"PULSE* 120" – SG-1A

ELECTRONIC PRIVATE AUTOMATIC BRANCH EXCHANGE

TELEPHONE CONSOLES QCN100-TYPE AND QCN102-TYPE

OPERATION, TRANSMISSION, AND TRAFFIC MEASUREMENT

FAULT CLEARING PROCEDURES

CONTENTS PAGE

1. GENERAL

1.01 The QCN100-type and QCN102-type telephone consoles and console keys are described in Section 553-5011-101. ←

REASON FOR REISSUE

1.02 This section is reissued to correct errors and add procedures for clearing faults on features added since the last issue. Page 23.1 is added for Hotel/Motel service option fault-clearing. Change arrows indicate altered or added information.

2. CIRCUIT OPERATION

2.01 The interface between the console circuitry, via the connector cables, and the Electronic Private Automatic Branch Exchange (EPABX) logic, is located on the control shelf.

2.02 The attendant console and trunk speech circuits share the same subgroup highway on trunk shelf 1.

2.03 The console lamps are lit by the +12 V power supply when a ground is applied from the EPABX logic circuits. All lamps on the console are extinguished when the headset or handset plugs are removed from the console. The spare lamps below the lower row of keys can be illuminated by grounding the lamp leads through miscellaneous control equipment. The ground connection to energize the spare lamp must be bridged to the EPABX ground. The asterisk (*) after the spare lamp (SPL-*) in the flowcharts replaces the lamp number.

2.04 The attendant telephone, key and control lamp wiring is identical for both consoles, see (Fig. 3, Page 74).

2.05 The nonlocking 2-way slide switch, located in a recess on the underside of the console, is pushed towards OPERATION RESET to reset the system logic and memory circuits and clear the system of all call processing information. Since operation of this switch breaks all call connections in the system it should be used with extreme caution, and only when other remedies have been exhausted, eg, if a logic malfunction should cause a lock-up of the system inhibiting system operation. When the switch is pushed towards the EMERGENCY SERVICE position the system is placed in the power fail transfer mode, ie, station lines (2)10 through (2)19 are connected directly to the first ten trunks.

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2.06 The power fail (PF) button on the console faceplate is depressed to activate a reset sequence, which will restore normal power supply operation in the event that the condition which caused the power fail transfer no longer exists.

2.07 The method of operating the attendant console is fully described in Section 553-5011-300.

3. CONSOLE CABLE CONNECTIONS

3.01 The QCN100-type console mounting cord terminates on three 50-pin plugs arranged to mate with 25, 50, or 75 pair connector cables. The QCN102-type console mounting cord terminates on six 50-pin plugs three of which are used to energize the busy lamp field. The connector cables may be terminated on connecting blocks at the cross-connecting terminal or plugged into connectors at the base of the EPABX cabinet for a direct connection.

3.02 The console plug numbers 1, 2, and 3 match connectors P010, P020, and P030 on the connector panel in the base of the cabinet. The QCN102-type console busy lamp field plug numbers 4, 5, and 6 match P040, P050, and P060 on the connector panel. The corresponding connecting blocks at the cross-connecting terminal are identified as P010, P020, P030, P040, P050, and P060 for console plug numbers 1, 2, 3, 4, 5, and 6 respectively.

3.03 The lead assignments in the connector cables for connectors P010, P020, and P030 are listed in Table A, Page 66.

3.04 The console optional features and incoming call indication lamps are provided by strapping pins on the strapping block TB4 located at the rear end of the control shelf. The pin assignments on TB4 are given in Table B and Fig. 1, Page 69.

3.05 The trunk group busy (TGB) lamp strap assignment between pins on the trunk strapping block located at the rear of each trunk connector, is given in Table C, Page 69.

3.06 The attendant audible signal may be extended with a customer provided relay as shown in Fig. 2, Page 73.

4. TRAFFIC MEASUREMENT CABLE CONNECTIONS

4.01 The interface between the PULSE 120 EPABX and traffic measuring equipment is designed for the use of the ALSTON† traffic usage recorder with traffic scanner (80321 or 80152 type).

4.02 The interface function is provided by QPJ74 and QPJ78 type circuit packs. Male connectors (NS16671-61) are fitted on the handles of each circuit pack to enable the plug-in connection of the traffic measuring equipment connector cables. The ground connector on the traffic usage recorder is bridged to the EPABX ground at the cross-connecting terminal or connector panel.

4.03 The two types of circuit packs permit the measurement of traffic parameters as follows:

(a) ***Traffic Measurement No. 1, QPJ74 Type.*** (Connector location 3 on the control shelf.)

(1) ***Universal or miscellaneous trunk overflow requests:*** A peg count of overflow tone requests is recorded for busy trunks assigned to access codes 81 through 87. Each access code is monitored separately.

(2) ***Central office (CO) trunk overflow requests:*** A peg count of overflow tone requests is recorded when all CO trunks are busy.

(3) ***DIGITONE* receiver requests:*** A peg count is recorded of all requests for the use of the DIGITONE receivers.

(4) ***DIGITONE receiver waiting count:*** A peg count is made of all requests for the use of the DIGITONE receivers which have to wait more than 2.25 seconds for service.

† Trademark of Conrac Corporation.

* Trademark of Northern Telecom Limited

(5) ***Line dial "0" usage:*** A peg count is made of all dial "0" calls to the attendant from unrestricted, semirestricted, and fully restricted station lines. Calls to the attendant which are not processed by the attendant are not included in the peg count.

(6) ***Console work time:*** The period during which any loop key on the attendant console remains depressed (illuminated) is measured. This period indicates the active time of the console.

(7) ***Time Slot Usage:*** A peg count is made, when all time slots or a selected number of time slots are busy.

(b) ***Traffic Measurement No. 2, QPJ78 Type.*** (Connector location 1 on the control shelf, for trunks 1 through 15, and connector location 2 on the control shelf, for trunks 16 through 30.)

(1) ***Usage of busy trunks:*** The period during which incoming (I/C) or outgoing (O/G) trunks are busy is measured on an individual basis.

(2) ***Trunk requests:*** A peg count of I/C or O/G trunk seizures is made on an individual basis.

4.04 The traffic measurement circuit packs provide ground output signals for peg count and usage measurement.

4.05 A convenient length of 25-pair connector cable (A25B) is required to extend the leads from the QPJ74 type circuit pack to the traffic measuring equipment. The cable pairs at the equipment end of the cable should be terminated on a connecting block to facilitate the clip-on (alligator) connection of the traffic usage recorder. The pin and color code assignments of the leads from the QPJ74 type circuit pack are given in Table D, Page 70.

4.06 Similarly a 16-pair connector cable (A16QA) is required to extend the leads from each of the QPJ78 type circuit packs to the recorder. The pin and color code assignments of the leads from the QPJ78 type circuit packs are given in Tables E and F, Pages 71 and 72.

4.07 The 25-pair and 16-pair connector cables may enter the PULSE 120 EPABX cabinet through the rear or the base opening. These cables are placed behind the retaining bars attached to the inside of the cabinet rear panel and secured to the cable harness using cable ties to prevent the connector cables obstructing the free movement of slide no. 1. The female connectors are inserted in the male plugs on the circuit pack handles and held in position with spring clips. The weight of the connector cable is restrained from the connector by a cable tie to the control shelf.

5. FAULT CLEARING PROCEDURE

5.01 Station line and trunk faults must be corrected before attempting to correct console or traffic measurement faults.

5.02 Before commencing the fault clearing procedures ensure that a reported console fault is not caused through incorrect console operation.

5.03 Fault indications must be related to the correct fault clearing procedure as detailed in Flowchart 1.

5.04 When the substitution of a circuit pack is required during the fault clearing procedure, the contacts on the new circuit pack must be cleaned as described in Section 553-5011-500 before inserting the circuit pack into the connector.

Note: The asterisk (*) after the circuit pack code replaces the suffix letter.

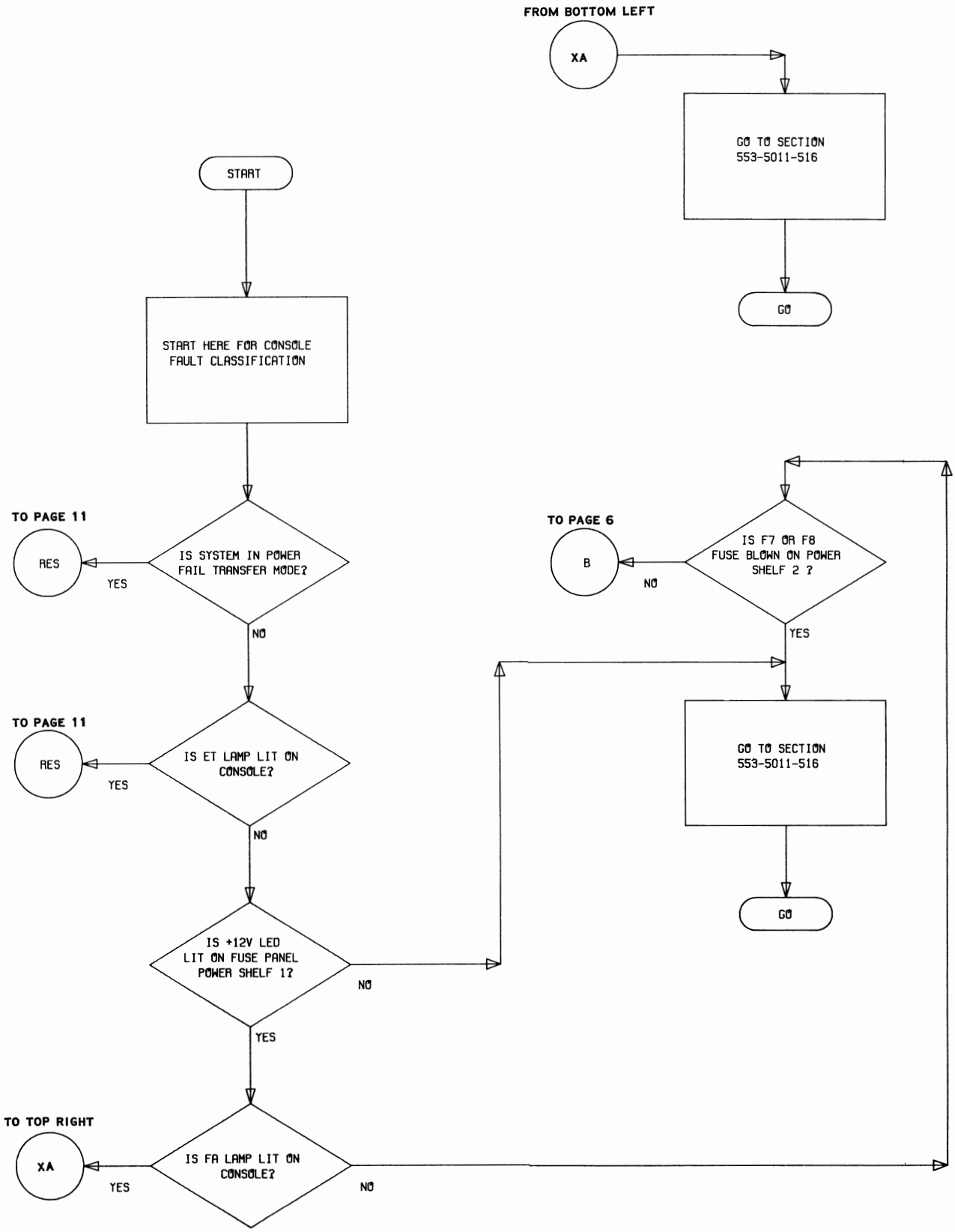
5.05 If a fault is cleared by circuit pack substitution and ***the original circuit pack has not caused a fuse to blow, and/or there is no visible evidence of burnt or damaged components,*** the contacts on this circuit pack and its associated connector must be cleaned. The original circuit pack is then inserted in the connector and if the fault reappears the new circuit pack is reinserted.

5.06 If different and/or additional faults are created in the system by substituting a circuit pack, the replacement must be tagged and returned as a defective unit.

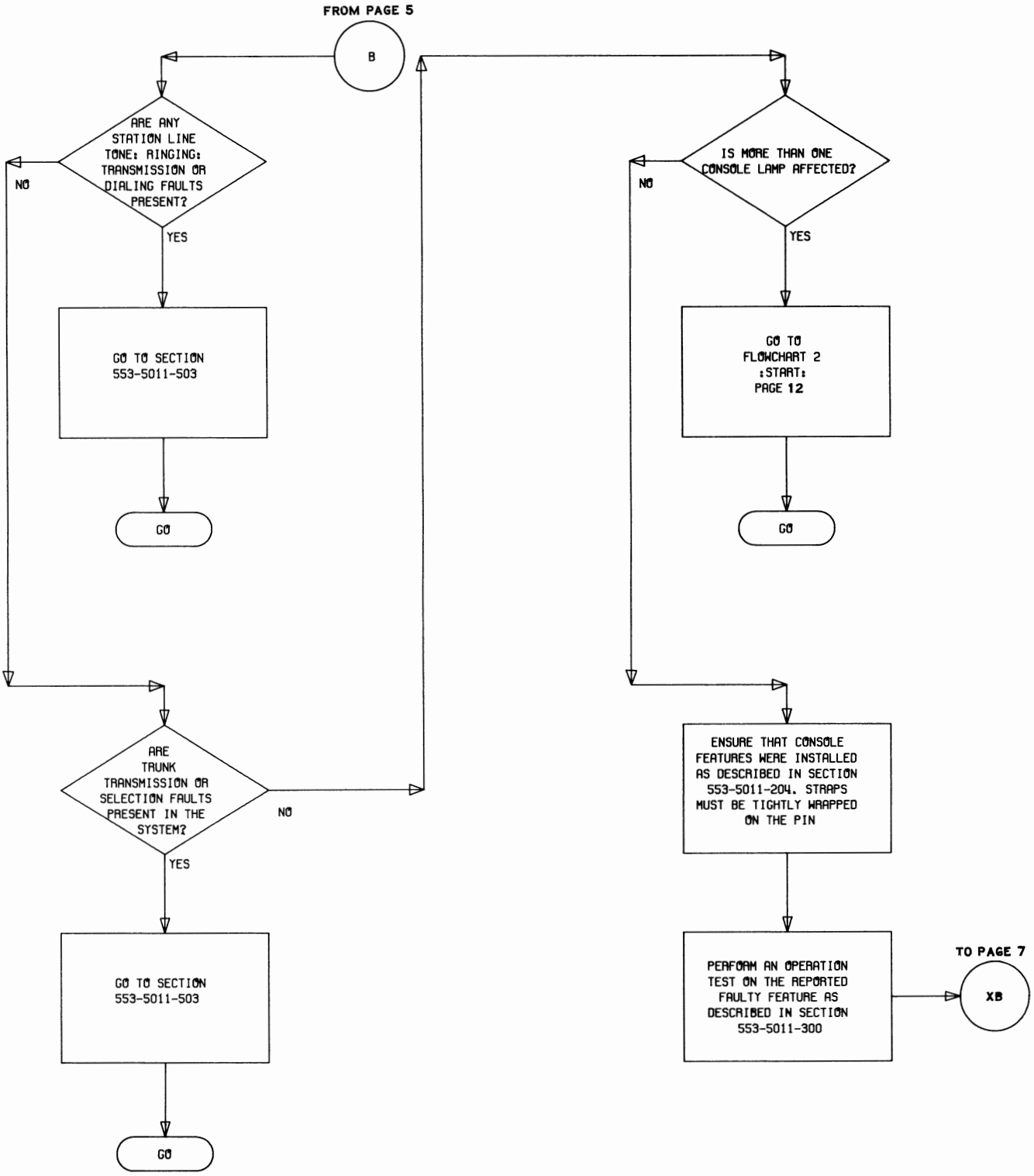
5.07 If the fault is not cleared by substitution of a circuit pack, the original circit pack must be reinserted in the connector.

5.08 The instructions for substituting a shelf are given in Section 553-5011-202.

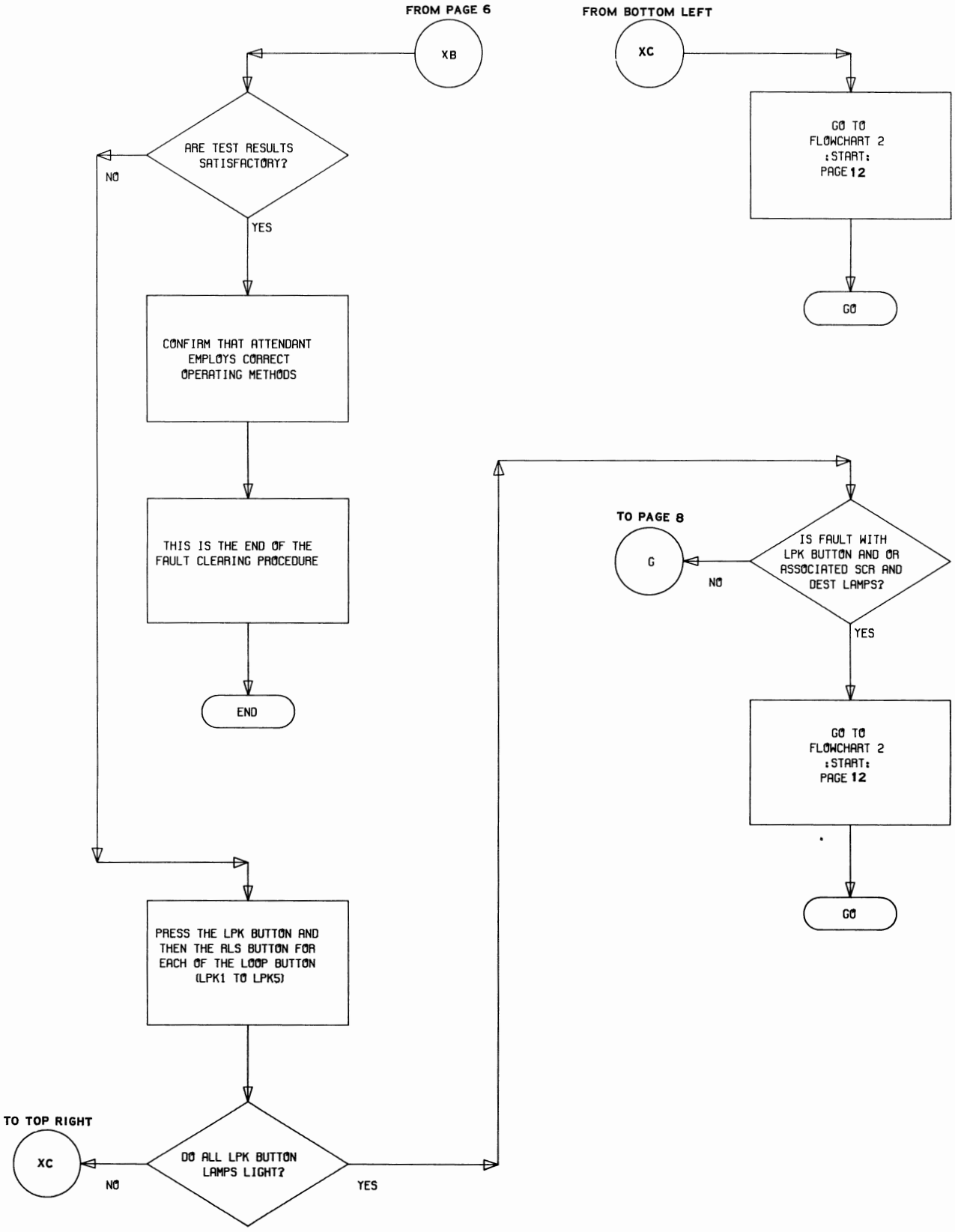
5.09 When the fault clearing procedure is completed, make a visual check to ensure that all circuit packs are well seated in their connector and screws are tight in connector plugs and jacks. The EPABX internal cable arrangement is given in Section 553-5011-501.



Flowchart 1 – Console and Traffic Measurement Fault Classification



Flowchart 1 (Cont)



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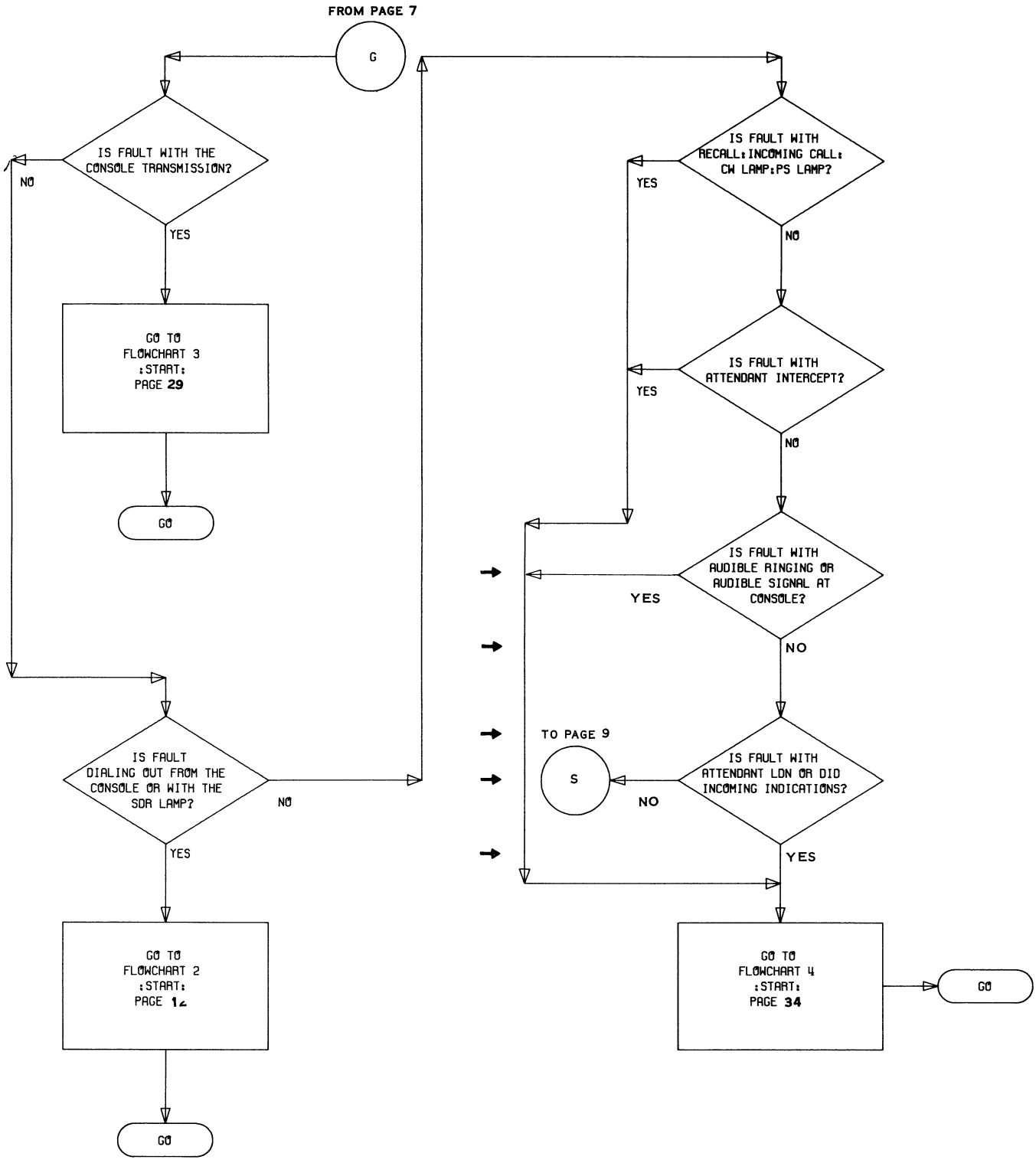

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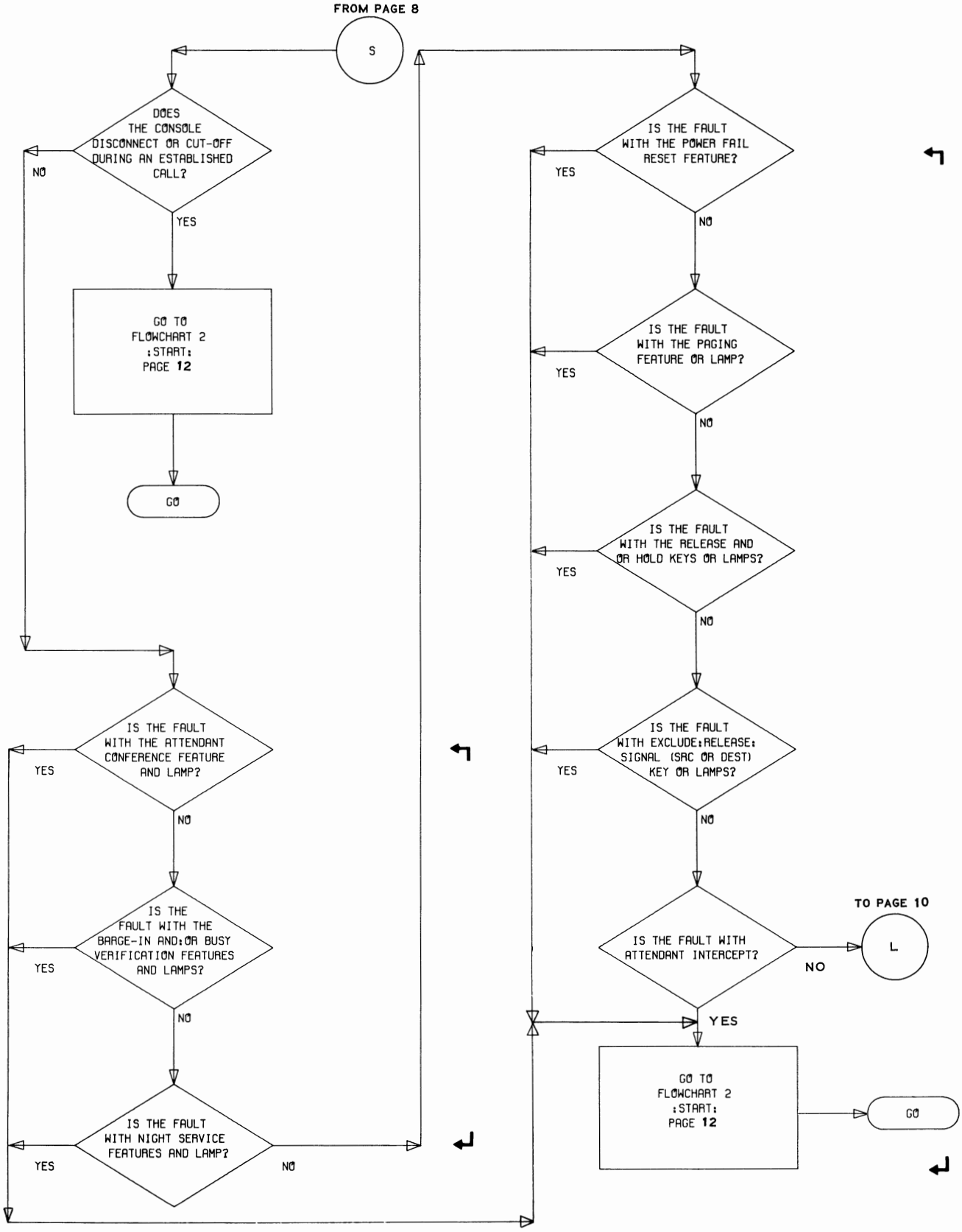

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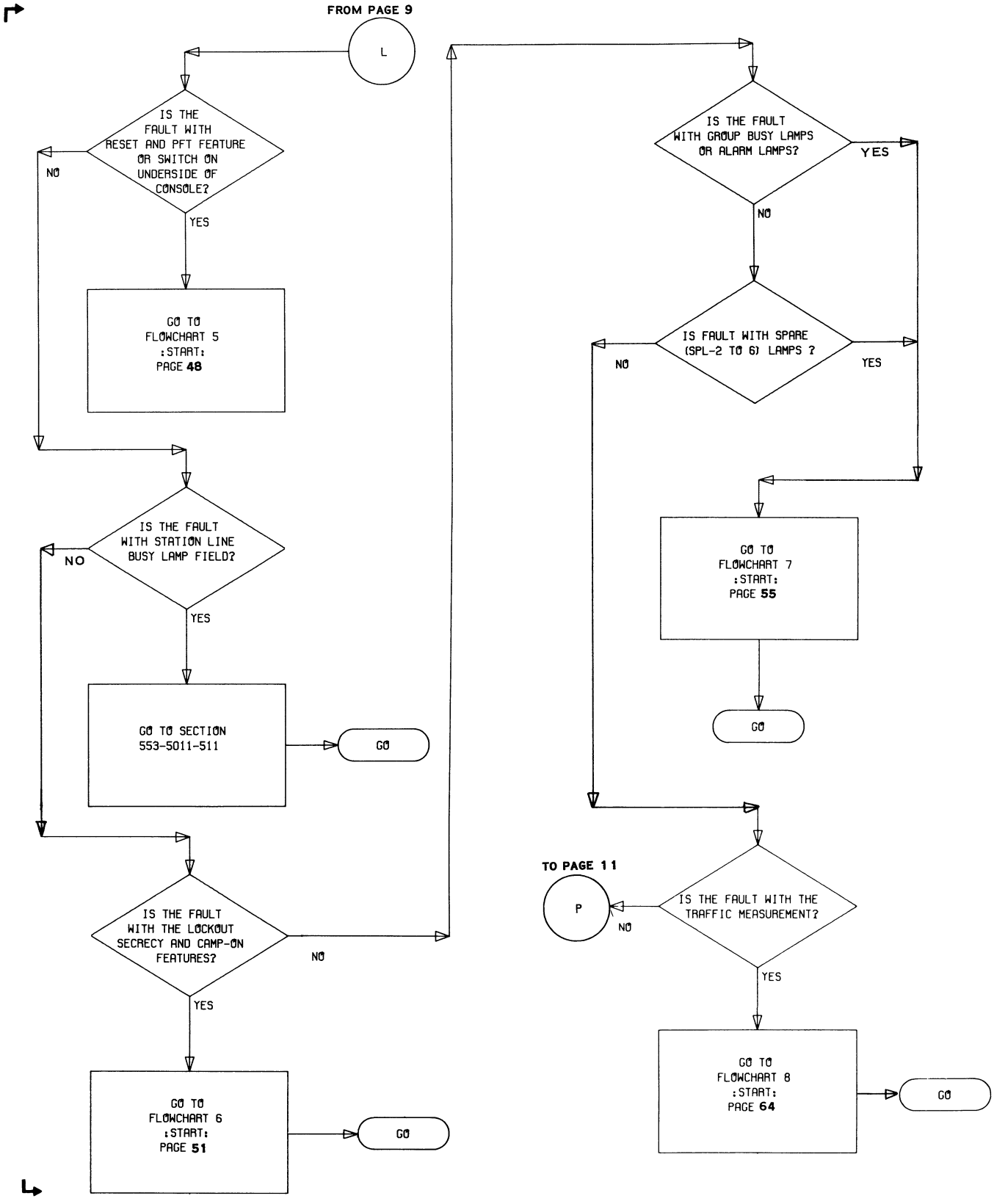

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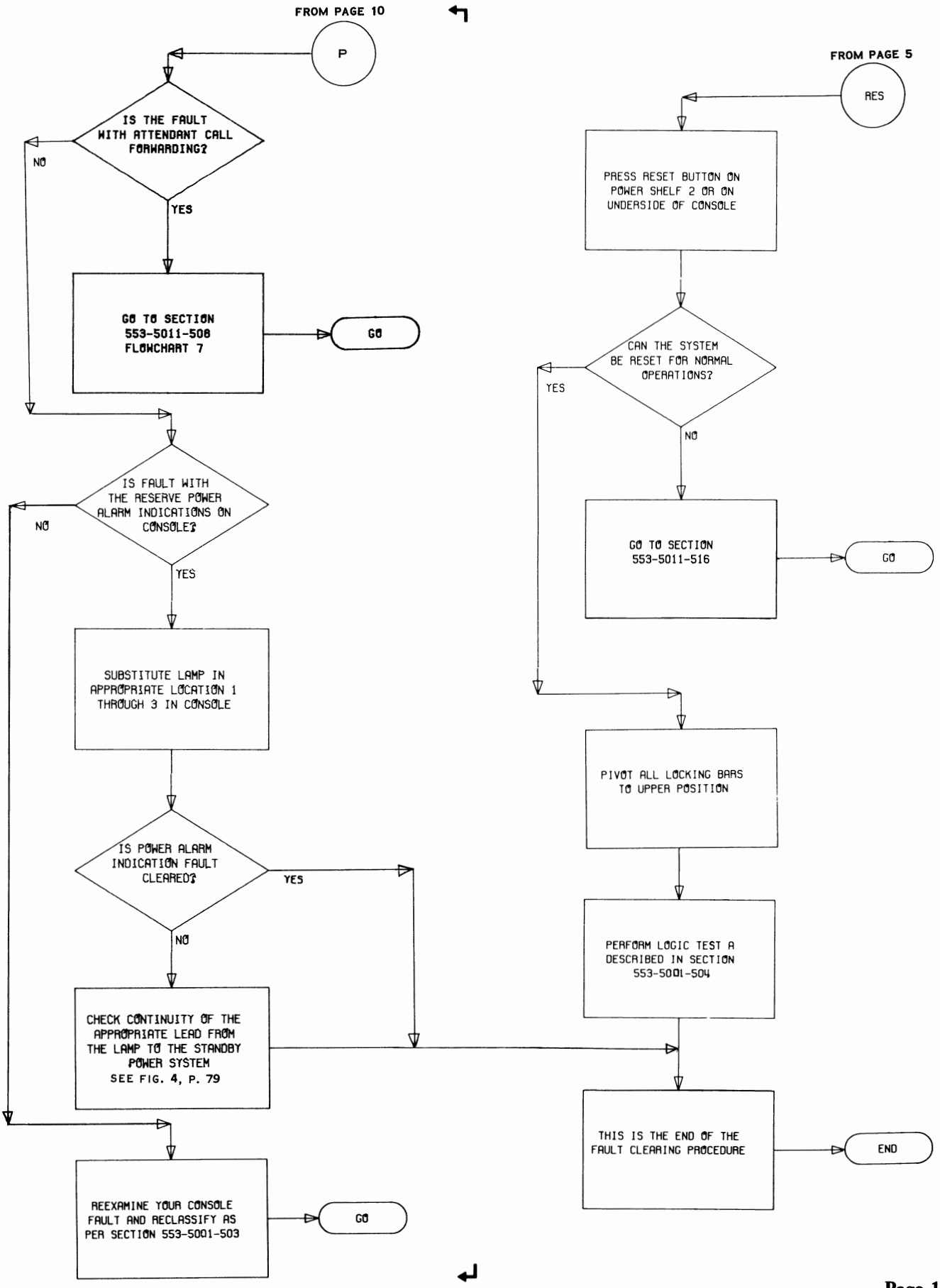
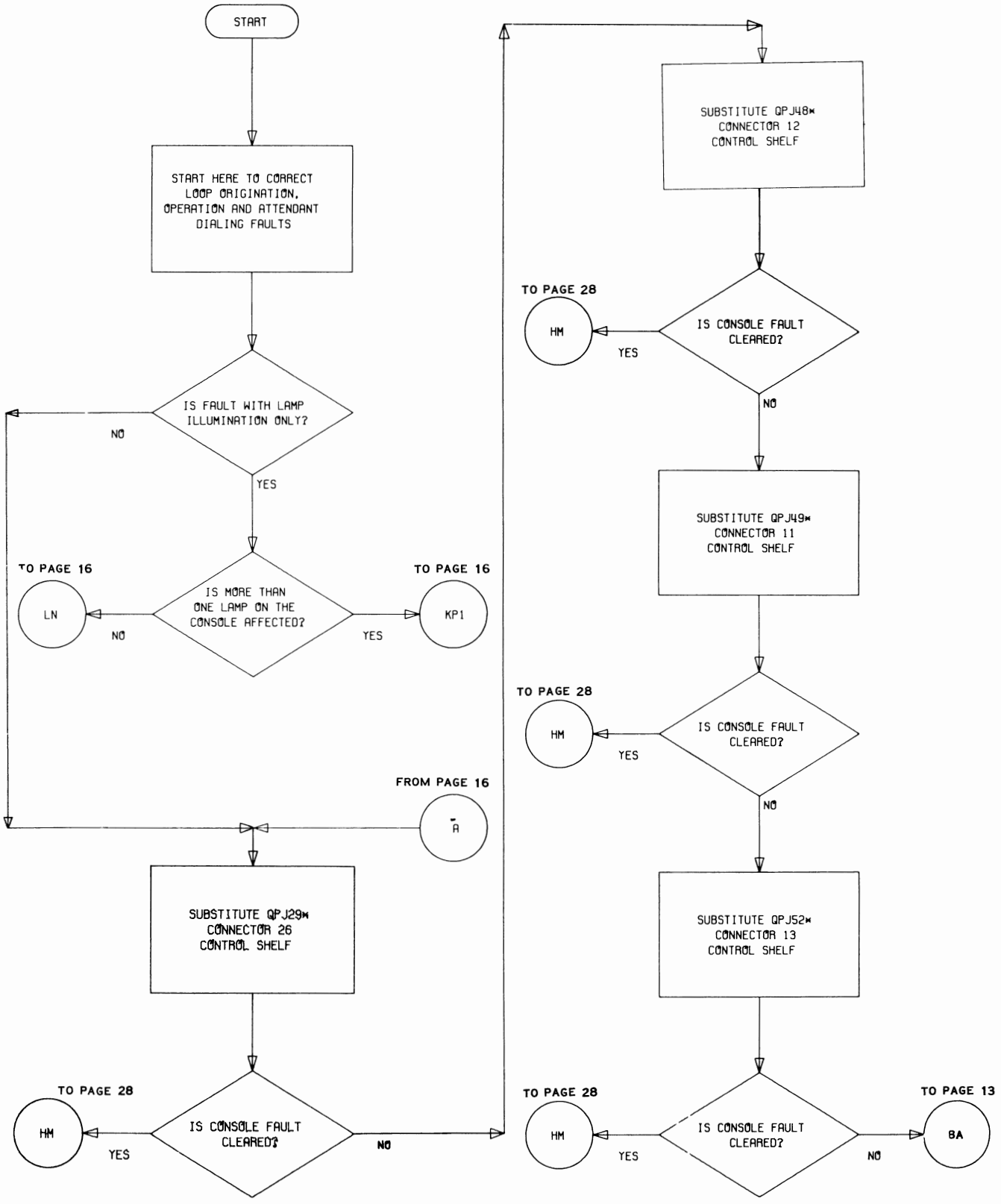
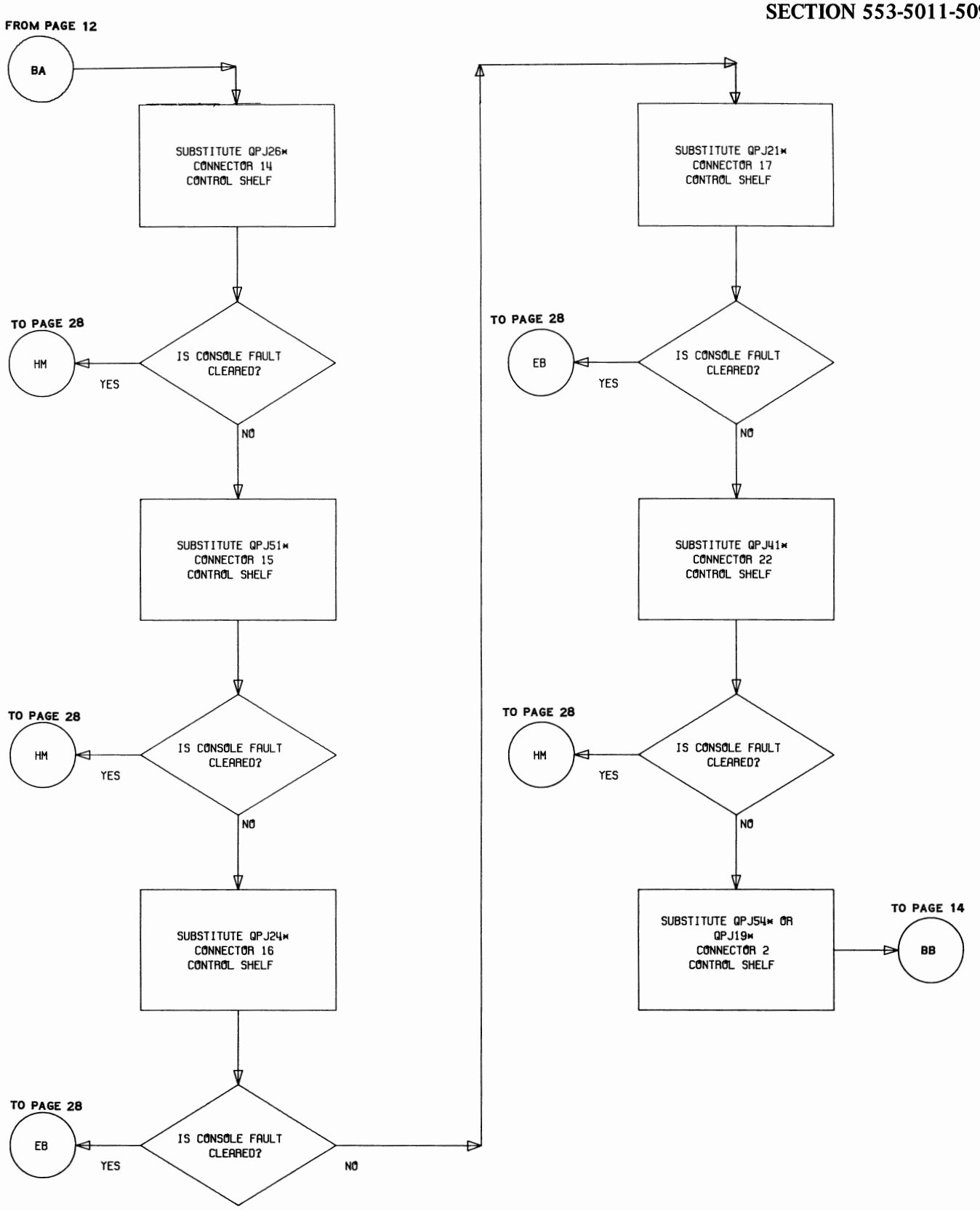

FROM PAGE 10
P
IS THE FAULT WITH ATTENDANT CALL FORWARDING?
NO
YES
GO TO SECTION 553-5011-508 FLOWCHART 7
GO
IS FAULT WITH THE RESERVE POWER ALARM INDICATIONS ON CONSOLE?
NO
YES
SUBSTITUTE LAMP IN APPROPRIATE LOCATION 1 THROUGH 3 IN CONSOLE
IS POWER ALARM INDICATION FAULT CLEARED?
YES
NO
CHECK CONTINUITY OF THE APPROPRIATE LEAD FROM THE LAMP TO THE STANDBY POWER SYSTEM SEE FIG. 4, P. 79
REEXAMINE YOUR CONSOLE FAULT AND RECLASSIFY AS PER SECTION 553-5001-503
GO
FROM PAGE 5
RES
PRESS RESET BUTTON ON POWER SHELF 2 OR ON UNDERSIDE OF CONSOLE
CAN THE SYSTEM BE RESET FOR NORMAL OPERATIONS?
YES
NO
GO TO SECTION 553-5011-516
GO
PIVOT ALL LOCKING BARS TO UPPER POSITION
PERFORM LOGIC TEST A DESCRIBED IN SECTION 553-5001-504
THIS IS THE END OF THE FAULT CLEARING PROCEDURE
END



Flowchart 2 – Loop Origination, Operating and Dialing Faults



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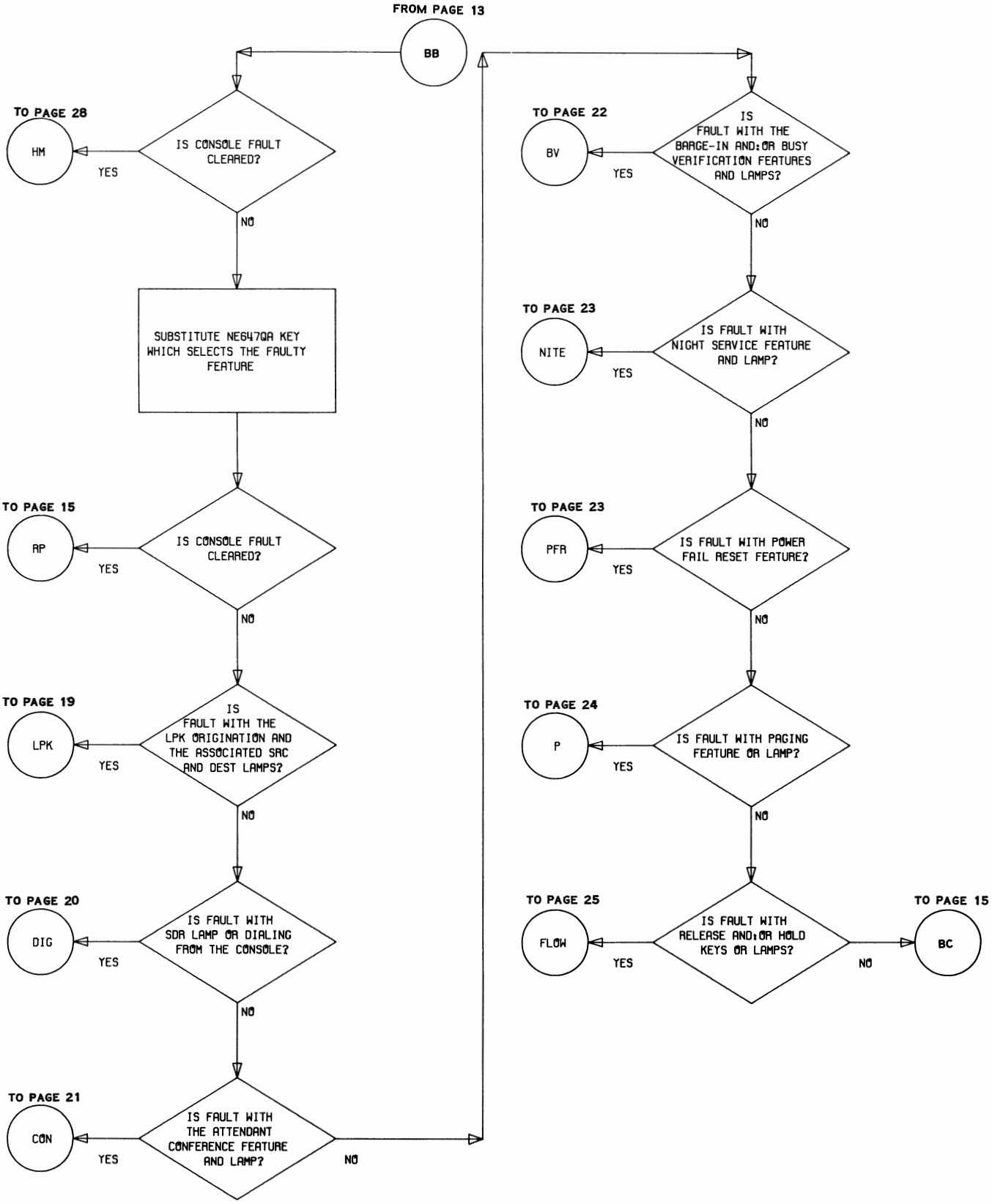

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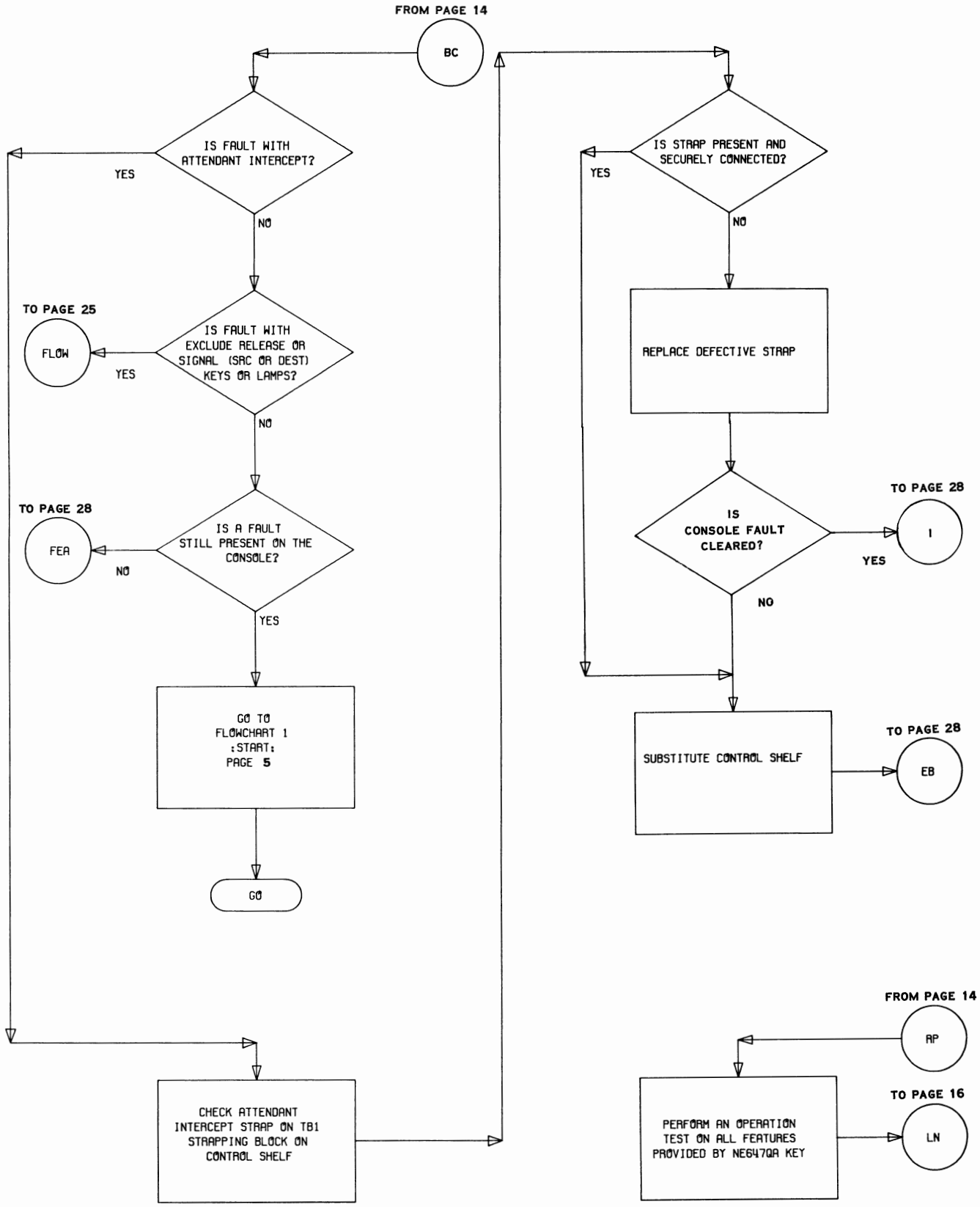

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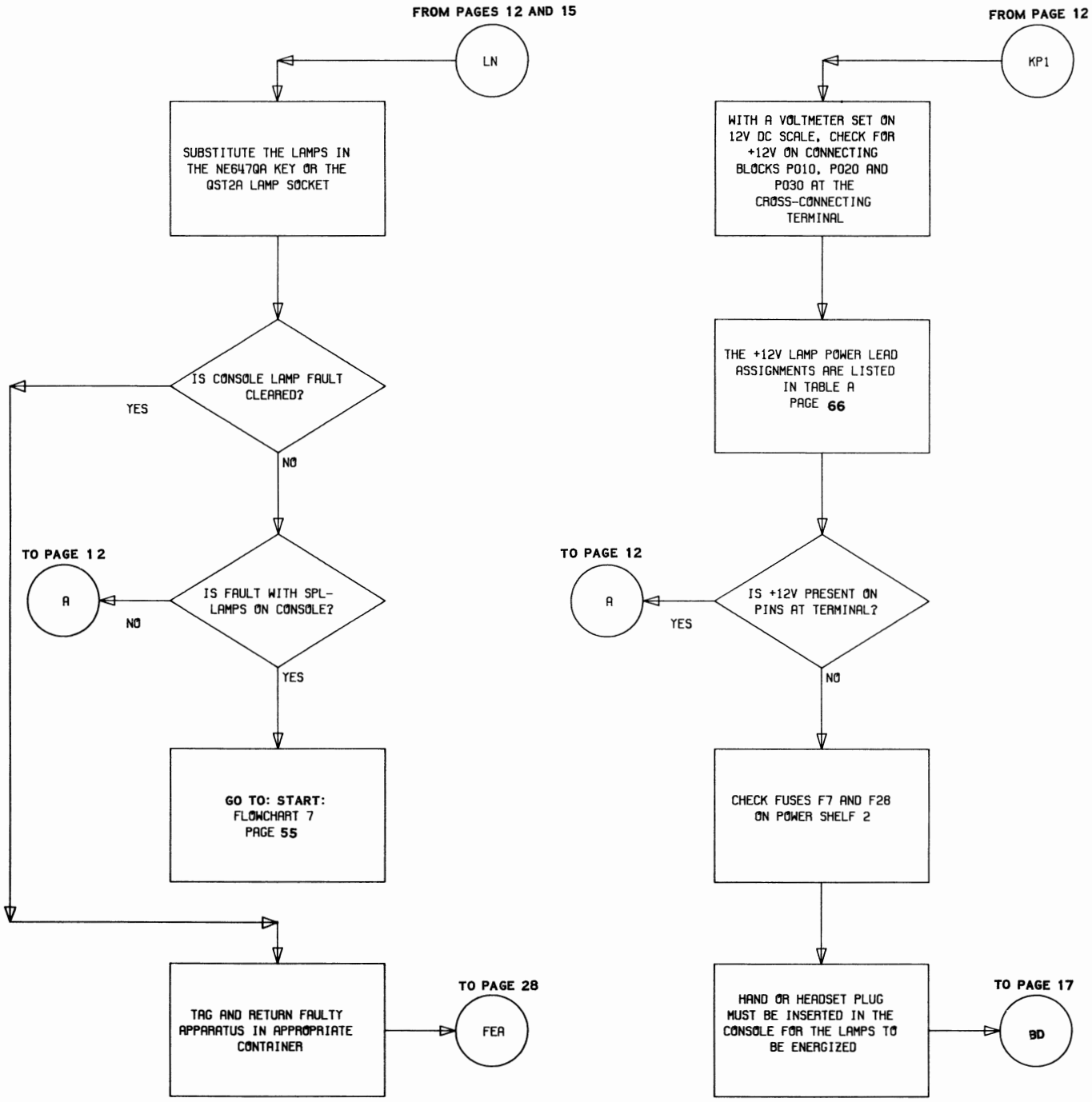

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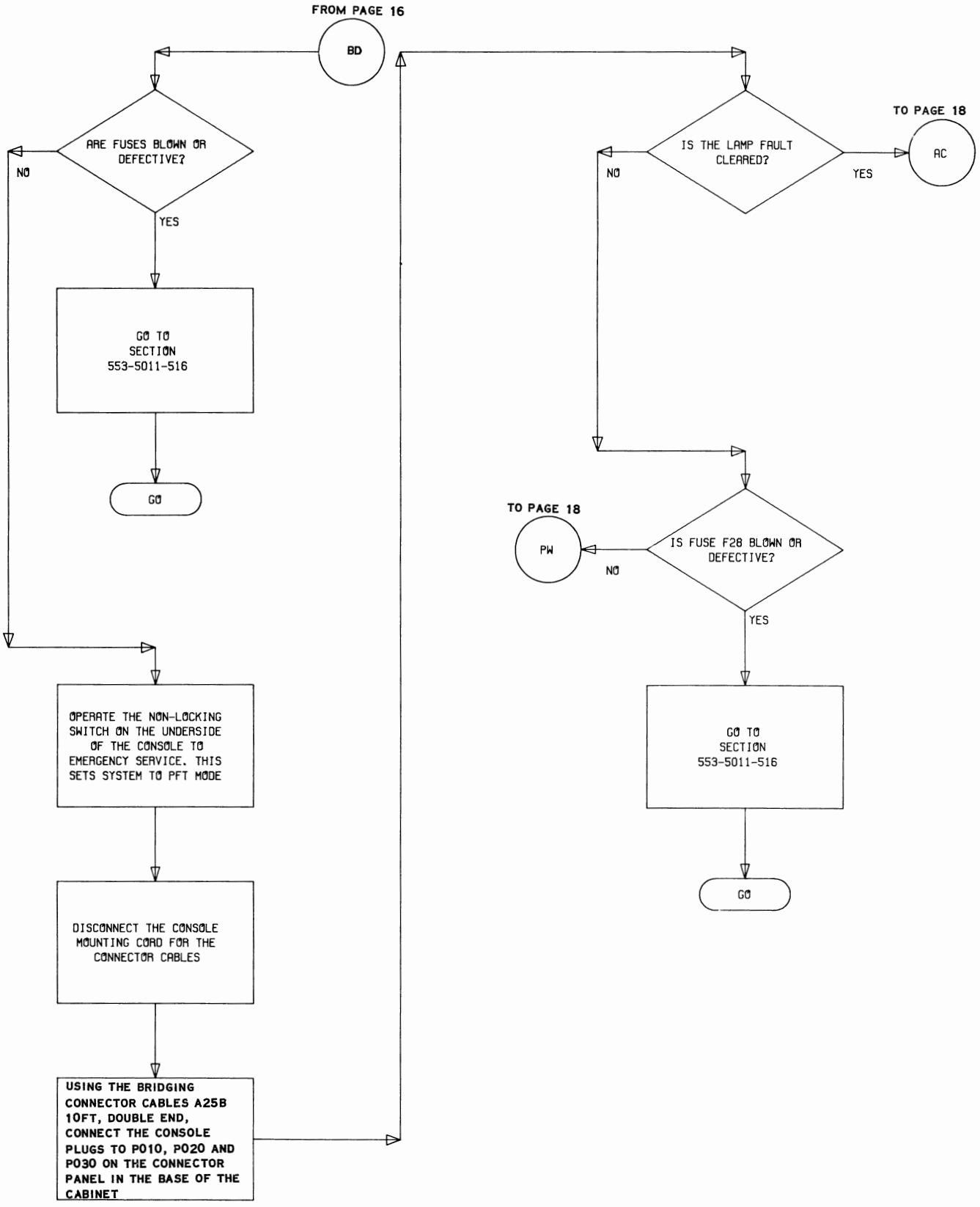

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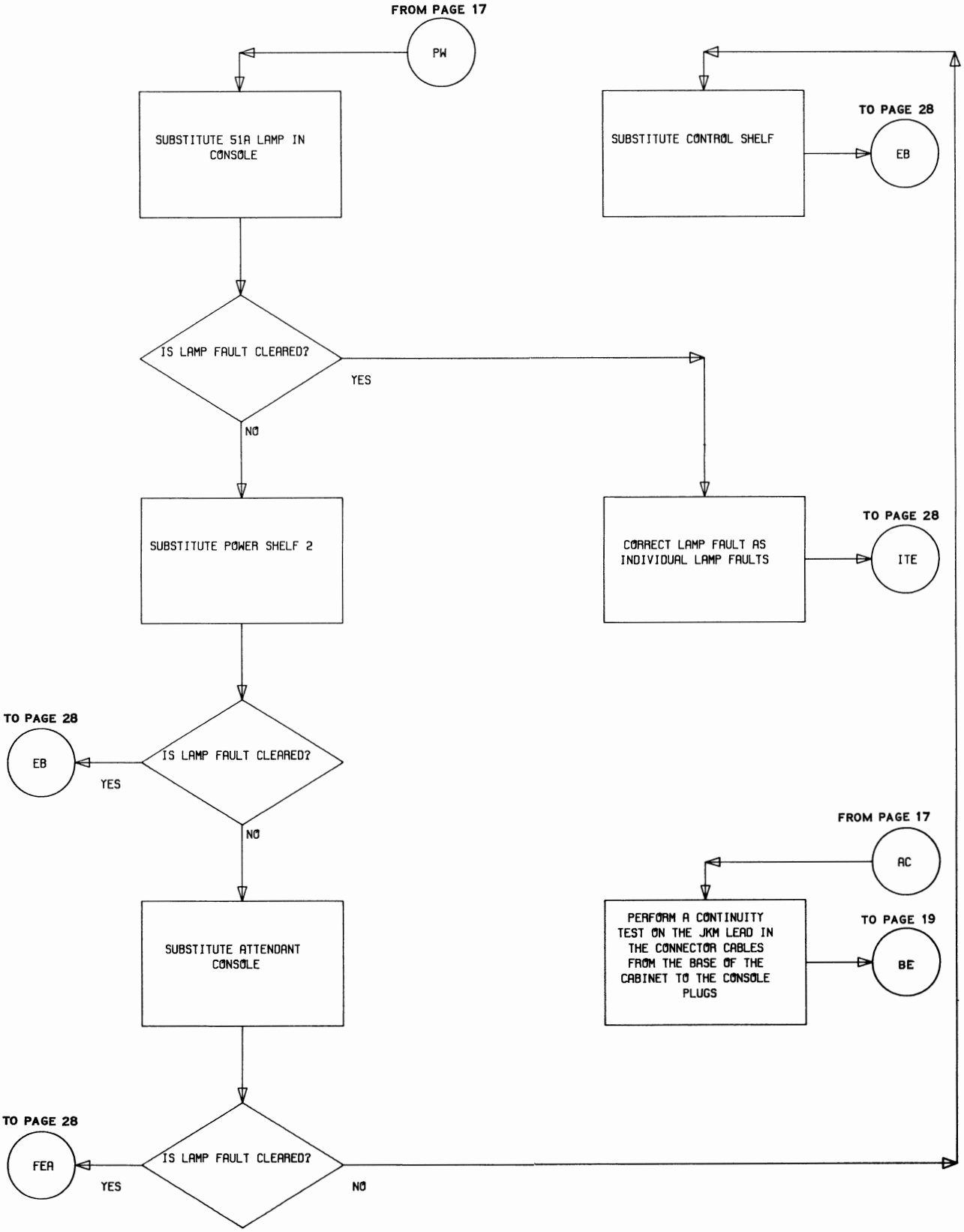

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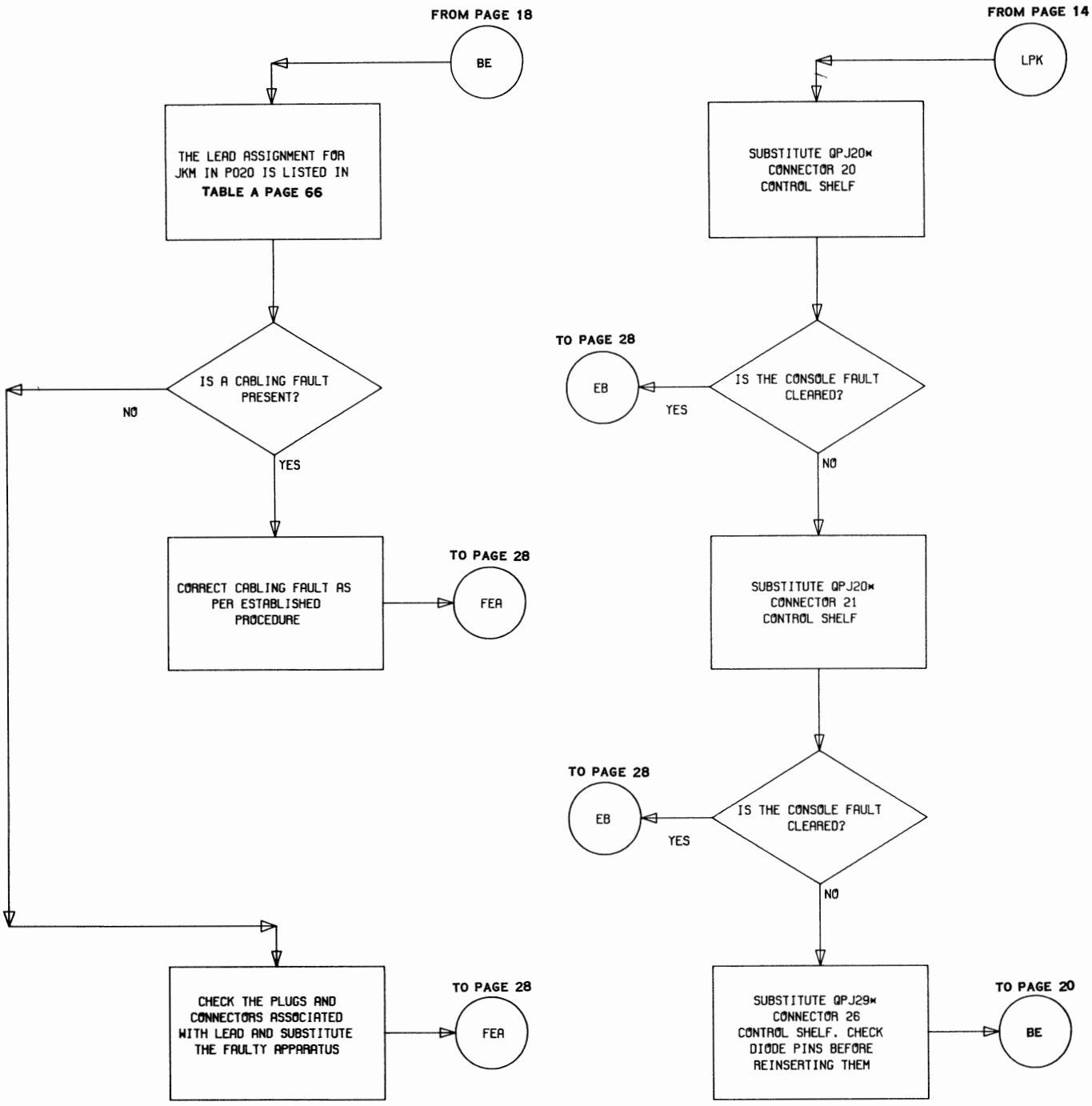

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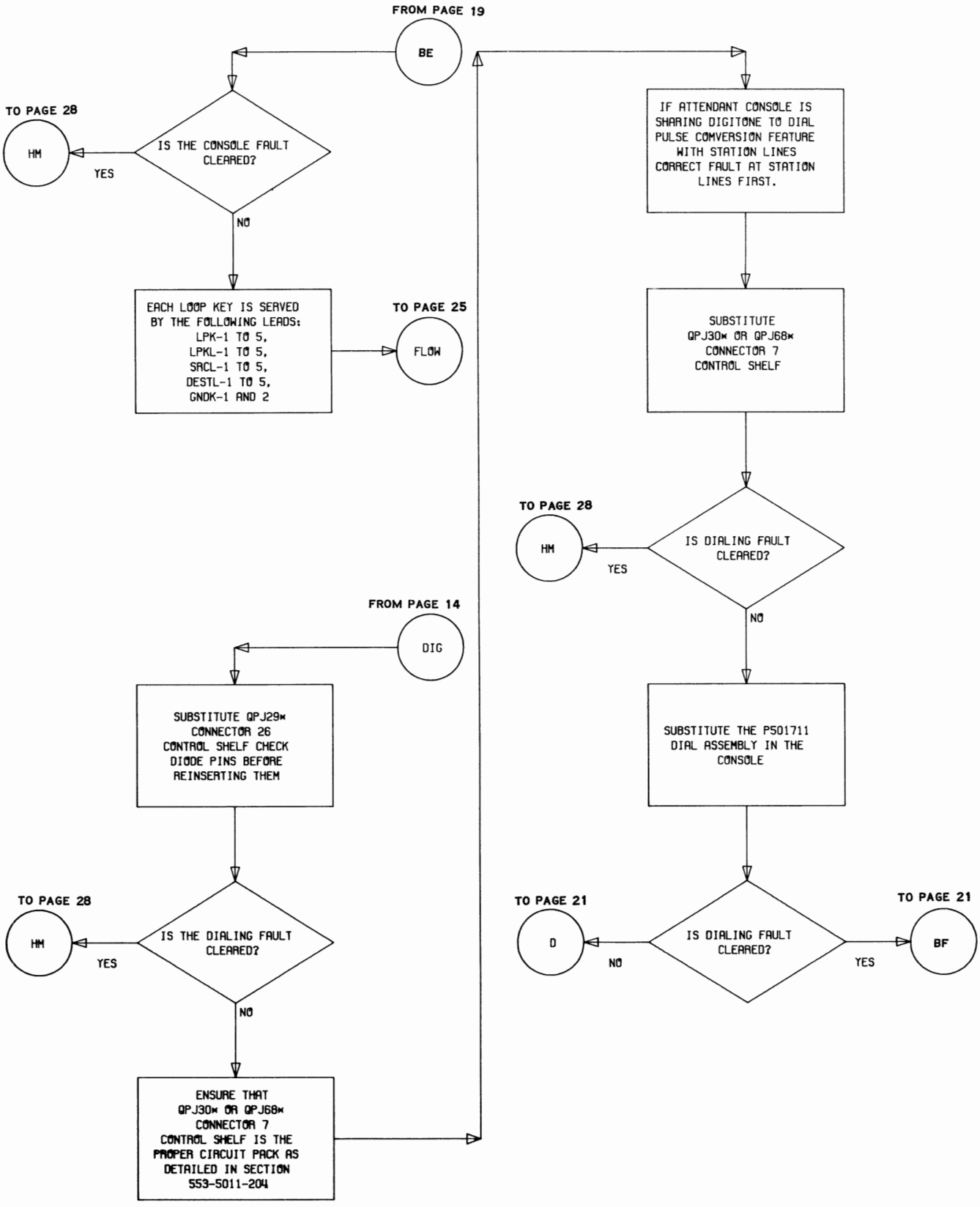

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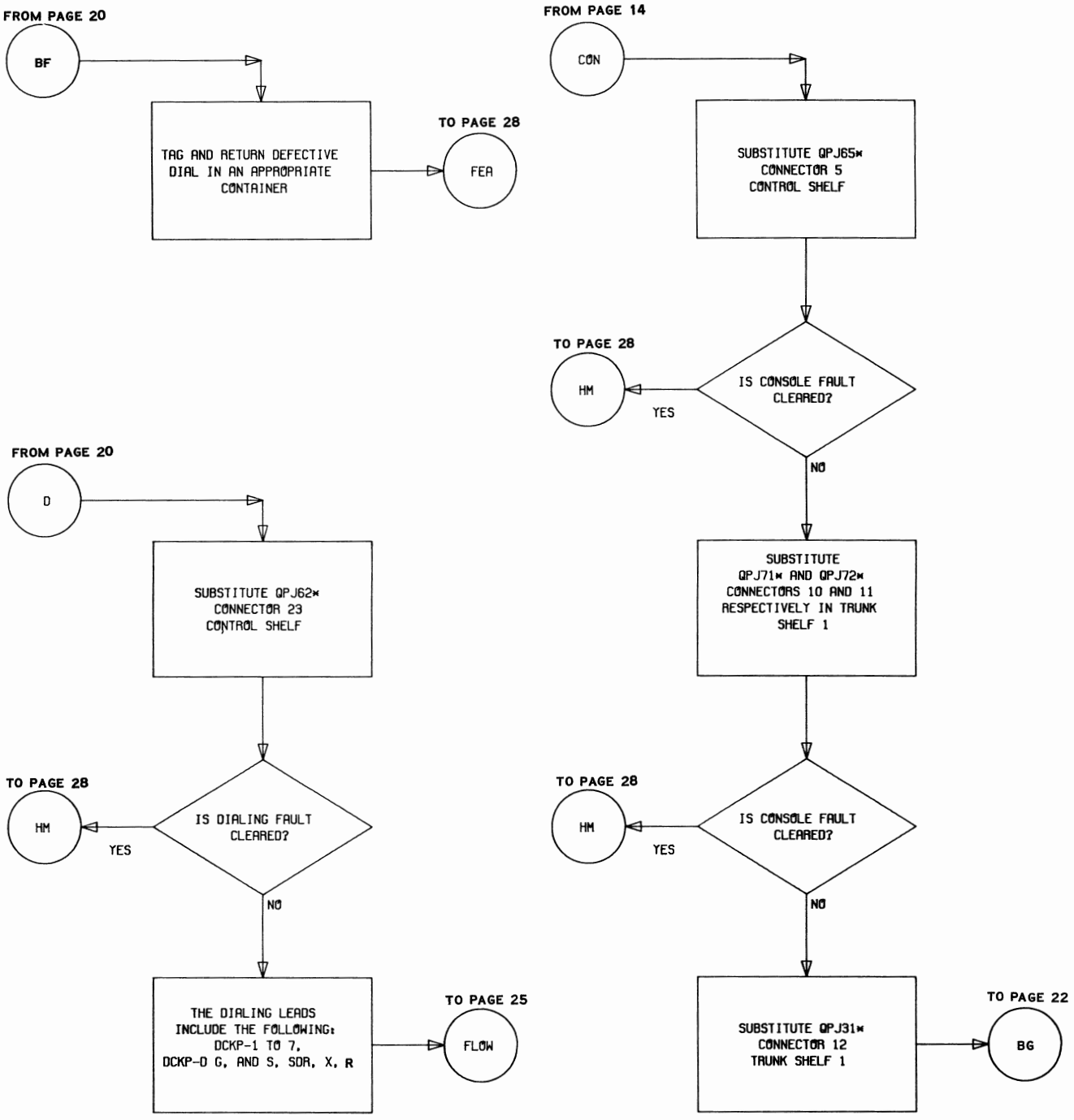

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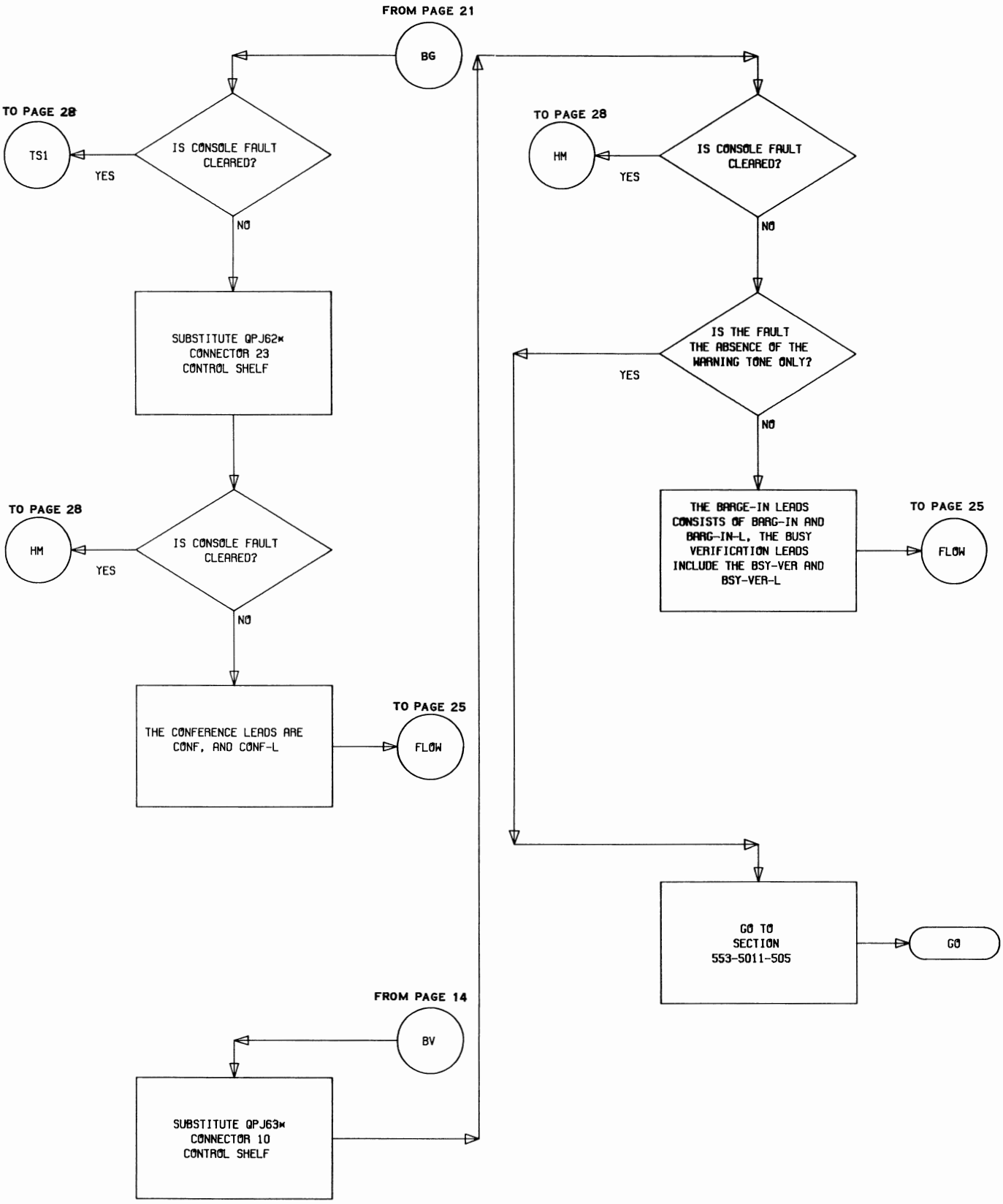

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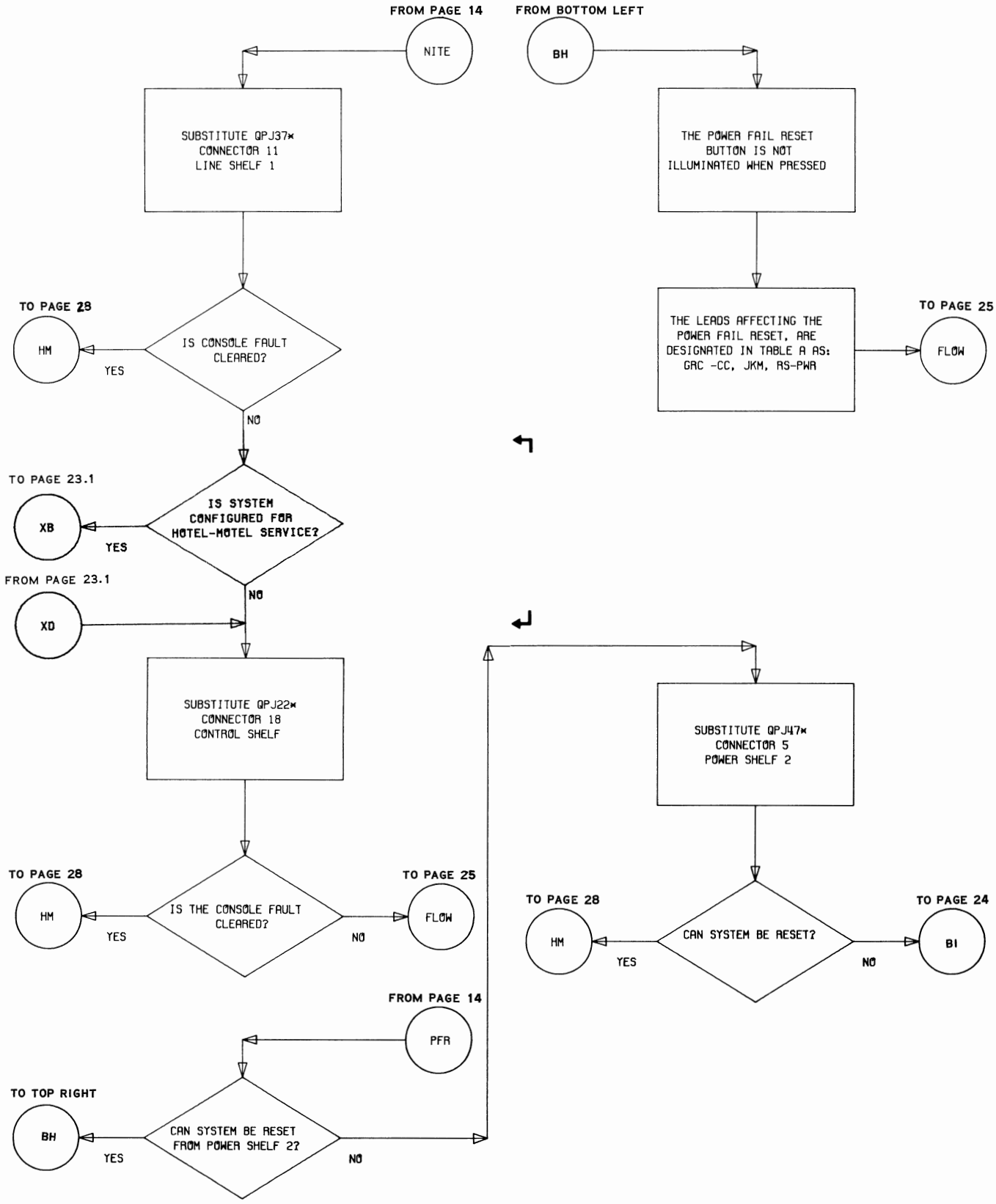

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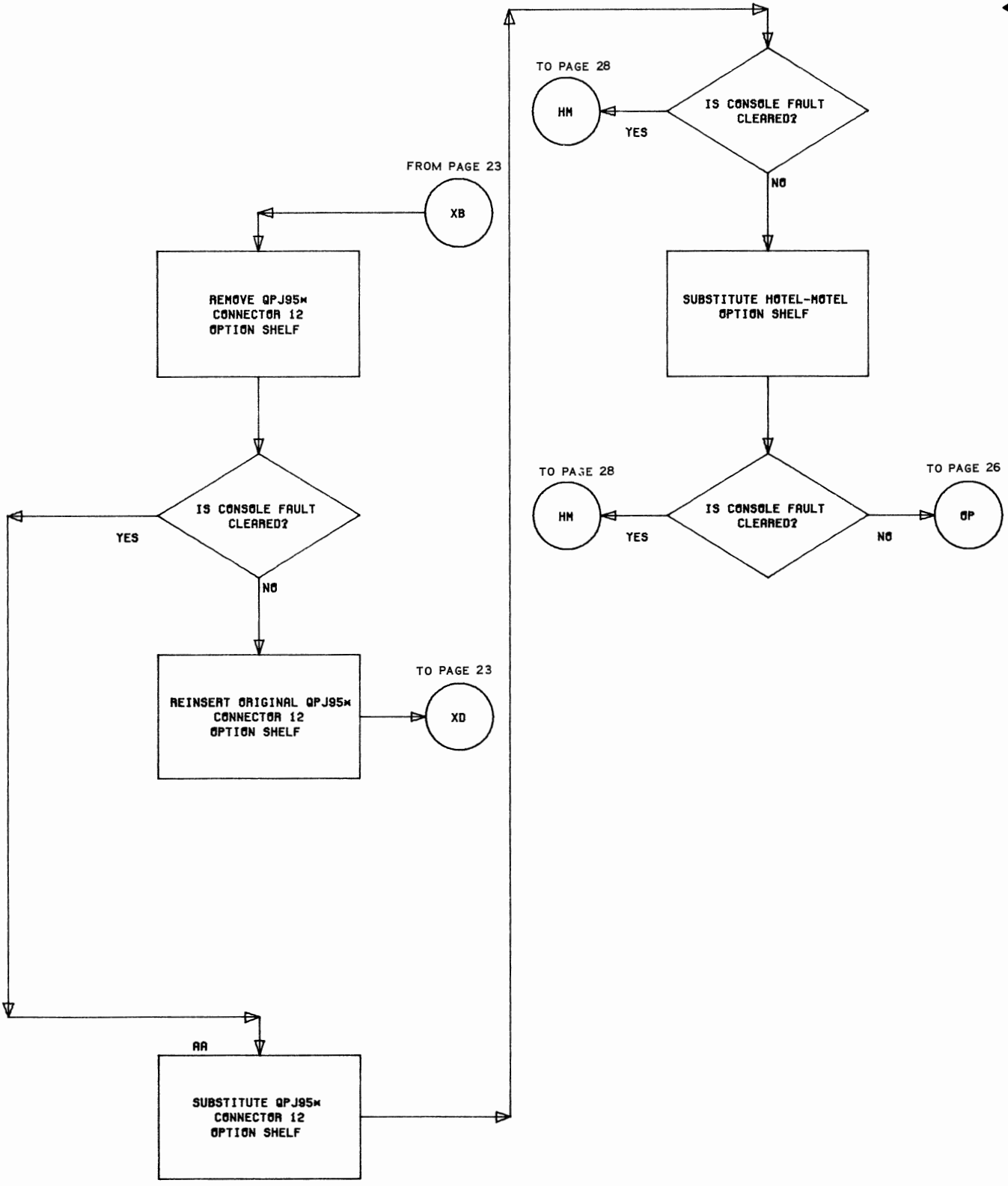

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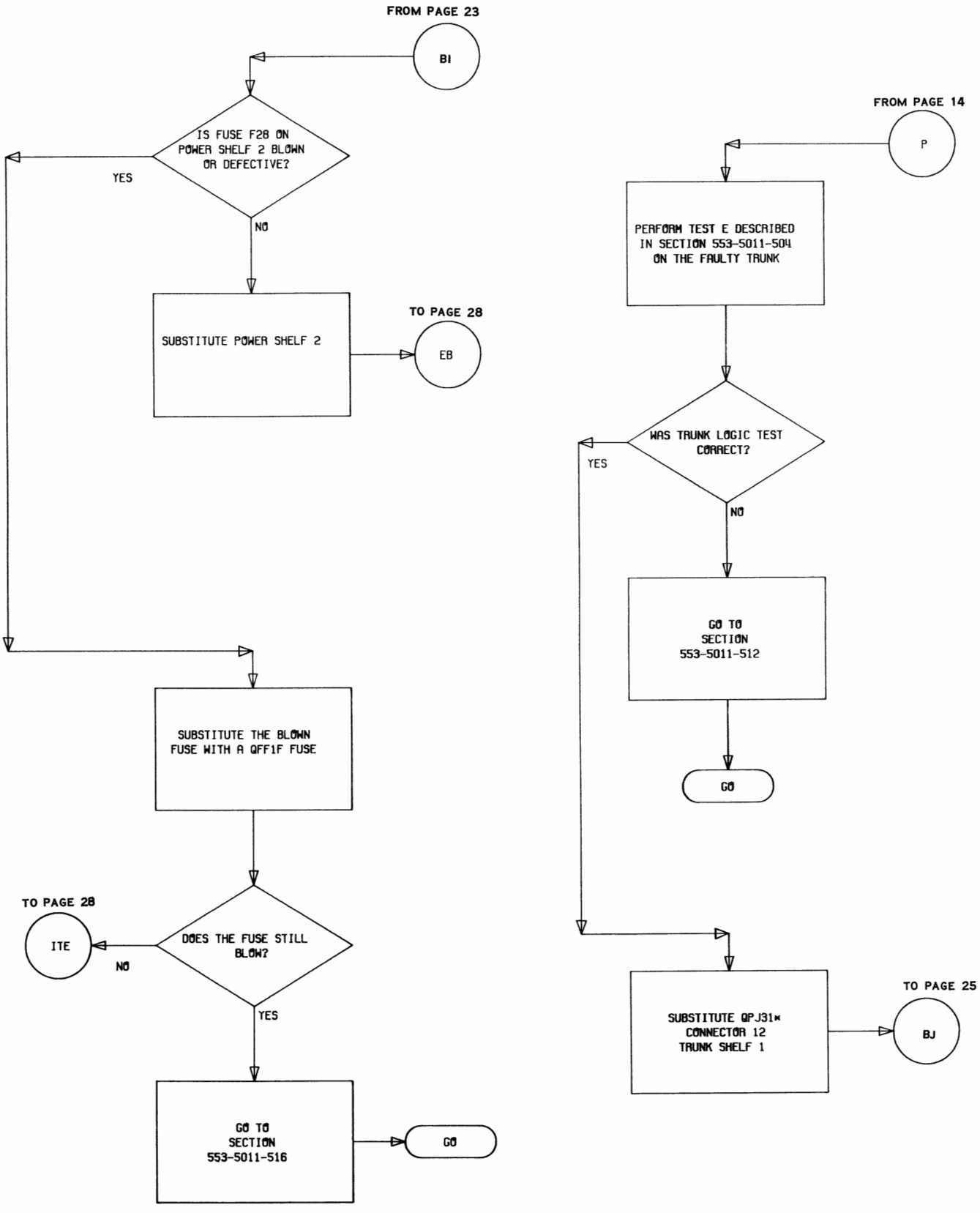

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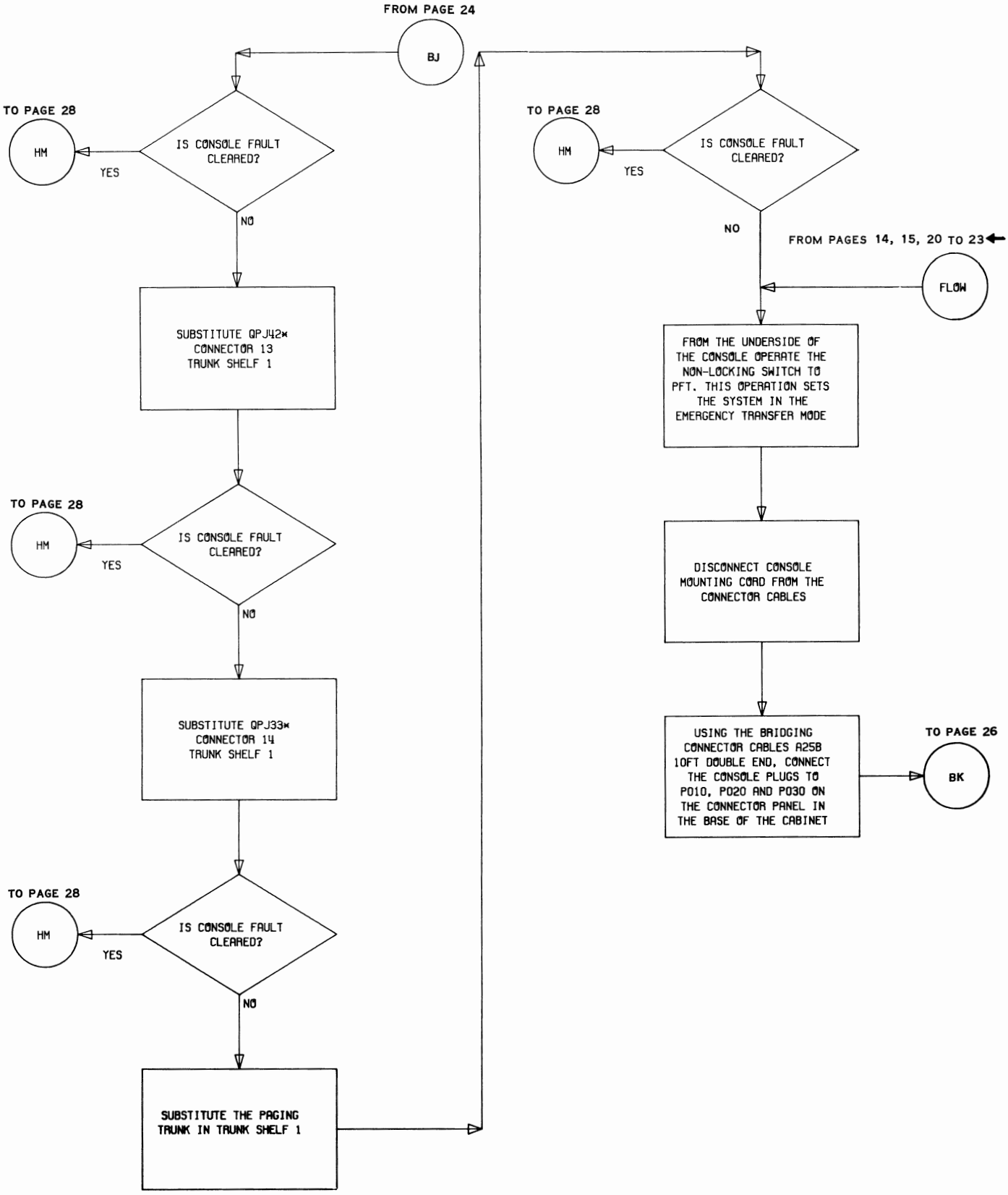

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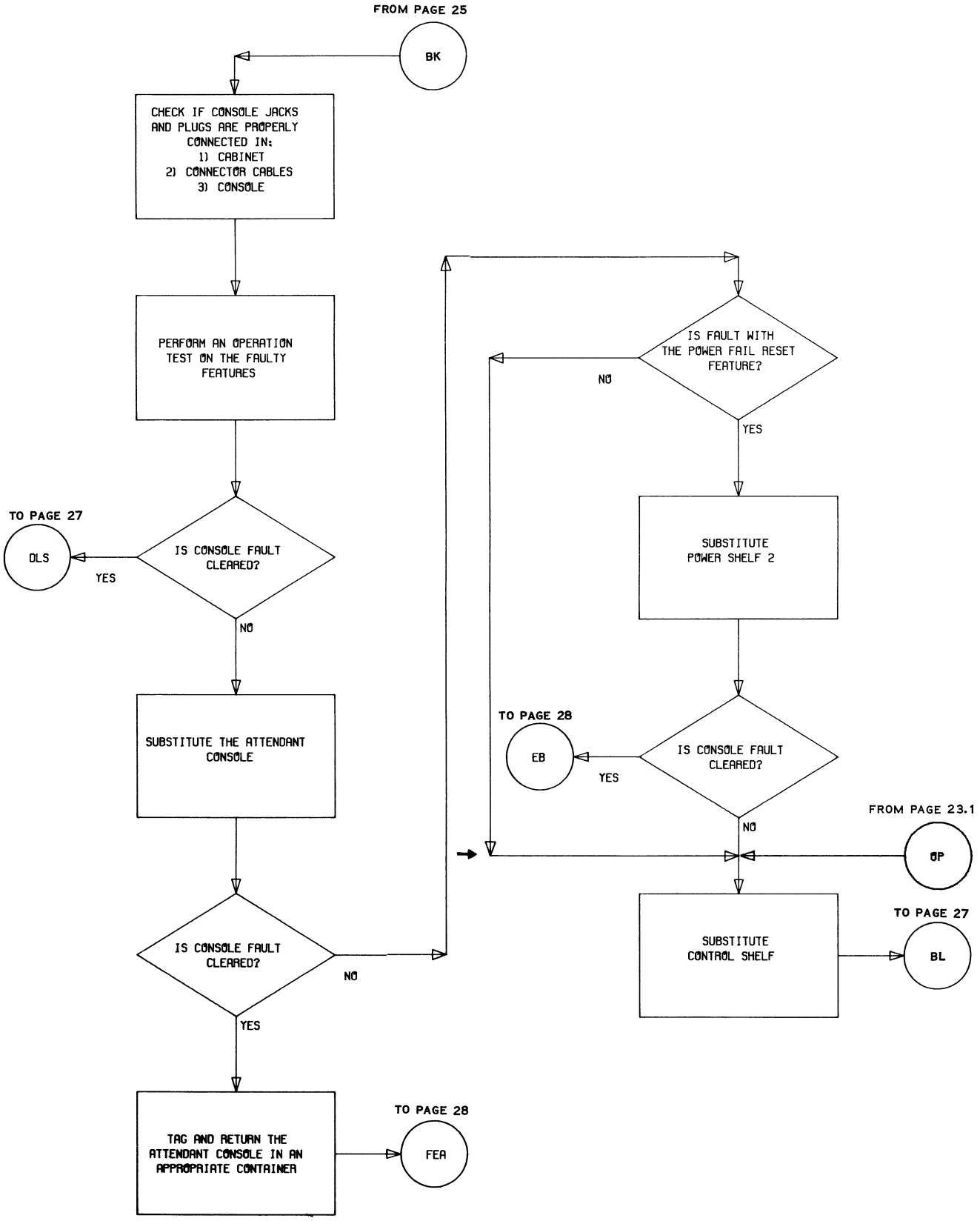

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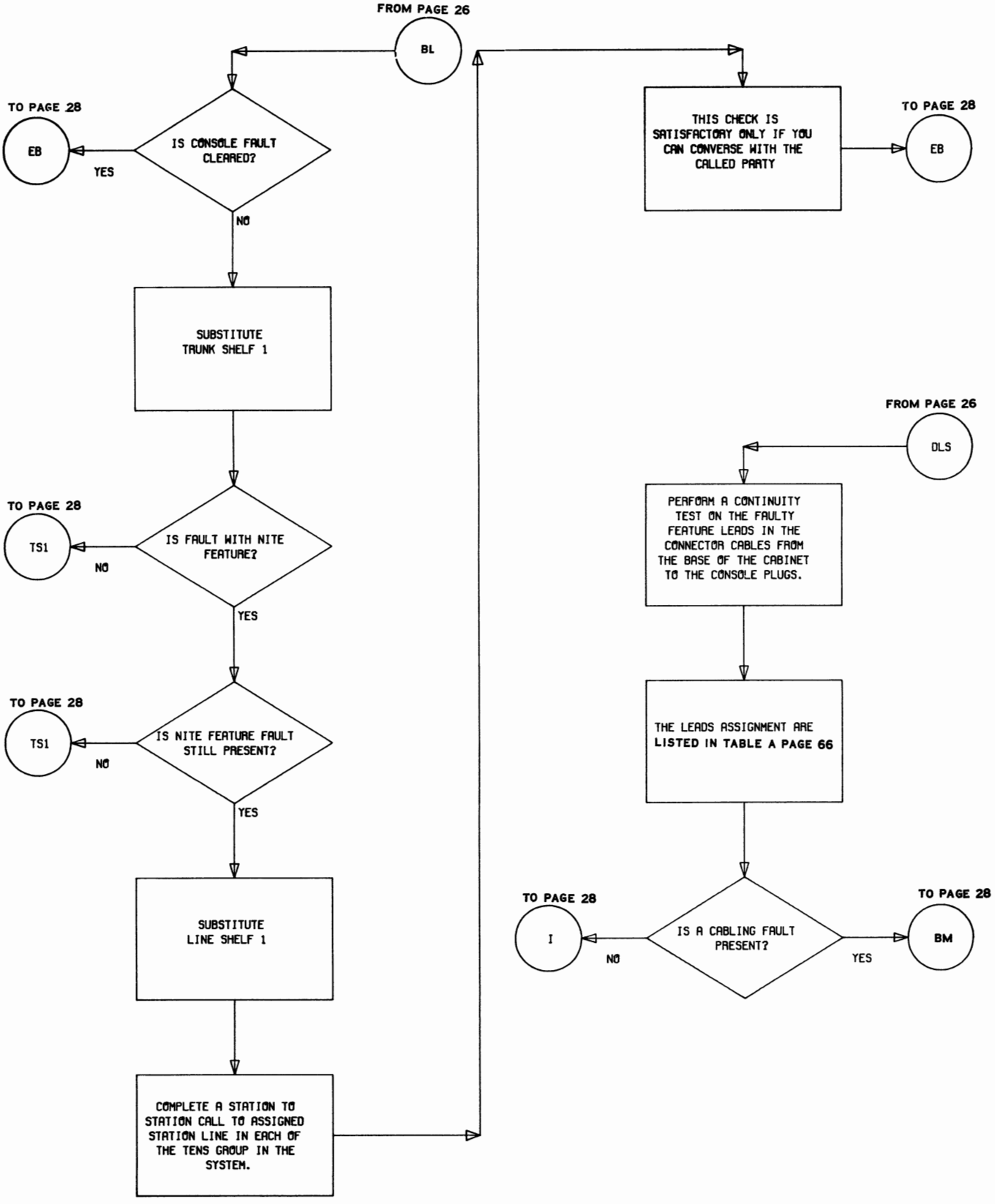

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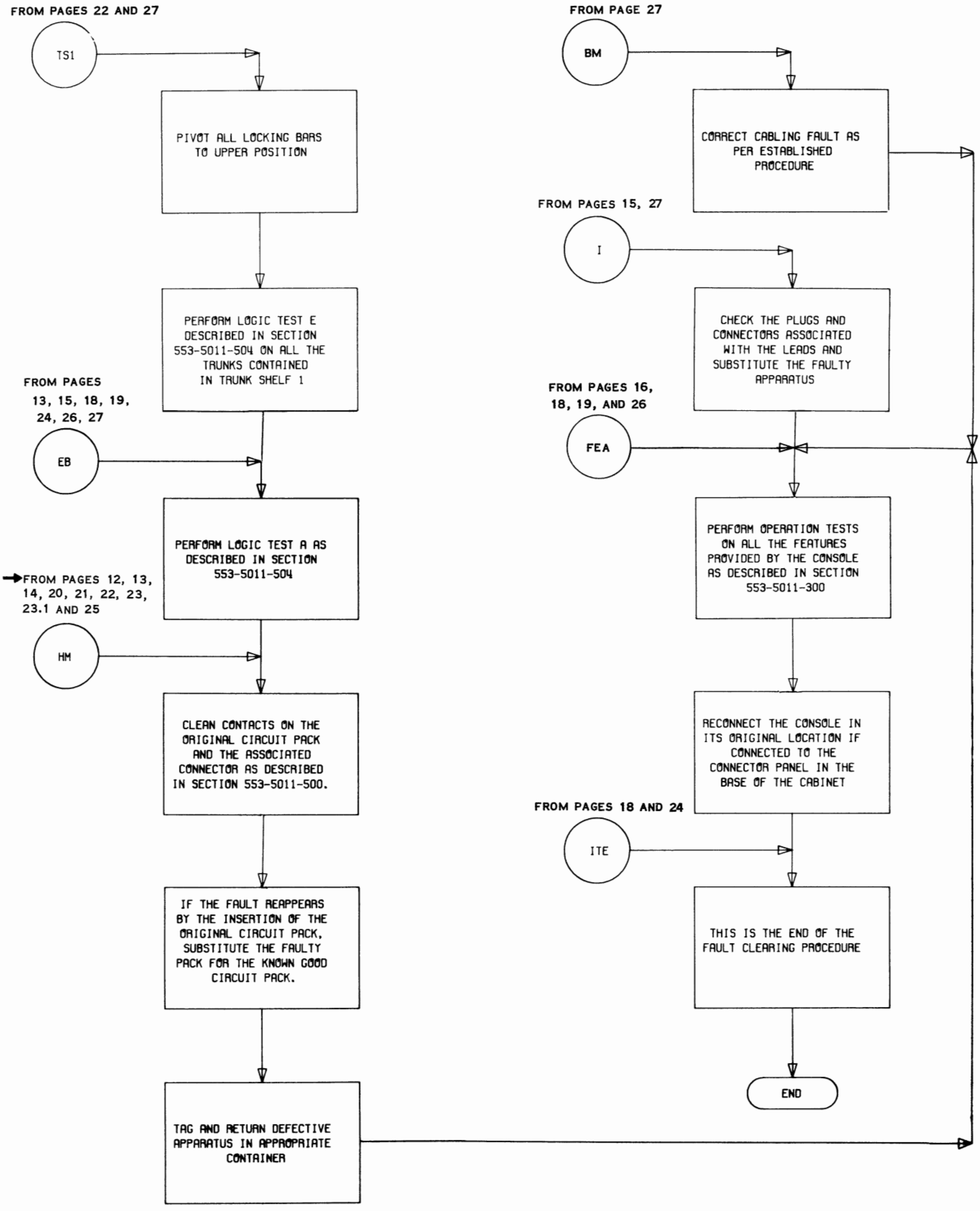

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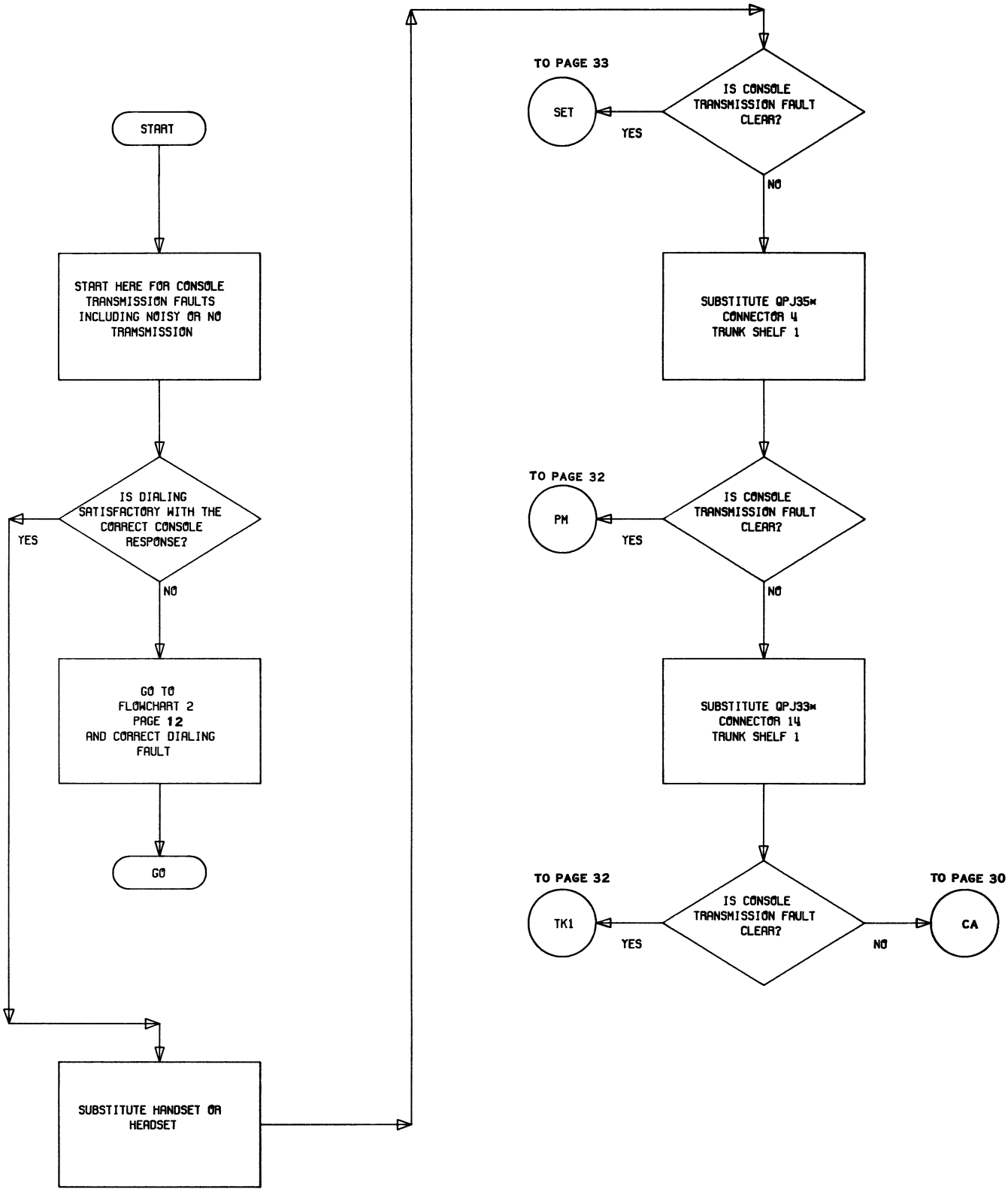
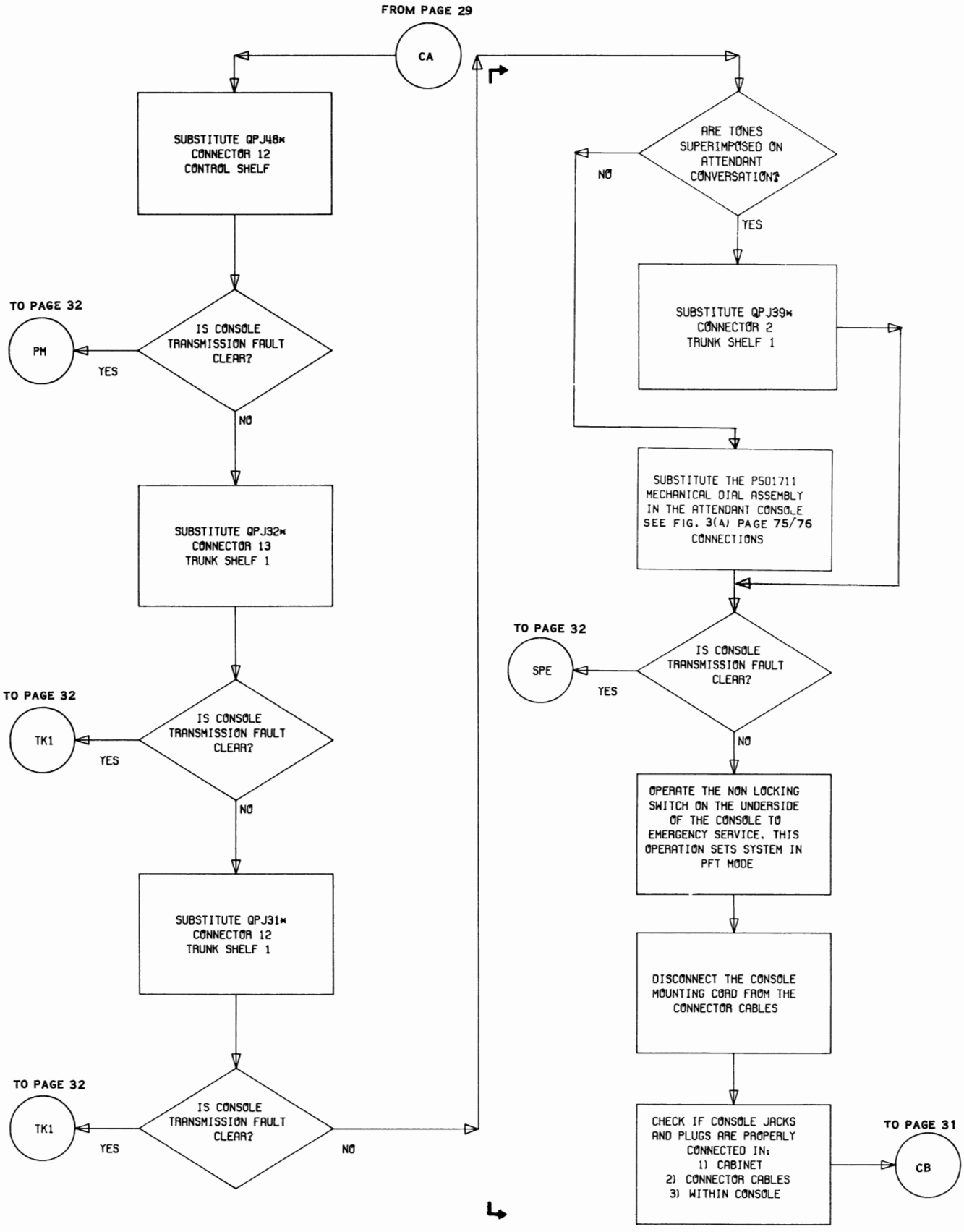


Flowchart 3 – Console Transmission Faults



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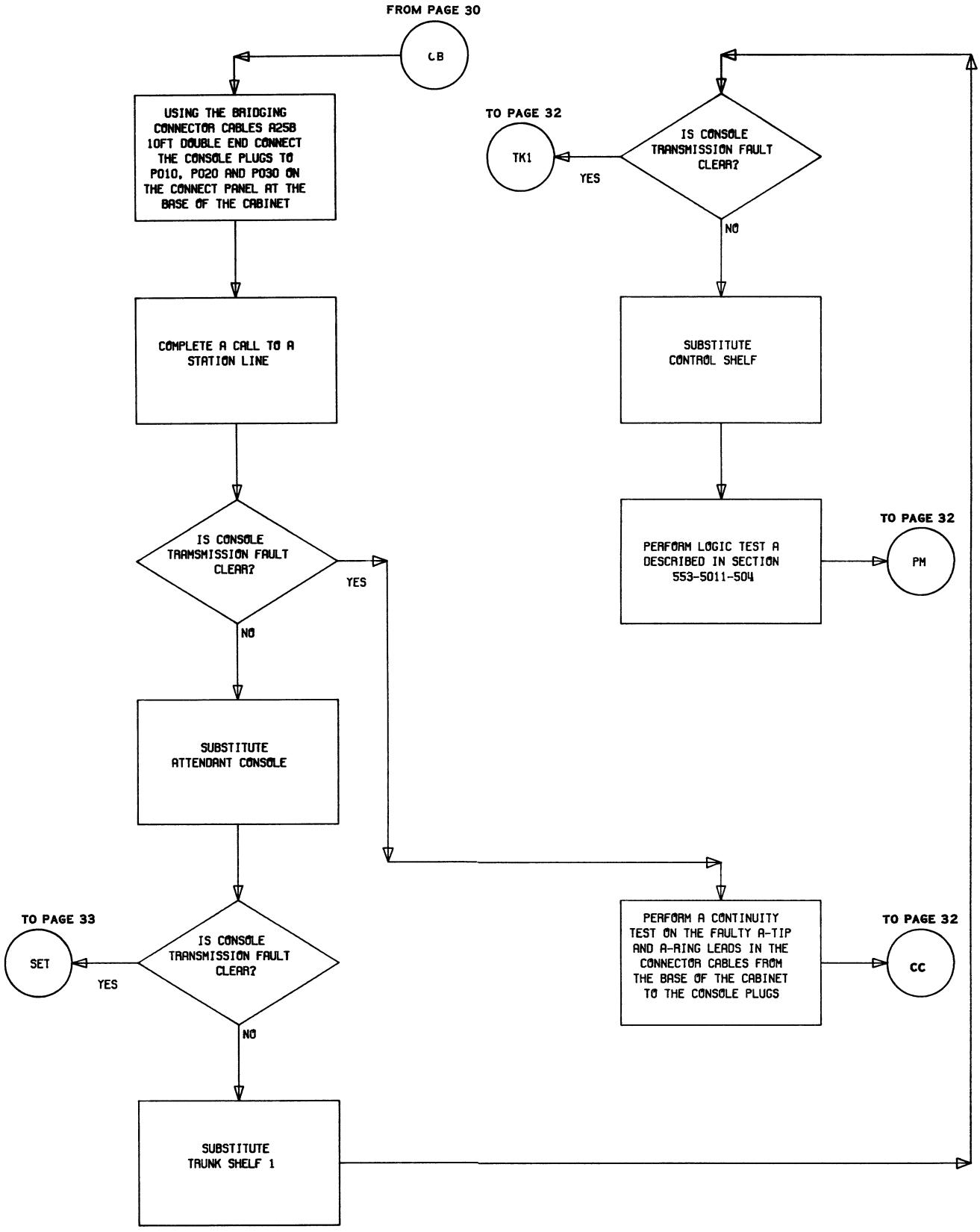

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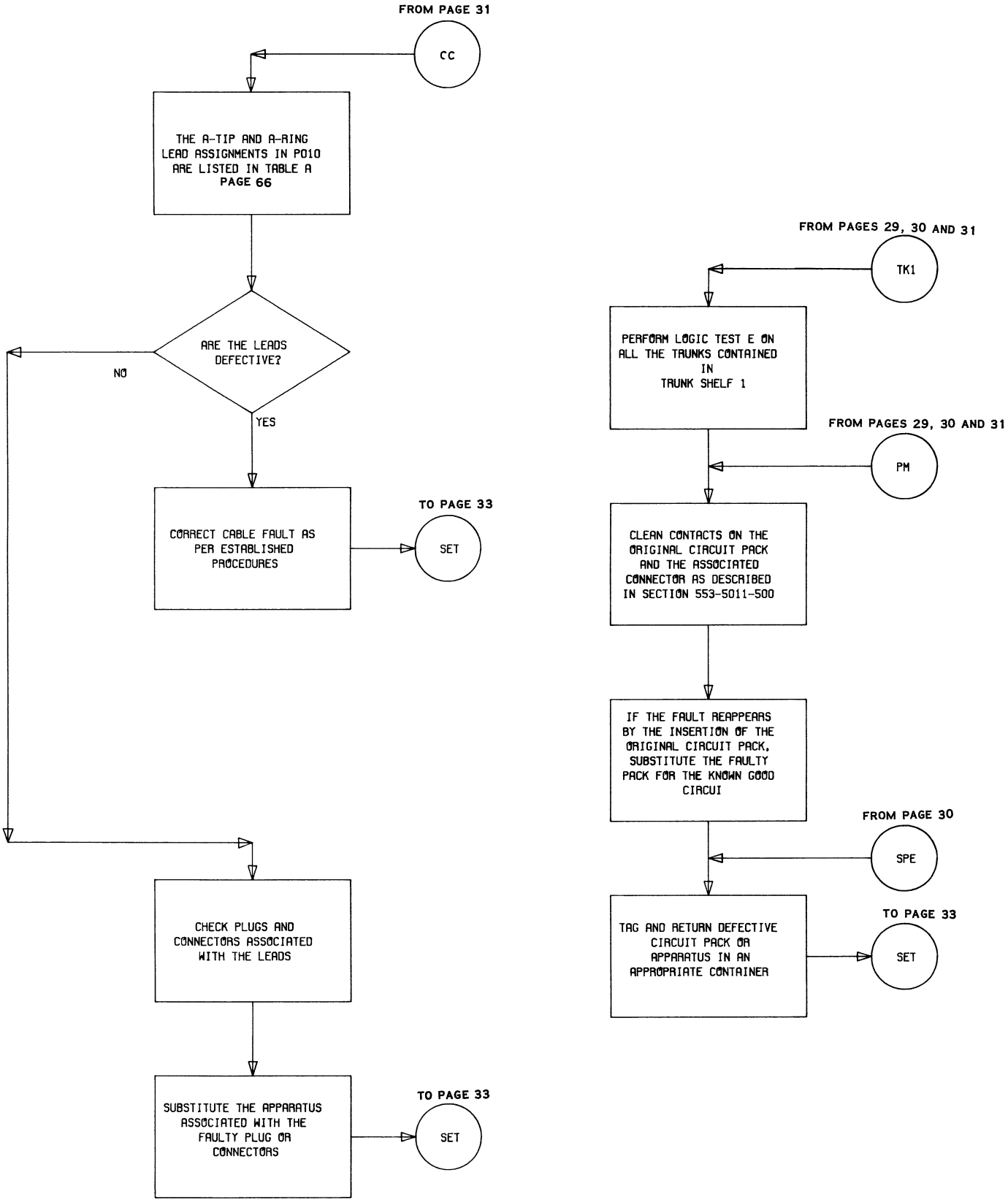

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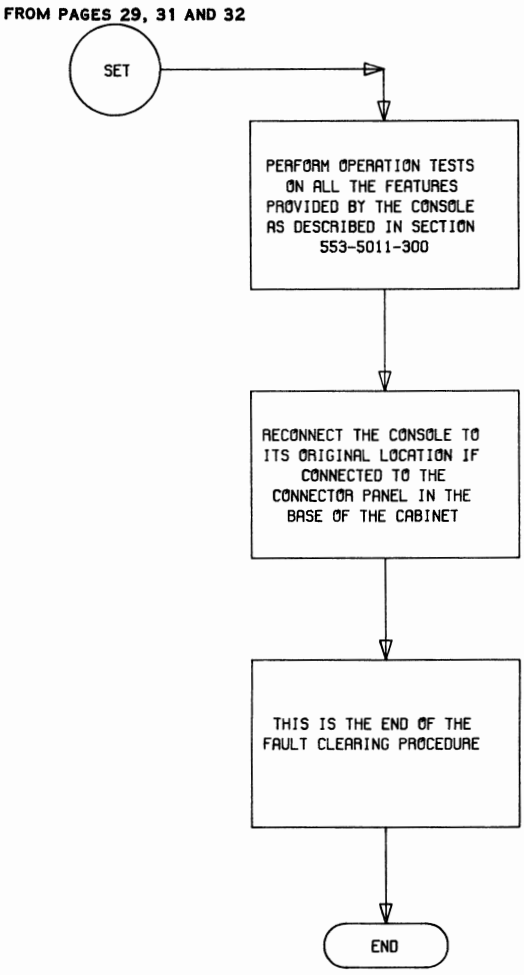

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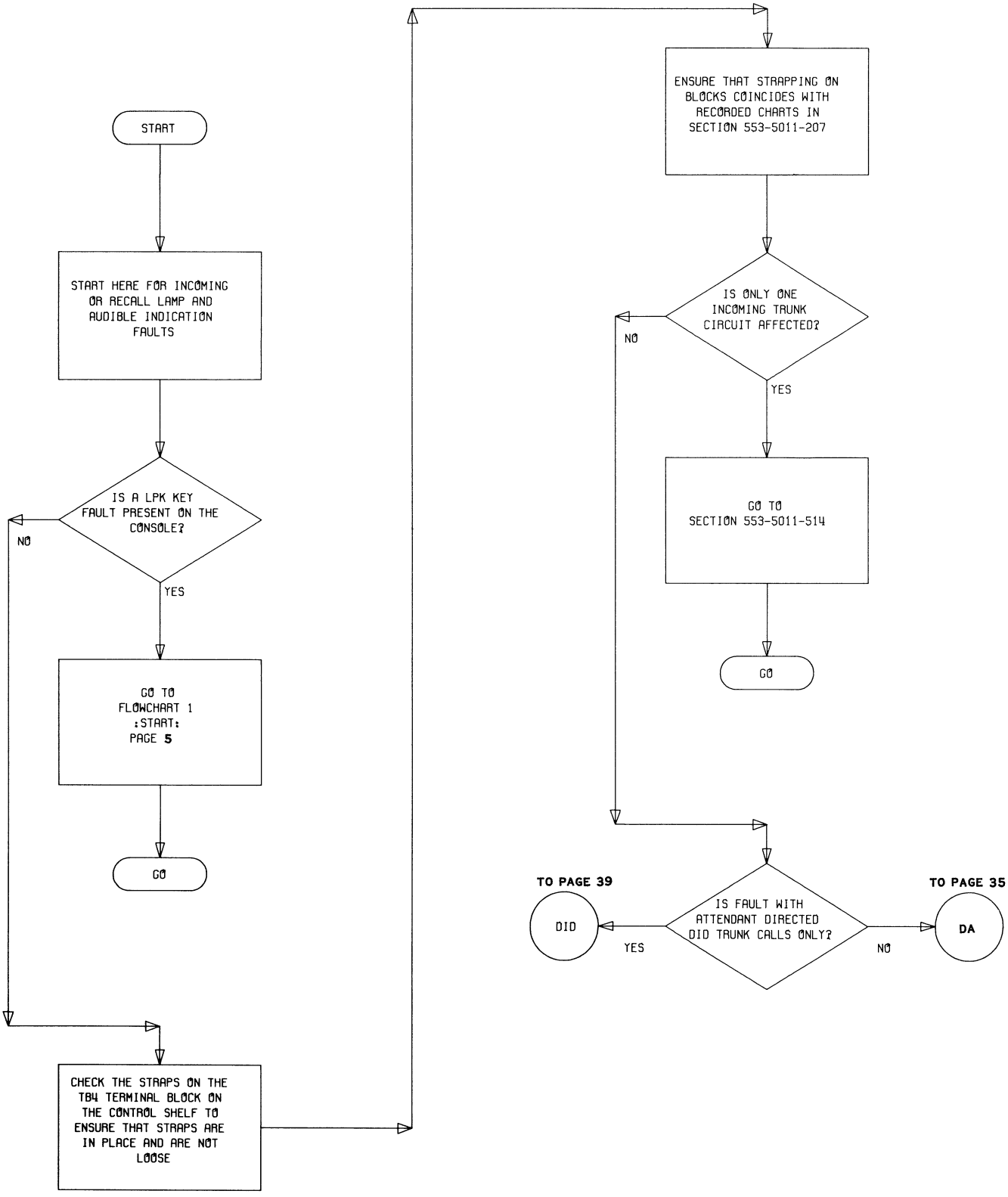
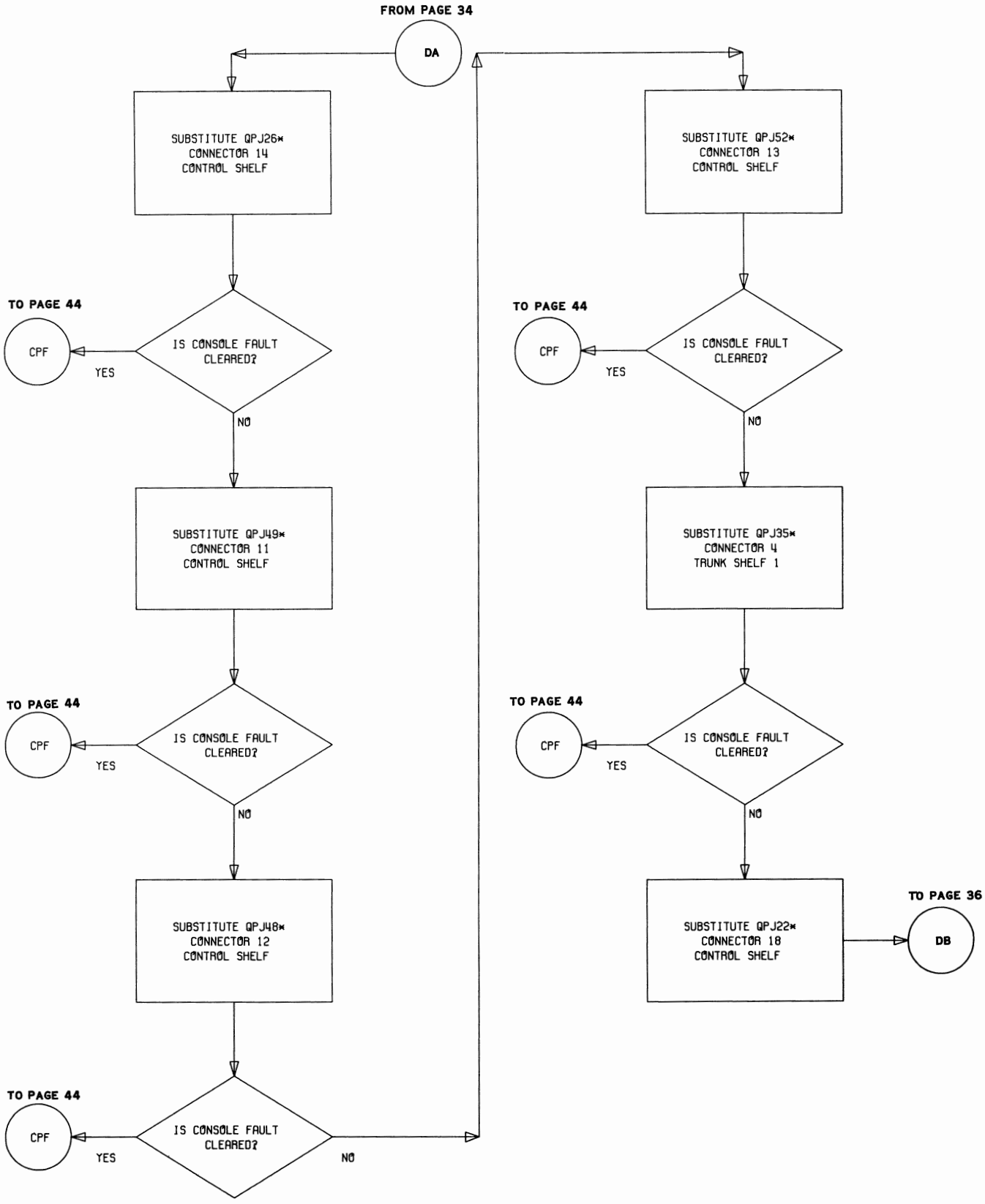


Flowchart 4 – Incoming or Recall Lamp and Audible Indication Faults



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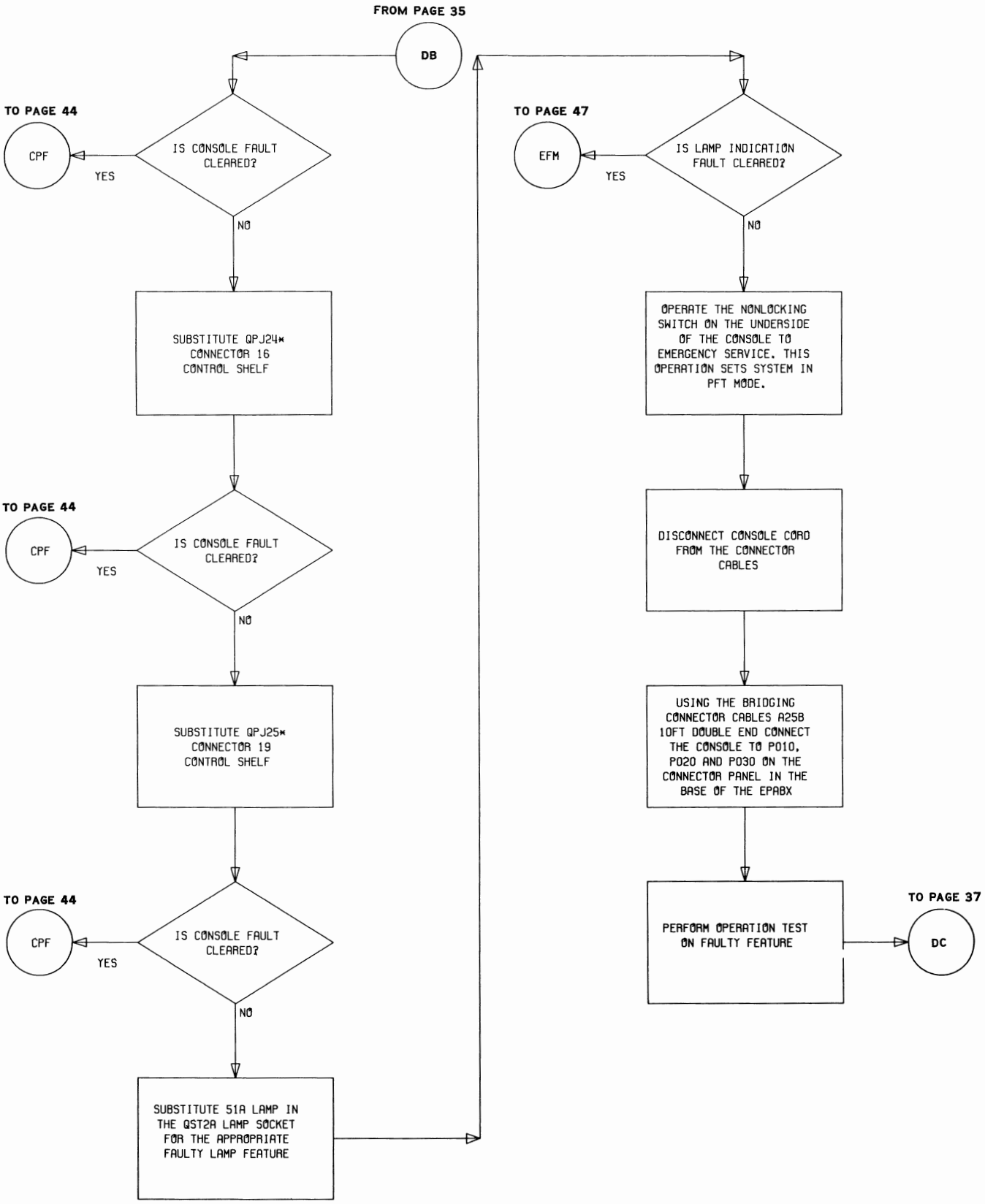

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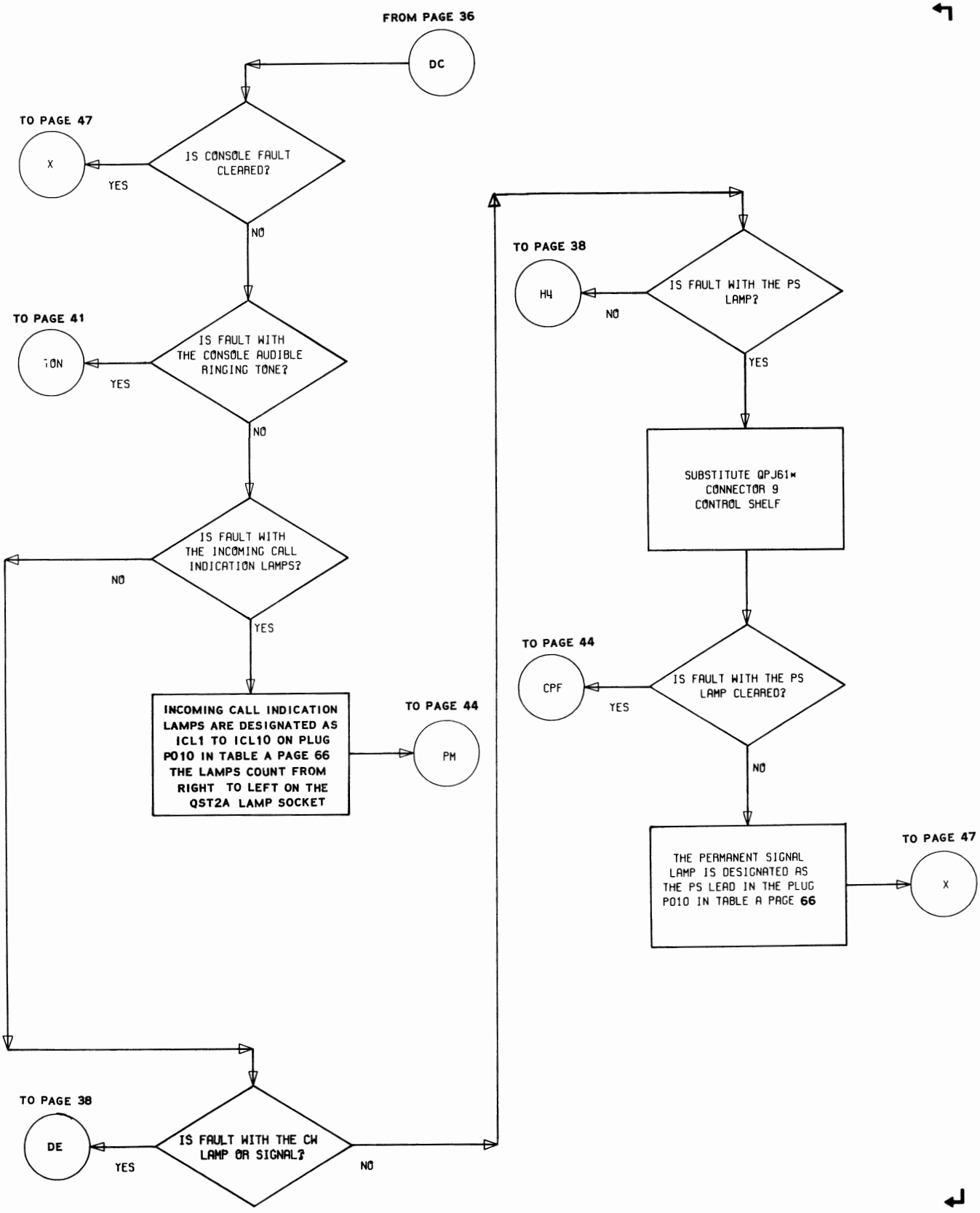

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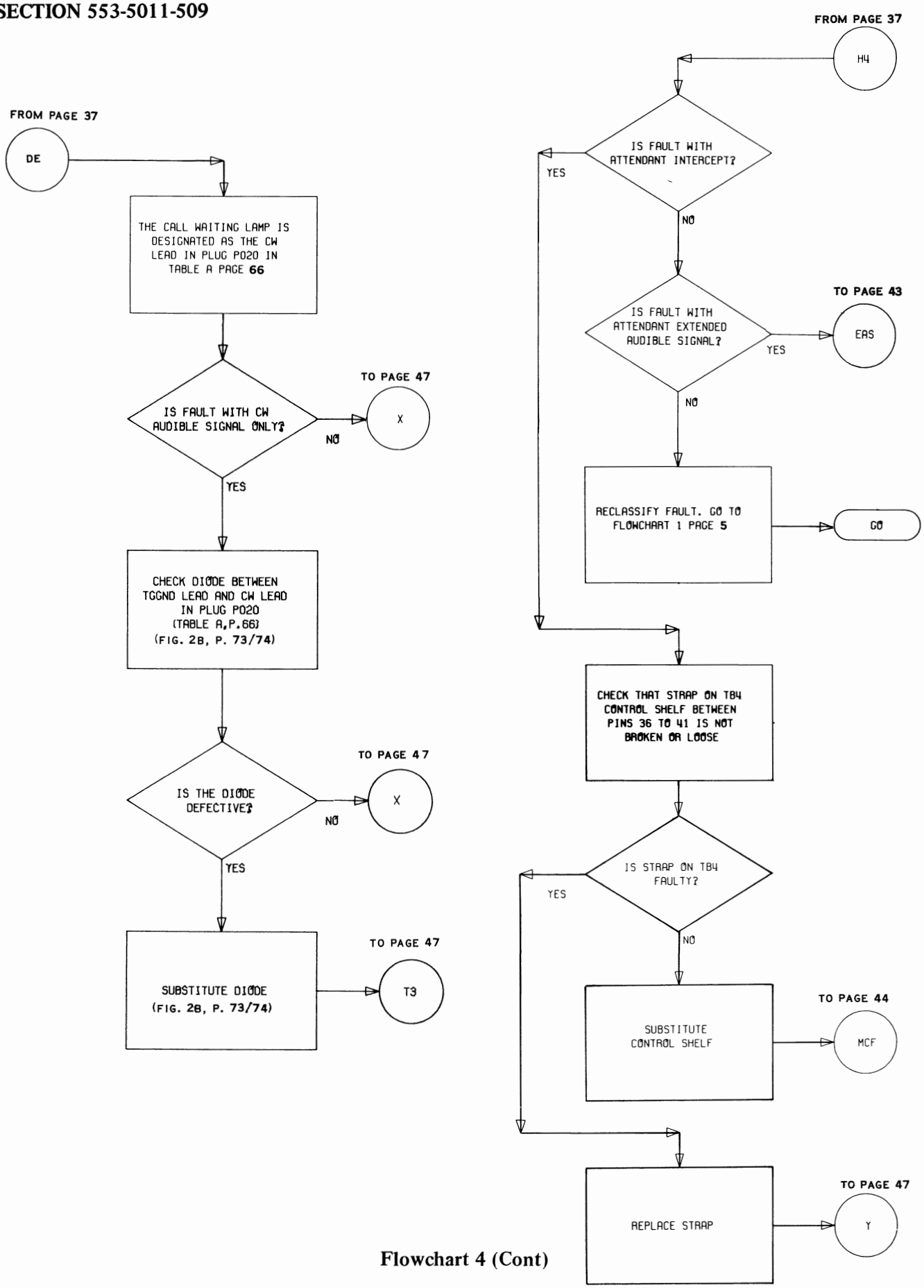

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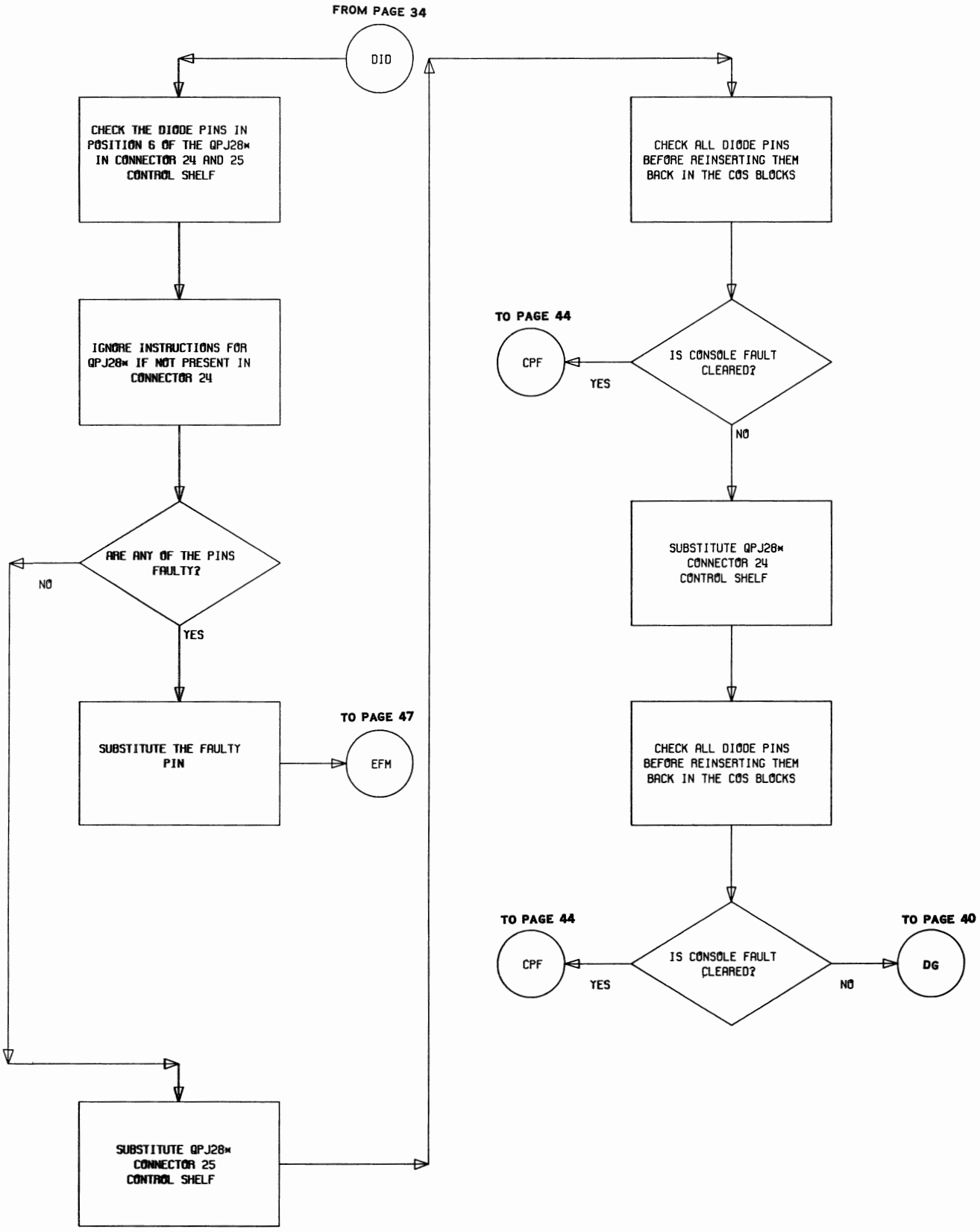

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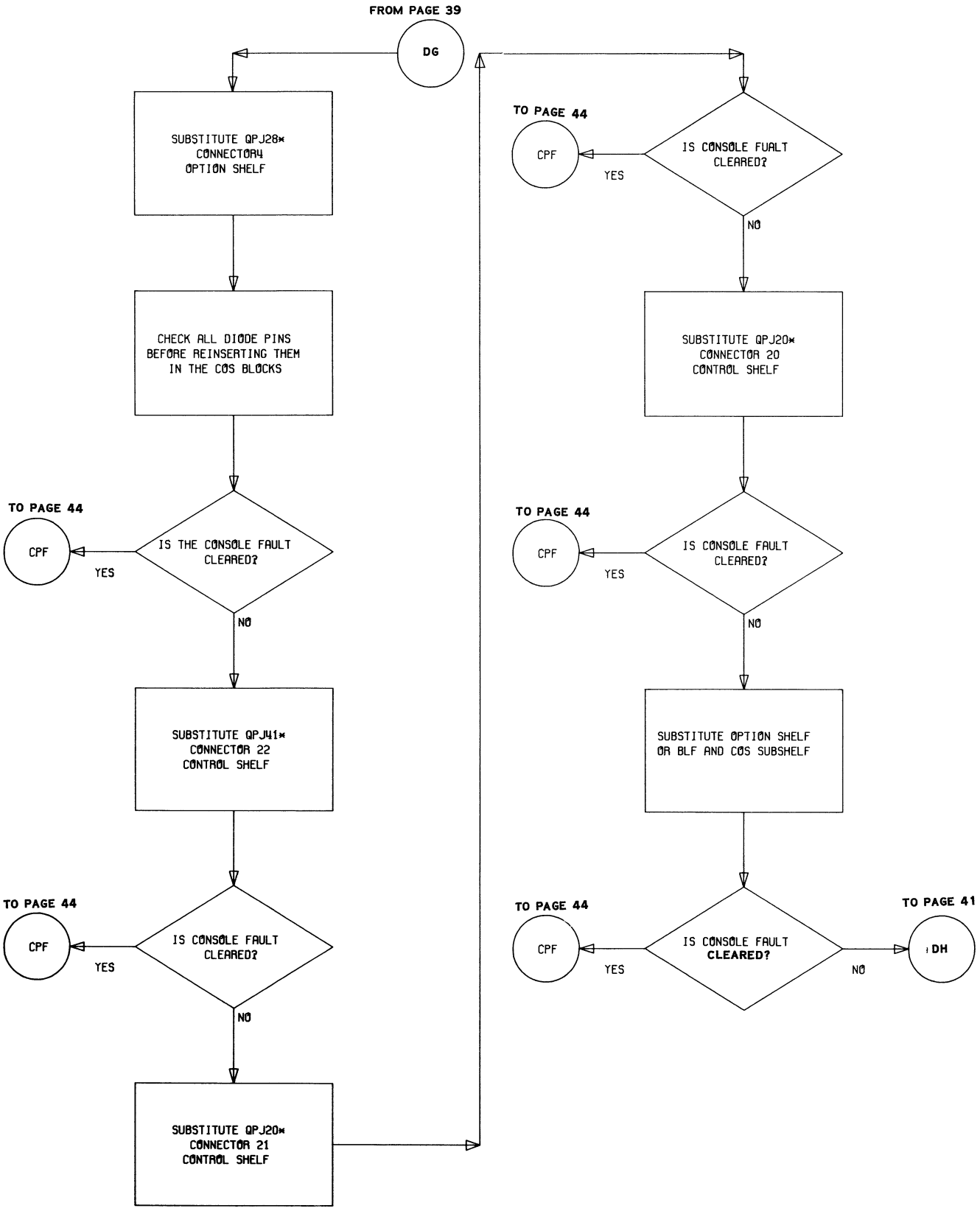

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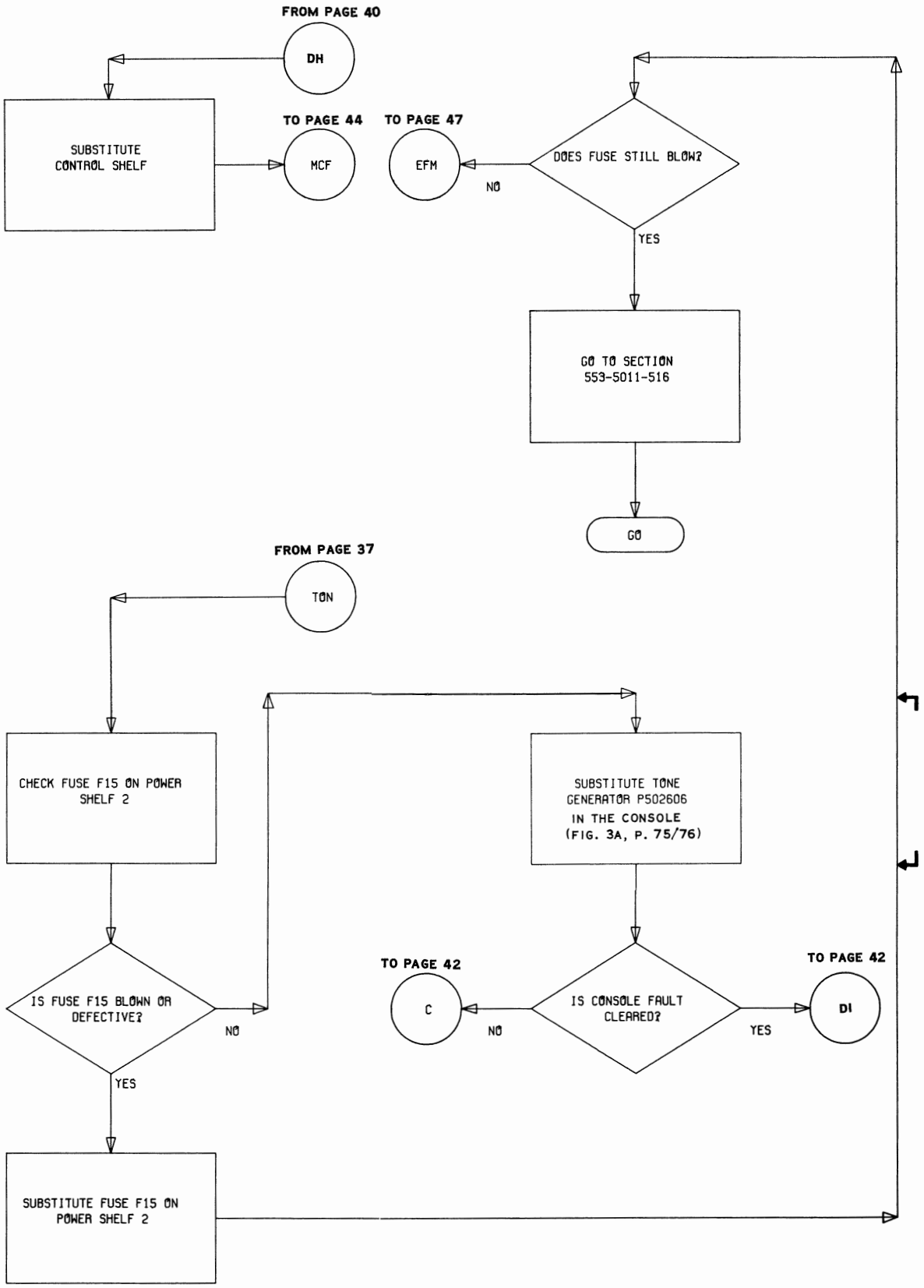

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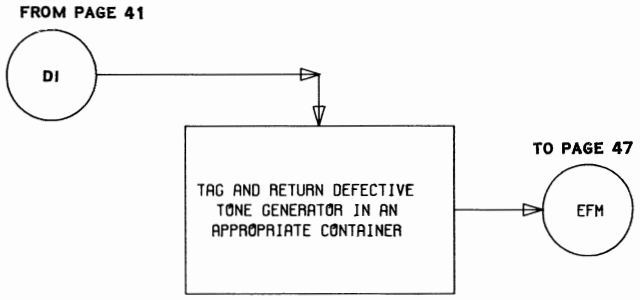
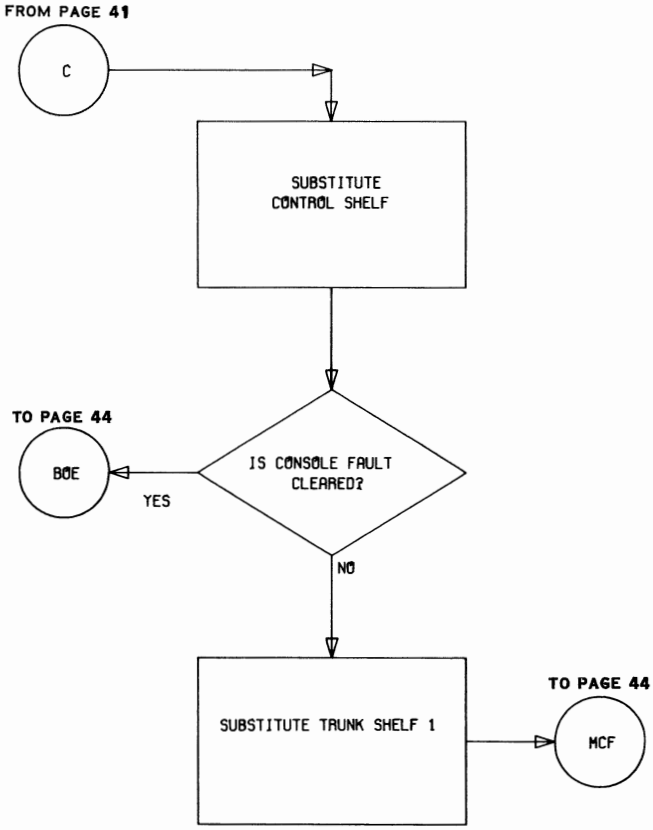
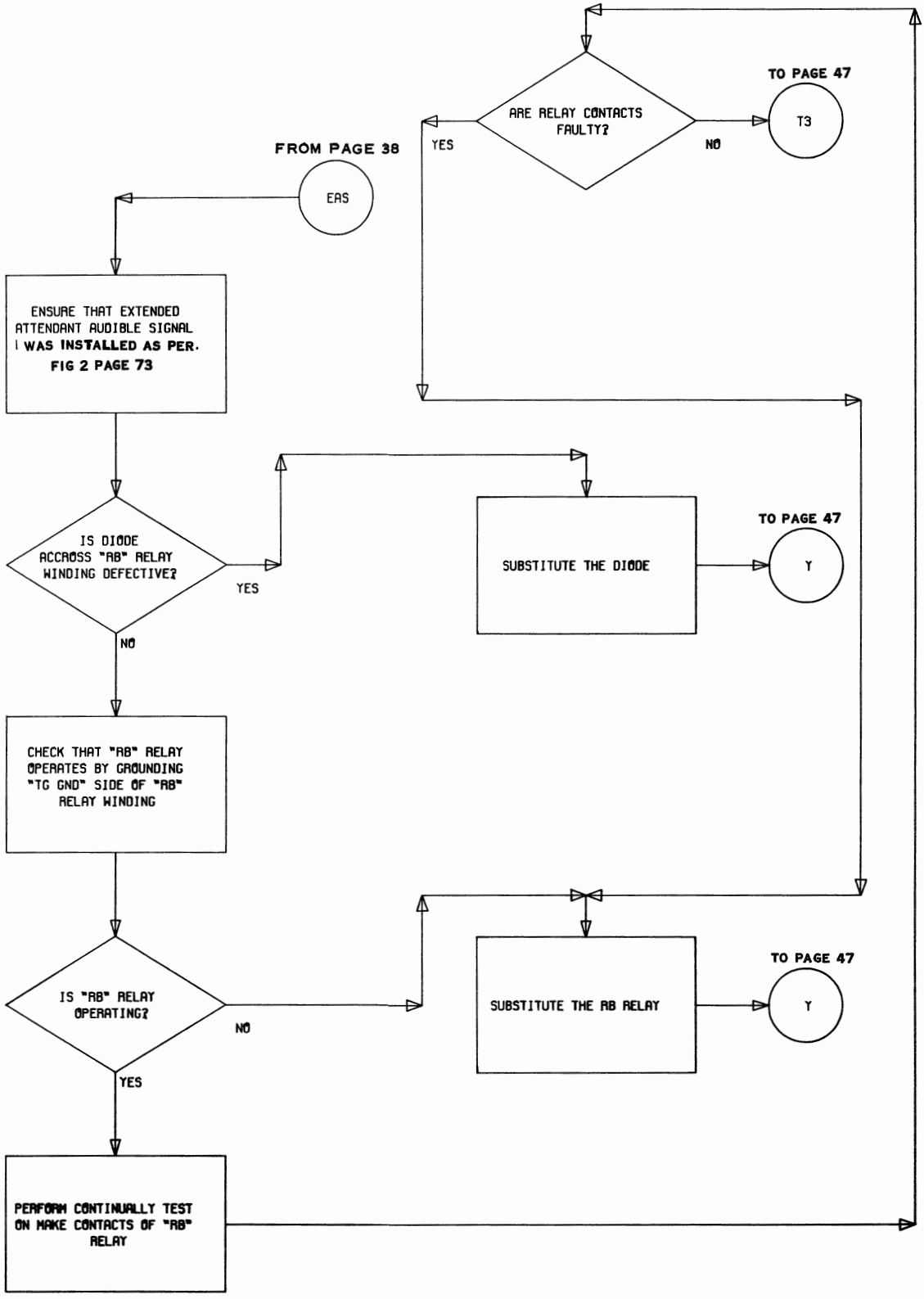
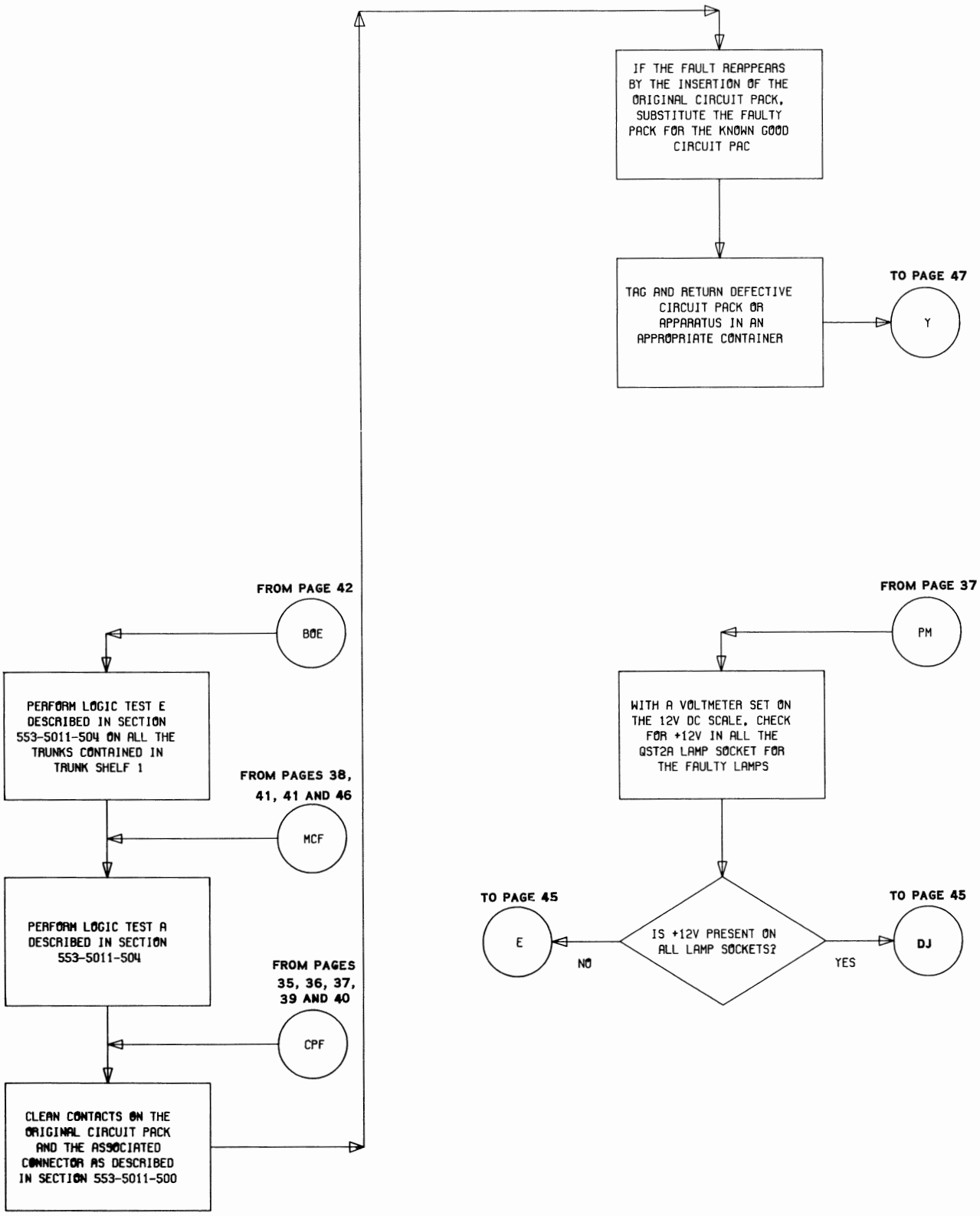




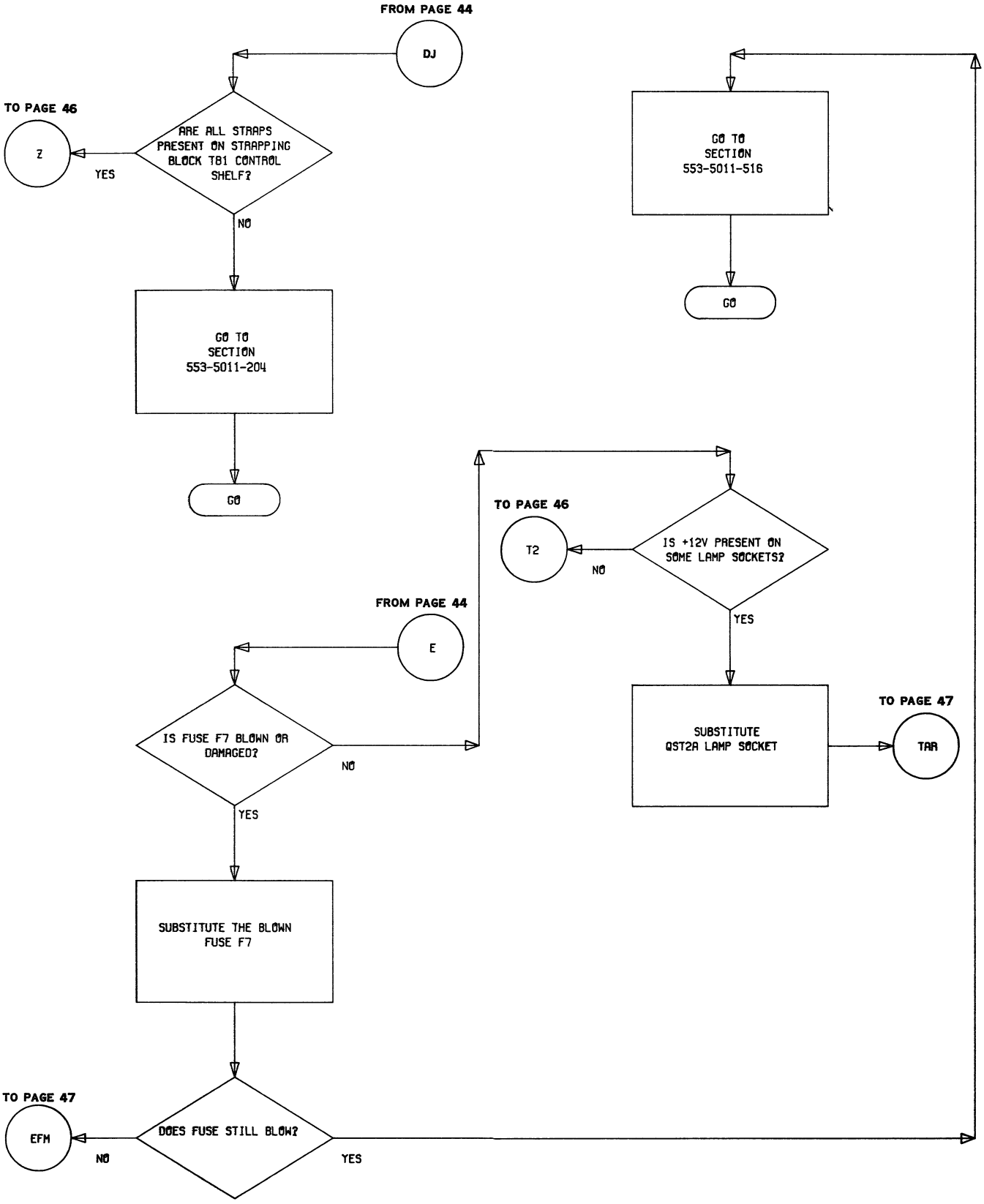
Flowchart 4 (Cont)



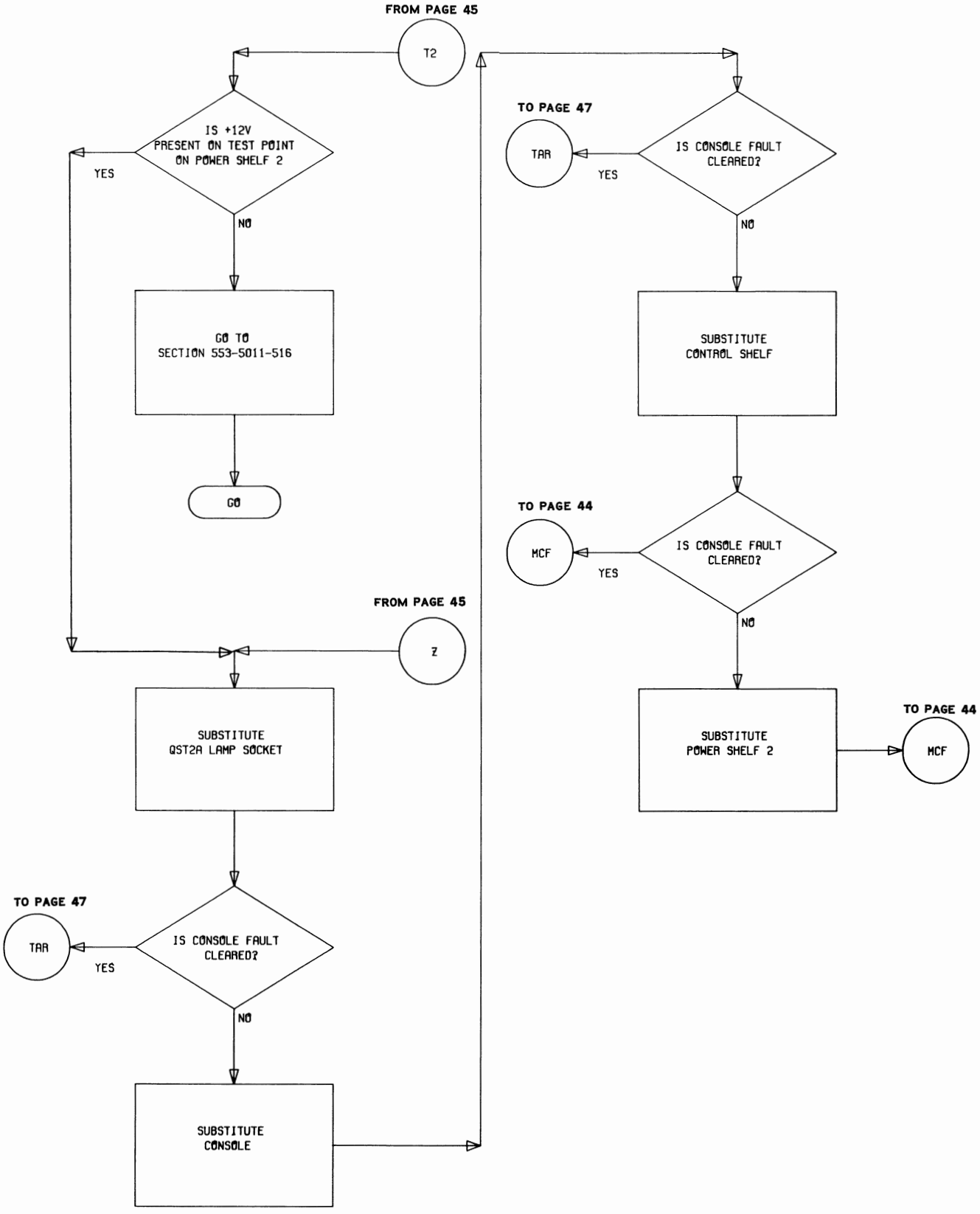
Flowchart 4 (Cont)



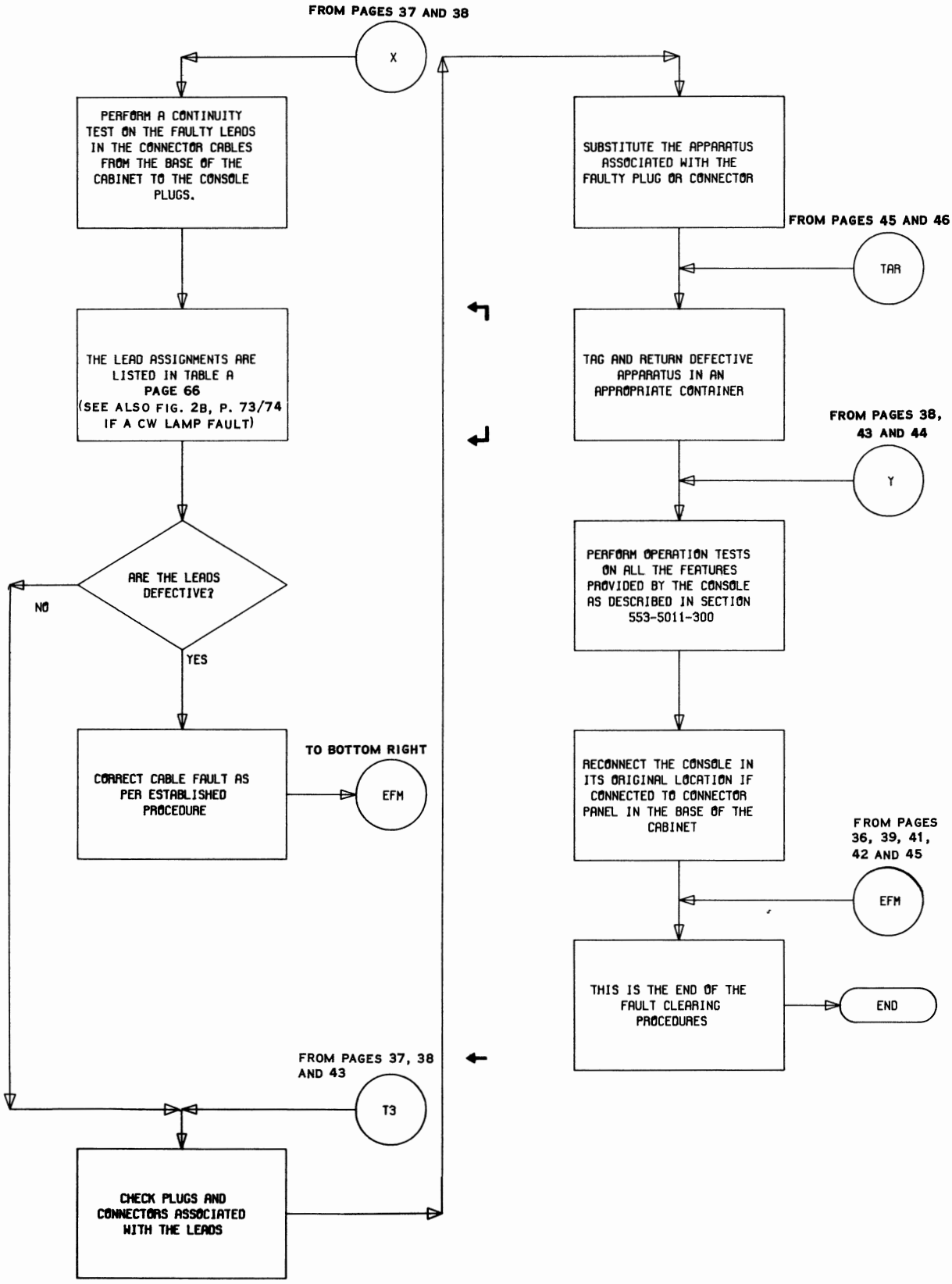
Flowchart 4 (Cont)



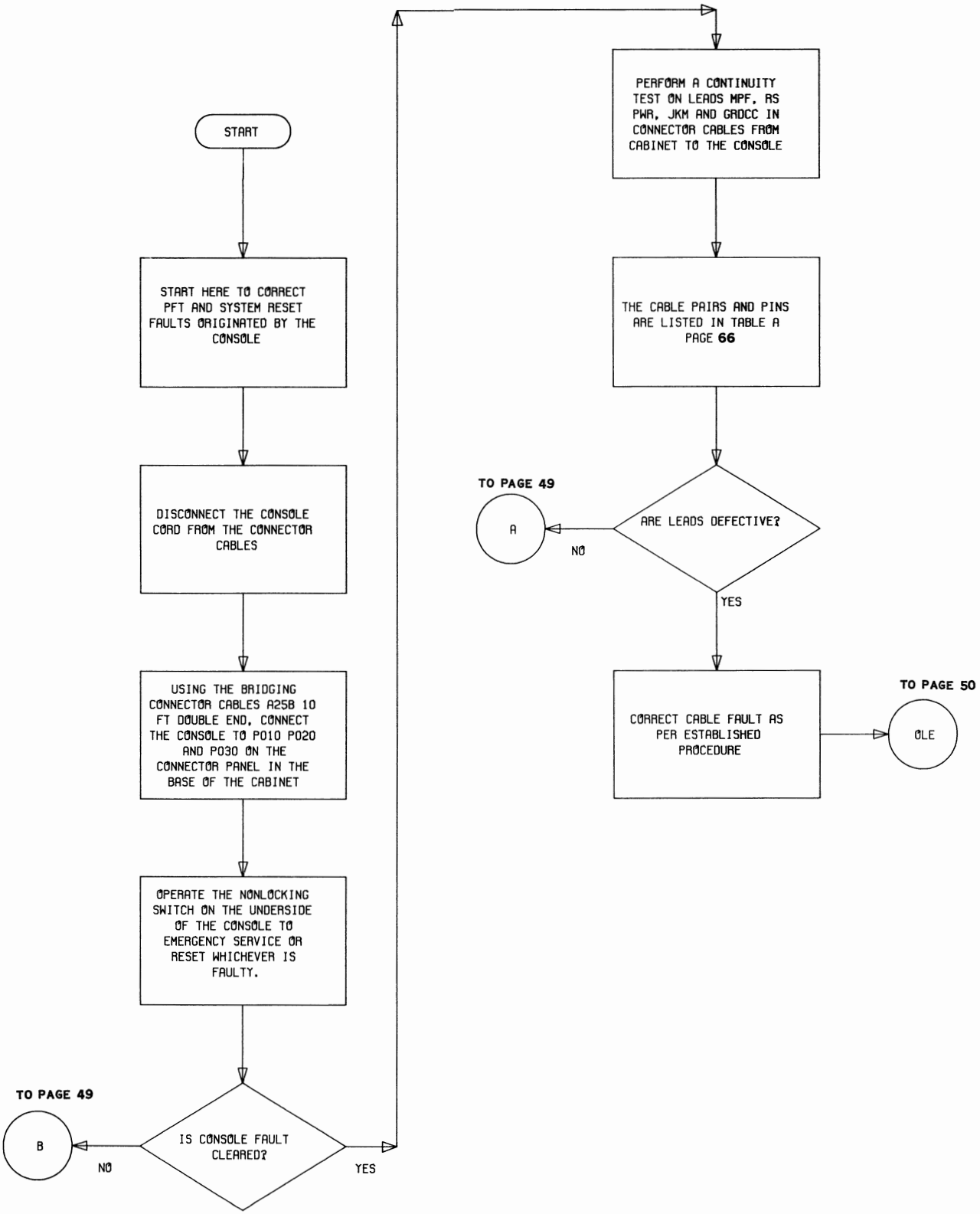
Flowchart 4 (Cont)



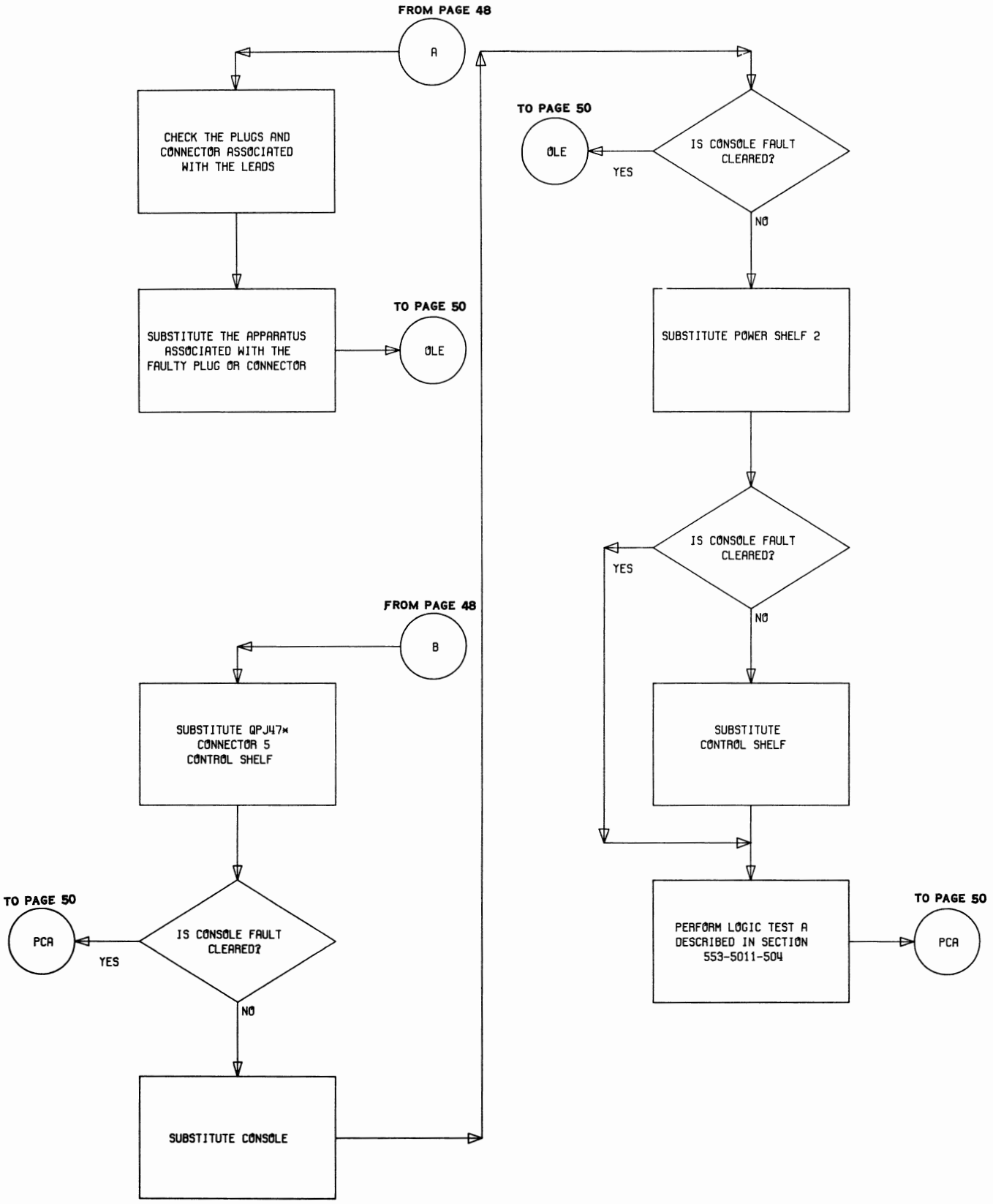
Flowchart 4 (Cont)



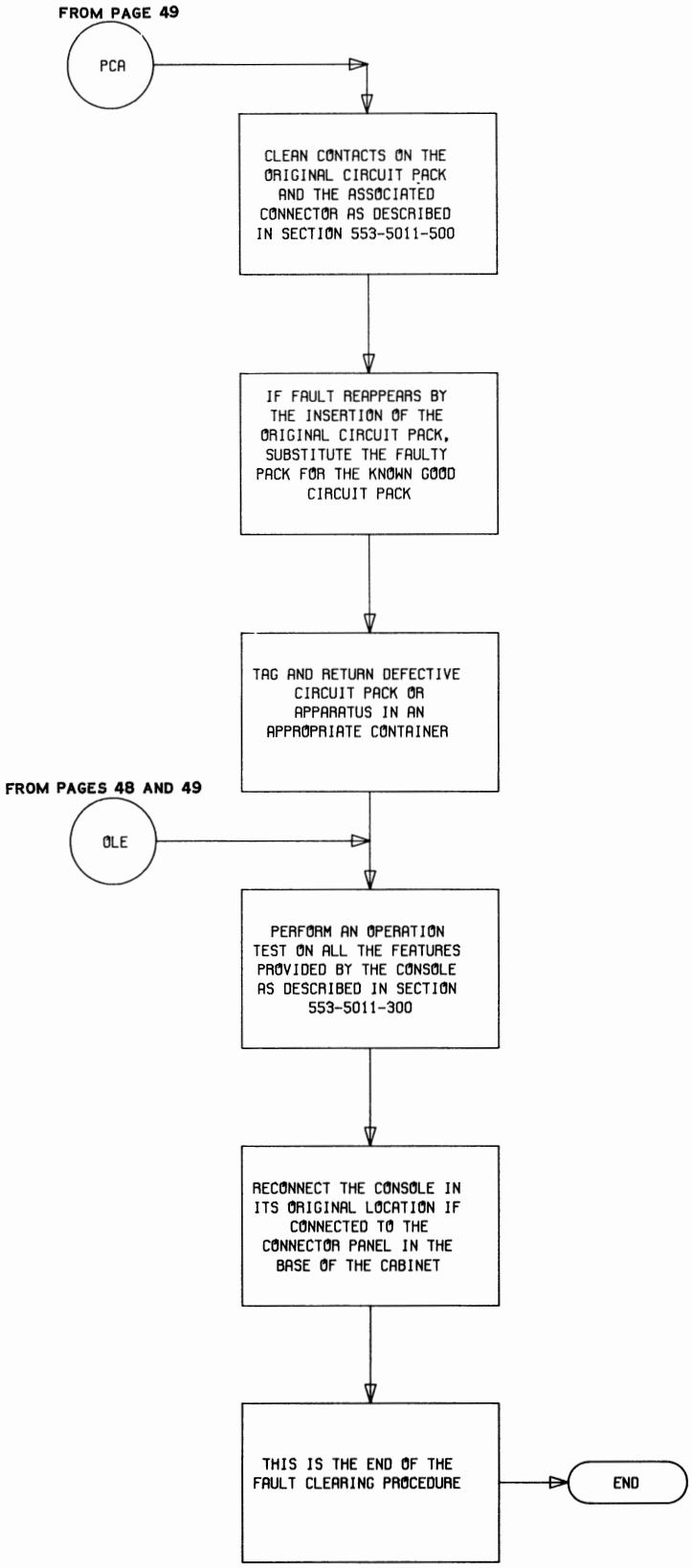
Flowchart 4 (Cont)



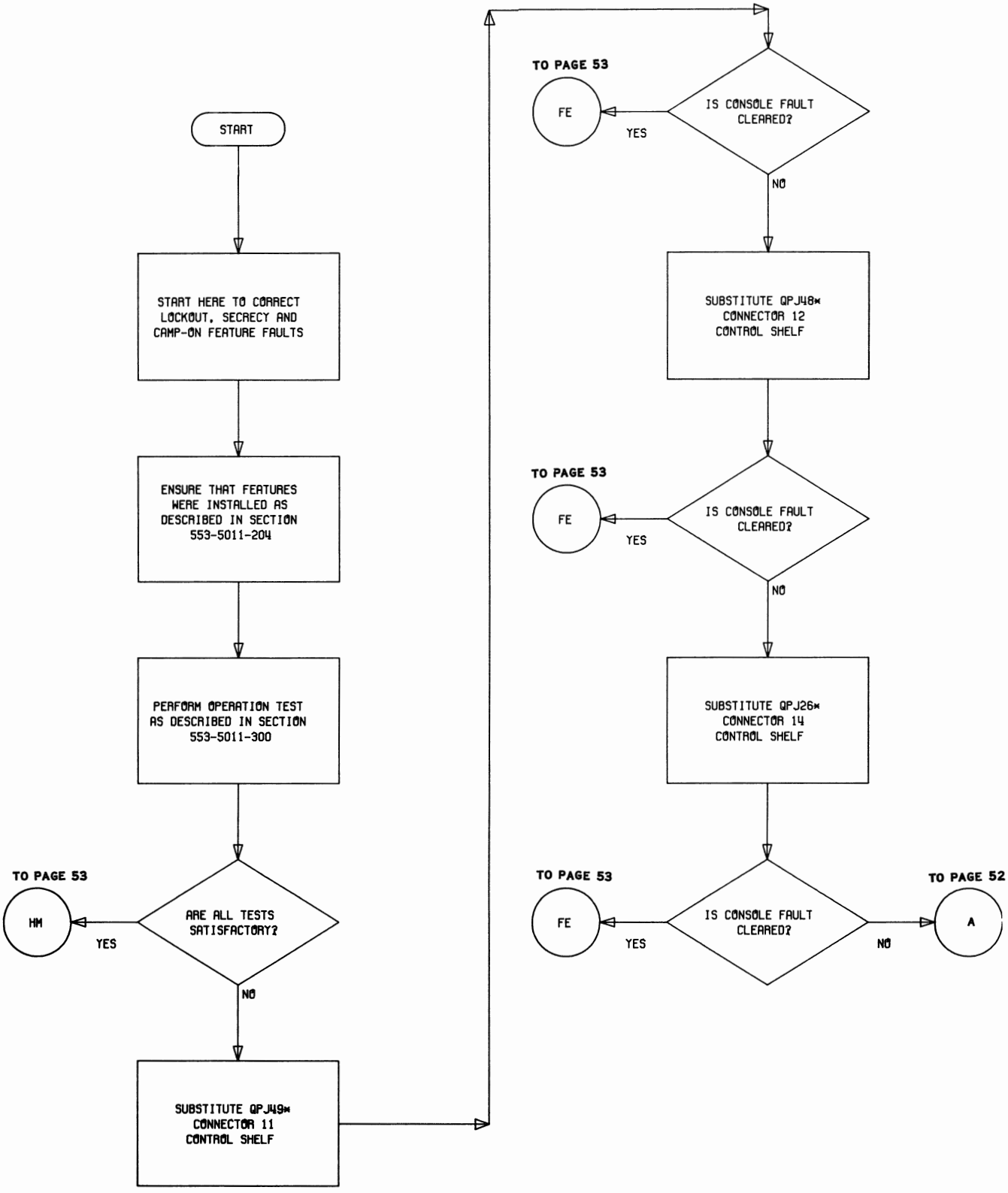
Flowchart 5 – Attendant Originated PFT and System Reset Faults



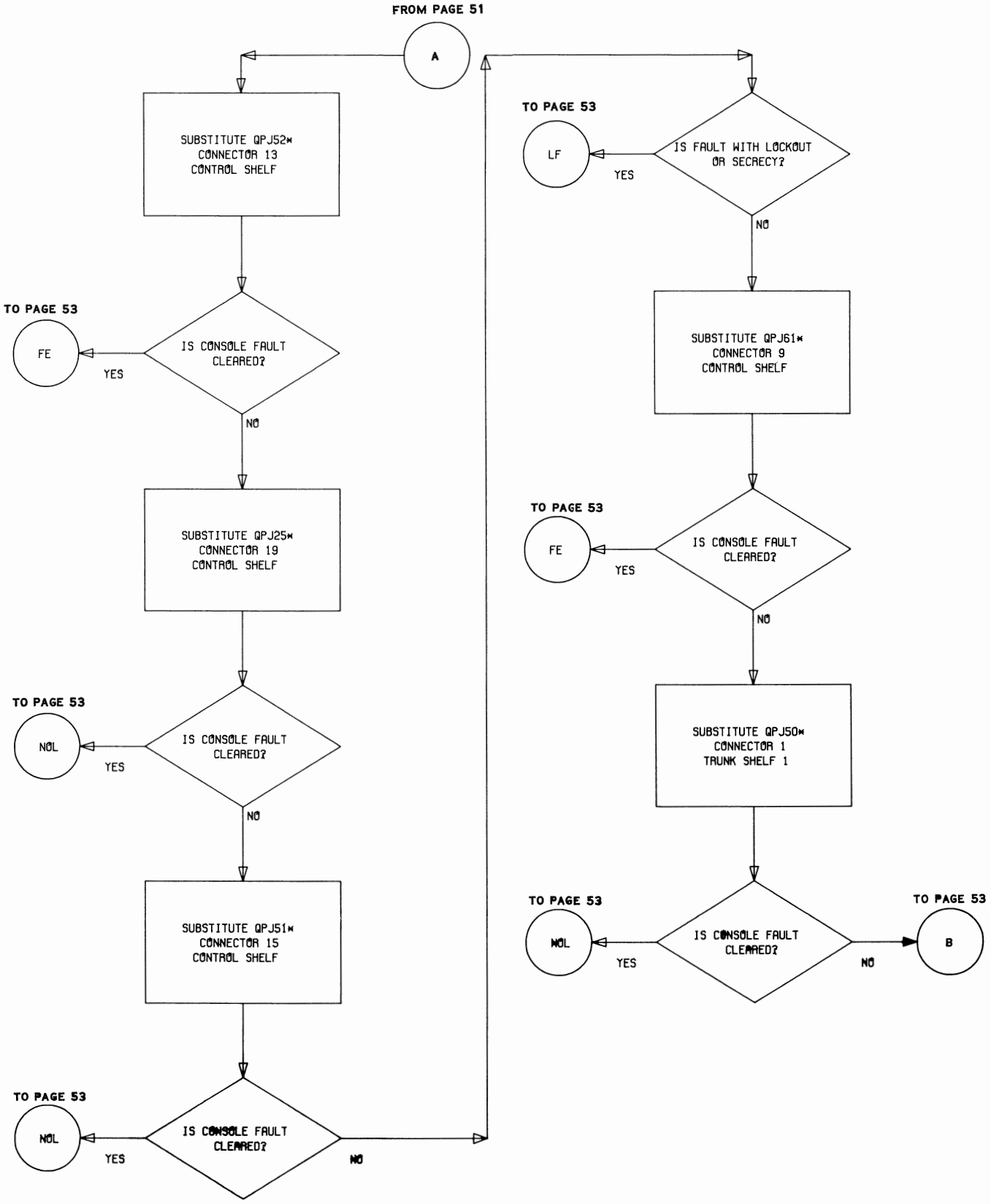
Flowchart 5 (Cont)



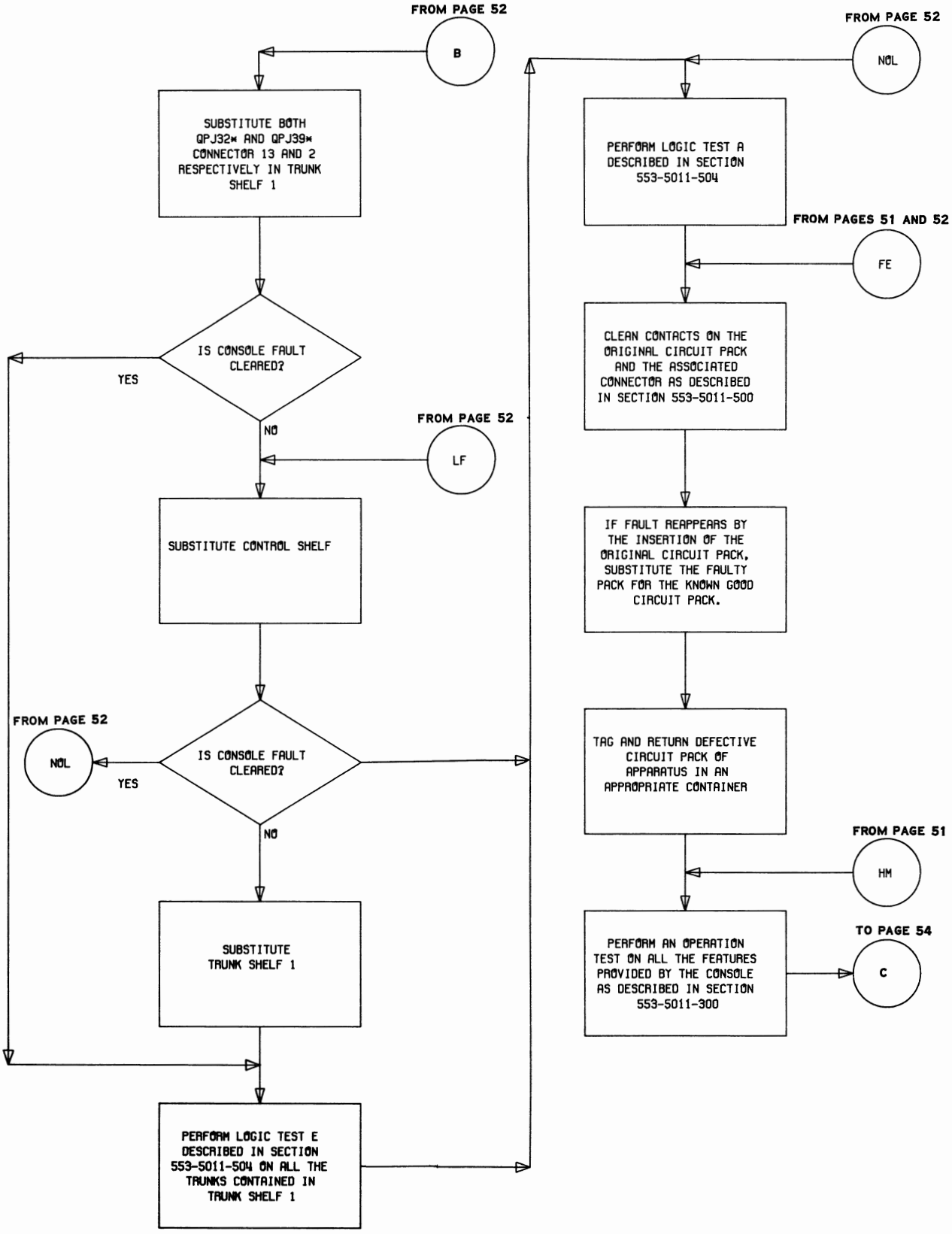
Flowchart 5 (Cont)



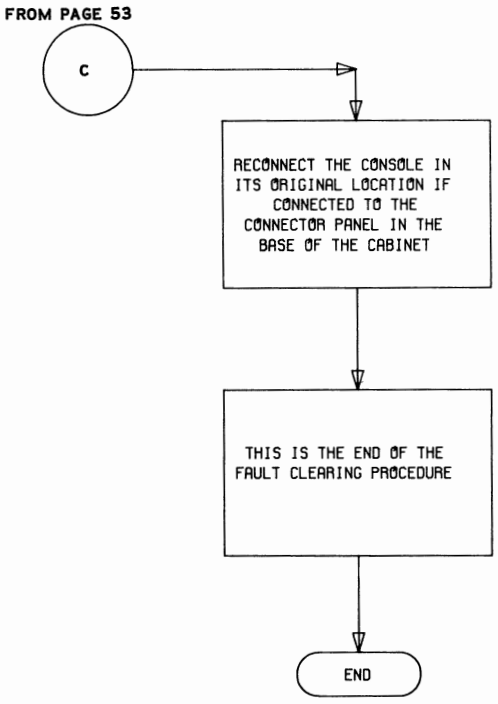
Flowchart 6 – Lockout, Secrecy and Camp-On Feature Faults



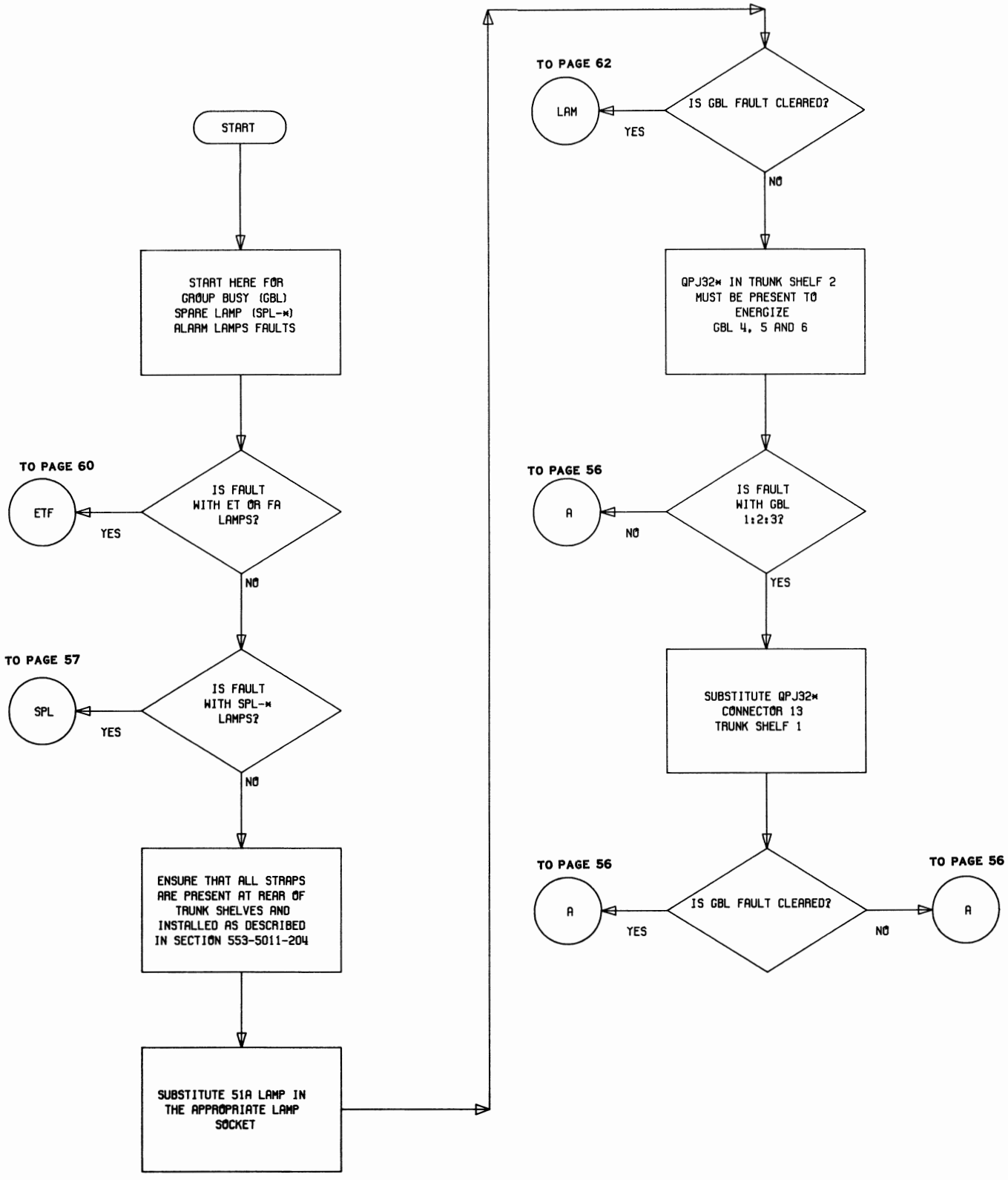
Flowchart 6 (Cont)



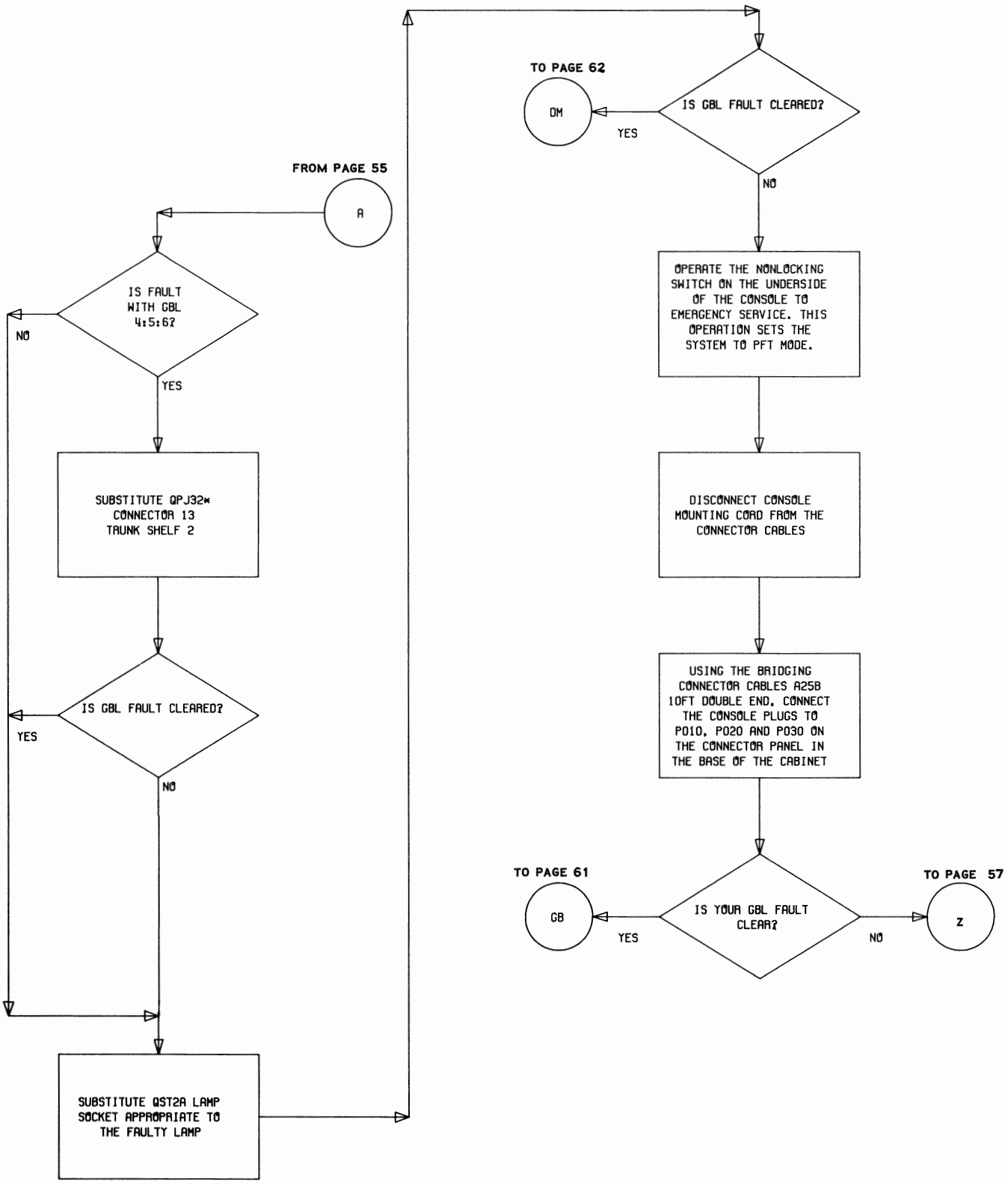
Flowchart 6 (Cont)



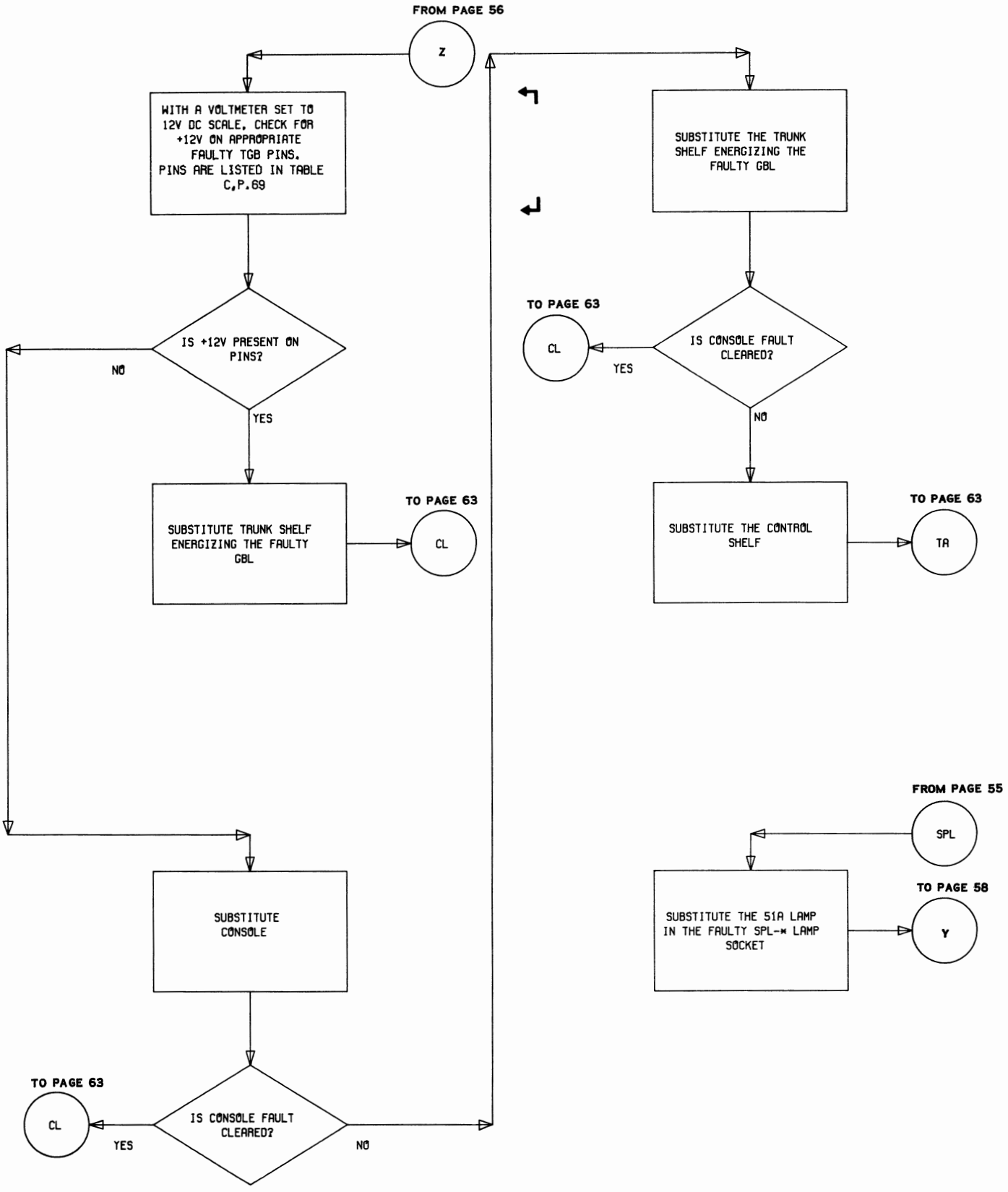
Flowchart 6 (Cont)



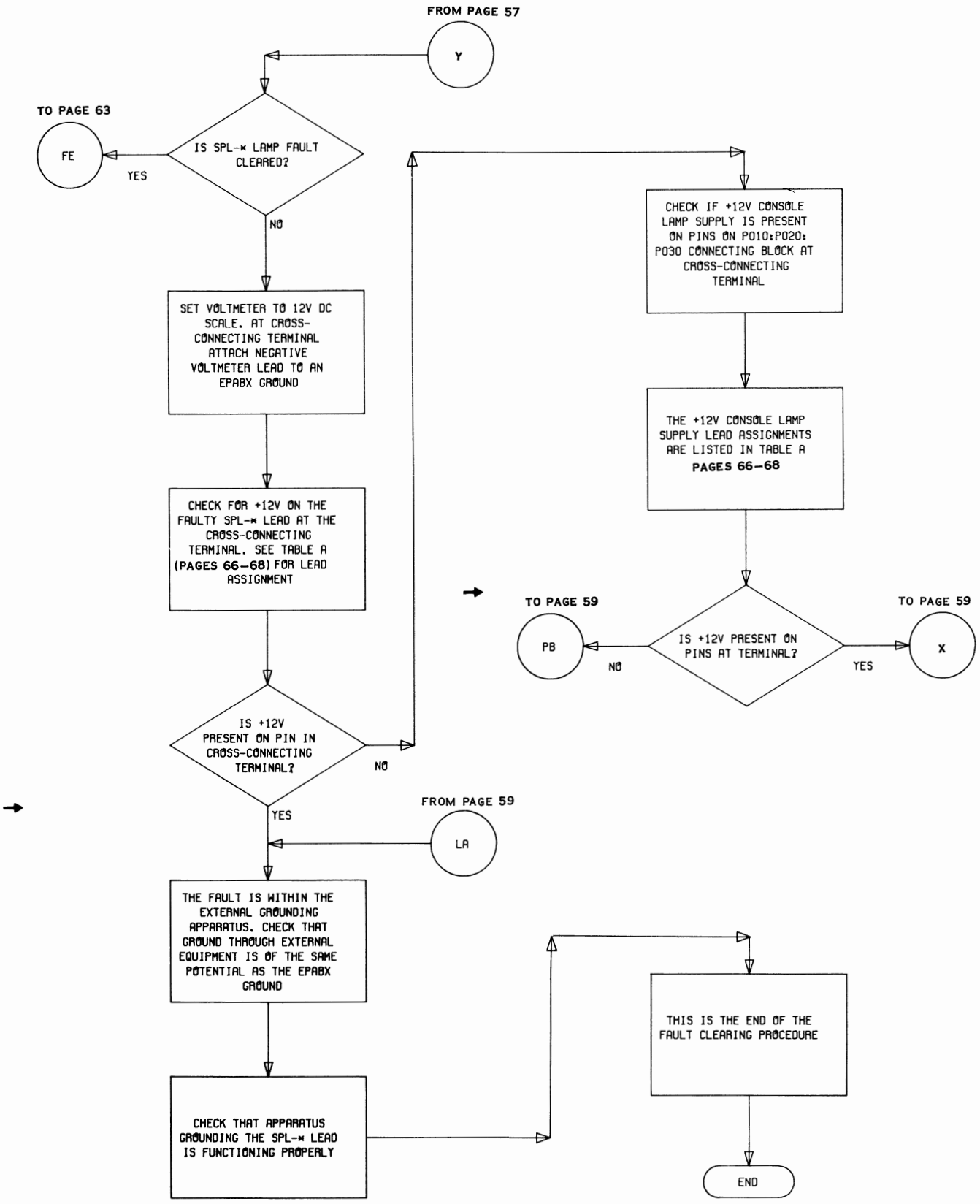
Flowchart 7 – Group Busy and Alarm Lamp Faults



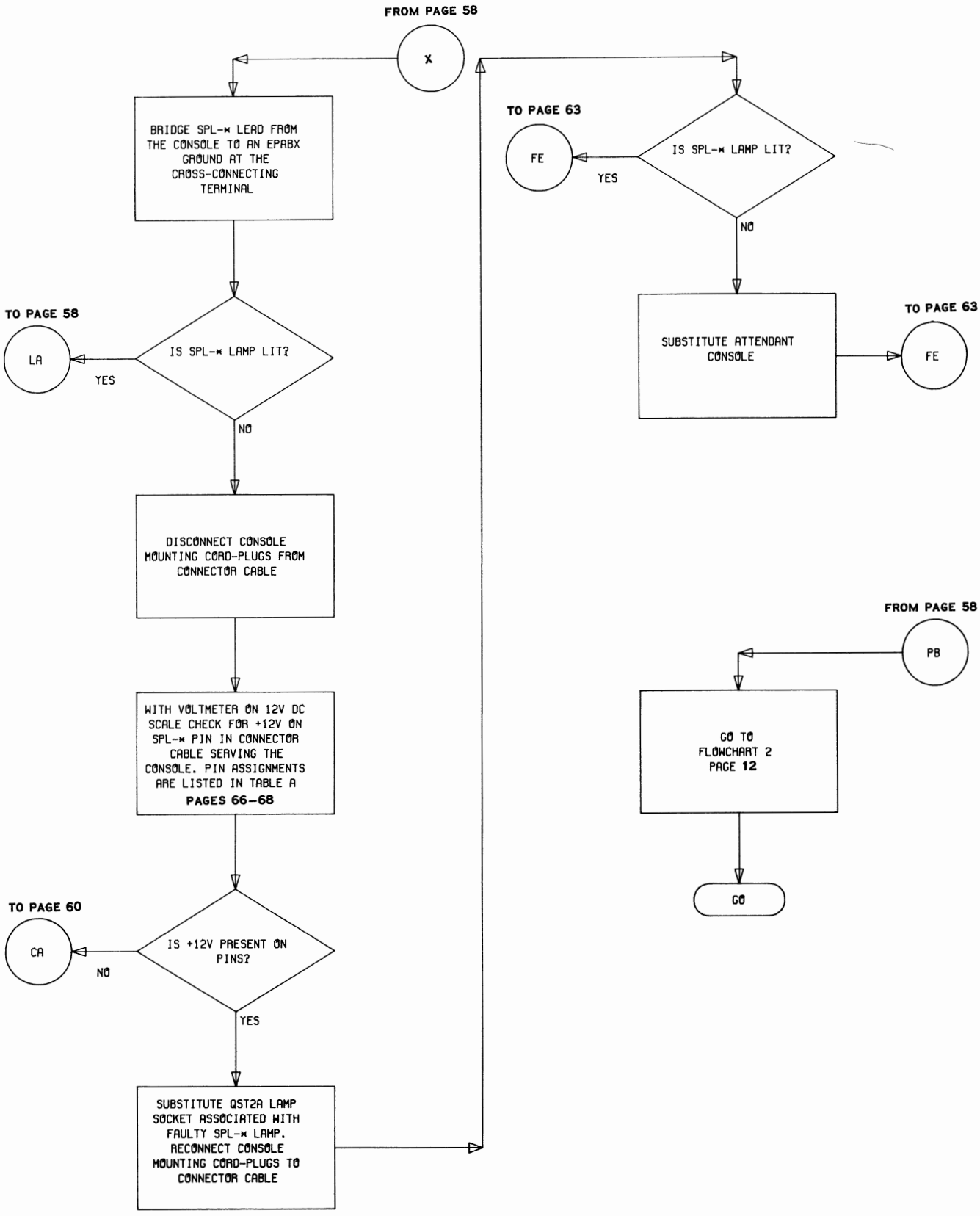
Flowchart 7 (Cont)



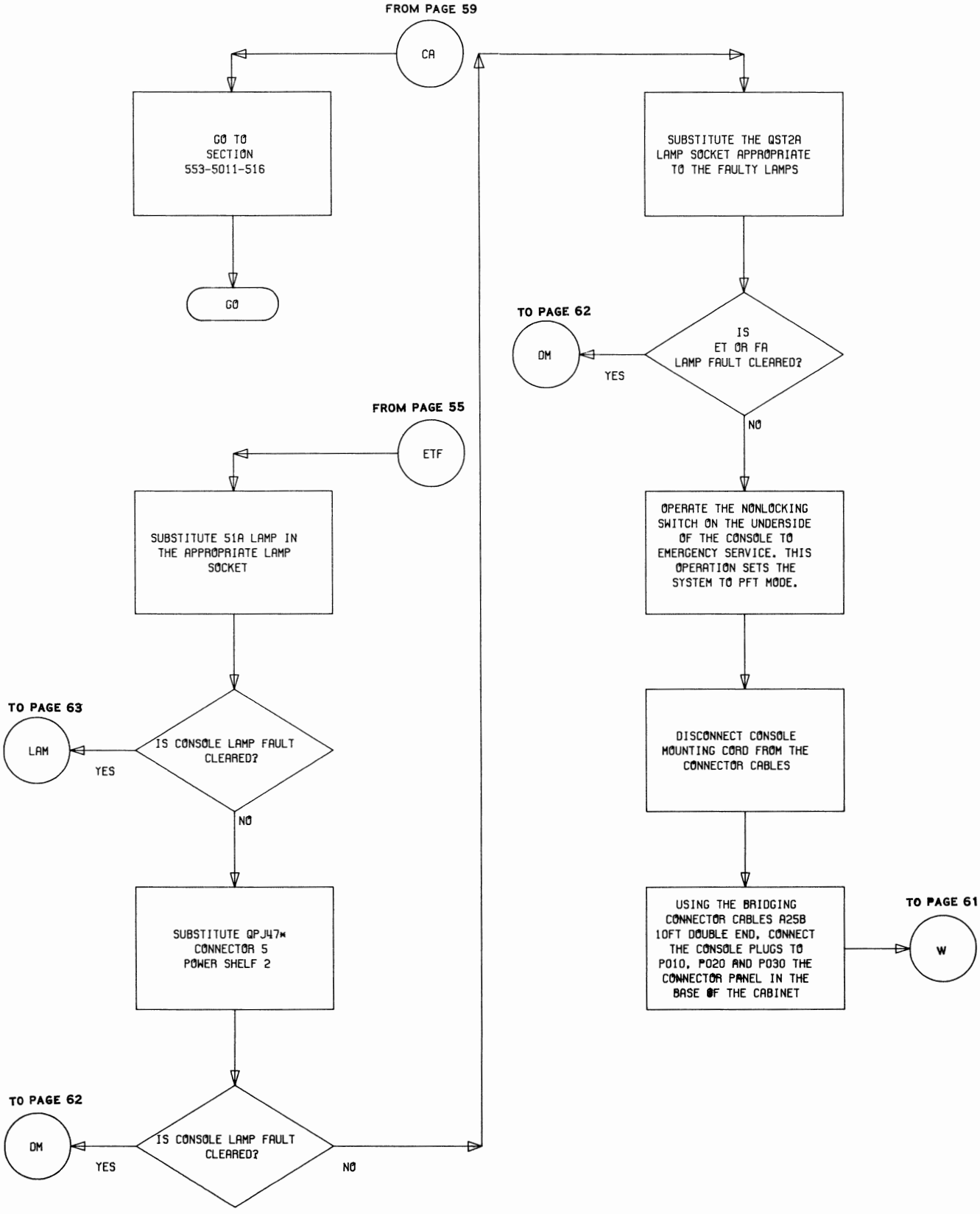
Flowchart 7 (Cont)



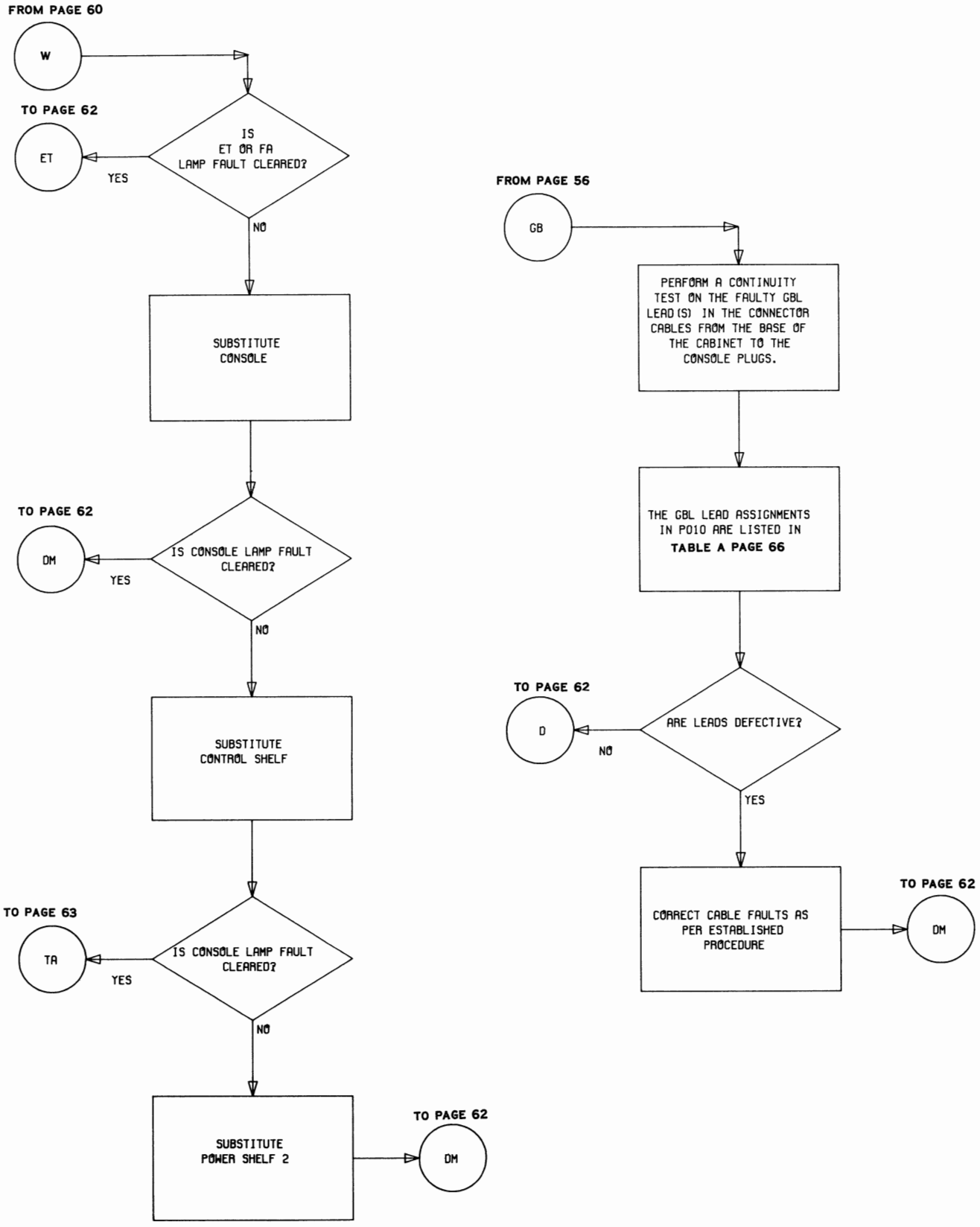
Flowchart 7 (Cont)



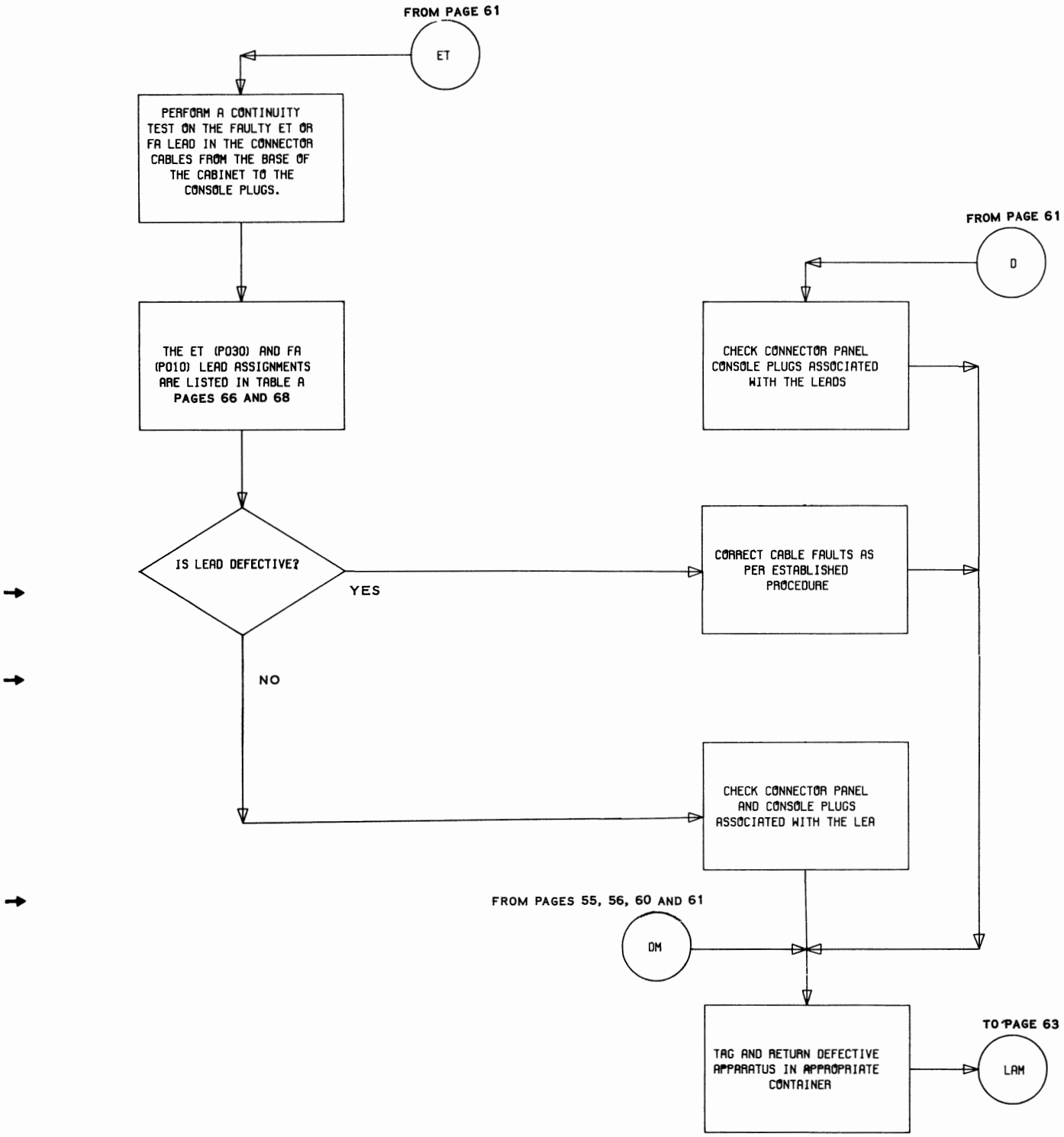
Flowchart 7 (Cont)



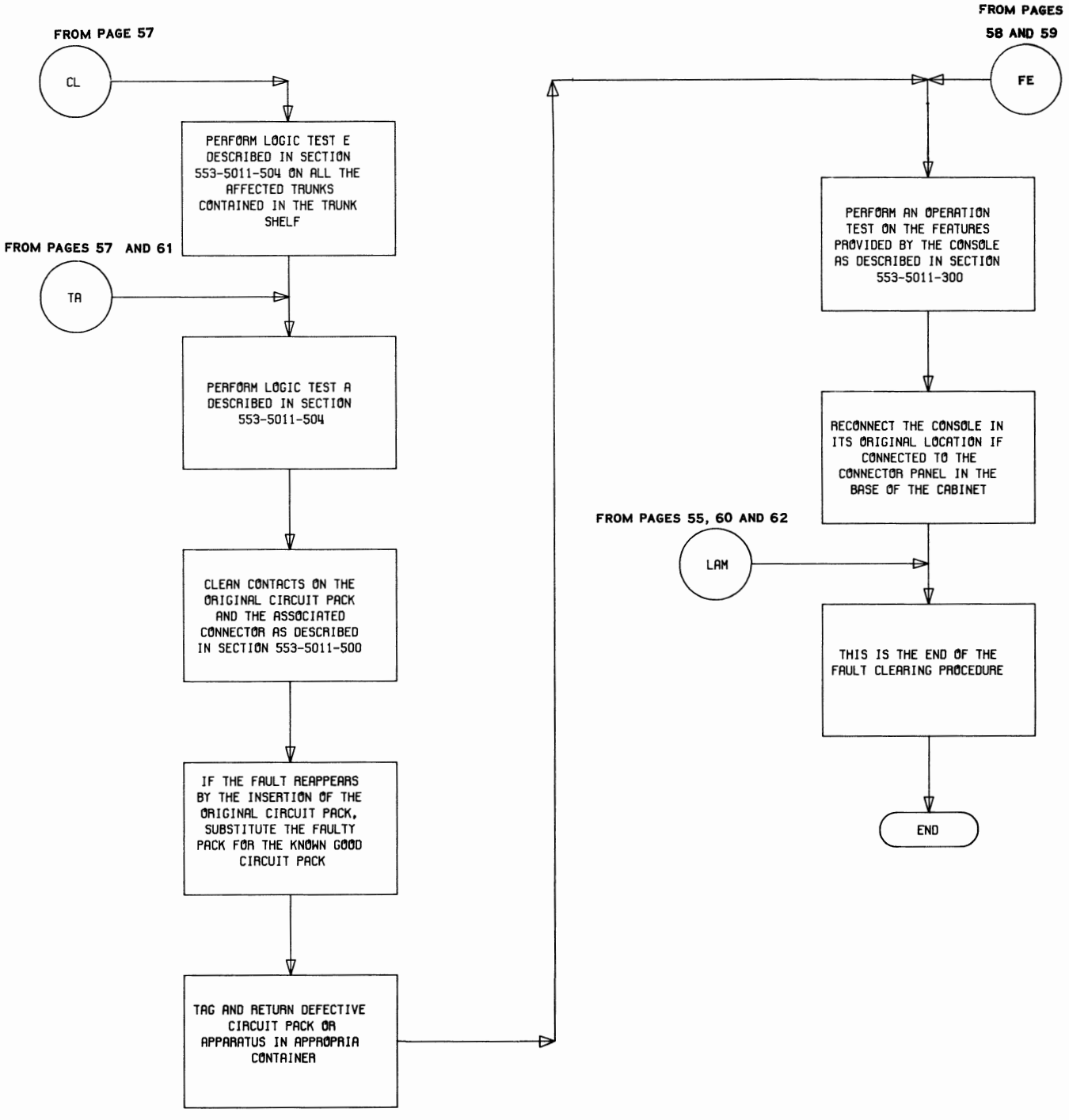
Flowchart 7 (Cont)



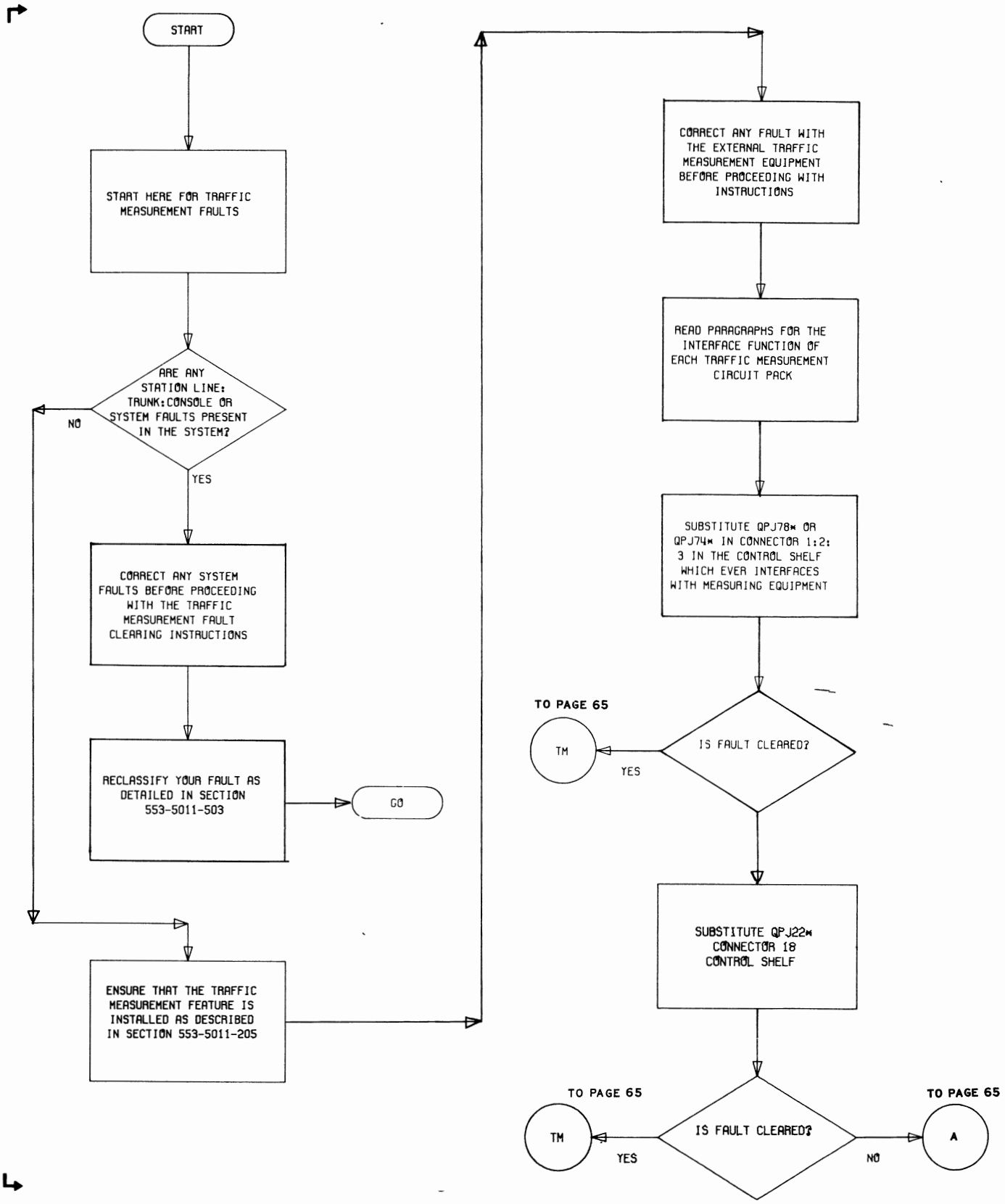
Flowchart 7 (Cont)



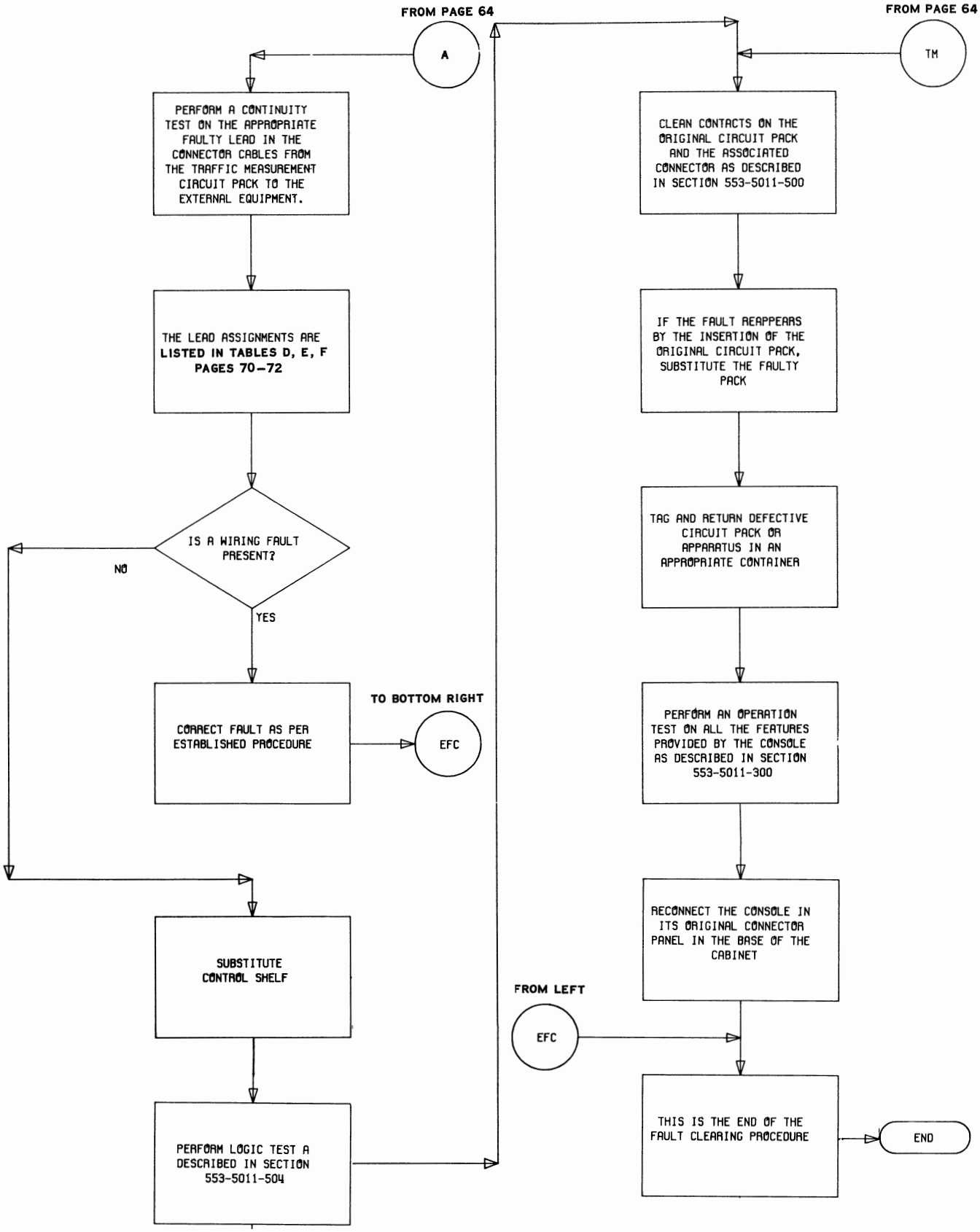
Flowchart 7 (Cont)



Flowchart 7 (Cont)



Flowchart 8 – Traffic Measurement Faults



Flowchart 8 (Cont)

TABLE A
TERMINATING SEQUENCE OF P010
AT THE CROSS-CONNECTING TERMINAL

CONTROL SHELF – ATTENDANT CONSOLE

BLUE BINDER OF A75A FROM CONNECTOR P010 TERMINATED ON CONNECTING BLOCK P010

PAIR	PIN	PAIR COLOR	LEAD DESIGNATION	FUNCTION
1T	26	W-BL	A – TIP	Transmission Lead for Console
R	1	BL-W	A – RING	
2T	27	W-O	GRD – CC	Console Jack Lead
R	2	O-W	JKB	Console Jack Lead
3T	28	W-G	CONF.	Conference Lead
R	3	G-W	HOLD	Hold Lead
4T	29	W-BR	DCKP – 2	Dial Leads
R	4	BR-W	DCKP – 1	
5T	30	W-S	DCKP – 4	
R	5	S-W	DCKP – 3	
6T	31	R-BL	DCKP – 5	
R	6	BL-R	DCKP – C	
7T	32	R-O	DCKP – 7	
R	7	O-R	DCKP – 6	
8T	33	R-G	SP	Spare
R	8	G-R	JKE	Console Jack Lead
9T	34	R-BR	SPL – 3	Spare Lamp No. 3
R	9	BR-R	GNDK	Ground for Top Row of Keys
10T	35	R-S	GBL – 2	Group Busy Lamp
R	10	S-R	GBL – 1	
11T	36	BK-BL	GBL – 4	
R	11	BL-BK	GBL – 3	
12T	37	BK-O	GBL – 6	
R	12	O-BK	GBL – 5	
13T	38	BK-G	GBL – 8	
R	13	G-BK	GBL – 7	
14T	39	BK-BR	GBL – 10	
R	14	BR-BK	GBL – 9	
15T	40	BK-S	SRC4 – L	Source Lamp No. 4
R	15	S-BK	SRC3 – L	Source Lamp No. 3
16T	41	Y-BL	LPK4 – L	Loop Key Lamp No. 4
R	16	BL-Y	LPK3 – L	Loop Key Lamp No. 3
17T	42	Y-O	FA	Fuse Alarm Lamp
R	17	O-Y	PS	Permanent Signal Lamp
18T	43	Y-G	+ 12 V	Console Lamp Supply
R	18	G-Y	NITE L	Nite Connection Lamp
19T	44	Y-BR	+ 12 V	Console Lamp Supply
R	19	BR-Y	+ 12 V	
20T	45	Y-S	+ 12 V	
R	20	S-Y	+ 12 V	
21T	46	V-BL		Spare
R	21	BL-V		
22T	47	V-O		
R	22	O-V		
23T	48	V-G		
R	23	G-V		
24T	49	V-BR		
R	24	BR-V		
25T	50	V-S		
R	25	S-V		

TABLE A (Cont)
TERMINATING SEQUENCE OF P020
AT THE CROSS-CONNECTING TERMINAL

CONTROL SHELF – ATTENDANT CONSOLE

ORANGE BINDER OF A75A FROM CONNECTOR P020 TERMINATED ON CONNECTING BLOCK P020

PAIR	PIN	PAIR COLOR	LEAD DESIGNATION	FUNCTION
1T	26	W-BL	+24F15	Tone Generator
R	1	BL-W	GND	Supply
2T	27	W-O	RLS – DEST	Release Destination Lead
R	2	O-W	RLS – SCR	Release Source Lead
3T	28	W-G	DCKP – G	Octothorp Button Leads
R	3	GR-W	DCKP – S	
4T	29	W-BR	LPK2	Loop Key No. 2
R	4	BR-W	LPK1	Loop Key No. 1
5T	30	W-S	LPK4	Loop Key No. 4
R	5	S-W	LPK3	Loop Key No. 3
6T	31	R-BL	X	Dial Contact Lead
R	6	BL-R	LPK5	Loop Key No. 5
7T	32	R-O	JKM	Console Jack Lead
R	7	O-R	R	Dial Contact Lead
8T	33	R-G	GND – SP	Ground Lead Spare
R	8	G-R	PF	Power Fail Switch
9T	34	R-BR	SP1 – L	Spare Lamp
R	9	BR-R	GND K – 1	Ground for Bottom Row Button
10T	35	R-S	ICL – 2	Incoming Call Indicator Lamps
R	10	S-R	ICL – 1	
11T	36	BK-BL	ICL – 4	
R	11	BL-BK	ICL – 3	
12T	37	BK-O	ICL – 6	
R	12	O-BK	ICL – 5	
13T	38	BK-G	ICL – 8	
R	13	G-BK	ICL – 7	
14T	39	BK-BR	ICL – 10	
R	14	BR-BK	ICL – 9	
15T	40	BK-S	DEST4 – L	Destination Lamp No. 4
R	15	S-BK	DEST3 – L	Destination Lamp No. 3
16T	41	Y-BL	SRC5 – L	Source Lamp No. 5
R	16	BL-Y	LPK 5 – L	Loop Key Lamp No. 5
17T	42	Y-O	PF – L	Power Fail Lamp
R	17	O-Y	DEST5 – L	Destination Lamp No. 5
18T	43	Y-G	+ 12 V	Console Lamp Supply
R	18	G-Y	CW	Call Waiting Lamp
19T	44	Y-BR	+ 12 V	Console Lamp Supply
R	19	BR-Y	+ 12 V	
20T	45	Y-S	+ 12 V	
R	20	S-Y	+ 12 V	
21T	46	V-BL		Spare
R	21	BL-V		
22T	47	V-O		
R	22	O-V		
23T	48	V-G		
R	23	G-V		
24T	49	V-BR		
R	24	BR-V		
25T	50	V-S		
R	25	S-V		

TABLE A (Cont)
TERMINATING SEQUENCE OF P030
AT THE CROSS-CONNECTING TERMINAL

CONTROL SHELF – ATTENDANT CONSOLE

GREEN BINDER OF A75A FROM CONNECTOR P030 TERMINATED ON CONNECTING BLOCK P030

PAIR	PIN	PAIR COLOR	LEAD DESIGNATION	FUNCTION
1T	26	W-BL	SPL – 4	Spare Lamp No. 4
R	1	BL-W	SPL – 5	Spare Lamp No. 5
2T	27	W-O	EXCL – DEST	Exclude Destination Button
R	2	O-W	EXCL – SCR	Exclude Source Button
3T	28	W-G	NITE	Nite Connection Button
R	3	G-W	BSY – VER	Busy Verification Button
4T	29	W-BR	SIG – DEST	Signal Destination Button
R	4	BR-W	SIG - SRC	Signal Source Button
5T	30	W-S	PAGE	Paging Button
R	5	S-W	RLS – S	Release Button
6T	31	R-BL	MPF	Power Fail Activated
R	6	BL-R	RS – PWR	Power Fail Restored
7T	32	R-O	SP – 1	Spare
R	7	O-R	BARG – IN	Barge-In Button
8T	33	R-G	GNDK – 2	Ground for Bottom Row Button
R	8	G-R	SP – 2	Spare
9T	34	R-BR	SPL – 2	Spare Lamp No. 2
R	9	BR-R	GNDK – 2	Ground for Top Row Button
10T	35	R-S	EXCL – DEST – L	Exclude Destination Lamp
R	10	S-R	CONF – L	Conference Lamp
11T	36	BK-BL	BSY – VER – L	Busy Verfication Lamp
R	11	BL-BK	EXCL – SRC – L	Exclude Source Lamp
12T	37	BK-O	LPK2 – L	Loop Key Lamp No. 2
R	12	O-BK	LPK1 – L	Loop Key Lamp No. 1
13T	38	BK-G	SRC2 – L	Source Lamp No. 2
R	13	G-BK	SRC1 – L	Source Lamp No. 1
14T	39	BK-BR	DEST2 – L	Destination Lamp No. 2
R	14	BR-BK	DEST1 – L	Destination Lamp No. 1
15T	40	BK-S	RLS – L	Release Lamp
R	15	S-BK	PAGE – L	Paging Button Lamp
16T	41	Y-BL	BARGE – IN – L	Barge-In Button Lamp
R	16	BL-Y	SP – 5	Spare
17T	42	Y-O	ET	Emergency Transfer Lamp
R	17	O-Y	SDR	Sender Lamp
18T	43	Y-G	+ 12 V	Console Lamp Supply
R	18	G-Y	SPL – 6	Spare Lamp No. 6
19T	44	Y-BR	+ 12 V	Console Lamp Supply
R	19	BR-Y	+ 12 V	
20T	45	Y-S	+ 12 V	
R	20	S-Y	+ 12 V	
21T	46	V-BL		Spare
R	21	BL-V		
22T	47	V-O		
R	22	O-V		
23T	48	V-G		
R	23	G-V		
24T	49	V-BR		
R	24	BR-V		
25T	50	V-S		
R	25	S-V		

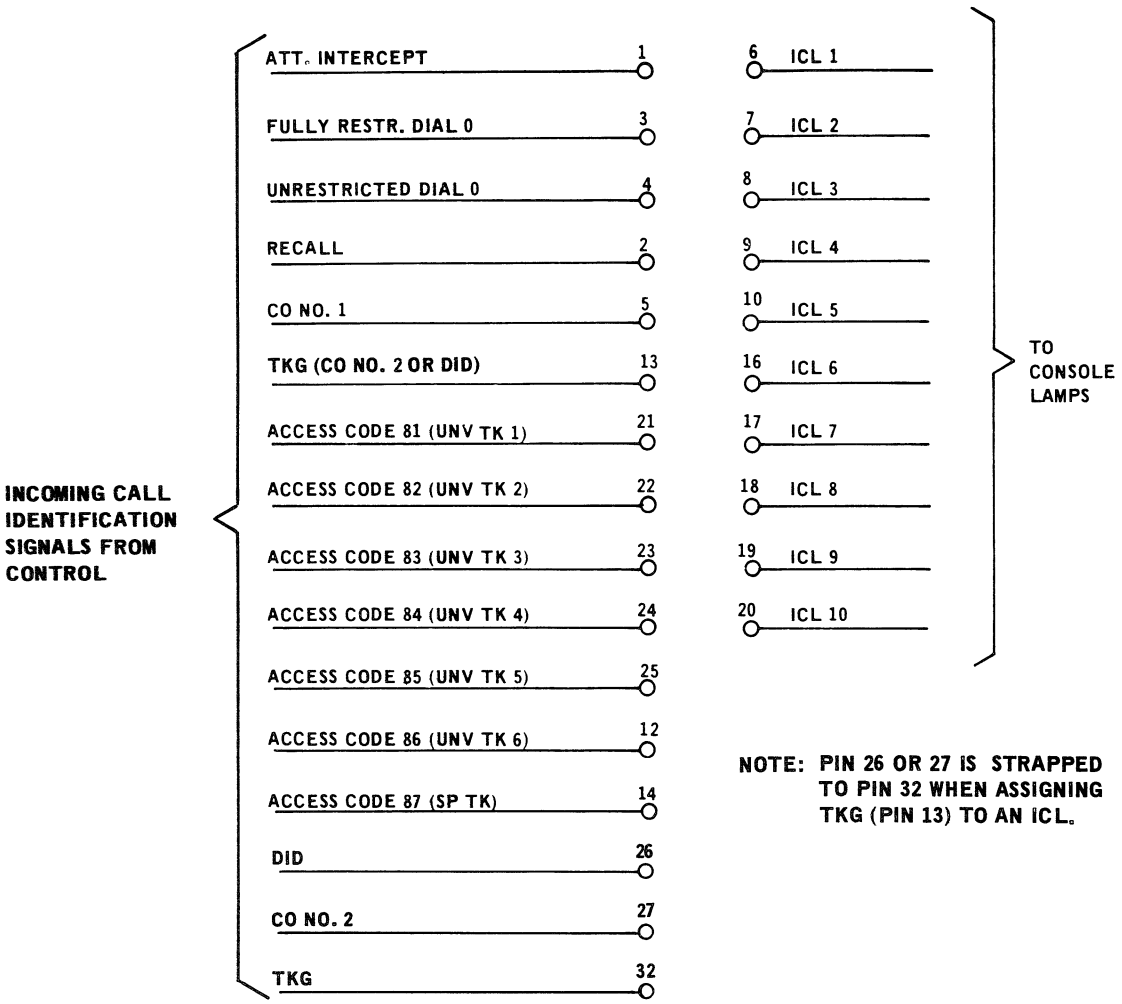


Fig. 1 – I/C Call Identification Signals and Lamps – Pin Designations on TB4 Strapping Block (Control Shelf)

TABLE B
STRAPPING FOR ATTENDANT CONSOLE OPTIONAL FEATURES

FEATURE	STRAPPING
Attendant Conference	28-33 *
Attendant Intercept	36-41
Barge-In	29-34
Busy Verification	30-35
Camp-On	50-55
Lockout	39-44
Secrecy	49-54

TABLE C
TRUNK GROUP BUSY LAMP – STRAPPING CONNECTIONS

TGB LAMP	STRAP PIN 27 TO
1	24 R
2	25 R
3	26 R
4	24 L
5	25 L
6	26 L

* This strap applies only on control shelves QSP6G or QSP6G2. For QSP6G3 and later vintages, do not strap for Att. Conference.

TABLE D
QPJ74* TRAFFIC MEASUREMENT NO. 1 (CONNECTOR 3)
PIN AND COLOR CODE ASSIGNMENTS

PAIR NO.	PIN NO.	PAIR COLOR	LEAD DESIGNATION
1T	26	W-BL	Spare
R	1	BL-W	To ground connection
2T	27	W-O	8 Time slots busy
R	2	O-W	Spare
3T	28	W-G	8 Time slots busy
R	3	G-W	Universal trunks accessed by code 86
4T	29	W-BR	8 Time slots busy
R	4	BR-W	Spare
5T	30	W-S	8 Time slots busy
R	5	S-W	Universal trunks accessed by code 85
6T	31	R-BL	8 Time slots busy
R	6	BL-R	Spare
7T	32	R-O	8 Time slots busy
R	7	O-R	Universal trunks accessed by code 82
8T	33	R-G	8 Time slots busy
R	8	G-R	Spare
9T	34	R-BR	8 Time slots busy
R	9	BR-R	Universal trunks accessed by code 84
10T	35	R-S	16 Time slots busy
R	10	S-R	All Time slots busy
11T	36	BK-BL	16 Time slots busy
R	11	BL-BK	Universal trunks accessed by code 87
12T	37	BK-O	16 Time slots busy
R	12	O-BK	1 Time slot busy
13T	38	BK-G	16 Time slots busy
R	13	G-BK	Universal trunks accessed by code 83
14T	39	BK-BR	16 Time slots busy
R	14	BR-BK	2 Time slots busy
15T	40	BK-S	16 Time slots busy
R	15	S-BK	Universal trunks accessed by code 81
16T	41	Y-BL	16 Time slots busy
R	16	BL-Y	2 Time slots busy
17T	42	Y-O	16 Time slots busy
R	17	O-Y	CO trunk outgoing busy condition
18T	43	Y-G	16 Time slots busy
R	18	G-Y	4 Time slots busy
19T	44	Y-BR	16 Time slots busy
R	19	BR-Y	DIGITONE receiver unavailability
20T	45	Y-S	16 Time slots busy
R	20	S-Y	4 Time slots busy
21T	46	V-BL	16 Time slots busy
R	21	BL-V	DIGITONE receiver requests
22T	47	V-O	16 Time slots busy
R	22	O-V	4 Time slots busy
23T	48	V-G	16 Time slots busy
R	23	G-V	Dial 0 directed calls
24T	49	V-BR	16 Time slots busy
R	24	BR-V	4 Time slots busy
25T	50	V-S	16 Time slots busy
R	25	S-V	Console work time

TABLE E
QPJ78* TRAFFIC MEASUREMENT NO. 2 (CONNECTOR 1)
PIN AND COLOR CODE ASSIGNMENTS

PAIR NO.	PIN NO.	PAIR COLOR	LEAD DESIGNATION
1T	26	W-BL	Spare
R	1	BL-W	To ground connection
2T	27	W-O	I/C trunk 15
R	2	O-W	I/C trunk 14
3T	28	W-G	I/C trunk 7
R	3	G-W	I/C trunk 12
4T	29	W-BR	I/C trunk 13
R	4	BR-W	I/C trunk 10
5T	30	W-S	I/C trunk 2
R	5	S-W	I/C trunk 11
6T	31	R-BL	I/C trunk 4
R	6	BL-R	I/C trunk 3
7T	32	R-O	I/C trunk 6
R	7	O-R	I/C trunk 9
8T	33	R-G	O/G trunk 12
R	8	G-R	I/C trunk 5
9T	34	R-BR	O/G trunk 9
R	9	BR-R	I/C trunk 1
10T	35	R-S	O/G trunk 10
R	10	S-R	O/G trunk 13
11T	36	BK-BL	O/G trunk 15
R	11	BL-BK	O/G trunk 11
12T	37	BK-O	O/G trunk 3
R	12	O-BK	O/G trunk 2
13T	38	BK-G	O/G trunk 7
R	13	G-BK	O/G trunk 1
14T	39	BK-BR	O/G trunk 14
R	14	BR-BK	O/G trunk 6
15T	40	BK-S	O/G trunk 8
R	15	S-BK	I/C trunk 8
16T	41	Y-BL	O/G trunk 5
R	16	BL-Y	O/G trunk 4

TABLE F
QPJ78* TRAFFIC MEASUREMENT NO. 2 (CONNECTOR 2)
PIN AND COLOR CODE ASSIGNMENTS

PAIR NO.	PIN NO.	PAIR COLOR	LEAD DESIGNATION
1T	26	W-BL	Spare
R	1	BL-W	To ground connection
2T	27	W-O	I/C trunk 30
R	2	O-W	I/C trunk 29
3T	28	W-G	I/C trunk 22
R	3	G-W	I/C trunk 27
4T	29	W-BR	I/C trunk 28
R	4	BR-W	I/C trunk 25
5T	30	W-S	I/C trunk 17
R	5	S-W	I/C trunk 26
6T	31	R-BL	I/C trunk 19
R	6	BL-R	I/C trunk 18
7T	32	R-O	I/C trunk 21
R	7	O-R	I/C trunk 24
8T	33	R-G	O/G trunk 27
R	8	G-R	I/C trunk 20
9T	34	R-BR	O/G trunk 24
R	9	BR-R	I/C trunk 16
10T	35	R-S	O/G trunk 25
R	10	S-R	O/G trunk 28
11T	36	BK-BL	O/G trunk 30
R	11	BL-BK	O/G trunk 26
12T	37	BK-O	O/G trunk 18
R	12	O-BK	O/G trunk 17
13T	38	BK-G	O/G trunk 22
R	13	G-BK	O/G trunk 16
14T	39	BK-BR	O/G trunk 29
R	14	BR-BK	O/G trunk 21
15T	40	BK-S	O/G trunk 23
R	15	S-BK	I/C trunk 23
16T	41	Y-BL	O/G trunk 20
R	16	BL-Y	O/G trunk 19

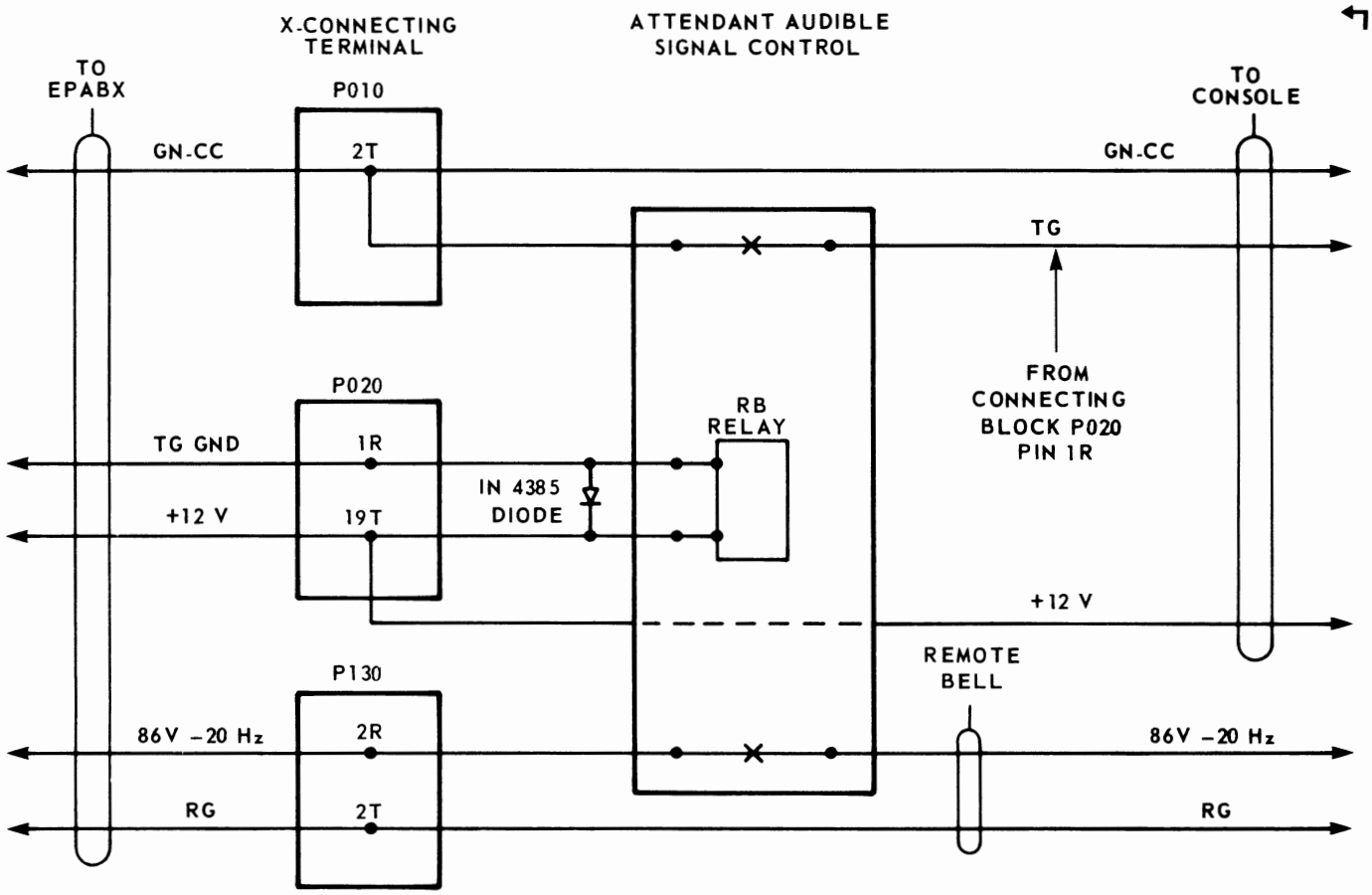


Fig. 2(a) – Extension of Console Audible Signal

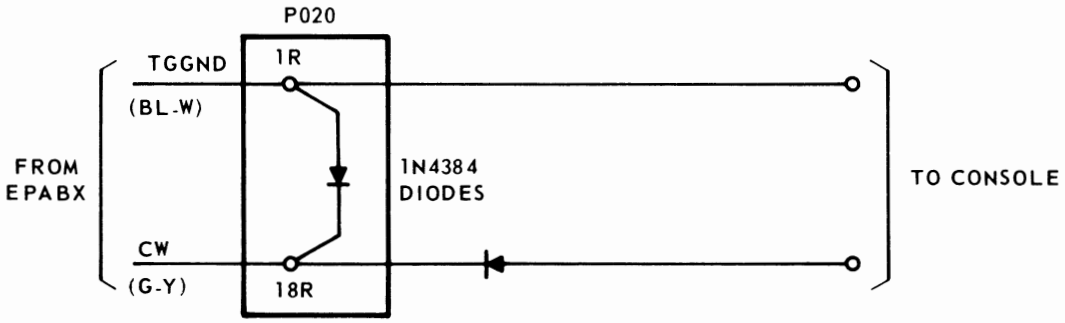


Fig. 2(b) – Call-Waiting Audible Signal Connections

NOTE 1: LEAD NUMBERING SHOWS PIN NUMBER FOLLOWED BY PLUG NUMBER, I.E., 36–2 IS PIN 36 ON PLUG 2.

NOTE 2: TONE GENERATOR FREQUENCY MAY BE CHANGED FROM 900HZ TO 500HZ BY MOVING THE BLACK LEAD FROM THE HF TERMINAL TO THE LF TERMINAL.

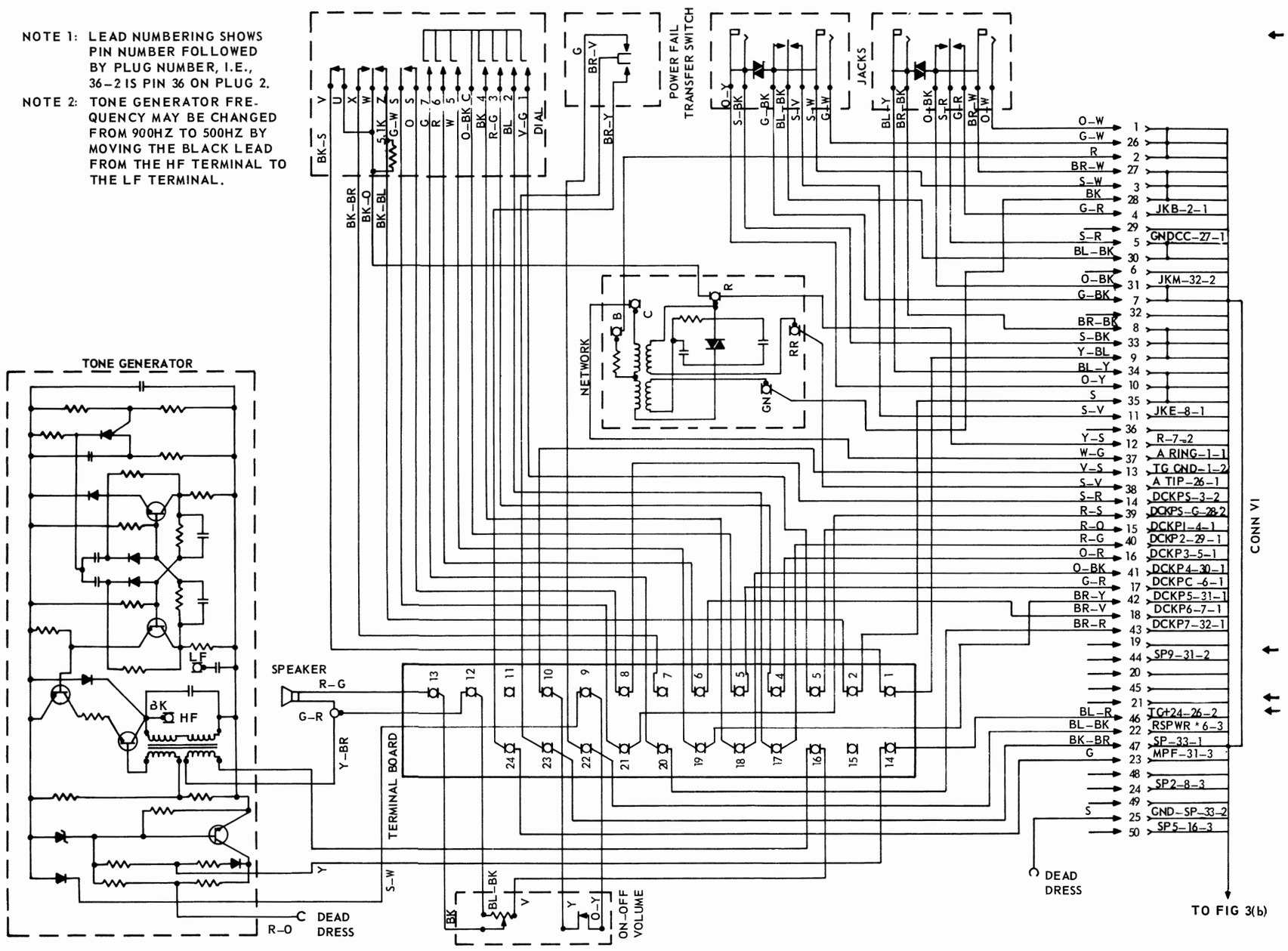
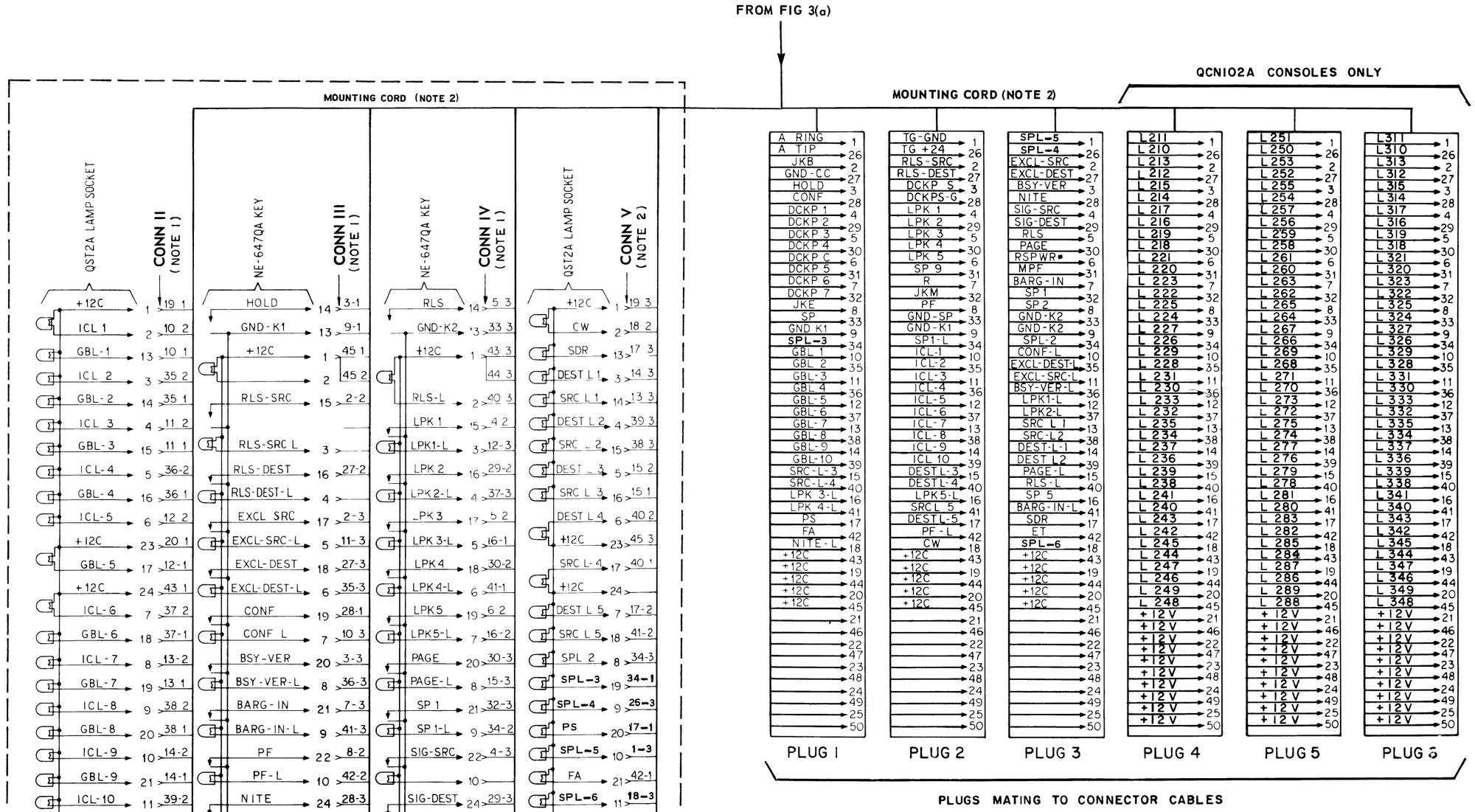


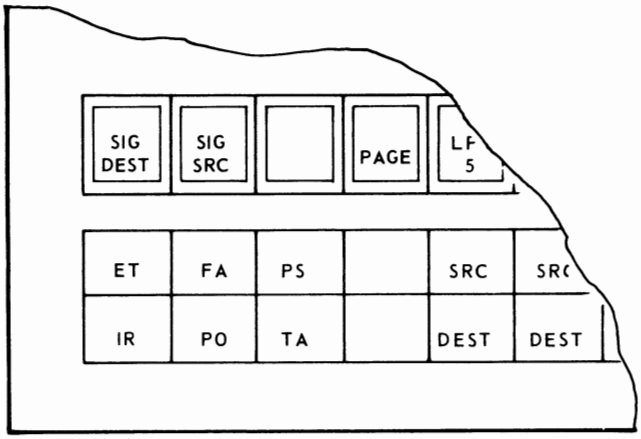
Fig. 3(a) – Attendant Telephone Wiring Diagram for QCN100B and QCN102A Consoles



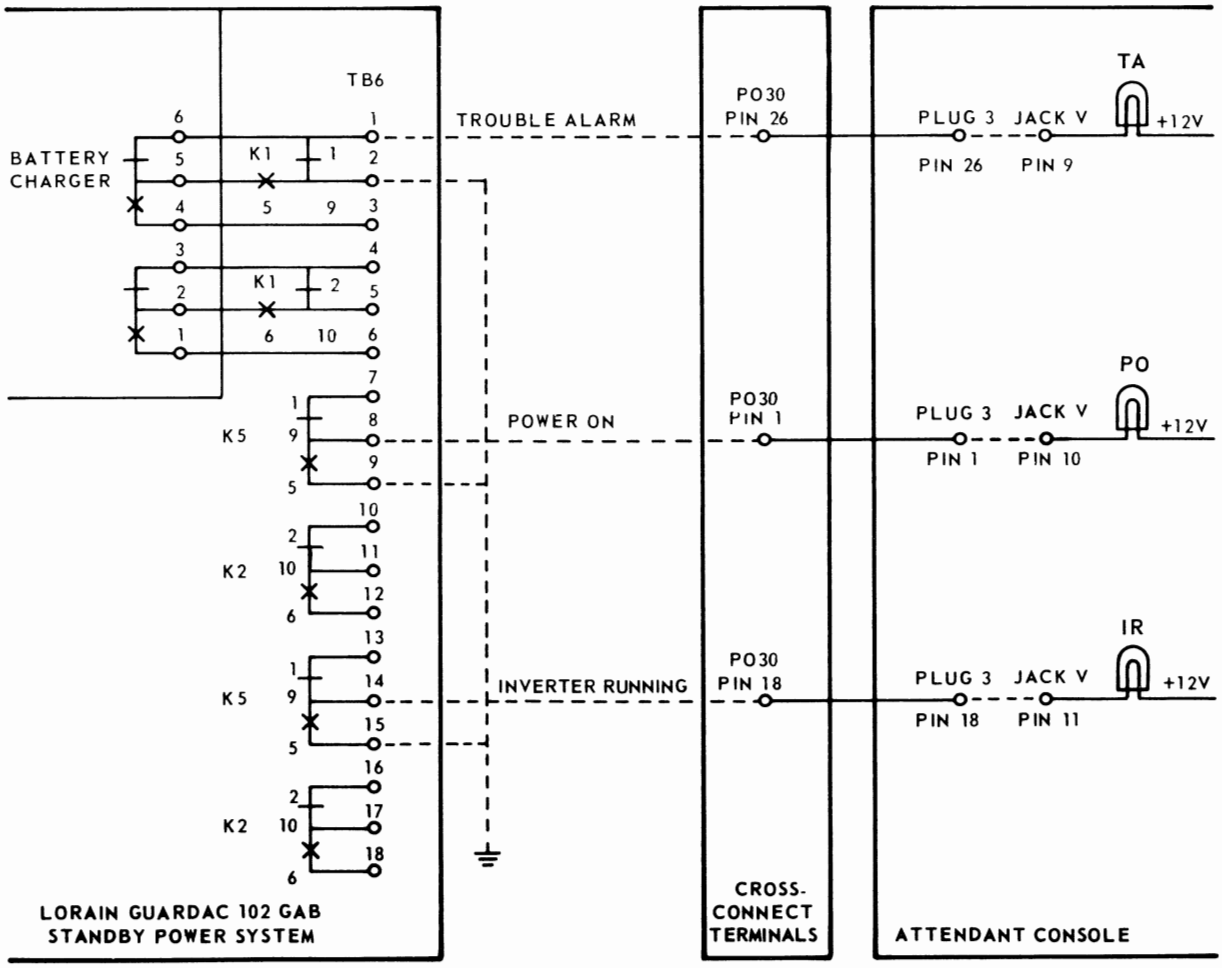
NOTE 1: LEAD NUMBERING SHOWS PIN NUMBER FOLLOWED BY PLUG NUMBER, I.E., 36–2 IS PIN 36 ON PLUG 2.

NOTE 2: QCN100B CONSOLE IS EQUIPPED WITH NE–120QE CORD.
QCN102A CONSOLE IS EQUIPPED WITH NE–D270QA CORD.

Fig. 3 (b) – Attendant Key and Control Lamp Wiring Diagram for QCN100B and QCN102A Consoles



a) Alarm Lamp Positions on the Console



b) Alarm Connections

Fig. 4 – Reserve Power Supply – Alarm Lamp Connections and Connection on the Console