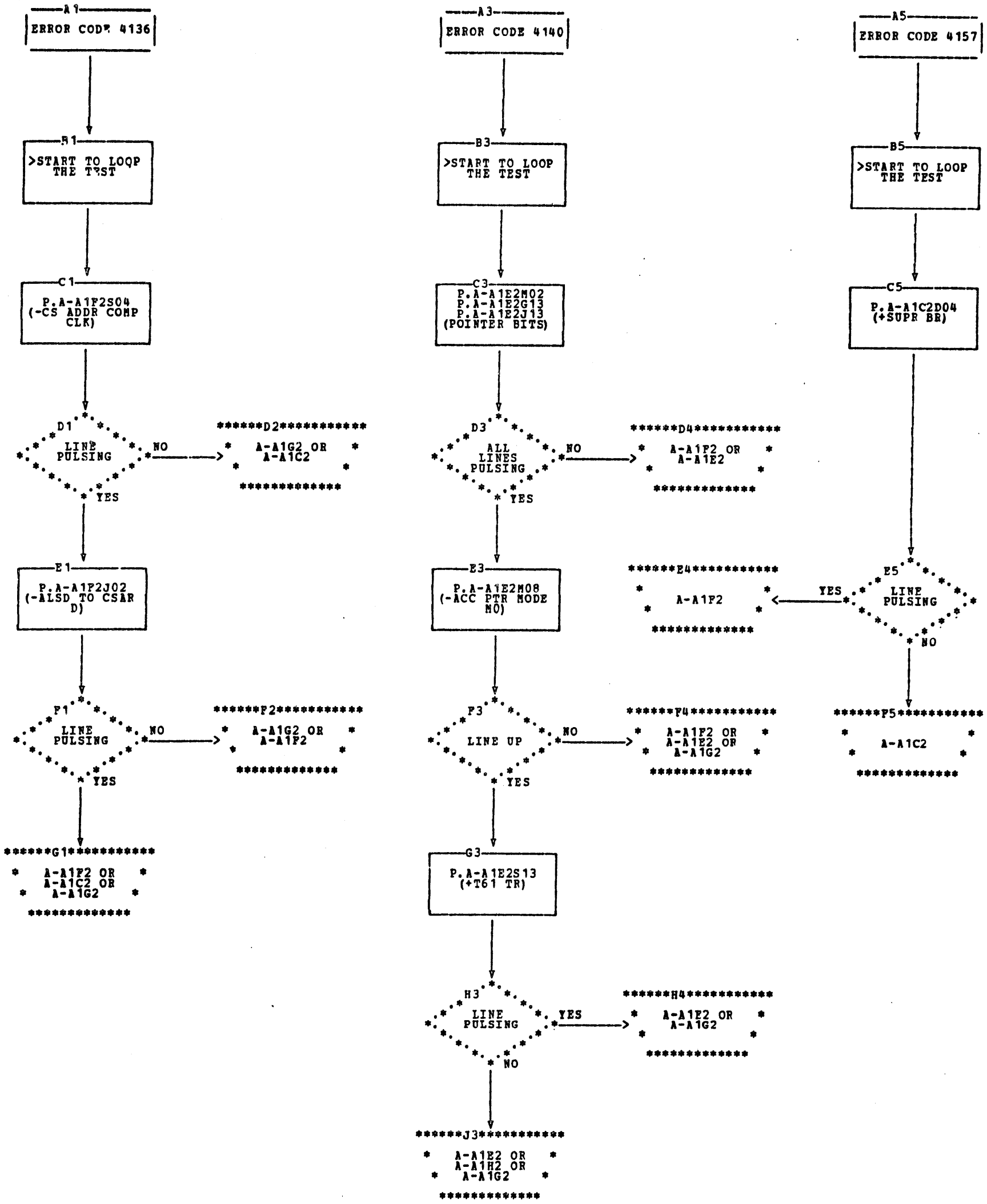
H4
LINE UP
NO → ******H5********** A-A1G2 **********
YES

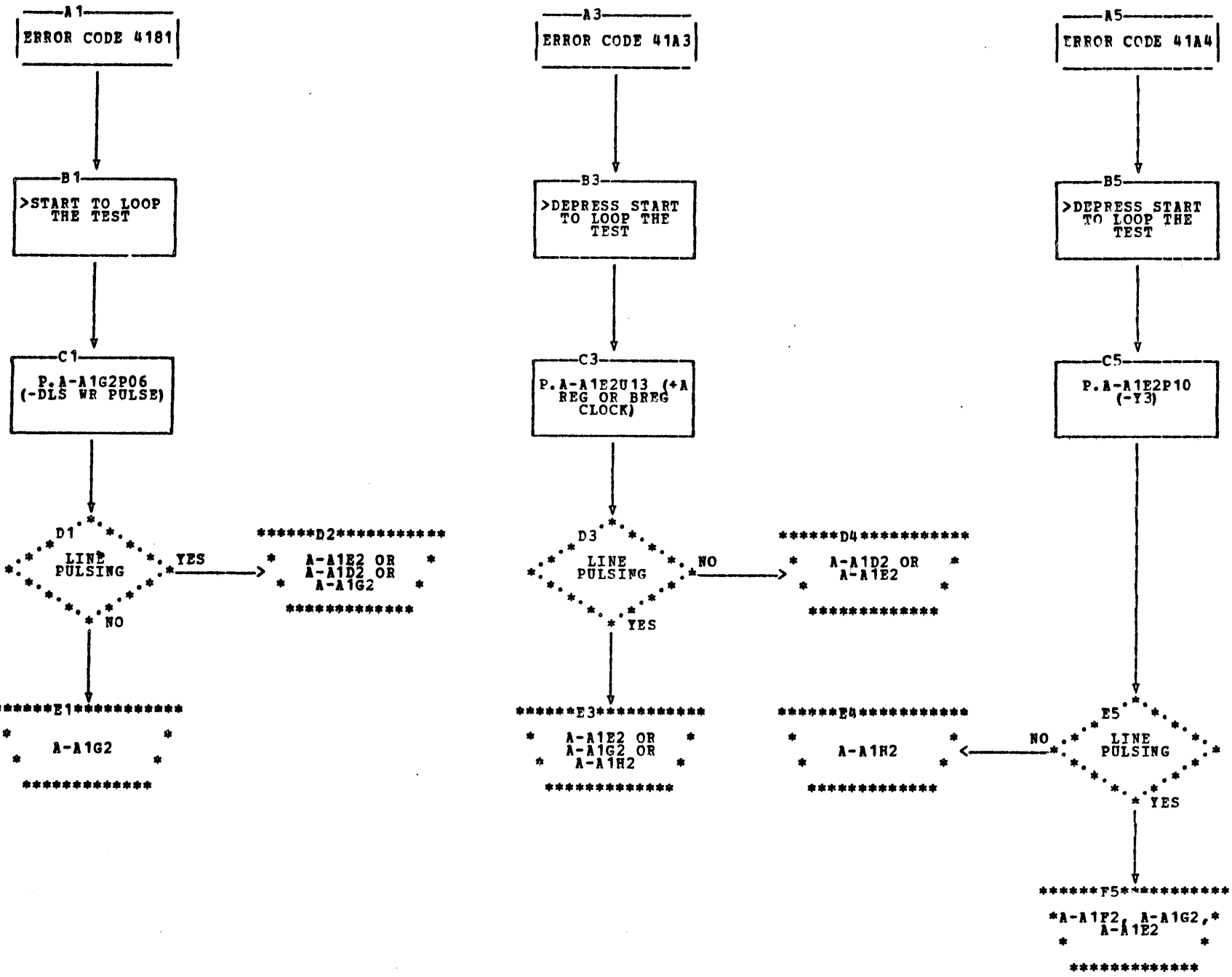
J4
P.A-A1G2S12 P.A-A1G2U03 (+T83TR, +T62 ACCESS TB)

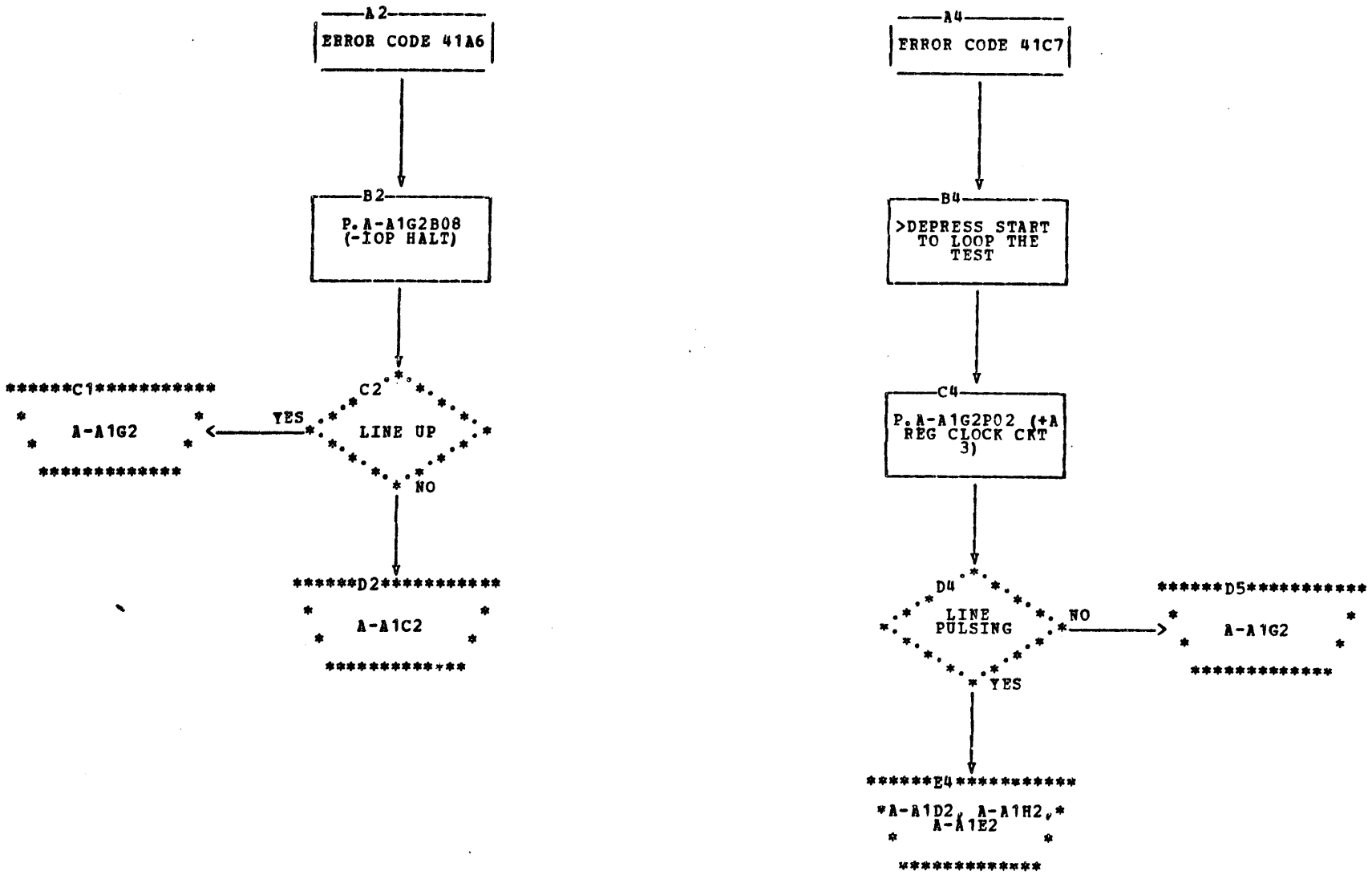
K4
BOTH LINES PULSING
YES → ******K3********** A-A1H2 OR A-A1F2 OR A-A1M2 **********
NO → ******K5********** A-A1G2 **********

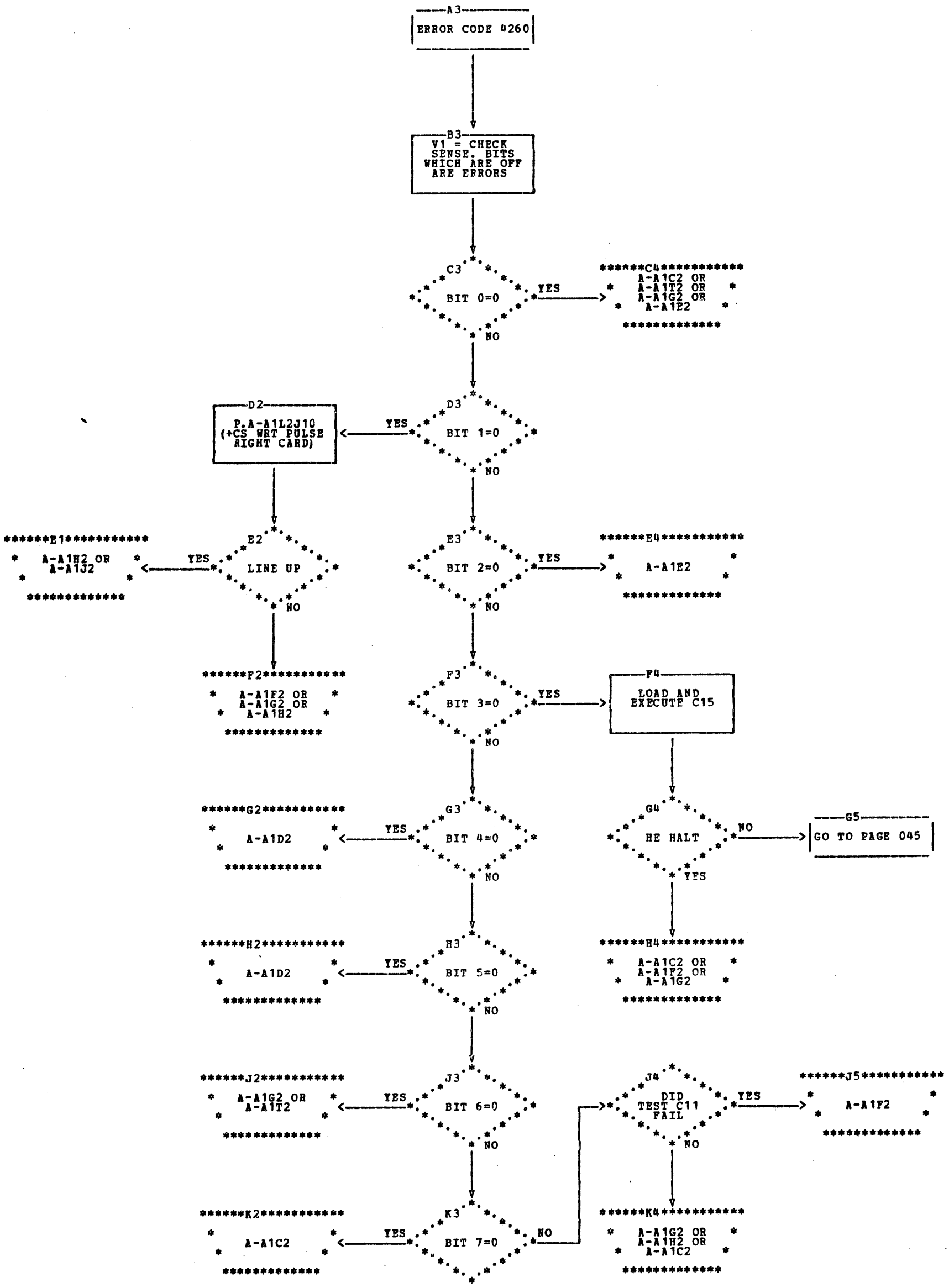

A2
ERROR CODE 4120
B2
>START TO LOOP THE TEST
C2
P.A-A1F2J04 (-TRAP C)
D2
LINE DOWN OR PULSING
NO
YES
******D1**********
A-A1F2
****
E2
P.A-A1P2P05 (+SET TRAP C ON SCAN)
F2
LINE UP OR PULSING
YES
NO
******F1**********
A-A1J2
****
******G2**********
A-A1P2 OR A-A1H2
****
A4
ERROR CODE 4121
B4
>START TO LOOP THE TEST
C4
P.A-A1F2P13 (-TRAP B FILE)
D4
LINE DOWN OR PULSING
NO
YES
******D5**********
A-A1F2
****
E4
P.A-A1J2S07 (-SCN BUS BIT 0 SCAN CMND)
P4
LINE DOWN OR PULSING
NO
YES
******P5**********
A-A1J2
****
******G4**********
A-A1S2
****

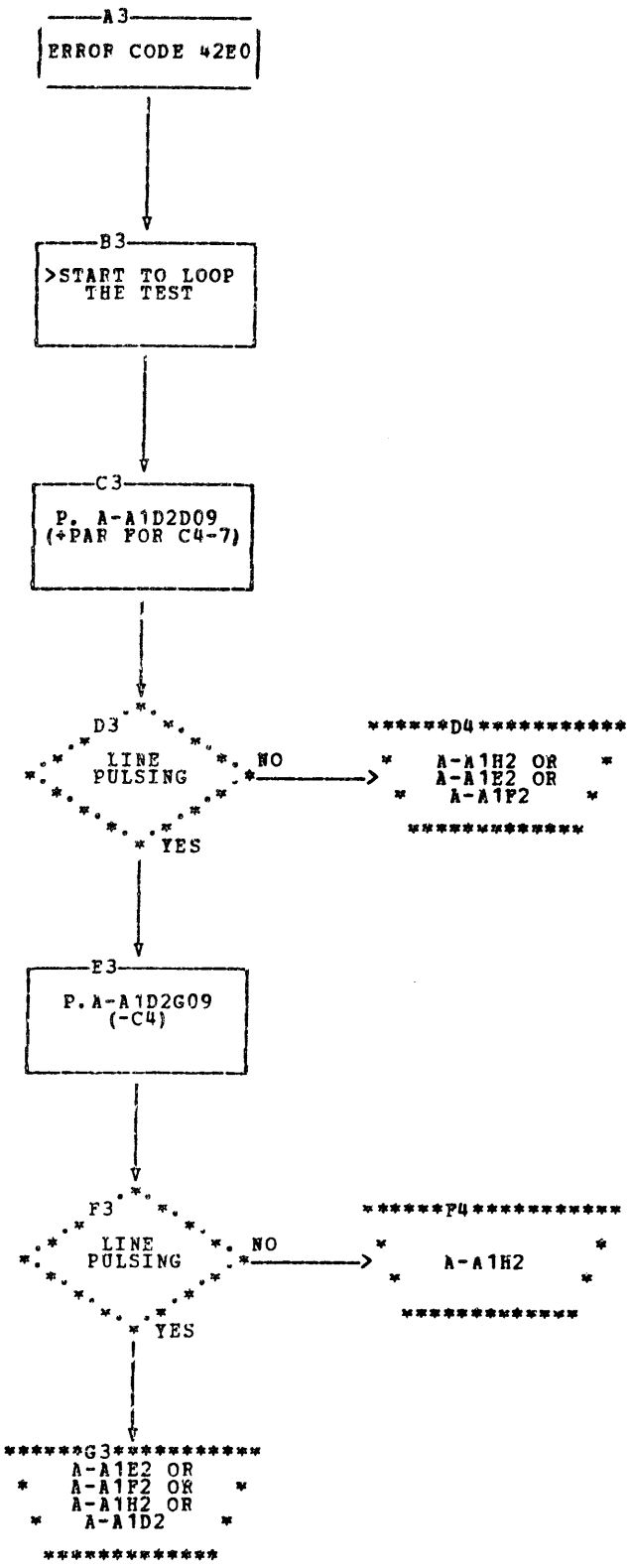

A4
A2
ERROR CODE 4122
B2
P.A-A1S2B07 (-TRAP A ERROR OR RESET)
C2
LINE UP
YES
******C3**********
A-A1F2
NO
D2
P.A-A1S2U07 (+PHF BIT 0)
E2
LINE UP
YES
E3
LOAD AND EXECUTE C15
NO
F2
P.A-A1S2B12 (-ERROR PART 1)
F3
NO
HE HALT
YES
******G3**********
A-A1S2 OR A-A1R2
G2
LINE UP
NO
YES
A4
H3
GO TO PAGE 045
A
A4
A4
P.A-A1S2M05 (-RIGHT CS BUS P CK)
B4
LINE UP
NO
******B5**********
A-A1J2
YES
C4
P.A-A1S2B02 (-SET CHAN XFER CHECK)
D4
LINE UP
NO
******D5**********
A-A1P2
YES
E4
P.A-A1S2D02 (-SET CI PARITY CHECK)
F4
LINE UP
NO
******F5**********
A-A1M2
YES
G4
P.A-A1S2P06 (-TEST RCS PARITY)
H4
LINE UP
NO
******H5**********
A-A1R2 OR A-A1S2
YES
******J4**********
A-A1S2 OR A-A1R2 OR A-A1P2

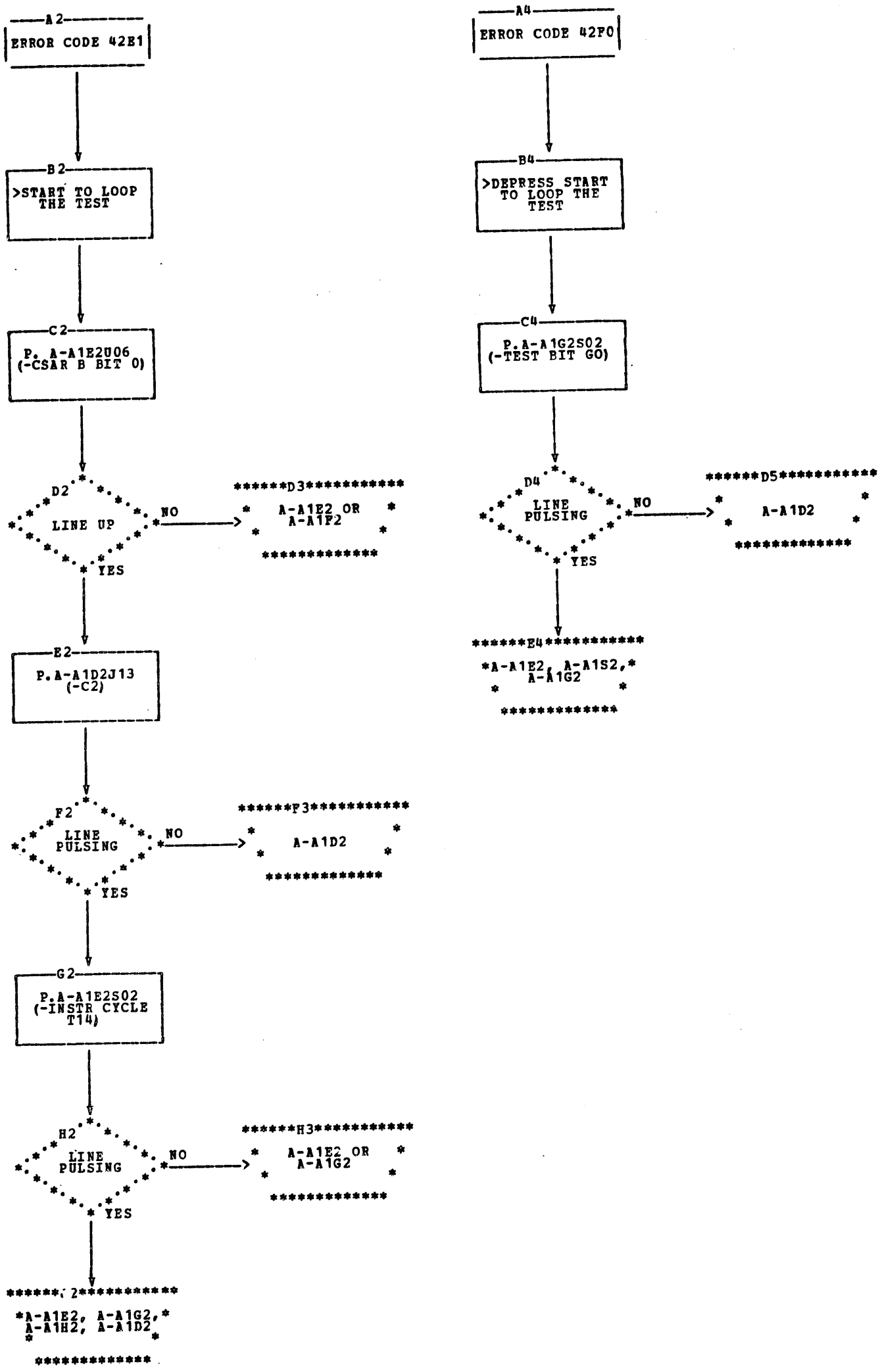

A1
ERROR CODE 4136
B1
>START TO LOOP THE TEST
C1
P.A-A1F2S04 (-CS ADDR COMP CLK)
D1
LINE PULSING
NO
YES
******D2**********
A-A1G2 OR A-A1C2
E1
P.A-A1F2J02 (-ALSD TO CSAR D)
F1
LINE PULSING
NO
YES
******F2**********
A-A1G2 OR A-A1F2
******G1**********
A-A1F2 OR A-A1C2 OR A-A1G2
A3
ERROR CODE 4140
B3
>START TO LOOP THE TEST
C3
P.A-A1E2M02 P.A-A1E2G13 P.A-A1E2J13 (POINTER BITS)
D3
ALL LINES PULSING
NO
YES
******D4**********
A-A1F2 OR A-A1E2
E3
P.A-A1E2M08 (-ACC PTR MODE M0)
F3
LINE UP
NO
YES
******F4**********
A-A1F2 OR A-A1E2 OR A-A1G2
G3
P.A-A1E2S13 (+T61 TR)
H3
LINE PULSING
YES
NO
******H4**********
A-A1E2 OR A-A1G2
******J3**********
A-A1E2 OR A-A1H2 OR A-A1G2
A5
ERROR CODE 4157
B5
>START TO LOOP THE TEST
C5
P.A-A1C2D04 (+SUPR BR)
E5
LINE PULSING
YES
NO
******E4**********
A-A1F2
******P5**********
A-A1C2

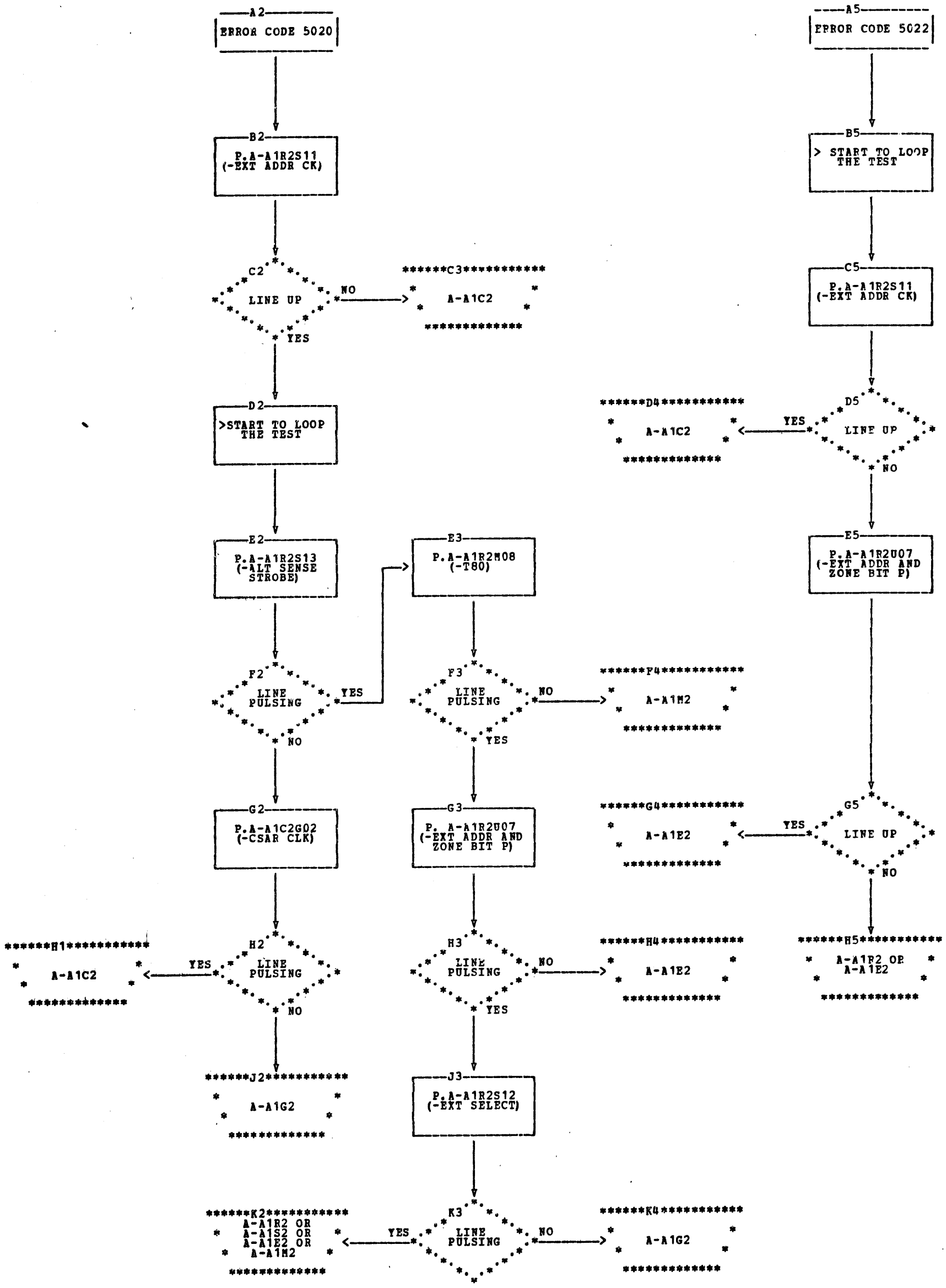

A1
ERROR CODE 4181
B1
>START TO LOOP THE TEST
C1
P.A-A1G2P06 (-DLS WR PULSE)
D1
LINE PULSING
YES
NO
******D2**********
A-A1E2 OR A-A1D2 OR A-A1G2
****
******E1**********
A-A1G2
****
A3
ERROR CODE 41A3
B3
>DEPRESS START TO LOOP THE TEST
C3
P.A-A1E2U13 (+A REG OR BREG CLOCK)
D3
LINE PULSING
NO
YES
******D4**********
A-A1D2 OR A-A1E2
****
******E3**********
A-A1E2 OR A-A1G2 OR A-A1H2
****
******E4**********
A-A1H2
****
A5
ERROR CODE 41A4
B5
>DEPRESS START TO LOOP THE TEST
C5
P.A-A1E2P10 (-Y3)
E5
LINE PULSING
NO
YES
******F5**********
A-A1F2, A-A1G2, A-A1E2
****

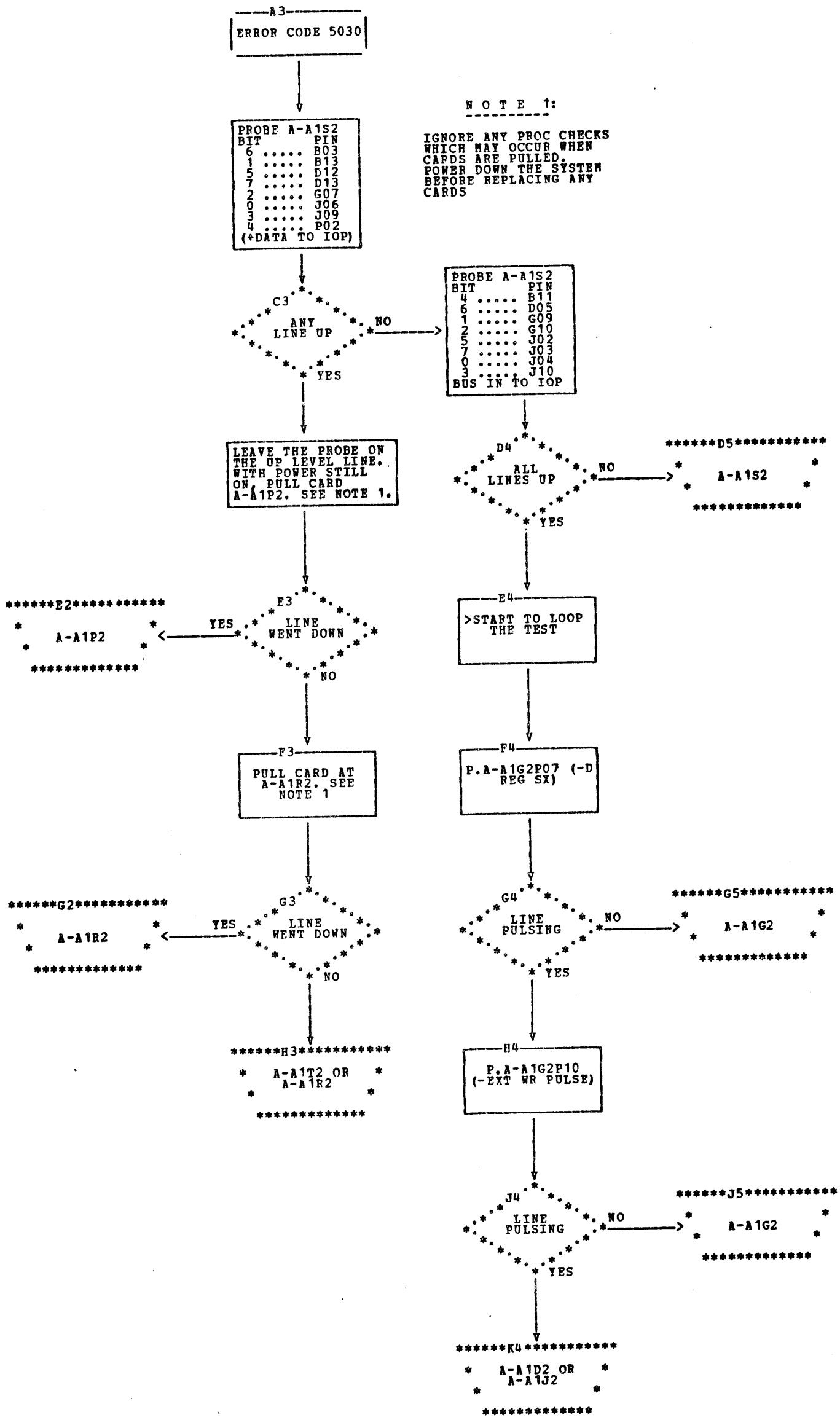

A2
ERROR CODE 41A6
B2
P.A-A1G2B08 (-IOP HALT)
C2
LINE UP
YES
C1
A-A1G2
NO
D2
A-A1C2
A4
ERROR CODE 41C7
B4
>DEPRESS START TO LOOP THE TEST
C4
P.A-A1G2P02 (+A REG CLOCK CKT 3)
D4
LINE PULSING
NO
D5
A-A1G2
YES
E4
A-A1D2, A-A1H2, A-A1E2


A3
ERROR CODE 4260
B3
V1 = CHECK SENSE. BITS WHICH ARE OFF ARE ERRORS
C3
BIT 0=0
YES
******C4**********
A-A1C2 OR
A-A1T2 OR
A-A1G2 OR
A-A1E2
****
NO
D3
BIT 1=0
YES
D2
P.A-A1L2J10 (+CS WRT PULSE RIGHT CARD)
NO
E3
BIT 2=0
YES
******E4**********
A-A1E2
****
NO
E2
LINE UP
YES
******E1**********
A-A1H2 OR
A-A1J2
****
NO
F3
BIT 3=0
YES
F4
LOAD AND EXECUTE C15
NO
******F2**********
A-A1F2 OR
A-A1G2 OR
A-A1H2
****
G4
HE HALT
NO
G5
GO TO PAGE 045
YES
G3
BIT 4=0
YES
******G2**********
A-A1D2
****
NO
******H4**********
A-A1C2 OR
A-A1F2 OR
A-A1G2
****
H3
BIT 5=0
YES
******H2**********
A-A1D2
****
NO
J4
DID TEST C11 FAIL
YES
******J5**********
A-A1F2
****
NO
J3
BIT 6=0
YES
******J2**********
A-A1G2 OR
A-A1T2
****
NO
******K4**********
A-A1G2 OR
A-A1H2 OR
A-A1C2
****
K3
BIT 7=0
YES
NO
******K2**********
A-A1C2
****


A3
ERROR CODE 42E0
B3
>START TO LOOP THE TEST
C3
P. A-A1D2D09 (+PAR FOR C4-7)
D3
LINE PULSING
NO
YES
******D4**********
A-A1H2 OR A-A1E2 OR A-A1F2
E3
P.A-A1D2G09 (-C4)
F3
LINE PULSING
NO
YES
******F4**********
A-A1H2
******G3**********
A-A1E2 OR A-A1F2 OR A-A1H2 OR A-A1D2

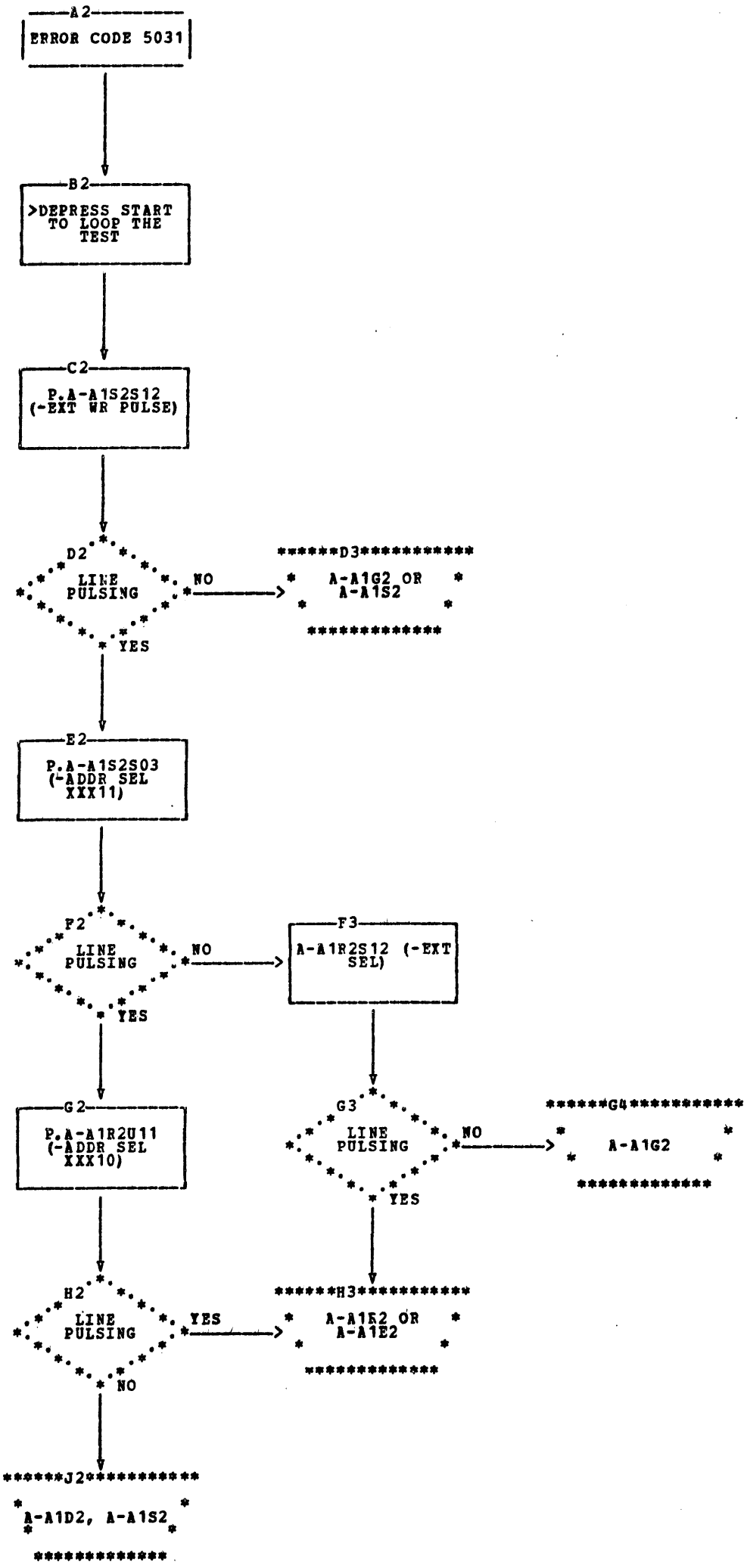

A2
ERROR CODE 42E1
B2
>START TO LOOP THE TEST
C2
P. A-A1E2U06 (-CSAR B BIT 0)
D2
LINE UP
NO
******D3**********
A-A1E2 OR A-A1F2
YES
E2
P.A-A1D2J13 (-C2)
F2
LINE PULSING
NO
******F3**********
A-A1D2
YES
G2
P.A-A1E2S02 (-INSTR CYCLE T14)
H2
LINE PULSING
NO
******H3**********
A-A1E2 OR A-A1G2
YES
******J2**********
A-A1E2, A-A1G2,
A-A1H2, A-A1D2
A4
ERROR CODE 42F0
B4
>DEPRESS START TO LOOP THE TEST
C4
P.A-A1G2S02 (-TEST BIT GO)
D4
LINE PULSING
NO
******D5**********
A-A1D2
YES
******E4**********
A-A1E2, A-A1S2,
A-A1G2

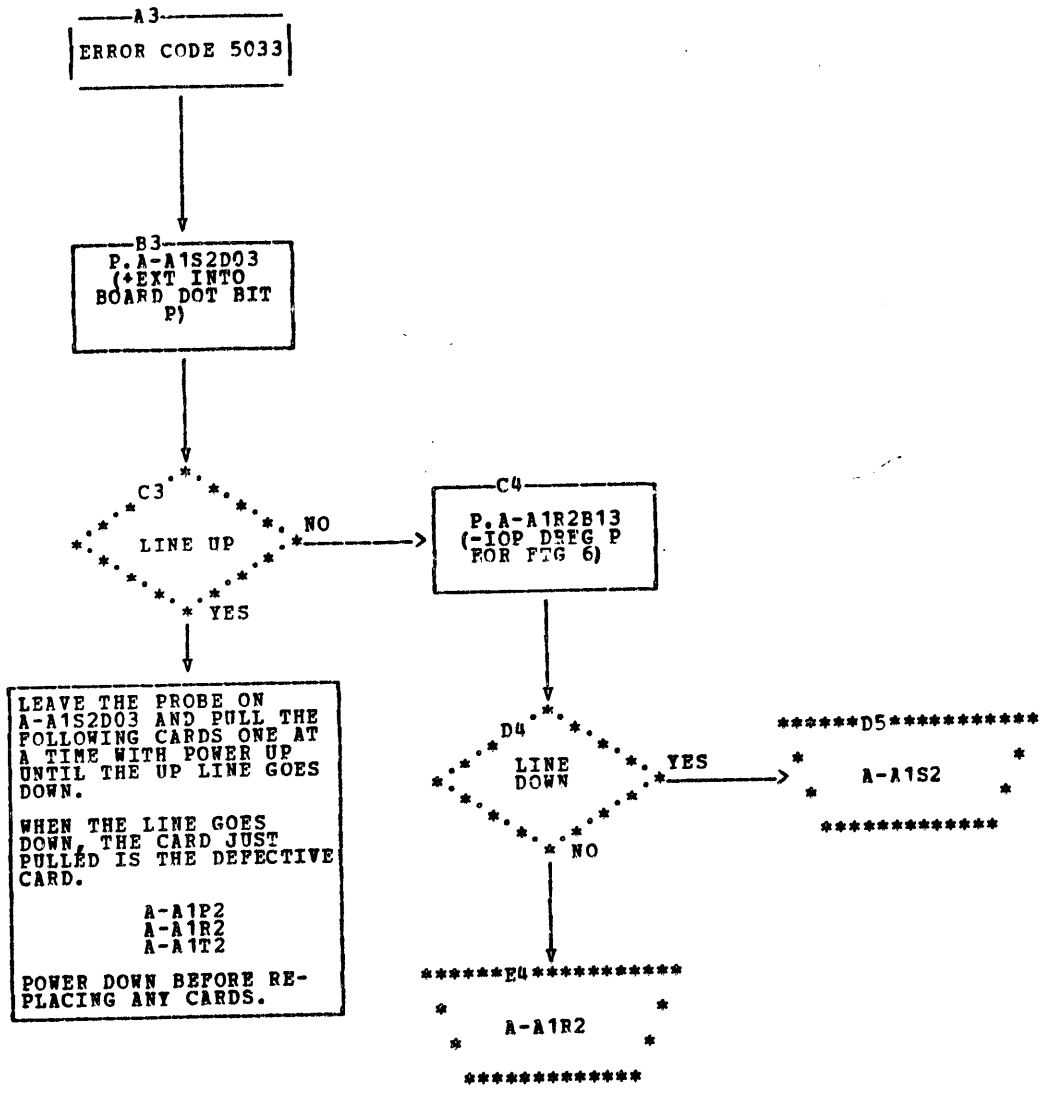

A2
ERROR CODE 5020
B2
P.A-A1R2S11 (-EXT ADDR CK)
C2
LINE UP
NO
******C3**********
A-A1C2
****
YES
D2
>START TO LOOP THE TEST
E2
P.A-A1R2S13 (-ALT SENSE STROBE)
E3
P.A-A1R2M08 (-T80)
F2
LINE PULSING
YES
NO
F3
LINE PULSING
NO
YES
******F4**********
A-A1M2
****
G2
P.A-A1C2G02 (-CSAR CLK)
G3
P. A-A1R2U07 (-EXT ADDR AND ZONE BIT P)
H2
LINE PULSING
YES
NO
******H1**********
A-A1C2
****
H3
LINE PULSING
NO
YES
******H4**********
A-A1E2
****
******J2**********
A-A1G2
****
J3
P.A-A1R2S12 (-EXT SELECT)
K2
A-A1R2 OR A-A1S2 OR A-A1E2 OR A-A1M2
****
K3
LINE PULSING
YES
NO
******K4**********
A-A1G2
****
A5
ERROR CODE 5022
B5
> START TO LOOP THE TEST
C5
P.A-A1R2S11 (-EXT ADDR CK)
D5
LINE UP
YES
NO
******D4**********
A-A1C2
****
E5
P.A-A1R2U07 (-EXT ADDR AND ZONE BIT P)
G5
LINE UP
YES
NO
******G4**********
A-A1E2
****
******H5**********
A-A1R2 OR A-A1E2
****

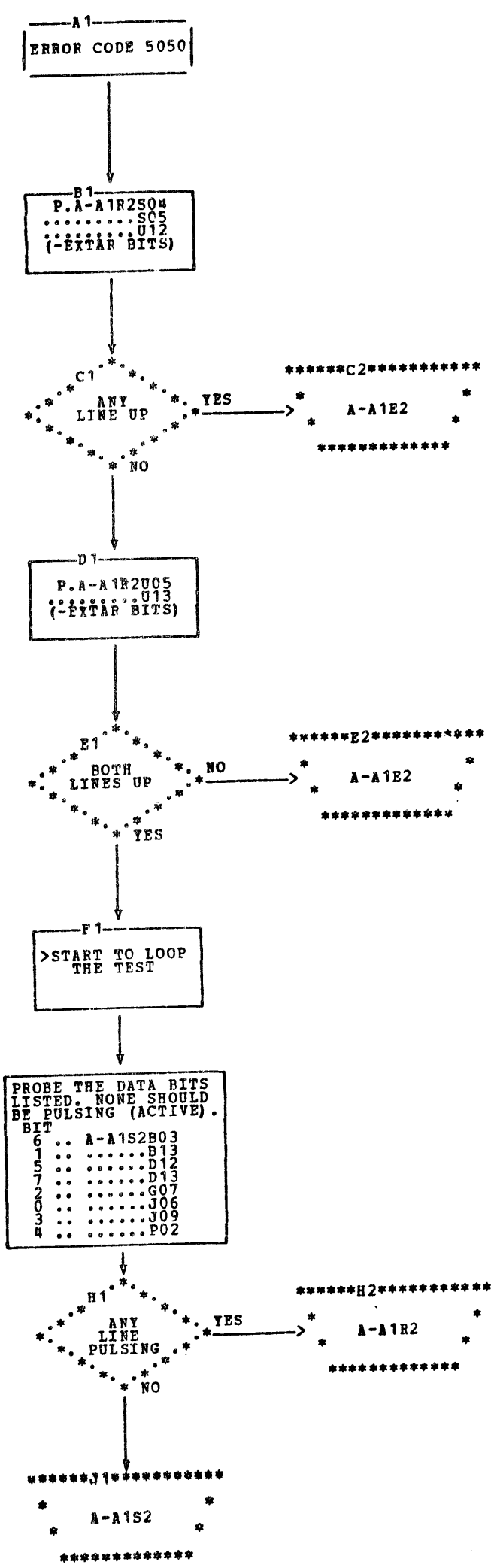


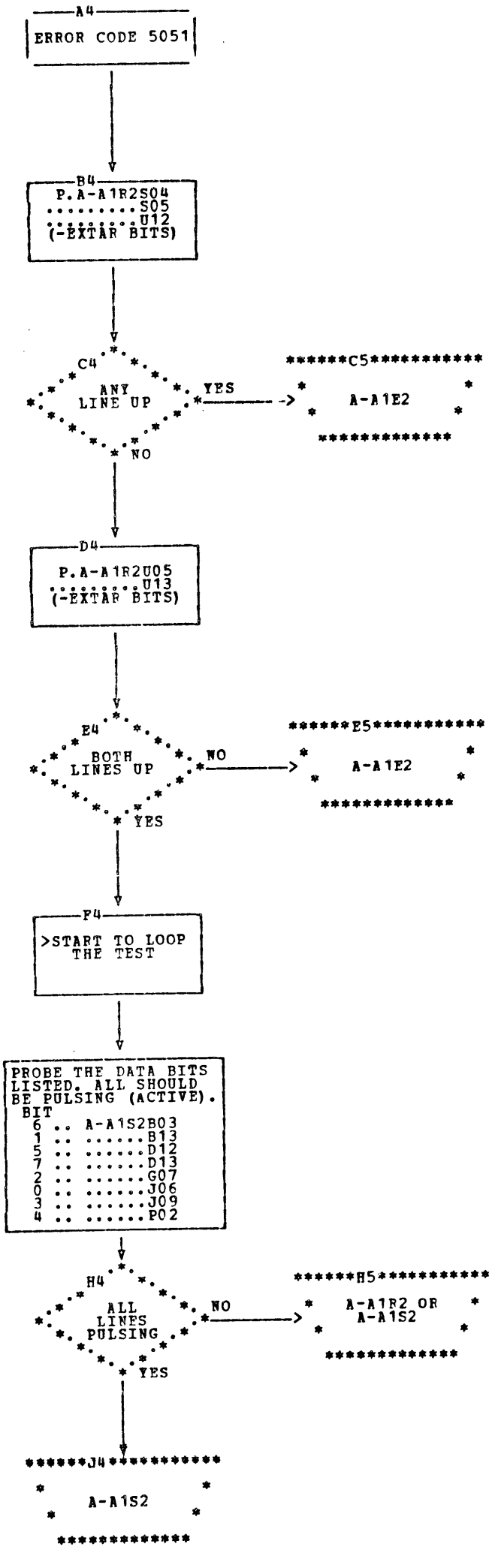
N O T E 1:

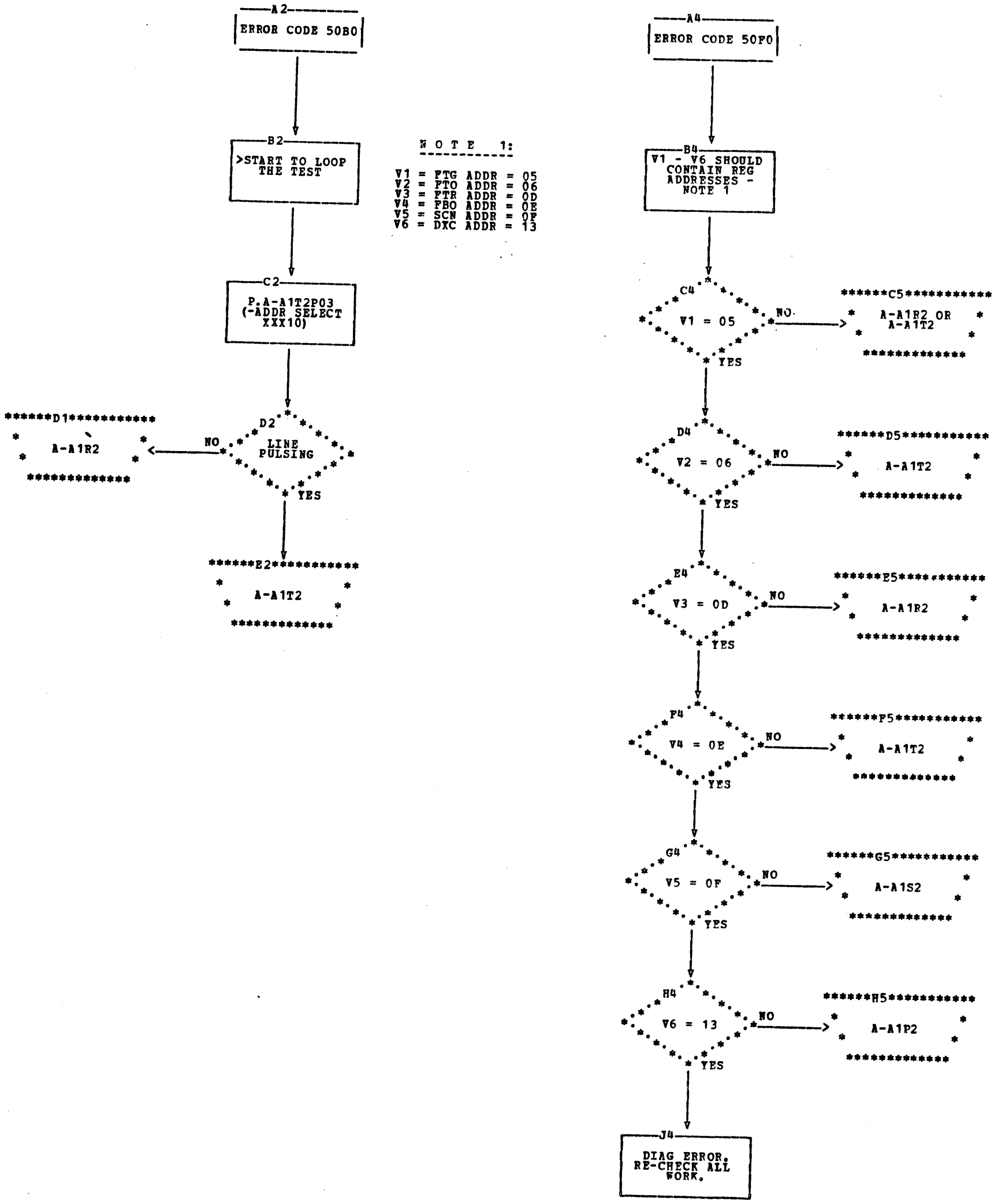
IGNORE ANY PROC CHECKS WHICH MAY OCCUR WHEN CARDS ARE PULLED. POWER DOWN THE SYSTEM BEFORE REPLACING ANY CARDS

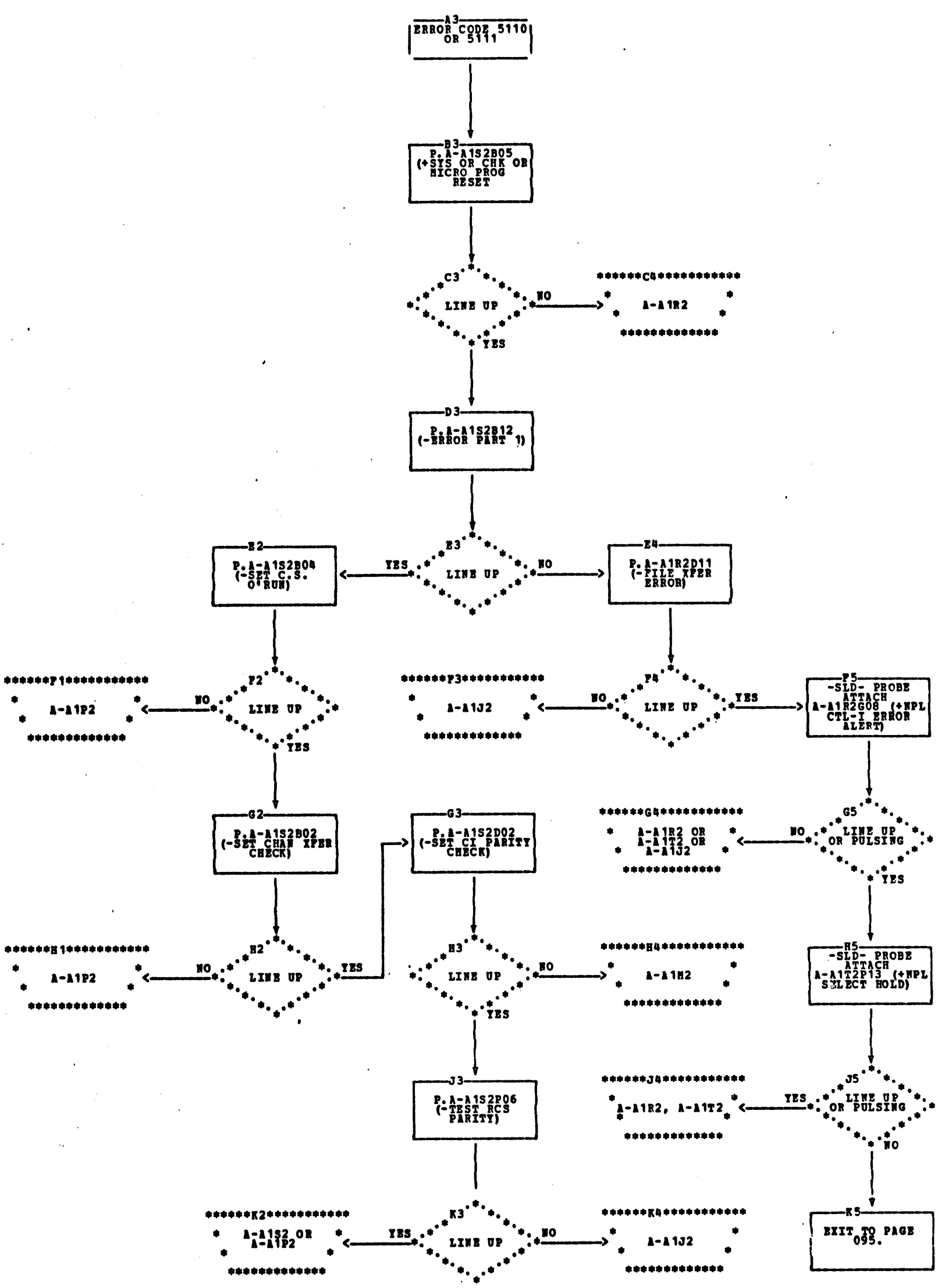

A2
ERROR CODE 5031
B2
>DEPRESS START TO LOOP THE TEST
C2
P.A-A1S2S12 (-EXT WR PULSE)
D2
LINE PULSING
NO
YES
******D3**********
A-A1G2 OR A-A1S2
E2
P.A-A1S2S03 (-ADDR SEL XXX11)
F2
LINE PULSING
NO
YES
F3
A-A1R2S12 (-EXT SEL)
G2
P.A-A1R2U11 (-ADDR SEL XXX10)
G3
LINE PULSING
NO
YES
******G4**********
A-A1G2
H2
LINE PULSING
YES
NO
******H3**********
A-A1E2 OR A-A1E2
******J2**********
A-A1D2, A-A1S2

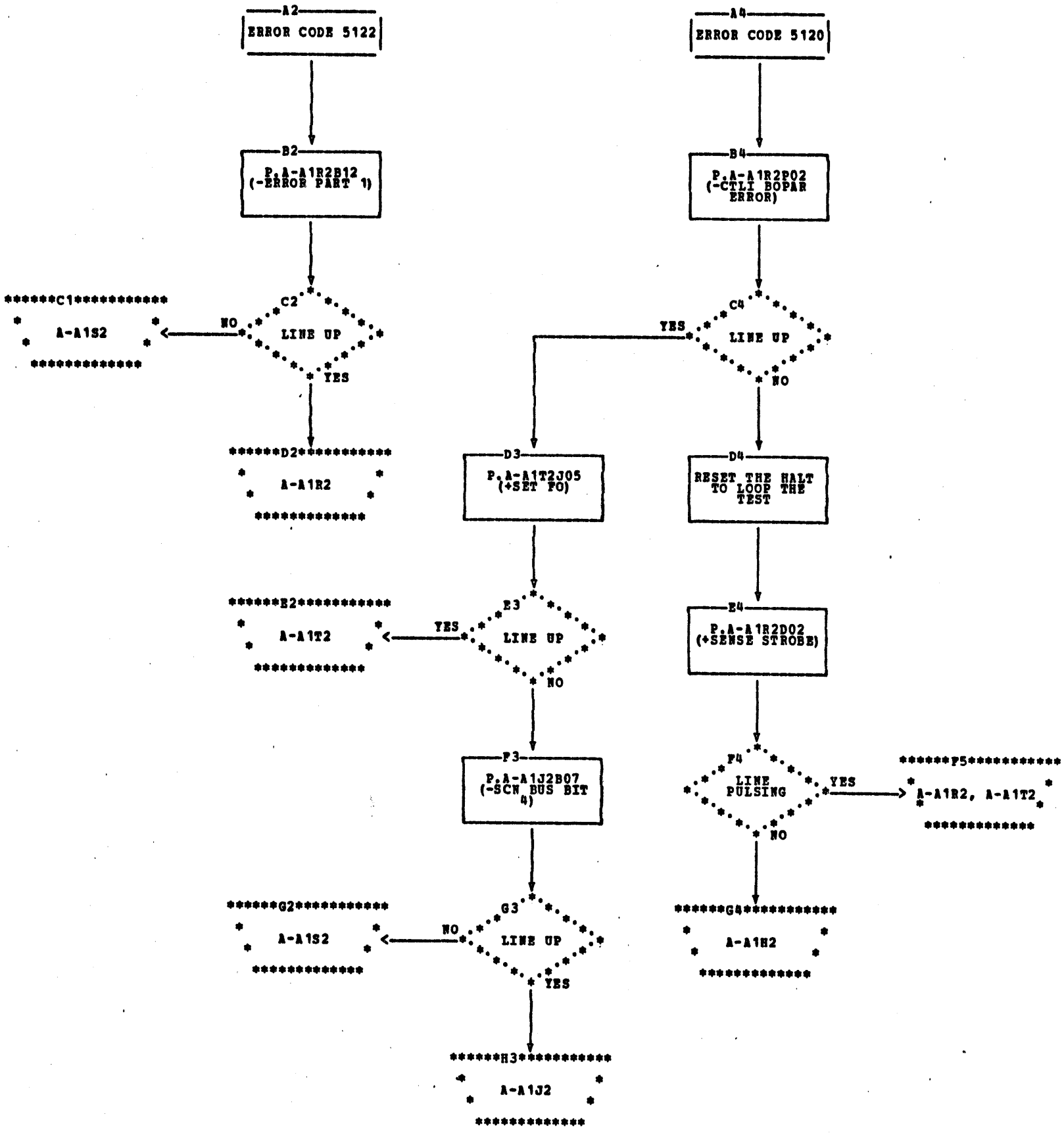

A3
ERROR CODE 5033
B3
P.A-A1S2D03
(+EXT INTO
BOARD DOT BIT
P)
C3
LINE UP
NO
YES
C4
P.A-A1R2B13
(-IOP DREG P
FOR FIG 6)
LEAVE THE PROBE ON
A-A1S2D03 AND PULL THE
FOLLOWING CARDS ONE AT
A TIME WITH POWER UP
UNTIL THE UP LINE GOES
DOWN.
WHEN THE LINE GOES
DOWN, THE CARD JUST
PULLED IS THE DEFECTIVE
CARD.
A-A1P2
A-A1R2
A-A1T2
POWER DOWN BEFORE RE-
PLACING ANY CARDS.
D4
LINE
DOWN
YES
NO
******D5**********
A-A1S2
****
******E4**********
A-A1R2
****

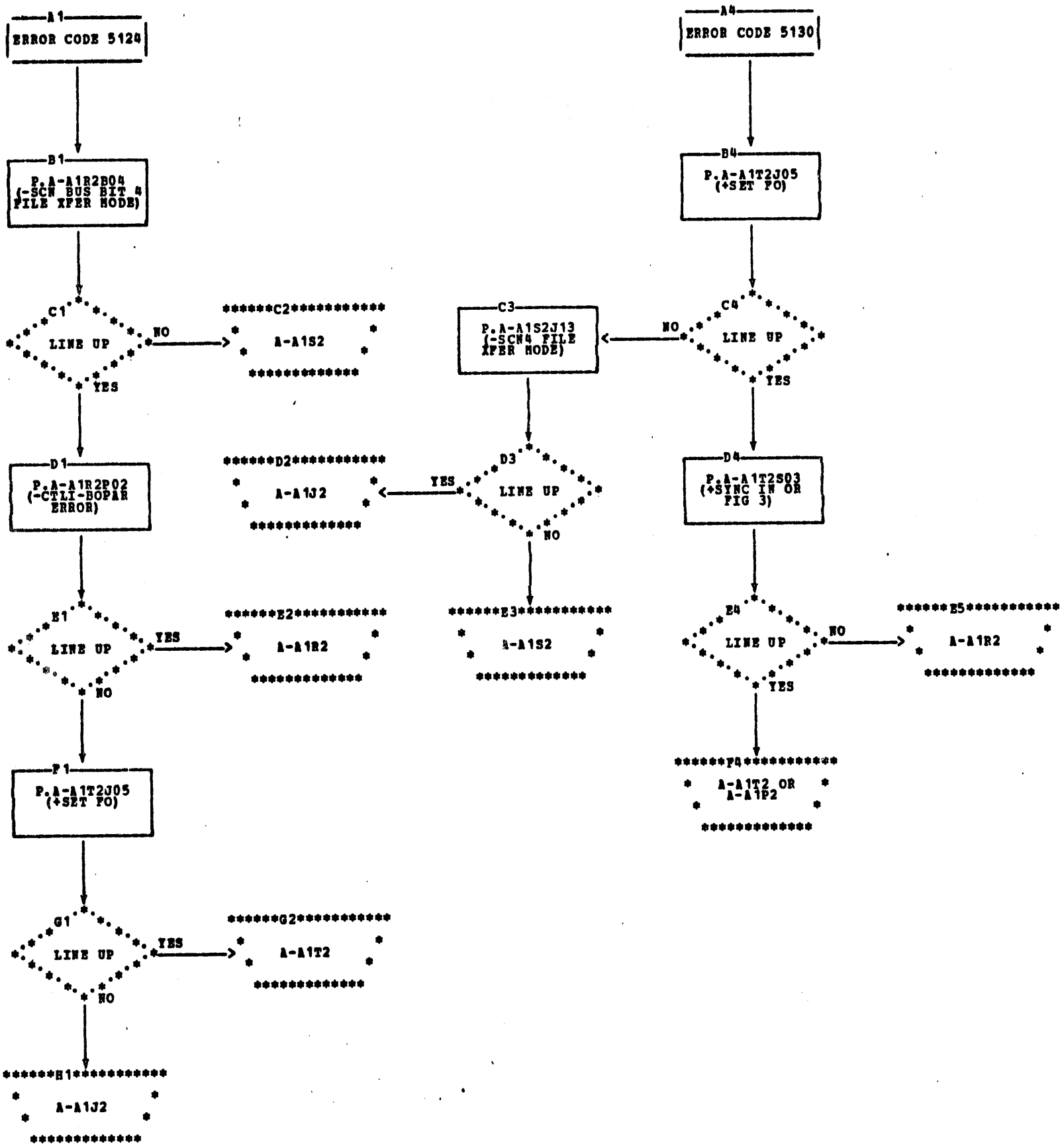

A1
ERROR CODE 5050
B1
P.A-A1R2S04
.....S05
.....U12
(-EXTAR BITS)
C1
ANY LINE UP
YES
******C2**********
A-A1E2
****
NO
D1
P.A-A1R2U05
.....U13
(-EXTAR BITS)
E1
BOTH LINES UP
NO
******E2**********
A-A1E2
****
YES
F1
>START TO LOOP THE TEST
PROBE THE DATA BITS LISTED. NONE SHOULD BE PULSING (ACTIVE).
BIT
6 .. A-A1S2B03
1 .. ..B13
5 .. ..D12
7 .. ..D13
2 .. ..G07
0 .. ..J06
3 .. ..J09
4 .. ..P02
H1
ANY LINE PULSING
YES
******H2**********
A-A1R2
****
NO
******J1**********
A-A1S2
****

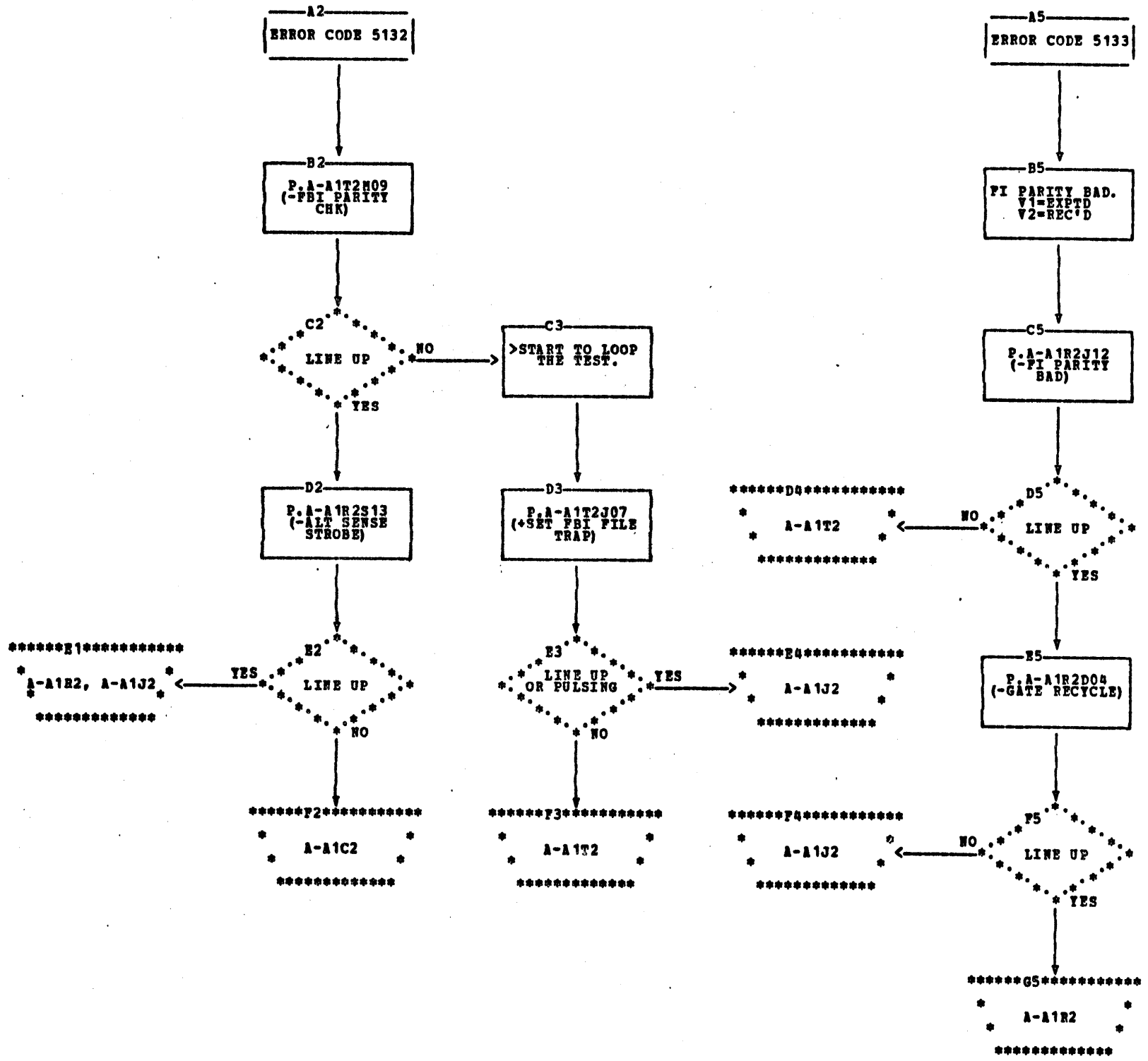

A4
ERROR CODE 5051
B4
P.A-A1R2S04
.....S05
.....U12
(-EXTAR BITS)
C4
ANY LINE UP
YES
******C5**********
A-A1E2
****
NO
D4
P.A-A1R2U05
.....U13
(-EXTAR BITS)
E4
BOTH LINES UP
NO
******E5**********
A-A1E2
****
YES
F4
>START TO LOOP THE TEST
PROBE THE DATA BITS LISTED. ALL SHOULD BE PULSING (ACTIVE).
BIT
6 .. A-A1S2B03
1 .. ..B13
5 .. ..D12
7 .. ..D13
2 .. ..G07
0 .. ..J06
3 .. ..J09
4 .. ..P02
H4
ALL LINES PULSING
NO
******H5**********
A-A1R2 OR A-A1S2
****
YES
******J4**********
A-A1S2
****

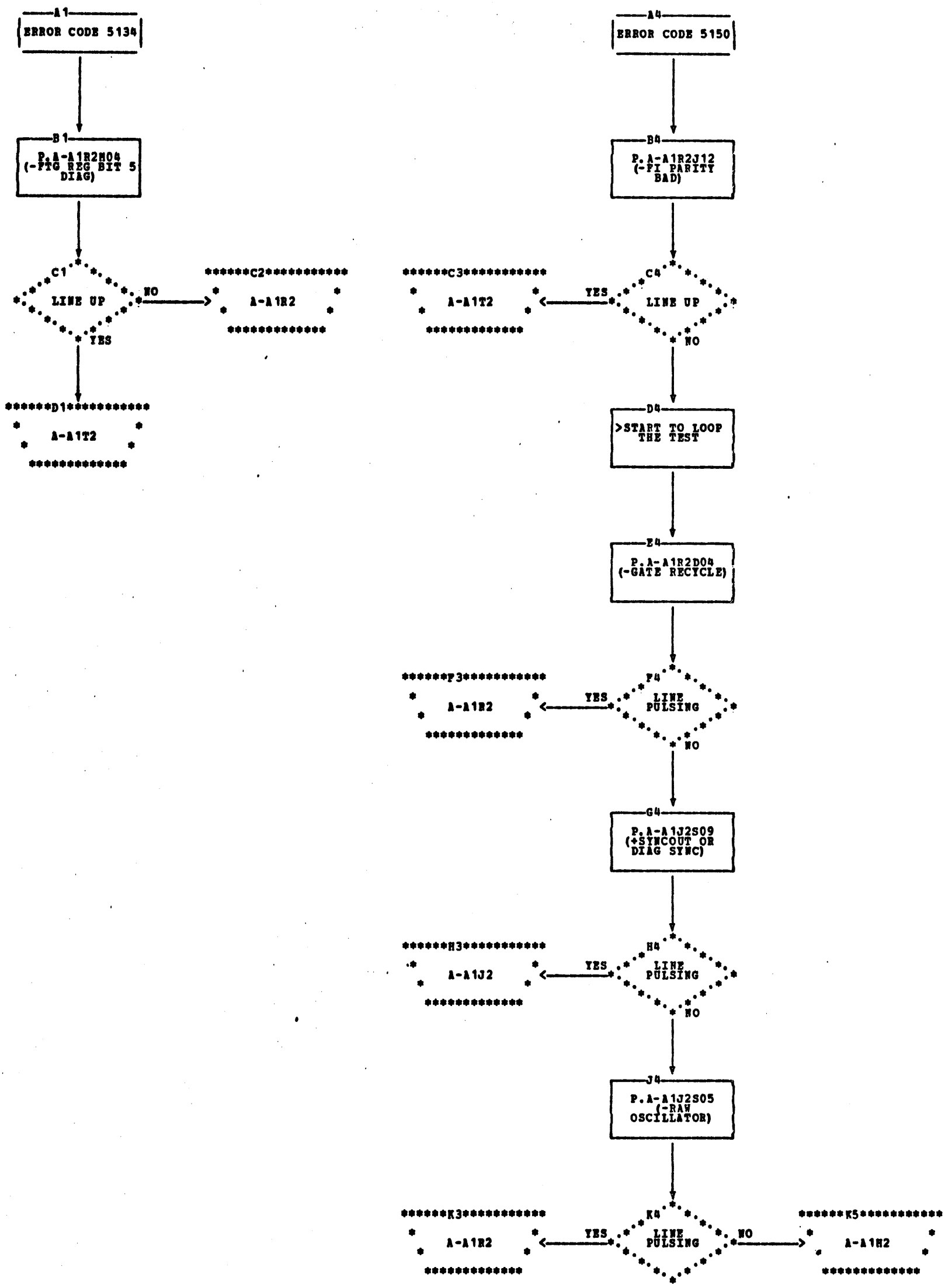

A2
ERROR CODE 50B0
B2
>START TO LOOP THE TEST
C2
P.A-A1T2P03 (-ADDR SELECT XXX10)
D2
LINE PULSING
NO
YES
******D1**********
A-A1R2
****
******E2**********
A-A1T2
****
NOTE 1:
V1 = FTG ADDR = 05
V2 = FTO ADDR = 06
V3 = FTR ADDR = 0D
V4 = FBO ADDR = 0E
V5 = SCN ADDR = 0F
V6 = DXC ADDR = 13
A4
ERROR CODE 50F0
B4
V1 - V6 SHOULD CONTAIN REG ADDRESSES - NOTE 1
C4
V1 = 05
NO
YES
******C5**********
A-A1R2 OR A-A1T2
****
D4
V2 = 06
NO
YES
******D5**********
A-A1T2
****
E4
V3 = 0D
NO
YES
******E5**********
A-A1R2
****
F4
V4 = 0E
NO
YES
******F5**********
A-A1T2
****
G4
V5 = 0F
NO
YES
******G5**********
A-A1S2
****
H4
V6 = 13
NO
YES
******H5**********
A-A1P2
****
J4
DIAG ERROR. RE-CHECK ALL WORK.

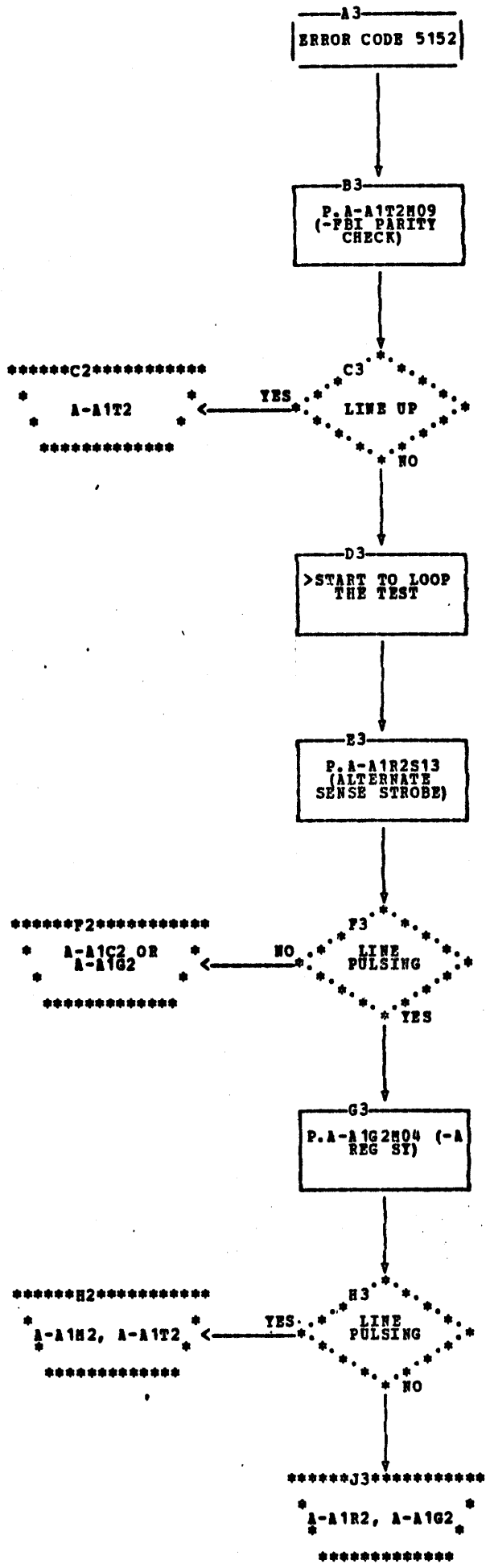

A3
ERROR CODE 5110 OR 5111
B3
P.A-A1S2B05 (+SYS OR CHK OR MICRO PROG RESET
C3
LINE UP
NO
*******C4**********
A-A1R2
YES
D3
P.A-A1S2B12 (-ERROR PART 1)
E3
LINE UP
YES
NO
E2
P.A-A1S2B04 (-SET C.S. O'RUN)
E4
P.A-A1R2D11 (-FILE XFER ERROR)
*******F1**********
A-A1P2
F2
LINE UP
NO
YES
*******F3**********
A-A1J2
F4
LINE UP
NO
YES
F5
-SLD- PROBE ATTACH A-A1R2G08 (+NPL CTL-I ERROR ALERT)
G2
P.A-A1S2B02 (-SET CHAN XFER CHECK)
G3
P.A-A1S2D02 (-SET CI PARITY CHECK)
*******G4**********
A-A1R2 OR A-A1T2 OR A-A1J2
G5
LINE UP OR PULSING
NO
YES
*******H1**********
A-A1P2
H2
LINE UP
NO
YES
H3
LINE UP
NO
YES
*******H4**********
A-A1H2
H5
-SLD- PROBE ATTACH A-A1T2P13 (+NPL SELECT HOLD)
J3
P.A-A1S2P06 (-TEST RCS PARITY)
*******J4**********
A-A1R2, A-A1T2
J5
LINE UP OR PULSING
YES
NO
*******K2**********
A-A1S2 OR A-A1P2
K3
LINE UP
YES
NO
*******K4**********
A-A1J2
K5
EXIT TO PAGE 095.

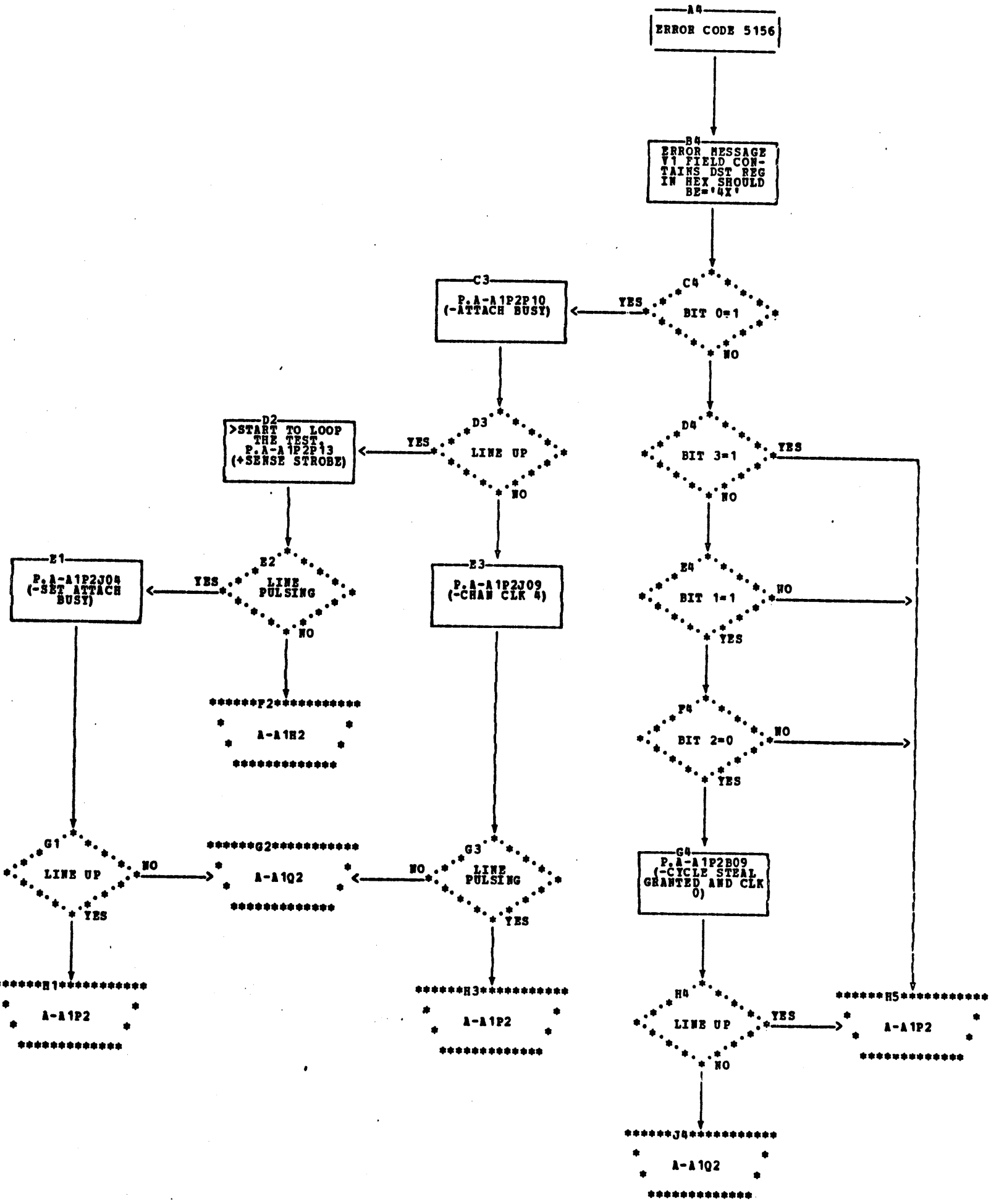

A2
ERROR CODE 5122
B2
P.A-A1R2B12
(-ERROR PART 1)
C2
LINE UP
NO
YES
******C1**********
A-A1S2
****
******D2**********
A-A1R2
****
D3
P.A-A1T2J05
(+SET FO)
******E2**********
A-A1T2
****
E3
LINE UP
YES
NO
F3
P.A-A1J2B07
(-SCN BUS BIT 4)
******G2**********
A-A1S2
****
G3
LINE UP
NO
YES
******H3**********
A-A1J2
****
A4
ERROR CODE 5120
B4
P.A-A1R2P02
(-CTLI BOPAR ERROR)
C4
LINE UP
YES
NO
D4
RESET THE HALT TO LOOP THE TEST
E4
P.A-A1R2D02
(+SENSE STROBE)
F4
LINE PULSING
YES
NO
******P5**********
A-A1R2, A-A1T2
****
******G4**********
A-A1H2
****

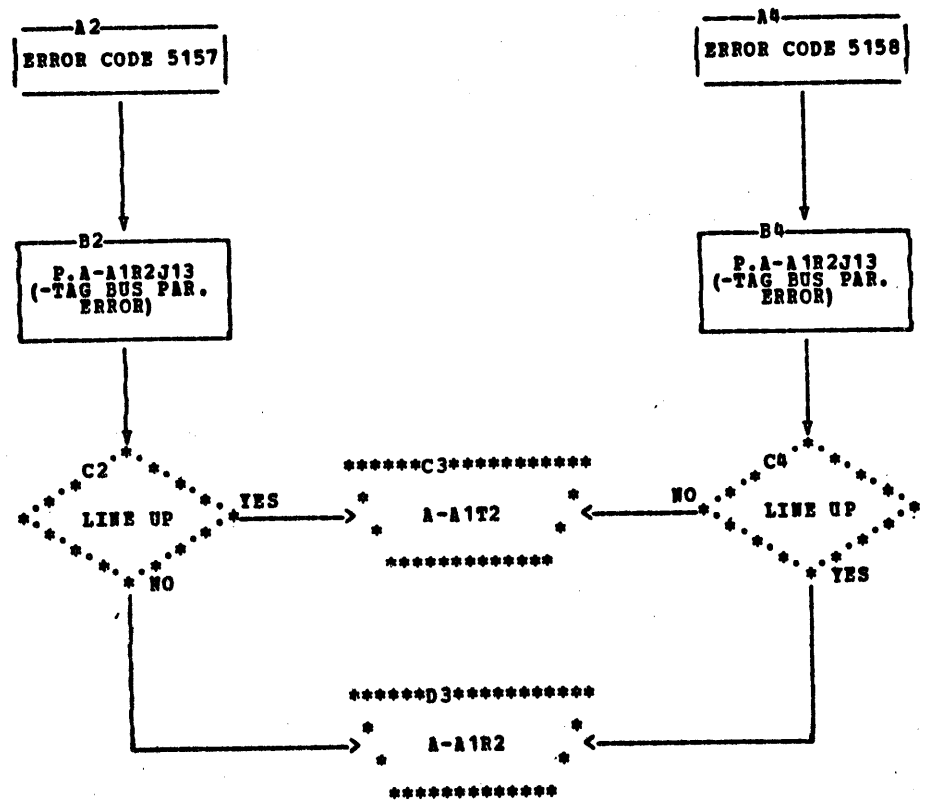

A1
ERROR CODE 5124
B1
P.A-A1R2B04
(-SCN BUS BIT 4
FILE XFER MODE)
C1
LINE UP
NO
******C2**********
A-A1S2
****
YES
D1
P.A-A1R2P02
(-CTLI-BOPAR
ERROR)
******D2**********
A-A1J2
****
E1
LINE UP
YES
******E2**********
A-A1R2
****
NO
F1
P.A-A1T2J05
(+SET FO)
G1
LINE UP
YES
******G2**********
A-A1T2
****
NO
******H1**********
A-A1J2
****
C3
P.A-A1S2J13
(-SCN4 FILE
XFER MODE)
D3
LINE UP
YES
NO
******E3**********
A-A1S2
****
A4
ERROR CODE 5130
B4
P.A-A1T2J05
(+SET FO)
C4
LINE UP
NO
YES
D4
P.A-A1T2S03
(+SYNC IN OR
FIG 3)
E4
LINE UP
NO
YES
******E5**********
A-A1R2
****
******F4**********
A-A1T2 OR
A-A1P2
****

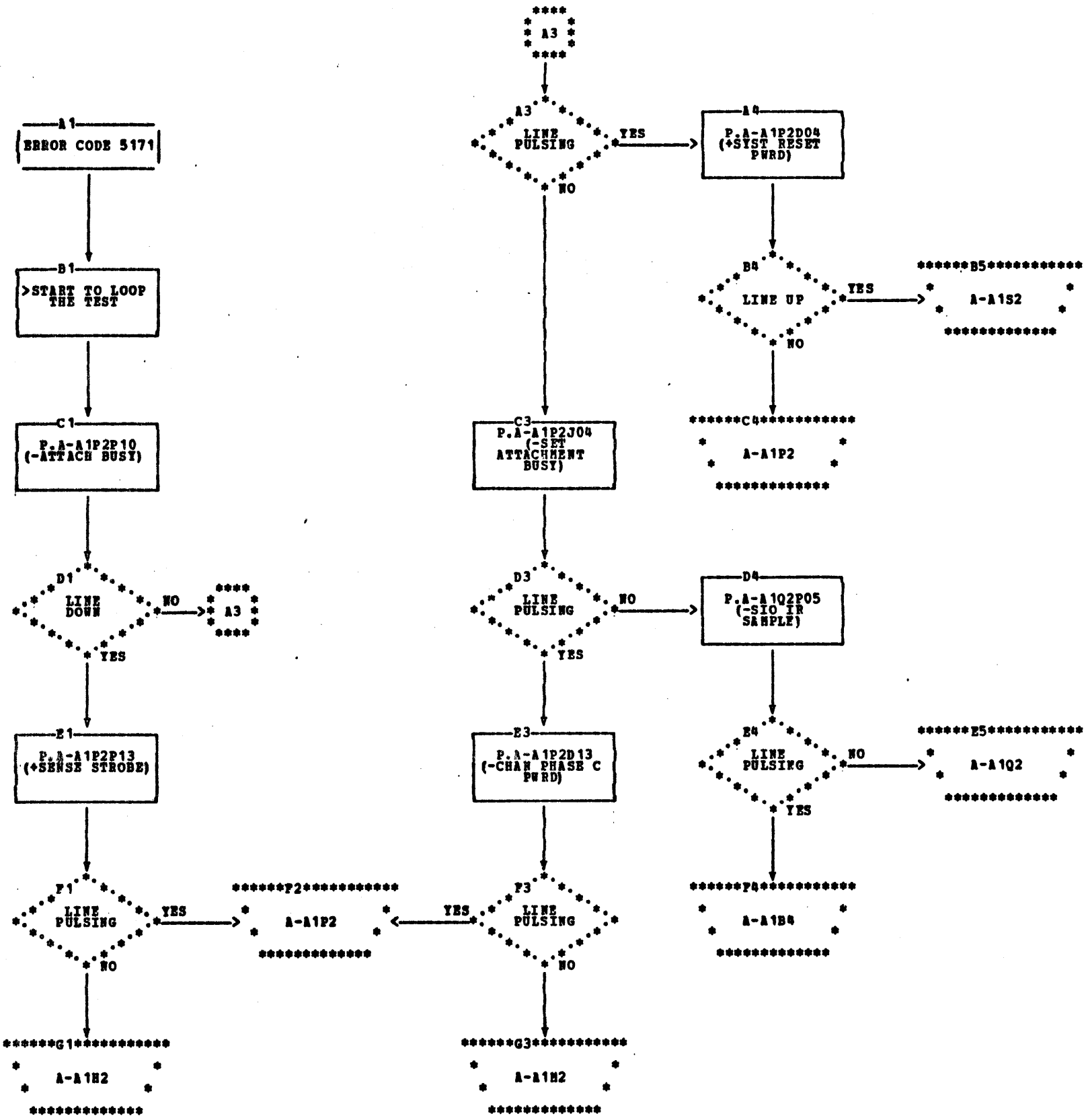

A2
ERROR CODE 5132
B2
P.A-A1T2H09 (-FBI PARITY CHK)
C2
LINE UP
NO
YES
C3
>START TO LOOP THE TEST.
D2
P.A-A1R2S13 (-ALT SENSE STROBE)
D3
P.A-A1T2J07 (+SET FBI FILE TRAP)
E2
LINE UP
YES
NO
E3
LINE UP OR PULSING
YES
NO
******E1**********
A-A1R2, A-A1J2
****
******F2**********
A-A1C2
****
******F3**********
A-A1T2
****
A5
ERROR CODE 5133
B5
FI PARITY BAD. V1=EXPTD V2=REC'D
C5
P.A-A1R2J12 (-FI PARITY BAD)
D5
LINE UP
NO
YES
******D4**********
A-A1T2
****
******E4**********
A-A1J2
****
E5
P.A-A1R2D04 (-GATE RECYCLE)
F5
LINE UP
NO
YES
******F4**********
A-A1J2
****
******G5**********
A-A1R2
****

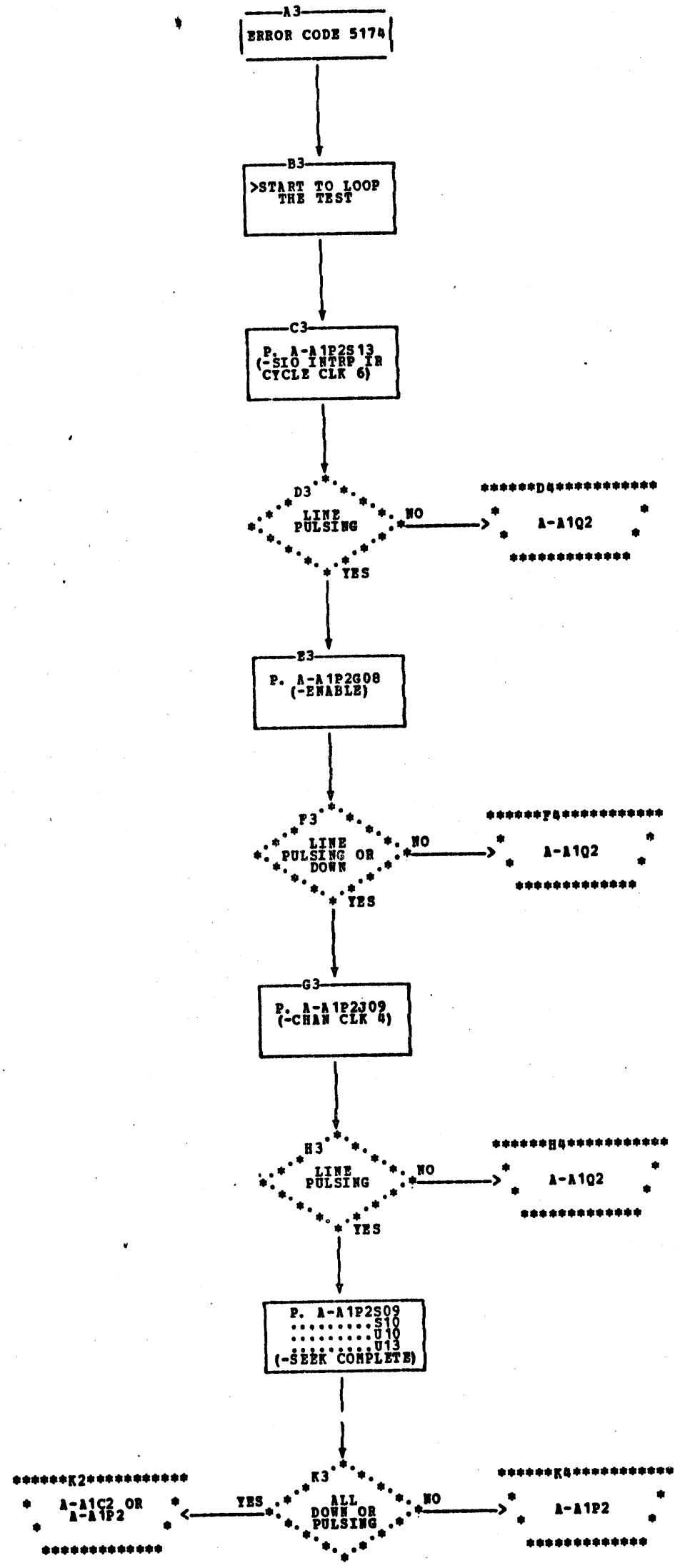

A1
ERROR CODE 5134
B1
P.A-A1R2H04
(-FTG REG BIT 5
DIAG)
C1
LINE UP
NO
YES
******C2**********
A-A1R2
****
******D1**********
A-A1T2
****
A4
ERROR CODE 5150
B4
P.A-A1R2J12
(-FI PARITY
BAD)
C4
LINE UP
YES
NO
******C3**********
A-A1T2
****
D4
>START TO LOOP
THE TEST
E4
P.A-A1R2D04
(-GATE RECYCLE)
F4
LINE
PULSING
YES
NO
******F3**********
A-A1B2
****
G4
P.A-A1J2S09
(+SYNCOUT OR
DIAG SYNC)
H4
LINE
PULSING
YES
NO
******H3**********
A-A1J2
****
J4
P.A-A1J2S05
(-RAW
OSCILLATOR)
K4
LINE
PULSING
YES
NO
******K3**********
A-A1R2
****
******K5**********
A-A1H2
****

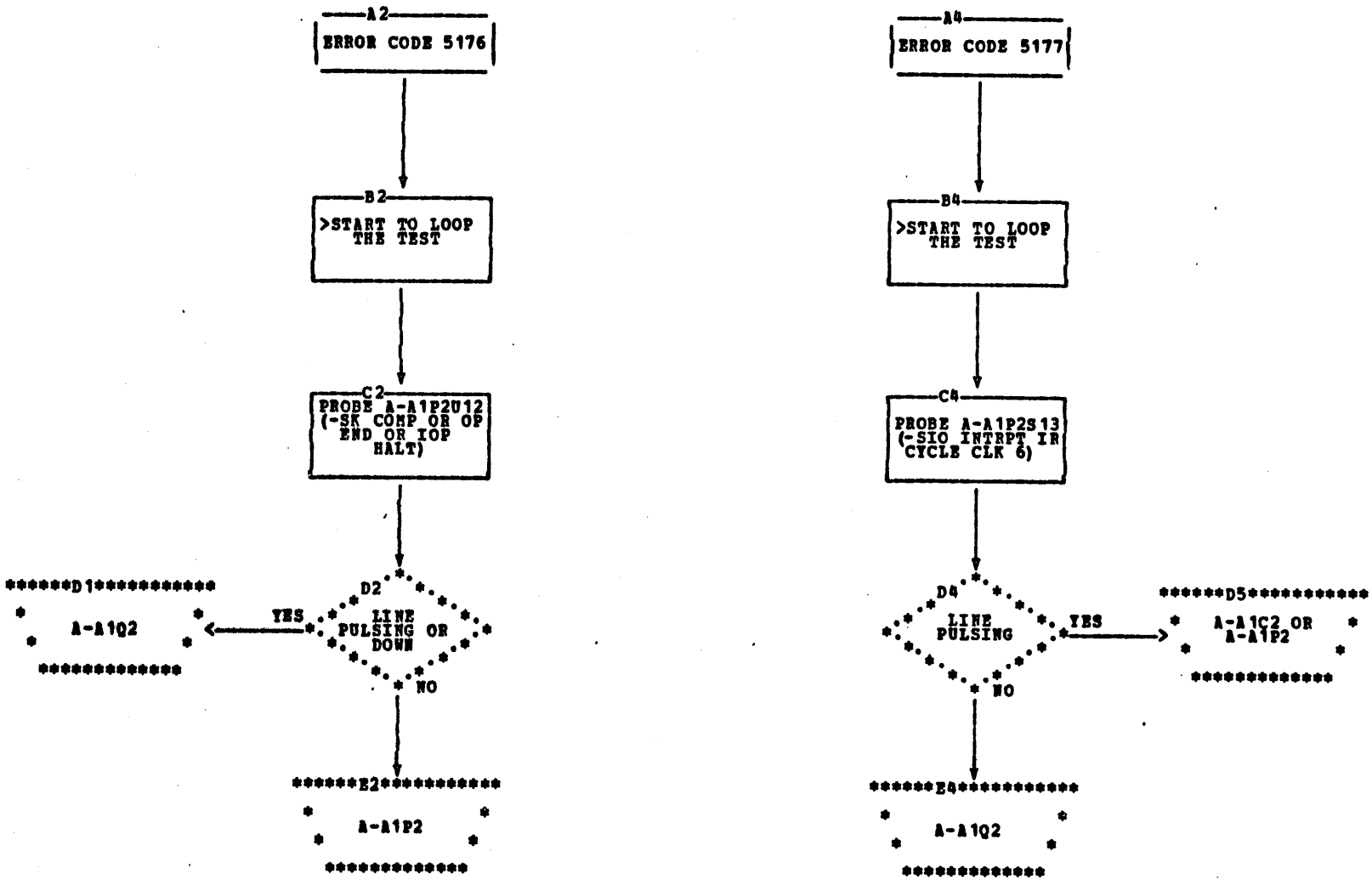

A3
ERROR CODE 5152
B3
P.A-A1T2H09 (-FBI PARITY CHECK)
C3
LINE UP
YES
NO
******C2**********
A-A1T2
****
D3
>START TO LOOP THE TEST
E3
P.A-A1R2S13 (ALTERNATE SENSE STROBE)
F3
LINE PULSING
NO
YES
******F2**********
A-A1C2 OR A-A1G2
****
G3
P.A-A1G2H04 (-A REG ST)
H3
LINE PULSING
YES
NO
******H2**********
A-A1H2, A-A1T2
****
******J3**********
A-A1R2, A-A1G2
****

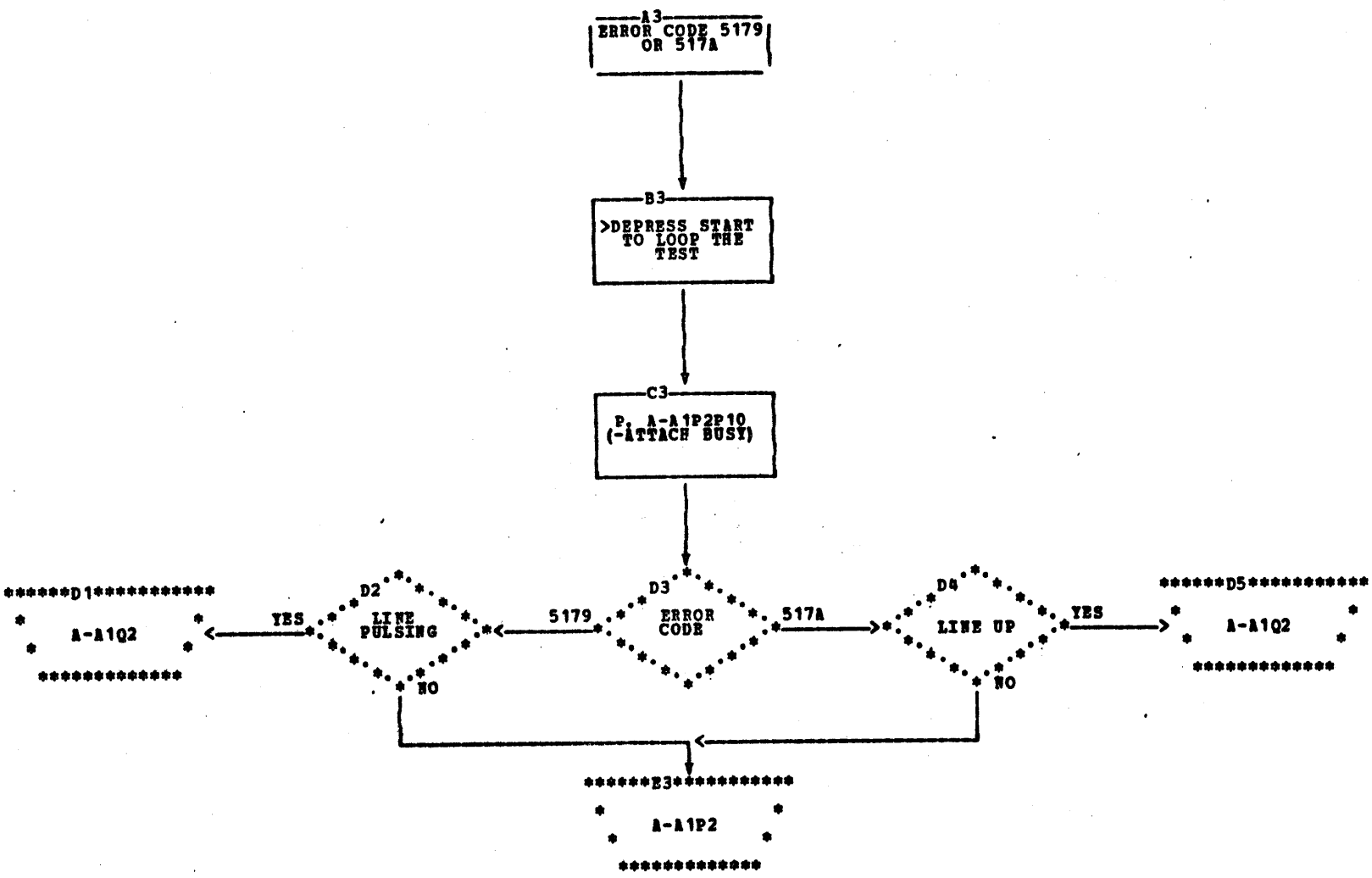

A4
ERROR CODE 5156
B4
ERROR MESSAGE V1 FIELD CONTAINS DST REG IN HEX SHOULD BE='4X'
C4
BIT 0=1
YES
NO
C3
P.A-A1P2P10 (-ATTACH BUSY)
D4
BIT 3=1
YES
NO
D3
LINE UP
YES
NO
D2
>START TO LOOP THE TEST P.A-A1P2P13 (+SENSE STROBE)
E4
BIT 1=1
NO
YES
E2
LINE PULSING
YES
NO
E1
P.A-A1P2J04 (-SET ATTACH BUSY)
E3
P.A-A1P2J09 (-CHAN CLK 4)
F4
BIT 2=0
NO
YES
F2
A-A1H2
G4
P.A-A1P2B09 (-CYCLE STEAL GRANTED AND CLK 0)
G1
LINE UP
NO
YES
G2
A-A1Q2
G3
LINE PULSING
NO
YES
H4
LINE UP
YES
NO
H5
A-A1P2
H1
A-A1P2
H3
A-A1P2
J4
A-A1Q2

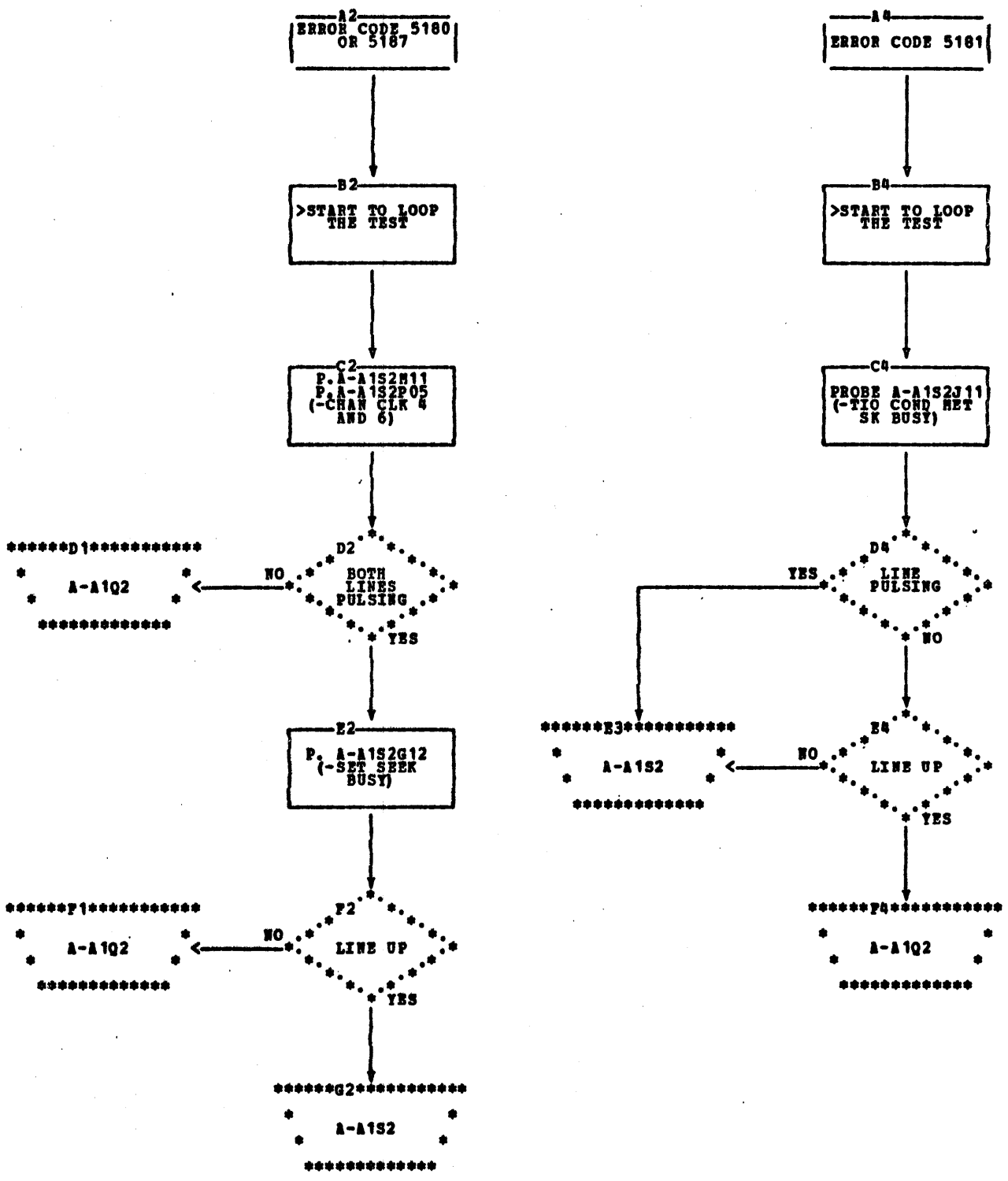

A2
ERROR CODE 5157
B2
P.A-A1R2J13 (-TAG BUS PAR. ERROR)
C2
LINE UP
YES
NO
******C3**********
A-A1T2
****
A4
ERROR CODE 5158
B4
P.A-A1R2J13 (-TAG BUS PAR. ERROR)
C4
LINE UP
NO
YES
******D3**********
A-A1R2
****

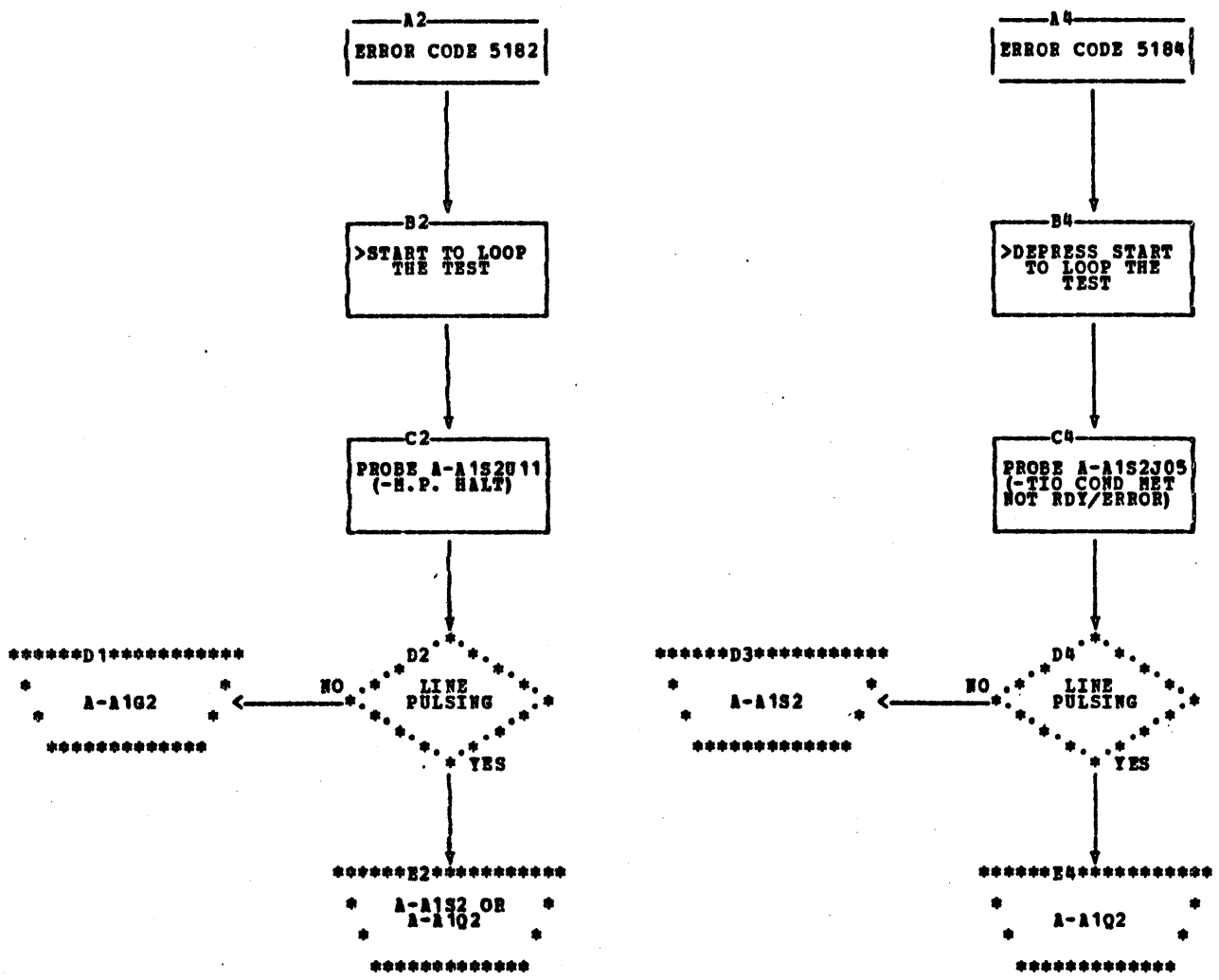

A3
A1
ERROR CODE 5171
A3
LINE PULSING
YES
NO
A4
P.A-A1P2D04 (+SYST RESET PWRD)
B1
>START TO LOOP THE TEST
B4
LINE UP
YES
NO
B5
A-A1S2
C1
P.A-A1P2P10 (-ATTACH BUSY)
C3
P.A-A1P2J04 (-SET ATTACHMENT BUSY)
C4
A-A1P2
D1
LINE DOWN
NO
A3
YES
D3
LINE PULSING
NO
YES
D4
P.A-A1Q2P05 (-SIO IR SAMPLE)
E1
P.A-A1P2P13 (+SENSE STROBE)
E3
P.A-A1P2D13 (-CHAN PHASE C PWRD)
E4
LINE PULSING
NO
YES
E5
A-A1Q2
F1
LINE PULSING
YES
NO
F2
A-A1P2
F3
LINE PULSING
YES
NO
F4
A-A1B4
G1
A-A1H2
G3
A-A1H2

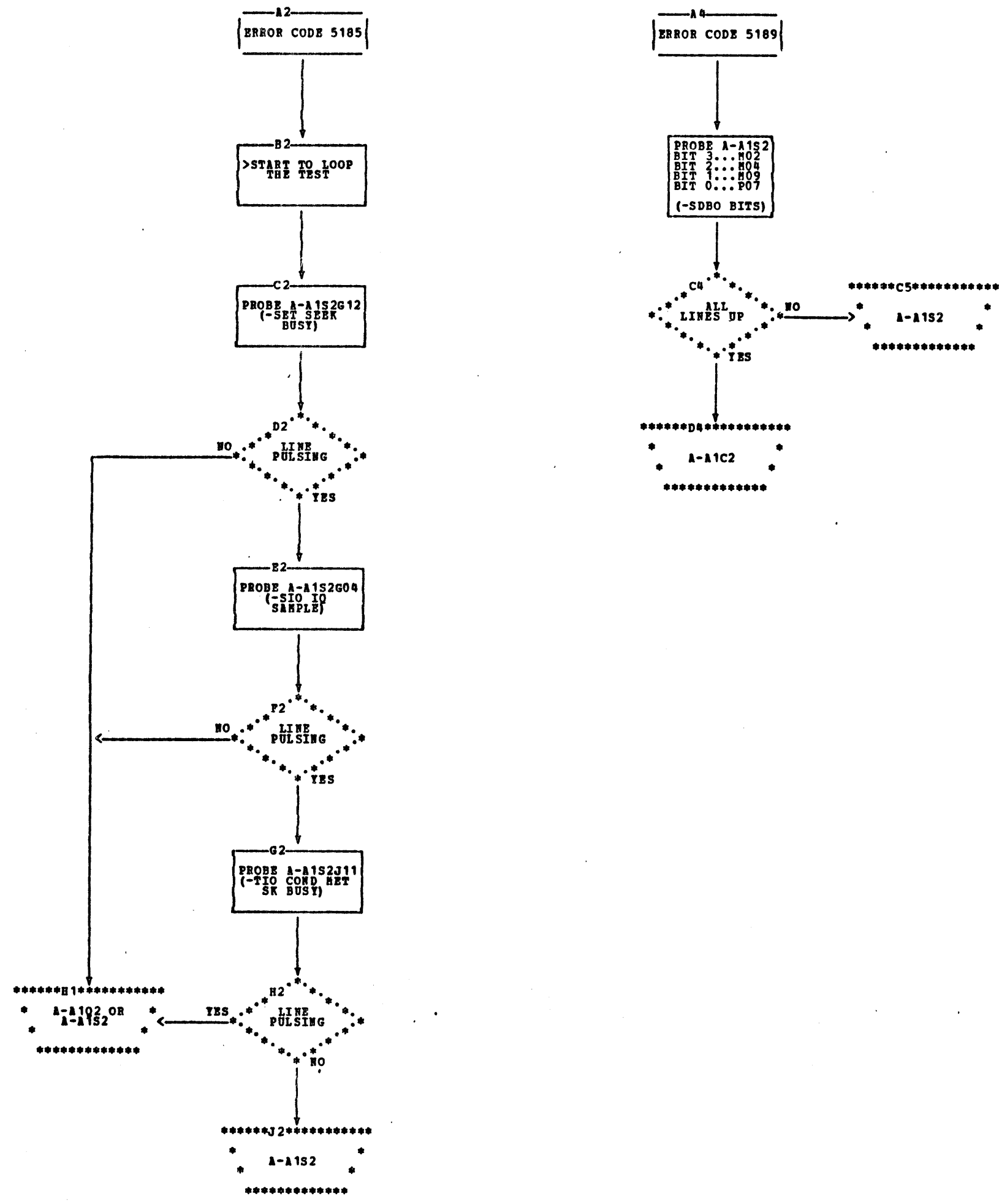

A3
ERROR CODE 5174
B3
>START TO LOOP THE TEST
C3
P. A-A1P2S13 (-SIO INTRP IR CYCLE CLK 6)
D3
LINE PULSING
NO
******D4**********
A-A1Q2
****
YES
E3
P. A-A1P2G08 (-ENABLE)
F3
LINE PULSING OR DOWN
NO
******F4**********
A-A1Q2
****
YES
G3
P. A-A1P2J09 (-CHAN CLK 4)
H3
LINE PULSING
NO
******H4**********
A-A1Q2
****
YES
P. A-A1P2S09
.....S10
.....U10
.....U13
(-SEEK COMPLETE)
K3
ALL DOWN OR PULSING
YES
******K2**********
A-A1C2 OR A-A1P2
****
NO
******K4**********
A-A1P2
****

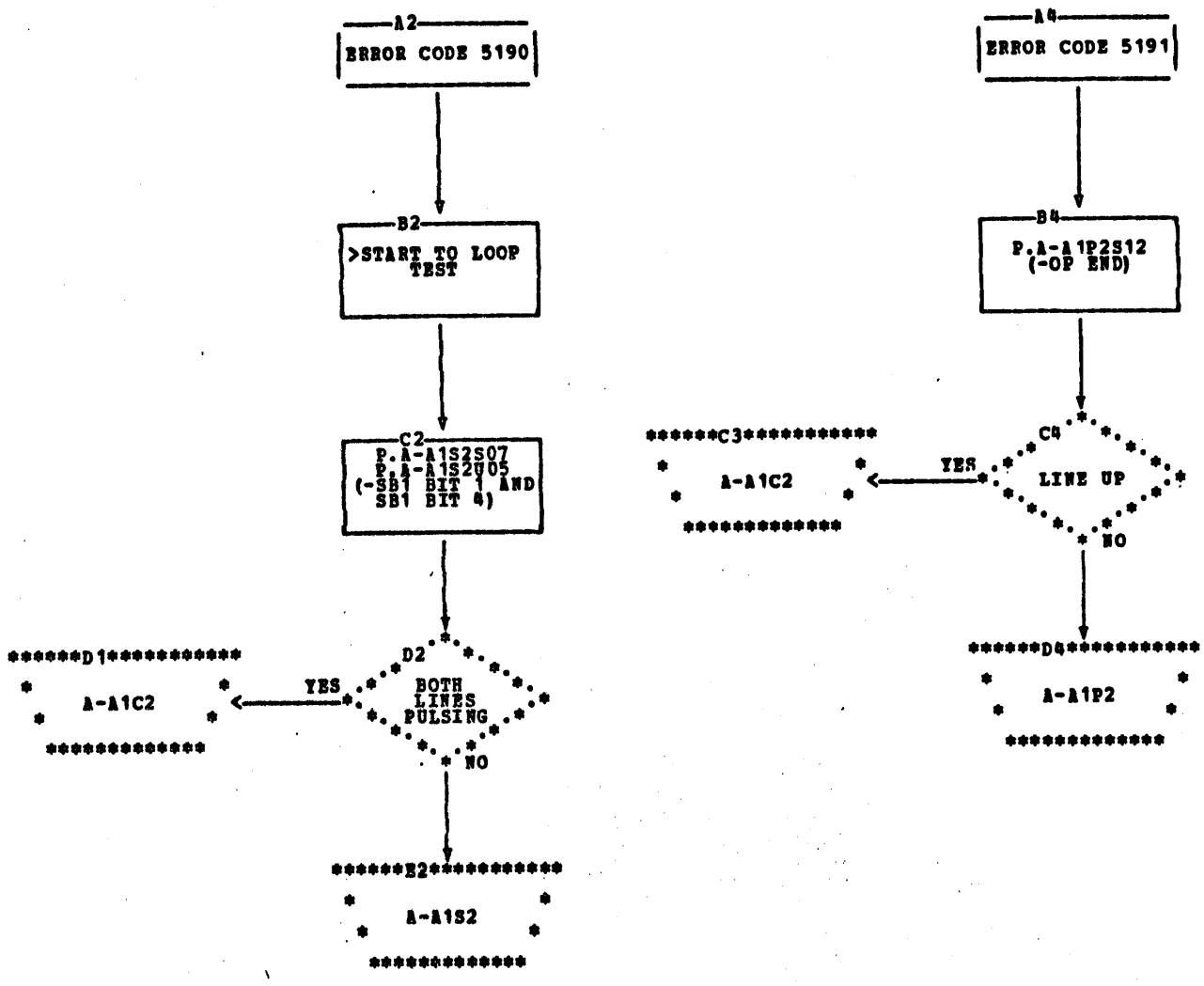

A2
ERROR CODE 5176
B2
>START TO LOOP THE TEST
C2
PROBE A-A1P2U12 (-SK COMP OR OP END OR IOP HALT)
D2
LINE PULSING OR DOWN
YES
NO
D1
A-A1Q2
E2
A-A1P2
A4
ERROR CODE 5177
B4
>START TO LOOP THE TEST
C4
PROBE A-A1P2S13 (-SIO INTRPT IR CYCLE CLK 6)
D4
LINE PULSING
YES
NO
D5
A-A1C2 OR A-A1P2
E4
A-A1Q2

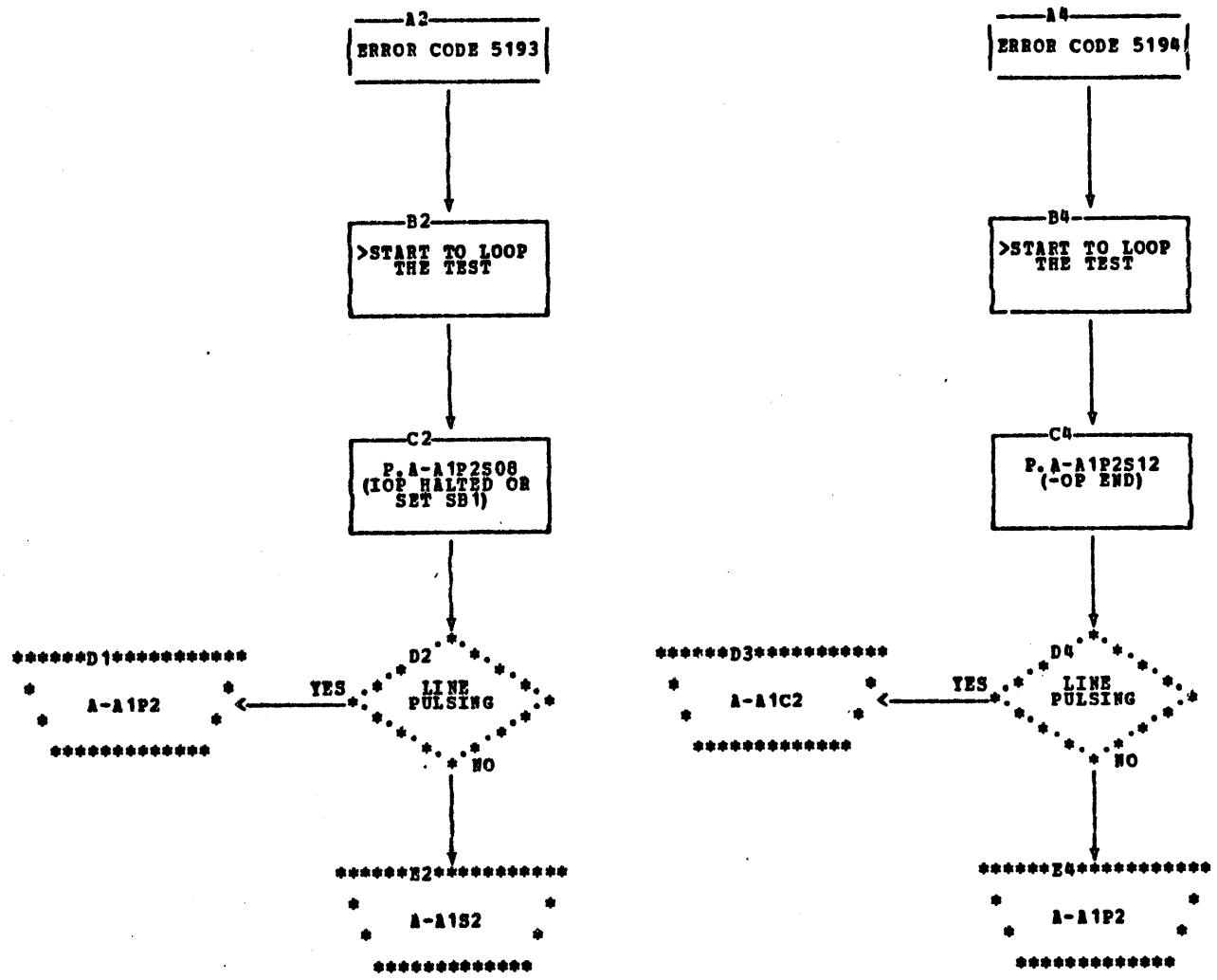

A3
ERROR CODE 5179 OR 517A
B3
>DEPRESS START TO LOOP THE TEST
C3
P1 A-A1P2P10 (-ATTACH BUSY)
D1
A-A1Q2
YES
D2
LINE PULSING
NO
5179
D3
ERROR CODE
517A
D4
LINE UP
NO
YES
D5
A-A1Q2
E3
A-A1P2

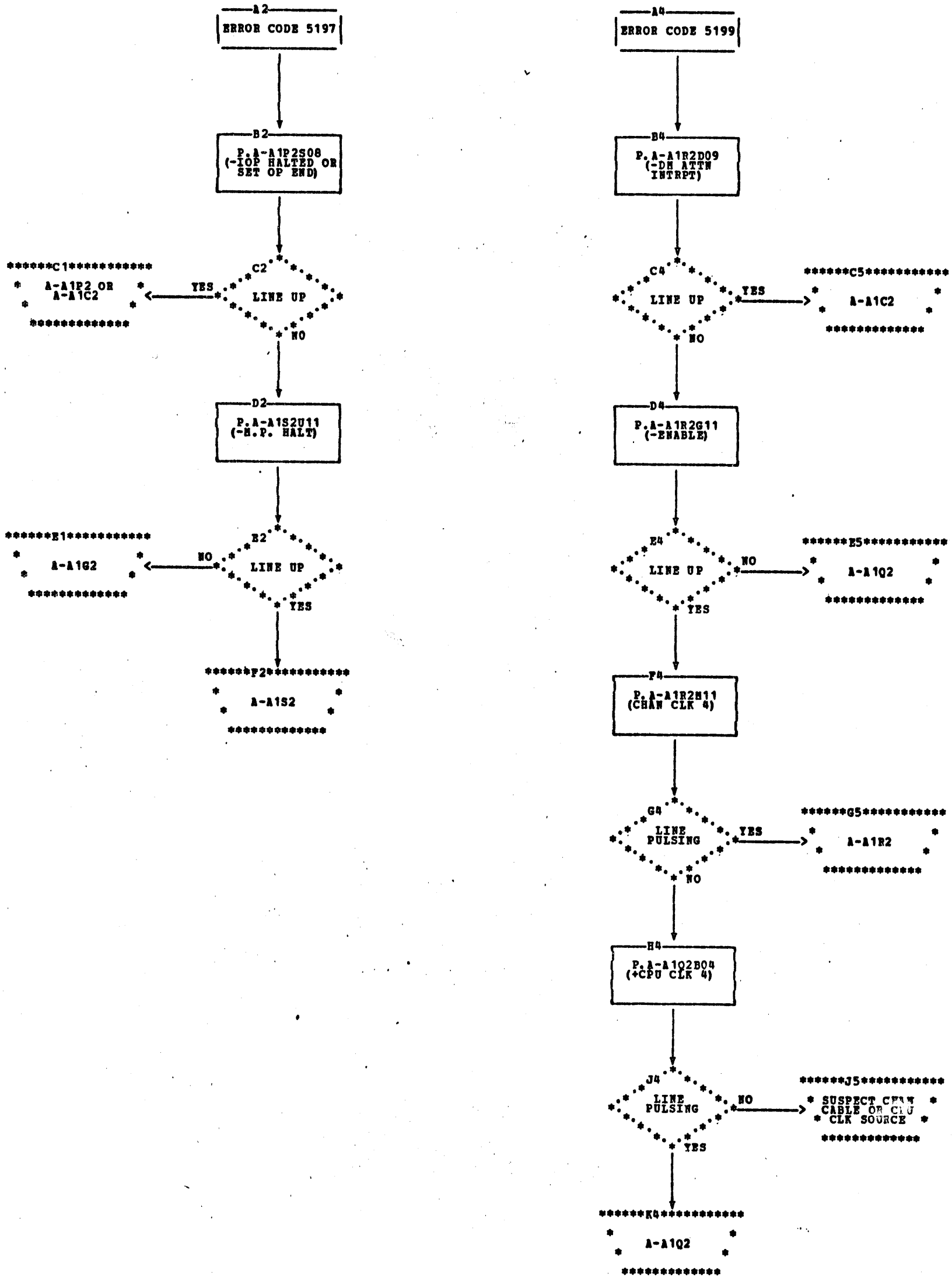

A2
ERROR CODE 5180 OR 5187
B2
>START TO LOOP THE TEST
C2
P.A-A1S2M11
P.A-A1S2P05
(-CHAN CLK 4 AND 6)
D2
BOTH LINES PULSING
NO
YES
*******D1***********
A-A1Q2
E2
P. A-A1S2G12
(-SET SEEK BUSY)
F2
LINE UP
NO
YES
*******F1***********
A-A1Q2
*******G2***********
A-A1S2
A4
ERROR CODE 5181
B4
>START TO LOOP THE TEST
C4
PROBE A-A1S2J11
(-TIO COND HET SK BUSY)
D4
LINE PULSING
YES
NO
*******E3***********
A-A1S2
E4
LINE UP
NO
YES
*******F4***********
A-A1Q2

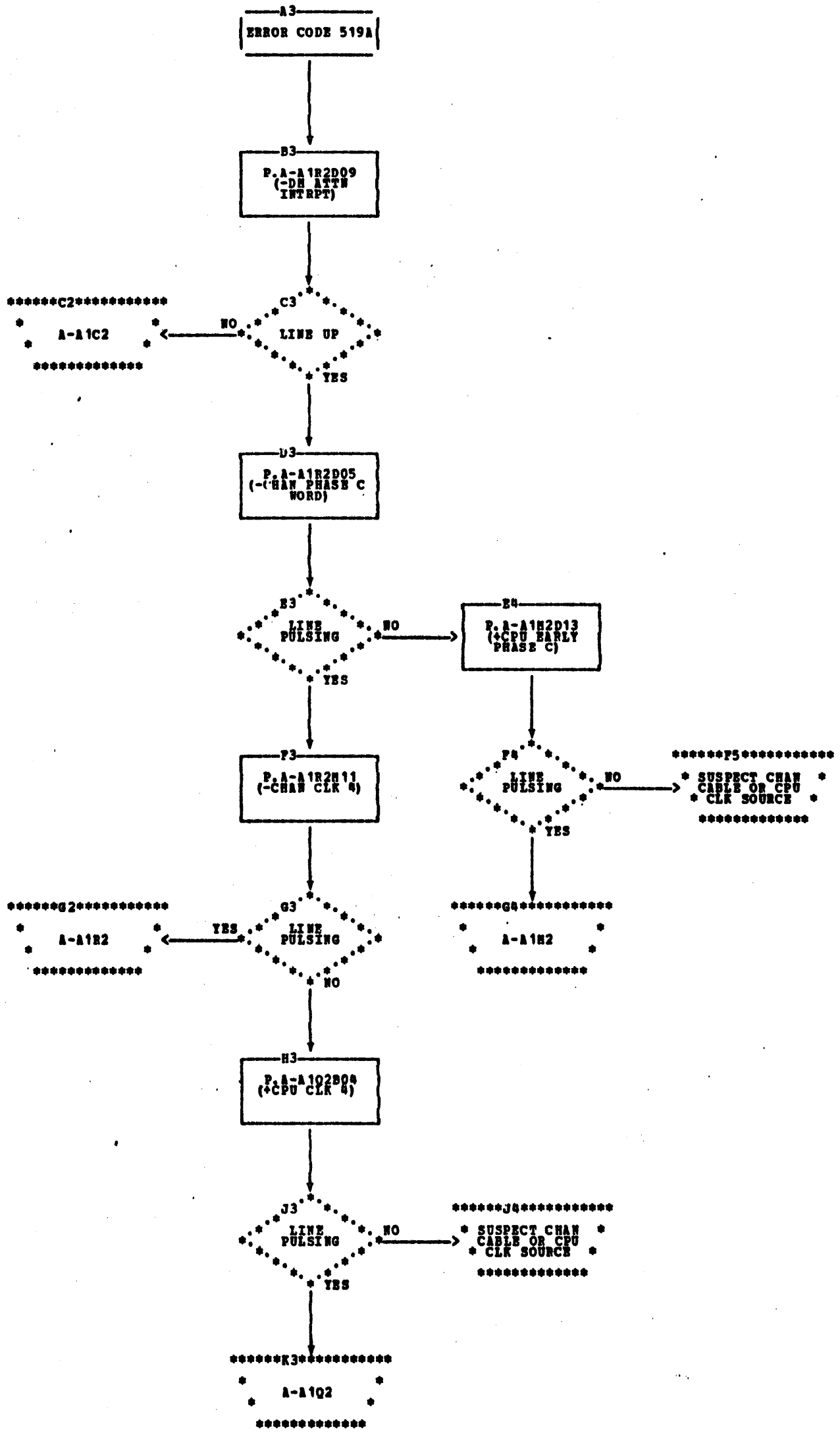

A2
ERROR CODE 5182
B2
>START TO LOOP THE TEST
C2
PROBE A-A1S2U11 (-H.P. HALT)
D2
LINE PULSING
NO
YES
D1
A-A1Q2
E2
A-A1S2 OR A-A1Q2
A4
ERROR CODE 5184
B4
>DEPRESS START TO LOOP THE TEST
C4
PROBE A-A1S2J05 (-TIO COND MET NOT RDY/ERROR)
D4
LINE PULSING
NO
YES
D3
A-A1S2
E4
A-A1Q2

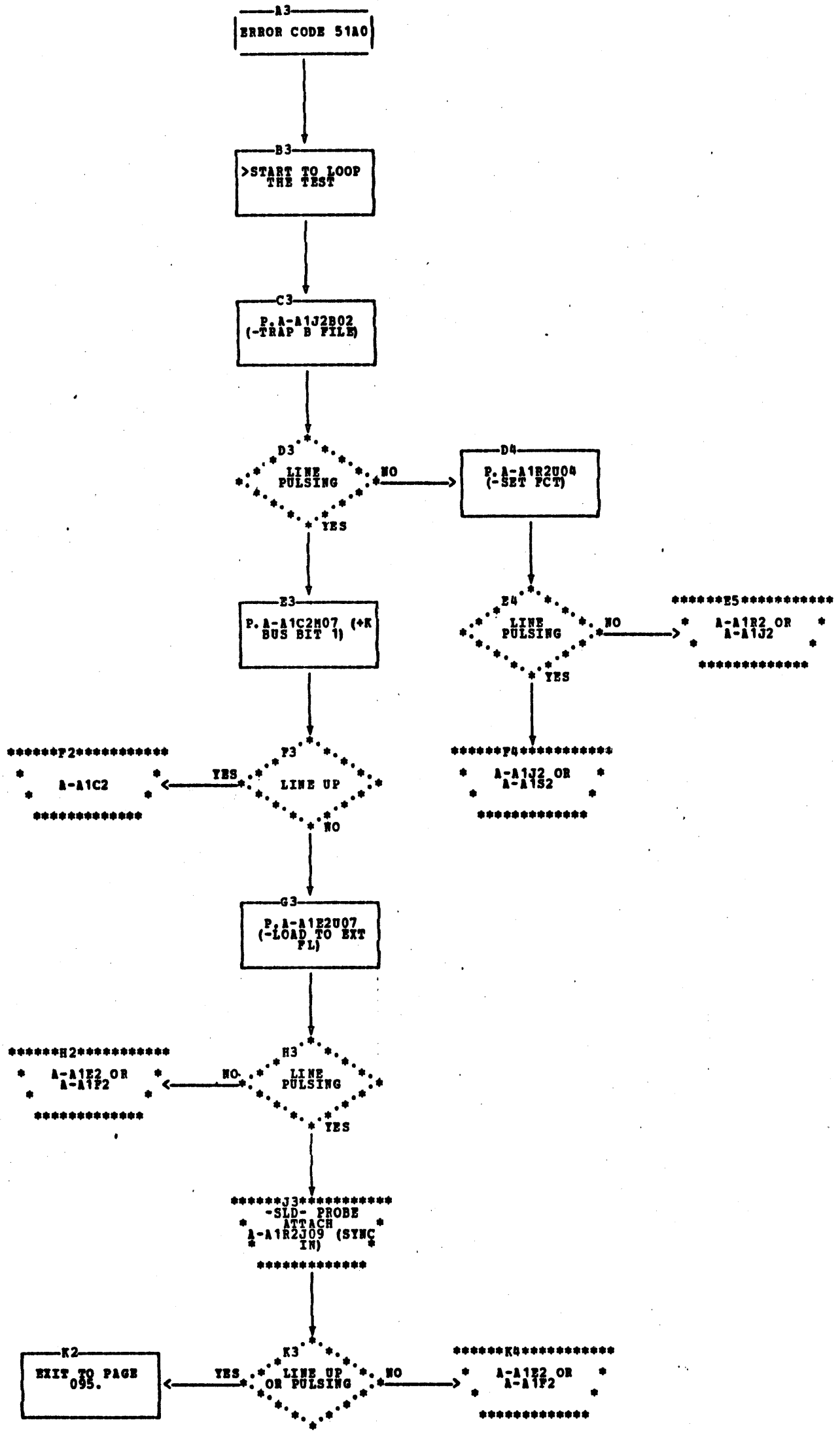

A2
ERROR CODE 5185
B2
>START TO LOOP THE TEST
C2
PROBE A-A1S2G12 (-SET SEEK BUSY)
D2
LINE PULSING
NO
YES
E2
PROBE A-A1S2G04 (-SIO IO SAMPLE)
F2
LINE PULSING
NO
YES
G2
PROBE A-A1S2J11 (-TIO COND SET SK BUSY)
H2
LINE PULSING
YES
NO
H1
A-A102 OR A-A1S2
J2
A-A1S2
A4
ERROR CODE 5189
PROBE A-A1S2 BIT 3...M02 BIT 2...M04 BIT 1...M09 BIT 0...P07 (-SDBO BITS)
C4
ALL LINES UP
NO
YES
C5
A-A1S2
D4
A-A1C2

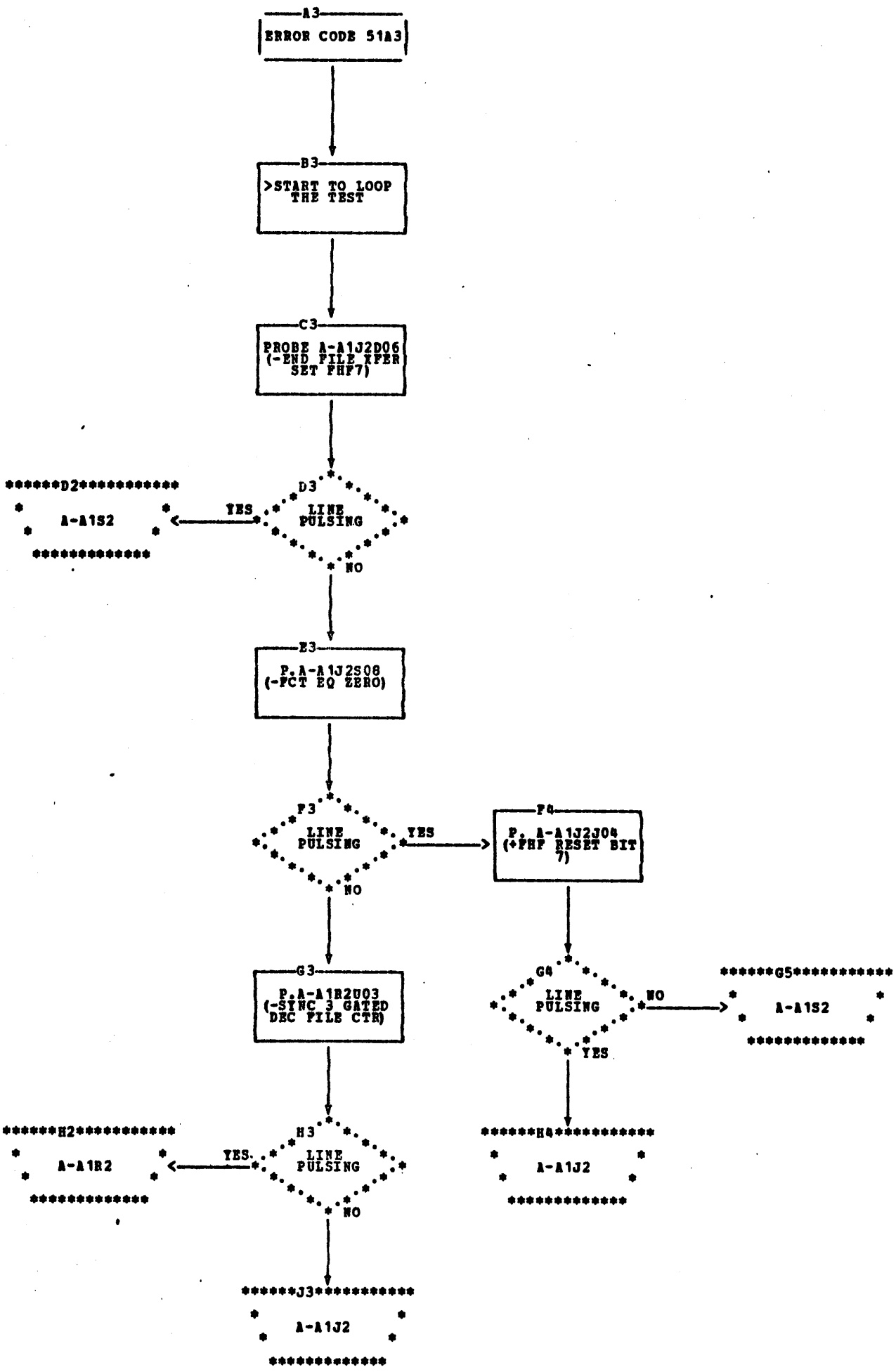

A2
ERROR CODE 5190
B2
>START TO LOOP TEST
C2
P.A-A1S2S07
P.A-A1S2U05
(-SB1 BIT 1 AND SB1 BIT 4)
D2
BOTH LINES PULSING
YES
NO
D1
A-A1C2
E2
A-A1S2
A4
ERROR CODE 5191
B4
P.A-A1P2S12
(-OP END)
C4
LINE UP
YES
NO
C3
A-A1C2
D4
A-A1P2

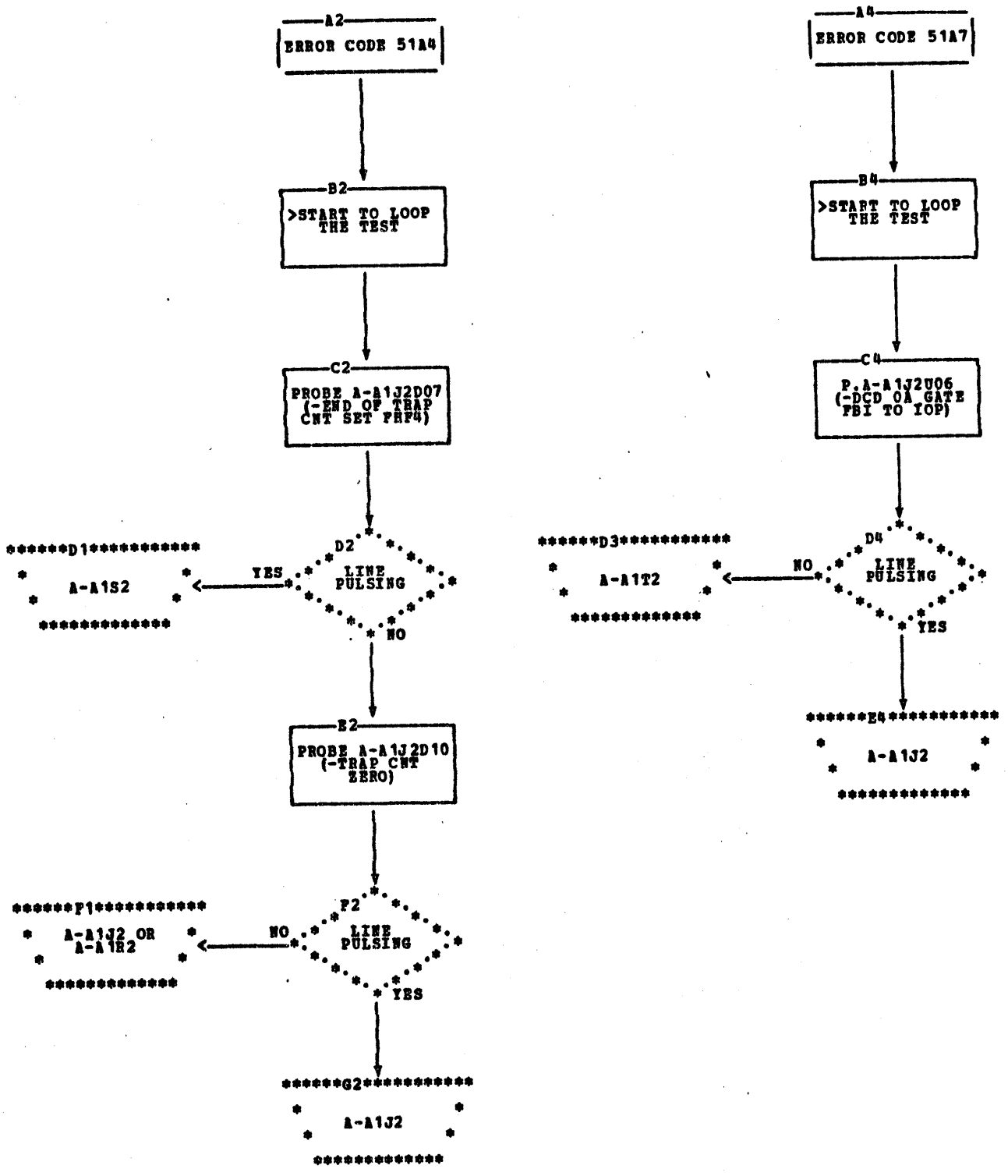

A2
ERROR CODE 5193
B2
>START TO LOOP THE TEST
C2
P.A-A1P2S08 (IOP HALTED OR SET SB1)
D1
A-A1P2
D2
LINE PULSING
YES
NO
E2
A-A1S2
A4
ERROR CODE 5194
B4
>START TO LOOP THE TEST
C4
P.A-A1P2S12 (-OP END)
D3
A-A1C2
D4
LINE PULSING
YES
NO
E4
A-A1P2

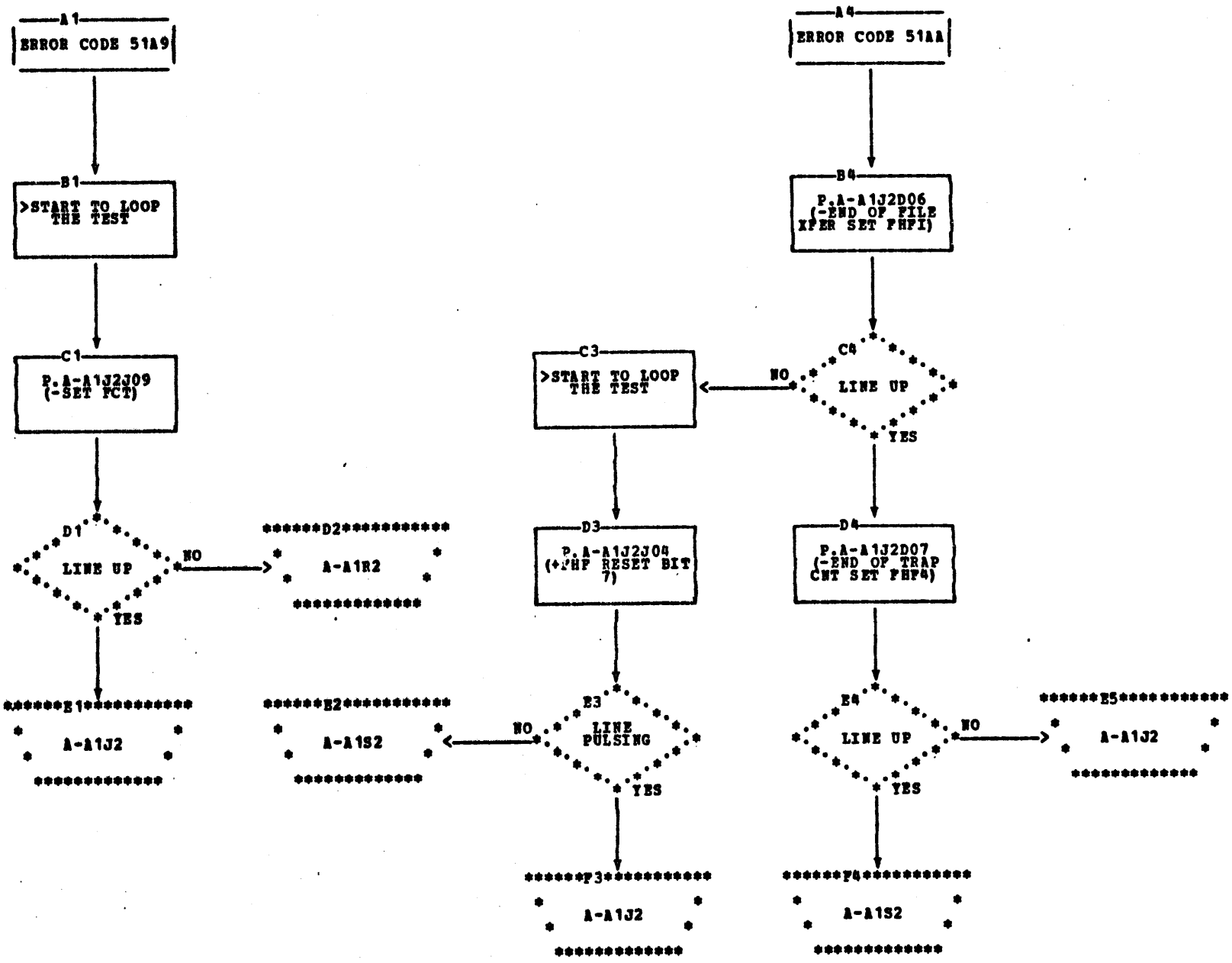

A2
ERROR CODE 5197
B2
P.A-A1P2S08
(-IOP HALTED OR
SET OP END)
C2
LINE UP
YES
NO
******C1**********
A-A1P2 OR
A-A1C2
****
D2
P.A-A1S2U11
(-M.P. HALT)
E2
LINE UP
NO
YES
******E1**********
A-A1G2
****
******F2**********
A-A1S2
****
A4
ERROR CODE 5199
B4
P.A-A1R2D09
(-DH ATTN
INTRPT)
C4
LINE UP
YES
NO
******C5**********
A-A1C2
****
D4
P.A-A1R2G11
(-ENABLE)
E4
LINE UP
NO
YES
******E5**********
A-A1Q2
****
F4
P.A-A1R2H11
(CHAN CLK 4)
G4
LINE
PULSING
YES
NO
******G5**********
A-A1R2
****
H4
P.A-A1Q2B04
(+CPU CLK 4)
J4
LINE
PULSING
NO
YES
******J5**********
SUSPECT CPU
CABLE OR CLK
CLK SOURCE
****
******K4**********
A-A1Q2
****

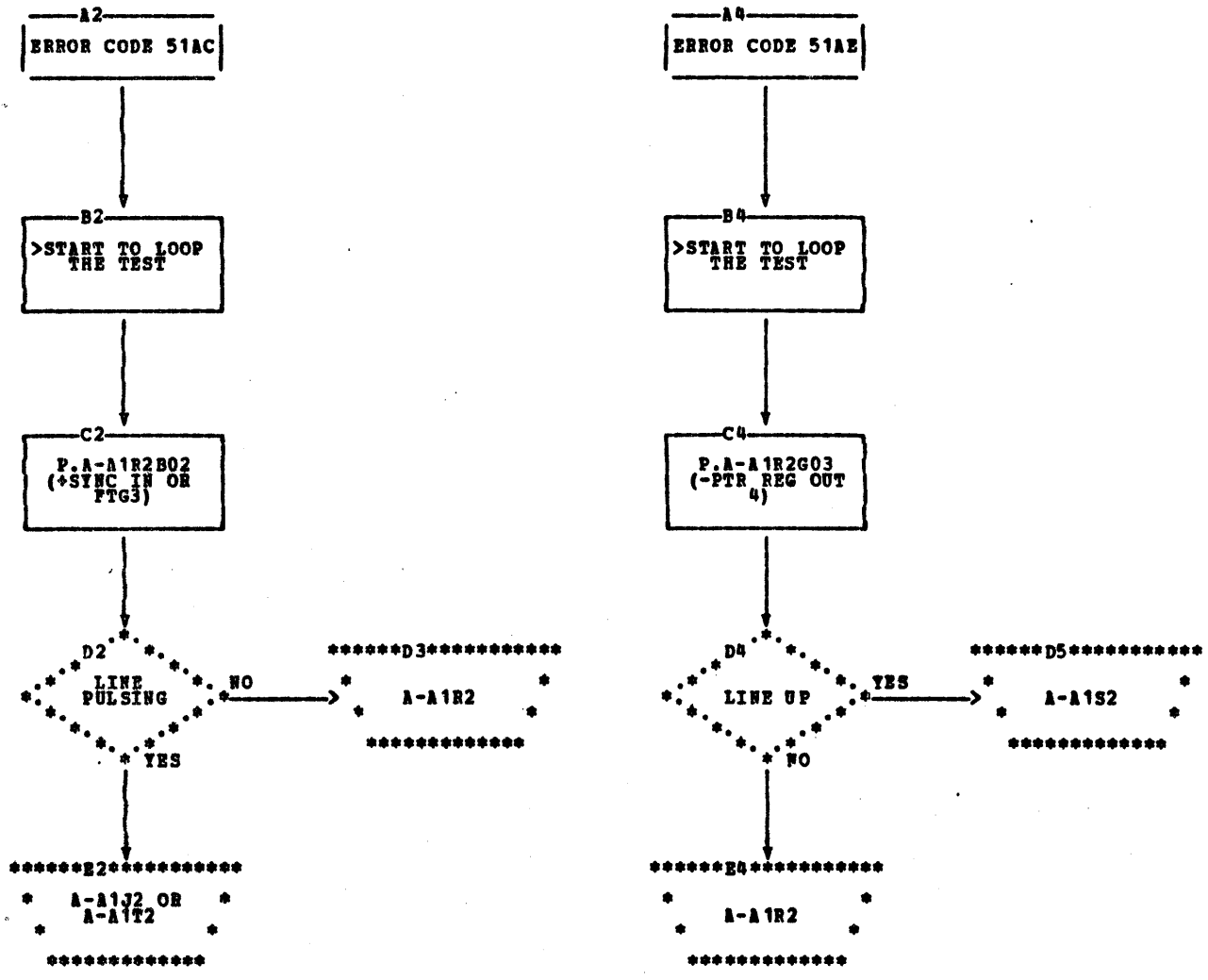

A3
ERROR CODE 519A
B3
P.A-A1R2D09
(-DH ATTN
INTRPT)
C3
LINE PULSING
NO
YES
******C2**********
A-A1C2
****
D3
P.A-A1R2D05
(-CHAN PHASE C
WORD)
E3
LINE PULSING
NO
YES
E4
P.A-A1R2D13
(+CPU EARLY
PHASE C)
F3
P.A-A1R2N11
(-CHAN CLK 4)
F4
LINE PULSING
NO
YES
******F5**********
SUSPECT CHAN
CABLE OR CPU
CLK SOURCE
****
******G2**********
A-A1R2
****
G3
LINE PULSING
YES
NO
******G4**********
A-A1H2
****
H3
P.A-A102B08
(+CPU CLK 4)
J3
LINE PULSING
NO
YES
******J4**********
SUSPECT CHAN
CABLE OR CPU
CLK SOURCE
****
******K3**********
A-A1Q2
****

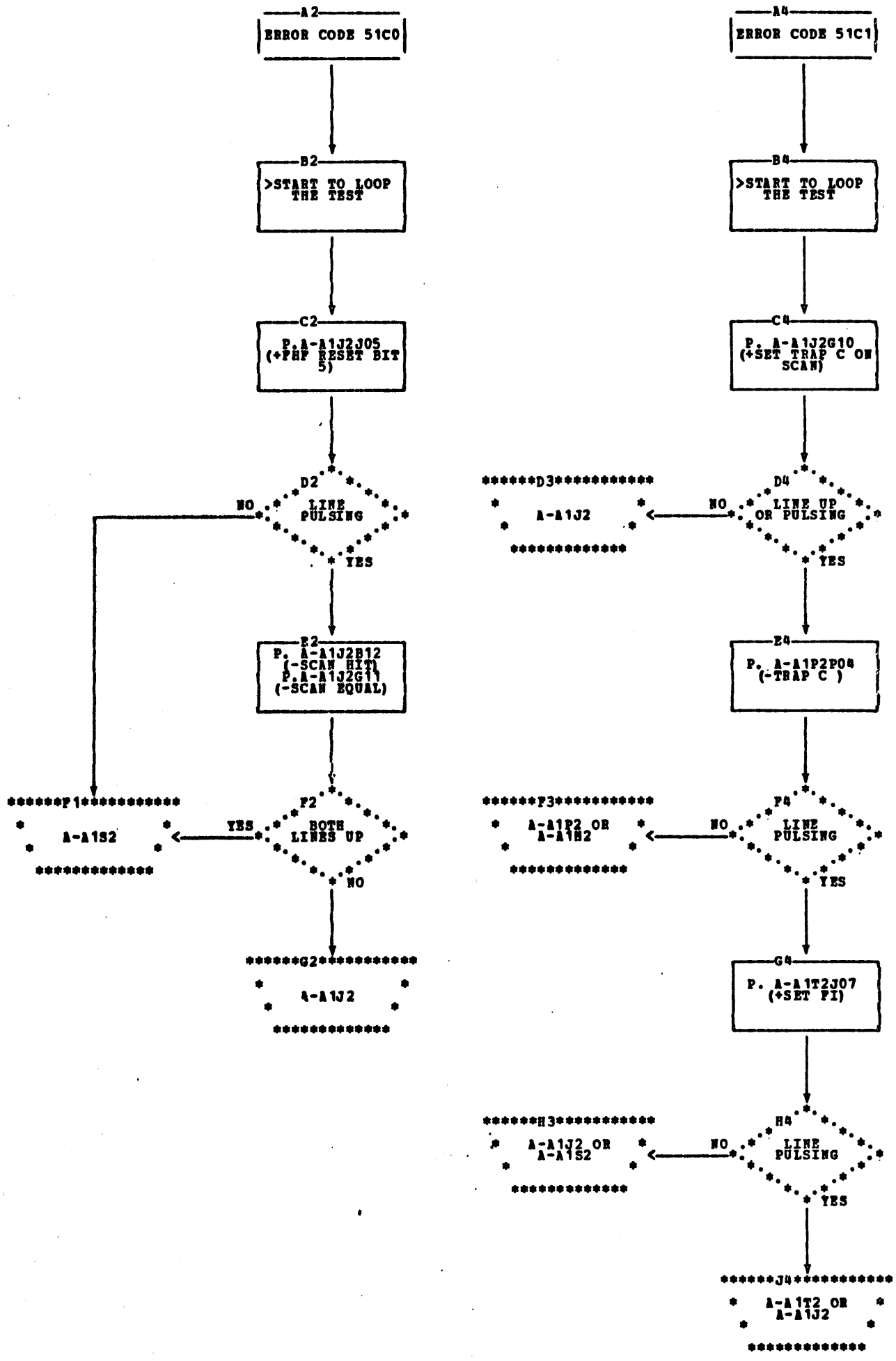

A3
ERROR CODE 51A0
B3
>START TO LOOP THE TEST
C3
P.A-A1J2B02 (-TRAP B FILE)
D3
LINE PULSING
NO
YES
D4
P.A-A1R2U04 (-SET FCT)
E3
P.A-A1C2M07 (+K BUS BIT 1)
E4
LINE PULSING
NO
YES
******E5**********
A-A1R2 OR A-A1J2
****
******F2**********
A-A1C2
****
YES
F3
LINE UP
NO
******F4**********
A-A1J2 OR A-A1S2
****
G3
P.A-A1E2U07 (-LOAD TO EXT FL)
******H2**********
A-A1E2 OR A-A1F2
****
NO
H3
LINE PULSING
YES
******J3**********
-SLD- PROBE ATTACH A-A1R2J09 (SYNC IN)
****
K2
EXIT TO PAGE 095.
YES
K3
LINE UP OR PULSING
NO
******K4**********
A-A1E2 OR A-A1F2
****

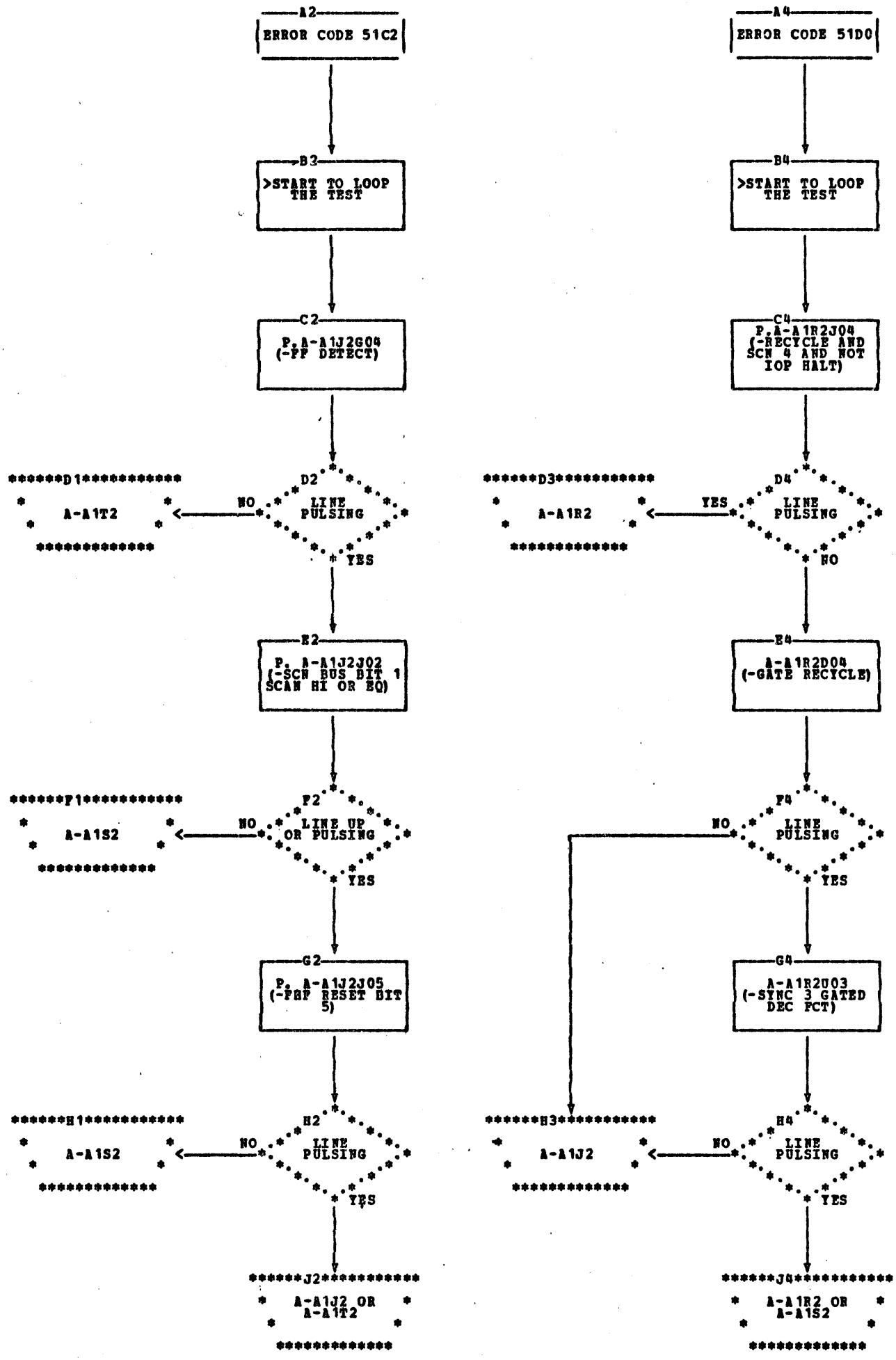

A3
ERROR CODE 51A3
B3
>START TO LOOP THE TEST
C3
PROBE A-A1J2D06 (-END FILE XFER SET FHF7)
D3
LINE PULSING
YES
NO
D2
A-A1S2
E3
P.A-A1J2S08 (-FCT EQ ZERO)
F3
LINE PULSING
YES
NO
F4
P. A-A1J2J04 (+FHF RESET BIT 7)
G3
P.A-A1R2U03 (-SYNC 3 GATED DEC FILE CTR)
G4
LINE PULSING
NO
YES
G5
A-A1S2
H2
A-A1R2
H3
LINE PULSING
YES
NO
H4
A-A1J2
J3
A-A1J2

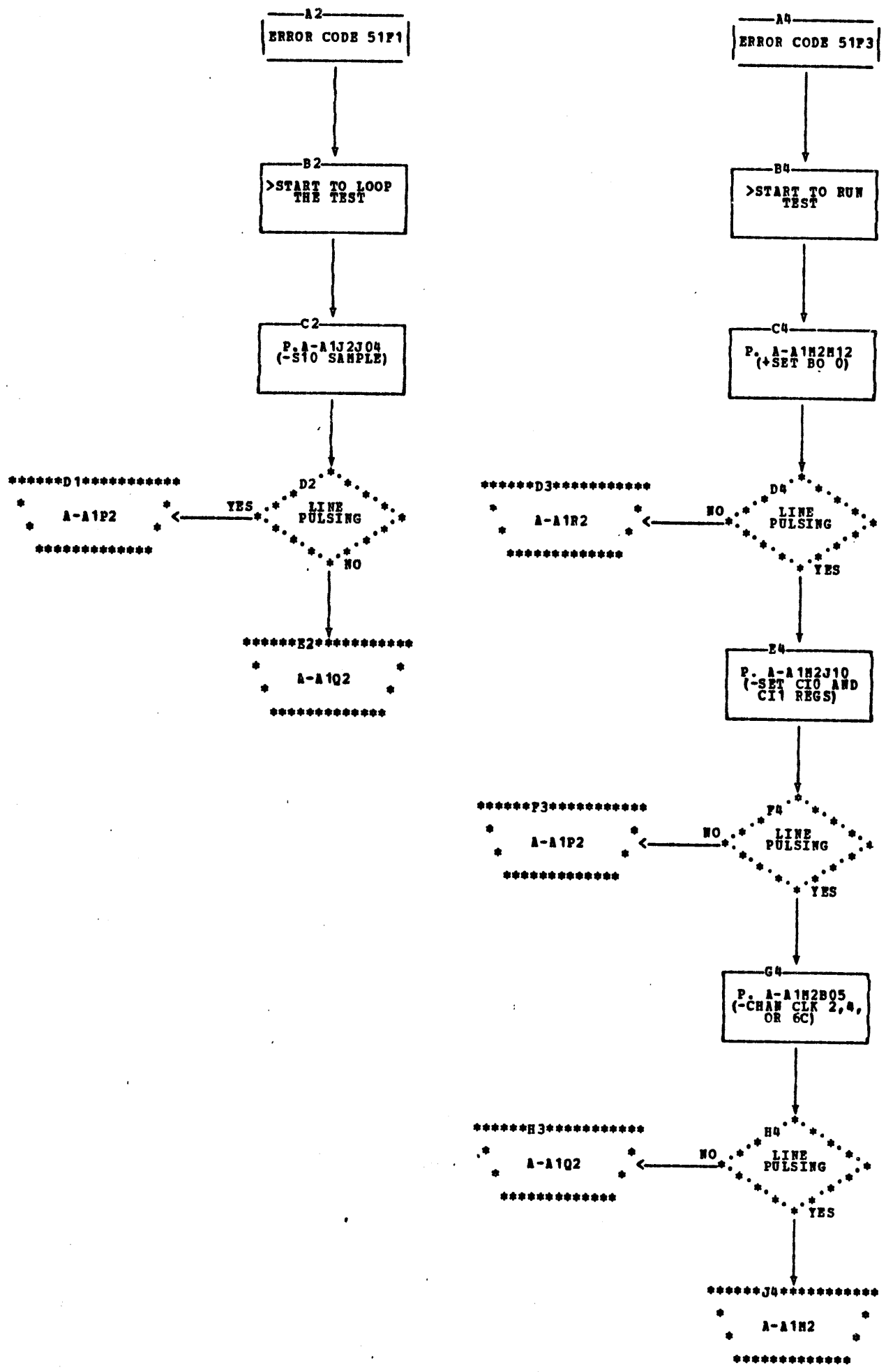

A2
ERROR CODE 51A4
B2
>START TO LOOP THE TEST
C2
PROBE A-A1J2D07 (-END OF TRAP CNT SET FRF4)
D2
LINE PULSING
YES
D1
A-A1S2
NO
E2
PROBE A-A1J2D10 (-TRAP CNT ZERO)
F2
LINE PULSING
NO
F1
A-A1J2 OR A-A1R2
YES
G2
A-A1J2
A4
ERROR CODE 51A7
B4
>START TO LOOP THE TEST
C4
P.A-A1J2U06 (-DCD OA GATE FBI TO IOP)
D4
LINE PULSING
NO
D3
A-A1T2
YES
E4
A-A1J2

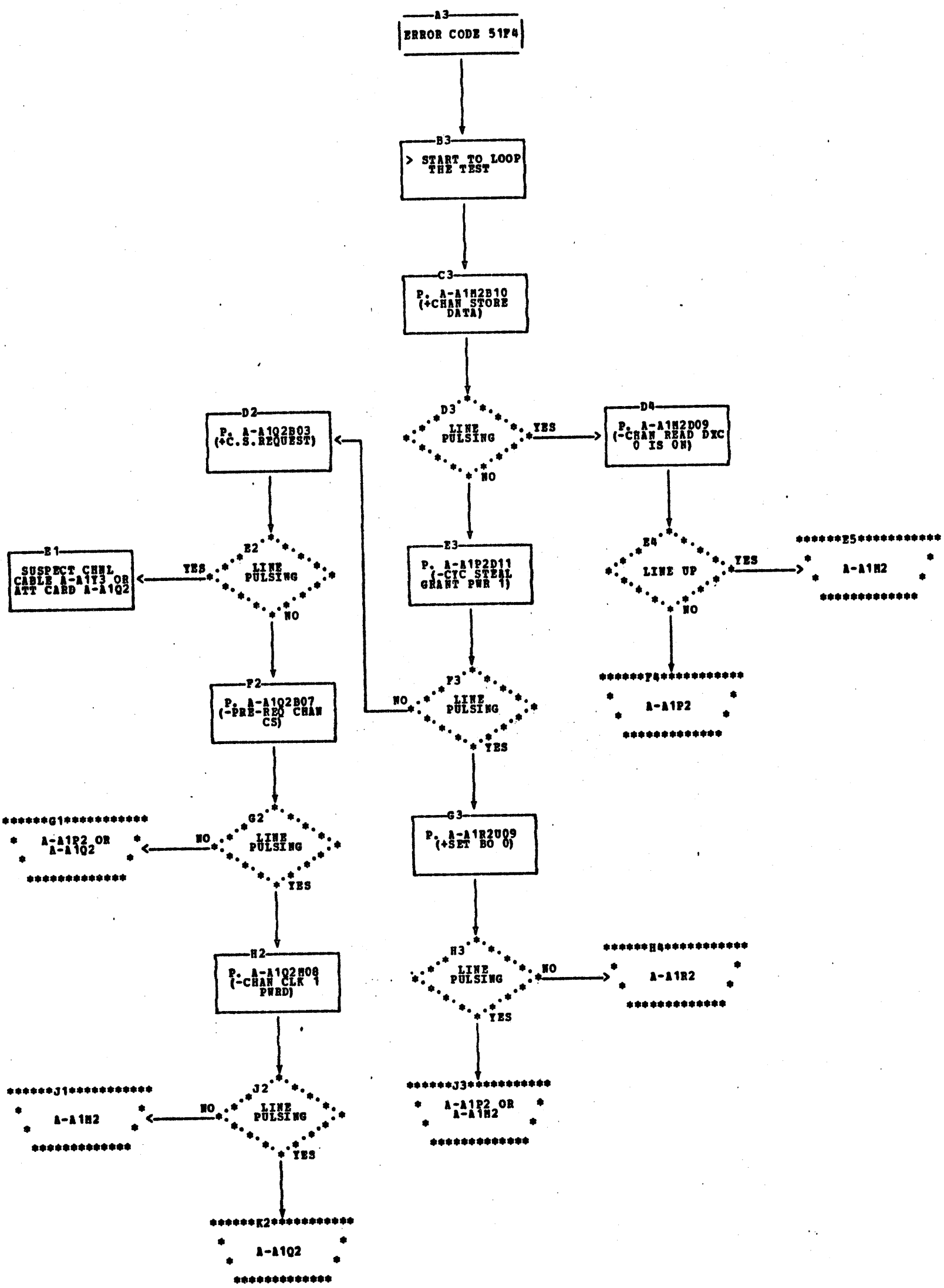

A1
ERROR CODE 51A9
B1
>START TO LOOP THE TEST
C1
P.A-A1J2J09 (-SET FCT)
D1
LINE UP
NO
YES
D2
A-A1R2
E1
A-A1J2
E2
A-A1S2
C3
>START TO LOOP THE TEST
D3
P.A-A1J2J04 (+PHP RESET BIT 7)
E3
LINE PULSING
NO
YES
F3
A-A1J2
A4
ERROR CODE 51AA
B4
P.A-A1J2D06 (-END OF FILE XFER SET PHFI)
C4
LINE UP
NO
YES
D4
P.A-A1J2D07 (-END OF TRAP CNT SET PHF4)
E4
LINE UP
NO
YES
E5
A-A1J2
F4
A-A1S2

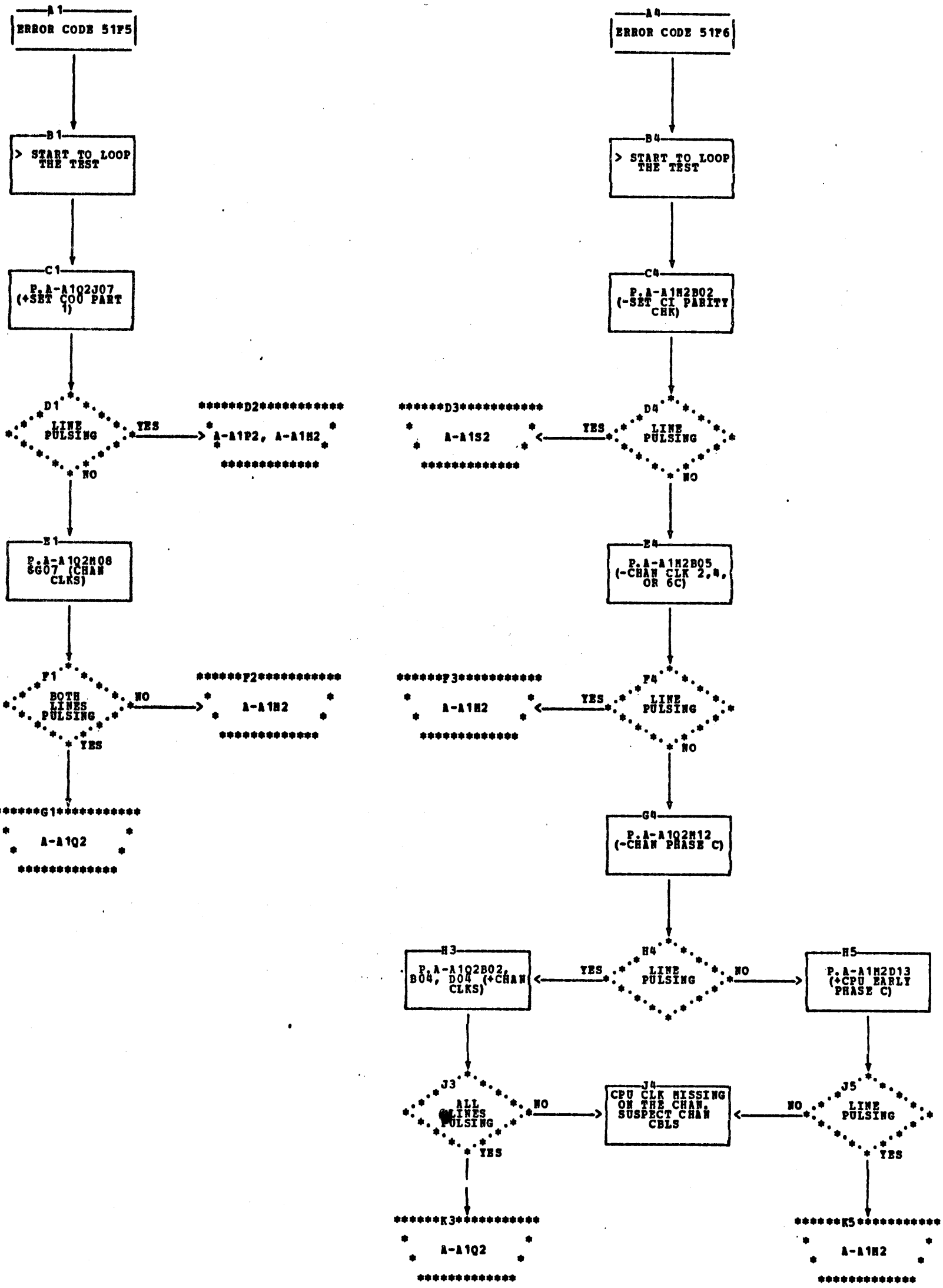

A2
ERROR CODE 51AC
B2
>START TO LOOP THE TEST
C2
P.A-A1R2B02 (+SYNC IN OR FTG3)
D2
LINE PULSING
NO
******D3**********
A-A1R2
****
YES
******E2**********
A-A1J2 OR A-A1T2
****
A4
ERROR CODE 51AE
B4
>START TO LOOP THE TEST
C4
P.A-A1R2G03 (-PTR REG OUT 4)
D4
LINE UP
YES
******D5**********
A-A1S2
****
NO
******E4**********
A-A1R2
****

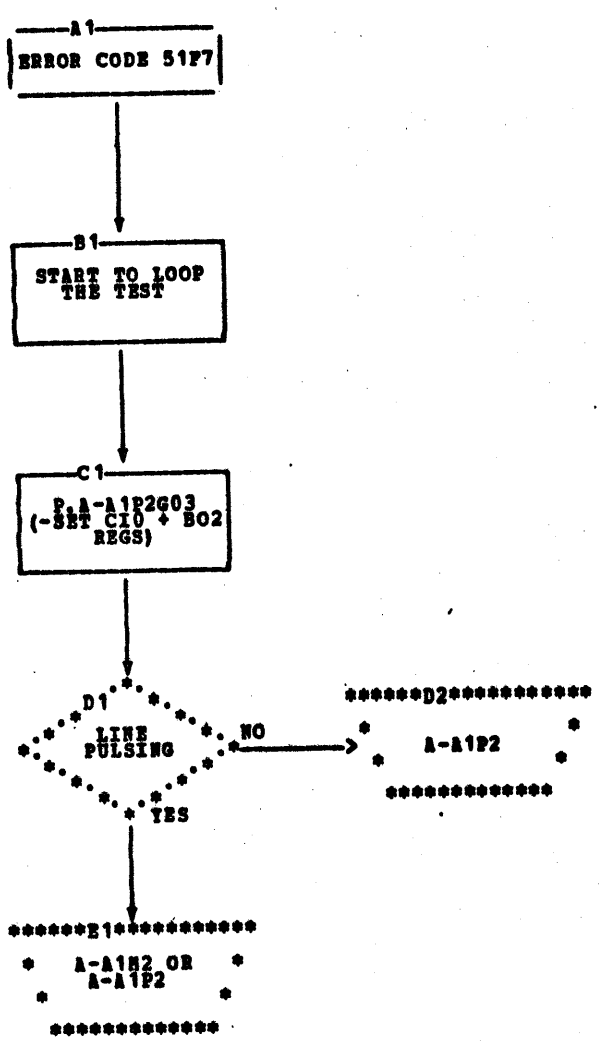

A2
ERROR CODE 51C0
B2
>START TO LOOP THE TEST
C2
P.A-A1J2J05 (+PHF RESET BIT 5)
D2
LINE PULSING
NO
YES
E2
P. A-A1J2B12 (-SCAN HIT)
P.A-A1J2G11 (-SCAN EQUAL)
F2
BOTH LINES UP
YES
NO
P1
A-A1S2
G2
A-A1J2
A4
ERROR CODE 51C1
B4
>START TO LOOP THE TEST
C4
P. A-A1J2G10 (+SET TRAP C ON SCAN)
D4
LINE UP OR PULSING
NO
YES
D3
A-A1J2
E4
P. A-A1P2P04 (-TRAP C)
F4
LINE PULSING
NO
YES
F3
A-A1P2 OR A-A1H2
G4
P. A-A1T2J07 (+SET FI)
H4
LINE PULSING
NO
YES
H3
A-A1J2 OR A-A1S2
J4
A-A1T2 OR A-A1J2

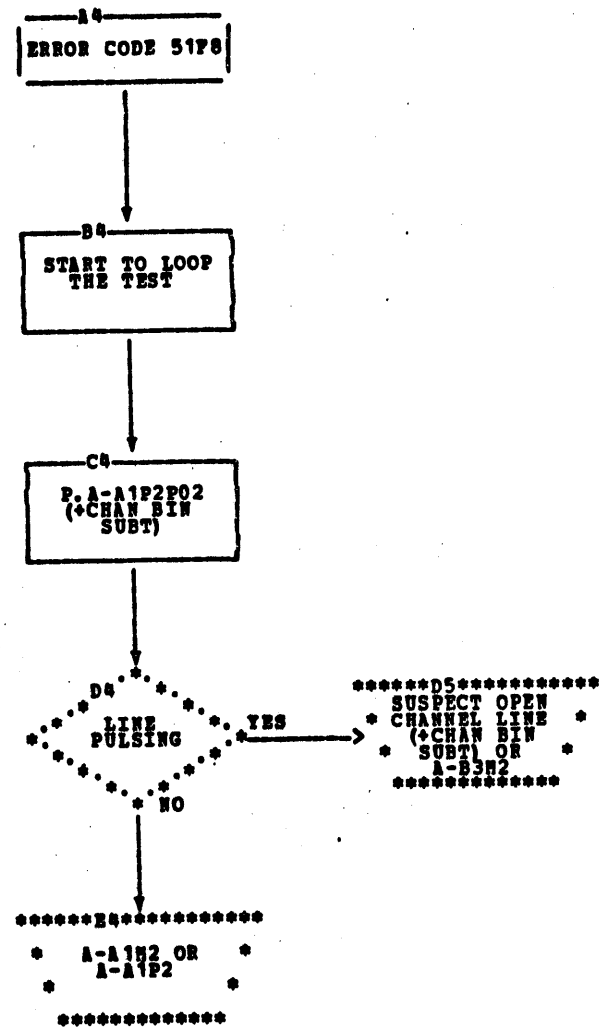

A2
ERROR CODE 51C2
B3
>START TO LOOP THE TEST
C2
P.A-A1J2G04 (-FF DETECT)
D2
LINE PULSING
NO
YES
D1
A-A1T2
E2
P. A-A1J2J02 (-SCN BUS BIT 1 SCAN HI OR EQ)
F2
LINE UP OR PULSING
NO
YES
F1
A-A1S2
G2
P. A-A1J2J05 (-FHF RESET BIT 5)
H2
LINE PULSING
NO
YES
H1
A-A1S2
J2
A-A1J2 OR A-A1T2
A4
ERROR CODE 51D0
B4
>START TO LOOP THE TEST
C4
P.A-A1R2J04 (-RECYCLE AND SCN 4 AND NOT IOP HALT)
D4
LINE PULSING
YES
NO
D3
A-A1R2
E4
A-A1R2D04 (-GATE RECYCLE)
F4
LINE PULSING
NO
YES
G4
A-A1R2U03 (-SYNC 3 GATED DEC PCT)
H4
LINE PULSING
NO
YES
H3
A-A1J2
J4
A-A1R2 OR A-A1S2

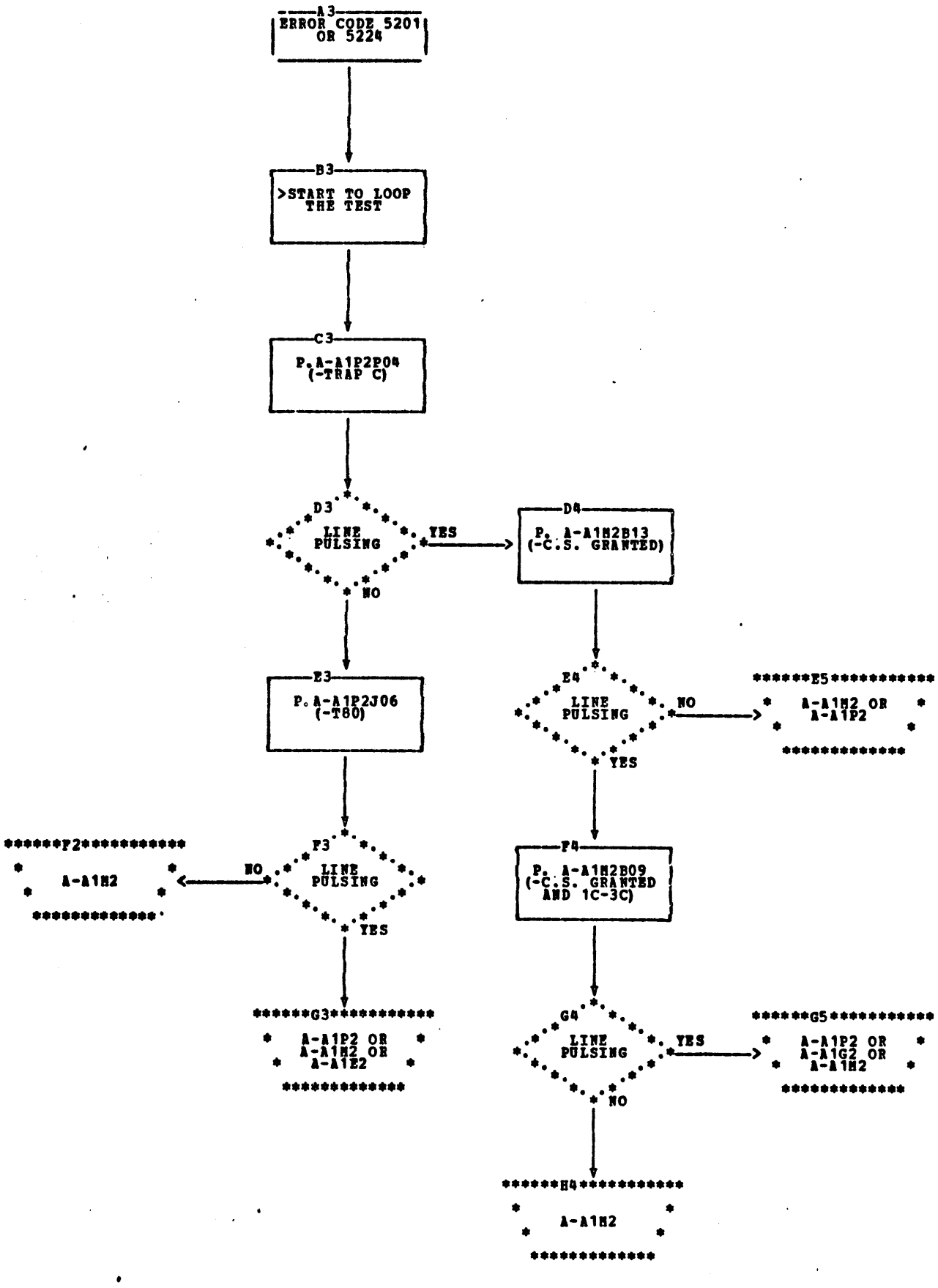

A2
ERROR CODE 51F1
B2
>START TO LOOP THE TEST
C2
P.A-A1J2J04 (-S10 SAMPLE)
D2
LINE PULSING
YES
NO
******D1**********
A-A1P2
****
******E2**********
A-A1Q2
****
A4
ERROR CODE 51F3
B4
>START TO RUN TEST
C4
P. A-A1N2H12 (+SET BO 0)
D4
LINE PULSING
NO
YES
******D3**********
A-A1R2
****
E4
P. A-A1N2J10 (-SET CI0 AND CI1 REGS)
F4
LINE PULSING
NO
YES
******F3**********
A-A1P2
****
G4
P. A-A1N2B05 (-CHAN CLK 2,4, OR 6C)
H4
LINE PULSING
NO
YES
******H3**********
A-A1Q2
****
******J4**********
A-A1N2
****

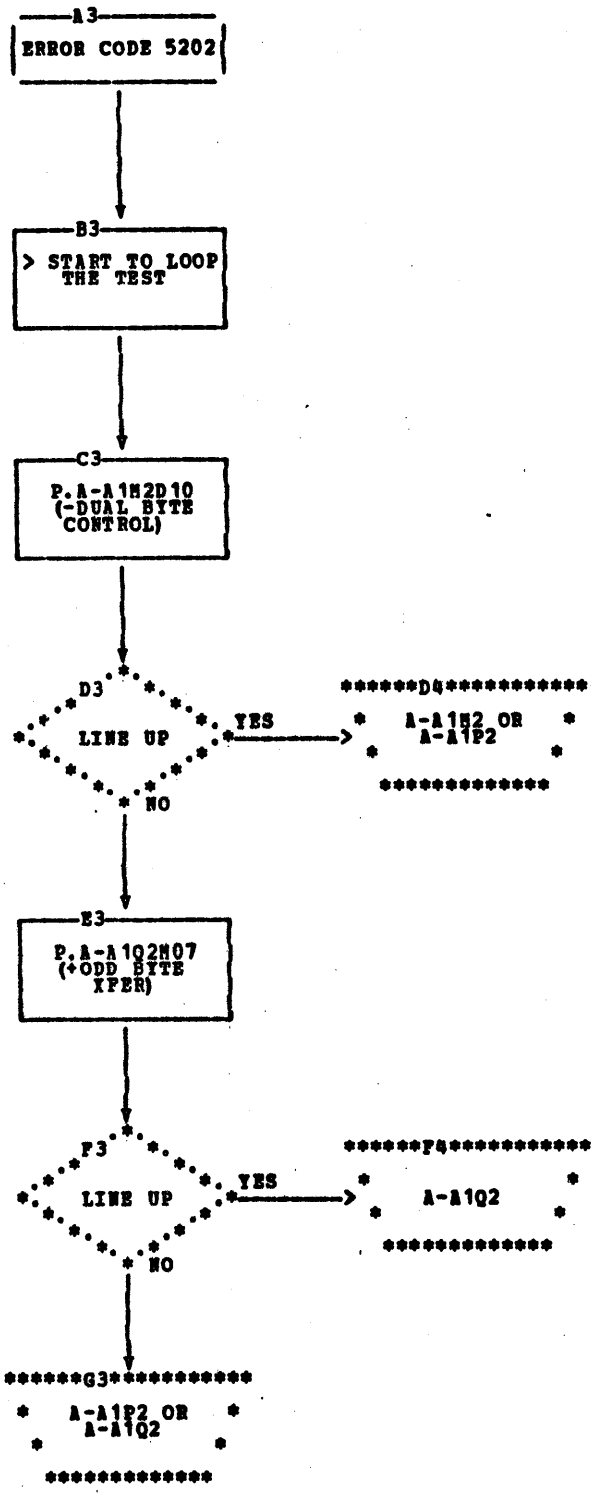

A3
ERROR CODE 51F4
B3
> START TO LOOP THE TEST
C3
P. A-A1M2B10 (+CHAN STORE DATA)
D3
LINE PULSING
YES
NO
D4
P. A-A1M2D09 (-CHAN READ DXC 0 IS ON)
E4
LINE UP
YES
NO
******E5**********
A-A1M2
****
******F4**********
A-A1P2
****
D2
P. A-A1Q2B03 (+C.S.REQUEST)
E2
LINE PULSING
YES
NO
E1
SUSPECT CHNL CABLE A-A1Y3 OR ATT CARD A-A1Q2
E3
P. A-A1P2D11 (-CTC STEAL GRANT PWR 1)
F3
LINE PULSING
NO
YES
F2
P. A-A1Q2B07 (-PRE-REQ CHAN CS)
G2
LINE PULSING
NO
YES
******G1**********
A-A1P2 OR A-A1Q2
****
G3
P. A-A1R2U09 (+SET BO 0)
H2
P. A-A1Q2H08 (-CHAN CLK 1 PWRD)
H3
LINE PULSING
NO
YES
******H4**********
A-A1R2
****
J2
LINE PULSING
NO
YES
******J1**********
A-A1M2
****
******J3**********
A-A1P2 OR A-A1M2
****
******K2**********
A-A1Q2
****

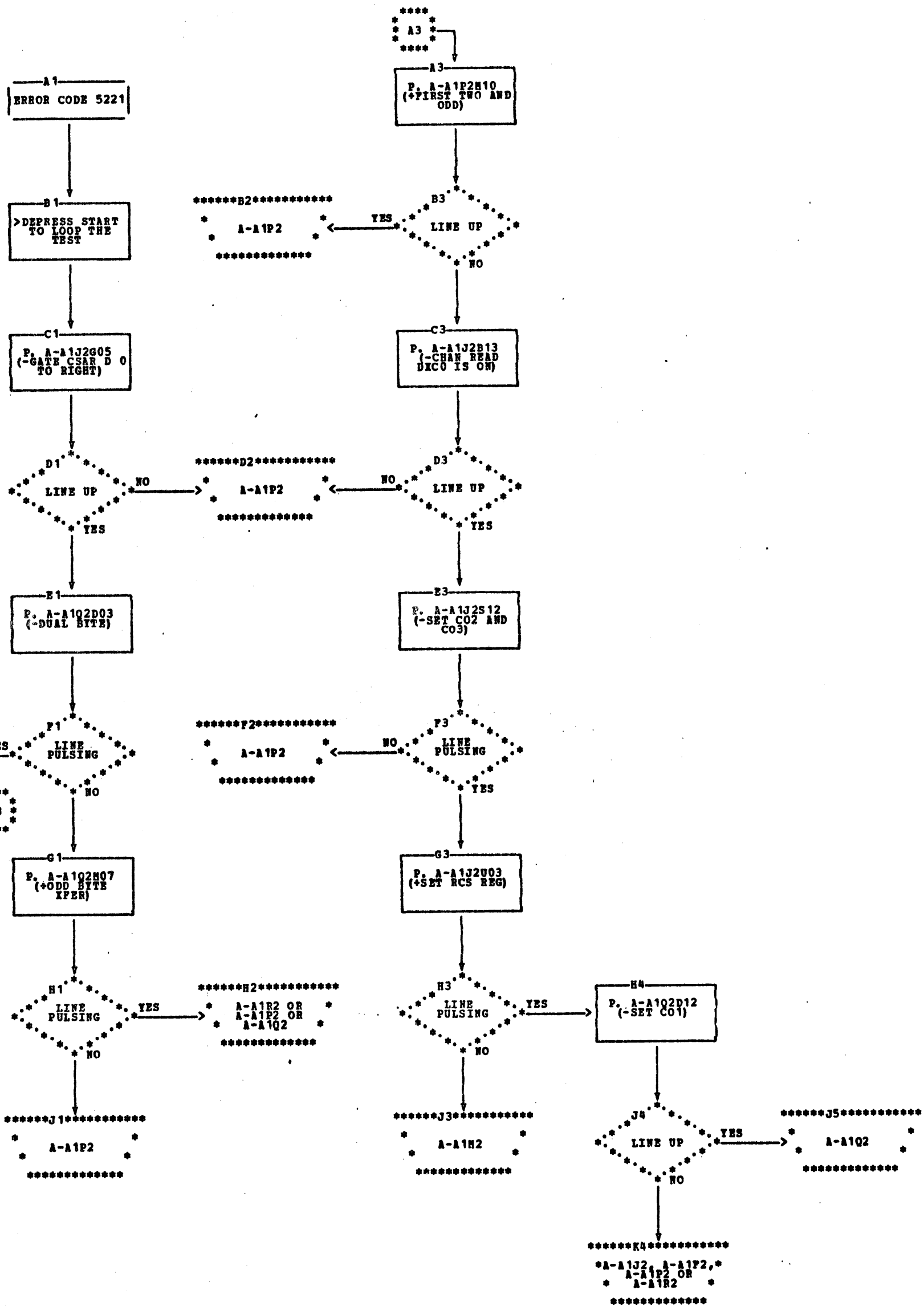

A1
ERROR CODE 51F5
B1
> START TO LOOP THE TEST
C1
P.A-A102J07 (+SET C00 PART 1)
D1
LINE PULSING
YES
NO
******D2**********
A-A1P2, A-A1H2
****
E1
P.A-A102M08 &G07 (CHAN CLKS)
F1
BOTH LINES PULSING
NO
YES
******F2**********
A-A1H2
****
******G1**********
A-A1Q2
****
A4
ERROR CODE 51F6
B4
> START TO LOOP THE TEST
C4
P.A-A1M2B02 (-SET C1 PARITY CHK)
******D3**********
A-A1S2
****
D4
LINE PULSING
YES
NO
E4
P.A-A1M2B05 (-CHAN CLK 2,4, OR 6C)
******F3**********
A-A1H2
****
F4
LINE PULSING
YES
NO
G4
P.A-A102M12 (-CHAN PHASE C)
H3
P.A-A1Q2B02, B04, D04 (+CHAN CLKS)
H4
LINE PULSING
YES
NO
H5
P.A-A1M2D13 (+CPU EARLY PHASE C)
J3
ALL LINES PULSING
NO
YES
J4
CPU CLK MISSING ON THE CHAN, SUSPECT CHAN CBLS
J5
LINE PULSING
NO
YES
******K3**********
A-A1Q2
****
******K5**********
A-A1H2
****

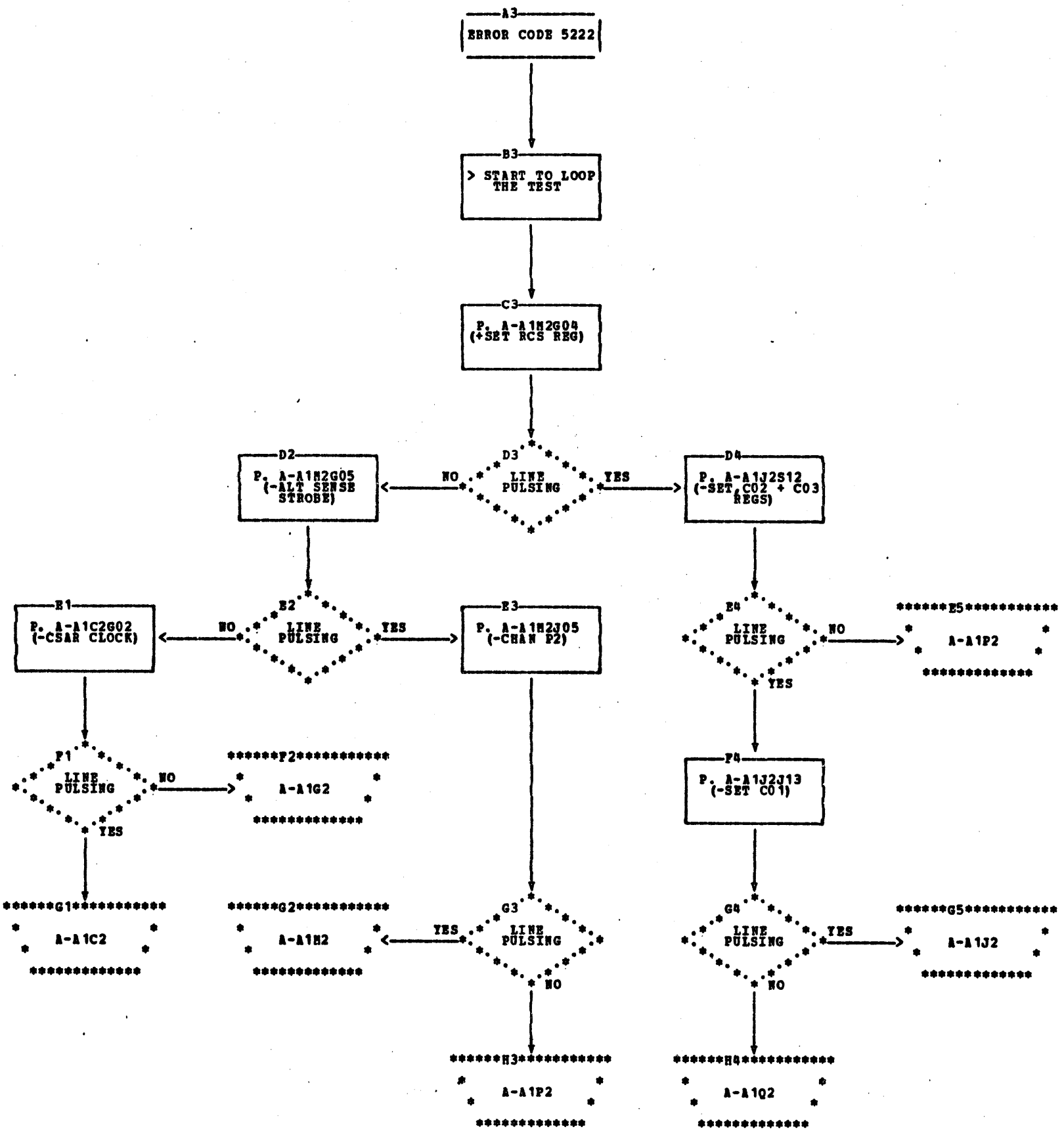

A1
ERROR CODE 51F7
B1
START TO LOOP THE TEST
C1
P.A-A1P2G03 (-SET CI0 + BO2 REGS)
D1
LINE PULSING
NO
YES
******D2**********
A-A1P2
****
******E1**********
A-A1H2 OR A-A1P2
****

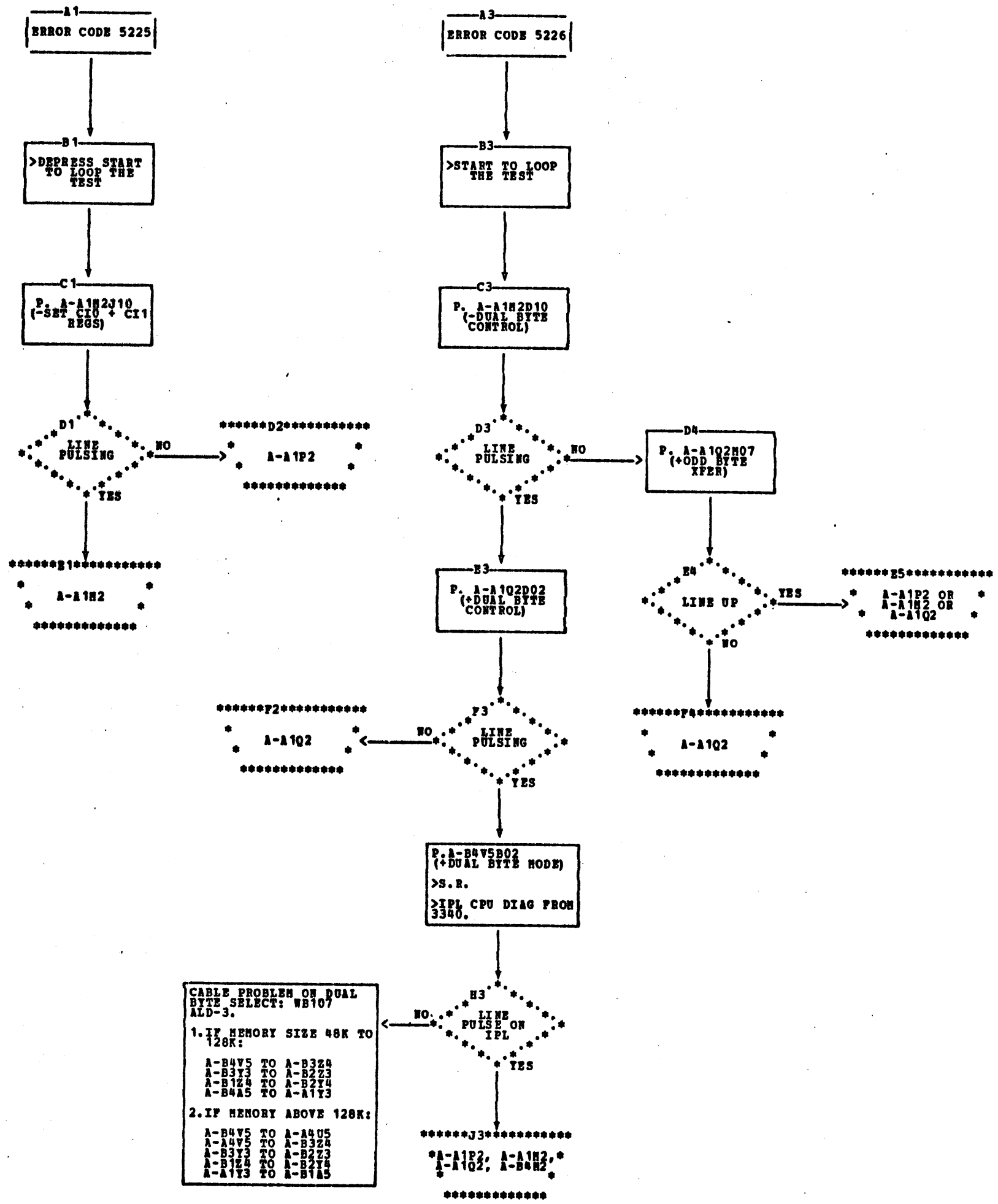

A4
ERROR CODE 51F8
B4
START TO LOOP THE TEST
C4
P.A-A1P2P02 (+CHAN BIN SUBT)
D4
LINE PULSING
YES
NO
******D5**********
SUSPECT OPEN CHANNEL LINE (+CHAN BIN SUBT) OR A-B3H2
****
******E4**********
A-A1H2 OR A-A1P2
****

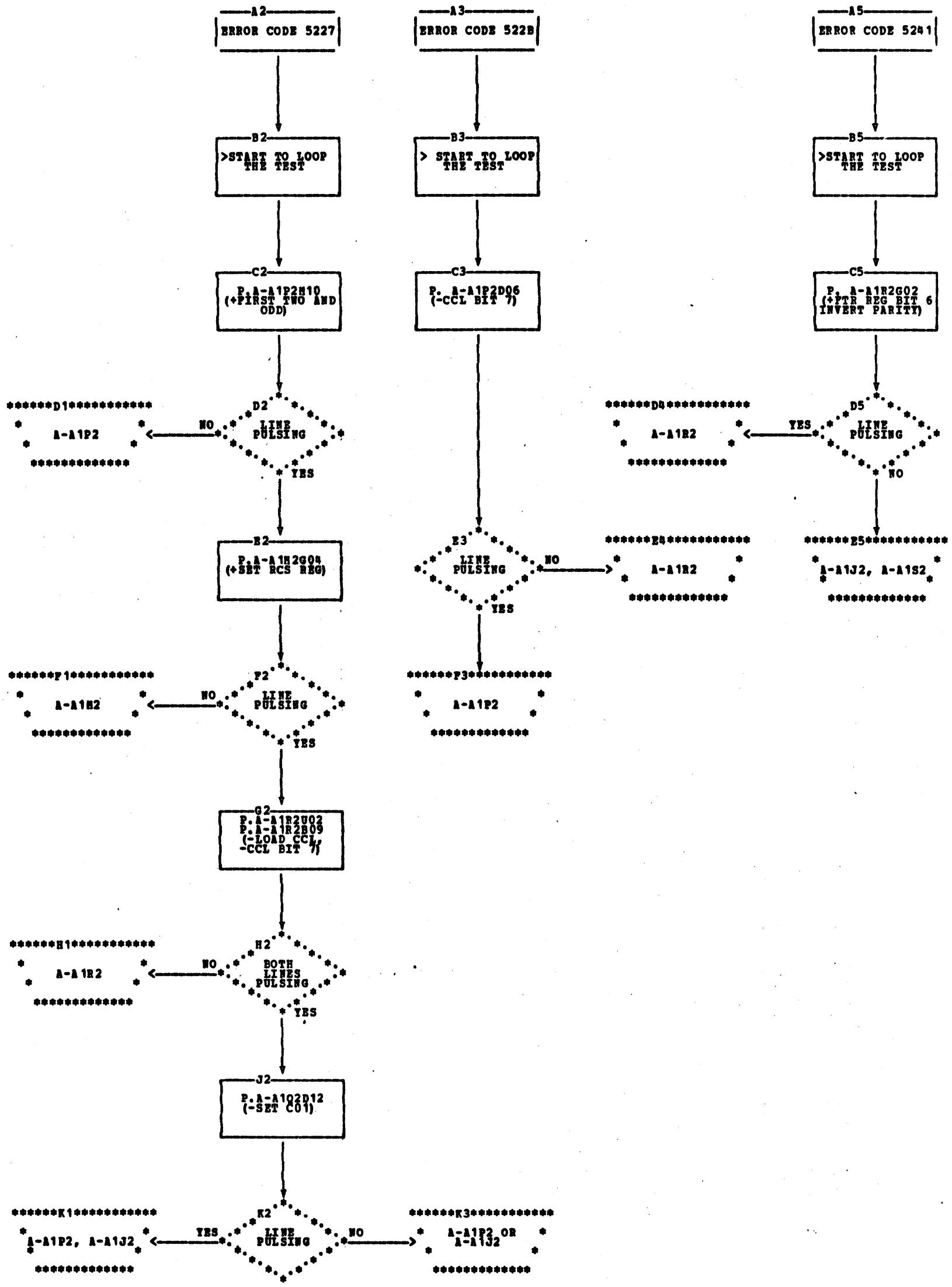

A3
ERROR CODE 5201 OR 5224
B3
>START TO LOOP THE TEST
C3
P.A-A1P2P04 (-TRAP C)
D3
LINE PULSING
YES
NO
D4
P. A-A1M2B13 (-C.S. GRANTED)
E3
P.A-A1P2J06 (-T80)
E4
LINE PULSING
NO
YES
E5
A-A1M2 OR A-A1P2
F2
A-A1M2
F3
LINE PULSING
NO
YES
F4
P. A-A1M2B09 (-C.S. GRANTED AND 1C-3C)
G3
A-A1P2 OR A-A1M2 OR A-A1E2
G4
LINE PULSING
YES
NO
G5
A-A1P2 OR A-A1G2 OR A-A1M2
H4
A-A1M2

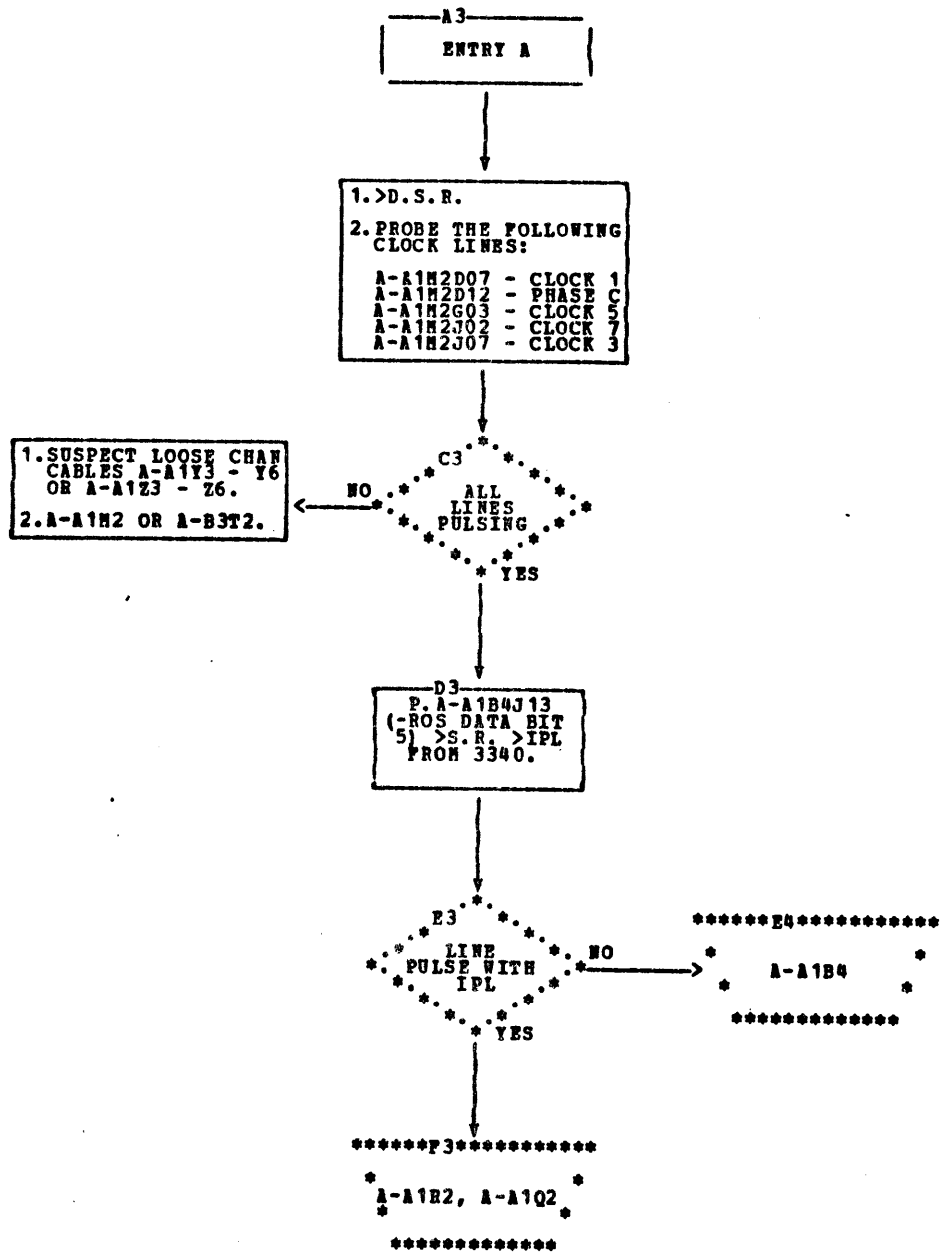

A3
ERROR CODE 5202
B3
> START TO LOOP THE TEST
C3
P.A-A1H2D10 (-DUAL BYTE CONTROL)
D3
LINE UP
YES
NO
******D4**********
A-A1H2 OR A-A1P2
****
E3
P.A-A1Q2H07 (+ODD BYTE XFER)
F3
LINE UP
YES
NO
******F4**********
A-A1Q2
****
******G3**********
A-A1P2 OR A-A1Q2
****


A1
ERROR CODE 5221
B1
>DEPRESS START TO LOOP THE TEST
C1
P. A-A1J2G05 (-GATE CSAR D 0 TO RIGHT)
D1
LINE UP
NO
YES
******D2**********
A-A1P2
****
E1
P. A-A1Q2D03 (-DUAL BYTE)
F1
LINE PULSING
YES
NO
A3
G1
P. A-A1Q2H07 (+ODD BYTE XFER)
H1
LINE PULSING
YES
NO
******H2**********
A-A1R2 OR A-A1P2 OR A-A1Q2
****
******J1**********
A-A1P2
****
A3
A3
P. A-A1P2H10 (+FIRST TWO AND ODD)
B3
LINE UP
YES
NO
******B2**********
A-A1P2
****
C3
P. A-A1J2B13 (-CHAN READ DXC0 IS ON)
D3
LINE UP
NO
YES
******D2**********
A-A1P2
****
E3
P. A-A1J2S12 (-SET CO2 AND CO3)
F3
LINE PULSING
NO
YES
******F2**********
A-A1P2
****
G3
P. A-A1J2U03 (+SET RCS REG)
H3
LINE PULSING
YES
NO
H4
P. A-A1Q2D12 (-SET CO1)
******H2**********
A-A1R2 OR A-A1P2 OR A-A1Q2
****
******J3**********
A-A1H2
****
J4
LINE UP
YES
NO
******J5**********
A-A1Q2
****
******K4**********
A-A1J2, A-A1F2, A-A1P2 OR A-A1R2
****


A3
ERROR CODE 5222
B3
> START TO LOOP THE TEST
C3
P. A-A1H2G04 (+SET RCS REG)
D3
LINE PULSING
NO
YES
D2
P. A-A1H2G05 (-ALT SENSE STROBE)
D4
P. A-A1J2S12 (-SET C02 + C03 REGS)
E1
P. A-A1C2G02 (-CSAR CLOCK)
E2
LINE PULSING
E3
P. A-A1H2J05 (-CHAN P2)
E4
LINE PULSING
E5
A-A1P2
F1
LINE PULSING
F2
A-A1G2
F4
P. A-A1J2J13 (-SET C01)
G1
A-A1C2
G2
A-A1H2
G3
LINE PULSING
G4
LINE PULSING
G5
A-A1J2
H3
A-A1P2
H4
A-A1Q2


A1
ERROR CODE 5225
B1
>DEPRESS START TO LOOP THE TEST
C1
P. A-A1H2J10 (-SET CI0 + CI1 REGS)
D1
LINE PULSING
NO
YES
D2
A-A1P2
E1
A-A1H2
A3
ERROR CODE 5226
B3
>START TO LOOP THE TEST
C3
P. A-A1H2D10 (-DUAL BYTE CONTROL)
D3
LINE PULSING
NO
YES
D4
P. A-A1Q2H07 (+ODD BYTE XFER)
E3
P. A-A1Q2D02 (+DUAL BYTE CONTROL)
E4
LINE UP
YES
NO
E5
A-A1P2 OR A-A1H2 OR A-A1Q2
F2
A-A1Q2
F3
LINE PULSING
NO
YES
F4
A-A1Q2
P.A-B4V5B02 (+DUAL BYTE MODE)
>S.R.
>IPL CPU DIAG FROM 3340.
H3
LINE PULSE ON IPL
NO
YES
J3
A-A1P2, A-A1H2, A-A1Q2, A-B4H2
CABLE PROBLEM ON DUAL BYTE SELECT: WB107 ALD-3.
1. IF MEMORY SIZE 48K TO 128K:
A-B4V5 TO A-B3Z4
A-B3Y3 TO A-B2Z3
A-B1Z4 TO A-B2Y4
A-B4A5 TO A-A1Y3
2. IF MEMORY ABOVE 128K:
A-B4V5 TO A-A4U5
A-A4V5 TO A-B3Z4
A-B3Y3 TO A-B2Z3
A-B1Z4 TO A-B2Y4
A-A1Y3 TO A-B1A5


A2
ERROR CODE 5227
B2
>START TO LOOP THE TEST
C2
P.A-A1P2H10 (+FIRST TWO AND ODD)
D2
LINE PULSING
NO
YES
D1
A-A1P2
E2
P.A-A1N2G04 (+SET RCS REG)
F2
LINE PULSING
NO
YES
F1
A-A1N2
G2
P.A-A1R2U02
P.A-A1R2B09
(-LOAD CCL,
-CCL BIT 7)
H2
BOTH LINES PULSING
NO
YES
H1
A-A1R2
J2
P.A-A1Q2D12
(-SET C01)
K2
LINE PULSING
YES
NO
K1
A-A1P2, A-A1J2
K3
A-A1P2 OR A-A1J2
A3
ERROR CODE 522B
B3
> START TO LOOP THE TEST
C3
P.A-A1P2D06
(-CCL BIT 7)
E3
LINE PULSING
NO
YES
E4
A-A1R2
F3
A-A1P2
A5
ERROR CODE 5241
B5
>START TO LOOP THE TEST
C5
P.A-A1R2G02
(+PTR REG BIT 6 INVERT PARITY)
D5
LINE PULSING
YES
NO
D4
A-A1R2
E5
A-A1J2, A-A1S2


A3
ENTRY A
1.>D.S.R.
2.PROBE THE FOLLOWING CLOCK LINES:
A-A1M2D07 - CLOCK 1
A-A1M2D12 - PHASE C
A-A1M2G03 - CLOCK 5
A-A1M2J02 - CLOCK 7
A-A1M2J07 - CLOCK 3
C3
ALL LINES PULSING
NO
1.SUSPECT LOOSE CHAN CABLES A-A1Y3 - Y6 OR A-A1Z3 - Z6.
2.A-A1M2 OR A-B3T2.
YES
D3
P.A-A1B4J13 (-ROS DATA BIT 5) >S.R. >IPL FROM 3340.
E3
LINE PULSE WITH IPL
NO
E4
A-A1B4
YES
P3
A-A1R2, A-A1Q2

ENTRY INTO THIS MAP CHART SHOULD BE FOR 3340/3344 SUBSYSTEM POWER SEQUENCE FAILURES.

THIS MAP CHART ISOLATES POWER PROBLEMS TO EITHER THE 3340/3344 POWER INTERFACE SEQUENCE CARD (LEFT REAR SIDE OF THE CPU) OR THE 3340/3344 SUBSYSTEM. IF A POWER PROBLEM EXISTS ONLY ON THE 3344 B2 BOX, EXIT TO THE 3344 SECTION, START 100, ENTRY 1.

THIS MAP ASSUMES THAT NO SYSTEM POWER CHECK IS INDICATED ON THE CPU PANEL.

THE POWER MODE SW (REAR OF THE A2 MODULE) SHOULD BE IN THE 'REMOTE' POSITION BEFORE CONTINUING ANY FURTHER IN THIS MAP (REFER TO NOTES 1 & 2).

1. POSITION START/STOP SWITCH ON EACH 3340 DRIVE OR 3344 DRIVE (IF INSTALLED) TO THE 'OFF' POSITION IF NOT ALREADY DONE.
2. SYSTEM 3 POWER ON/OFF SW TO THE 'OFF' POSITION.
3. WHEN THE SYSTEM COMPLETES ITS POWER DOWN SEQUENCE, TURN SYSTEM POWER ON/OFF SW TO THE 'ON' POSITION.

BOTH POWER LAMPS (AC&DC) OFF ON THE 3340 POWER SEQUENCE BOARD (REAR OF THE 3340 A2 MODULE).

NO → EXIT TO THE FOLLOWING 3340 HLM SECTION: START 100, ENTRY B. (D1)

YES

PERFORM THE FOLLOWING TO CHECK OUT THE 3340/3344 POWER INTERFACE SEQUENCE CARD IN THE CPU:
1. SYSTEM 3 POWER ON/OFF SW TO THE 'OFF' POSITION.
2. OPEN THE REAR DOOR ON THE LEFT SIDE OF THE CPU TO GAIN ACCESS TO THE I/O DEVICE CABLES.
3. REMOVE THE 3340/3344 EPO CABLE (NEXT TO THE TAG CABLE) AND PLACE CABLE OUT OF THE WAY.
4. SYSTEM POWER ON/OFF SWITCH TO THE 'ON' POSITION.
5. REFER TO FIGURE 1 (THIS FIGURE SHOWS THE PIN NUMBERS OF THE MOUNTED EPO CABLE).
6. WITH CE METER, CHECK FOR CONTINUITY BETWEEN PINS 1 & 6 (RELAY CONTACTS K21-1, K22-1 AND K23-1 SHOULD BE CLOSED).

G2 CONTINUITY CONDITION EXIST?

YES →
1. CAREFULLY JUMPER PIN #4 TO PIN #3 ON THE EPO CONNECTOR. NOTE THAT PIN #3 IS AT 24 VOLTS AND SHOULD PICK RELAY K23 AND OPEN K23-1 CONTACTS.
2. CHECK FOR CONTINUITY BETWEEN PINS 1 & 6.

H3 CONTINUITY CONDITION EXIST?

YES →
1. REPLACE RELAY (K23) ON POWER INTERFACE SEQUENCE CARD.
2. RECONNECT 3340/3344 EPO CABLE.

NO →
1. CHECK BOTH ENDS OF THE 3340/3344 EPO CABLE FOR DAMAGED CONNECTOR PINS PUSHED OUT OF THE CONNECTOR HOUSING.
2. RECONNECT 3340/3344 EPO CABLE.
3. EXIT TO THE FOLLOWING 3340 HLM SECTION IF NO PROBLEM CAN BE FOUND WITH THE EPO CONNECTOR: START 100, ENTRY B.

USE POWER LOGIC PAGES YA500 AND YA050 AS AN AID IN DETERMINING THE FAILURE.
1. CHECK CABLE (J13) FROM THE 3340/3344 POWER INTERFACE SEQUENCE CARD (LEFT REAR SIDE OF CPU) TO THE SYSTEM RELAY SEQUENCE PANEL (MIDDLE RIGHT SIDE OF OF CPU).
2. CHECK CABLE (J12) FROM THE 3340/3344 POWER INTERFACE SEQUENCE CARD TO THE EPO CONNECTOR MOUNTED NEXT TO THE 3340/3344 INTERFACE CABLES.
3. CHECK FOR PROPER VOLTAGES TO THE SEQUENCE CARD (+24V CTL & POWER ON/OFF 3340).
4. SUSPECT DEFECTIVE 3340/3344 POWER INTERFACE SEQUENCE CARD.
5. RECONNECT 3340/3344 EPO CABLE.

NOTE 1:

THE CE IS REFERRED TO POWER LOGIC PAGES YA500 IN THE SYSTEM ALD VOL 7 AND YA050 IN THE 3340 MDM VOL 4 WHICH COVER THE SYSTEM/3 - 3340 SUBSYSTEM POWER INTERFACE.

NOTE 2:

IF THE 3340/3344 SUBSYSTEM CANNOT BE POWERED DOWN FROM THE 3340/3344 POWER PANEL WITH THE POWER MODE SW IN THE REMOTE POSITION, SUSPECT DEFECTIVE EPO CABLE, BAD RELAY K23 ON THE INTERFACE SEQ CARD OR BAD RELAY K523 IN THE 3340.

IF THE 3340/3344 SUBSYSTEM SEQUENCES UP AND REMAINS UP (WHEN IN REMOTE MODE) AND WILL NOT SEQUENCE DOWN WITH THE SYSTEM POWER ON/OFF SW CHANGE THE 3340/3344 POWER INTERFACE SEQUENCE CARD.

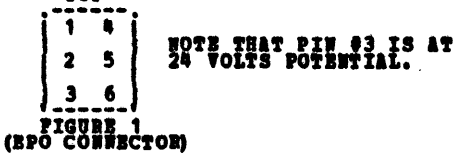


FIGURE 1
(EPO CONNECTOR)

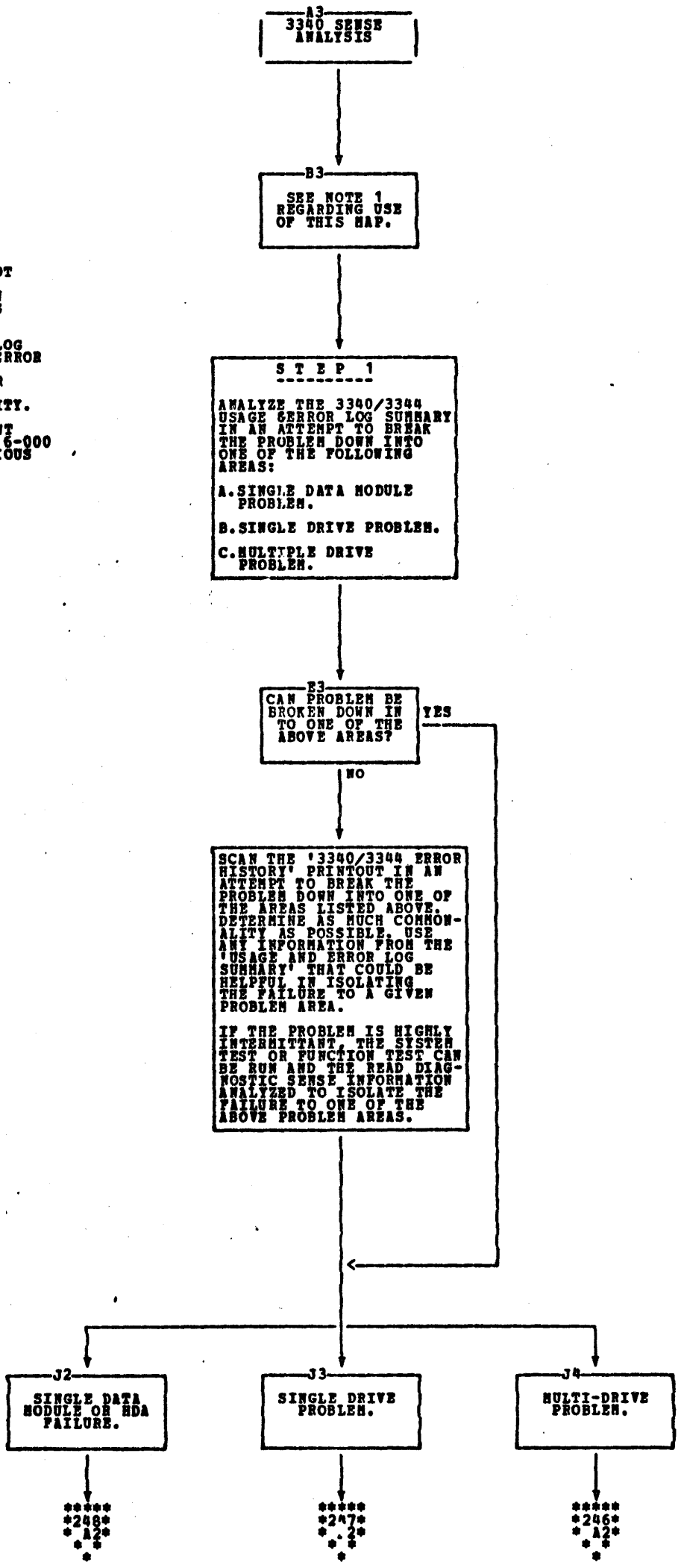
NOTE THAT PIN #3 IS AT 24 VOLTS POTENTIAL.

N O T E 1:

THIS MAP SHOULD BE USED IN CONJUNCTION WITH THE DISK ERROR RECORDING ANAILYSIS PROGRAM(FF7) AS AN AID IN ANALYZING THE 3340/3344 ERROR HISTORY PRINTOUT.

PROGRAM FF7 IS RUN WHEN INTERMITTANT FAILURES CANNOT BE ISOLATED BY THE NORMAL DIAGNOSTIC APPROACH OR WHEN SYSTEM PERFORMANCE IS BEING SCRUTINIZED OVER SOME INTERVAL OF TIME. BOTH THE 3340/3344 USAGE AND ERROR LOG SUMMARY AND THE 3340/3344 ERROR HISTORY SHOULD BE USED IN THE ANALYSIS OF PROBLEMS OR AS AN INDICATION OF THE CURRENT 3340/3344 RELIABILITY.

REFER TO THE 3340 ATTACHMENT THD PAGES STARTING ON PAGE 6-000 FOR AN OVERVIEW OF THE VARIOUS 3340/3344 FORMATS.



A2*
245J4
****

A2
MULTI-DRIVE PROBLEM

USE THIS MAP WHEN THE FAILURE CANNOT BE ISOLATED TO A DATA MODULE OR A SINGLE DRIVE (SEE NOTE 1).

AFTER ANALYZING THE 3340/3344 ERROR HISTORY, CHOOSE A PRINTOUT OF THE READ DIAGNOSTIC SENSE DATA WHICH TYPIFIES THE FAILURE BEING ANALYZED. THE QUESTIONS THAT FOLLOW REFER TO SPECIFIC BYTES (0-23) IN THE PRINTOUT.

D2
REFER TO BYTE 7 OF SELECTED READ DIAGNOSTIC SENSE DATA PRINTOUT.

E2 BYTE 7='3X'? YES → E1 EXIT TO PAGE 069, ENTRY B.
NO

F2 BYTE 7='2X'? YES → F1 EXIT TO PAGE 067, ENTRY A.
NO

G2 BYTE 7='1X'? NO → A4
YES

H2 ALL DRIVES FAIL? NO → *247* A4
YES → *247* A2

**** A4 ****

A4 BYTE 7='4X' OR '5X'? YES → A5 ALL DRIVES FAIL? NO → *257* A4
NO
YES → B5 SUSPECT 3340 ATTACHMENT CARD A-A1T2.

C4 BYTE 7='0B'? YES → C5 GO TO THE 3340 MLM FOR FURTHER SENSE ANALYSIS.
NO

D4 BYTE 7='0X'? NO → D5 SUSPECT 3340 ATTACHMENT CARD A-A1J2.
YES

E4 BYTE 7='00'? YES → WRITE INHIBIT IS ACTIVE ON FAILING DRIVE (CHECK PLASTIC INSERT ON DATA MODULE HANDLE).
NO

F4 BYTE 7='03'? YES → FORMAT 03 IS CAUSED BY THE MICROCODE DETECTING AN OUTSTANDING DH ATTENTION AGAINST A DRIVE WHEN A SIO COMMAN IS ATTEMPTED TO THAT DRIVE.

THIS CONDITION IS TEMPORARY ONLY AND SHOULD BE RECOVERABLE BY THE SYSTEM PROGRAM.

THIS CONDITION IS CAUSED BY A DRIVE GOING FROM A NOT READY TO A READY STATE OR BY DEPRESSION OF THE ATTENTION BUTTON ON A DISK DRIVE.
NO

H4 BYTE 7 =01,02,04, 0D OR 0E? YES → POSSIBLE PROGRAM ERROR. SEE THE 3340 ATTACHMENT THEORY - MAINTENANCE DIAGRAMS FOR FURTHER DETAILS OF FORMAT 0.
NO

BYTE 7 FORMAT 0B (CHANNEL DATA OVERRUN).

SUSPECT 3340 ATTACHMENT CARD A-A1P2.

N O T E 1:

ALTHOUGH THE FAILURE CAN OCCUR ON DIFFERENT DRIVES, CHECK THE PRINTOUT TO MAKE SURE THAT THE FAILURE DOES NOT FOLLOW A DATA MODULE.

A2*
246H2
* *
* *
****

A2

FORMAT 1 ERROR OCCURS ON MORE THAN ONE DRIVE.

POSSIBLE CONTROLLER INTERFACE CABLE PROBLEM. REFER TO NOTE 1 & CONTINUE.

1. SUSPECT THE FOLLOWING 3340 ATTACHMENT CARDS: A1R2 AND A1T2
2. SUSPECT 3340 SUBSYSTEM CONTROLLER CARD A-A2G2.
3. EXIT TO THE 3340 MLM SECTION 'START 100' FOR FURTHER SENSE ANALYSIS.
4. IF FAILURES OCCUR ONLY WITH THE 3344 BOX, EXIT TO THE 3344 MLM SECTION 'START 100' FOR FURTHER ANALYSIS.

A4*
246A5
246H2
* *
****

PROBLEM IS NOT IN THE ATTACHMENT OR THE ATTACHMENT CONTROLLER INTERFACE.

SWAP CARDS WHERE POSSIBLE IN THE 3340 SUBSYSTEM.

EXIT TO PAGE 080, ENTRY B AND USE THE INFORMATION AS A GUIDE IN CARD SWAPPING (DO NOT EXIT TO THE 3340 SUBSYSTEM MLM'S).

IF A 3344 IS INSTALLED AND THE PROBLEM OCCURS ONLY WITH DRIVE 3 OR 4, EXIT TO PAGE 081, ENTRY B AND USE THE INFORMATION AS A GUIDE IN CARD SWAPPING (DO NOT EXIT TO THE 3344 MLM'S).

RUN C12,CIF OR CUSTOMER PROGRAM TO OBTAIN ADDITIONAL INFORMATION ON THE PROBLEM.

F2*
245J3
* *
* *
****

F2

SINGLE DRIVE FAILURES.

ANALYSIS OF SINGLE DRIVE FAILURES CAN BE SIMPLIFIED BY CARD SWAPPING, EXIT TO PAGE 080, ENTRY B IF FAILING DRIVE IS A 3340 OR PAGE 081, ENTRY B IF DRIVE IS A 3344 TO SWAP CARDS IN AN ATTEMPT TO ISOLATE THE FAILURE.

IF CARD SWAPPING HAS NOT PRODUCED A FIX, RETAIN THE AVAILABLE SENSE INFORMATION.

EXIT TO PAGE 095 (3340) OR PAGE 096 (3344) TO PREPARE FOR ENTRY TO THE APPROPRIATE MLM'S.

N O T E 1:

REFER TO 3340 MAP, PAGE 090 FOR 3340 ATTACHMENT TO 3340 CONTROLLER INTERFACE CABLE LOCATIONS. INSPECT AND RESEAT ALL CONTROLLER INTERFACE CABLES IN THE FOLLOWING LOCATIONS:

1. 3340 TAG AND BUS CABLES AS THEY ENTER THE I/O CABLE CLOSET FROM THE 3340 SUBSYSTEM.
2. THE FOUR FLAT CABLES FROM INSIDE THE I/O CABLE CLOSET TO THE 3340 ATTACHMENT.
3. 3340 TAG AND BUS CABLES AS THEY ENTER THE 3340 SUBSYSTEM.