

Task Oriented Practice
(TOP)

J5A006D-1 INPUT/OUTPUT PROCESSOR FRAME

1A PROCESSOR

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TITLE PAGE	000

FIND YOUR JOB IN THE LIST BELOW THEN GO TO

Acceptance NTP-002

Alarm Test, Manual Power – SD-5A052-02 – Perform DLP-501

Automatic Power Monitor Test Failure – Clear TAP-127

Blown Fuse; Central Pulse Distributor Scan Point Interface Unit (Expanded IOP) – Clear TAP-139

Blown Fuse; +5V12 Through +5V17 – 3B Growth Unit (SD-4C049-02) – Clear TAP-124

Blown Fuse; +12E, -12E, or -48A – IOP Logic Unit (SD-5A052-02) or 1A Growth Unit (SD-4C049-01) – Clear. TAP-116

Blown Fuse; +12E, -12E, or -48V – 3B Growth Unit (SD-4C049-02) – Clear TAP-121

Blown Fuse; +24-1 – IOP Bus Unit (SD-5A052-02) – Clear TAP-102

Blown Fuse; +24-2 – IOP Bus Unit (SD-5A052-02) – Clear TAP-104

Blown Fuses; +24-3 and +24-3P – IOP Bus Unit (SD-5A052-02) – Clear TAP-106

Blown Fuse; +24-4 or +24-5 – IOP Logic Unit (SD-5A052-02) – Clear TAP-112

Blown Fuse; +24S22 – IOP Bus Unit (SD-5A052-02) – Clear TAP-108

Blown Fuses; -48 and -48P – IOP Logic Unit (SD-5A052-02) – Clear TAP-110

Blown Fuse; -48B – IOP Logic Unit (SD-5A052-02) – Clear TAP-118

Circuit Pack (SD-5A052-02) – Replace NTP-003

Clear TN82B Circuit Pack or Data Service Unit(s) (DSUs) Channel Failure TAP-146

DC-to-DC Converter/Power Supply (SD-5A052-02) – Replace NTP-004

Diagnostic Failure – By Analyzing Raw Data And Replacing Suspect Packs – Clear TAP-137

Diagnostic Failure – TLP Abort – Clear TAP-132

Diagnostic Failure – TLP Disk Queue Full – Clear TAP-129

Diagnostic Failure – TLP Inhibit – Clear TAP-131

Diagnostic Failure – TLP Queue Blockage – Clear TAP-130

Diagnostic Failure – By Replacing Packs On TLP Suspected Faulty Equipment List – Clear TAP-136

TASK INDEX LIST

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Diagnostic Failure – TLP Tape Acquisition Error – Clear TAP-134

Diagnostic Failure – TLP Tape Not Mounted – Clear TAP-135

Diagnostic Failure – TLP Tape Version X Does Not Match Version Y – Clear TAP-133

Lamps – Power Switch – Test DLP-505

Lighted LED; Converter – Fuse Not Blown – Clear TAP-125

Lighted LED; Microprocessor Control – Fuse Not Blown (SD-5A052-02) – Clear TAP-126

Maintenance Philosophy TAD-100

PFLR F-Level Interrupt, IOP Frame (SD-5A052-02) Equipped With 1A Growth Unit (SD-4C049-01) – Clear TAP-140

PFLR F-Level Interrupt, IOP Frame (SD-5A052-02) Equipped With 3B Growth Unit (SD-4C049-02) – Clear TAP-141

PFLR Base Level Interrupt Poll Failure, IOP Frame (SD-5A052-02) Equipped With 3B Growth Unit (SD-4C049-02) –
Clear TAP-142

PFLR Base Level Interrupt MTCE Request, IOP Frame (SD-5A052-02) Equipped With 1A Growth Unit (SD-4C049-01) –
Clear TAP-143

PFLR Base Level Interrupt Poll Failure, IOP Frame (SD-5A052-02) Equipped With 1A Growth Unit (SD-4C049-01) –
Clear TAP-144

PFLR Base Level Interrupt MTCE Request, IOP Frame (SD-5A052-02) Equipped With 3B Growth Unit (SD-4C049-02) –
Clear TAP-145

Power Switch – Replace DLP-500

TLP Abort – Diagnostic Failure – Clear TAP-132

TLP Disk Queue Full – Diagnostic Failure – Clear TAP-129

TLP Inhibit – Diagnostic Failure – Clear TAP-131

TLP Queue Blockage – Diagnostic Failure – Clear TAP-130

FIND YOUR JOB IN THE LIST BELOW THEN GO TO

TLP Tape Acquisition Error – Diagnostic Failure – Clear TAP-134

TLP Tape Not Mounted – Diagnostic Failure – Clear TAP-135

TLP Tape Version X Does Not Match Version Y – Diagnostic Failure – Clear TAP-133

TTY Printout – DGN:IOUS a,[{IPUB b|IOUC c|IOMP d}]STF
 ANALY:TLPFILE IOUS a,[{IPUB b|IOUC c|IOMP d}] SUSPECTED FAULTY EQUIPMENT
 NOTE COLUMN DOES NOT CONTAIN NOTE 2 TAP-136

TTY Printout – DGN:IOUS a,[{IPUB b|IOUC c|IOMP d}]STF
 ANALY:TLPFILE IOUS a,[{IPUB b|IOUC c|IOMP d}] SUSPECTED FAULTY EQUIPMENT
 NOTE COLUMN CONTAINS NOTE 2
 FUSE BLOWN See Blown Fuse Entries

TTY Printout – DGN:IOUS a,[{IPUB b|IOUC c|IOMP d}]STF
 ANALY:TLPFILE IOUS a,[{IPUB b|IOUC c|IOMP d}] SUSPECTED FAULTY EQUIPMENT
 NOTE COLUMN CONTAINS NOTE 2
 NO FUSES BLOWN TAP-127

TTY Printout – DGN:IOUS a,[{IPUB b|IOUC c|IOMP d}]STF
 ANALY:TLPFILE IOUS a,[{IPUB b|IOUC c|IOMP d}] NULL PACK TEST GENERATED
 SD-5A052-02 TAP-137

TTY Printout – DGN:IOUS a,[{IPUB b|IOUC c|IOMP d}]STF
 ANALY:TLPFILE IOUS a,[{IPUB b|IOUC c|IOMP d}] SUMMARY DATA
 QUEUE ACCESS DENIED:DATA NOT RETAINED:CODE 0001 TAP-129

TTY Printout – DGN:IOUS a,[{IPUB b|IOUC c|IOMP d}]STF
 ANALY:TLPFILE IOUS a,[{IPUB b|IOUC c|IOMP d}] SUMMARY DATA
 QUEUE ACCESS DENIED:DATA NOT RETAINED:CODE 0002 TAP-130

TTY Printout – DGN:IOUS a,[{IPUB b|IOUC c|IOMP d}]STF
 ANALY:TLPFILE IOUS a,[{IPUB b|IOUC c|IOMP d}] SUMMARY DATA
 QUEUE ACCESS DENIED:DATA NOT RETAINED:CODE 0004 TAP-131

TTY Printout – DGN:IOUS a,[{IPUB b|IOUC c|IOMP d}]STF
 ANALY:TLPFILE IOUS a,[{IPUB b|IOUC c|IOMP d}] ABORTED TAP-132

FIND YOUR JOB IN THE LIST BELOW THEN GO TO

TTY Printout - DGN:IOUS a,[{IPUB b|IOUC c|IOMP d}] STF
 ANALY:TLPPFILE IOUS a,[{IPUB b|IOUC c|IOMP d}]
 TLP PROGRAM ABORTED TAP-132

TTY Printout - DGN:IOUS a,[{IPUB b|IOUC c|IOMP d}] STF
 ANALY:TLPPFILE IOUS a,[{IPUB b|IOUC c|IOMP d}] TLP
 WARNING:VERSION X DOES NOT MATCH EXPECTED VERSION Y TAP-133

TTY Printout - DGN:IOUS a,[{IPUB b|IOUC c|IOMP d}] STF
 ANALY:TLPPFILE IOUS a,[{IPUB b|IOUC c|IOMP d}]
 TLP TAPE ACQUISITION ERROR
 MOUNT TAPE WITH FILE = f TAP-134

TTY Printout - DGN:IOUS a,[{IPUB b|IOUC c|IOMP d}] STF
 REPT:TAPE MUST BE MOUNTED FOR FUNCTION TLP TAP-135

TTY Printout - REPT:BASE LEVEL PFLR ----- IOP (SD-5A052-02 EQUIPPED WITH SD-4C049-01)
 DATA ----- POLL FAILURE TAP-144

TTY Printout - REPT:BASE LEVEL PFLR ----- IOP (SD-5A052-02 EQUIPPED WITH SD-4C049-02)
 DATA ----- POLL FAILURE TAP-142

TTY Printout - REPT:BASE LEVEL PFLR ----- IOP (SD-5A052-02 EQUIPPED WITH SD-4C049-01)
 DATA ----- MAINTENANCE REQUEST TAP-143

TTY Printout - REPT:BASE LEVEL PFLR ----- IOP (SD-5A052-02 EQUIPPED WITH SD-4C049-02)
 DATA ----- MAINTENANCE REQUEST TAP-145

TTY Printout - REPT:F-LEVEL PFLR ----- IOP (SD-5A052-02 EQUIPPED WITH SD-4C049-01) TAP-140

TTY Printout - REPT:F-LEVEL PFLR ----- IOP (SD-5A052-02 EQUIPPED WITH SD-4C049-02) TAP-141

No acceptance test procedures are required for this frame.
Readiness of frame to become part of working system was
established by successful completion of Installation
Handbook test procedures.

ACCEPTANCE

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DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

1	Notify Next Higher Maintenance Organization Before Removing Any Channels From Service and Replacing Any Circuit Packs	-
2	Replace Circuit Pack	DLP-503

DO THE ITEMS BELOW IN THE ORDER LISTED FOR DETAILS, GO TO

1	Notify Next Higher Maintenance Organization Before Removing Any Channels From Service and Replacing Any Circuit Packs	-
2	Replace DC-to-DC Converter/Power Supply	DLP-502

GENERAL

The maintenance philosophy contained in this volume is based upon the design of equipment (hardware), diagnostic software and test equipment employed. Procedures are intended to aid personnel in performing trouble-clearing tasks. The degree to which these procedures accomplish this depends upon input and feedback from the user. Additions, corrections, and improvements to the data are encouraged. Manufacturer, engineering and software documentation such as I/O Manuals, SDs, PKs, PRs, etc, which are available to the operating telephone company offices are referenced where applicable rather than duplicating that information in the TOP. Some portions of those documents may be utilized in procedures but only as examples for the purpose of explanation. Test equipment (oscilloscopes, voltmeters, etc.) and parameters involved in circuits being tested, adjusted, or checked are usually prescribed. However, the setup and method of operation is not described unless it is unusual or unique in some manner.

IXL PHILOSOPHY

The Task Index List (IXL-001) is structured to provide fast access to procedures in this document.

Power problems are sensed by scan points which generate a major or minor alarm. It is assumed that the user can locate the frame with the power fault which was automatically powered down (1A power switch with PWR OFF lamp lighted and OFF NORM lamp off) by following the aisle pilot lights or by reading the REPT:PA printout which would identify the frame with a power fault. The precise structure of the message is given in the Input/Output (I/O) message manuals. The symptoms described in the IXL reflect the assumptions above and indicate other conditions that are observable at the frame that would enable the user to access the proper trouble-clearing procedure. These conditions are blown fuses, lighted LEDs on converters or power function circuit packs, etc.

In general, most logic circuit failures cause the fault recovery program to request a diagnostic program. This method of requesting the diagnostic program includes the TLP option. The IXL reflects this in the TTY messages listed. Outside of the first two supplementary messages (ANALY:TLPPFILE:) all other supplementary messages pertain to problems in generating a SUSPECTED FAULTY EQUIPMENT list and reference to procedures (TAPs) which attempt to correct the problem. If successful in generating a SUSPECTED FAULTY EQUIPMENT list, those procedures reference to the appropriate procedure which indicates what to do with this list. If not successful, they reference the next level of trouble clearing, raw data analysis, which is an alternative to the first and most common trouble-clearing approach.

TAP PHILOSOPHY

When documenting a procedural approach to trouble clearing, certain assumptions are made. It is assumed that one fault is being cleared at a time. When directing the user to perform an action, it is assumed that the action is performed correctly. Similarly, when directed to make replacements, the replacement part is always assumed to be good and equipment used for testing, both built-in (hardware and software) and commercial, are assumed to be good. Only consistent fault signatures are covered.

The trouble-clearing TAPs provided for diagnostic failures are provided on three levels. The first level addresses what to do with a software-generated (TLP) **SUSPECTED FAULTY EQUIPMENT** list and provides a step-by-step procedure for replacing circuit packs one at a time, and analyzing the results. This level is straightforward and requires some familiarity with the equipment (Descriptive and Theory AT&T Practices), TTY techniques, and diagnostic printouts.

The second level of trouble clearing is accessed from the first level. This level is referenced when the **SUSPECTED FAULTY EQUIPMENT** list has been exhausted without clearing the problem, or it can be accessed directly from the IXL or any of the **ANALY:TLPFILE:TAPs** which produce a **NULL PACK TEST GENERATED** response. This level of trouble clearing is known as raw data analysis and describes what to do with the summary and supplemental data printed either with or instead of the **SUSPECTED FAULTY EQUIPMENT** list. It is expected that this will lead to the identification of faulty circuits within the SD and possible additional suspected circuit packs not previously identified. This level of trouble clearing is more complex and requires knowledge of the equipment, TTY techniques and printouts, and SDs, PKs, PRs, etc.

The third level of trouble clearing is signal tracing using interactive diagnostics. This procedure is accessible only from the previous level and uses information derived in the performance of that procedure. This level of trouble clearing requires an increase in the capabilities cited in the first two levels and requires additional knowledge and skill in the setup and operation of test equipment (oscilloscopes, voltmeters, etc.).

ALTERNATE METHODS

The more knowledgeable and experienced personnel may access TOP documents at a point in trouble clearing where analyzation is completed (the faulty component determined), and only repair or replacement is required. Access to trouble-clearing procedures must be obtained by locating procedural data provided in the Task Index List (IXL-001). Most DLPs are built to support TAPs and NTPs with preconditioning and system restoration steps covered in those level procedures (TAPs, NTPs). Therefore, access to data (DLPs) on a hunt-and-find basis is a threat to equipment operation and may compound trouble-clearing problems.

Another method of trouble clearing that may be utilized is interrupt analysis. Interrupt analysis may produce a list of circuit packs that could be responsible for the interrupt. Prior to changing the circuit packs, diagnostics should be run with ATP expected. If diagnostics produce:

- (1) ATP – The first identified interrupt analysis circuit pack should be changed. Should this be the wrong circuit pack, then the probability is high that the interrupt will occur again with the same symptom. At this time, the next identified pack should be changed.

(2) STF – The most suspect circuit pack is the pack that appears on both the TLP pack list and list generated from analysis of interrupt.

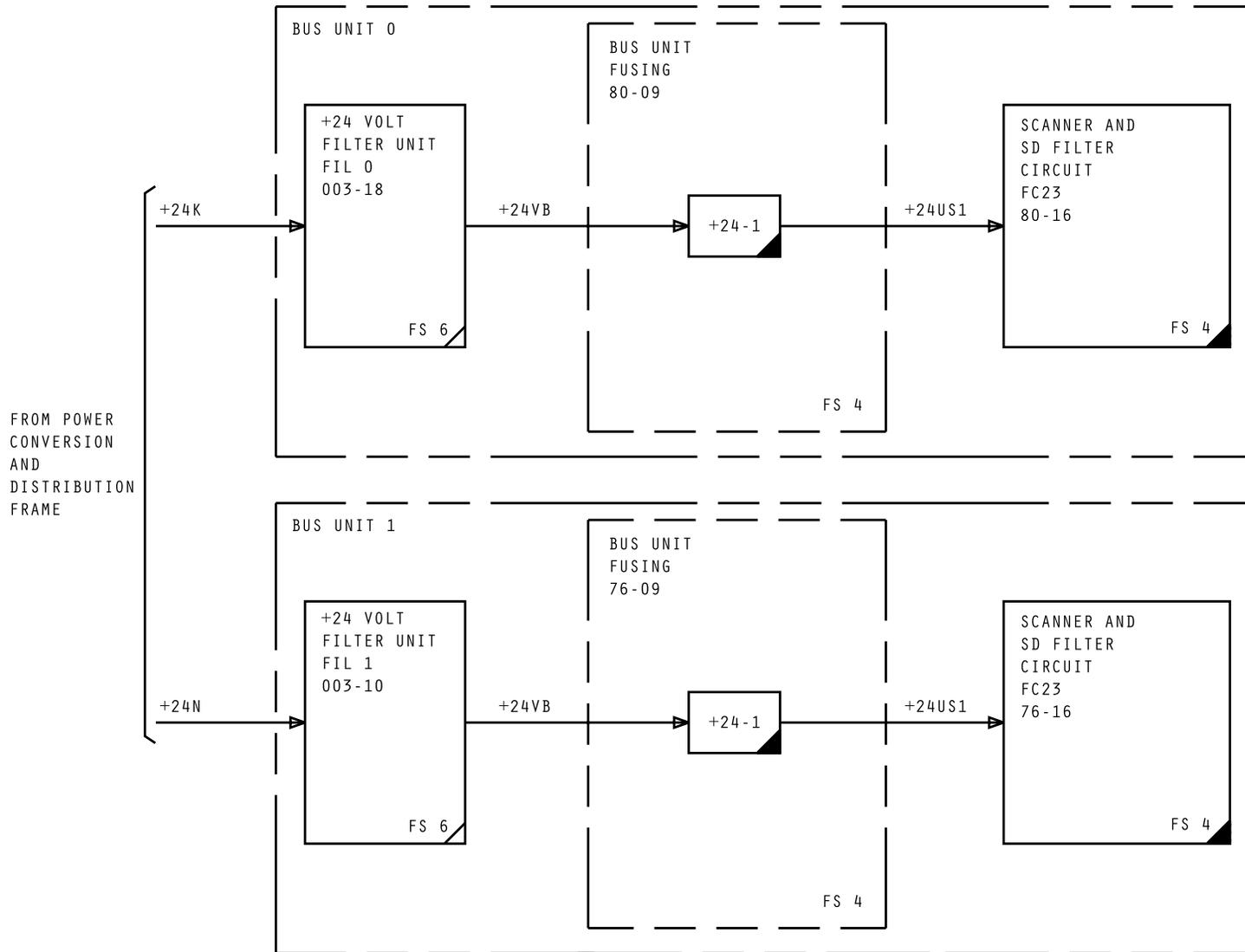
TERMINOLOGY

A component location given in TAPs and DLPs, such as 80/76-16, means that only the appropriate component, either at 80-16 or 76-16, is designated. The component location to be chosen is only on the unit that has been taken out of service.

EQUIPMENT TEST LIST

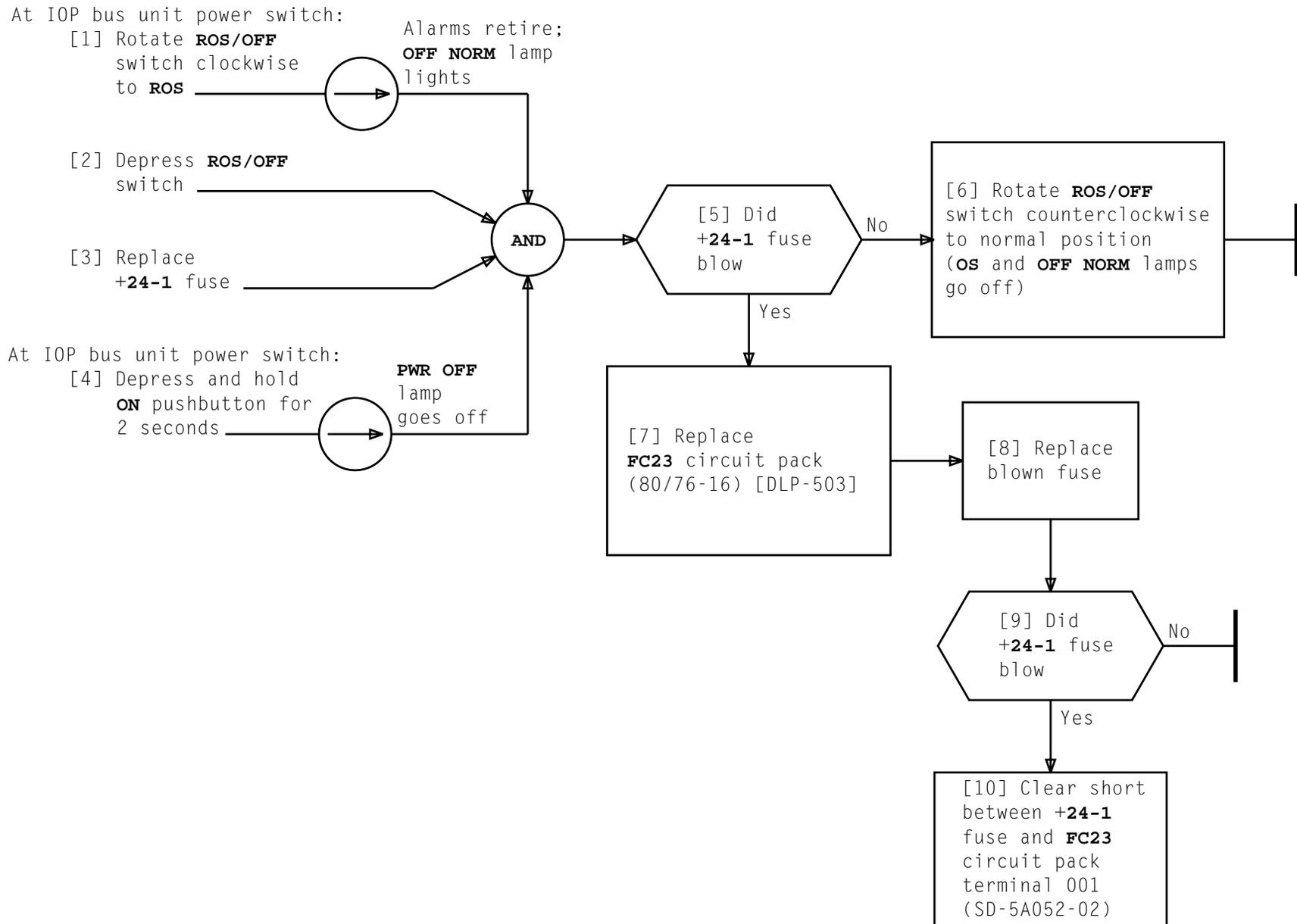
This is a list of tasks recommended for routine preventive maintenance. Information on the list is arranged in the following order from left to right: Frequency, title, and procedure number

12M	Perform Manual Power Alarm Test	DLP-501
6M	Test Power Switch Lamps	DLP-505



+24-1 FUSE POWER DISTRIBUTION, IOP BUS UNIT (SD-5A052-02)

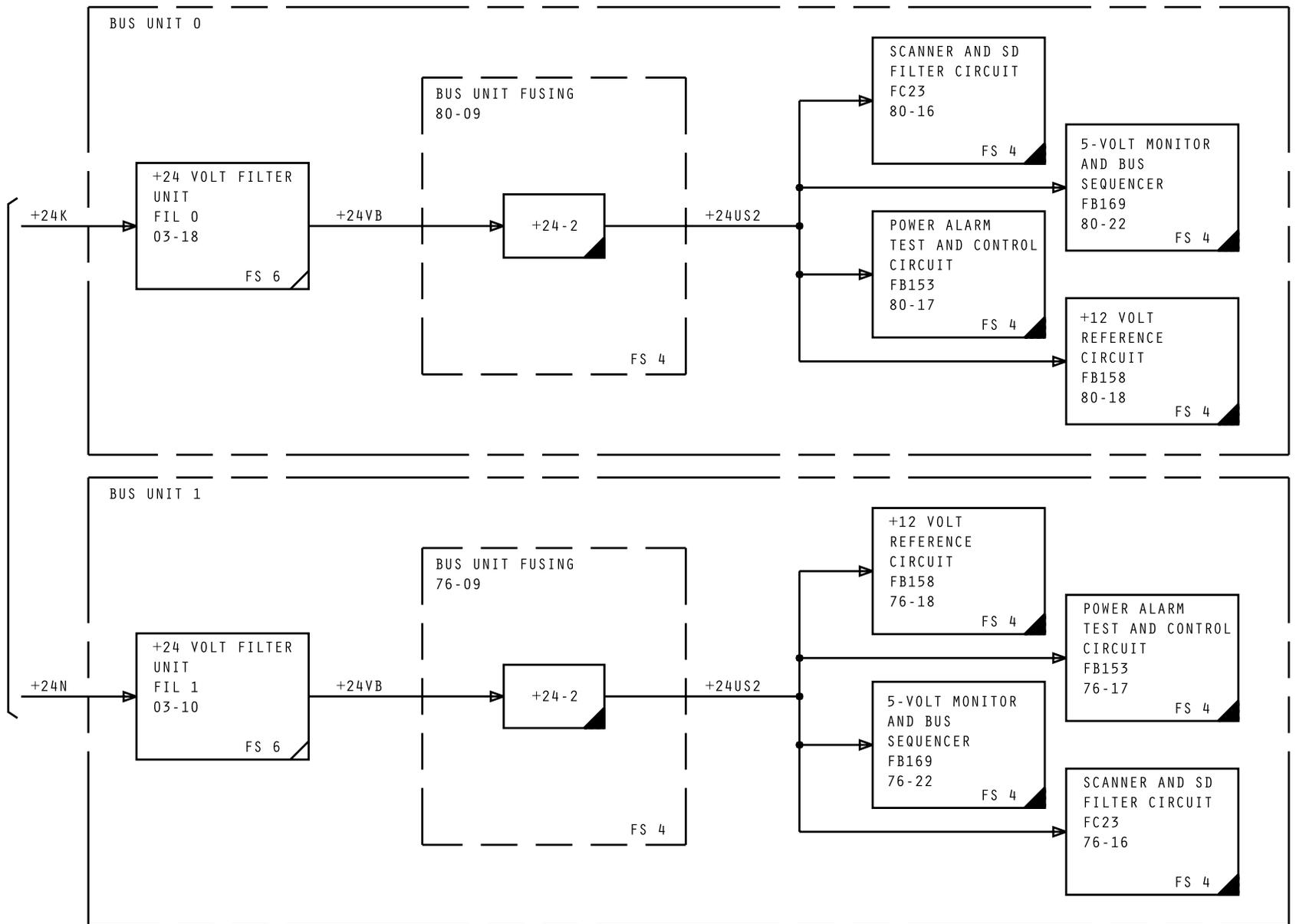
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CLEAR BLOWN +24-1 FUSE, IOP BUS UNIT (SD-5A052-02)

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FROM POWER
CONVERSION
AND
DISTRIBUTION
FRAME



+24-2 FUSE POWER DISTRIBUTION, IOP BUS UNIT (SD-5A052-02)

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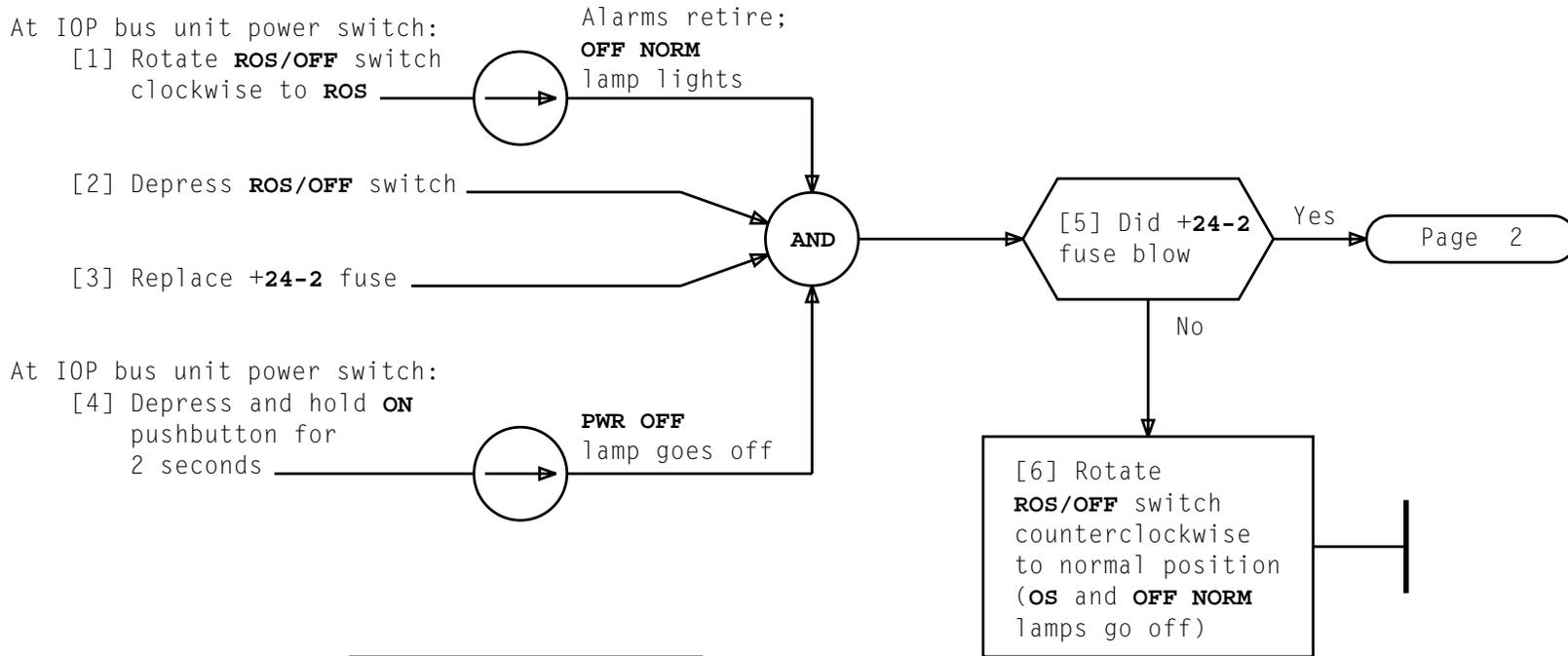


TABLE A		
+24-2 FUSE RELATED CIRCUIT PACKS		
TYPE	LOCATION	
	BUS 0	BUS 1
FB169	80-22	76-22
FC23	80-16	76-16
FB153	80-17	76-17
FB158	80-18	76-18

[7] Replace all circuit packs associated with faulty bus [TABLE A] [DLP-503]

[8] Replace blown fuse

[9] Did +24-2 fuse blow

[10] Clear short between +24-2 fuse and circuit pack terminal [TABLE B] (SD-5A052-02)

[11] Replace first circuit pack with original pack removed [TABLE A] [DLP-503]

[12] Did +24-2 fuse blow

[13] Replace original circuit pack just installed with replacement pack and install all other original packs [DLP-503]

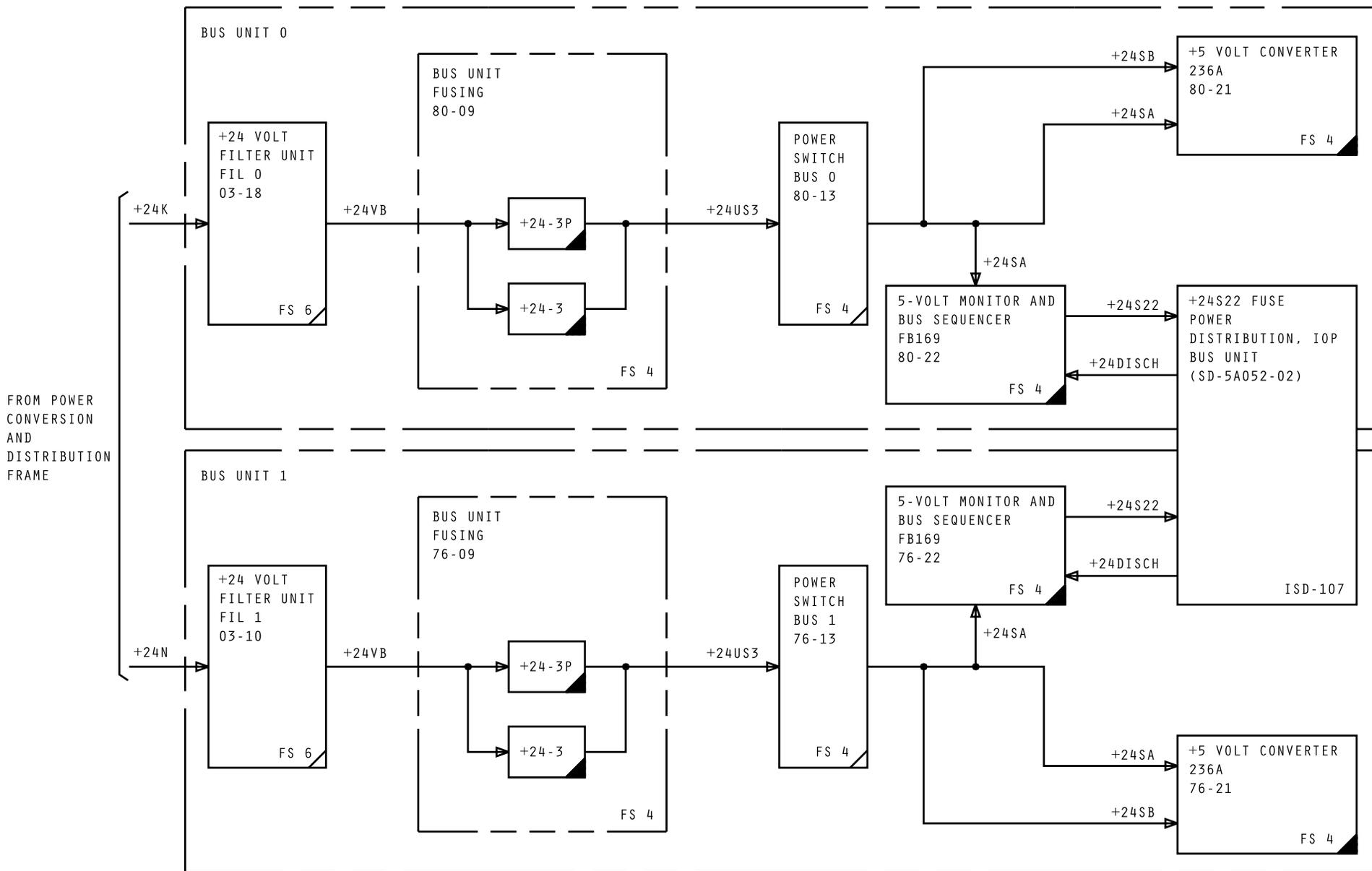
[16] Replace next circuit pack with original pack removed [TABLE A] [DLP-503]

[15] Have all original circuit packs been reinstalled

[14] Replace blown fuse

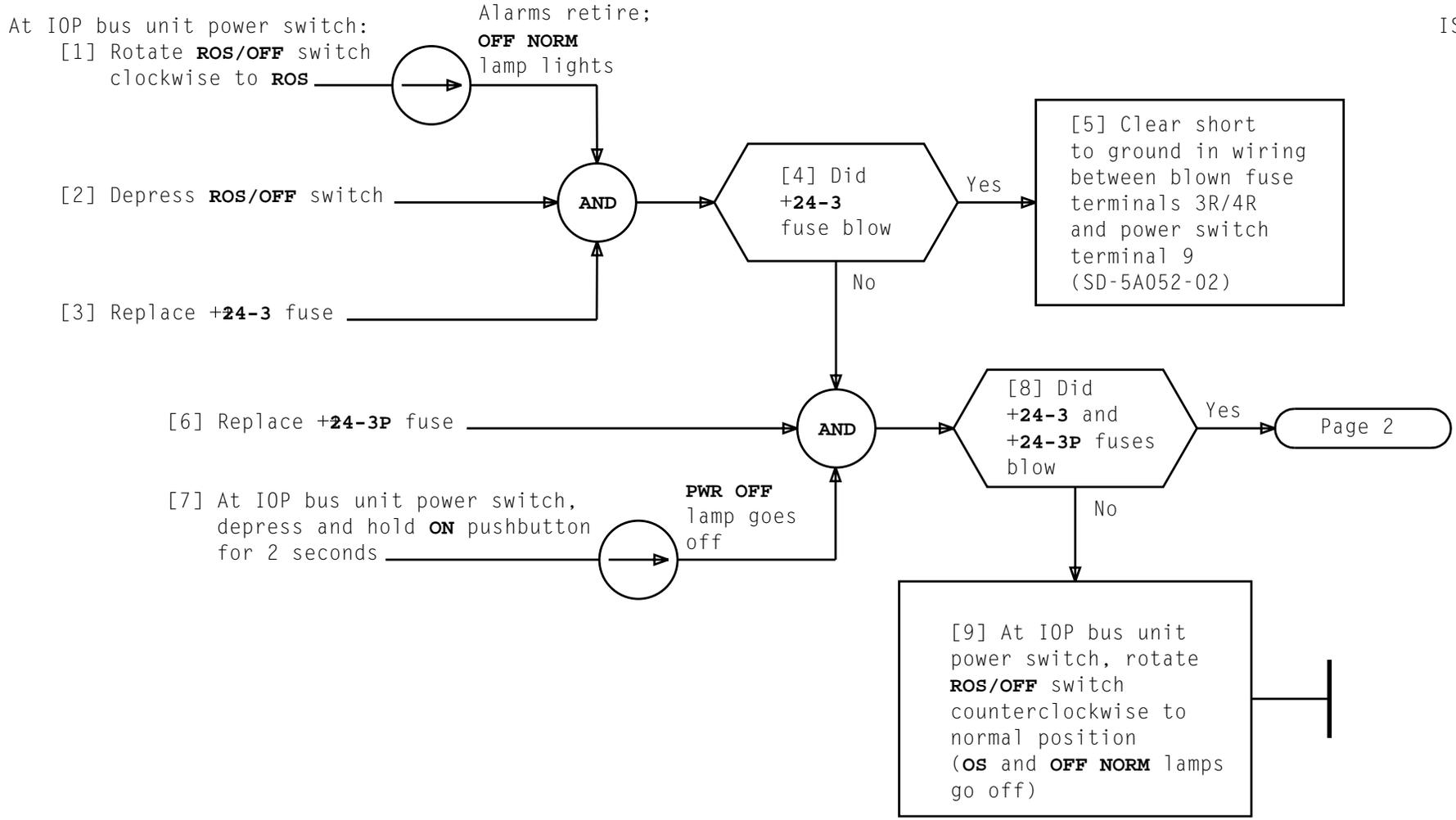
TABLE B	
CIRCUIT PACK/LOCATION	TERMINAL
FB169 80/76-22	019
FC23 80/76-16	100
FB153 80/76-17	012 212
FB158 80/76-18	214 215

CLEAR BLOWN +24-2 FUSE, IOP BUS UNIT (SD-5A052-02)



**+24-3 AND +24-3P FUSE POWER DISTRIBUTION,
IOP BUS UNIT (SD-5A052-02)**

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CLEAR BLOWN +24-3 AND +24-3P FUSES, IOP BUS UNIT (SD-5A052-02)

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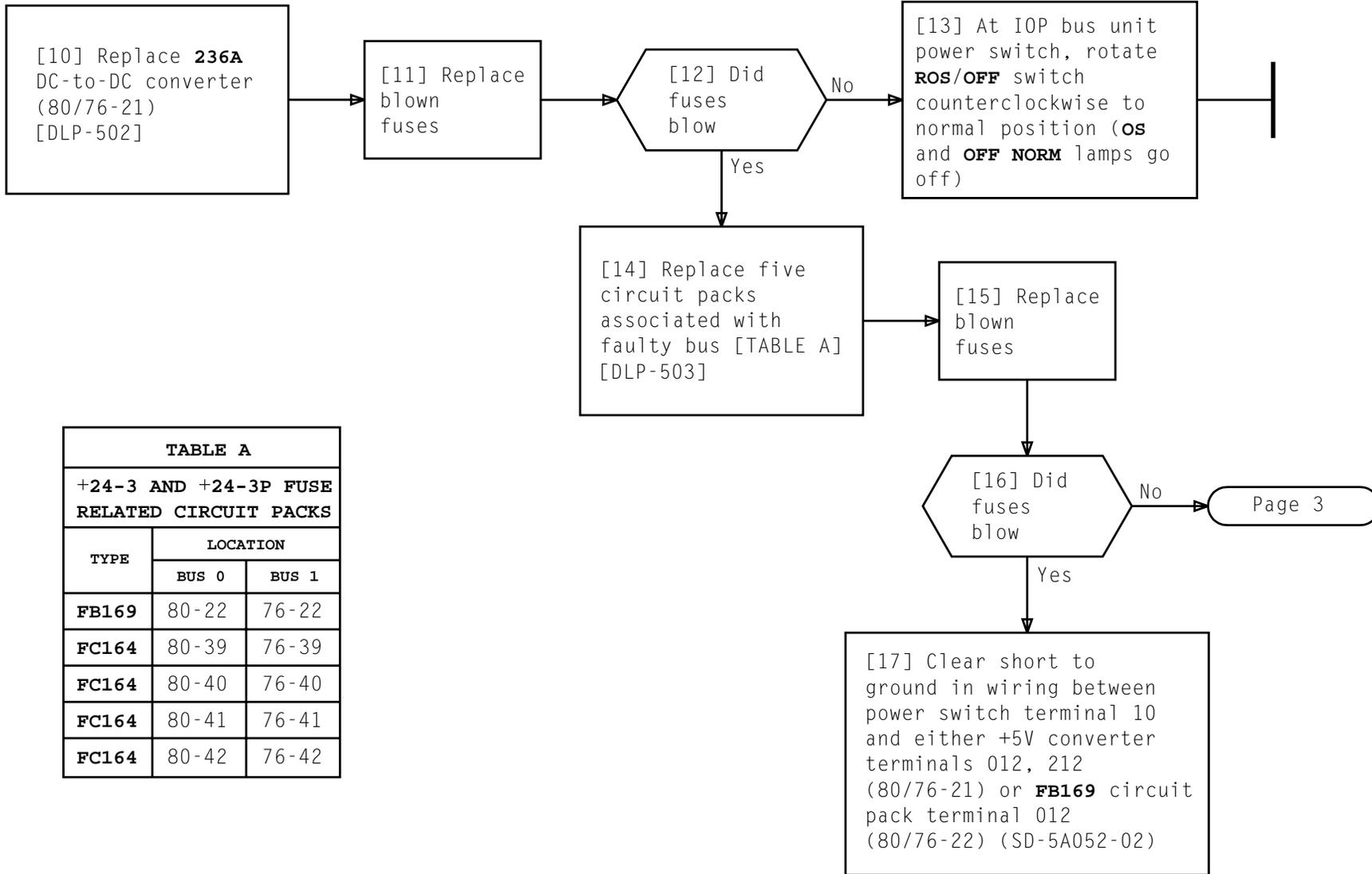
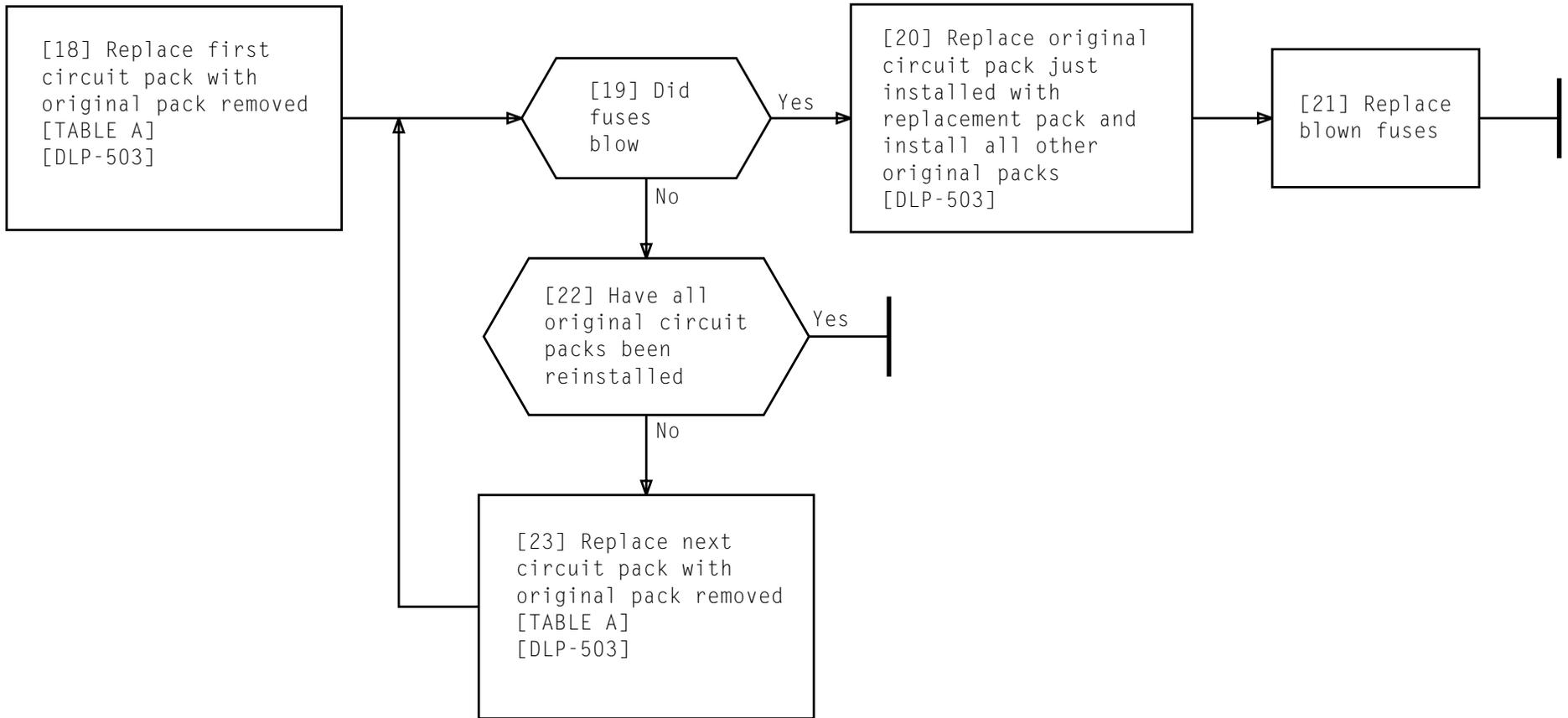
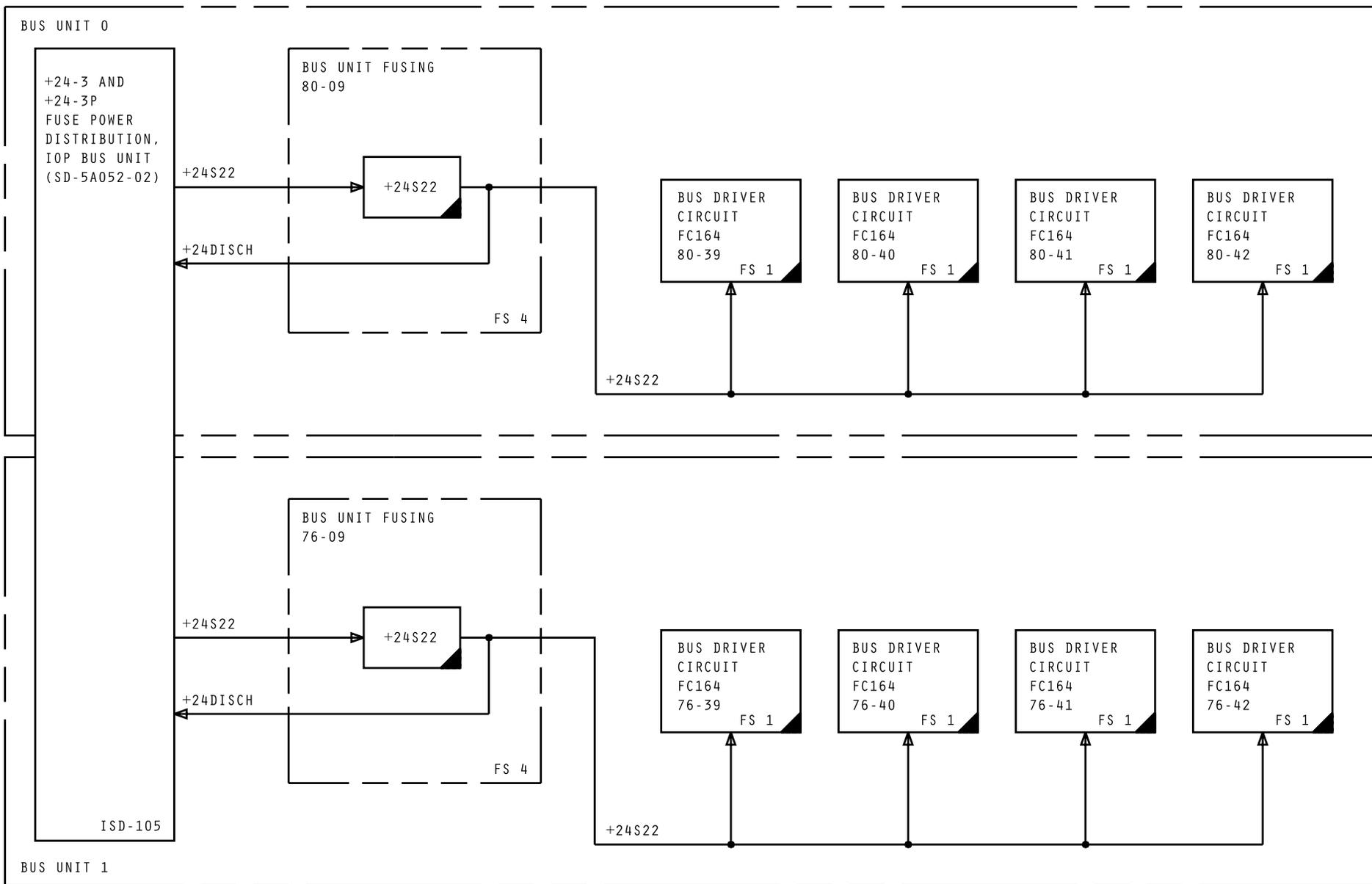


TABLE A		
+24-3 AND +24-3P FUSE RELATED CIRCUIT PACKS		
TYPE	LOCATION	
	BUS 0	BUS 1
FB169	80-22	76-22
FC164	80-39	76-39
FC164	80-40	76-40
FC164	80-41	76-41
FC164	80-42	76-42





+24S22 FUSE POWER DISTRIBUTION, IOP BUS UNIT (SD-5A052-02)

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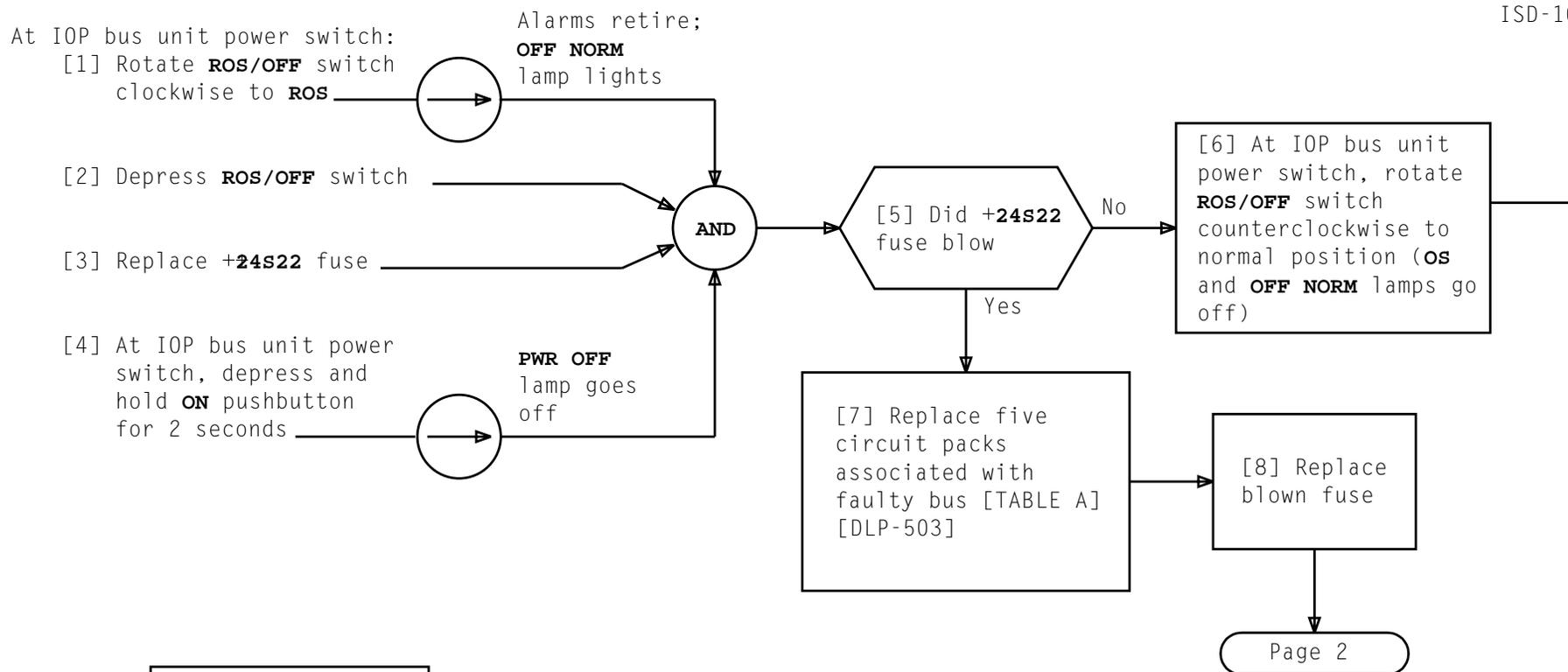
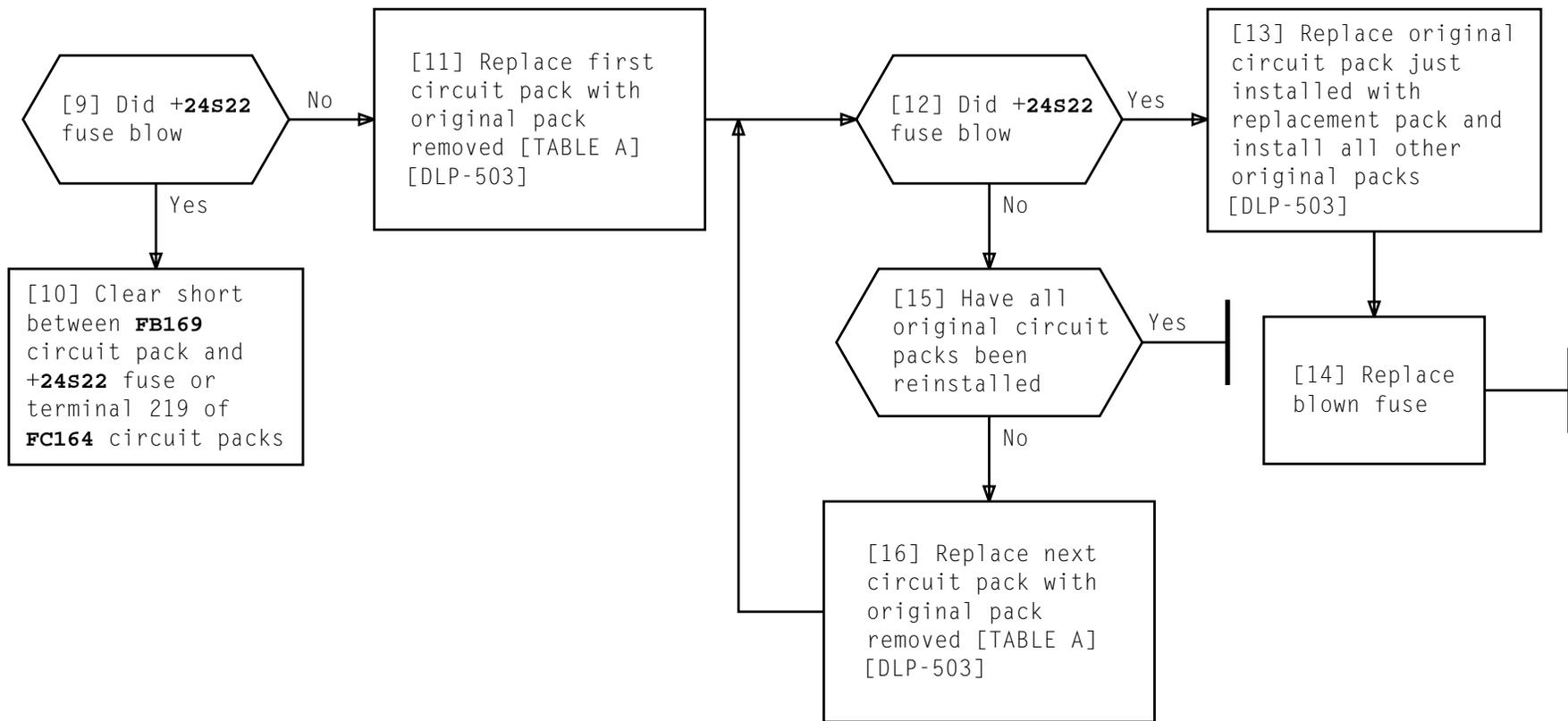
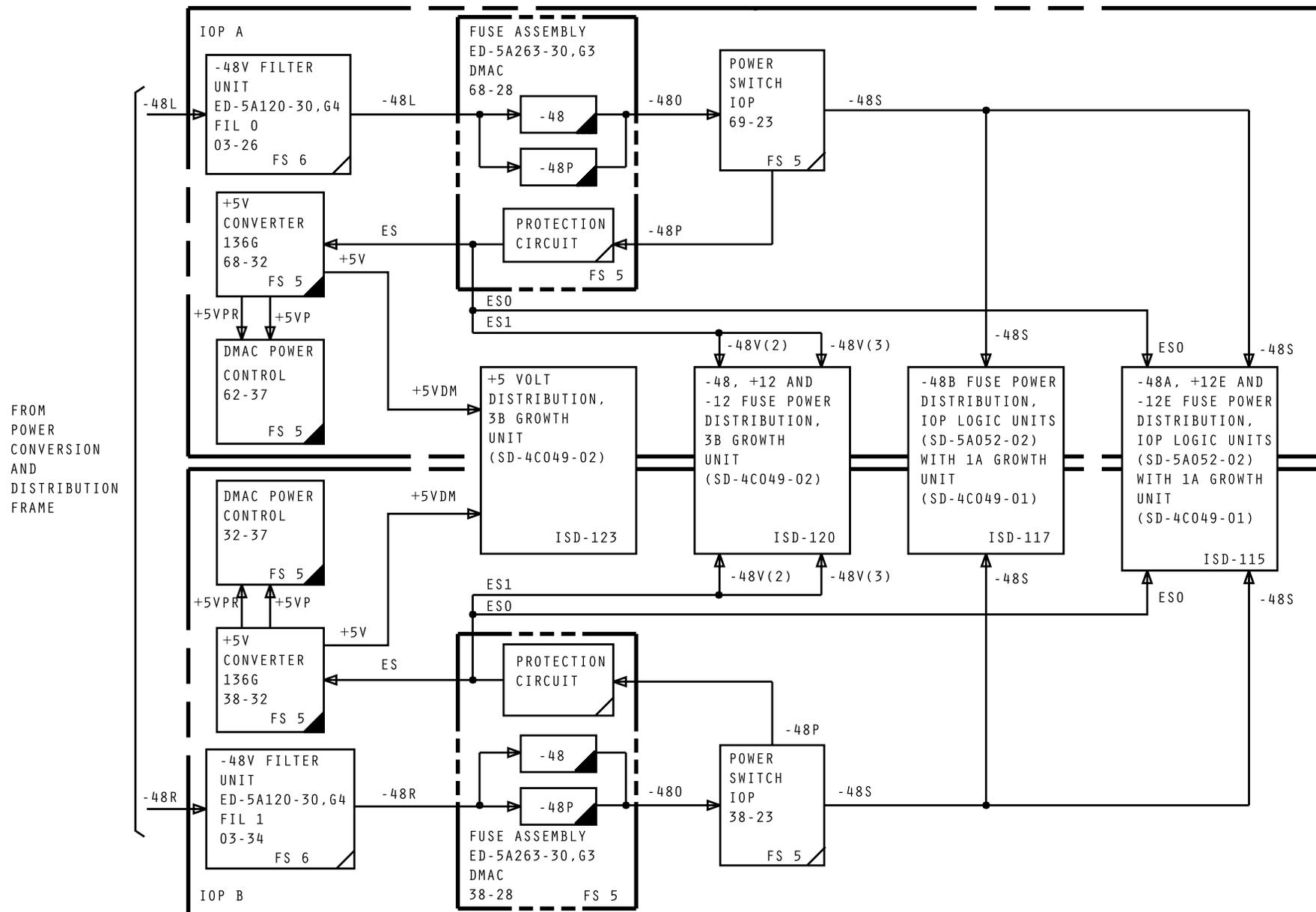


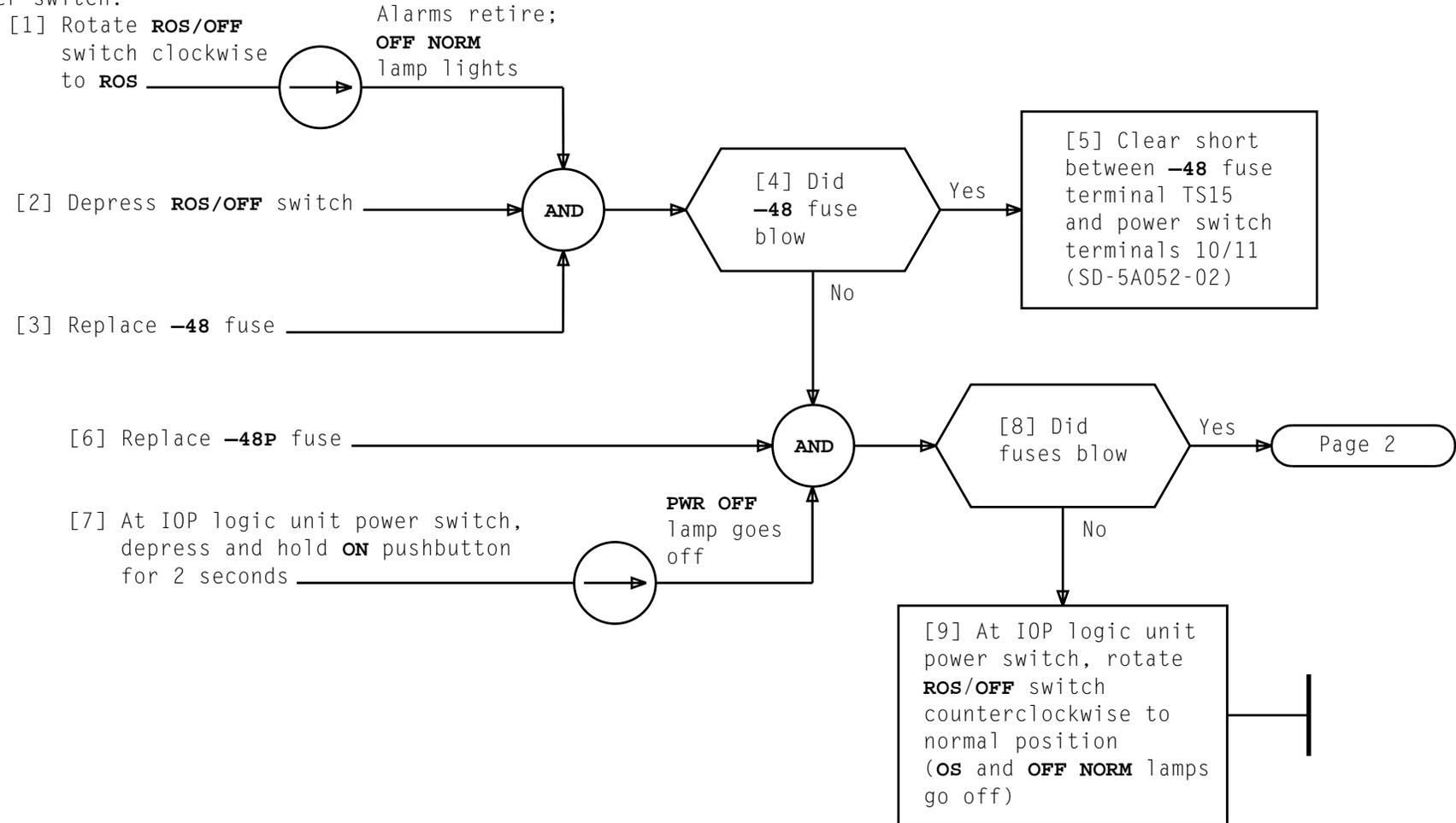
TABLE A		
+24S22 FUSE RELATED CIRCUIT PACKS		
TYPE	LOCATION	
	BUS 0	BUS 1
FB169	80-22	76-22
FB164	80-39	76-39
FB164	80-40	76-40
FB164	80-41	76-41
FB164	80-42	76-42





-48 AND -48P FUSE POWER DISTRIBUTION, IOP LOGIC UNIT (SD-5A052-02)

At IOP logic unit
power switch:



CLEAR BLOWN -48 AND -48P FUSES, IOP LOGIC UNIT (SD-5A052-02)

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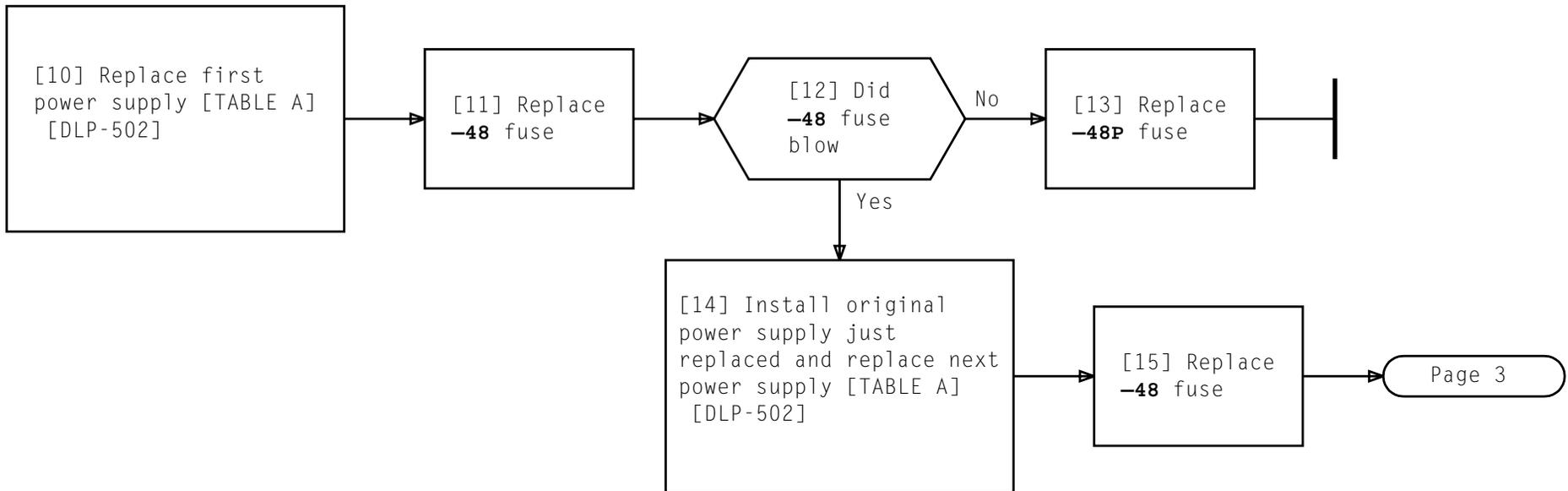


TABLE A		
POWER SUPPLY LOCATIONS		
TYPE	LOCATION	
	IOP 0	IOP 1
136H	68-02	38-02
136G	68-32	38-32
136H	52-32	22-32

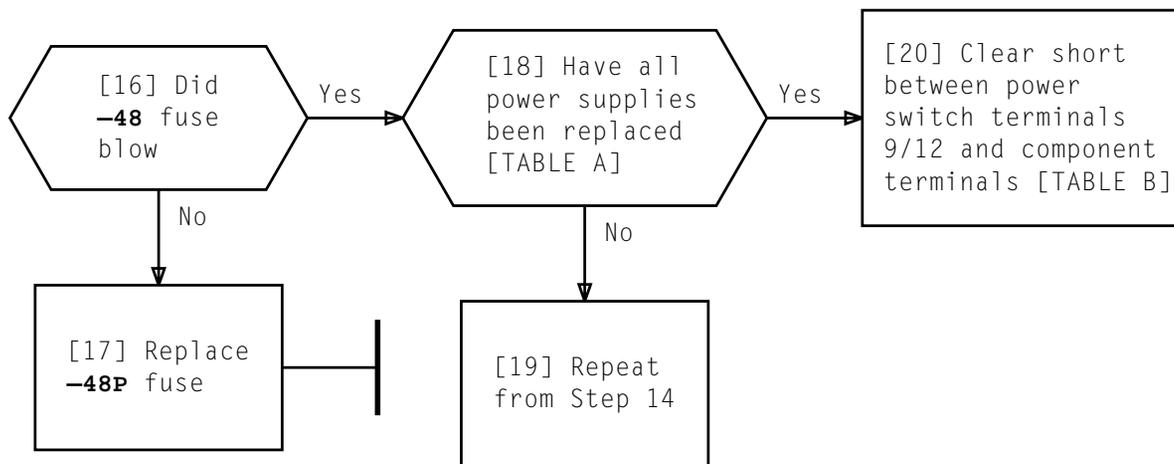
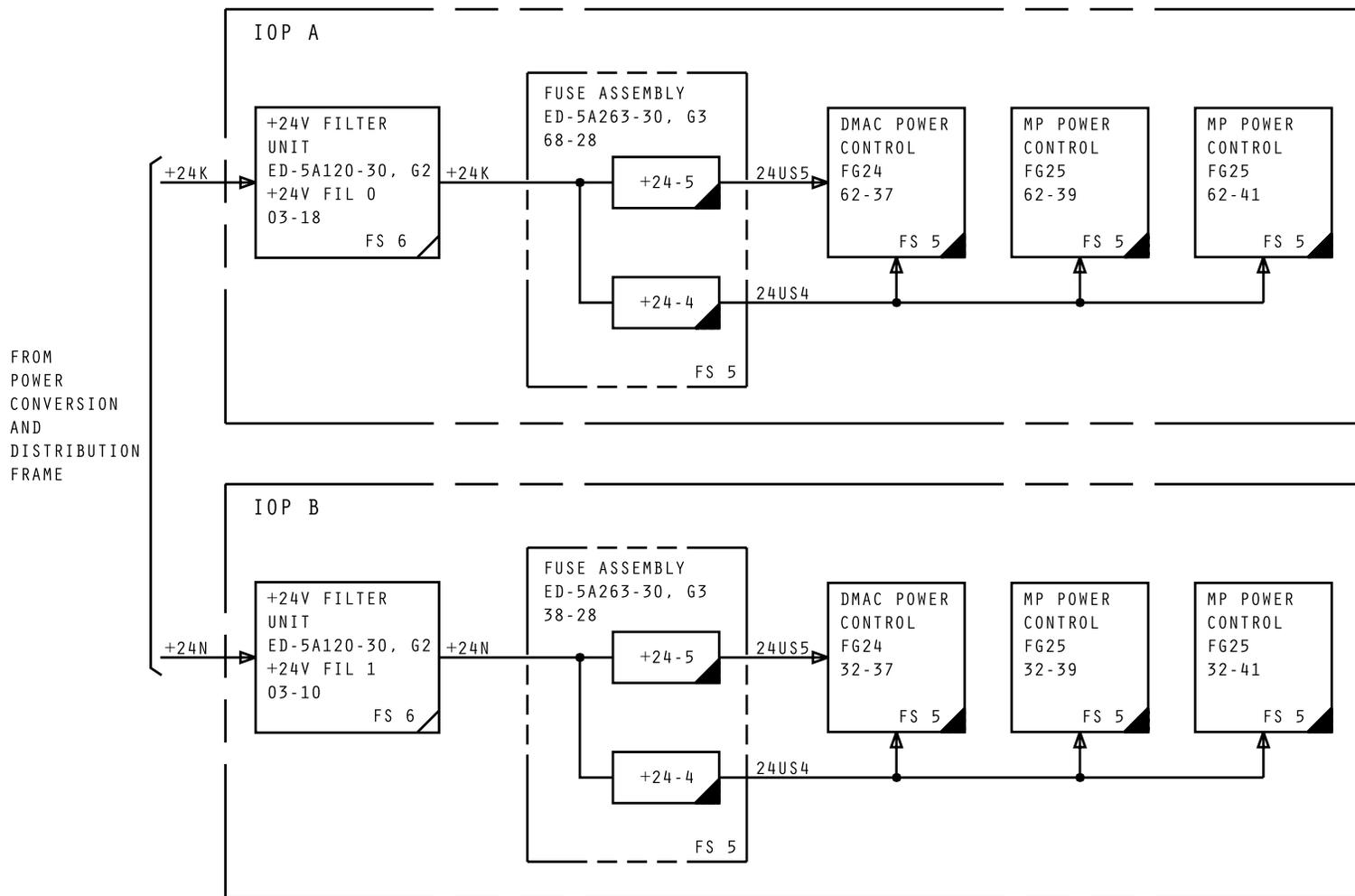


TABLE B					
UNIT	COMPONENT				
	NAME	TYPE	LOCATION		TERMINALS
			IOP 0	IOP 1	
Logic	Fuse Block	ED-5A264-30-G3	68-28	38-28	TS1-1, TS1-3, TS2-4
Logic	Power Supply	136H	68-02	38-02	S, T, U
Logic	Power Supply	136G	68-32	38-32	S, T, U
1A Growth	Power Supply	136H	52-32	22-32	S, T, U



**+24-4 AND +24-5 FUSE POWER DISTRIBUTION,
IOP LOGIC UNIT (SD-5A052-02)**

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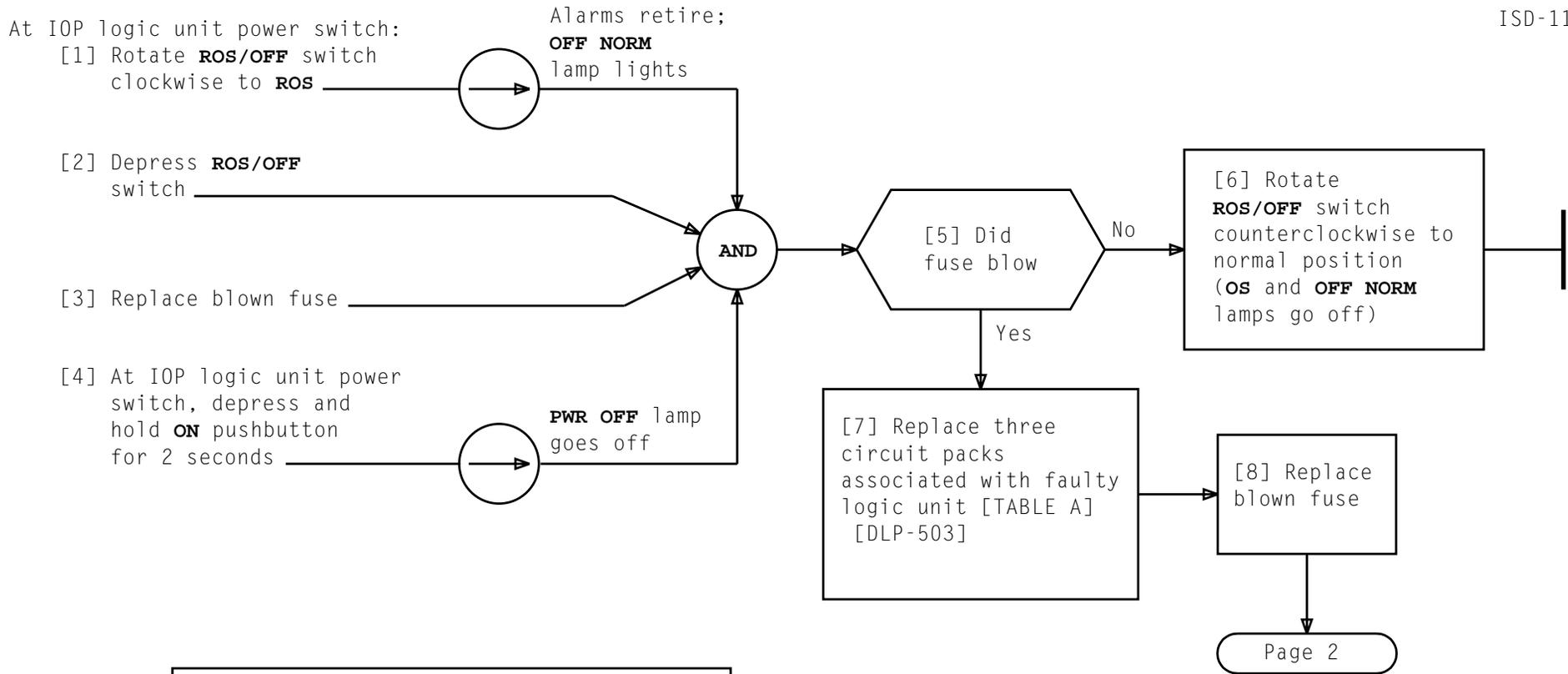


TABLE A			
+24-4 AND +24-5 FUSE RELATED CIRCUIT PACKS			
UNIT	CIRCUIT PACK LOCATION		
	FIRST	SECOND	THIRD
IOP 0	62-37	62-39	62-41
IOP 1	32-37	32-39	32-41

CLEAR BLOWN +24-4 OR +24-5 FUSE, IOP LOGIC UNIT (SD-5A052-02)

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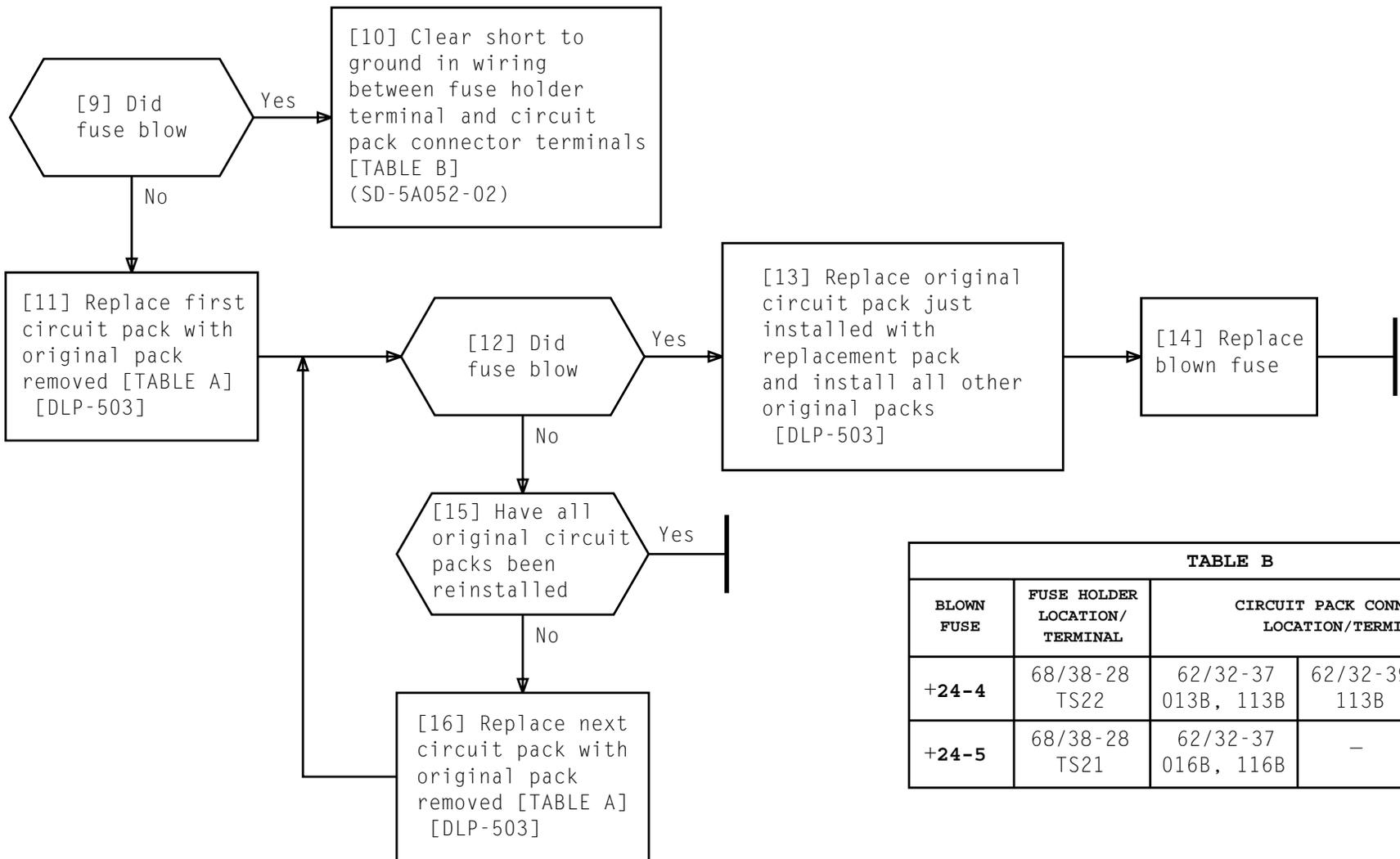
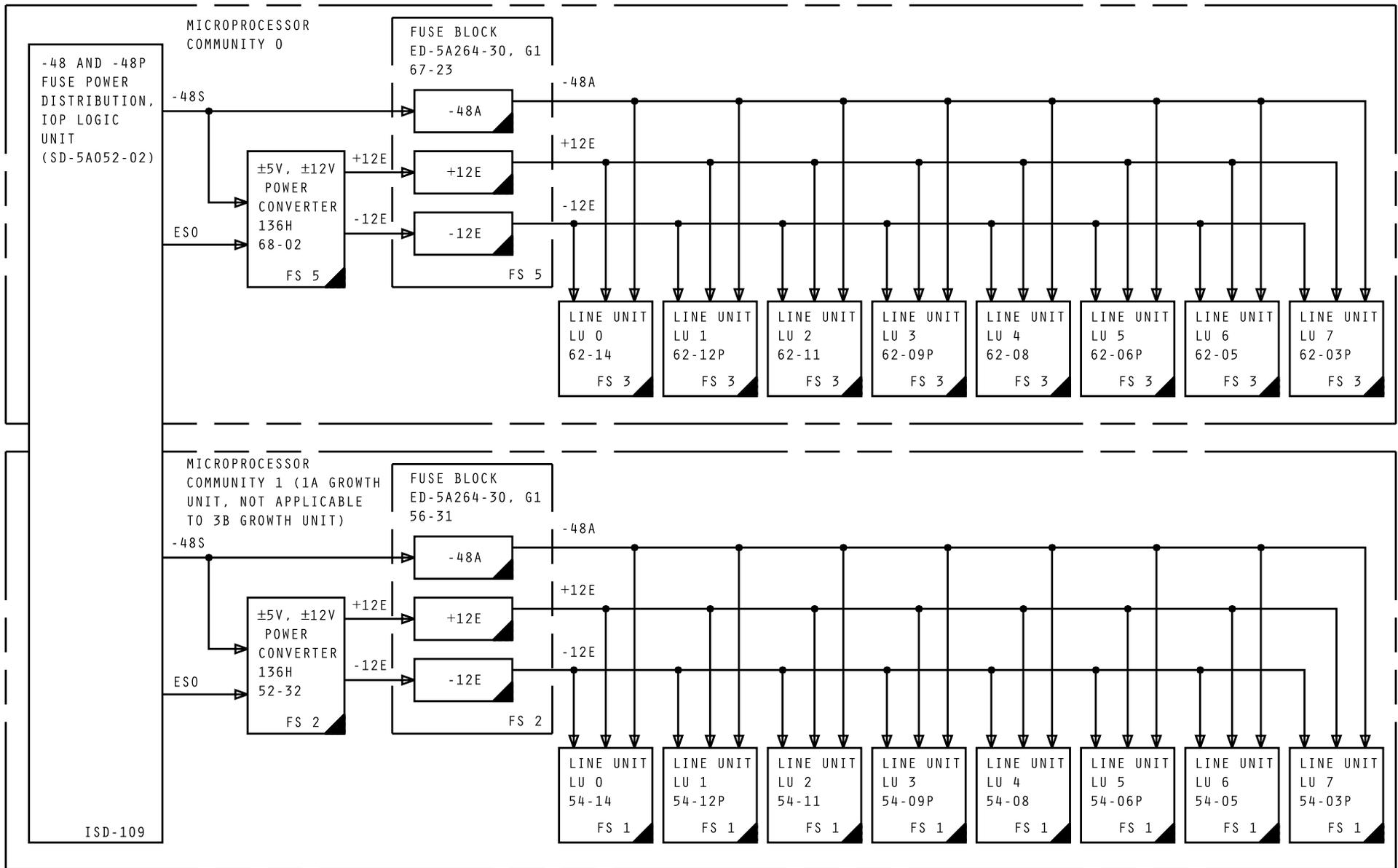
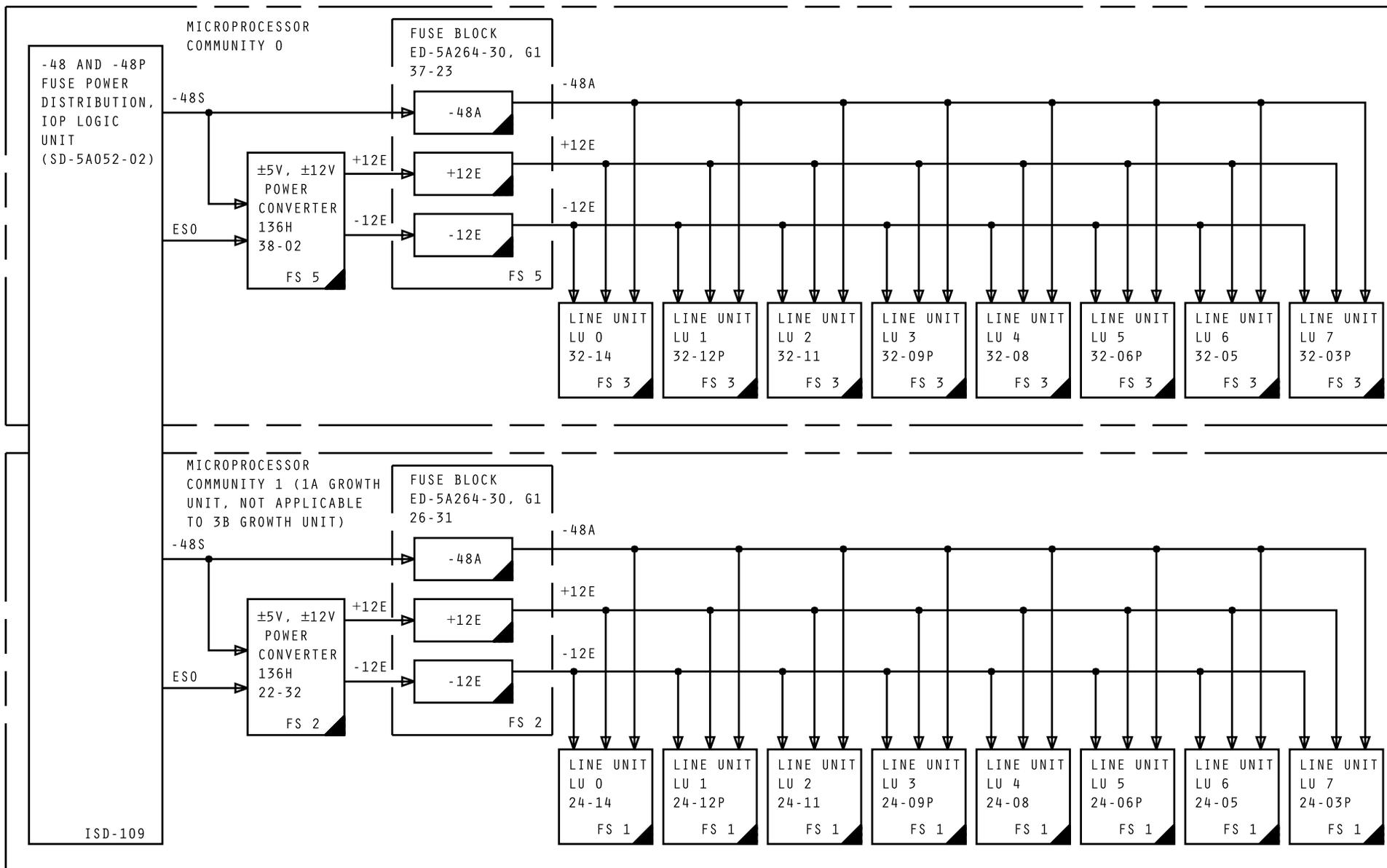


TABLE B				
BLOWN FUSE	FUSE HOLDER LOCATION/TERMINAL	CIRCUIT PACK CONNECTOR LOCATION/TERMINAL		
+24-4	68/38-28 TS22	62/32-37 013B, 113B	62/32-39 113B	62/32-41 113B
+24-5	68/38-28 TS21	62/32-37 016B, 116B	-	-



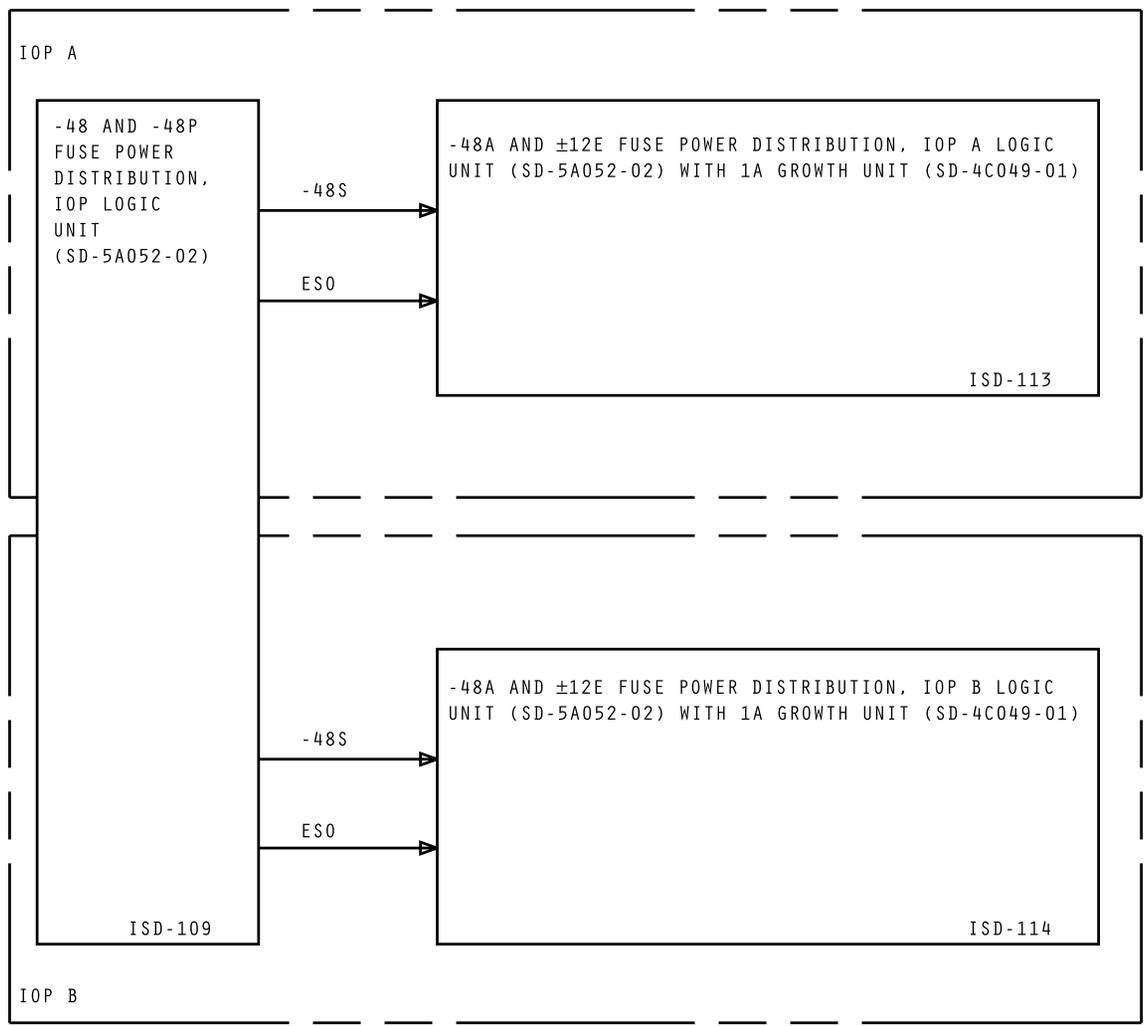
**-48A AND $\pm 12E$ FUSE POWER DISTRIBUTION, IOP A LOGIC UNIT
(SD-5A052-02) WITH 1A GROWTH UNIT (SD-4C049-01)**

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-48A AND ±12E FUSE POWER DISTRIBUTION, IOP B LOGIC UNIT (SD-5A052-02) WITH 1A GROWTH UNIT (SD-4C049-01)

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**-48A AND ±12E FUSE POWER DISTRIBUTION, IOP LOGIC UNITS
(SD-5A052-02) WITH 1A GROWTH UNIT (SD-4C049-01)**

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At IOP logic unit power switch:

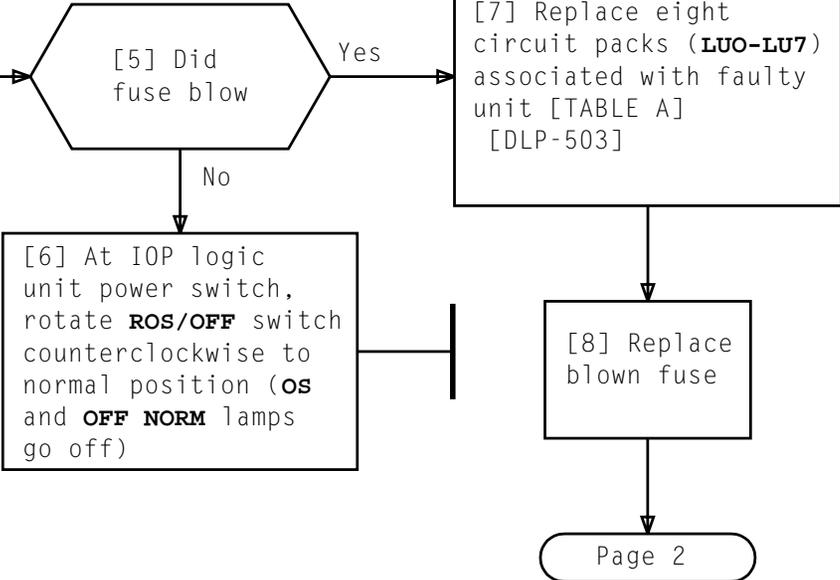
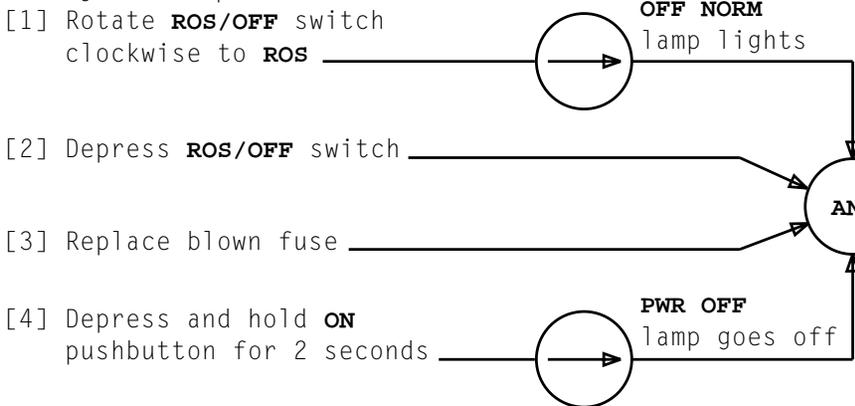


TABLE A				
CIRCUIT PACK	LOCATIONS			
	IOP 0		IOP 1	
	LOGIC UNIT	1A GROWTH UNIT	LOGIC UNIT	1A GROWTH UNIT
LU0	62-14	54-14	32-14	24-14
LU1	62-12P	54-12P	32-12P	24-12P
LU2	62-11	54-11	32-11	24-11
LU3	62-09P	54-09P	32-09P	24-09P
LU4	62-08	54-08	32-08	24-08
LU5	62-06P	54-06P	32-06P	24-06P
LU6	62-05	54-05	32-05	24-05
LU7	62-03P	54-03P	32-03P	24-03P

CLEAR BLOWN +12E, -12E, OR -48A FUSE, IOP LOGIC UNIT (SD-5A052-02) OR 1A GROWTH UNIT (SD-4C049-01)

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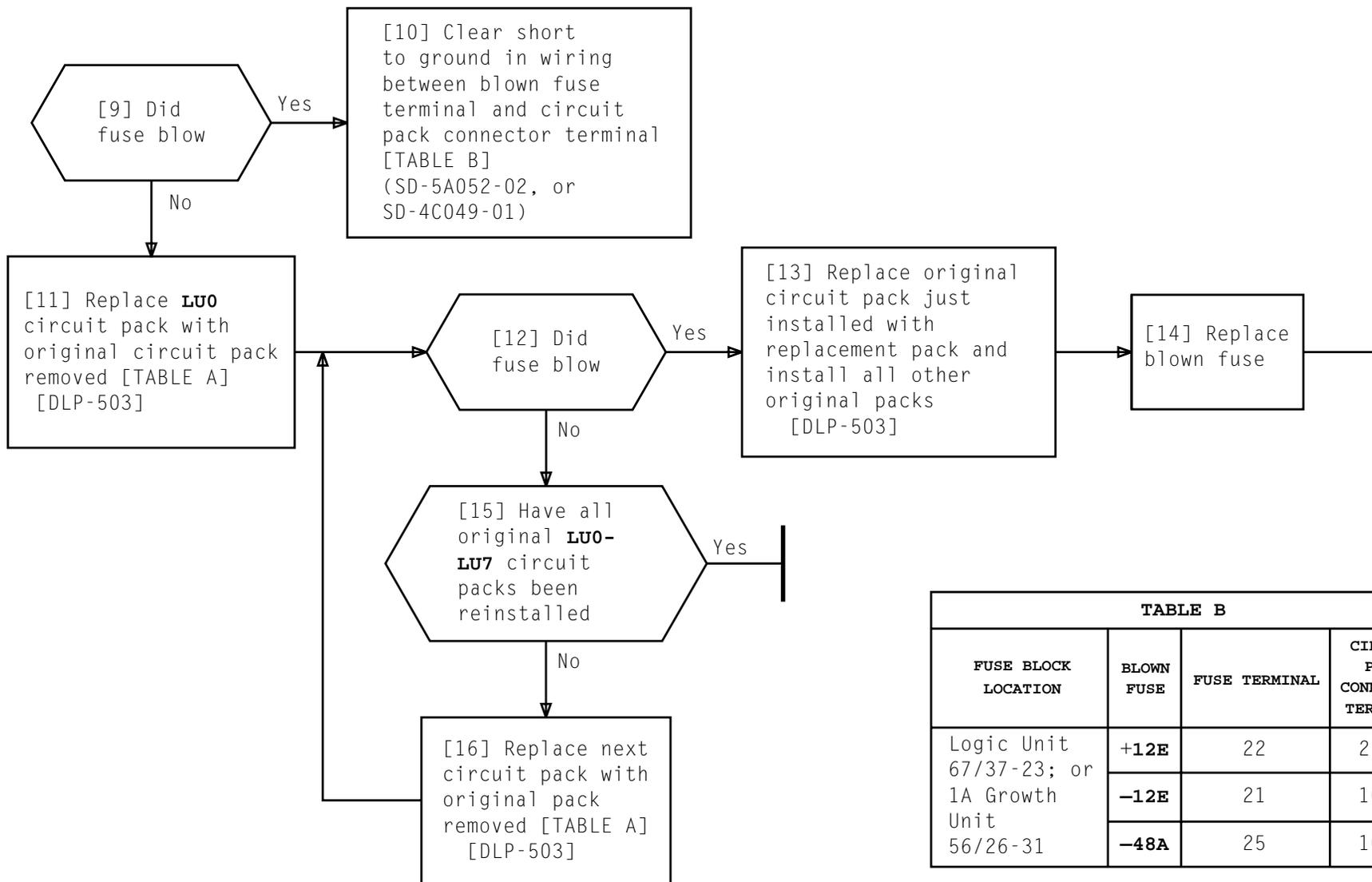
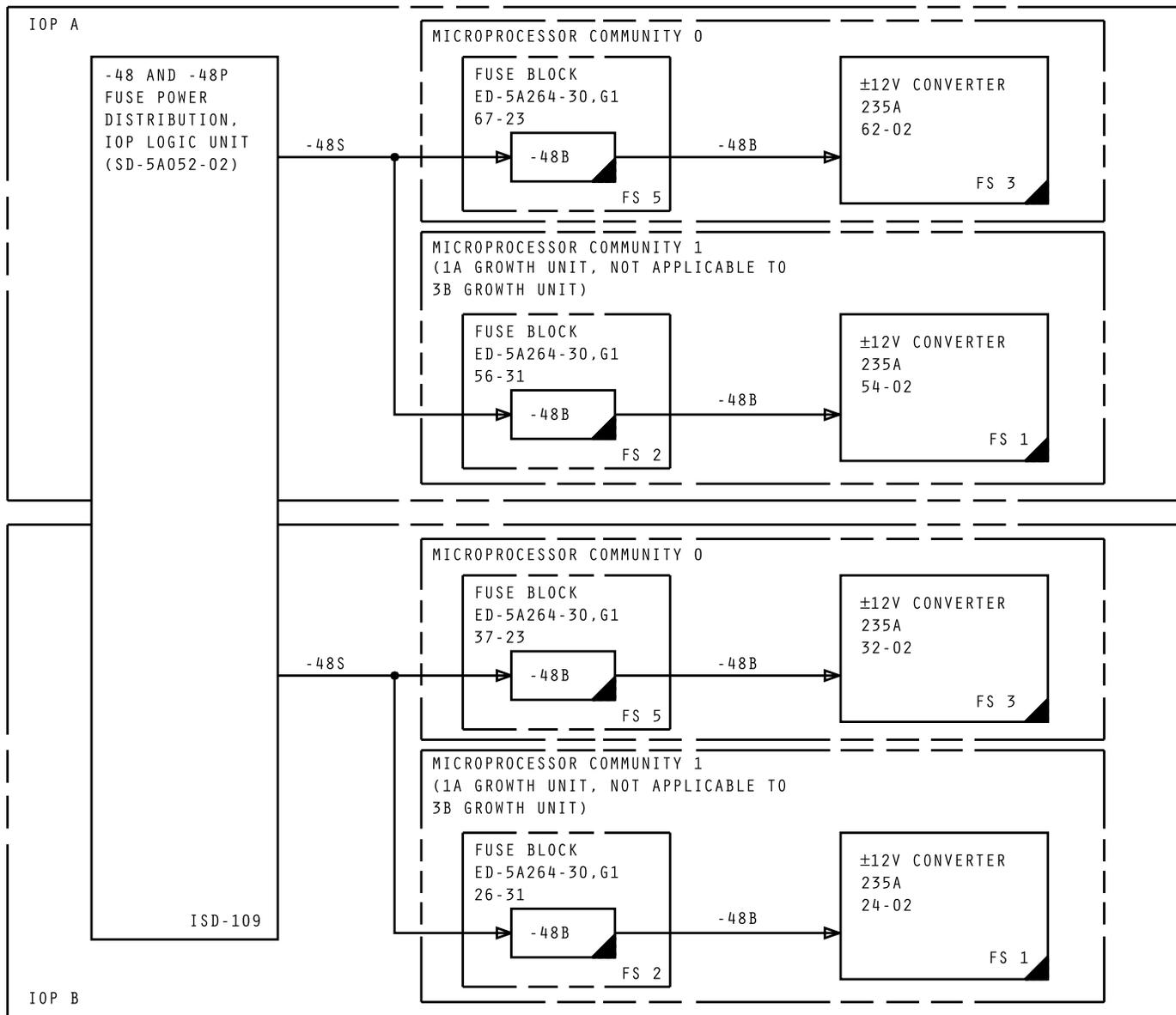


TABLE B			
FUSE BLOCK LOCATION	BLOWN FUSE	FUSE TERMINAL	CIRCUIT PACK CONNECTOR TERMINAL
Logic Unit 67/37-23; or 1A Growth Unit 56/26-31	+12E	22	219T
	-12E	21	100T
	-48A	25	109T

CLEAR BLOWN +12E, -12E, OR -48A FUSE, IOP LOGIC UNIT (SD-5A052-02) OR 1A GROWTH UNIT (SD-4C049-01)



**-48B FUSE POWER DISTRIBUTION, IOP LOGIC UNITS (SD-5A052-02)
WITH 1A GROWTH UNIT (SD-4C049-01)**

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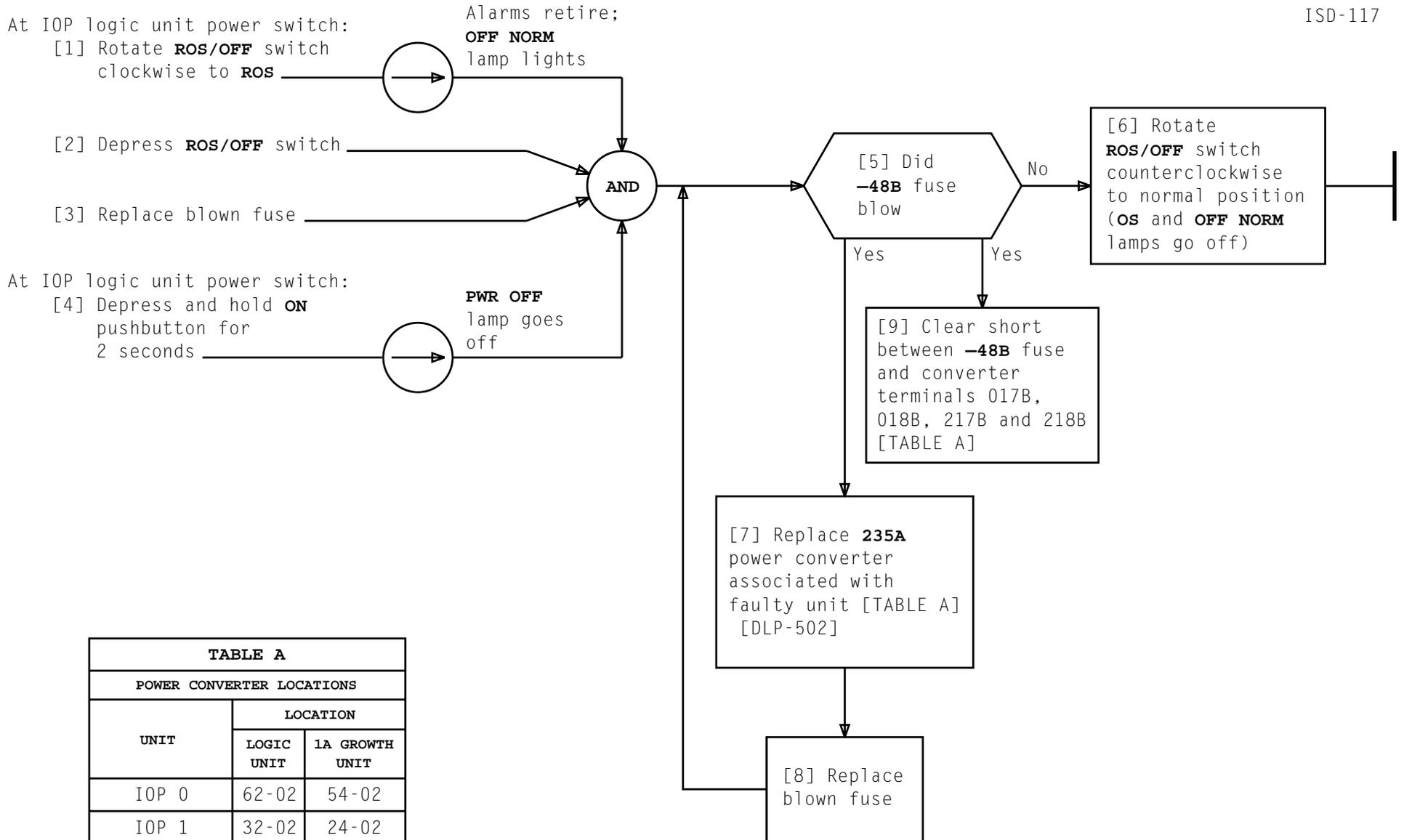
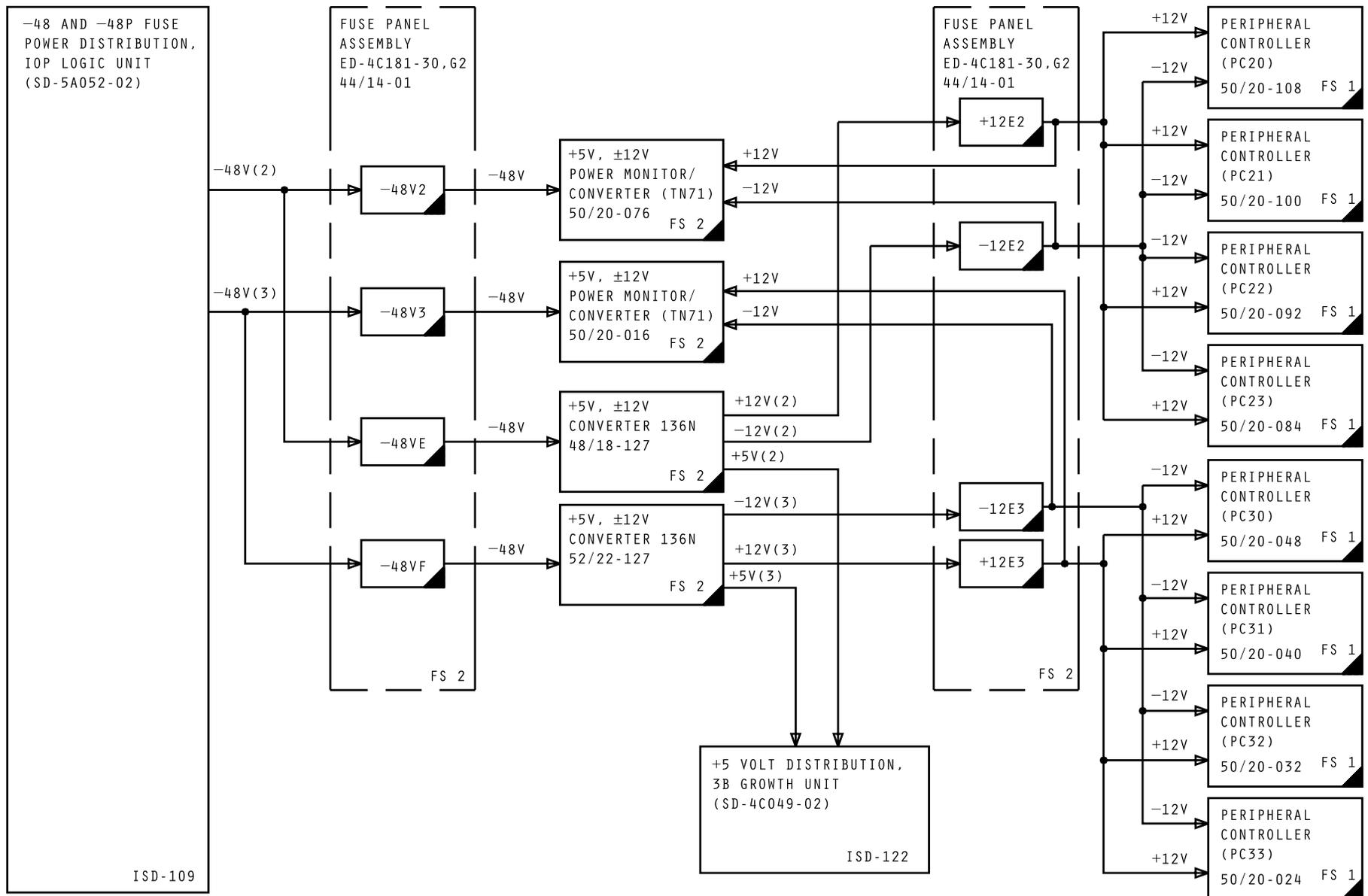


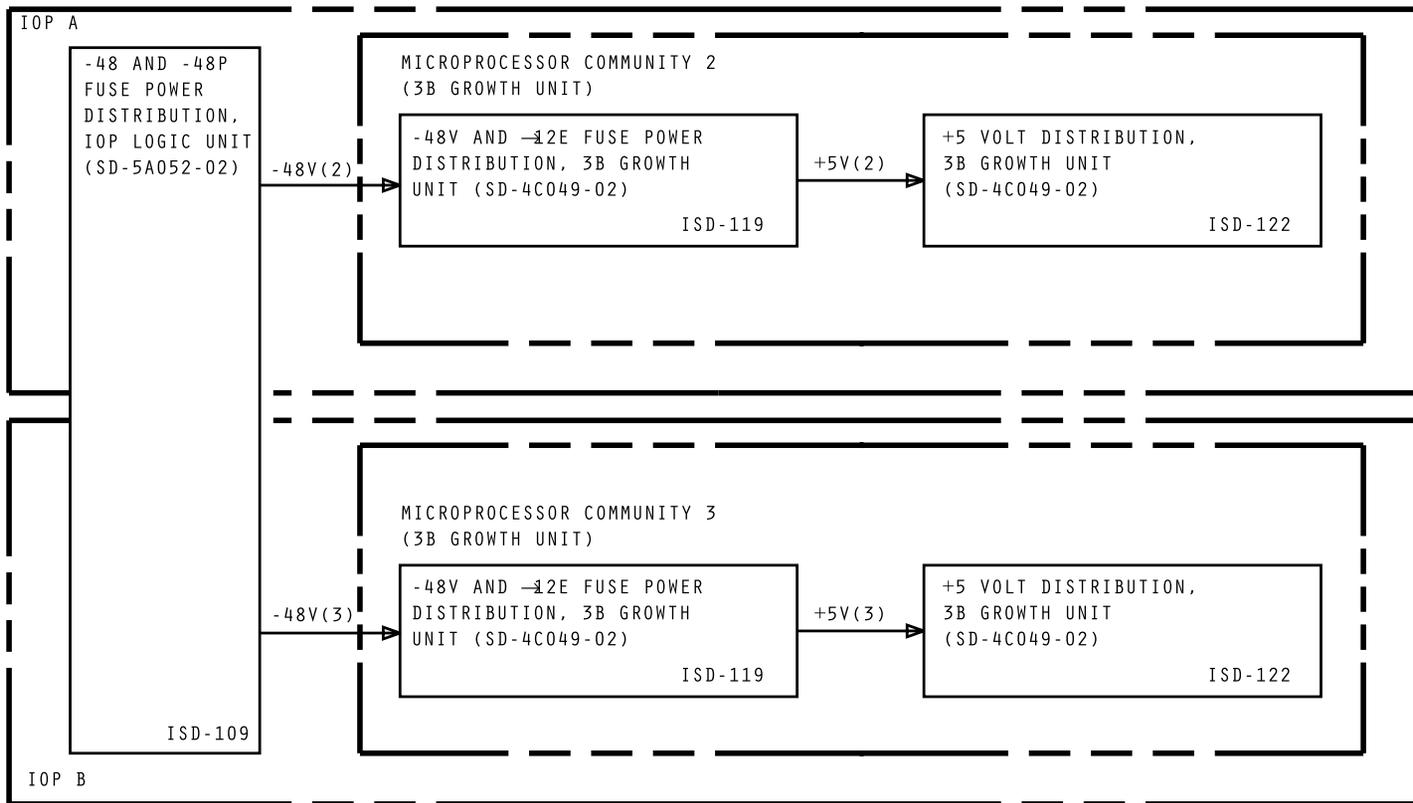
TABLE A		
POWER CONVERTER LOCATIONS		
UNIT	LOCATION	
	LOGIC UNIT	1A GROWTH UNIT
IOP 0	62-02	54-02
IOP 1	32-02	24-02

CLEAR BLOWN -48B FUSE, IOP LOGIC UNIT (SD-5A052-02)



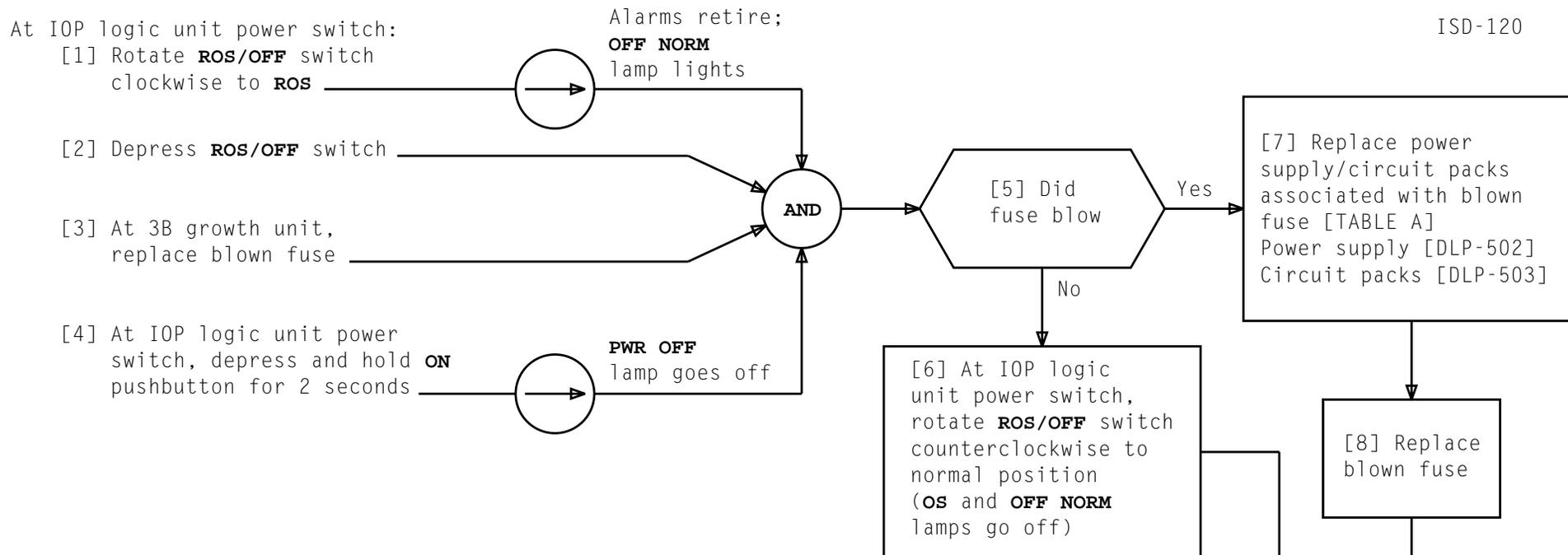
**-48V AND ±12E FUSE POWER DISTRIBUTION, 3B GROWTH UNIT
(SD-4C049-02)**

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**-48 AND ±12 FUSE POWER DISTRIBUTION, 3B GROWTH UNIT
(SD-4C049-02)**

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BLOWN FUSE	ASSOCIATED COMPONENT			BLOWN FUSE	ASSOCIATED COMPONENT		
	TYPE	LOCATION			TYPE	LOCATION	
		IOMP 0	IOMP 1			IOMP 0	IOMP 1
-48VE	136H	48-127	18-127	-48V3	TN71	50-016	20-016
-48V2	TN71	50-076	20-076	+12E3, -12E3	PC30	50-048	20-048
+12E2, -12E2	PC20	50-108	20-108		PC31	50-040	20-040
	PC21	50-100	20-100		PC32	50-032	20-032
	PC22	50-092	20-092		PC33	50-024	20-024
	PC23	50-084	20-084		TN71	50-016	20-016
TN71	50-076	20-076					
-48VF	136H	52-127	22-127				

CLEAR BLOWN +12E, -12E, OR -48V FUSE, 3B GROWTH UNIT (SD-4C049-02)

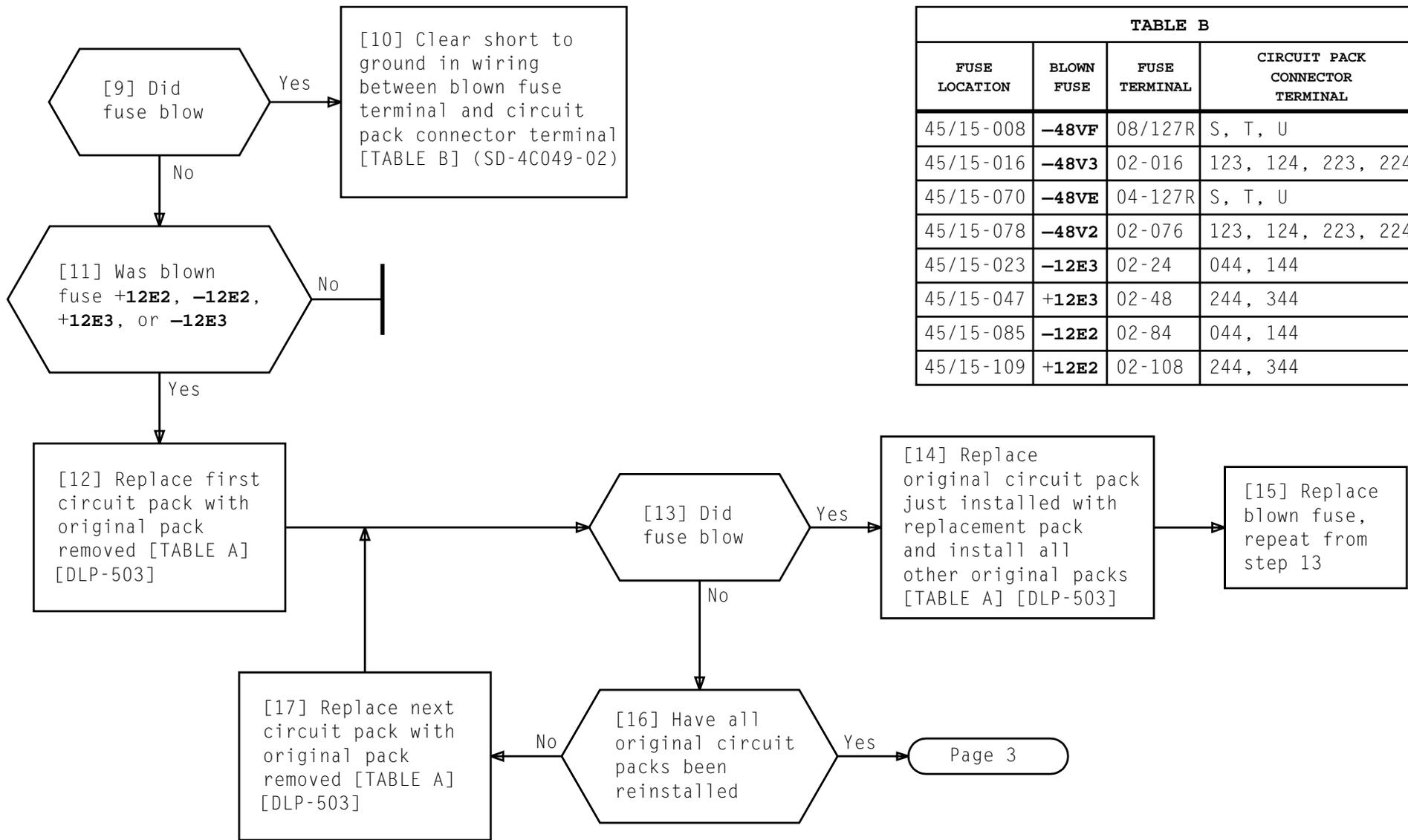
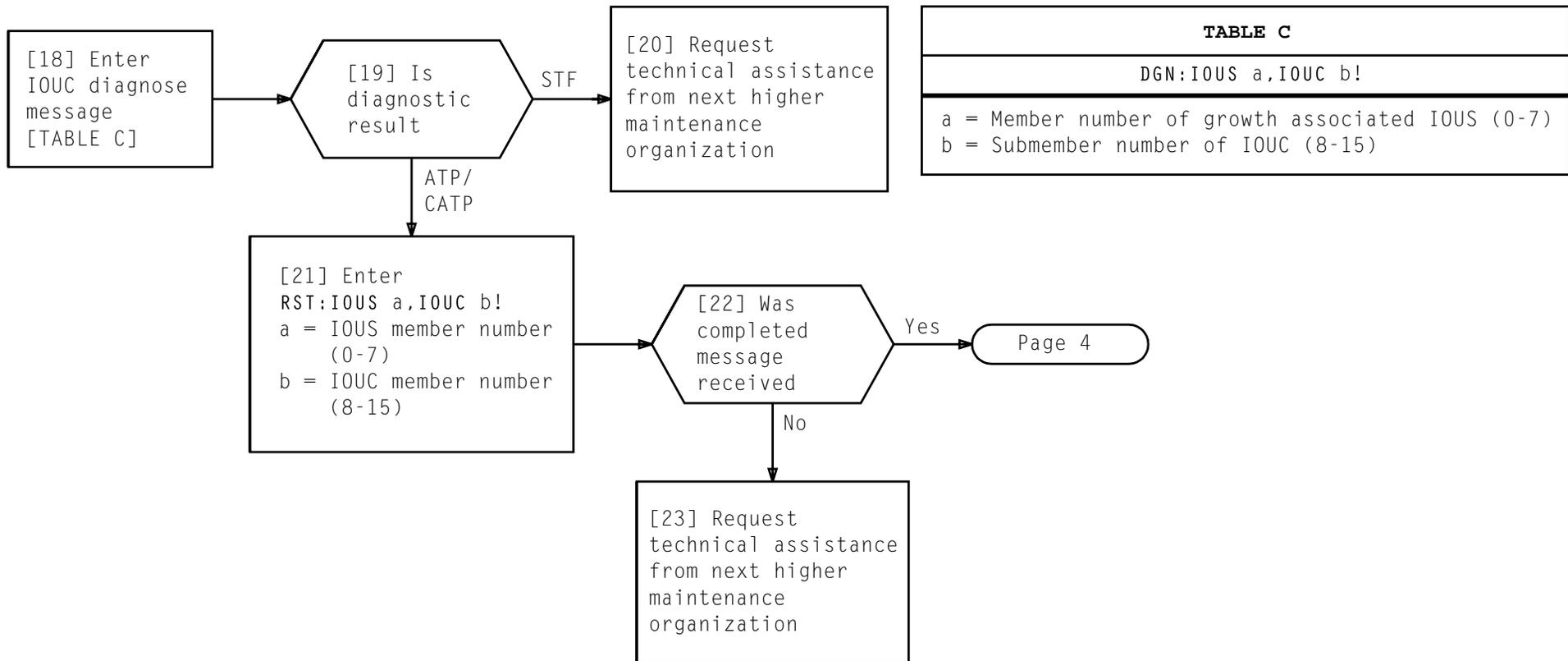
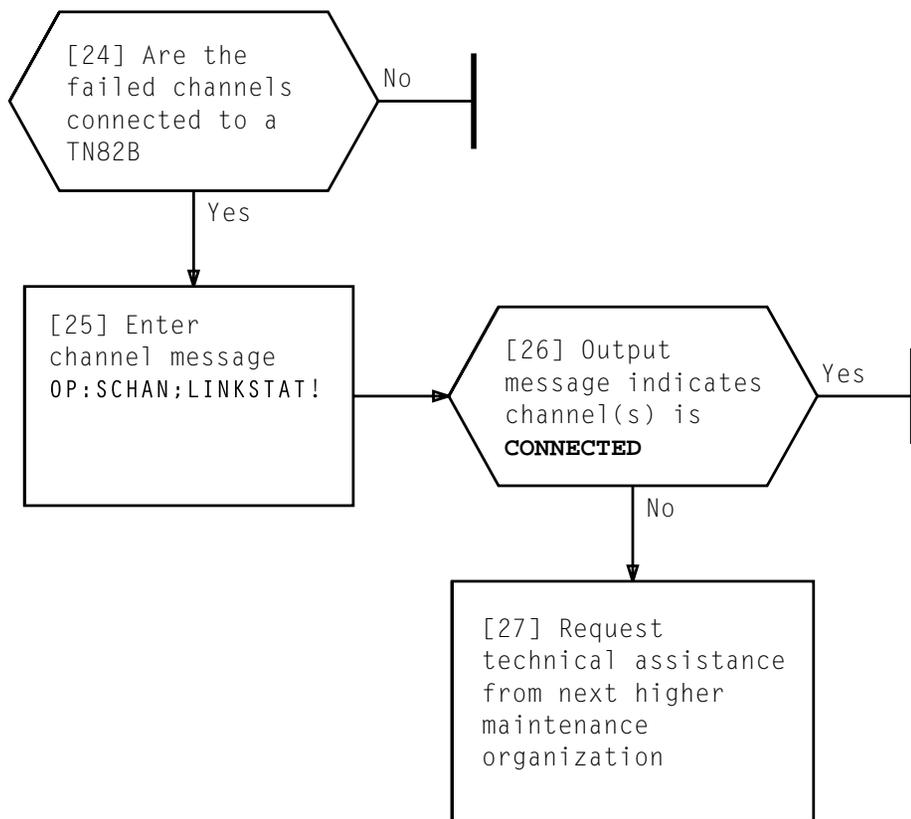


TABLE B			
FUSE LOCATION	BLOWN FUSE	FUSE TERMINAL	CIRCUIT PACK CONNECTOR TERMINAL
45/15-008	-48VF	08/127R	S, T, U
45/15-016	-48V3	02-016	123, 124, 223, 224
45/15-070	-48VE	04-127R	S, T, U
45/15-078	-48V2	02-076	123, 124, 223, 224
45/15-023	-12E3	02-24	044, 144
45/15-047	+12E3	02-48	244, 344
45/15-085	-12E2	02-84	044, 144
45/15-109	+12E2	02-108	244, 344



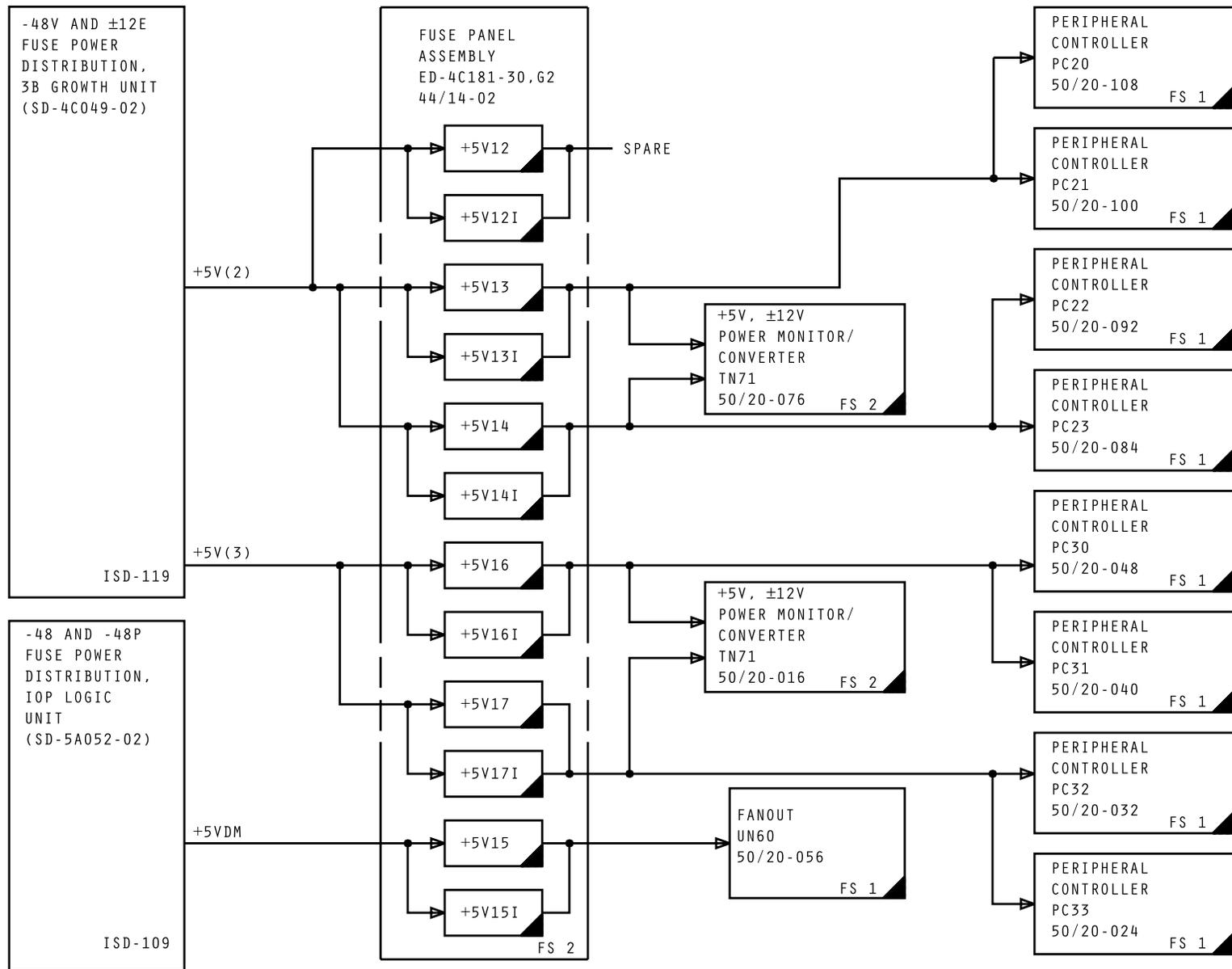
CLEAR BLOWN +12E, -12E OR -48V FUSE, 3B GROWTH UNIT
(SD-4C049-02)

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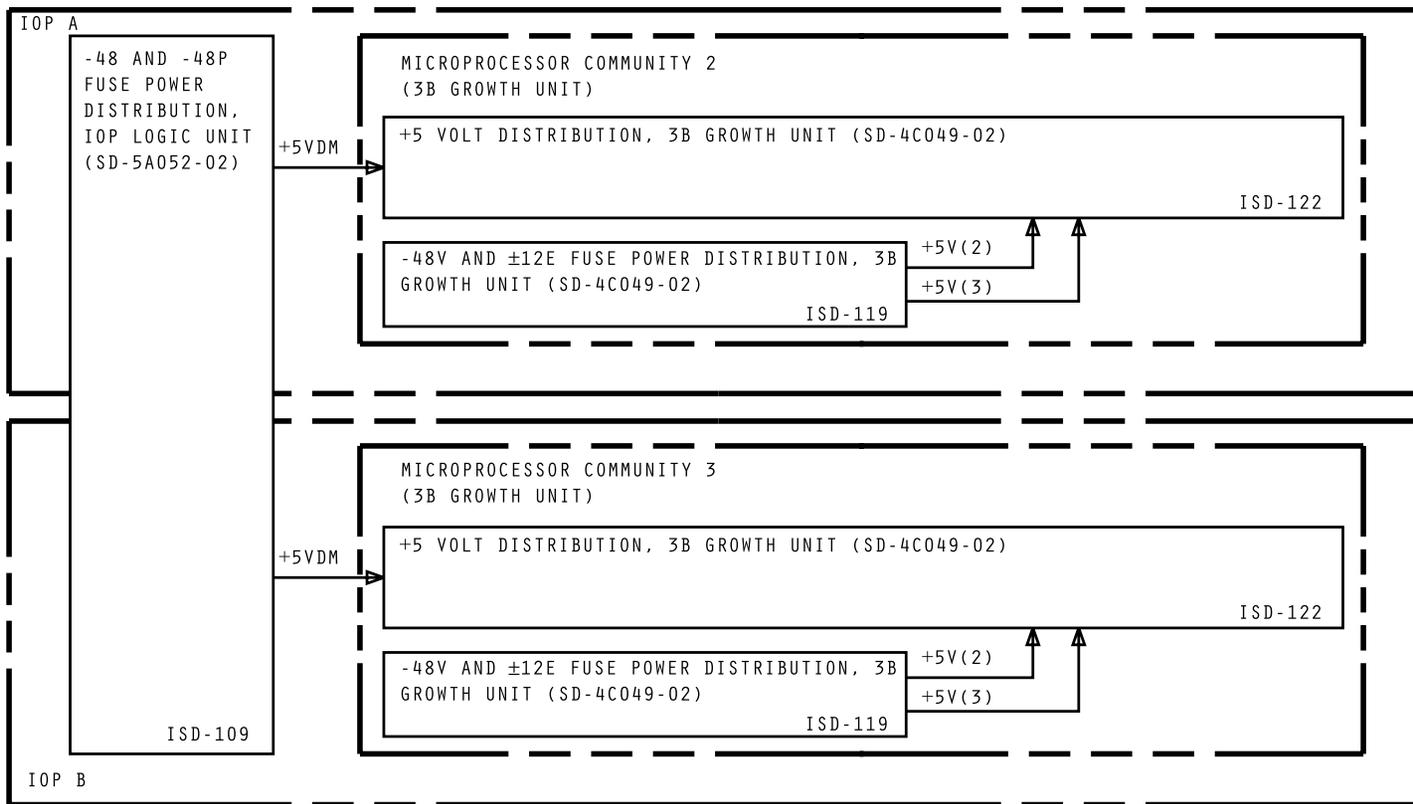
**CLEAR BLOWN +12E, -12E, OR -48V FUSE, 3B GROWTH UNIT
(SD-4C049-02)**

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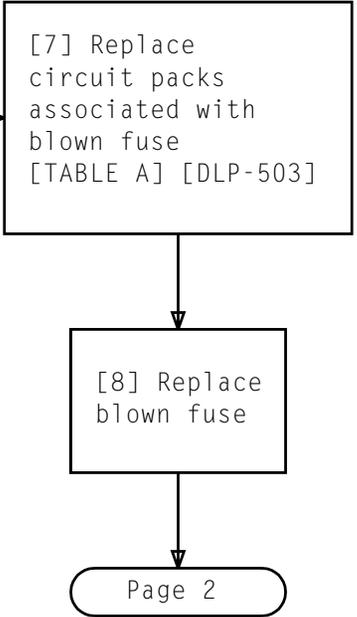
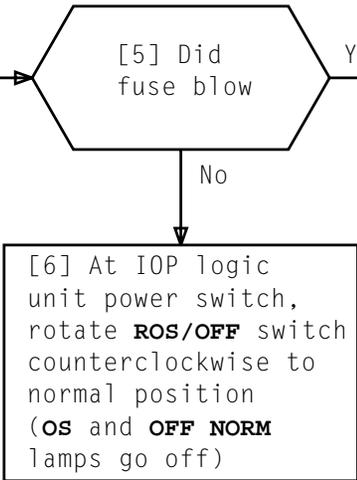
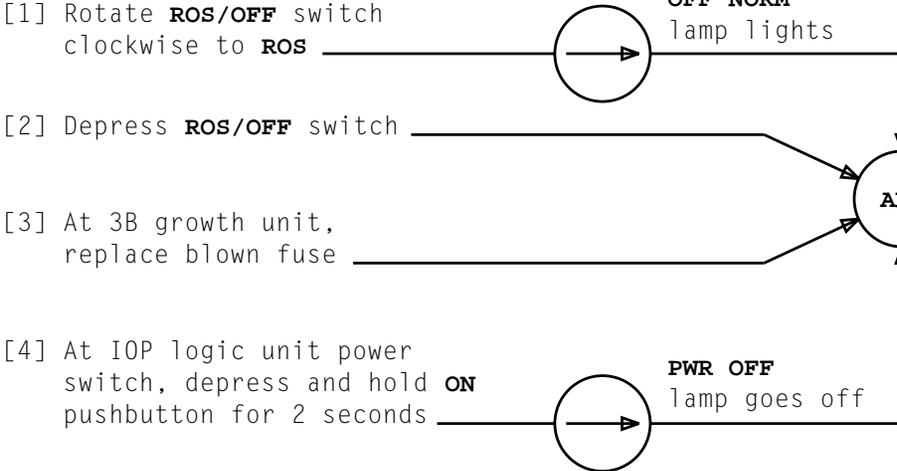
+5 VOLT DISTRIBUTION, 3B GROWTH UNIT (SD-4C049-02)



+5 VOLT DISTRIBUTION, 3B GROWTH UNIT (SD-4C049-02)

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At IOP logic unit power switch:



FUSE DESIGNATION	ASSOCIATED CIRCUIT PACK			FUSE DESIGNATION	ASSOCIATED CIRCUIT PACK		
	TYPE	LOCATION			TYPE	LOCATION	
		IOMP 0	IOMP 1			IOMP 0	IOMP 1
+5V12	SPARE	-	-	+5V15	UN60	50-056	20-056
+5V13	*(PC20)	50-108	20-108	+5V16	*(PC30)	50-048	20-048
	*(PC21)	50-100	20-100		*(PC31)	50-040	20-040
	TN71	50-076	20-076		TN71	50-016	20-016
+5V14	*(PC22)	50-092	20-092	+5V17	*(PC32)	50-032	20-032
	*(PC23)	50-084	20-084		*(PC33)	50-024	20-024
	TN71	50-076	20-076		TN71	50-016	20-016

* TN75, TN75B, TN82B or TN75C (office-dependent)

CLEAR BLOWN +5V12 THROUGH +5V17 FUSE, 3B GROWTH UNIT (SD-4C049-02)

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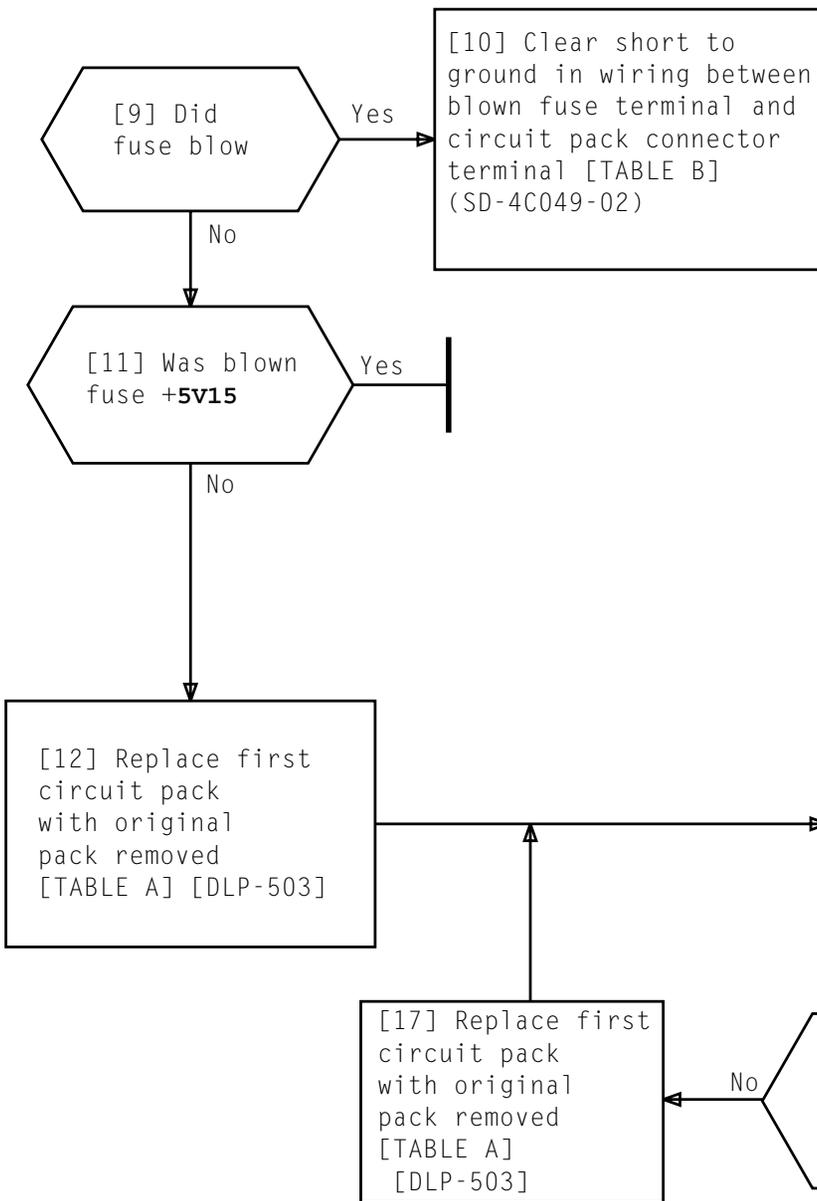


TABLE B				
FUSE LOCATION	BLOWN FUSE	FUSE TERMINAL	CIRCUIT PACK CONNECTOR TERMINAL	CIRCUIT PACK TYPE
45/15-116 43/13-116	+5V12 (F15.0) +5V12 (F15.1)	02-116	NA NA	NA (SPARE) NA (SPARE)
45/15-100 43/13-100	+5V13 (F13.0) +5V13 (F13.1)	02-106	000,024,100 338	*PC20, *PC21, TN71
45/15-092 43/13-092	+5V14 (F12.0) +5V14 (F12.1)	02-090	000,024,100 335	*PC22, *PC23, TN71
45/15-054 43/13-054	+5V15 (F7.0) +5V15 (F7.1)	02-056	324,356	UN60
45/15-039 43/13-039	+5V16 (F5.0) +5V16 (F5.1)	02-046	000,024,100 338	*PC30, *PC31, TN71
45/15-031 43/13-031	+5V17 (F4.0) +5V17 (F4.1)	02-030	000,024,100 335	*PC32, *PC33, TN71

* TN75, TN75B, TN75C or TN82B (office-dependent)

**CLEAR BLOWN +5V12 THROUGH +5V17 FUSE, 3B GROWTH UNIT
(SD-4C049-02)**

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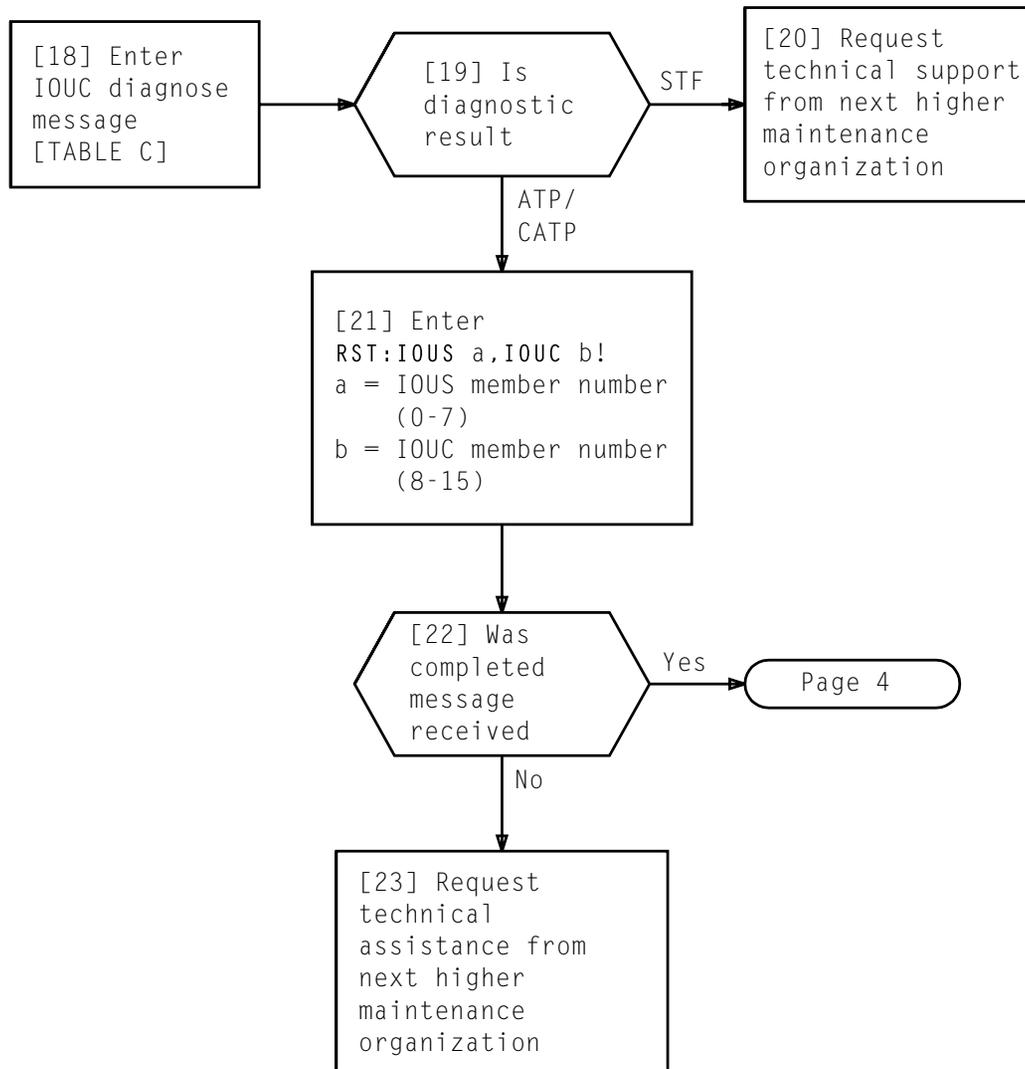
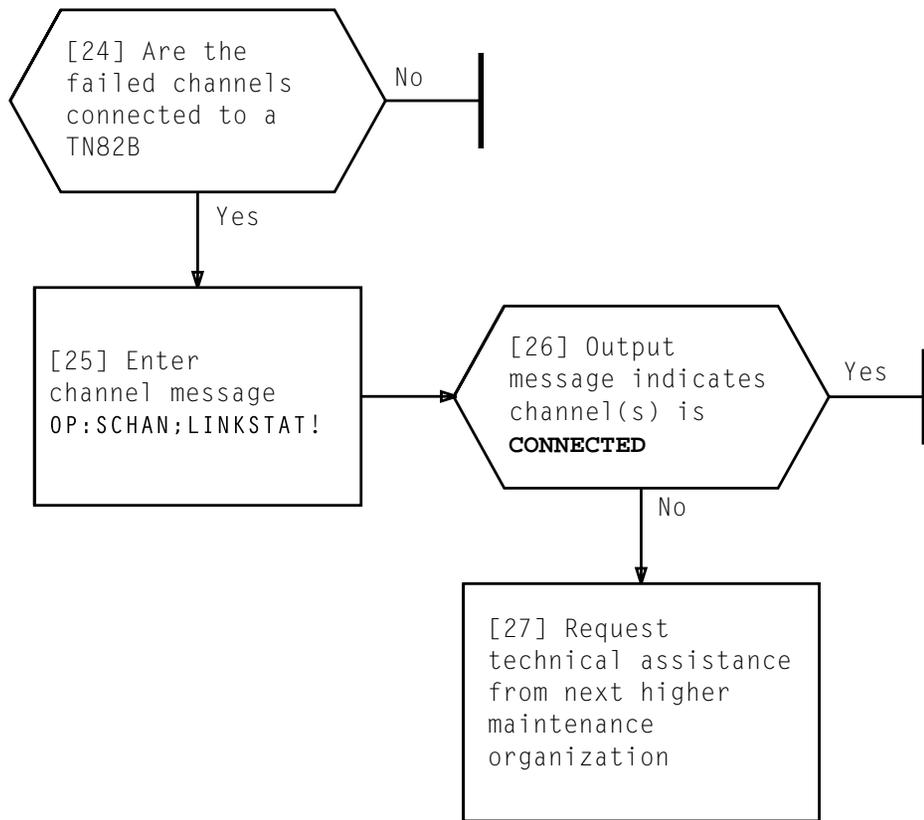


TABLE C	
DGN:IOUS a, IOUC b!	
a = Member number of growth associated IOUS (0-7)	
b = Submember number of IOUC (8-15)	

**CLEAR BLOWN +5V12 THROUGH +5V17 FUSE, 3B GROWTH UNIT
(SD-4C049-02)**

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**CLEAR BLOWN +5V12 THROUGH +5V17 FUSE, 3B GROWTH UNIT
(SD-4C049-02)**

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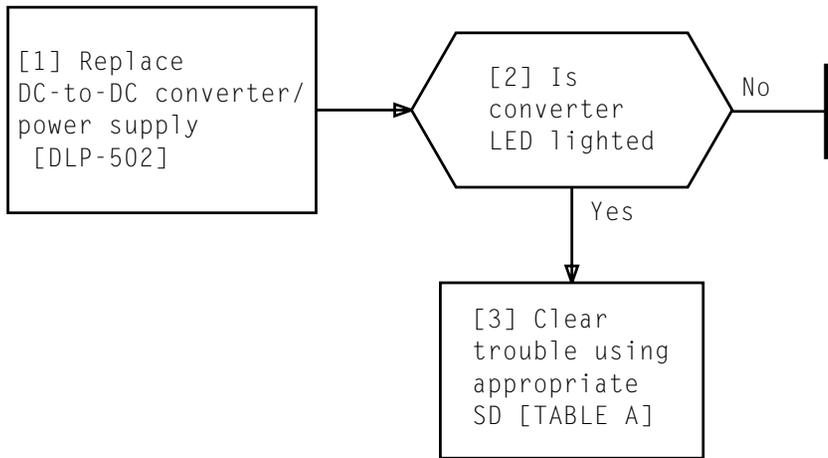
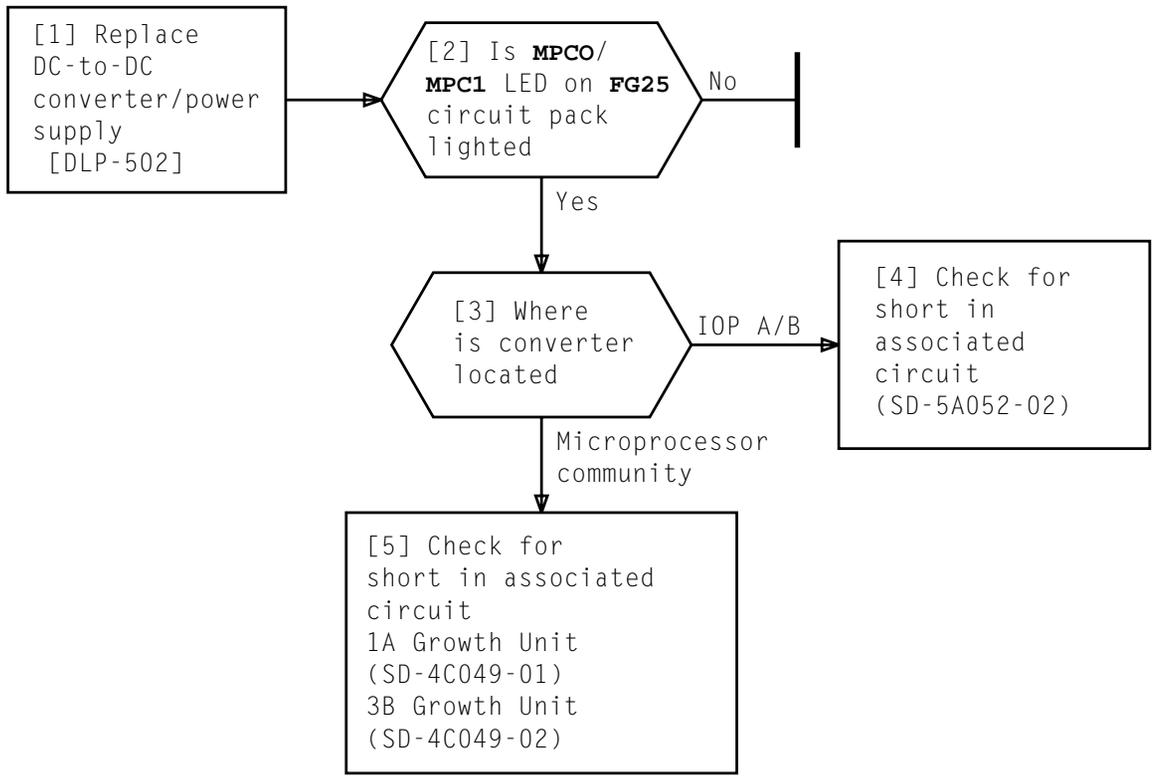


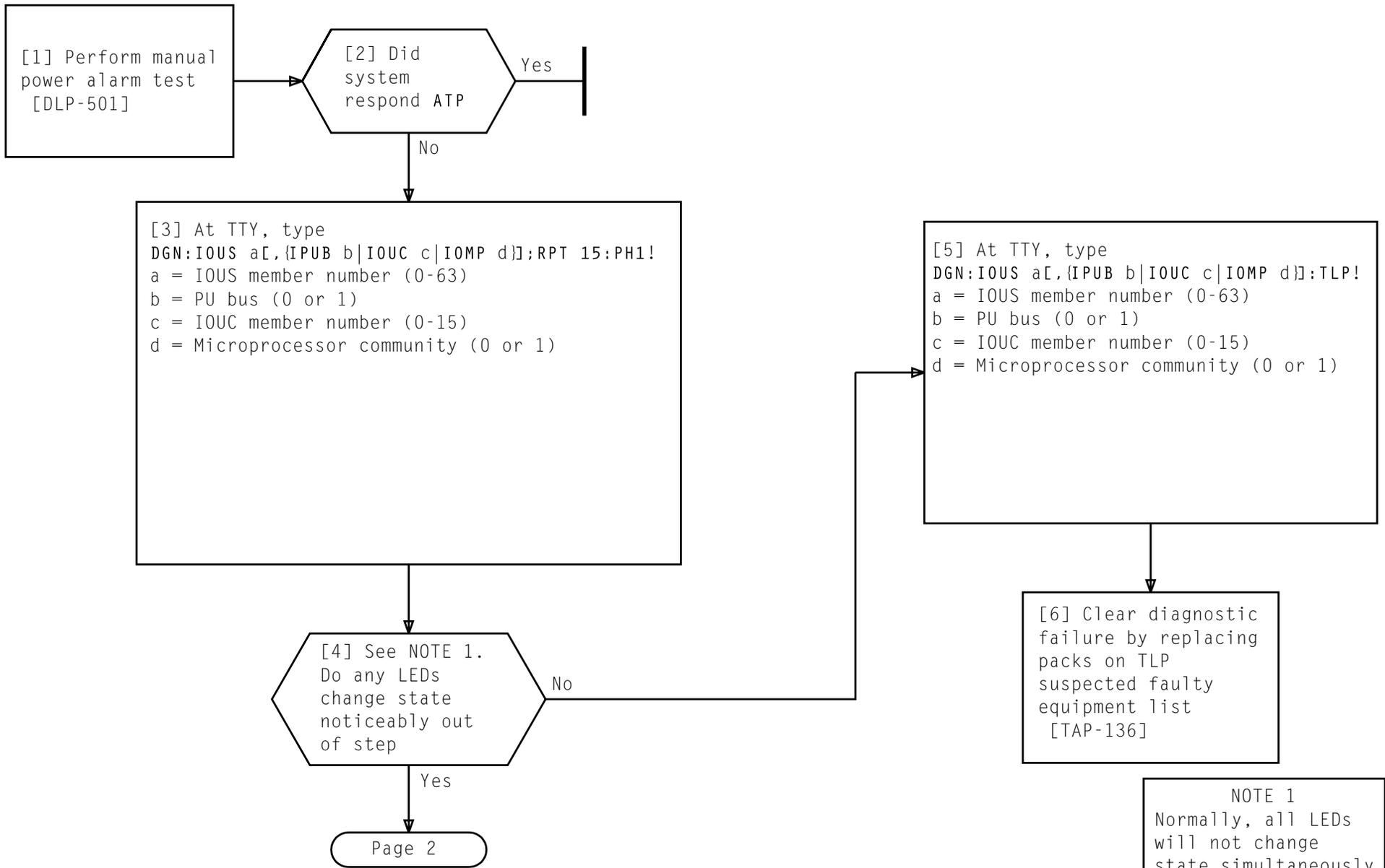
TABLE A	
UNIT	UNIT SD
IOP bus unit	SD-5A052-02
IOP logic unit	
1A growth unit *	SD-5A049-01
3B growth unit *	SD-4C049-02
* Optional units	

CLEAR LIGHTED CONVERTER LED, FUSE NOT BLOWN



CLEAR LIGHTED MICROPROCESSOR CONTROL LED, FUSE NOT BLOWN (SD-5A052-02)

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NOTE 1
Normally, all LEDs will not change state simultaneously

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CLEAR AUTOMATIC POWER MONITOR TEST FAILURE

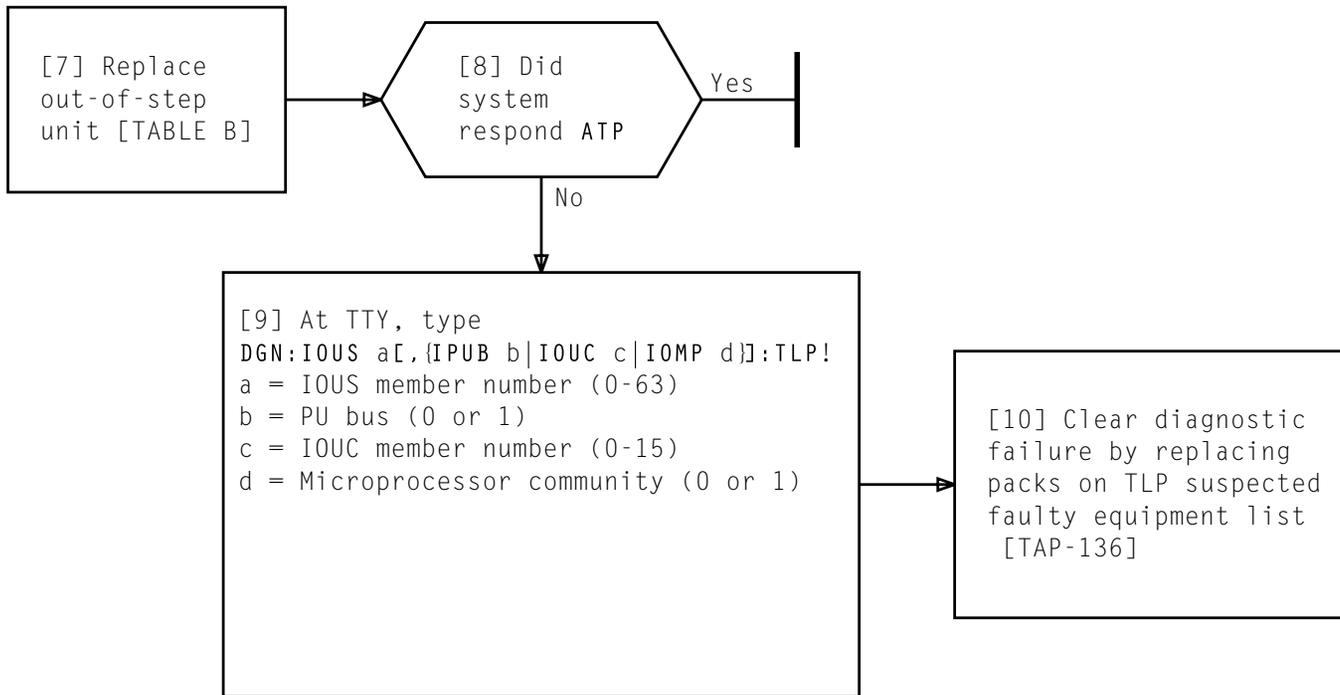
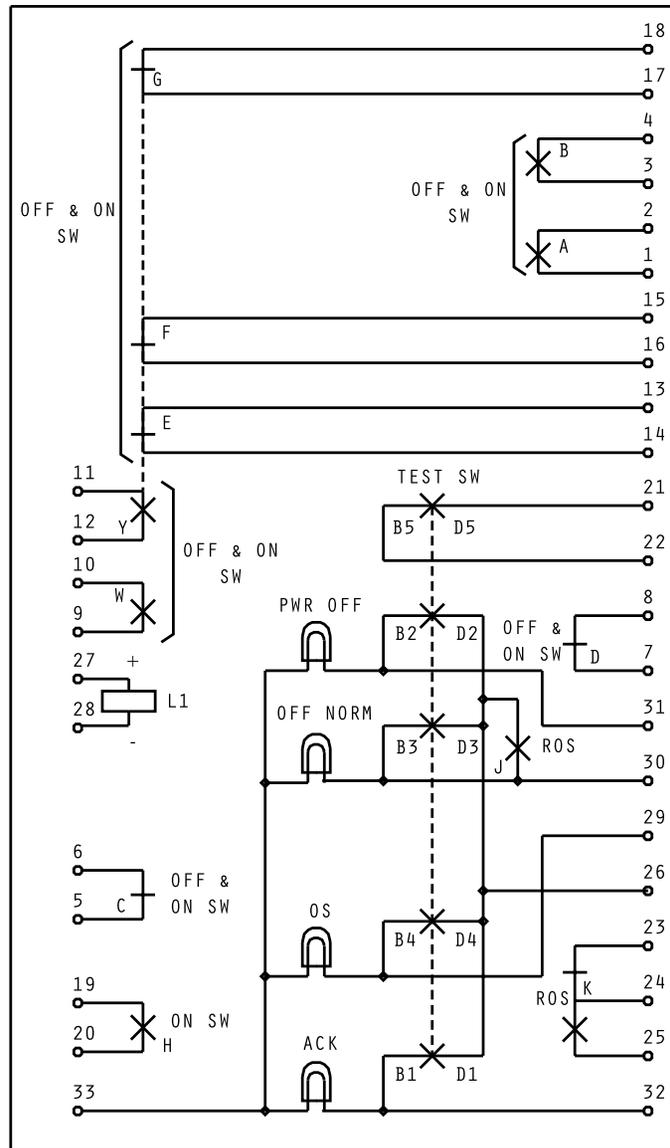
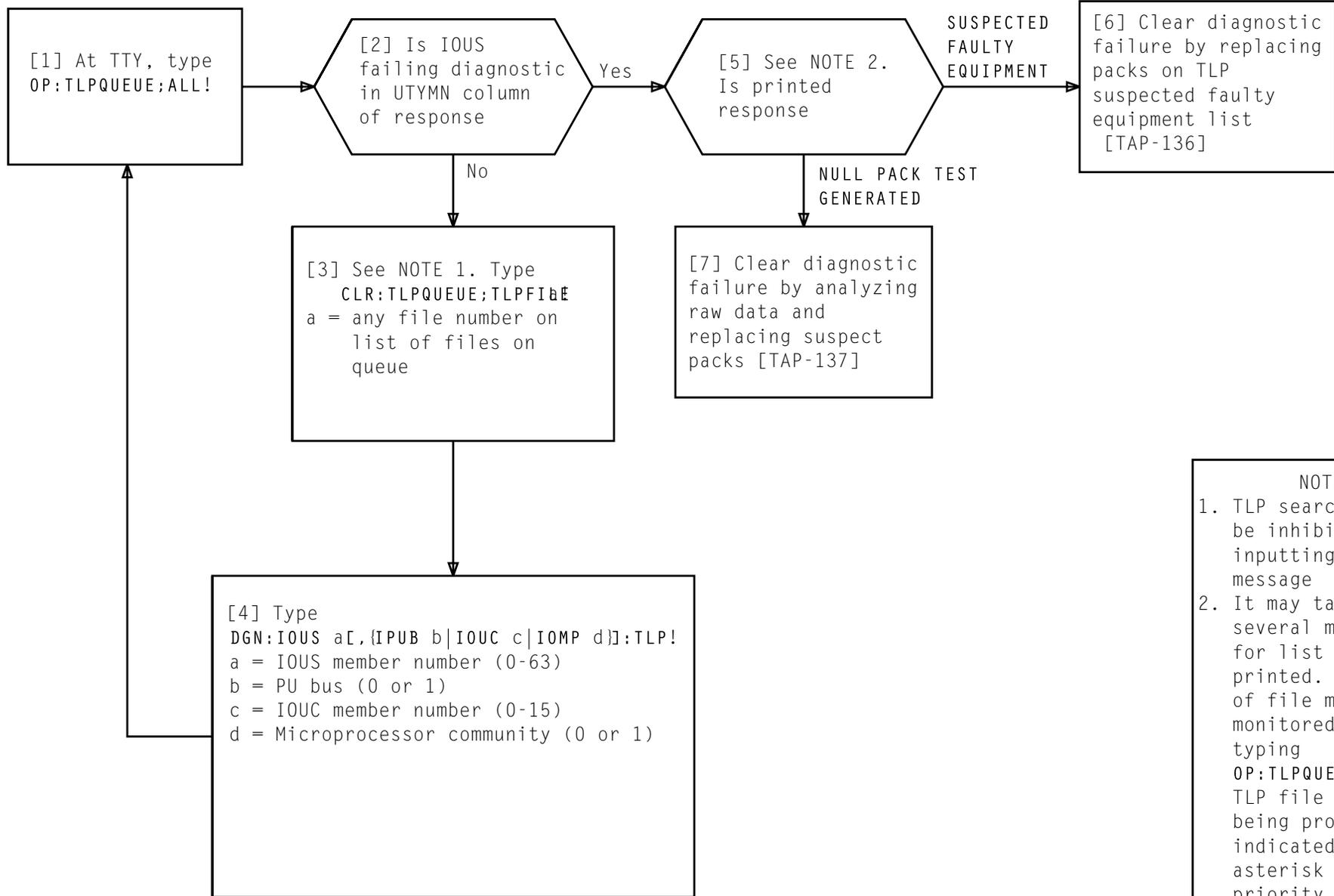


TABLE B	
UNIT	PROCEDURE
Circuit pack	DLP-503
Converter	DLP-502



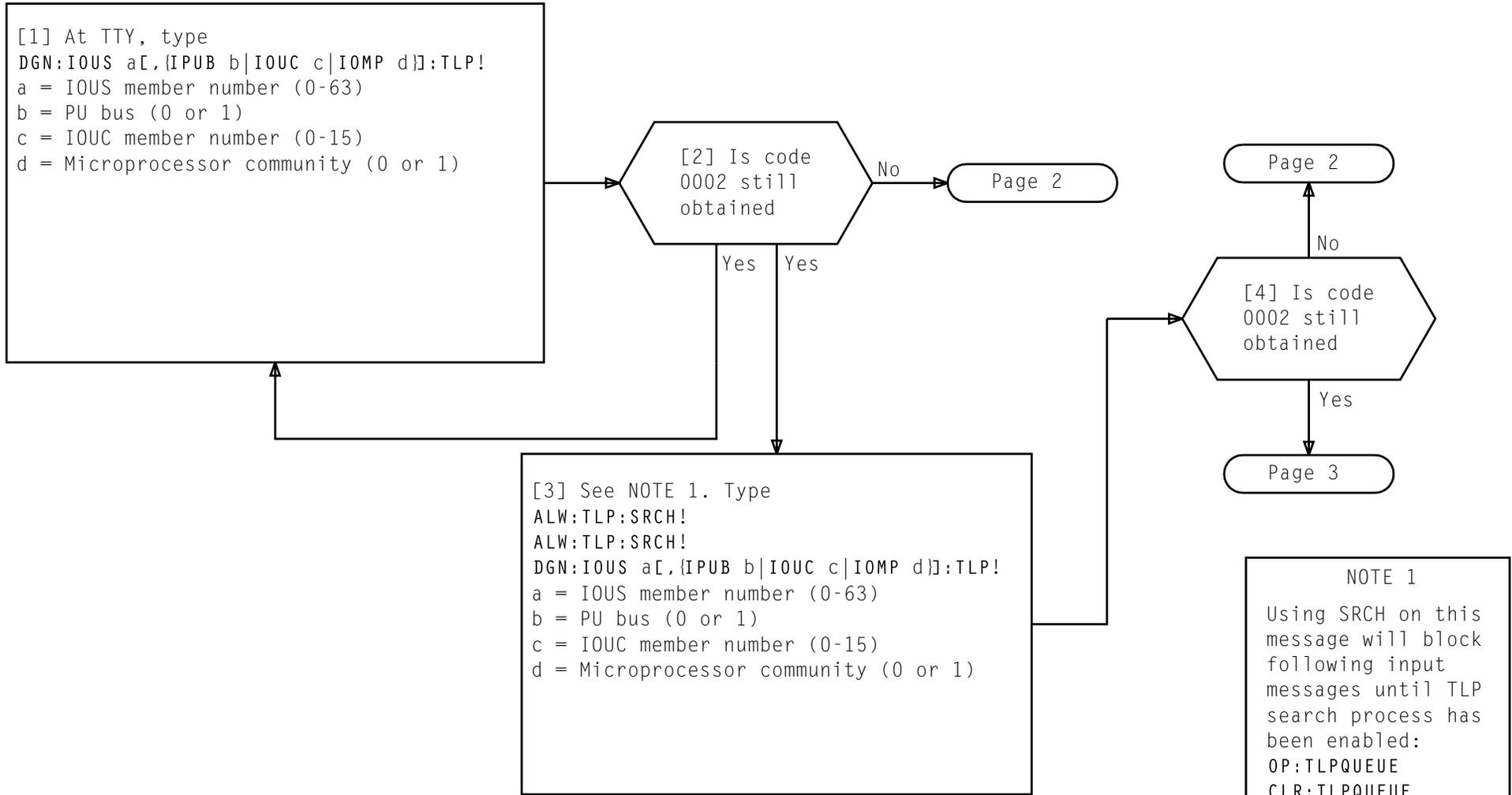


NOTES

1. TLP searches may be inhibited after inputting this message
2. It may take several minutes for list to be printed. Status of file may be monitored by typing
OP:TLPQUEUE;ALL!
TLP file currently being processed is indicated by asterisk in priority column

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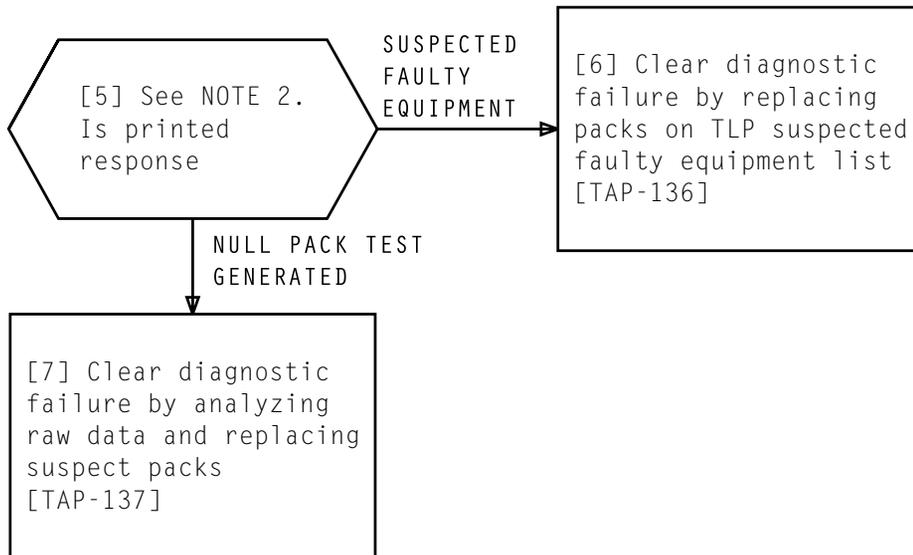
CLEAR DIAGNOSTIC FAILURE, TLP DISK QUEUE FULL



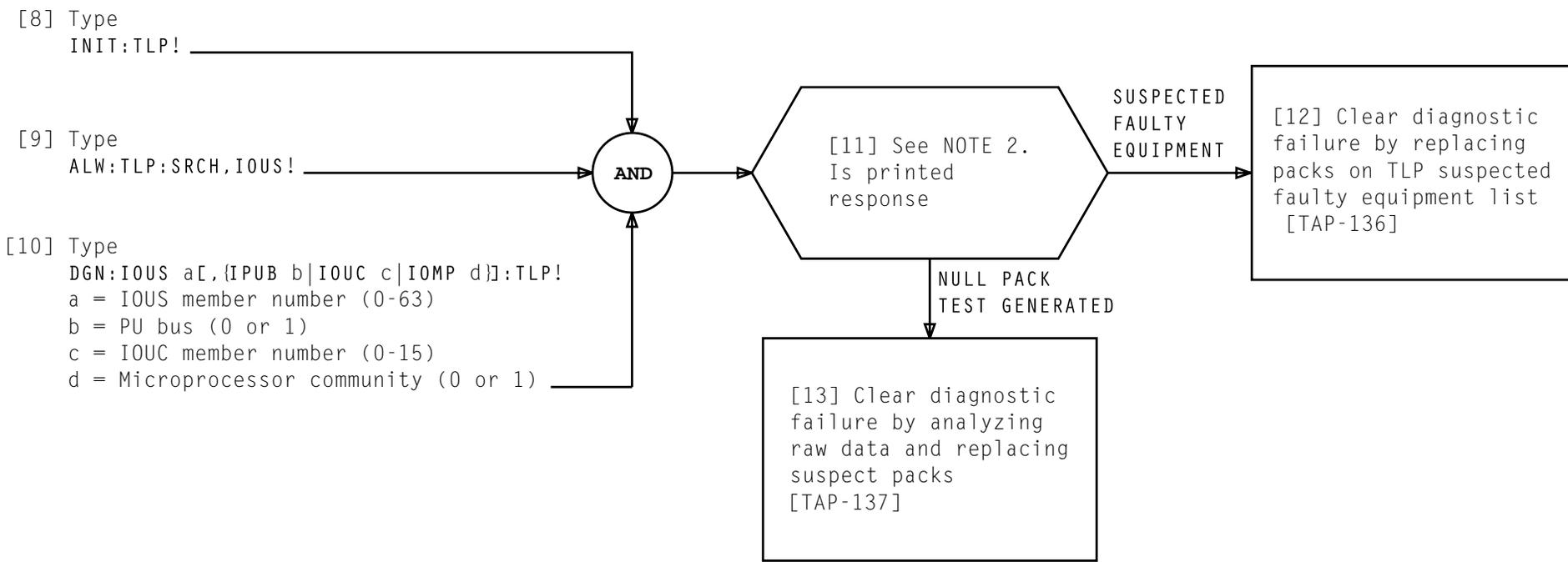
NOTE 1
 Using SRCH on this message will block following input messages until TLP search process has been enabled:
 OP:TLPQUEUE
 CLR:TLPQUEUE
 ALW:TLP:SRCH
 TLP search process can be manually inhibited using
 INH:TLP:SRCH
 input message

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CLEAR DIAGNOSTIC FAILURE, TLP QUEUE BLOCKAGE



NOTE 2	
It may take several minutes for list to be printed. Status of file may be monitored by typing OP:TLPQUEUE;ALL! TLP file currently being processed is indicated by asterisk in priority column	
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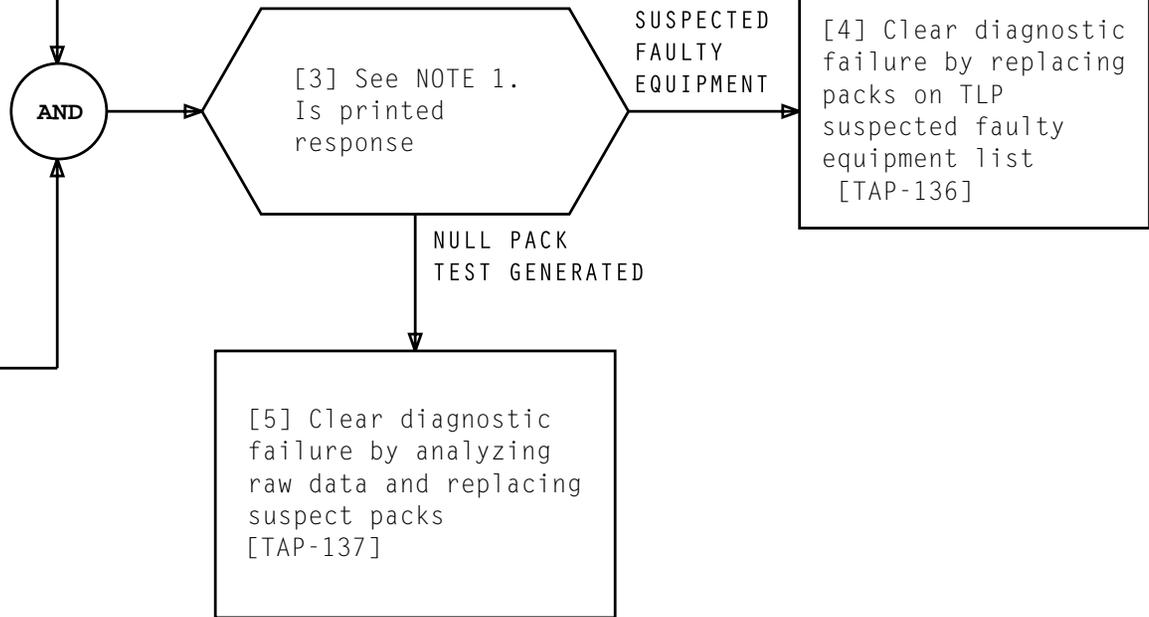


CLEAR DIAGNOSTIC FAILURE, TLP QUEUE BLOCKAGE

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[1] At TTY, type
ALW:TLP:SRCH,IOUS!

[2] Type
DGN:IOUS a[, {IPUB b|IOUC c|IOMP d}]:TLP!
a = IOUS member number (0-63)
b = PU bus (0 or 1)
c = IOUC member number (0-15)
d = Microprocessor community (0 or 1)



NOTE 1

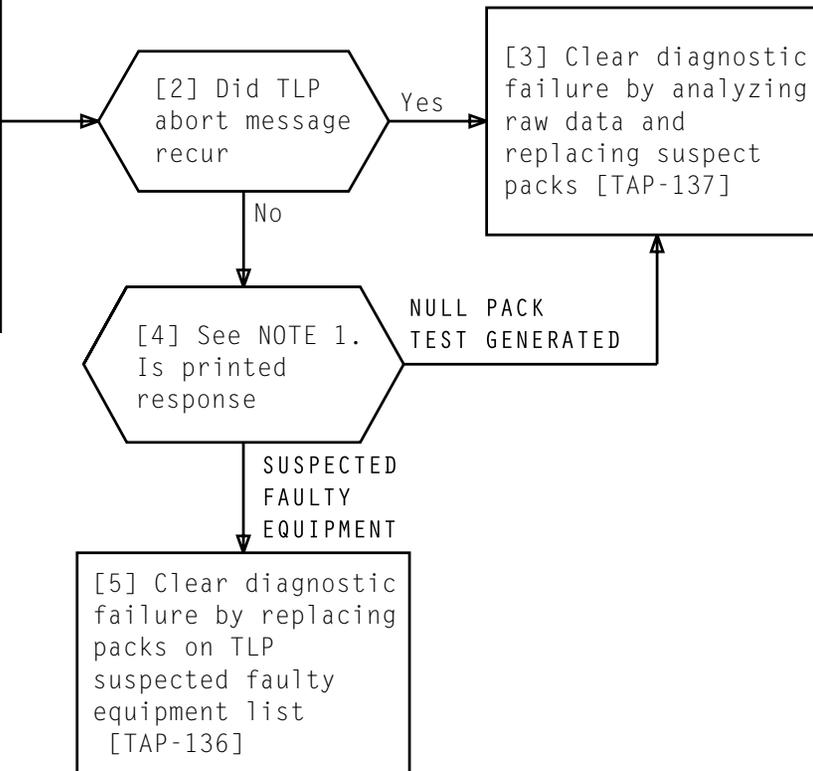
It may take several minutes for list to be printed. Status of file may be monitored by typing
OP:TLPQUEUE;ALL!
TLP file currently being processed is indicated by asterisk in priority column

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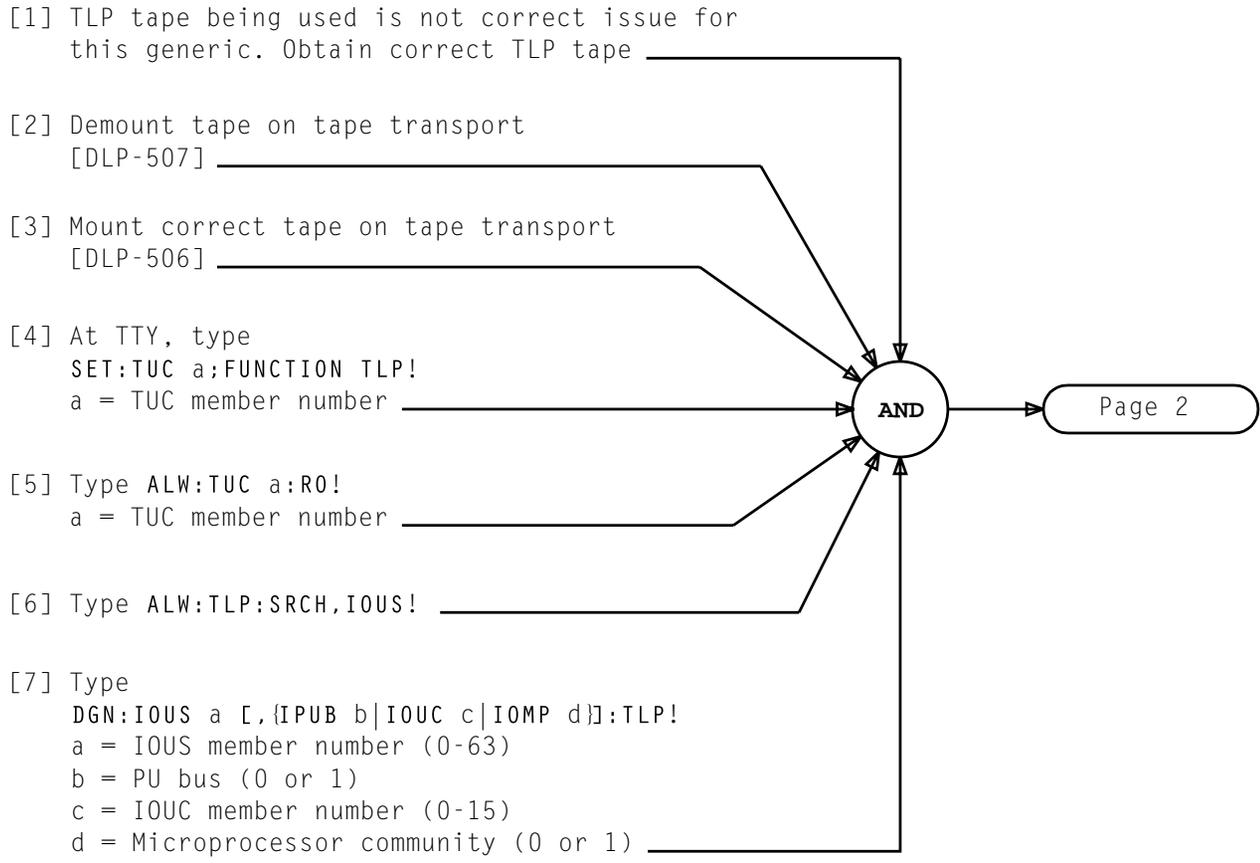
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[1] At TTY, type
 DGN:IOUS a[, {IPUB b|IOUC c|IOMP d}]:TLP!
 a = IOUS member number (0-63)
 b = PU bus (0 or 1)
 c = IOUC member number (0-15)
 d = Microprocessor community (0 or 1)



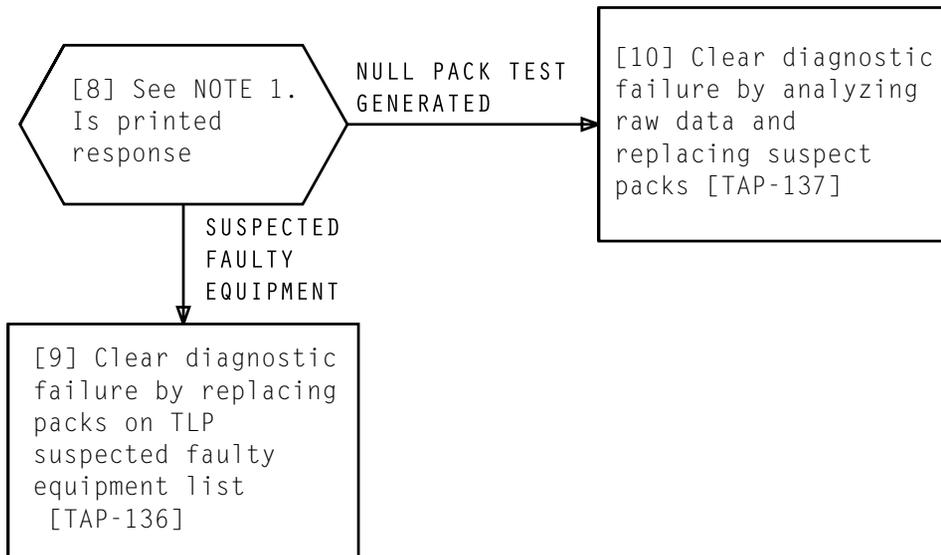
NOTE 1
 It may take several minutes for list to be printed. Status of file may be monitored by typing
 OP:TLPQUEUE;ALL!
 TLP file currently being processed is indicated by asterisk in priority column

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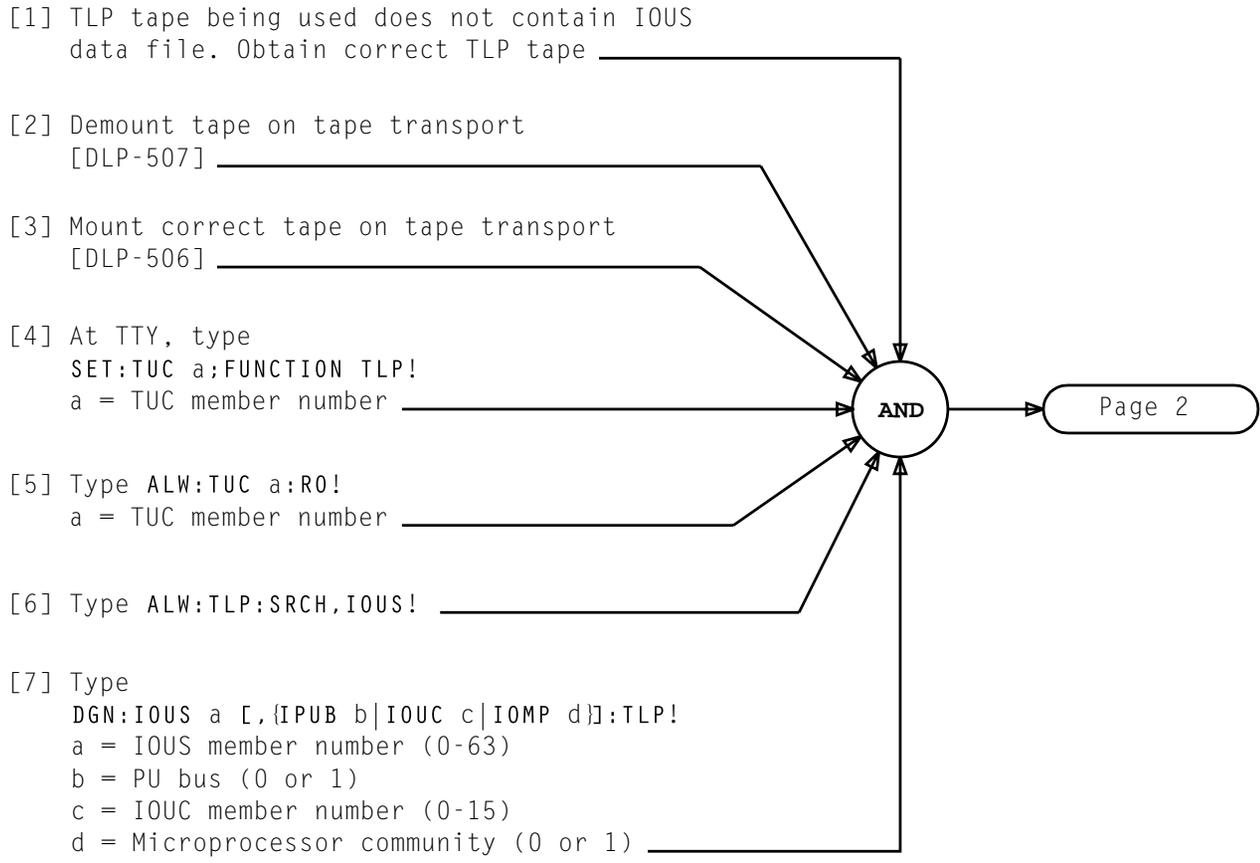
CLEAR DIAGNOSTIC FAILURE, TLP TAPE VERSION X DOES NOT MATCH VERSION Y

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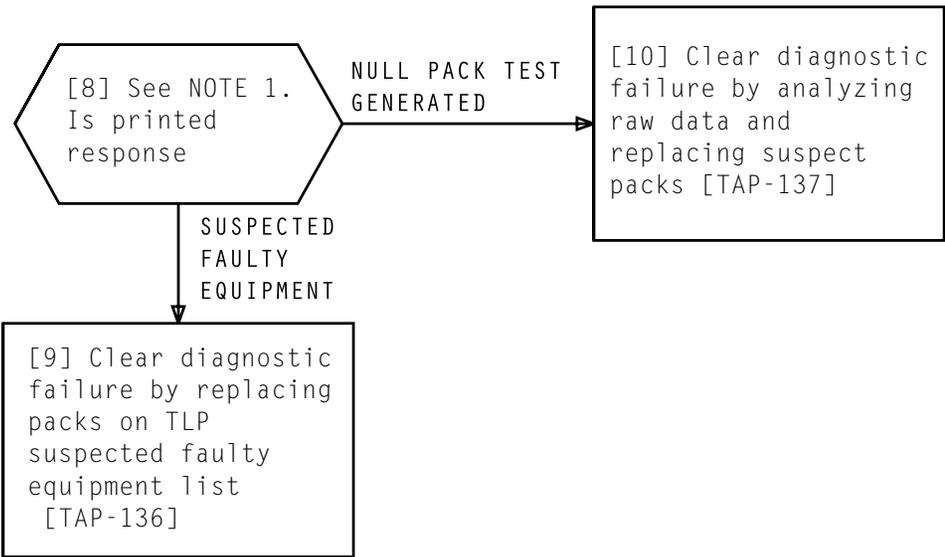
NOTE 1	
It may take several minutes for list to be printed. Status of file may be monitored by typing OP:TLPQUEUE;ALL! TLP file currently being processed is indicated by asterisk in priority column	
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CLEAR DIAGNOSTIC FAILURE, TLP TAPE VERSION X DOES NOT MATCH VERSION Y



CLEAR DIAGNOSTIC FAILURE, TLP TAPE ACQUISITION ERROR

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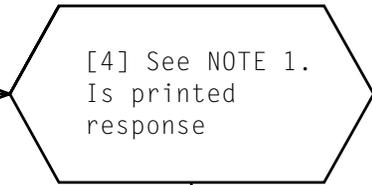


NOTE 1	
It may take several minutes for list to be printed. Status of file may be monitored by typing OP:TLPQUEUE;ALL! TLP file currently being processed is indicated by asterisk in priority column	
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[1] If required, demount tape on tape transport [DLP-507]

[2] Obtain and mount appropriate tape [DLP-506]

[3] At TTY, type
SET:TUC a;FUNCTION TLP!
ALW:TUC a:R0!
ALW:TLP:SRCH,IOUS!
DGN:IOUS b [,{{IPUB c|IOUC d|IOMP e}]:TLP!
a = TUC member number
b = IOUS member number (0-63)
c = PU bus (0 or 1)
d = IOUC member number (0-15)
e = Microprocessor community (0 or 1)



SUSPECTED FAULTY EQUIPMENT

[6] Clear diagnostic failure by replacing packs on TLP suspected faulty equipment list [TAP-136]

NULL PACK TEST GENERATED

[5] Clear diagnostic failure by analyzing raw data and replacing suspect packs [TAP-137]

NOTE 1
It may take several minutes for list to be printed. Status of file may be monitored by typing
OP:TLPQUEUE;ALL!
TLP file currently being processed is indicated by asterisk in priority column

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CLEAR DIAGNOSTIC FAILURE, TLP TAPE NOT MOUNTED

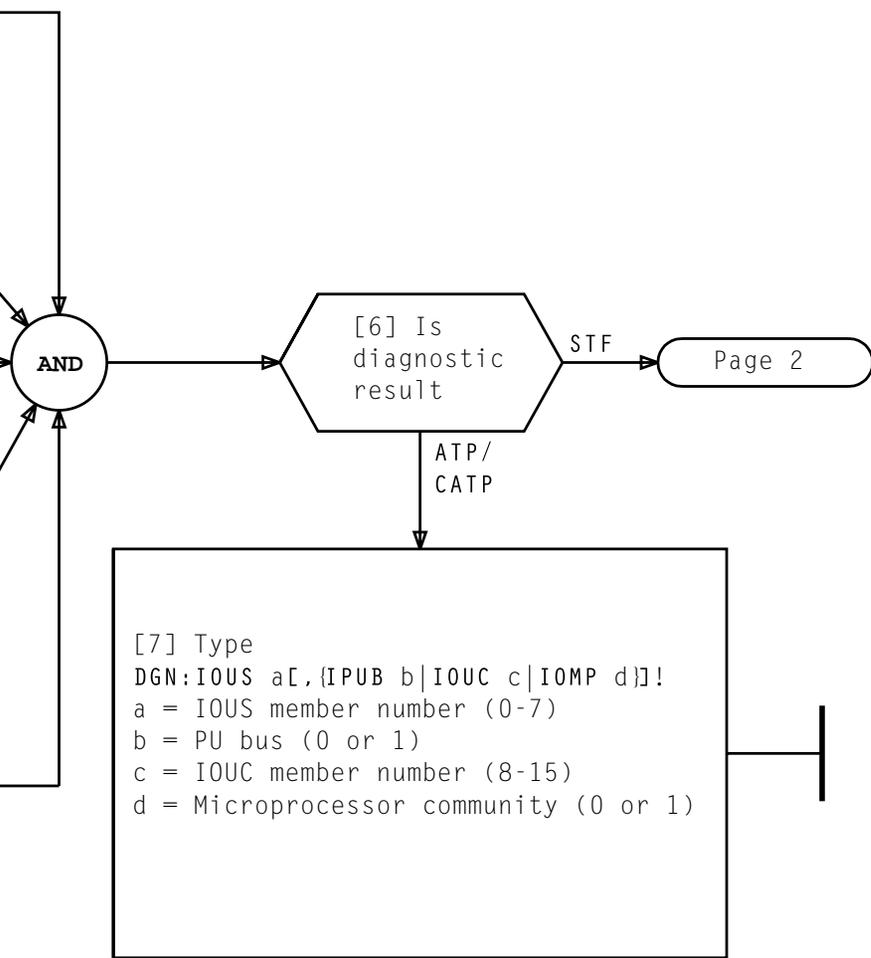
[1] Notify next higher maintenance organization before removing any channels from service and replacing any circuit packs

[2] At TTY, type
 RMV:IOUS a[, {IPUB b|IOUC c|IOMP d}]!
 a = IOUS member number (0-7)
 b = PU bus (0 or 1)
 c = IOUC member number (0-15)
 d = Microprocessor community (0 or 1)

[3] Identify most suspect circuit pack on TLP list

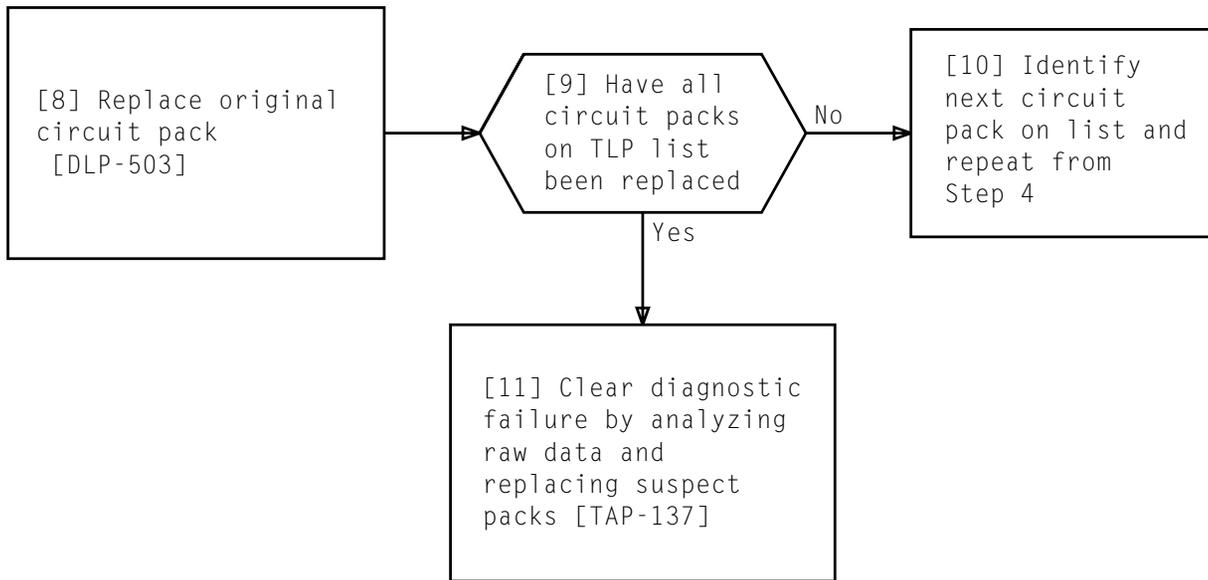
[4] Replace circuit pack [DLP-503]

[5] Type
 DGN:IOUS a[, {IPUB b|IOUC c|IOMP d}]:TLP!
 a = IOUS member number (0-7)
 b = PU bus (0 or 1)
 c = IOUC member number (0-15)
 d = Microprocessor community (0 or 1)



CLEAR DIAGNOSTIC FAILURE BY REPLACING PACKS ON TLP SUSPECTED FAULTY EQUIPMENT LIST

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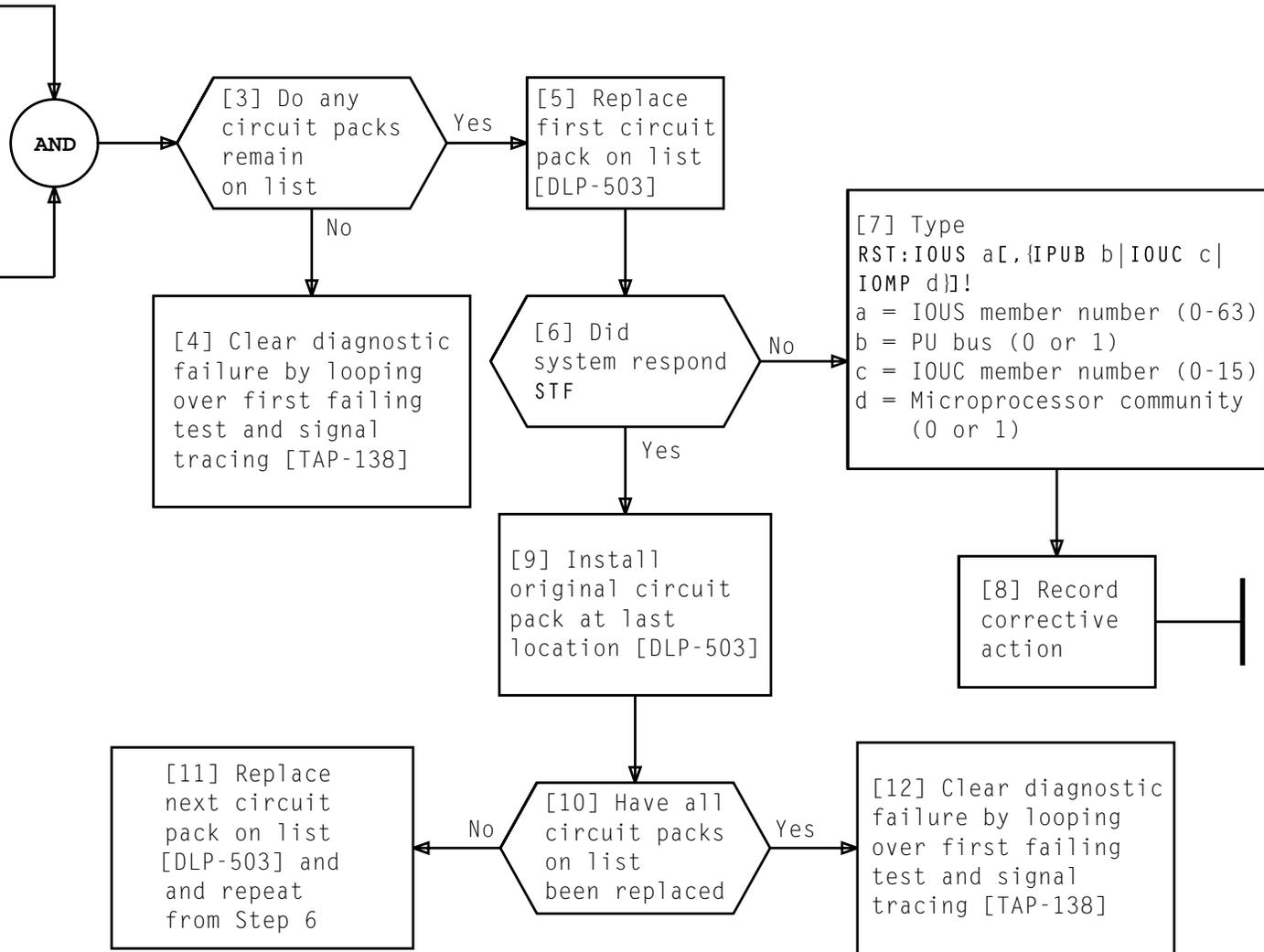


CLEAR DIAGNOSTIC FAILURE BY REPLACING PACKS ON TLP SUSPECTED FAULTY EQUIPMENT LIST

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[1] Identify list of circuit packs and locations using diagnostic information [DLP-504]

[2] Delete circuit packs from list which have previously been replaced



CLEAR DIAGNOSTIC FAILURE BY ANALYZING RAW DATA AND REPLACING SUSPECT PACKS

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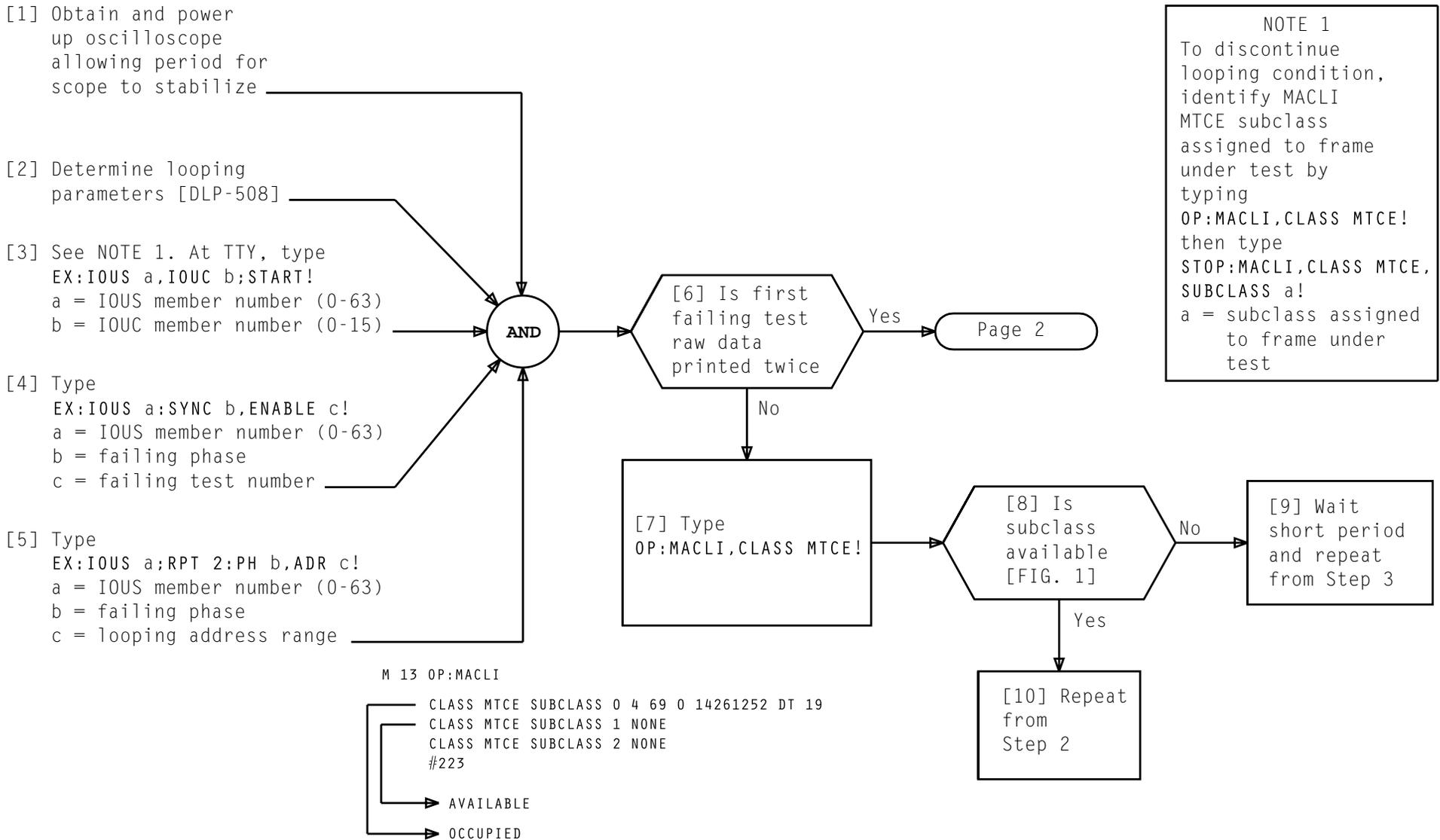


FIG. 1 - Example of Output Message Showing Status of MA CLI

CLEAR DIAGNOSTIC FAILURE BY LOOPING OVER FIRST FAILING TEST AND SIGNAL TRACING

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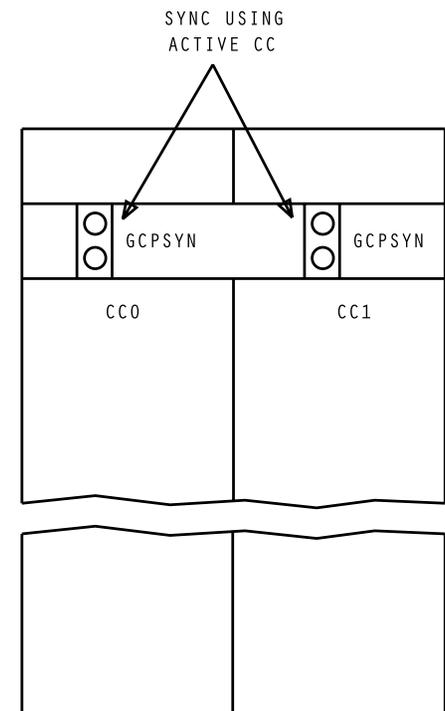
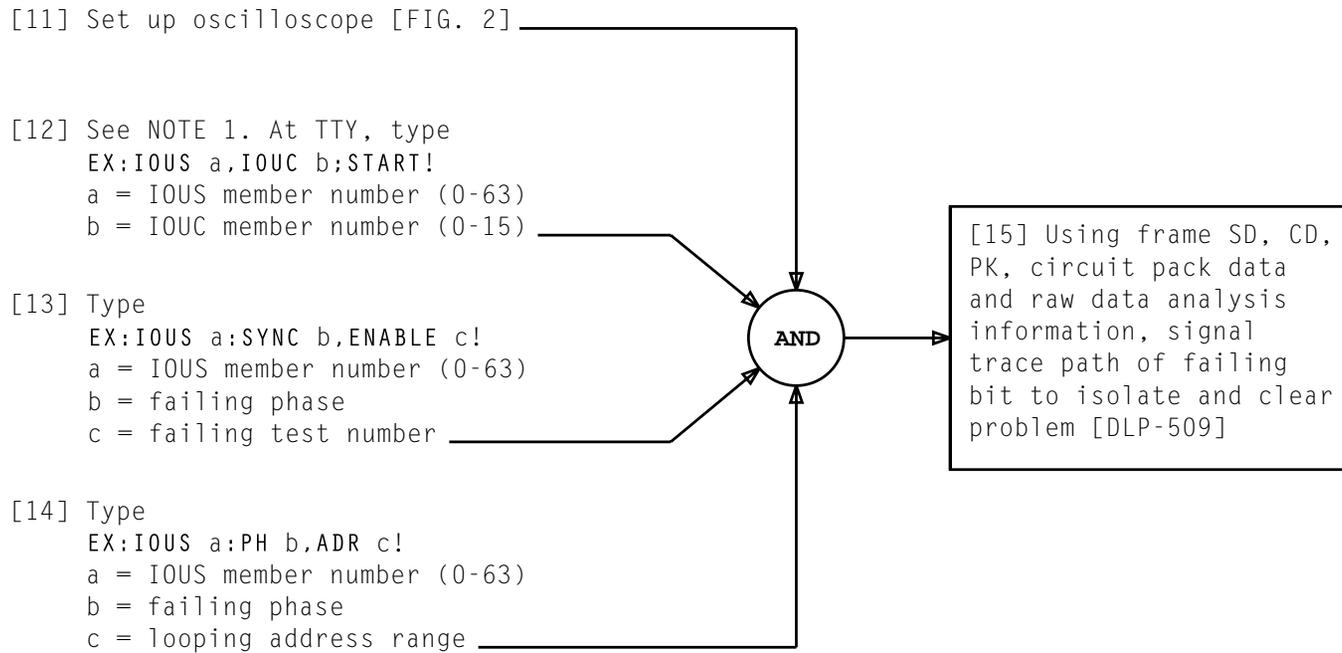


FIG. 2 - Rear View CC

CLEAR DIAGNOSTIC FAILURE BY LOOPING OVER FIRST FAILING TEST AND SIGNAL TRACING

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At power switch associated with blown fuse [TABLE A]:

[1] Rotate **ROS/OFF** switch clockwise to **ROS**

Alarms retire;
OFF NORM lamp lights

[2] Depress **ROS/OFF** switch

[3] Replace blown fuse

[4] Depress and hold **ON** pushbutton for 2 seconds

PWR OFF lamp goes off

At power switch associated with blown fuse [TABLE A]:

[7] Depress **ROS/OFF** switch

[8] Reseat **FC276** circuit pack associated with blown fuse [TABLE A]

[9] Replace blown fuse

[10] Depress and hold **ON** pushbutton for 2 seconds

PWR OFF lamp goes off

AND

[5] Did fuse blow

No

Yes

[6] Rotate **ROS/OFF** switch counterclockwise to normal position (**OS** and **OFF NORM** lamps go off)

AND

[11] Did fuse blow

No

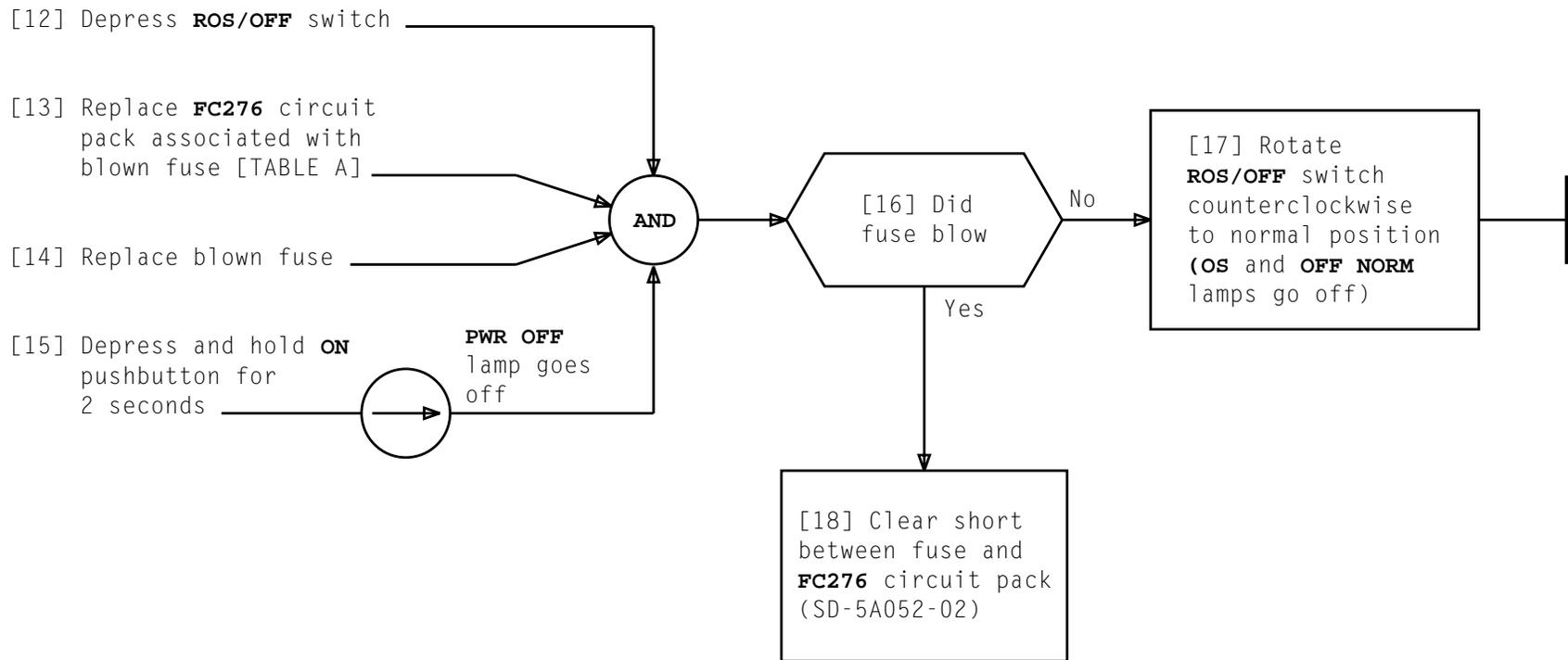
Yes

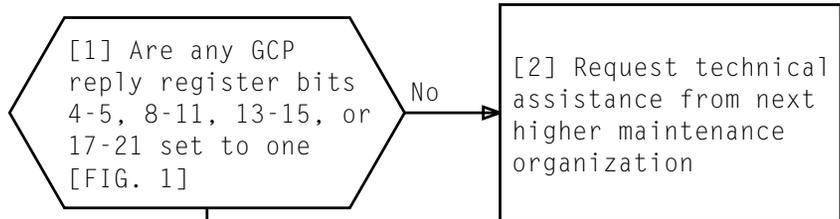
Page 2

TABLE A			
SWITCH/CIRCUIT PACK LOCATIONS			
FUSE	FUSE LOCATION	FC276 PACK LOCATION	POWER SWITCH LOCATION
24K(0)	72-11	72-17	80-13
24K(A)	72-13	72-20	40-23
24N(1)	71-11	72-23	76-13
24N(B)	71-13	72-26	70-23

CLEAR BLOWN FUSE, CENTRAL PULSE DISTRIBUTOR SCAN POINT INTERFACE UNIT (EXPANDED IOP)

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[3] See NOTES 1 and 2. Identify suspect pack vertical location [TABLE A] and horizontal location [TABLE B] associated with GCP reply register bits set to one

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REPT: F-LEVEL ...
PFLR...IOUS ...
DATA: F-LEVEL

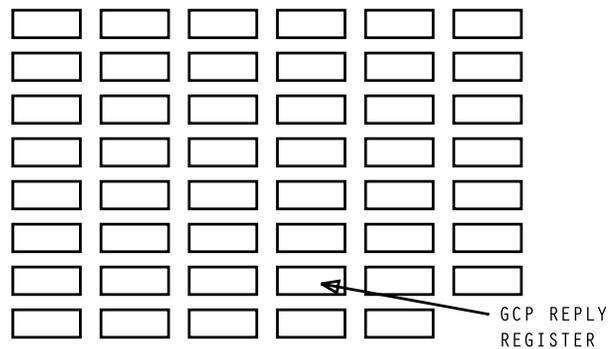


FIG. 1 - Part of Interrupt Printout

TABLE A		
IOUS	IOMP	FRAME VERTICAL LOCATION
0	0	62
	1	54
1	0	32
	1	24
2	0	62
	1	54
3	0	32
	1	24
4	0	62
	1	54
5	0	32
	1	24
6	0	62
	1	54
7	0	32
	1	24

TABLE B			
GCP REPLY REGISTER			
GCP BIT	SUSPECT EQUIPMENT		
	TYPE	HORIZONTAL LOCATION	COMMENTS
4,5	FG23	35	-
	FG41	24	-
	FG25	39	-
	136H	08	Power unit*
8,9	235A	02	Power unit
	FG41	24	-
10,11	FG44	28	May be FG87
	FG20	22	-
13,14	FG43	31	May be FG86
	FG44	28	May be FG87
15	FG22	26	-
	FG20	22	-
17	FG22	26	-
	FG44	28	May be FG87
18,19	FG22	26	-
	FG43	31	May be FG86
	FG44	28	May be FG87
20	FG42	33	May be FG85
	FG22	26	-
21	FG22	26	-
	FG42	33	May be FG85

* Even IOUS - Vert 68
Odd IOUS - Vert 44

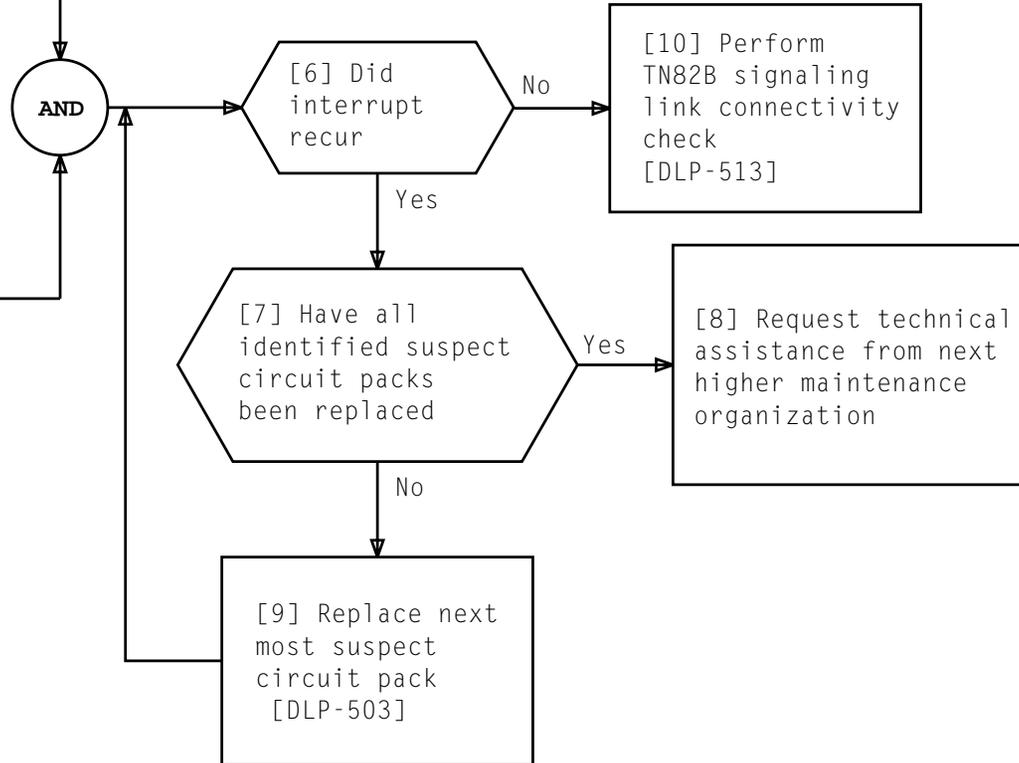
NOTES
1. If IOUS only is indicated, assume IOMP 0 for TABLE A use
2. IOUS number on printout is same as IOP number on power switch

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CLEAR PFLR F-LEVEL INTERRUPT, IOP FRAME (SD-5A052-02) EQUIPPED WITH 1A GROWTH UNIT (SD-4C049-01)

[4] Notify next higher maintenance organization before removing any channels from service and replacing any circuit packs

[5] Replace most suspect circuit pack on list [DLP-503]



CLEAR PFLR F-LEVEL INTERRUPT, IOP FRAME (SD-5A052-02) EQUIPPED WITH 1A GROWTH UNIT (SD-4C049-01)

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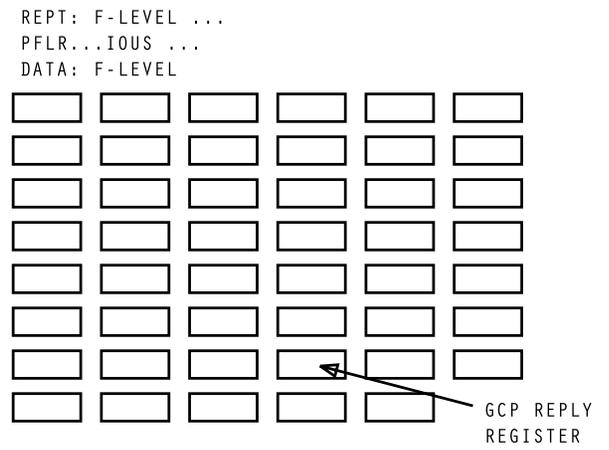
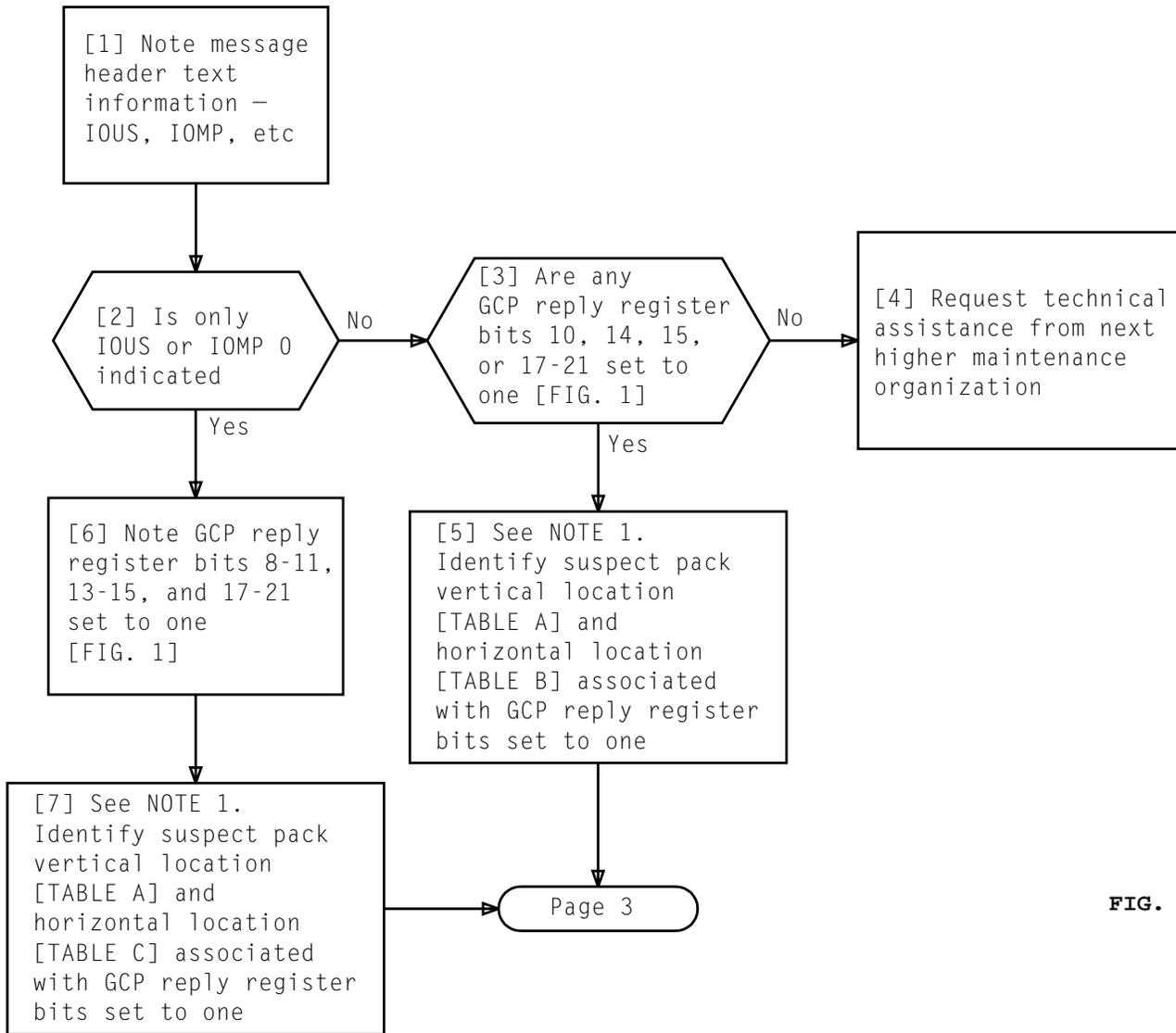


FIG. 1 - Example of Partial Interrupt Printout

NOTE 1
 IOUS number on printout is same as IOP number on power switch

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CLEAR PFLR F-LEVEL INTERRUPT, IOP FRAME (SD-5A052-02) EQUIPPED WITH 3B GROWTH UNIT (SD-4C049-02)

TABLE A		
I O U S	I O M P	VERTICAL LOCATION
0	0	62
	1	50
1	0	32
	1	20
2	0	62
	1	54
3	0	32
	1	24
4	0	62
	1	50
5	0	32
	1	20
6	0	62
	1	50
7	0	32
	1	20

TABLE B			
IOMP 1			
GCP BIT	SUSPECT PACK		
	TYPE	HORIZONTAL LOCATION	COMMENTS
10	UN60	056	—
	*(PC20)	108	These RC packs are not listed in order of fault probability
	*(PC21)	100	
	*(PC22)	092	
	*(PC23)	084	
	*(PC30)	048	
	*(PC31)	040	
	*(PC32)	032	
	*(PC33)	024	
14	FG87	28	At IOMP 0 vertical location
	FG22	26	
15	FG20	22	
	FG22	26	
17	FG87	28	
	FG22	26	
18,19	FG86	31	
	FG87	28	
	FG85	33	
20	FG22	26	
21	FG22	26	
	FG85	33	
* TN75, TN75B, TN75C, or TN82B (office dependent)			

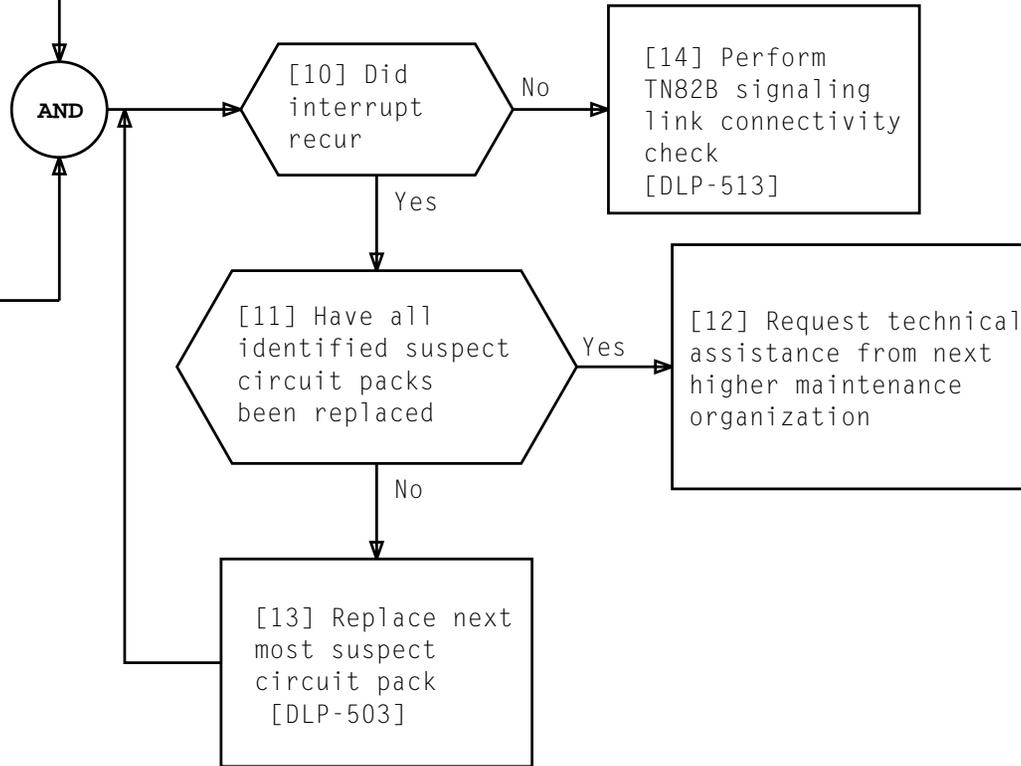
TABLE C		
IOMP 0		
GCP BIT	SUSPECT PACK	
	TYPE	HORIZONTAL LOCATION
8,9	FG41	24
	FG87	28
10,11	FG20	22
	FG86	31
13,14	FG87	28
	FG22	26
15	FG20	22
	FG22	26
17	FG87	28
	FG22	26
18,19	FG86	31
	FG87	28
	FG85	33
20	FG22	26
21	FG22	26
	FG85	33

CLEAR PFLR F-LEVEL INTERRUPT, IOP FRAME (SD-5A052-02) EQUIPPED WITH 3B GROWTH UNIT (SD-4C049-02)

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[8] Notify next higher maintenance organization before removing any channels from service and replacing any circuit packs

[9] Replace most suspect circuit pack
[DLP-503]



CLEAR PFLR F-LEVEL INTERRUPT, IOP FRAME (SD-5A052-02) EQUIPPED WITH 3B GROWTH UNIT (SD-4C049-02)

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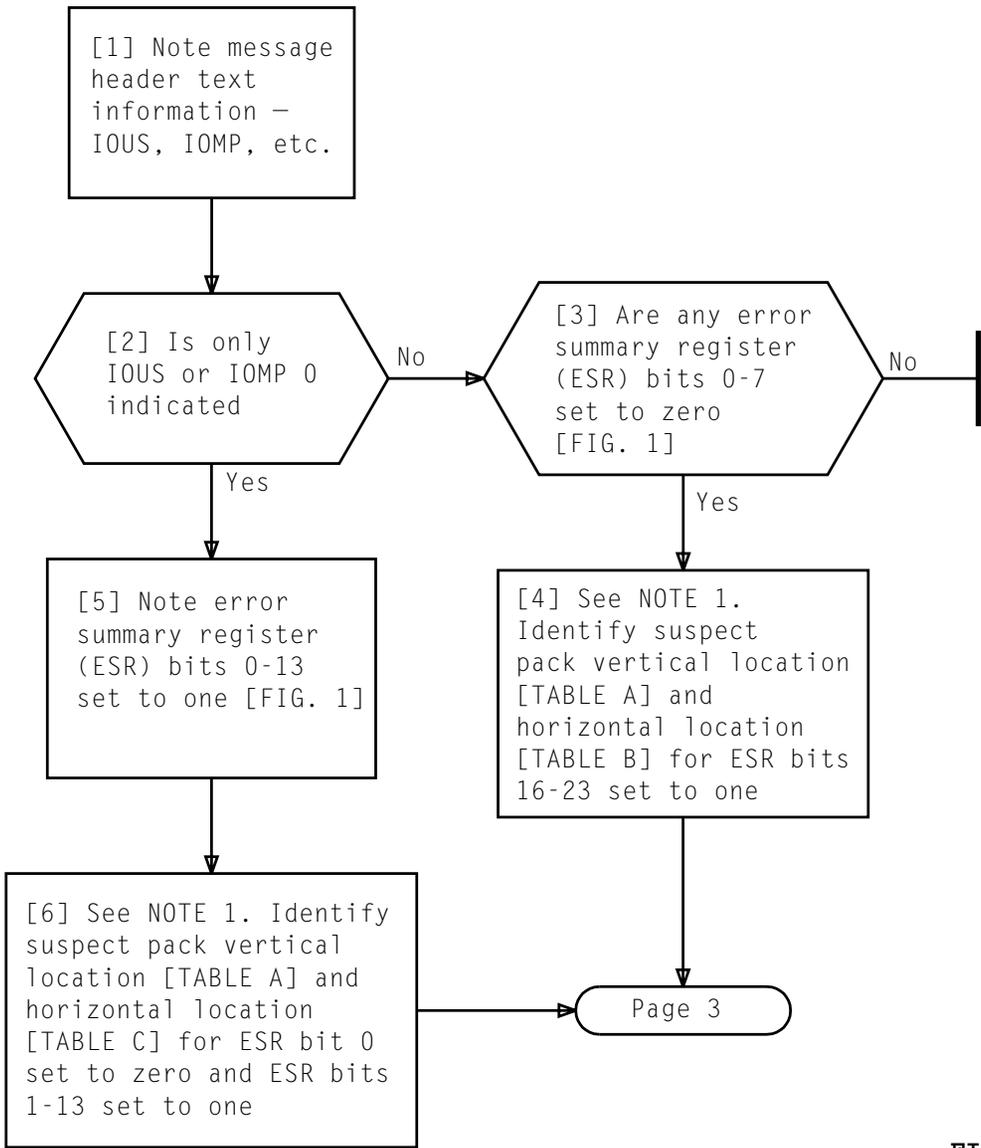


TABLE A		
I O U S	I O M P	VERTICAL LOCATION
0	0	62
	1	50
1	0	32
	1	20
2	0	62
	1	50
3	0	32
	1	20
4	0	62
	1	50
5	0	32
	1	20
6	0	62
	1	50
7	0	32
	1	20

TABLE B		
IOMP 1		
ESR BIT	SUSPECT PACK	
	TYPE	HORIZONTAL LOCATION
16	*(PC20)	108
	UN60	056
17	*(PC21)	100
	UN60	056
18	*(PC22)	092
	UN60	056
19	*(PC23)	084
	UN60	056
20	*(PC30)	048
	UN60	056
21	*(PC31)	040
	UN60	056
22	*(PC32)	032
	UN60	056
23	*(PC33)	024
	UN60	056

* TN75, TN75B, TN75C or TN82B (office dependent)

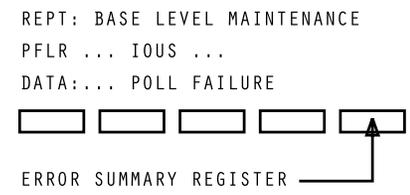


FIG. 1 - Example of Partial Base Level Interrupt Printout

NOTE 1
IOUS number on printout is same as IOP number on power switch

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CLEAR PFLR BASE LEVEL INTERRUPT POLL FAILURE, IOP FRAME (SD-5A052-02) EQUIPPED WITH 3B GROWTH UNIT (SD-4C049-02)

TABLE C					
IOMP 0					
ESR BIT		SUSPECT PACK			
POSITION	SET	TYPE	HORIZONTAL LOCATION	COMMENTS	
0	No	FG41	24	—	
1	Yes	FG41	24	Pin 5,6 bottom 400-ns square wave	
2	Yes	FG41	24	—	
3	Yes	FG21	18		
		FG41	24		
4	Yes	FG20	22		
		FG41	24		
		FG22	26		
5,6	Yes	FG41	24		
7	Yes	*	14		Line unit packs not listed in order of fault probability
		*	12P		
		*	11		
		*	09P		
		*	08		
		*	06P		
		*	05		
		*	03P		
8-13	Yes	FG86	31	—	
		FG87	28		
		FG22	26		
		FG23	35		
		FG85	33		

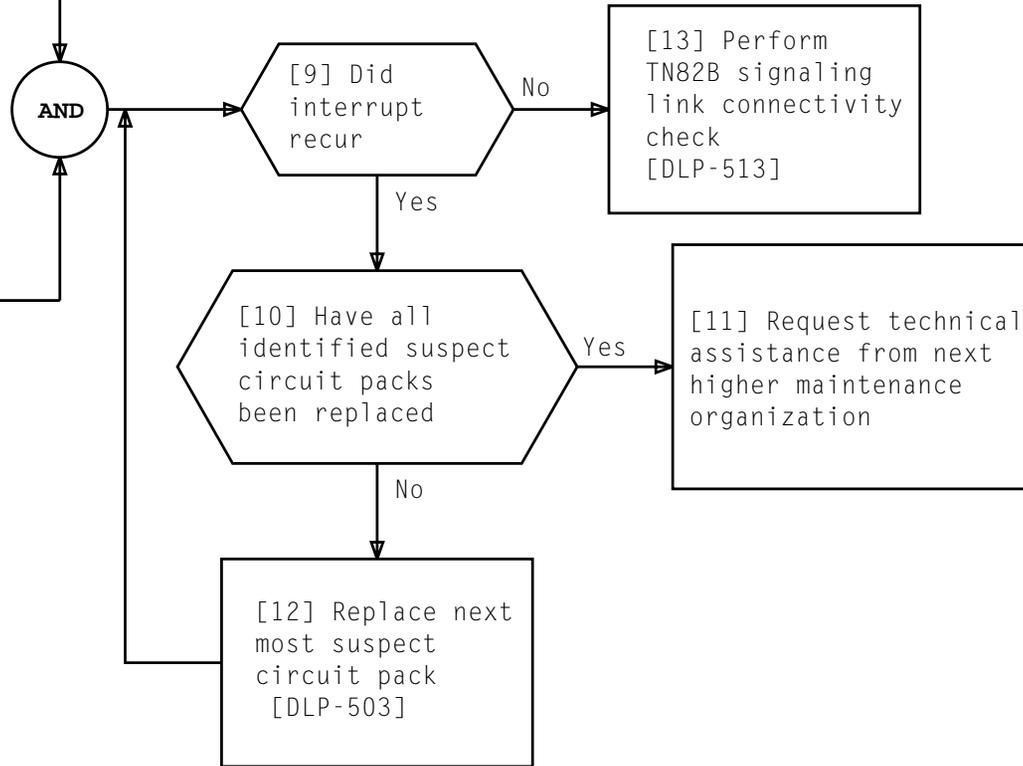
* FG19, FG26, or FG27

CLEAR PFLR BASE LEVEL INTERRUPT POLL FAILURE, IOP FRAME
(SD-5A052-02) EQUIPPED WITH 3B GROWTH UNIT (SD-4C049-02)

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[7] Notify next higher maintenance organization before removing any channels from service and replacing any circuit packs

[8] Replace most suspect circuit pack
[DLP-503]



**CLEAR PFLR BASE LEVEL INTERRUPT POLL FAILURE, IOP FRAME
(SD-5A052-02) EQUIPPED WITH 3B GROWTH UNIT (SD-4C049-02)**

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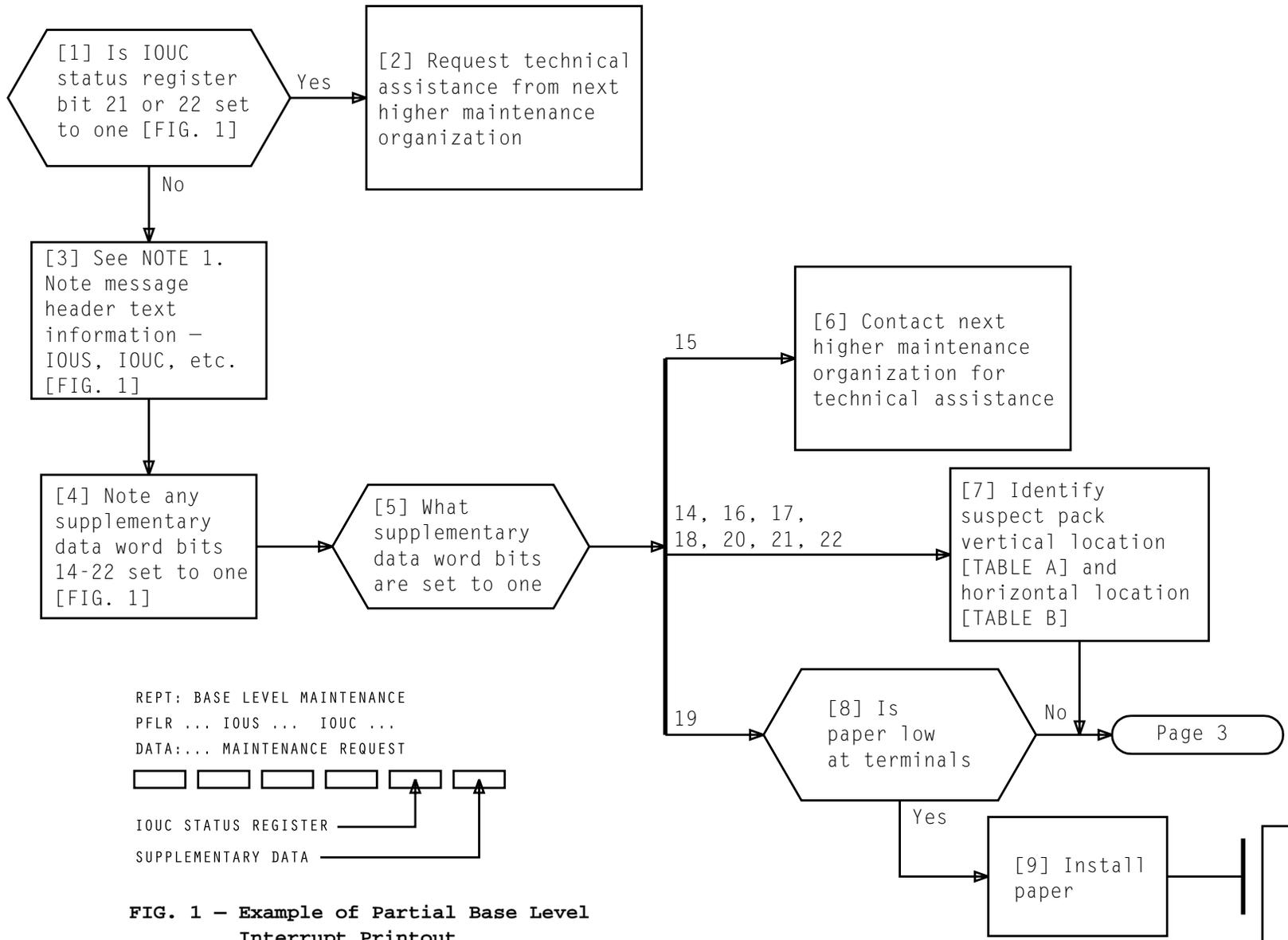


FIG. 1 - Example of Partial Base Level Interrupt Printout

NOTE 1 IOUS number on printout is same as IOP number on power switch	
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CLEAR PFLR BASE LEVEL INTERRUPT MTCE REQUEST, IOP FRAME (SD-5A052-02) EQUIPPED WITH 1A GROWTH UNIT (SD-4C049-01)

TABLE A		
IOUS	IOUC	FRAME VERTICAL LOCATION
0	0-7	62
	8-15	50
1	0-7	32
	8-15	20
2	0-7	62
	8-15	54
3	0-7	32
	8-15	24
4	0-7	62
	8-15	54
5	0-7	32
	8-15	24
6	0-7	62
	8-15	54
7	0-7	32
	8-15	24

TABLE B		
IOUC	SUSPECT PACK	
	TYPE	HORIZONTAL LOCATION
0, 8	*	14
1, 9	*	12P
2, 10	*	11
3, 11	*	09P
4, 12	*	08
5, 13	*	06P
6, 14	*	05
7, 15	*	03P
* FG19, FG26, or FG27		

TABLE C	
SUSPECT PACKS	
TYPE	HORIZONTAL LOCATION
FG20	22
FG41	24

CLEAR PFLR BASE LEVEL INTERRUPT MTCE REQUEST, IOP FRAME
(SD-5A052-02) EQUIPPED WITH 1A GROWTH UNIT (SD-4C049-01)

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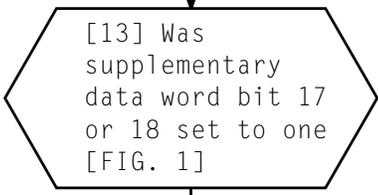
[10] Notify next higher maintenance organization before removing any channels from service and replacing any circuit packs

[11] Replace most suspect circuit pack [DLP-503]



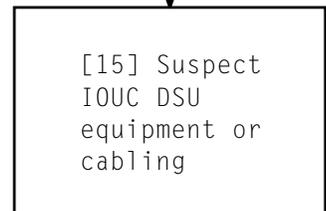
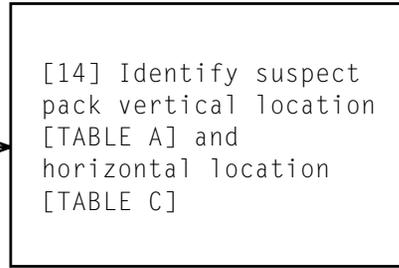
No

Yes



Yes

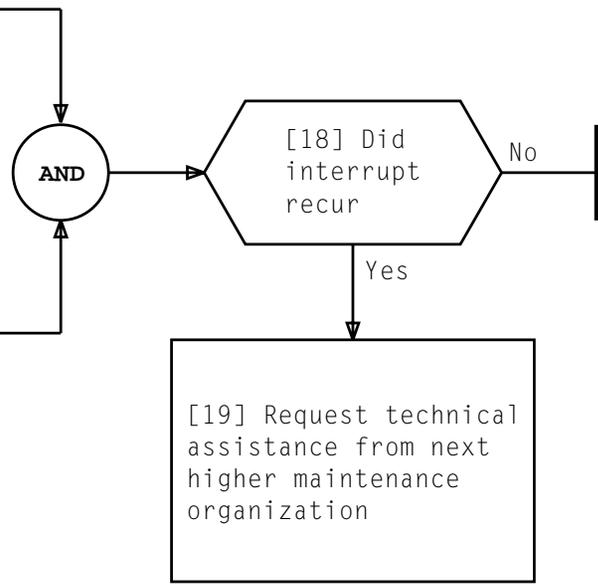
No



Page 4

[16] Notify next higher maintenance organization before removing any channels from service and replacing any circuit packs

[17] Replace suspect circuit pack [DLP-503]



CLEAR PFLR BASE LEVEL INTERRUPT MTCE REQUEST, IOP FRAME (SD-5A052-02) EQUIPPED WITH 1A GROWTH UNIT (SD-4C049-01)

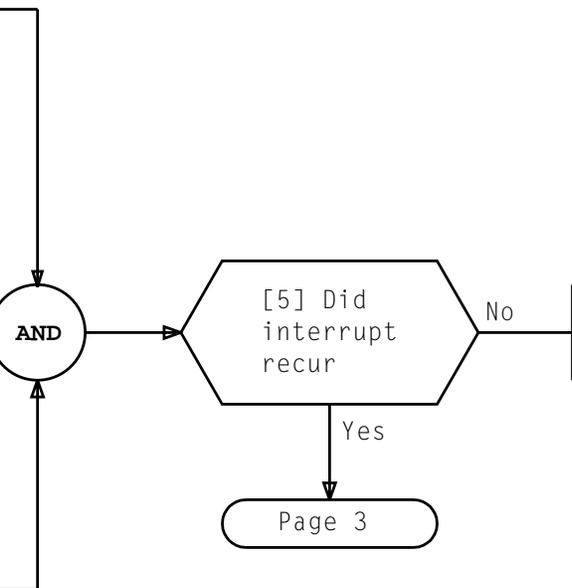
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[1] Identify error summary register (ESR) bits 0-13 set to one [FIG. 1]

[2] See NOTE 1. Identify suspect pack vertical location [TABLE A] and horizontal location [TABLE B] for ESR bit 0 set to zero and ESR bits 1-13 set to one

[3] Notify next higher maintenance organization before removing any channels from service and replacing any circuit packs

[4] Replace most suspect circuit pack [DLP-503]



REPT: BASE LEVEL MAINTENANCE
 PFLR ... IOUS ...
 DATA: ... POLL FAILURE
 [] [] [] [] []
 ERROR SUMMARY REGISTER ↑

FIG. 1 - Example of Partial Base Level Interrupt Printout

NOTE 1	
If IOUS only is indicated on printout, assume IOMP 0 for TABLE A use. IOUS number on printout is same as IOP number on power switch	
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CLEAR PFLR BASE LEVEL INTERRUPT POLL FAILURE, IOP FRAME (SD-5A052-02) EQUIPPED WITH 1A GROWTH UNIT (SD-4C049-01)

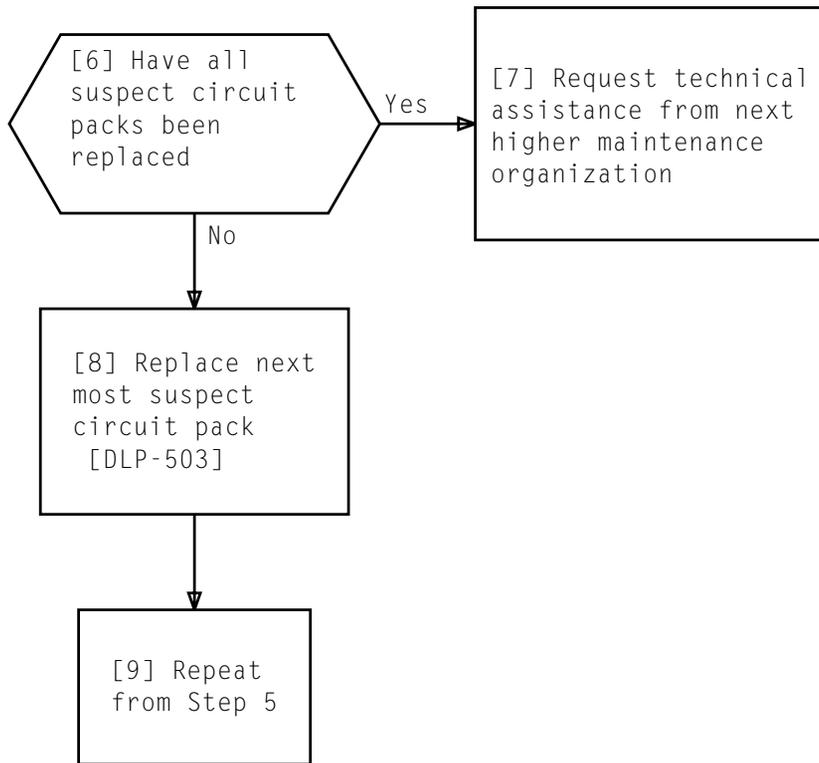
TABLE A		
I O U S	I O M P	FRAME VERTICAL LOCATION
0	0	62
	1	54
1	0	32
	1	24
2	0	62
	1	54
3	0	32
	1	24
4	0	62
	1	54
5	0	32
	1	24
6	0	62
	1	54
7	0	32
	1	24

TABLE B					
ESR BIT		SUSPECT PACK			
POSITION	SET	TYPE	HORIZONTAL LOCATION	COMMENTS	
0	No	FG41	24	-	
1	Yes	FG41	24	Pin 5, 6 bottom 400NS square wave	
2	Yes	FG41	24	-	
3	Yes	FG21	18		
		FG41	24		
4	Yes	FG20	22		
		FG41	24		
		FG22	26		
5,6	Yes	FG41	24		
7	Yes	*	14		Line unit packs not listed in order of fault probability
		*	12P		
		*	11		
		*	09P		
		*	08		
		*	06P		
		*	05		
		*	03P		
8-13	Yes	FG43	31	May be FG86	
		FG44	28	May be FG87	
		FG22	26	-	
		FG23	35		
		FG42	33	May be FG85	

* FG19, FG26, or FG27

CLEAR PFLR BASE LEVEL INTERRUPT POLL FAILURE, IOP FRAME
(SD-5A052-02) EQUIPPED WITH 1A GROWTH UNIT (SD-4C049-01)

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**CLEAR PFLR BASE LEVEL INTERRUPT POLL FAILURE, IOP FRAME
 (SD-5A052-02) EQUIPPED WITH 1A GROWTH UNIT (SD-4C049-01)**

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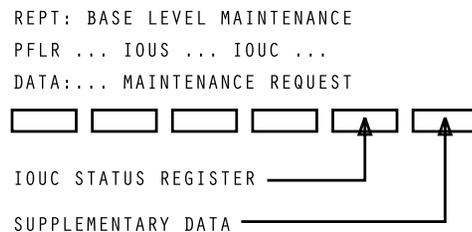
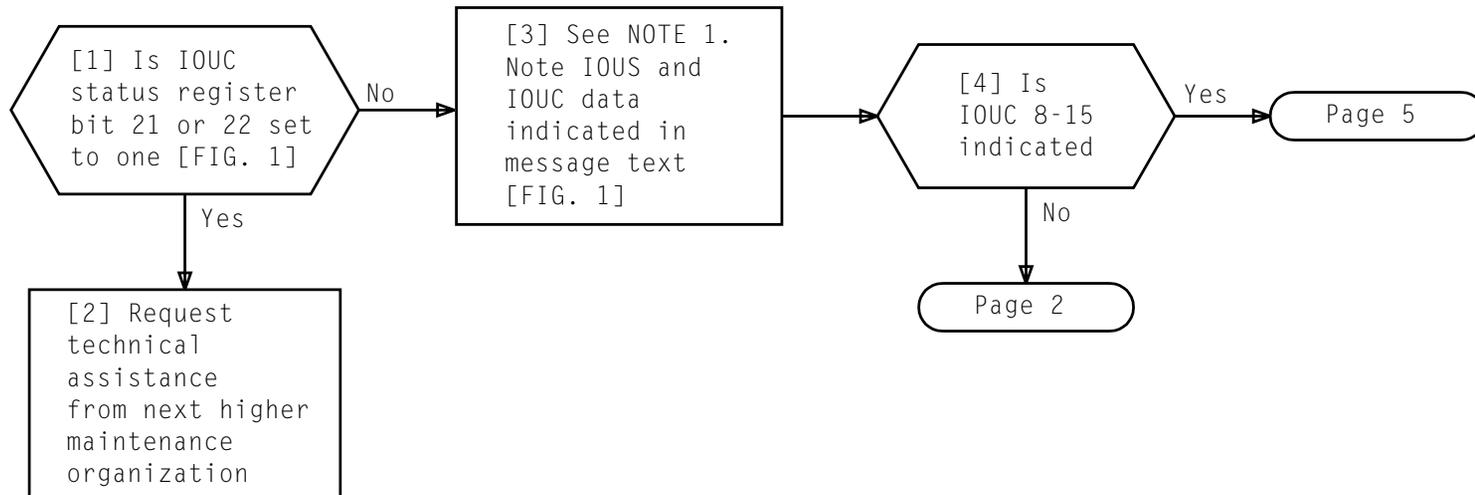
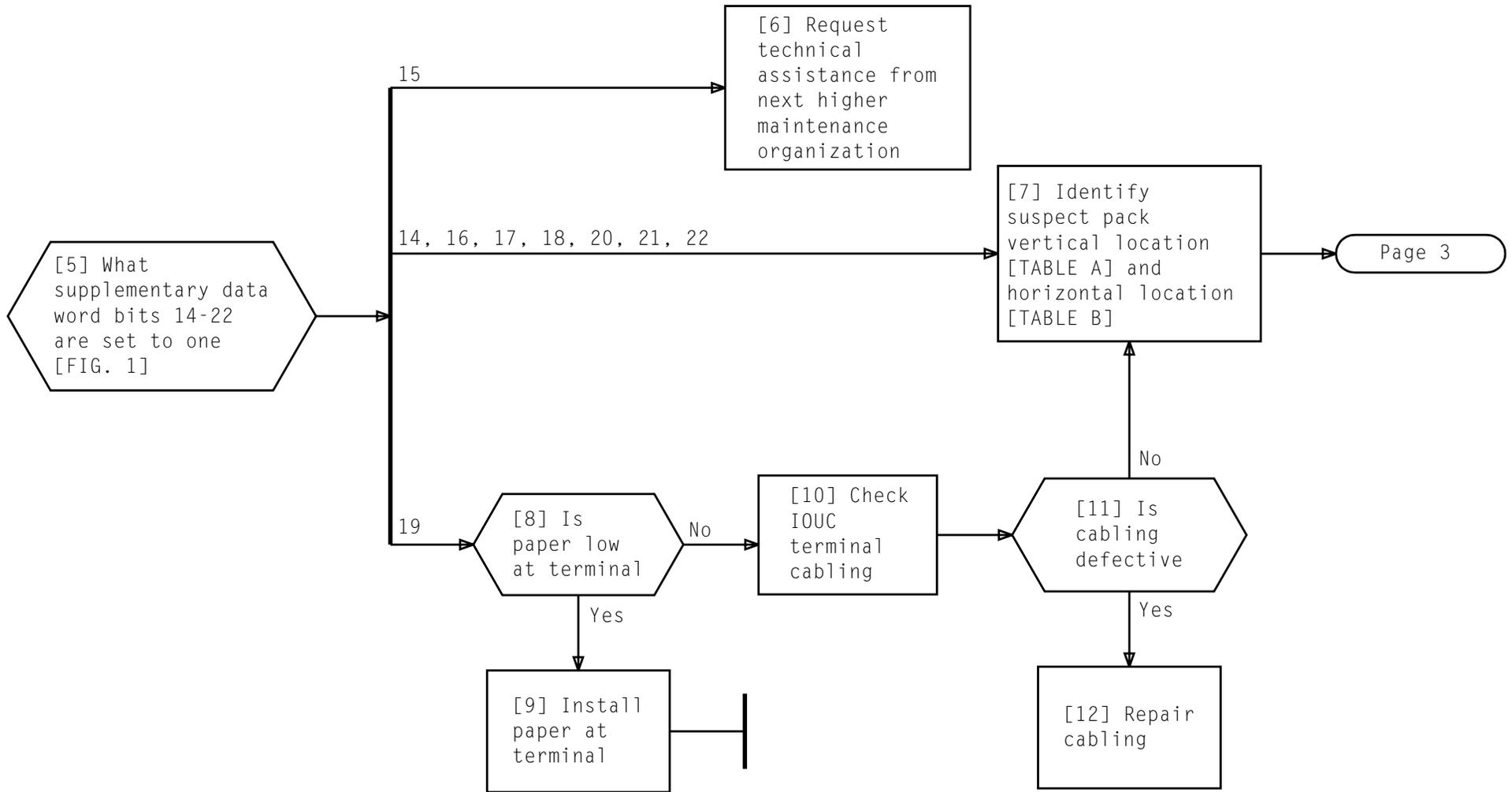


FIG. 1 - Example of Partial Base Level Interrupt Printout

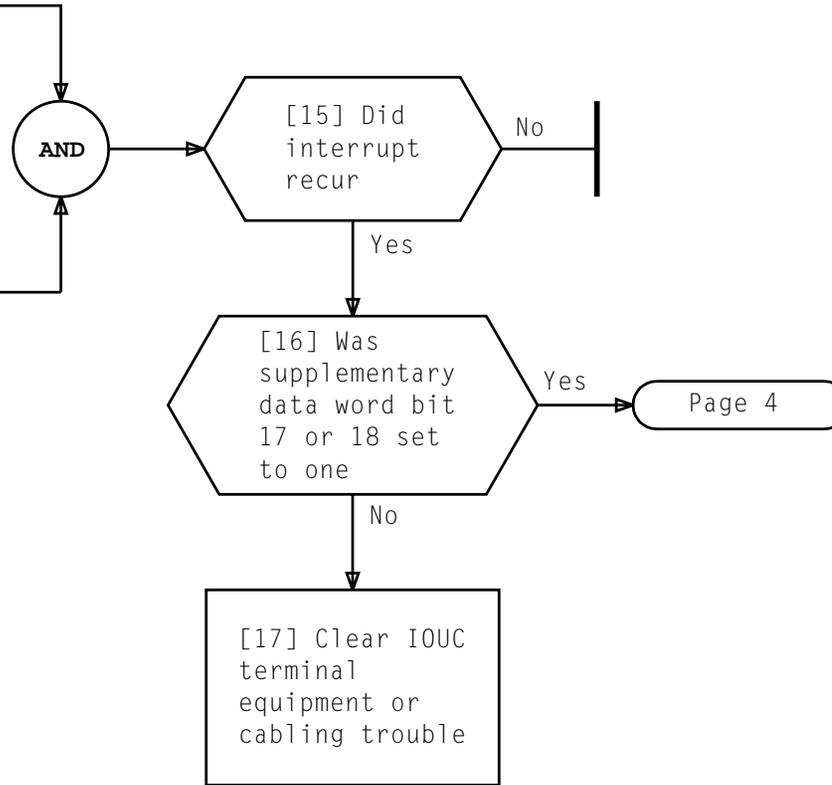
NOTE 1	
IOUS number on printout is same as IOP number on power switch	
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CLEAR PFLR BASE LEVEL INTERRUPT MTCE REQUEST, IOP FRAME (SD-5A052-02) EQUIPPED WITH 3B GROWTH UNIT (SD-4C049-02)



[13] Notify next higher maintenance organization before removing any channels from service and replacing any circuit packs

[14] Replace suspect circuit pack [DLP-503]



IOUCS	IOMP	VERTICAL LOCATION
0	0	62
	1	50
1	0	32
	1	20
2	0	62
	1	50
3	0	32
	1	20
4	0	62
	1	50
5	0	32
	1	20
6	0	62
	1	50
7	0	32
	1	20

IOUC	SUSPECT PACK	
	TYPE	HORIZONTAL LOCATION
0	*	14
1	*	12P
2	*	11
3	*	09P
4	*	08
5	*	06P
6	*	05
7	*	03P

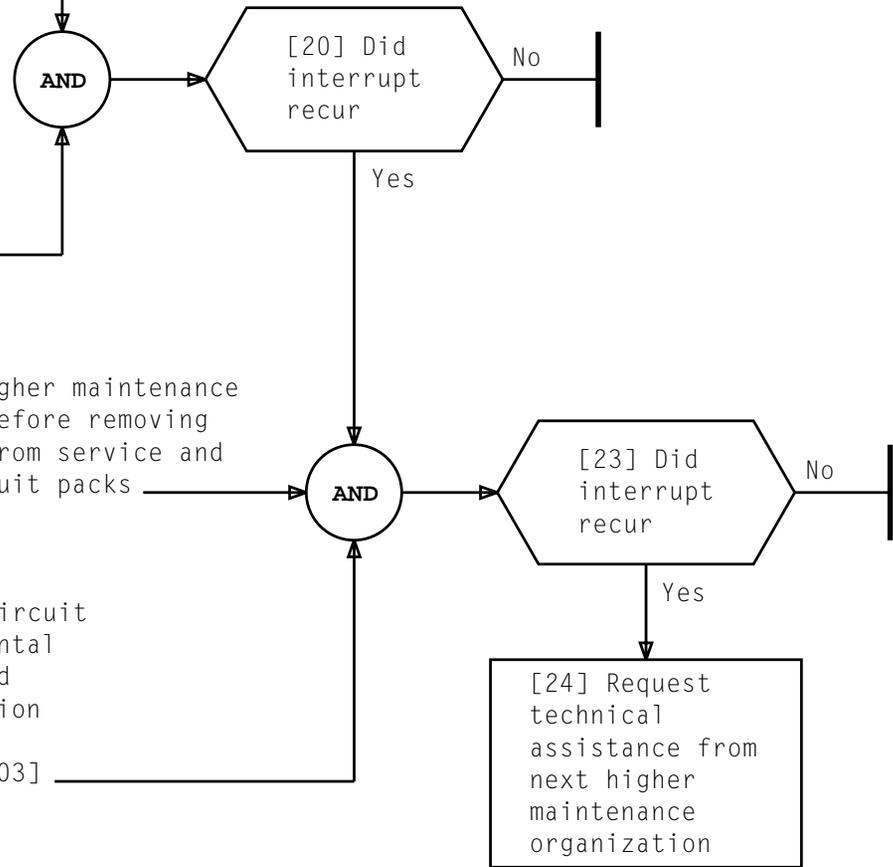
* FG19, FG26, or FG27

[18] Notify next higher maintenance organization before removing any channels from service and replacing circuit packs

[19] Replace **FG20** circuit pack at horizontal location 22 and vertical location identified in TABLE A [DLP-503]

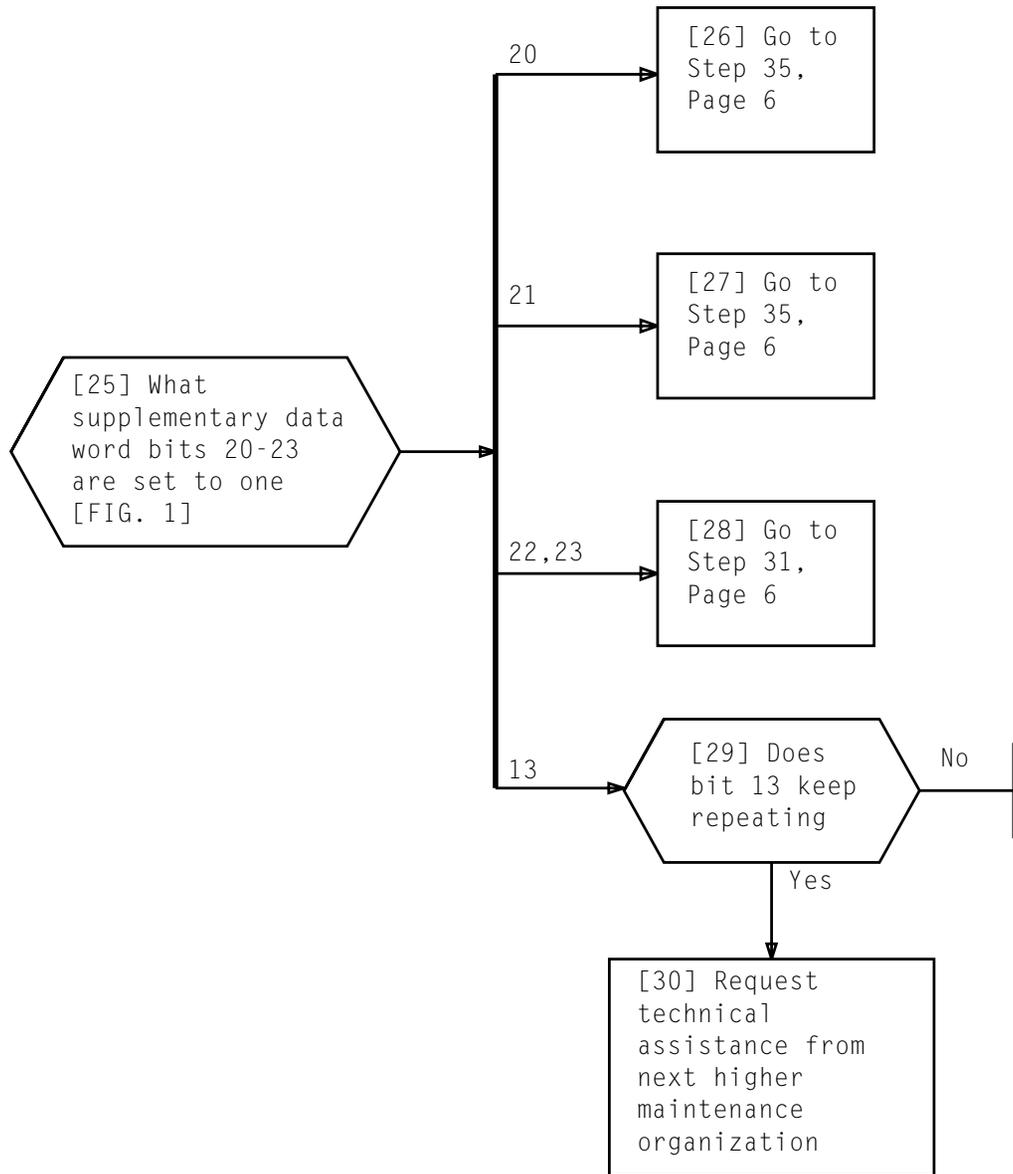
[21] Notify next higher maintenance organization before removing any channels from service and replacing circuit packs

[22] Replace **FG41** circuit pack at horizontal location 24 and vertical location identified in TABLE A [DLP-503]



CLEAR PFLR BASE LEVEL INTERRUPT MTCE REQUEST, IOP FRAME (SD-5A052-02) EQUIPPED WITH 3B GROWTH UNIT (SD-4C049-02)

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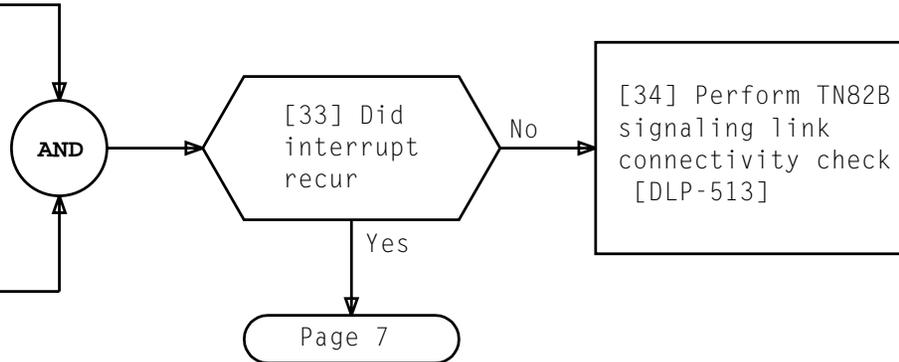


**CLEAR PFLR BASE LEVEL INTERRUPT MTCE REQUEST, IOP FRAME
(SD-5A052-02) EQUIPPED WITH 3B GROWTH UNIT (SD-4C049-02)**

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[31] Notify next higher maintenance organization before removing any channels from service and replacing any circuit packs

[32] Replace suspect circuit pack [DLP-503]



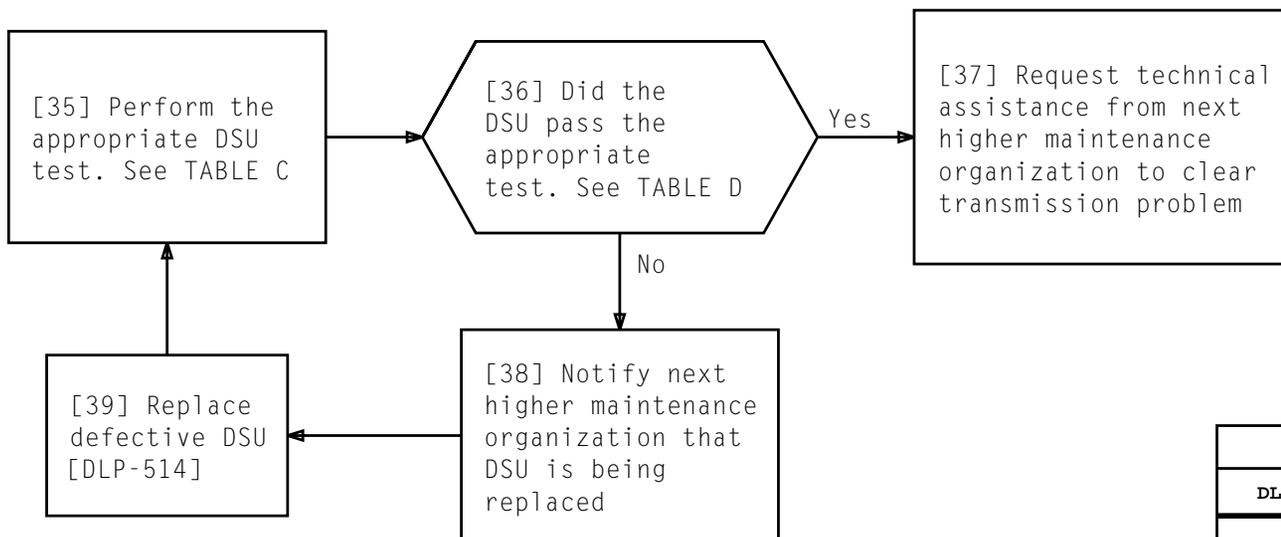


TABLE C	
TO PERFORM TEST	GO TO
Perform Local Loopback Test to check the Local DSU	DLP-510
Perform Local Device Testing to check Local cabling	DLP-511
Perform Digital Loopback to Test Remote DSU and Cabling	DLP-512

TABLE D	
DLP USED	APPROPRIATE TEST RUN
DLP-510	This DLP tests the Local DSU in a Self-Test Mode. The DSU either passes or fails the test
DLP-511	This DLP helps determine if the Local DSU and the TN82B cabling are good. Transmitted and received messages at the Local DTE must match
DLP-512	This DLP determines if local and remote DSUs and transmission between them are good. FAILED indicator flashes if bit errors are being detected

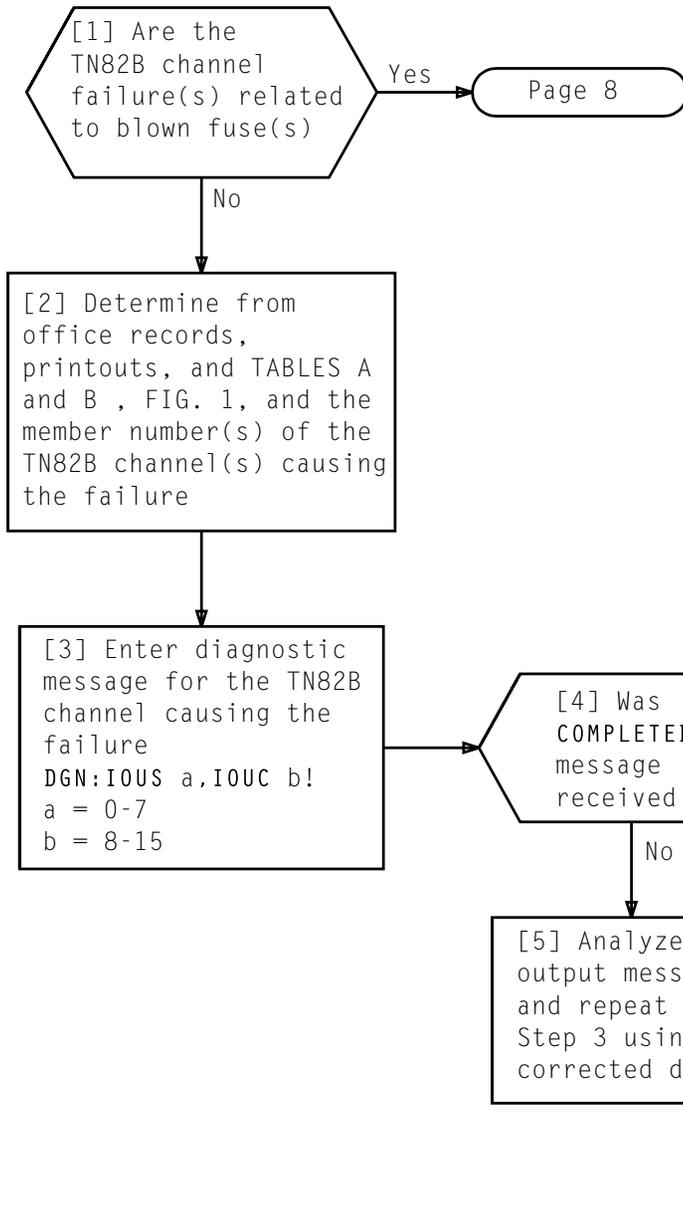


TABLE A

TN82B CIRCUIT PACK PC DESIGNATION, IOUC, AND ASTN CHANNELS (IOMP a, IOUS x)				TN82B CIRCUIT PACK LOCATION	DIGITAL FACILITY ACCESS DSU LOCATION	
TN82B PC DESG.	TN82B IOUC MEM NO.	ASTN CHANNEL NO.	ASTN LINK NO.		DFA 0	DFA 1
PC22	10	90	6	50/20 - 092	-	2
PC23	11	86	2	50/20 - 084	-	1
PC32	14	88	4	50/20 - 032	2	-
PC33	15	84	0	50/20 - 024	1	-

TABLE B

TN82B CIRCUIT PACK PC DESIGNATION, IOUC, AND ASTN CHANNELS (IOMP a, IOUS x)				TN82B CIRCUIT PACK LOCATION	DIGITAL FACILITY ACCESS DSU LOCATION	
TN82B PC DESG.	TN82B IOUC MEM NO.	ASTN CHANNEL NO.	ASTN LINK NO.		DFA 0	DFA 1
PC22	10	91	7	50/20 - 092	10	-
PC23	11	87	3	50/20 - 084	9	-
PC32	14	89	5	50/20 - 032	-	10
PC33	15	85	1	50/20 - 024	-	9

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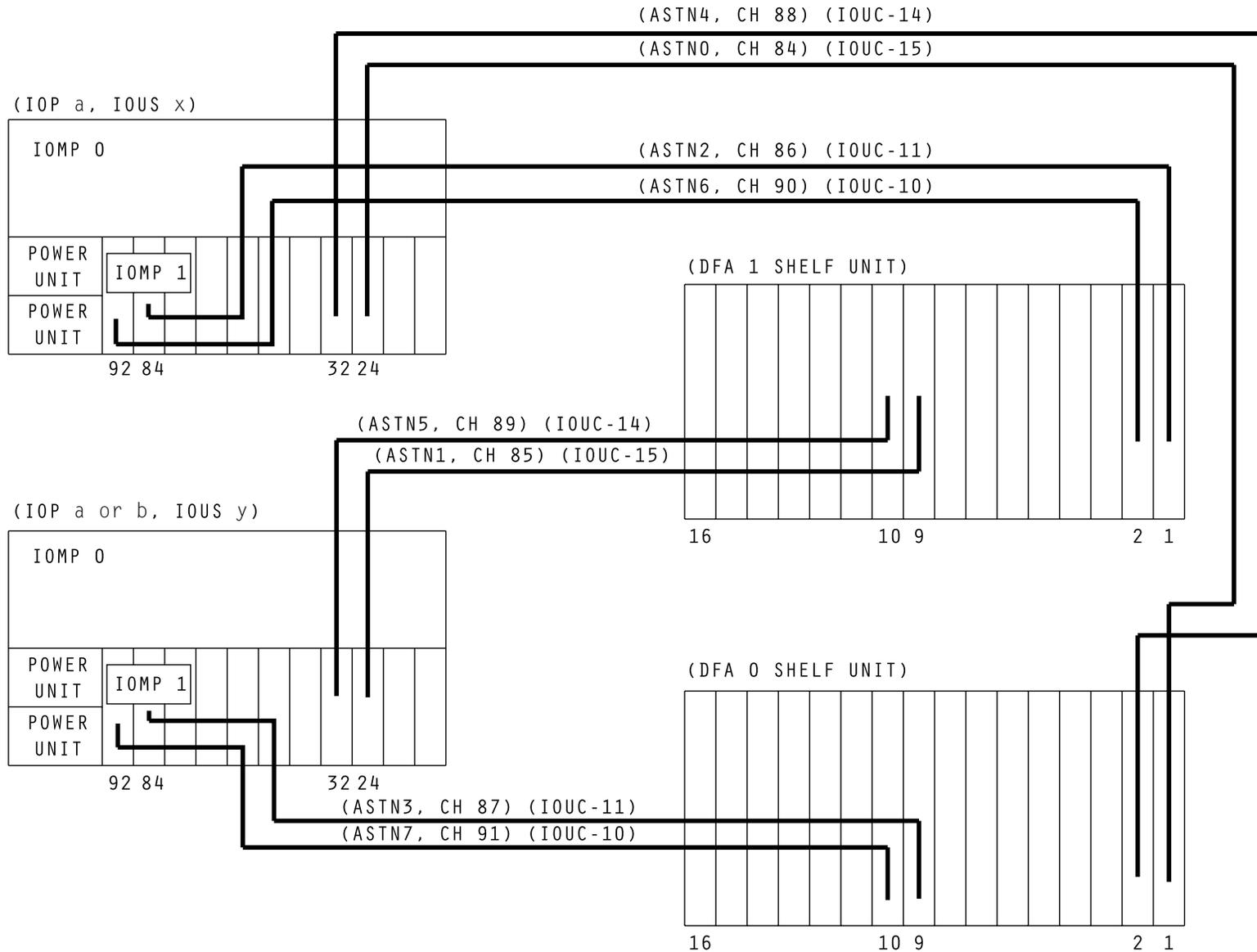
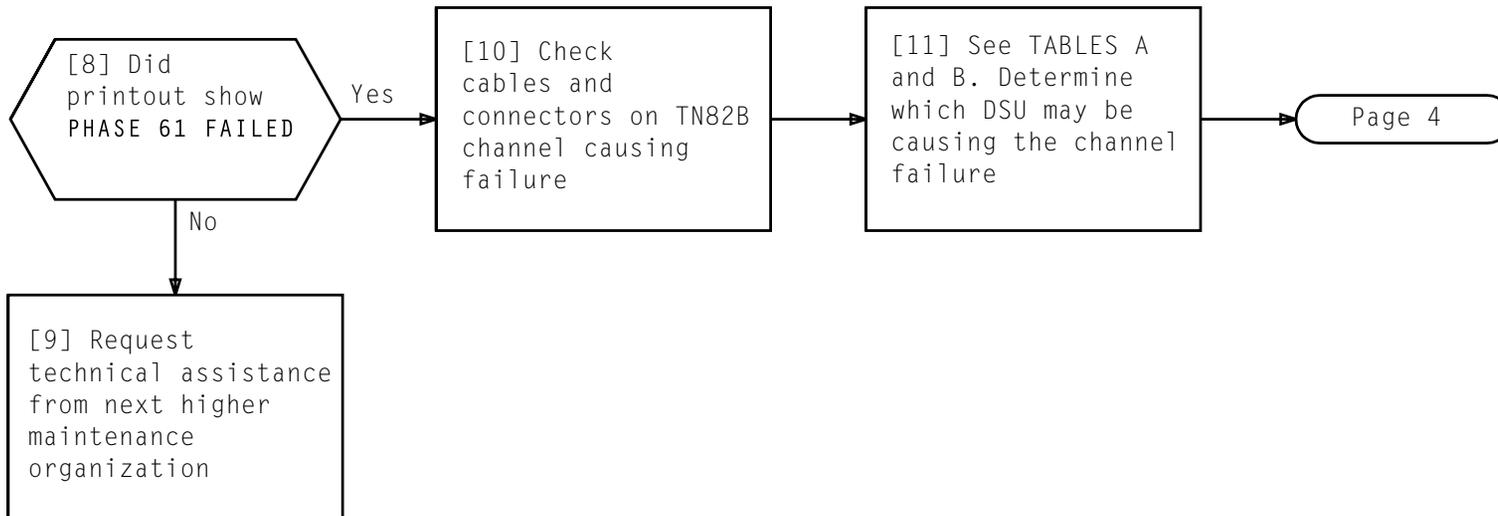


FIG. 1 - ASTN Channel Connections Assignments From IOMP To DFA (Rear View)

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CLEAR TN82B CIRCUIT PACK OR DSU CHANNEL FAILURE

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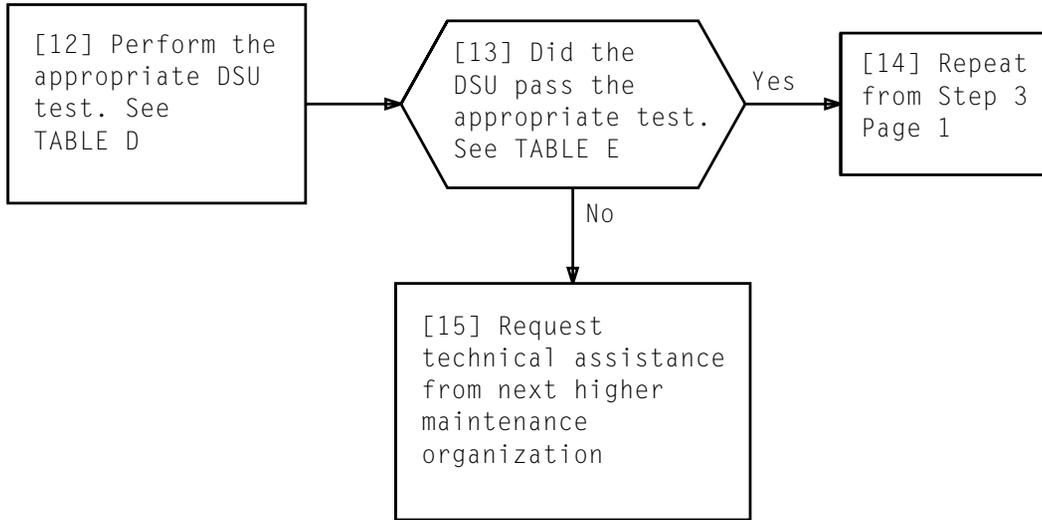
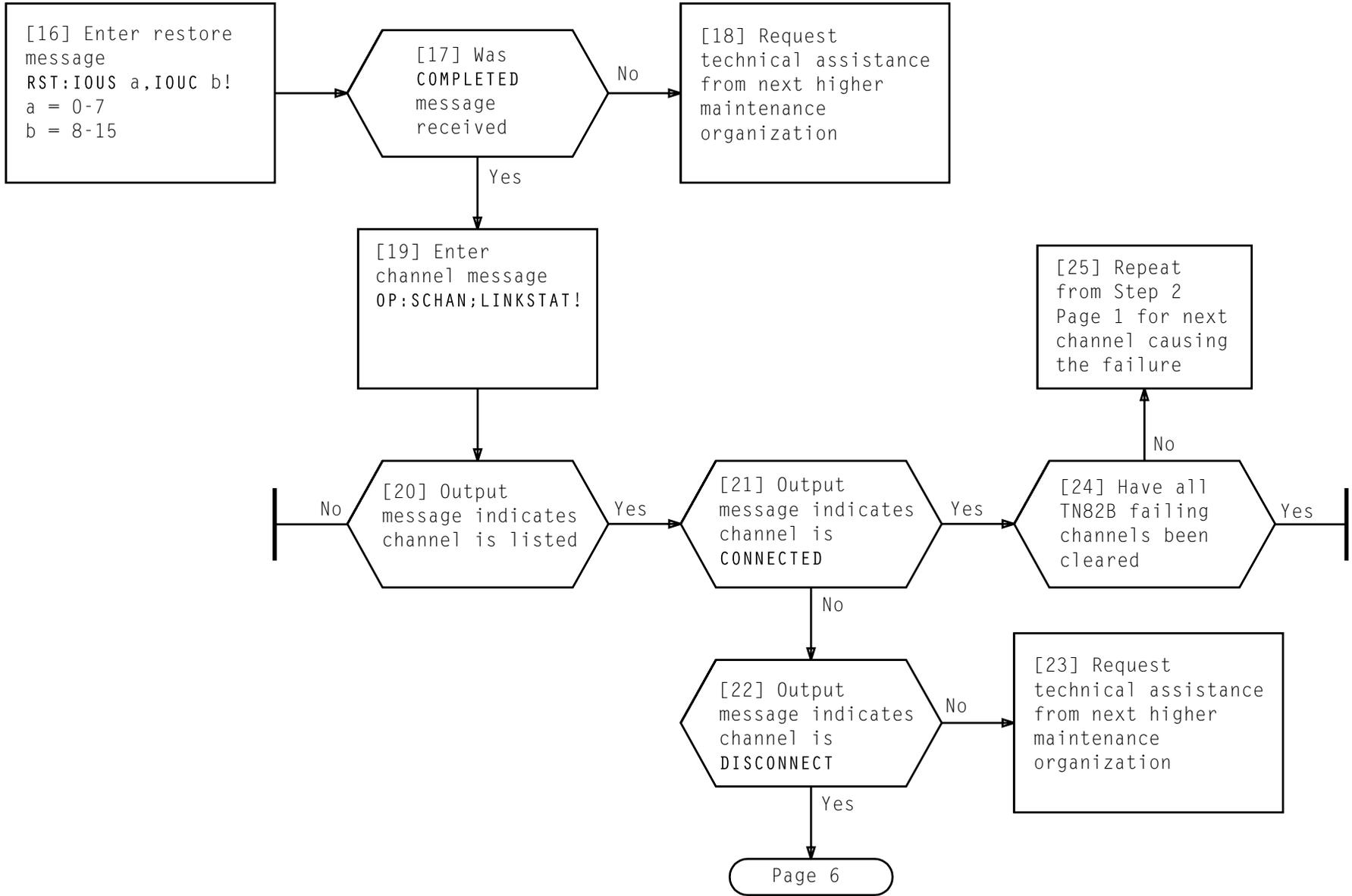


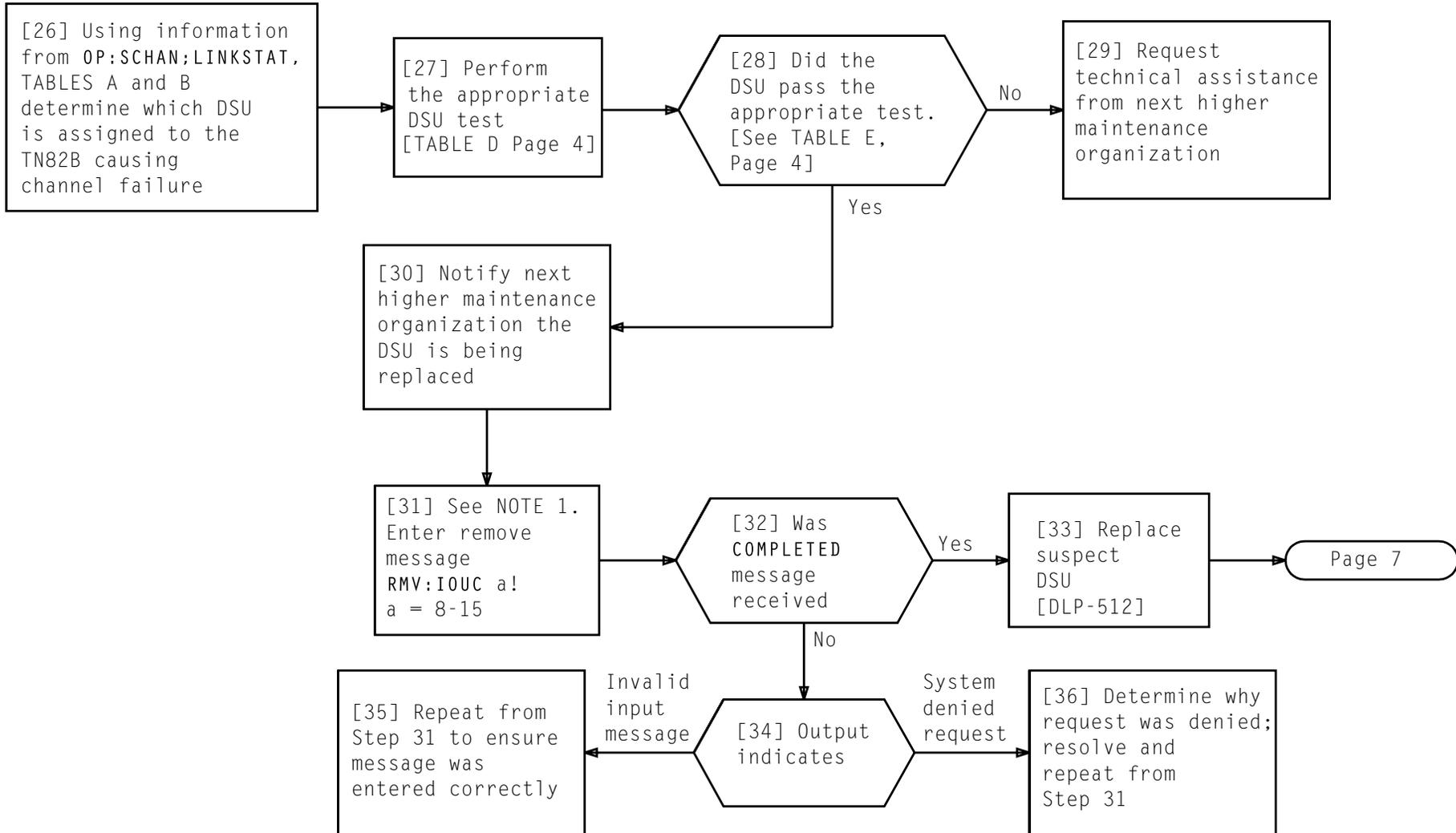
TABLE D	
TO PERFORM TEST	GO TO
Perform local Loopback Test to check the Local DSU	DLP-510
Perform Local Device Testing to check Local Cabling	DLP-511
Perform Digital Loopback to Test Remote DSU and Cabling	DLP-512

TABLE E	
DLP USED	APPROPRIATE TEST RUN
DLP-510	This DLP tests the Local DSU in a Self-Test Mode. The DSU either Passes or Fails the test
DLP-511	This DLP helps determine if the Local DSU and the TN82B Cabling are good. Transmitted and Received messages at the Local DTE must match
DLP-512	This DLP determines if local and remote DSUs and transmission between them are good. FAILED indicator flashes if bit errors are being detected



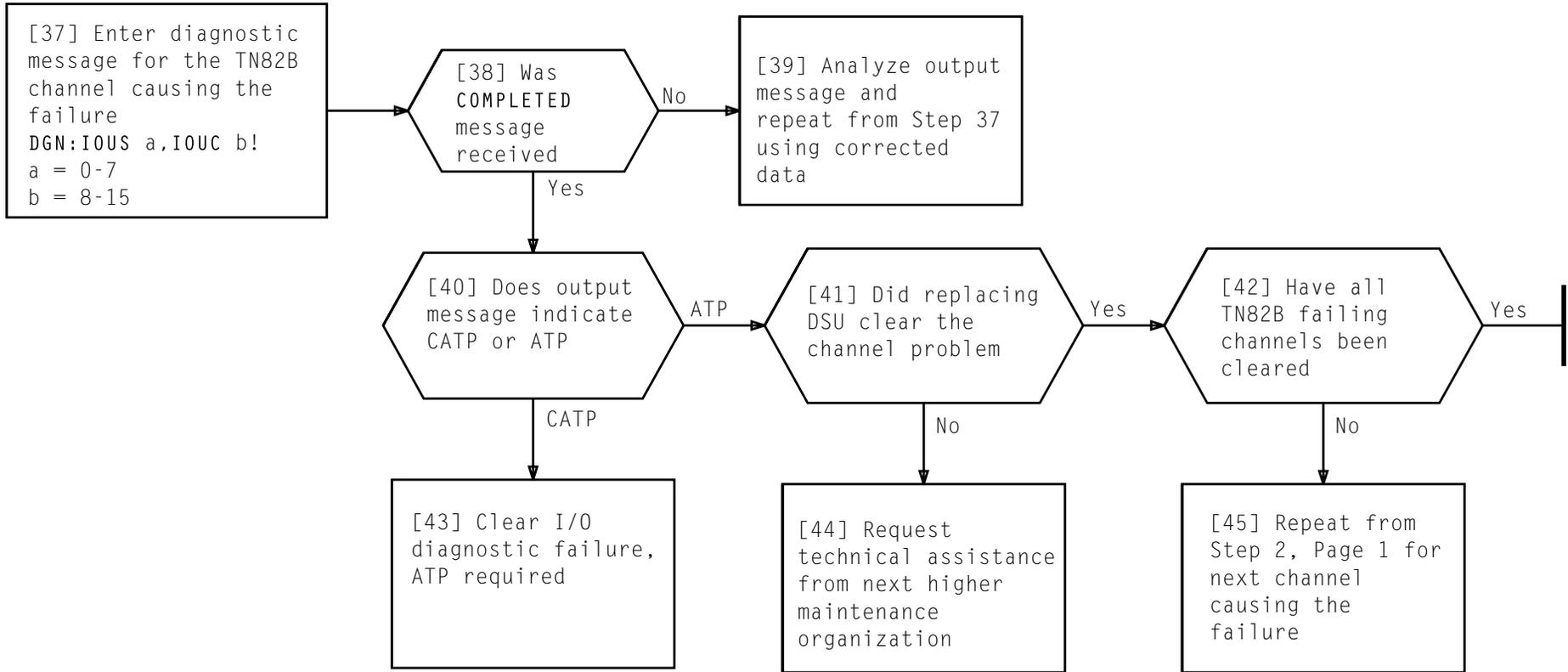
CLEAR TN82B CIRCUIT PACK OR DSU CHANNEL FAILURE

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NOTE 1
 DSU replacement will cause a TN82B failure diagnostics

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CLEAR TN82B CIRCUIT PACK OR DSU CHANNEL FAILURE

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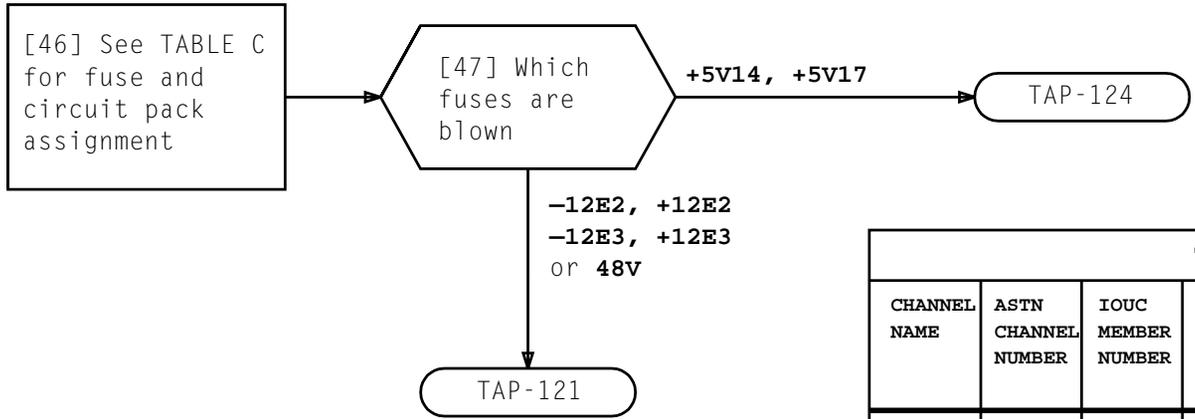


TABLE C

CHANNEL NAME	ASTN CHANNEL NUMBER	IOUC MEMBER NUMBER	TN82B CIRCUIT PACK LOC.	FUSE DESG.	FUSE DESG.	FUSE DESG.
ASTN0	84	15	024	-12E3	-48VF	+5V17
ASTN1	85	15	024	+12E3		+5V17I
ASTN2	86	11	084	-12E2	-48VE	+5V14
ASTN3	87	11	084	+12E2		+5V14I
ASTN4	88	14	032	-12E3	-48VF	+5V17
ASTN5	89	14	032	+12E3		+5V17I
ASTN6	90	10	092	-12E2	-48VE	+5V14
ASTN7	91	10	092	+12E2		+5V14I

CLEAR TN82B CIRCUIT PACK OR DSU CHANNEL FAILURE

[1] At TTY, type
 RMV:IOUS a [{IPUB b|IOMP c}]!
 a = IOUS member number (0-63)
 b = PU bus (0 or 1)
 c = Microprocessor community (0 or 1)

System responds
 RMV:IOUS a [{IPUB b|IOMP c}]COMPLETED

[2] At power switch, rotate **ROS/OFF**
 switch clockwise to **ROS**

OS and **OFF NORM** lamps light

PWR OFF
 lamp lights

[3] Depress **ROS/OFF** switch

[4] Remove power switch fuses [TABLE A]

[5] Cover apparatus below switch with drop cloth

[6] See NOTE 1. Tag and remove frame wiring
 from switch terminals

[7] Remove four mounting screws and
 withdraw switch from front of frame

Defective
 switch
 removed



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NOTE 1	
Do not remove surface wiring on switch terminals. It will be used as guide to surface wire replacement switch	
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REPLACE POWER SWITCH

[8] Install surface wire on replacement switch in same manner as on defective switch _____

[9] At front of frame, install replacement switch using screws removed _____

[10] Reconnect frame leads to switch terminals and install pigtail components as required _____

[11] Replace fuses removed [TABLE A] _____

[12] Depress and hold **ON** pushbutton for 2 seconds _____

[13] Rotate **ROS/OFF** switch counterclockwise to normal position _____

[14] At TTY, type **RST:IOUS a [(IPUB b|IOMP c)]!**

a = IOUS member number (0-63)

b = PU bus (0 or 1)

c = Microprocessor community (0 or 1) _____

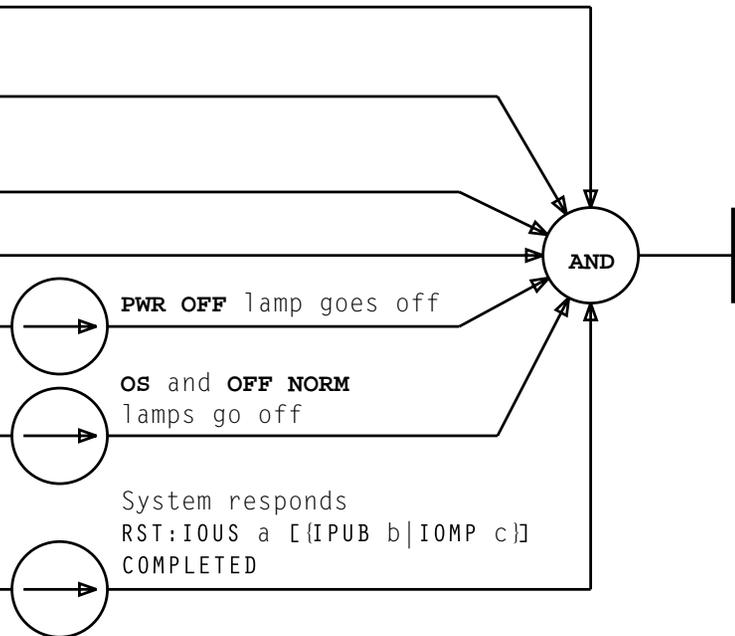


TABLE A		
SWITCH LOCATION	FUSE	
	BLOCK LOCATION	NAME
80-13	80-09	+24-3, +24-3P
76-13	76-09	+24-3, +24-3P
69-23	68-28	-48, -48P
39-26	38-28	-48, -48P

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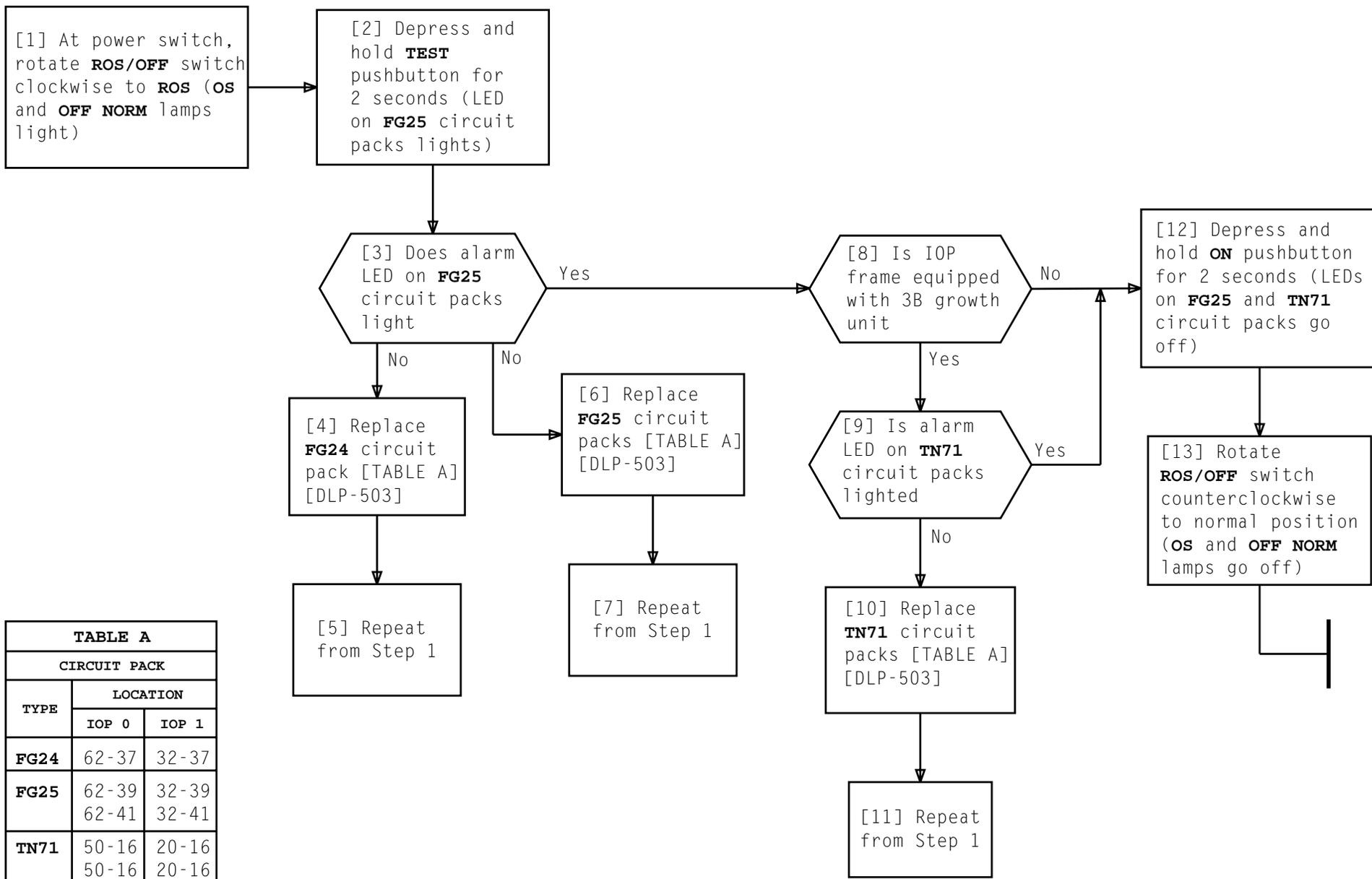


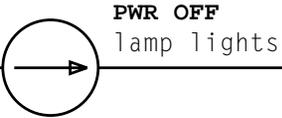
TABLE A		
CIRCUIT PACK		
TYPE	LOCATION	
	IOP 0	IOP 1
FG24	62-37	32-37
FG25	62-39	32-39
	62-41	32-41
TN71	50-16	20-16
	50-16	20-16

At 1A power switch [TABLE A]:

[1] Rotate **ROS/OFF** switch clockwise to **ROS**



[2] Depress **ROS/OFF** switch



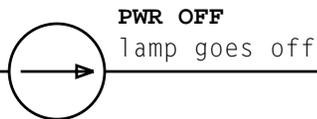
[3] Remove DC-to-DC converter/
power supply

[4] Clean and lubricate connector and replacement converter/power supply terminals per approved procedure

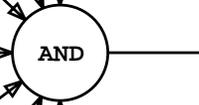
[5] Insert and properly seat replacement converter/power supply

At 1A power switch:

[6] Depress and hold **ON** pushbutton for 2 seconds



[7] Rotate **ROS/OFF** switch counter-clockwise to normal position



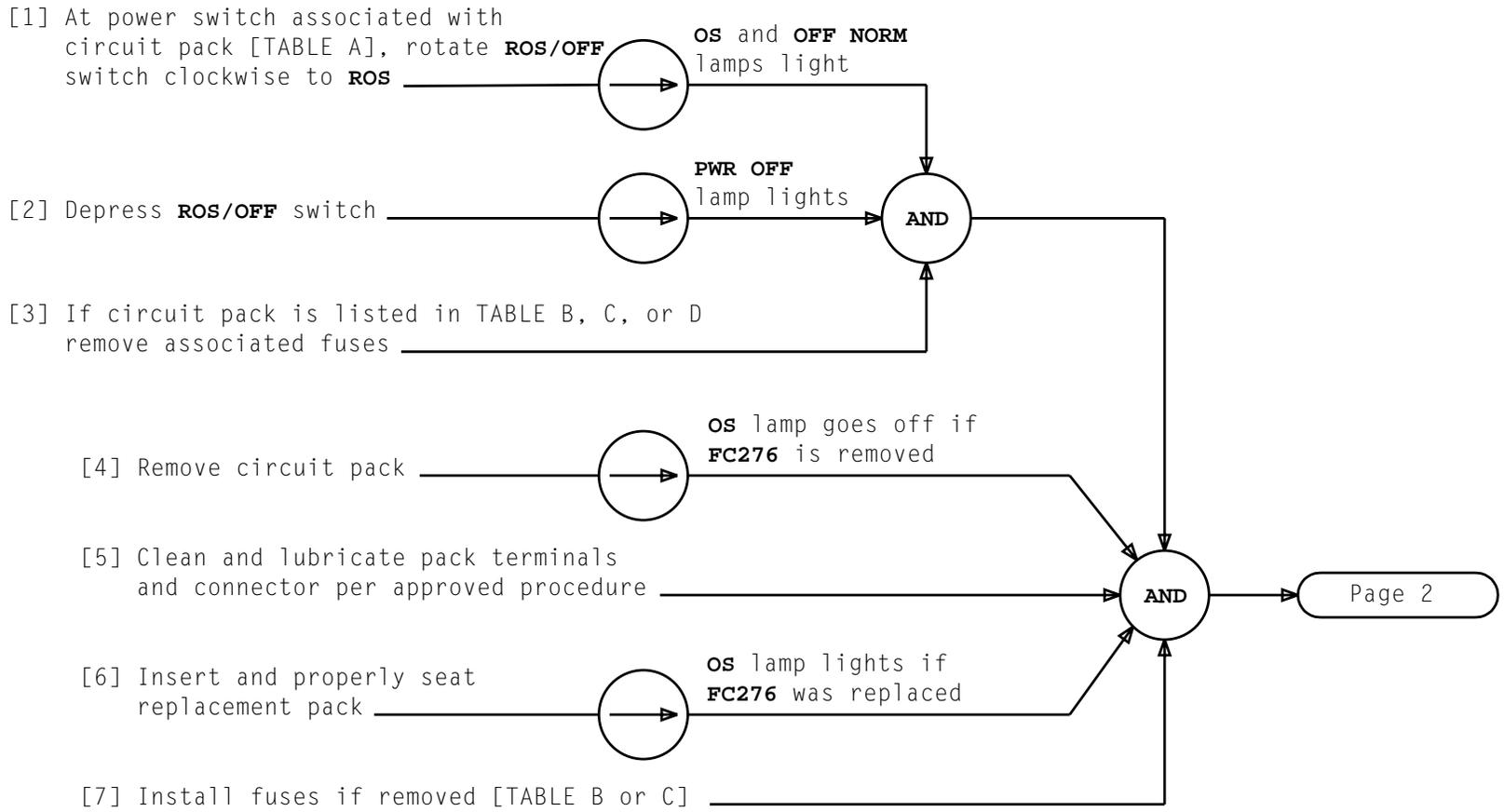
REPLACE DC-TO-DC CONVERTER/POWER SUPPLY

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TABLE A		
CONVERTER/ POWER SUPPLY LOCATION	POWER SWITCH	
	LOCATION	NAME
80-21	80-13	BUS 0
76-21	76-13	BUS 1
68-02, 32 62-02 *54-02 52-32 **48-32	69-23	IOP 0
38-02, 32 32-02 *24-02 22-32 **18-32	39-23	IOP 1
* 1A Growth Unit Option ** 3B Growth Unit Option		

REPLACE DC-TO-DC CONVERTER/POWER SUPPLY

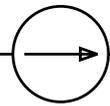
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REPLACE CIRCUIT PACK

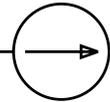
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[8] At power switch, depress and hold **ON** pushbutton for 2 seconds

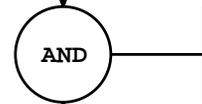


PWR OFF lamp goes off

[9] Rotate **ROS/OFF** switch counterclockwise to normal position



OS and **OFF NORM** lamps go off



REPLACE CIRCUIT PACK

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TABLE A		
POWER SWITCHES		
CIRCUIT PACK LOCATION	POWER SWITCH	
	LOCATION	NAME
†72-17	80-13	BUS 0
80-16....80-42	80-13	BUS 0
† 72-23	76-13	BUS 1
76-16....76-42	76-13	BUS 1
†72-13	69-23	IOMP 0
62-03P....62-41	69-23	IOMP 0
*54-03P....54-24	69-23	IOMP 0
*50-05....50-26	69-23	IOMP 0
†72-26	39-23	IOMP 1
32-03P....32-41	39-23	IOMP 1
*24-03P....24-24	39-23	IOMP 1
*20-05....20-26	39-23	IOMP 1
*Optional growth units - 1A or 3B †Expanded IOP		

TABLE B		
FUSES		
CIRCUIT PACK LOCATION	FUSE	
	LOCATION	NAME
80-16	80-09	+24-1, +24-2
80-17, 18, 22	80-09	+24-2
76-16	76-09	+24-1, +24-2
76-17, 18, 22	76-09	+24-2
72-17	72-12	(0)
72-13	72-12	(A)
72-23	72-12	(1)
72-26	72-12	(B)
62-37	68-28	+24-4, +24-5
62-39, 41	68-28	+24-4
32-37	38-28	+24-4, +24-5
32-39, 41	38-28	+24-4

REPLACE CIRCUIT PACK

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TABLE C																		
C O M M U N I T	CIRCUIT PACK LOCATION			FUSE DESIGNATIONS AND ASSIGNMENTS														
	CIRCUIT PACK TYPE	EVEN NO. IOUS 0,2,4,6	ODD NO. IOUS 1,3,5,7	+5V12	+5V13	+5V14	+5V15	+5V16	+5V17	+12E2	+12E3	-12E2	-12E3	-48VE	-48VF	-48V2	-48V3	
		IOMP 0	IOMP 1															
3	TN71	50-016	20-016					X	X		X		X					X
	PC33*	50-024	20-024						X		X		X					
	PC32*	50-032	20-032						X		X		X					
	PC31*	50-040	20-040					X			X		X					
	PC30*	50-048	20-048					X			X		X					
	UN60	50-056	20-056				X											
2	TN71	50-076	20-076		X	X				X		X					X	
	PC23*	50-084	20-084			X				X		X						
	PC22*	50-092	20-092			X				X		X						
	PC21*	50-100	20-100		X					X		X						
	PC20*	50-108	20-108		X					X		X						
136H COMM	** 3	52-127	22-127												X			
	** 2	48-127	18-127											X				
	SPARE	-	-	X														

* OFFICE DEPENDENT (TN75, TN75B, TN75C, OR TN82B)

** MAY BE 136N

[1] Identify first failing phase on diagnostic printout [FIG. 1]

[2] Identify and obtain PR for first failing phase [TABLE A]

[3] Within PR, locate first failing test indicated on diagnostic printout [FIG. 1]

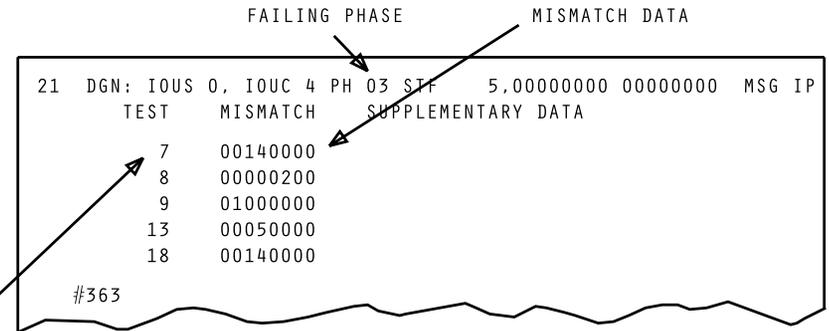
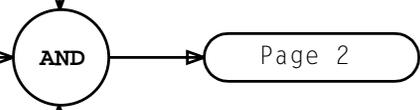
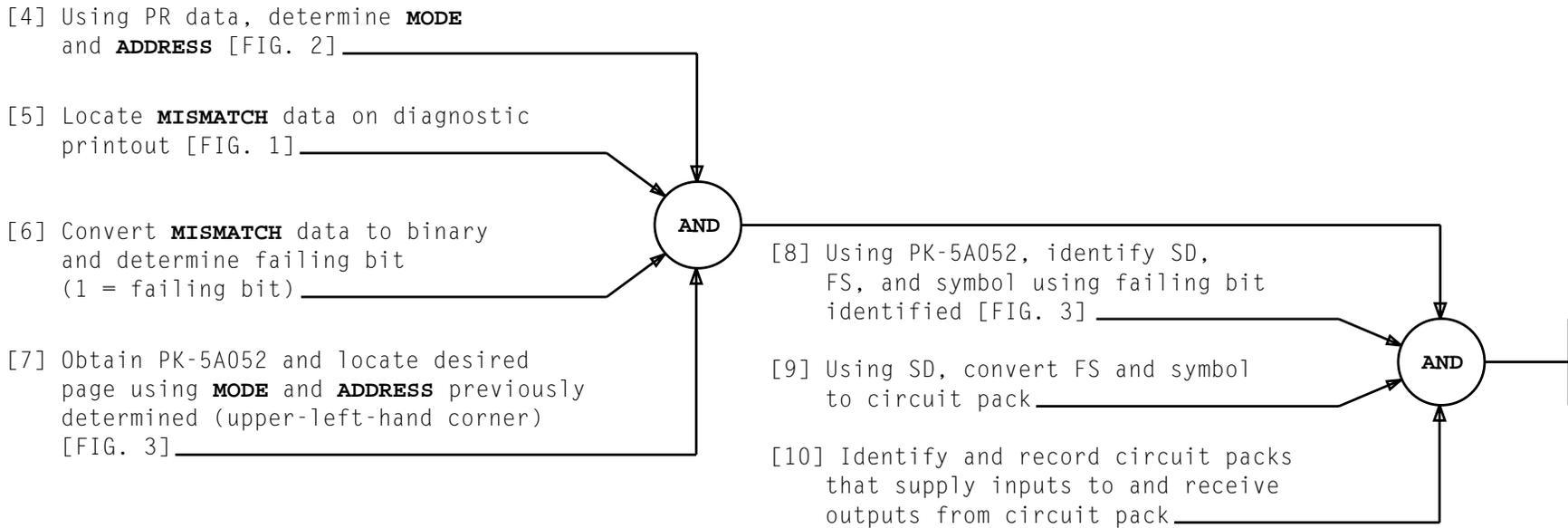


FIG. 1 - Sample Diagnostic Printout

TABLE A					
PHASE	PR NO.	PHASE	PR NO.	PHASE	PR NO.
00	5A788	24	5A807	54	5A430
01	5A789	25	5A807	55	5A430
02	5A790	26	5A807	56	5A430
03	5A791	27	5A807	57	5A430
04	5A792	28	5A807	58	5A430
11	5A798	29	5A815	61	5A431
12	5A799	31	5A816	91	5A449
13	5A800	41	5A428	92	5A450
14	5A801	42	5A429	99	5A825
21	5A807	51	5A430		
22	5A807	52	5A430		
23	5A807	53	5A430		

IDENTIFY CIRCUIT PACKS AND LOCATIONS USING DIAGNOSTIC INFORMATION



```

    FAILING TEST          MODE          ADDRESS
    2920, 34             IOREAD  OPER(RDSTATM),MASK(M(I01I80,I01CPF,I01080,I01IMR,I01MR,I01UNL
    -002- 37 #.....ACCESS: READ, OPERATION CODE = 170,MASK = 77773000,EXPECT = 1420000
    38 #*****
    39 #*
    40 # TEST 7
    41 #*
    42 #*****
    20740032             -002- 43      DATA    1 = 0,1 = 1,1 = 0,3 = IDG_UNUSED,7 = IDGRDSTATM,5 =
    77773000             -002- 45      DATA    24 = M(I01I80,I01CPF,I01080,I01IMR,I01MR,I01UNLBUF,I01LPA,I01
    01420000             -002- 47      DATA    24 = M(I01S0I,I01INPUT,I01UNLBUF)
  
```

FIG. 2 - Sample PR Data

IDENTIFY CIRCUIT PACKS AND LOCATIONS USING DIAGNOSTIC INFORMATION

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MODE AND ADDRESS: MODE=READ ADDRESS=170

IOUS AND IOUC STATUS REGISTER

22:15:39
07/23/76

COMPOOL MNEMONIC = ROSTATM
SD5A052-01
GATEOUT ENABLE = STE080

SD FS AND SYMBOL

BIT	OP	FUNCTION NAME	COMPOOL ALIAS	SD	FS/SYM	LEAD DESIG	CPS REG/GATE NAME	DESCRIPTION	NOTE
00		MAS		21	1/1	MASIO	MAS(B)	OVERALL IOUS MAINTENANCE	
01		RO		21	1/1	ROO	RO(B)	SPECIFIES RECEIVE BUS	
02		SO		21	1/1	SO1	SND(B)	REPLY ON BUS 0	
03		S1		21	1/1	S11	SND(A)	REPLY ON BUS 1	
04								UNUSED RESPONSE	
05								UNUSED RESPONSE	
06								UNUSED RESPONSE	
07								UNUSED RESPONSE	
08								UNUSED RESPONSE	
09		CFA		21	2/4	CFAAO	CFA	CARRIER FAILURE ALARM	
10		LPA		21	2/4	LPAAO	LPA	LOW PAPER ALARM	
11		MA		21	2/5	BOBA	RC13(B)	INDIVIDUAL CHANNEL (IOUC) MAINTENANCE	
12		IDLE		21	2/5	IDLEAO	IDL	IDLE STATE	
13		INPUT		21	2/5	INPUTAO	INP	INPUT STATE	
14		OUTPUT		21	2/5	OUTPUTAO	OUT	OUTPUT STATE	
15		BRKREC		21	2/5	BRCGIOA	BRC(A)	BREAK RECEIVE STATE	
16		LOGBUF		21	2/5	A1BA	RC67A1B	LOAD BUFFER (ALMOST EMPTY)	
17		UNLBUF		21	2/5	B1BA	RC67B1B	UNLOAD BUFFER (ALMOST FULL)	
18		SCI		21	2/5	AOBA	RC45A0B	START OF INPUT MESSAGE	
19		MR		21	2/4	MROAO	P67(A)	MAINTENANCE REQUEST	
20		IMR		21	2/5	IMRAO	IMRO	INHIBIT MAINTENANCE REQUEST	
21		OBO		21	2/5	ST05AO	RC23(B)	OUTPUT BUFFER OVERFLOW	
22		CPF		21	2/5	ST06AO	RC01(A)	CHARACTER PARITY FAILURE	
23		IBO		21	2/5	ST07AO	RC01(B)	INPUT BUFFER OVERFLOW	

NOTE(S):
1. MAINT. READ

MODE=READ ADDRESS=170

INPUT/OUTPUT TEST ACCESS

ISSUE 1 PK-5A052-01-C6

FIG. 3 - Sample Test Access Document (PK) Format

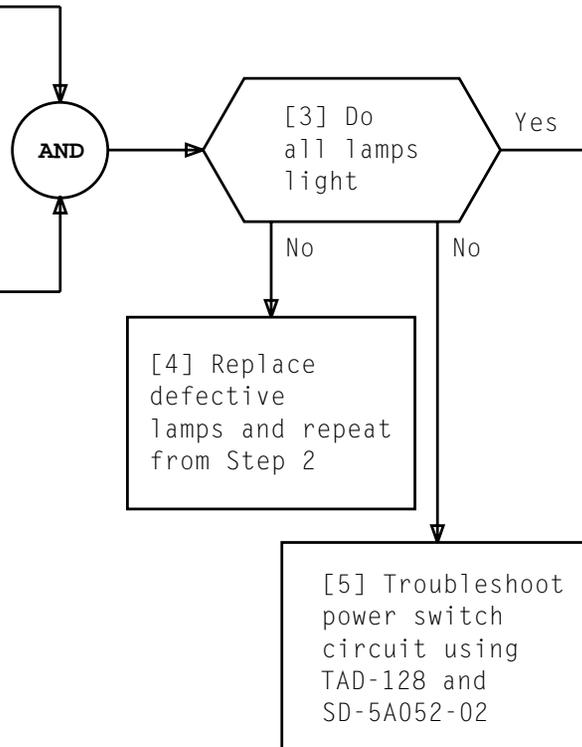
IDENTIFY CIRCUIT PACKS AND LOCATIONS USING DIAGNOSTIC INFORMATION

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At power switch:

[1] Ensure **ROS/OFF** switch is rotated counterclockwise to normal position

[2] Depress and hold **TEST** pushbutton while observing lamps

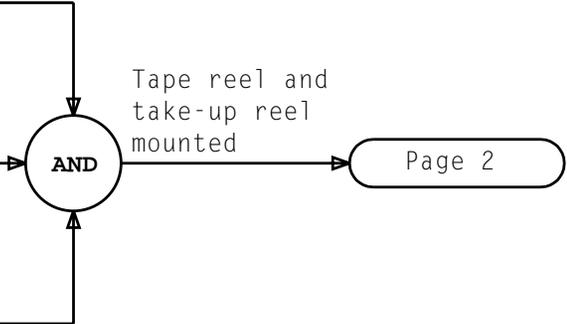


At tape transport:

[1] Verify interlock switch plunger is in out position; **LOCAL/REMOTE** switch is in **LOCAL** lighted condition and lower (take-up) reel is same size or larger than tape reel to be mounted

[2] With hub (knob) of upper reel holder in counterclockwise position, mount reel with tape on reel holder

[3] Rotate hub (knob) of upper reel holder clockwise to lock tape reel securely



[4] See WARNING 1. While depressing **BRAKE RELEASE** pushbutton, manually unwind approximately 5 feet of tape and release **BRAKE RELEASE** pushbutton

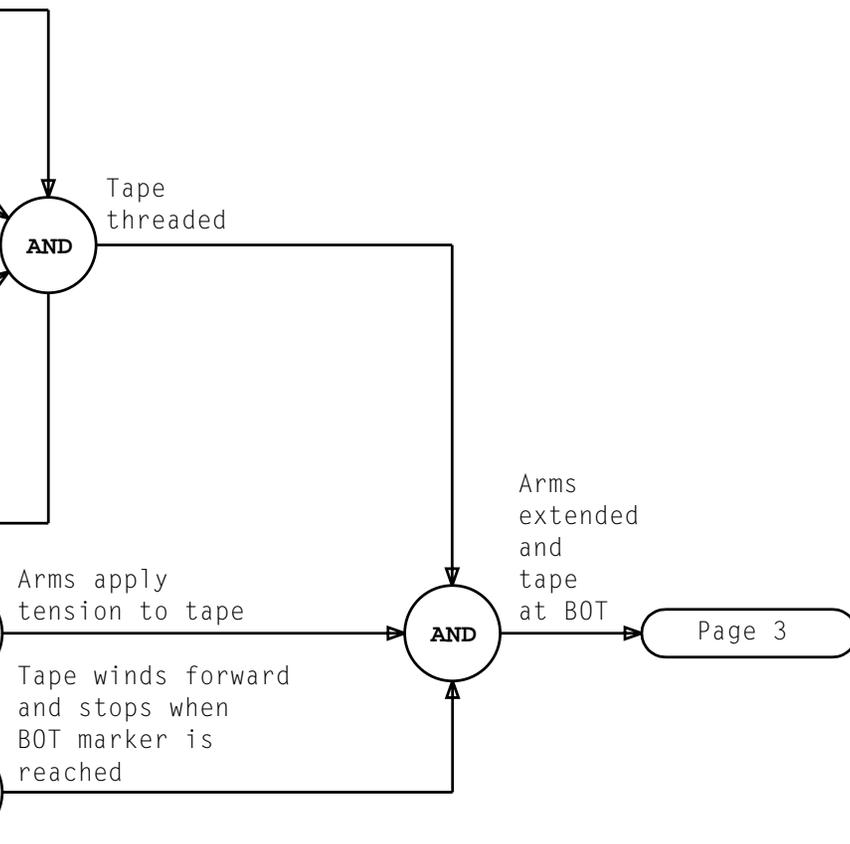
[5] See WARNING 2. Thread tape through tape path indicated on tape transport

[6] See NOTE 1. Start tape end on lower (take-up) reel making sure tape is not twisted

[7] See WARNING 3. While depressing **BRAKE RELEASE** pushbutton, manually wind lower (take-up) reel three or four turns and release **BRAKE RELEASE** pushbutton

[8] Depress **ARMS NORMAL** pushbutton

[9] See NOTE 2. Depress **FORWARD** pushbutton



NOTES

1. To start tape on take-up reel, it may help to moisten tape end (moistened fingers) and stick it to reel axle
2. Tape may not stop at BOT marker if fast forward is depressed

WARNINGS

1. Contamination of tape by contact with floor will damage tape heads
2. Do not touch tape head surfaces; body oils will contaminate tape
3. If tape is not properly aligned along rollers and guides, or is too loose, tape may be damaged

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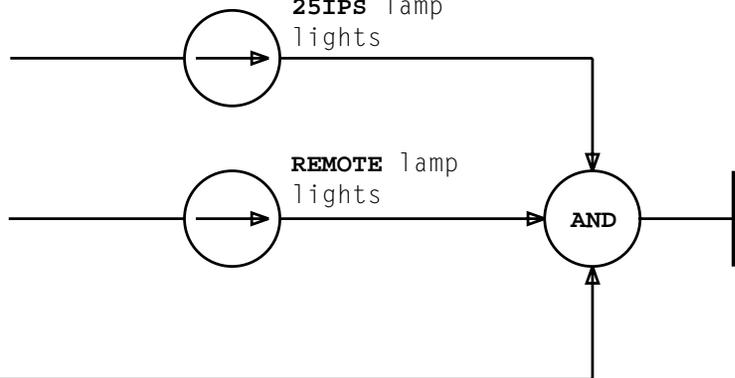
[10] Depress **5IPS/25IPS** pushbutton
to obtain **25IPS** lighted condition

25IPS lamp
lights

[11] Depress **LOCAL/REMOTE** pushbutton
to obtain **REMOTE** lighted condition

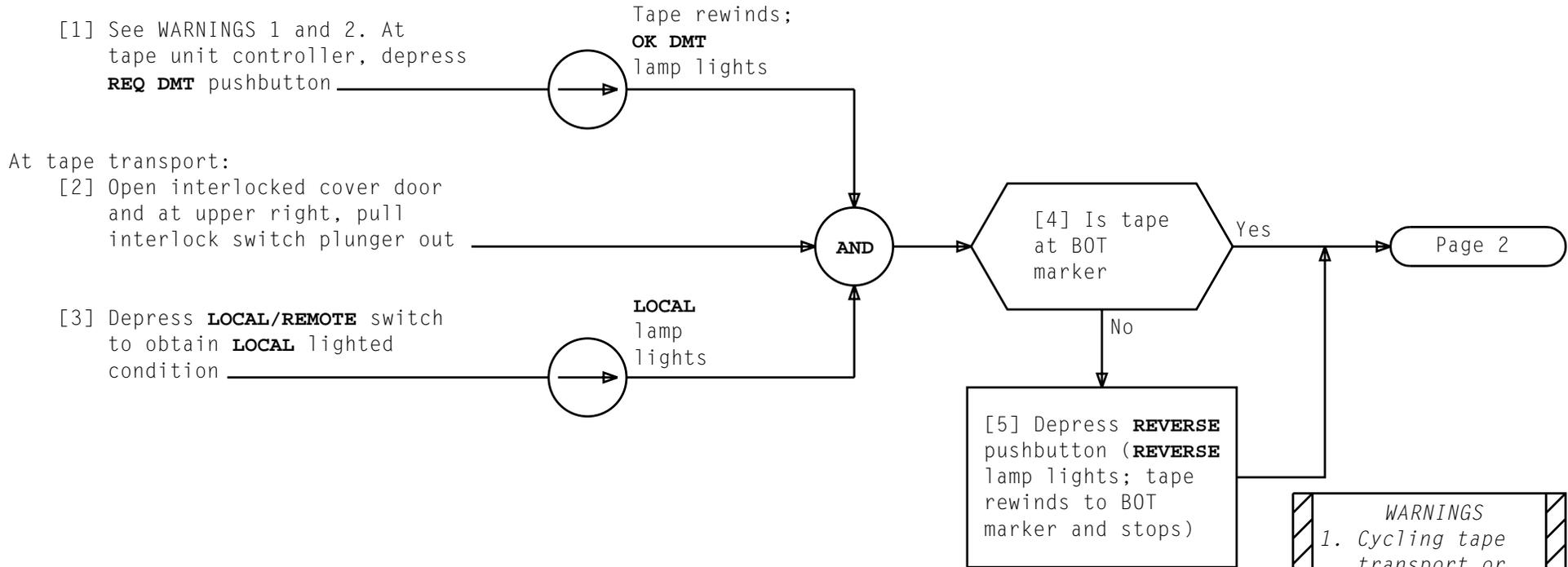
REMOTE lamp
lights

[12] See WARNING 4. Close door



<i>WARNING 4</i> <i>Closing tape transport door in harsh manner may upset alignment</i>	
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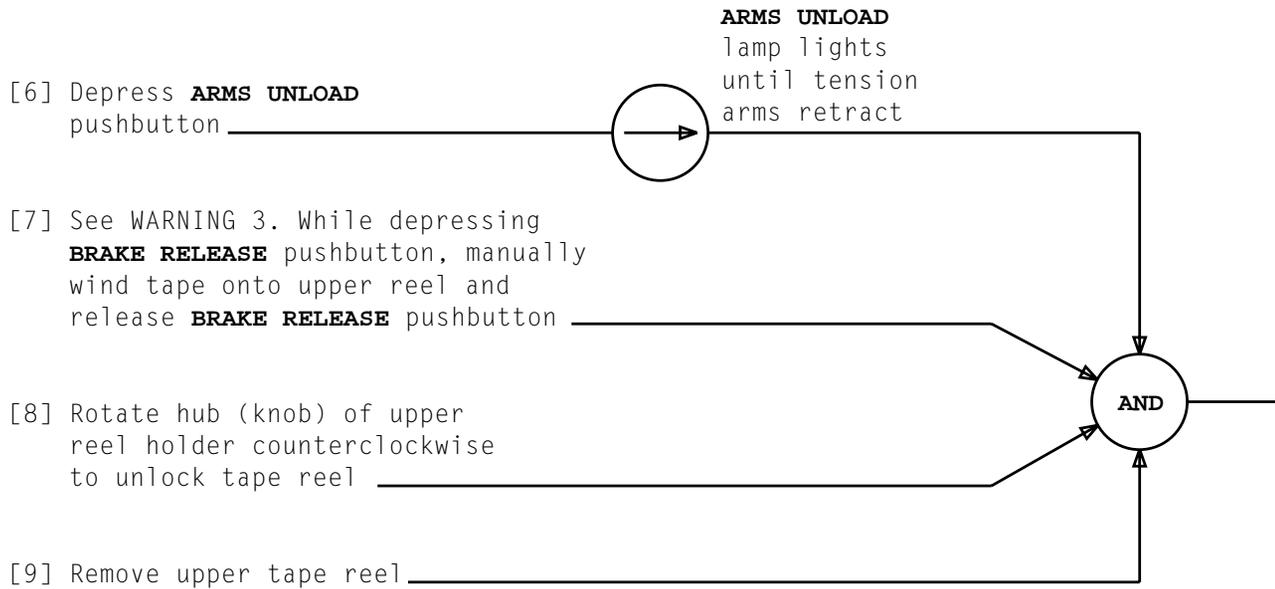
MOUNT TAPE ON TAPE TRANSPORT, TAPE UNIT



WARNINGS

1. Cycling tape transport or tape unit controller with tape over read/write heads may garbage tape
2. If tape is being demounted due to a faulty tape unit, the proper tape unit maintenance documentation should be used

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*WARNING 3
Pulling or
dragging last
2 feet of tape
across heads
may contaminate
heads*

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1. Obtain PR for failing phase [TABLE A]
 2. Locate test number index page near end of PR [FIG. 1]
 3. Locate first failing test on test index page
 4. After failing test, locate and record location (LOC)
 5. After failing test, locate and record looping address (ADR)
- End of procedure

TABLE A					
PHASE	PR NO.	PHASE	PR NO.	PHASE	PR NO.
00	5A788	24	5A807	54	5A430
01	5A789	25	5A807	55	5A430
02	5A790	26	5A807	56	5A430
03	5A791	27	5A807	57	5A430
04	5A792	28	5A807	58	5A430
11	5A798	29	5A815	61	5A431
12	5A799	31	5A816	91	5A449
13	5A800	41	5A428	92	5A450
14	5A801	42	5A429	99	5A825
21	5A807	51	5A430		
22	5A807	52	5A430		
23	5A807	53	5A430		

```

                                FAILING TEST
                                10DG03 18 01
-002- 01 # *****
-002- 02 #
-002- 03 #          DATA TABLE TEST LOCATION AND SEGMENT LOOP ADDRESS INDEX
-002- 04 # *****
-002- 05 # *****
-002- 06 #
-002- 07 # TEST   LOC   LOOPING ADR   TEST   LOC   LOOPING ADR   TEST   LOC   LOOPING ADR
-002- 08 #
-002- 09 #
-002- 10 # 0000   00047  00040-00110*  0001   00052  00040-00110*  0002   00117  00110-00163*
-002- 11 # 0003   00122  00110-00163*  0004   00125  00110-00163*  0005   00130  00110-00163*
-002- 12 # 0006   00172  00163-00236*  0007   00175  00163-00236*  0008   00200  00163-00236*
-002- 13 # 0009   00203  00236-00265   0010   00245  00236-00265   0011   00250  00236-00265
-002- 14 # 0012   00253  00236-00265   0013   00256  00236-00265
-002- 15 # *****
                                Failing Phase
                                Looping Address
                                LOC (LOCATION)

-002- 18 # * - LOOP CONTAINS A CONDITIONAL DT JUMP AND MAY BE SENSITIVE TO RUN TIME VARIABLES

```

FIG. 1 - Sample PR Data

On Summary Data Printout [FIG. 1]:

1. Note monitor point address on first CD line under **V1** column
2. Convert octal failing bit in leftmost four octal digits of word under adjacent **V2** column to decimal

NOTE: In Test Access PK Document: Negative addresses precede positive addresses in PK. If address is not found, other addresses and bits may be investigated using other V column pairs (first CD line or other CD lines). The PK data for these addresses will be further removed from fault and PR data may be of greater value

3. Locate address and failing bit
4. Note pack type and gate name for failing bit

In CPS for Pack Type:

5. Locate component list section

NOTE: If A or B appears after gate name in test access PK, it indicates A or B half of register (gate)

6. Under column heading **DESIG**, locate gate name
7. In adjacent **SH LOC** column, use location indicated to locate gate in CPS
8. At gate, note lead name and terminal leaving gate to outside pack [FIG. 2]

In Test Access PK Document:

9. For failing bit, note FS, SD, and symbol name

In SD FS indicated:

10. Locate symbol number having same symbol name as indicated in Test Access PK for failing bit
11. Locate lead interconnection section for this symbol
12. Using terminal and lead name noted, locate corresponding SD lead name

End of procedure

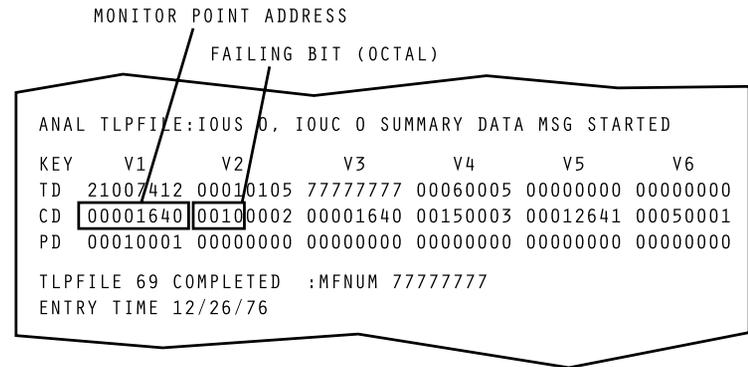


FIG. 1 - Example of Summary Data Printout

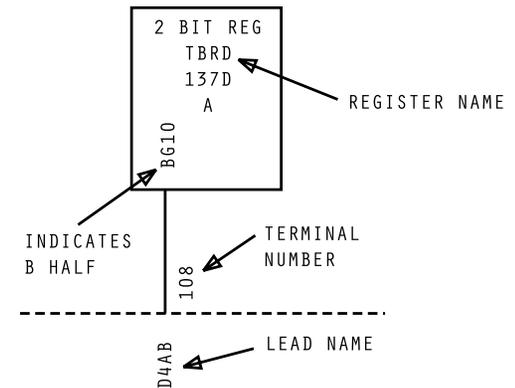


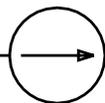
FIG. 2 - Example of Lead Leaving B Half of CPS Register

SIGNAL TRACE PATH OF FAILING BIT USING SUMMARY DATA PRINTOUT AND TEST ACCESS PK DOCUMENT

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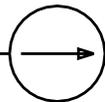
At DSU:

[1] Press **LL** switch
[See NOTE 1]



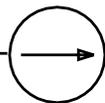
LL indicator lights
TEST indicator flashes
LSD, DSR, CTS indicators go out
TEST indicator stops flashing
LSD, DSR, CTS indicators light

[2] Press **TP** switch



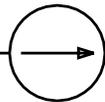
TP indicator lights
DSR indicator goes off
TEST indicator flashes
TXD and **RXD** indicators flash

[3] Observe Test
Result



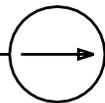
TEST indicator stops flashing
PASS or **FAIL** indicator lights

[4] Press **TP** switch

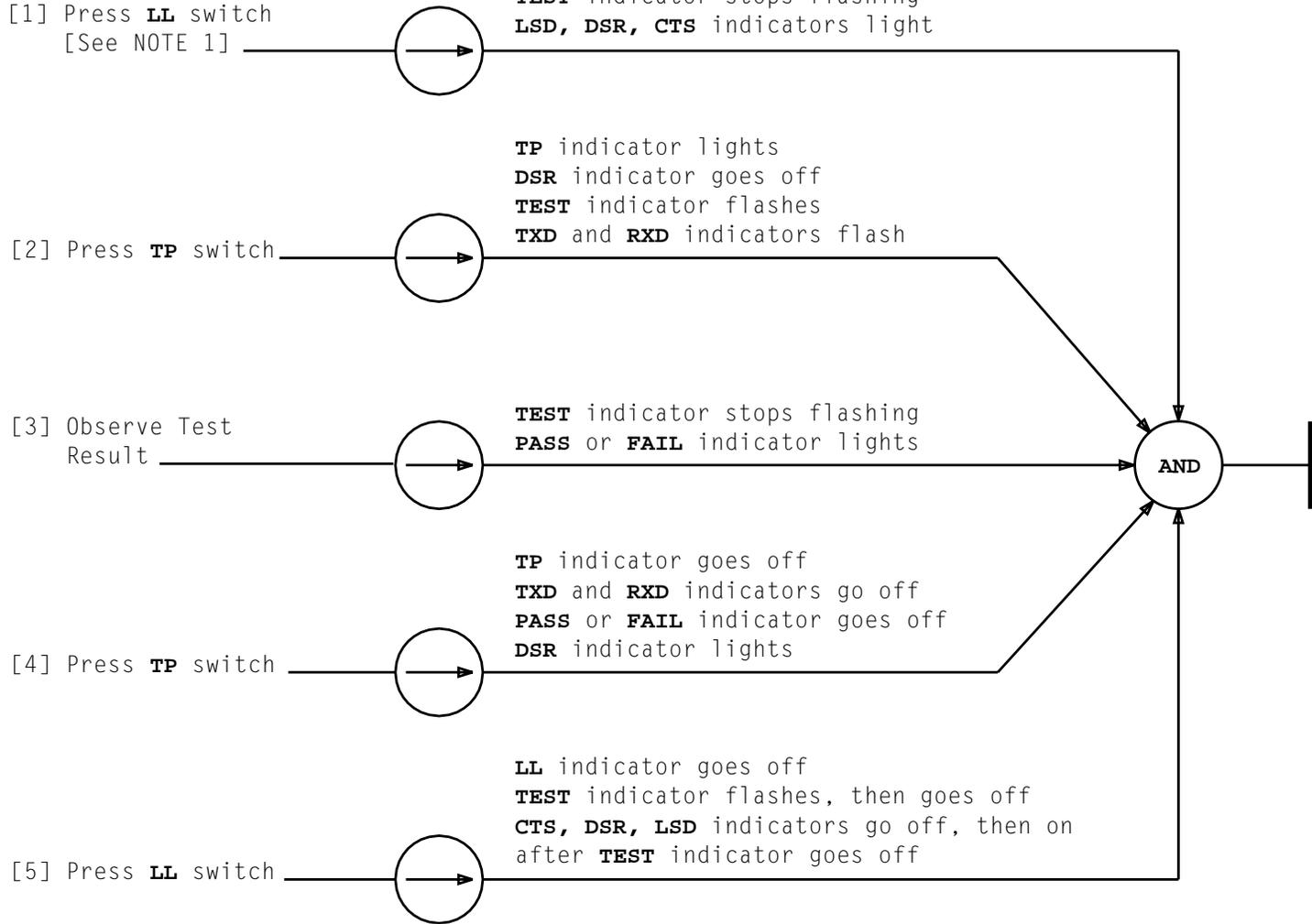
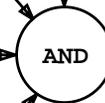


TP indicator goes off
TXD and **RXD** indicators go off
PASS or **FAIL** indicator goes off
DSR indicator lights

[5] Press **LL** switch

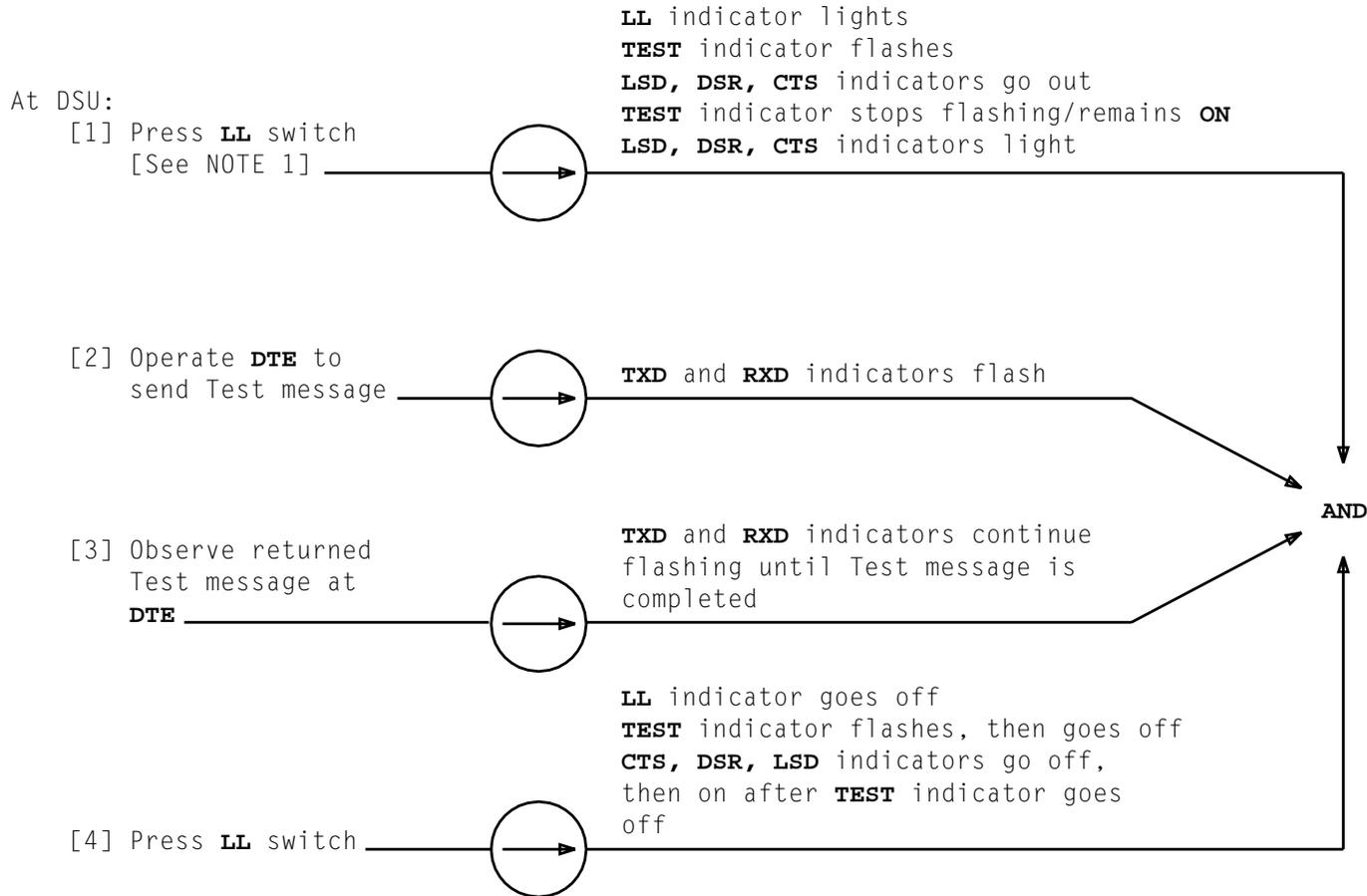


LL indicator goes off
TEST indicator flashes, then goes off
CTS, DSR, LSD indicators go off, then on
after **TEST** indicator goes off



NOTE 1	
Device test is disruptive. The IOUS and IOUC channels associated with the local and remote DSUs will go out-of-service	
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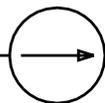
PERFORM DSU LOCAL DEVICE TEST



NOTE 1	
Local Loopback Test is disruptive. The IOUS, IOUC channels associated with the local and remote DSUs will go out-of-service	
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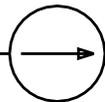
At DSU:

[1] Press **RL** switch
[See NOTE 1]



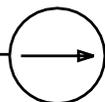
RL indicator lights
TEST indicator flashes
LSD, DSR, CTS indicators go out
TEST indicator stops flashing
LSD, DSR, CTS indicators light

[2] Press **TP** switch



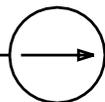
TP indicator lights
DSR indicator goes off
TXD and **RXD** indicators flash

[3] Observe Test Result



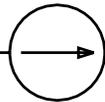
Look for the **FAIL** indicator to flash during the test interval

[4] Press **TP** switch

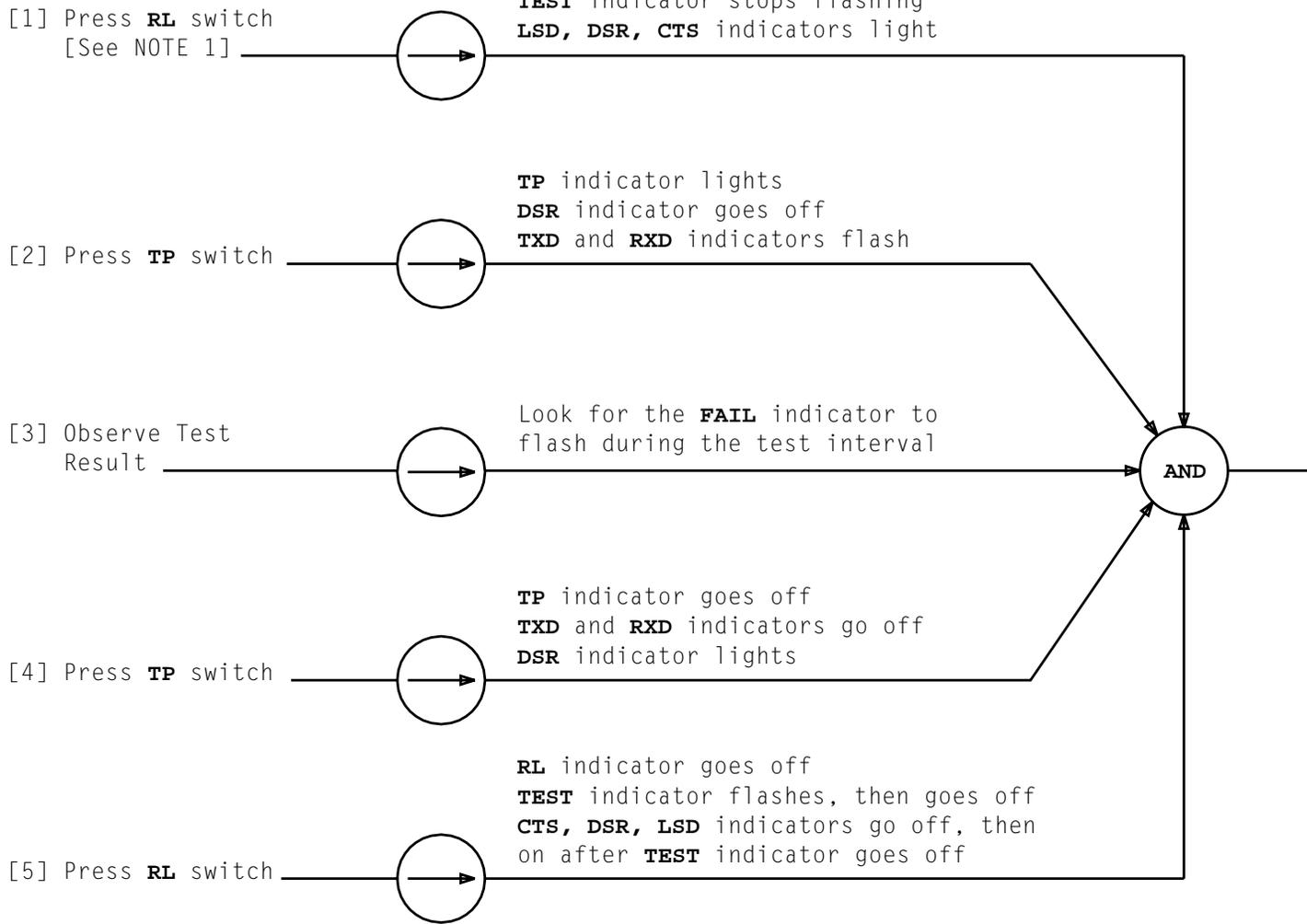
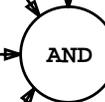


TP indicator goes off
TXD and **RXD** indicators go off
DSR indicator lights

[5] Press **RL** switch



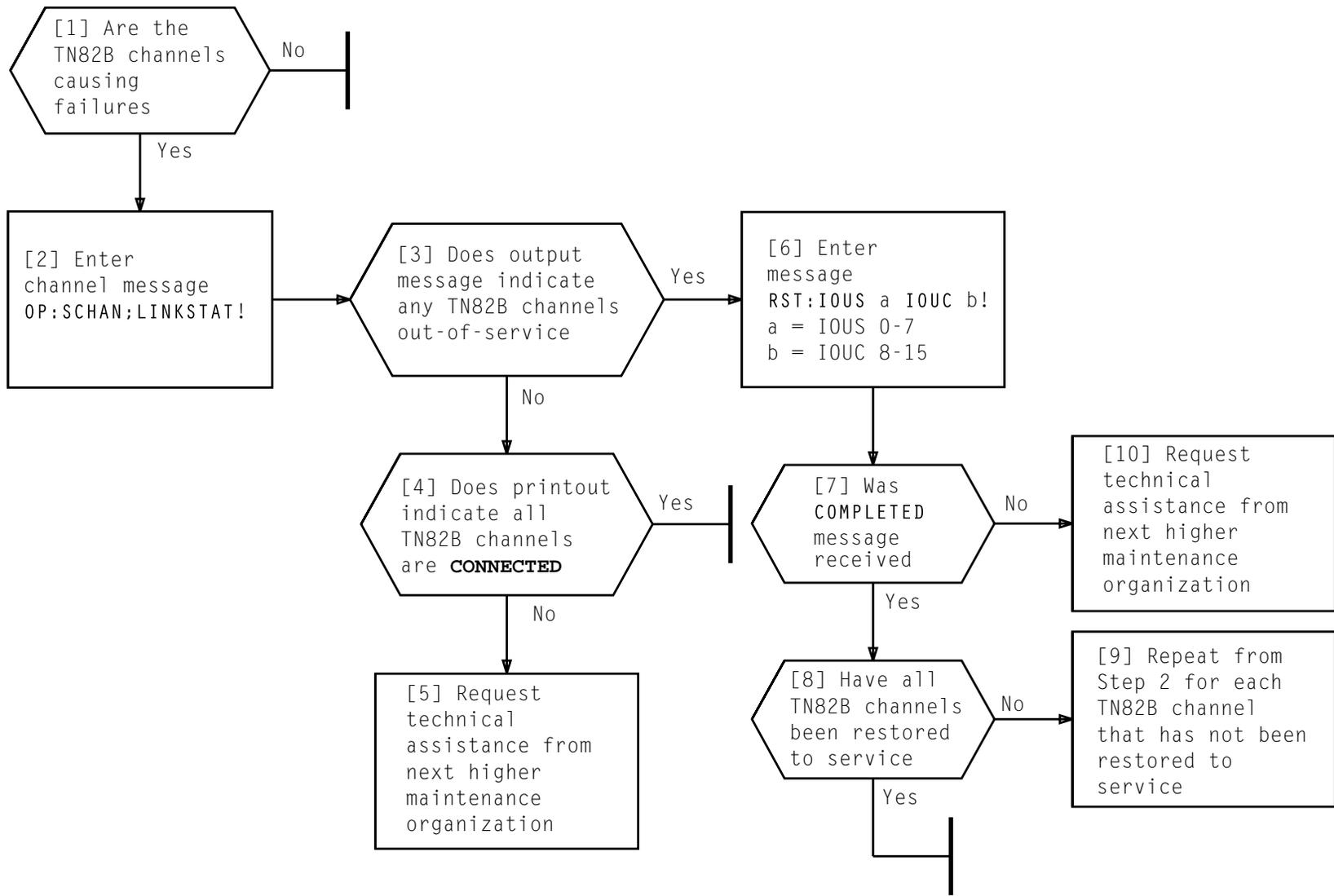
RL indicator goes off
TEST indicator flashes, then goes off
CTS, DSR, LSD indicators go off, then on after **TEST** indicator goes off



NOTE 1
Digital Loopback Test is disruptive. The IOUS, IOUC channels associated with the local and remote DSUs will go out-of-service

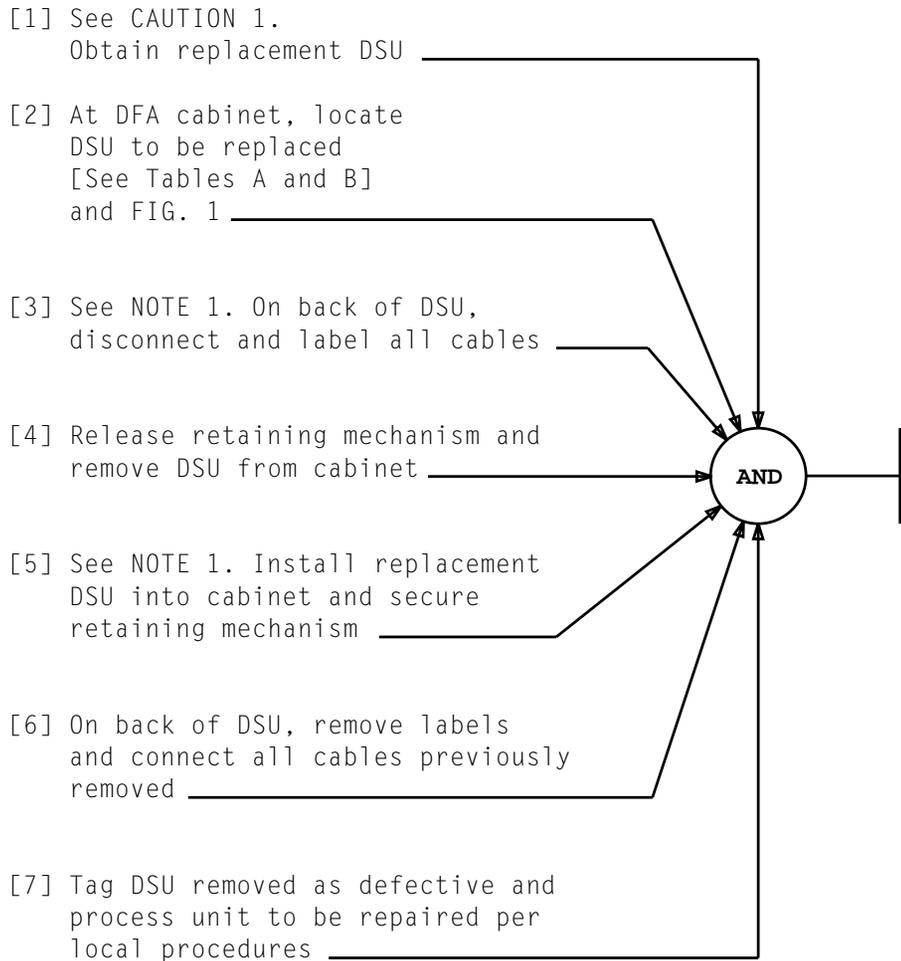
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PERFORM DSU DIGITAL LOOPBACK TEST



PERFORM TN82B SIGNALING LINK CONNECTIVITY CHECK

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NOTE 1

When handling any equipment or working in the backplane area, a grounded antistatic wrist strap (R-4987 or equivalent) must be worn. Connect strap to common ground. When appropriate wrist strap is not available, always touch grounded (exposed) metal before handling equipment. Never pass unprotected equipment to an ungrounded person or touch components, leads or connector pins

CAUTION 1

Keep DSU in protective package until it is ready to be installed in cabinet

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TABLE A						
TN82B CIRCUIT PACK PC DESIGNATION, IOUC, AND ASTN CHANNELS (IOMP a, IOUS x)				TN82B CIRCUIT PACK LOCATION	DIGITAL FACILITY ACCESS DSU LOCATION	
TN82B PC DESG.	TN82B IOUC MEM NO.	ASTN CHANNEL NO.	ASTN LINK NO.		DFA 0	DFA 1
PC22	10	90	6	50/20 - 092	-	2
PC23	11	86	2	50/20 - 084	-	1
PC32	14	88	4	50/20 - 032	2	-
PC33	15	84	0	50/20 - 024	1	-

TABLE B						
TN82B CIRCUIT PACK PC DESIGNATION, IOUC, AND ASTN CHANNELS (IOMP a, IOUS x)				TN82B CIRCUIT PACK LOCATION	DIGITAL FACILITY ACCESS DSU LOCATION	
TN82B PC DESG.	TN82B IOUC MEM NO.	ASTN CHANNEL NO.	ASTN LINK NO.		DFA 0	DFA 1
PC22	10	91	7	50/20 - 092	10	-
PC23	11	87	3	50/20 - 084	9	-
PC32	14	89	5	50/20 - 032	-	10
PC33	15	85	1	50/20 - 024	-	9

REPLACE DATA SERVICE UNIT (DSU)

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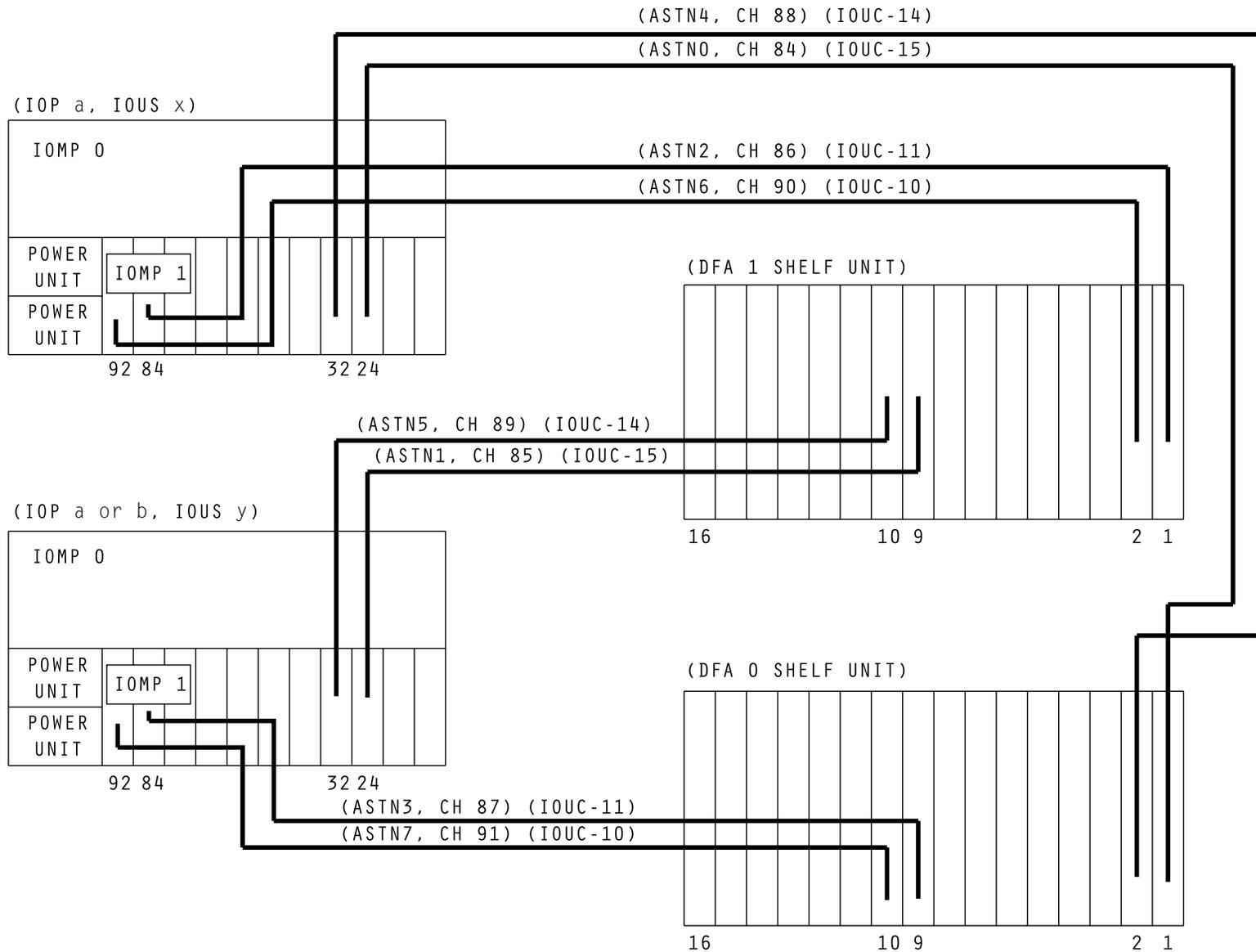


FIG. 1 - ASTN Channel Connections Assignments From IOMP To DFA (Rear View)

REPLACE DATA SERVICE UNIT (DSU)

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ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE
TPG-000		TAP-130									
• IXL-001		TAP-131									
NTP-002		TAP-132									
• NTP-003		TAP-133									
• NTP-004		TAP-134									
TAD-100		TAP-135									
ISD-101		• TAP-136									
TAP-102		TAP-137									
ISD-103		TAP-138									
TAP-104		TAP-139									
ISD-105		• TAP-140									
TAP-106		• TAP-141									
ISD-107		• TAP-142									
TAP-108		TAP-143									
ISD-109		TAP-144									
TAP-110		• TAP-145									
ISD-111		• TAP-146									
TAP-112		DLP-500									
ISD-113		DLP-501									
ISD-114		DLP-502									
ISD-115		• DLP-503									
TAP-116		DLP-504									
ISD-117		DLP-505									
TAP-118		DLP-506									
ISD-119		DLP-507									
ISD-120		DLP-508									
• TAP-121		DLP-509									
ISD-122		• DLP-510									
ISD-123		• DLP-511									
• TAP-124		• DLP-512									
TAP-125		• DLP-513									
TAP-126		• DLP-514									
TAP-127		• CKL-891									
TAD-128		TNG-893									
TAP-129		DPL-895									

• REVISED OR ADDED ITEM

□ CANCELLED ITEM

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CHECKLIST