Task Oriented Practice (TOP)

4ESS™ SWITCH

1B PROCESSOR

INITIAL INSTALLATION

TOP Comments Hot Line:
Monday through Friday
8:00 a.m. - 4:00 p.m. Eastern Time
Call: 1-800-334-0404
Or FAX to: 1-910-727-3043

Developed by
AT&T Network Systems Customer Education & Training

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Developed by:

AT&T Network Systems Customer Education & Training

FIND YOUR JOB IN THE LIST BELOW	THEN GO TO
Acceptance	NTP-002
Perform 1A Processor CC Demand Diagnostics	NTP-003
Scope Peripheral Unit Buses (PUBs) 0 and 1 Using PUB Looping	NTP-004
Scope Auxiliary Unit Buses (AUBs) 0 and 1 Using Phase 99 Diagnostic Tests	NTP-005
Install 1B Processor Conversion Switch Units on 1A Processor PUBs — Support to Installer (INST)	NTP-006
Install 1B Processor Conversion Switch Units on 1A Processor AUBs — Support to Installer (INST)	NTP-007
Install 1B Processor Conversion Switch Units on 1A Processor GCPs — Support to Installer (INST)	NTP-008
Install 1B Processor Conversion Switch Unit on 1A Processor S&SD — Support to Installer (INST)	NTP-009
Install GCP Capture and Remote Recovery Unit — Support to Installer (INST)	NTP-010
Convert 1A Alarms For 1B Processor Access - Support to Installer (INST)	NTP-011
Assign Office Alarm For Conversion Switch Units (Performed by TCC)	DLP-573
Assign Office Alarm For Conversion Switch Units (Performed For LEC Offices)	DLP-575

No acceptance tests are included in this TOP practice. 1B Processor stand-alone acceptance is performed just prior to installing conversion switch units to the 1A Processor. This acceptance test is contained in TOP AT&T 234-355-015. 1B Processor limited access testing (acceptance/evaluation) is performed after the 1A Processor is connected to the conversion switch units. These acceptance tests are also contained in TOP AT&T 234-355-015. A third acceptance is performed after performing the generic retrofit to 4E19/4E20 generic. These tests are contained in TOP AT&T 234-160-019

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: All input messages are to be entered at 1A Processor MTC terminal		
1	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit REX	TELCO	—
2	PC Program Stores (PSs 0, 2, 4 or PSs 18, 20, 22) Must Be Equipped With **FE63** Circuit Packs To Perform Items 5 Through 14. If PC Program Stores Contain **FE70** Circuit Packs, Replace **FE70** Circuit Packs With **FE63** Circuit Packs for Following Diagnostics and Subsequent Retrofit Process. If Unable to Replace **FE70** Circuit Packs, Contact Next Higher Technical Support Group	TELCO	—
3	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
4	At MTC Terminal, Remove Standby CC From Service (**RMV:CC a!**)	TELCO	DLP-507
5	Diagnose Standby CC (Item 3) Using PC Option (Three Combinations)	TELCO	DLP-500
6	Remove Power From Standby CC (Item 3) Using Power Switch	TELCO	DLP-502
7	Run Standby CC Power Down Phase 92 Tests (**DGN:CC a:PH 92!**)	TELCO	DLP-503
8	Restore Power to Standby CC Using Power Switch (CC Will Remain Out-of-Service)	TELCO	DLP-504
9	Restore Standby CC to Service (**RST:CC a!**)	TELCO	DLP-505
10	Switch CCs To Make Other CC Standby (**SW:CC!**)	TELCO	DLP-506
11	Remove Standby CC From Service (**RMV:CC a!**)	TELCO	DLP-507
12	Diagnose Standby CC Using PC Option (Three Combinations)	TELCO	DLP-500
13	Remove Power From Standby CC Using Power Switch	TELCO	DLP-502
14	Run Standby CC Power Down Phase 92 Tests (**DGN:CC a:PH 92!**)	TELCO	DLP-503
15	Restore Power to Standby CC Using Power Switch (CC Will Remain Out-of-Service)	TELCO	DLP-504
16	Restore Standby CC to Service (**RST:CC a!**)	TELCO	DLP-505
17	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—

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

	NOTES: 1. Items 1 through 19 are being performed to scope peripheral unit bus (PUB) 0 using PUB looping 2. Use SREC or Beltline terminal with form enter capability to expedite procedure 3. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary 4. This procedure must be performed within 2 weeks of installing PUB conversion switch units on 1A Processor 5. Installer must observe PUB scoping		
1	Notify Installer That PU Bus Scoping Will Be Performed	TELCO	—
2	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit REX	TELCO	—
3	Set Up Storage Oscilloscope	TELCO	DLP-510
4	Store Input Messages on 1A Processor Terminal for PUB Looping Test	TELCO	DLP-508
5	Advance Program and Set Up Loop To Observe PU Write Bus Bit 0 and PU Reply Bus Bit 0	TELCO	DLP-509
6	Scope Bit 0 on PU Write Bus	TELCO	DLP-511
7	Scope Bit 0 on PU Reply Bus	TELCO	DLP-557
8	At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 0!**)	TELCO	—
9	Advance Program and Set Up Loop To Observe Bits 1 to 35 on PU Write Bus, Bits 0 to 11 on PU Enable Address Bus, and Bits 1 to 23 on PU Reply Bus	TELCO	DLP-509
10	Scope Bits 1 to 35 on PU Write Bus	TELCO	DLP-512
11	Scope Bits 0 to 11 on PU Enable Address Bus	TELCO	DLP-513
12	Scope Bits 1 to 23 on PU Reply Bus	TELCO	DLP-514
13	At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 0!**)	TELCO	—
14	Set Up Loop To Observe PU Control Bus and Miscellaneous Bus Bits	TELCO	DLP-515
15	Scope PU Control Bus and Miscellaneous Bus Bits	TELCO	DLP-516
16	At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 0!**)	TELCO	—
17	Stop Maintenance Control Program Client	TELCO	DLP-518
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
18	Restore Peripheral Unit Bus to Service (PUB 0) (**RST:PUB 0!**)	TELCO	DLP-505
19	Safe Point To Temporarily Stop This Procedure. If Stopping, Perform Items 20 and 21; Otherwise, Continue at Item 23	TELCO	—
20	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
21	Stop Procedure for Now. Resume at Item 22 When Continuing	TELCO	—
22	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit REX	TELCO	—
	NOTE: Items 23 through 40 are being performed to scope PUB 1 using PUB looping		
23	Set Up Storage Oscilloscope (if Not Set Up)	TELCO	DLP-510
24	Store Input Messages on 1A Processor Terminal for PUB Looping Test	TELCO	DLP-508
25	Advance Program to Branch To Be Scoped and Set Up Loop To Observe PU Write Bus Bit 0 and PU Reply Bus Bit 0	TELCO	DLP-509
26	Scope Bit 0 on PU Write Bus	TELCO	DLP-511
27	Scope Bit 0 on PU Reply Bus	TELCO	DLP-557
28	At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 1!**)	TELCO	—
29	Advance Program to Branch To Be Scoped and Set Up Loop To Observe Bits 1 to 35 on PU Write Bus, Bits 0 to 11 on PU Enable Address Bus, and Bits 1 to 23 on PU Reply Bus	TELCO	DLP-509
30	Scope Bits 1 to 35 on PU Write Bus	TELCO	DLP-512
31	Scope Bits 0 to 11 on PU Enable Address Bus	TELCO	DLP-513
32	Scope Bits 1 to 23 on PU Reply Bus	TELCO	DLP-514
33	At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 1!**)	TELCO	—
34	Set Up Loop To Observe PU Control Bus and Miscellaneous Bus Bits	TELCO	DLP-515
35	Scope PU Control Bus and Miscellaneous Bus Bits	TELCO	DLP-516
36	At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 1!**)	TELCO	—
37	Stop Maintenance Control Program Client	TELCO	DLP-518
38	Restore Peripheral Unit Bus to Service (PUB 1) (**RST:PUB 1!**)	TELCO	DLP-505

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

39	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
40	On Status Sheet in AT&T 234-185-019, Initial and Date Completion of This Procedure	TELCO/INST	—

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

		RESPONSIBILITY	
	NOTES: 1. Items 1 through 24 are being performed to scope auxiliary unit bus (AUB) 0 using Phase 99 diagnostic tests 2. Use SREC or Beltline terminal with form enter capability to expedite procedure 3. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary 4. This procedure must be performed within 2 weeks of installing AUB conversion switch units on 1A Processor 5. Installer must observe AUB scoping		
1	Notify Installer That AU Bus Scoping Will Be Performed	TELCO	—
2	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit REX	TELCO	—
3	Set Up Storage Oscilloscope	TELCO	DLP-521
4	Store AUB 0 Input Messages on 1A Processor IO Terminal (if Not Stored)	TELCO	DLP-519
5	At MTC Terminal, Determine Which API Is Standby (**OP:APSTATUS!**)	TELCO	DLP-526
6	If API 0 Is Not Standby, Switch APIs To Make API 0 Standby (**SW:APS 0!**)	TELCO	DLP-527
7	Remove AUB 0 From Service (**RMV:AUB 0!**)	TELCO	DLP-507
8	Enter Execute Messages for Looping on AU Write Bus (**EX:AUB 0;START!** then **EX:AUB 0:PH 99,ADR 42-75!**)	TELCO	DLP-520
9	Scope AU Write Bus Bits 0 to 23 at BTRs in API 0	TELCO	DLP-522
10	Enter Stop Looping Message (**EX:AUB 0!**)	TELCO	—
11	Enter Execute Message for Looping on AU Address Bus (**EX:AUB 0:PH 99,ADR 75-120!**)	TELCO	DLP-520
12	Scope AU Address Bus Bits 0 to 15 at BTRs in API 0	TELCO	DLP-523
13	Enter Stop Looping Message (**EX:AUB 0!**)	TELCO	—
14	Enter Execute Message for Looping on AU Store Address Bus (**EX:AUB 0:PH 99,ADR 163-206!**)	TELCO	DLP-520
15	Scope AU Store Address Bus Bits 0 to 21 at BTRs in API 0	TELCO	DLP-524
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
16	Enter Stop Looping Message (**EX:AUB 0!**)	TELCO	—
17	Enter Execute Message for Looping on AU Reply Bus (**EX:AUB 0:PH 99,ADR 120-163!**)	TELCO	DLP-520
18	Scope AU Reply Bus Bits 0 to 23 at BTRs in API 0	TELCO	DLP-525
19	Enter Stop Looping Message (**EX:AUB 0!**)	TELCO	—
20	Stop Maintenance Control Program Client	TELCO	DLP-518
21	At MTC Terminal, Restore AUB 0 to Service (**RST:AUB 0!**)	TELCO	DLP-505
22	Restore DUS 0 to Service (**RST:DUS 0!**)	TELCO	DLP-505
23	Restore API 0 to Service (**RST:API 0!**)	TELCO	DLP-505
24	Safe Point To Temporarily Stop This Procedure. If Stopping, Perform Items 25 and 26; Otherwise, Continue at Item 28	TELCO	—
25	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
26	Stop Procedure for Now. Resume at Item 27 When Continuing	TELCO	—
27	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit REX	TELCO	—
	NOTE: Items 28 through 50 are being performed to scope AUB 1 using Phase 99 diagnostic tests		
28	Set Up Storage Oscilloscope (if Not Set Up)	TELCO	DLP-521
29	Store AUB 1 Input Messages on 1A Processor Terminal (if Not Stored)	TELCO	DLP-519
30	At MTC Terminal, Determine Which API Is Standby (**OP:APSTATUS!**)	TELCO	DLP-526
31	If API 1 Is Not Standby, Switch APIs To Make API 1 Standby (**SW:APS 0!**)	TELCO	DLP-527
32	Remove AUB 1 From Service (**RMV:AUB 1!**)	TELCO	DLP-507
33	Enter Execute Messages for Looping on AU Write Bus (**EX:AUB 1;START!** then **EX:AUB 1:PH 99,ADR 212-245!**)	TELCO	DLP-520
34	Scope AU Write Bus Bits 0 to 23 at BTRs in API 1	TELCO	DLP-522
35	Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
36	Enter Execute Message for Looping on AU Address Bus (**EX:AUB 1:PH 99,ADR 245-270!**)	TELCO	DLP-520
37	Scope AU Address Bus Bits 0 to 15 at BTRs in API 1	TELCO	DLP-523
38	Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
39	Enter Execute Message for Looping on AU Store Address Bus (**EX:AUB 1:PH 99,ADCR 333-356!**)	TELCO	DLP-520
40	Scope AU Store Address Bus Bits 0 to 21 at BTRs in API 1	TELCO	DLP-524
41	Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
42	Enter Execute Message for Looping on AU Reply Bus (**EX:AUB 1:PH 99,ADR 270-333!**)	TELCO	DLP-520
43	Scope AU Reply Bus Bits 0 to 23 at BTRs in API 1	TELCO	DLP-525
44	Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
45	Stop Maintenance Control Program Client	TELCO	DLP-518
46	At MTC Terminal, Restore AUB 1 to Service (**RST:AUB 1!**)	TELCO	DLP-505
47	Restore DUS 1 to Service (**RST:DUS 1!**)	TELCO	DLP-505
48	Restore API 1 to Service (**RST:API 1!**)	TELCO	DLP-505
49	Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
50	On Status Sheet in AT&T 234-185-019, Initial and Date Completion on This Procedure	TELCO	—

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

		RESPONSIBILITY	
	WARNING: No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Base IO/IOP must have been reconfigured to access PUB on new primary extension from PUBB frame 2. 1B Processor PUB cabling must be connected to conversion switch units and verified before performing this procedure 3. 1B Processor conversion switch unit alarm cables and remote unit must be connected and verified 4. 1B Processor GCP capture and recovery unit must be installed and verified 5. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary 6. All input messages, except for scoping messages, are to be entered at MTC terminal. SREC, Beltline, or applicable terminal is to be used for scoping 7. This procedure must be performed during light traffic periods 8. This procedure contains soak interval for verifying system operation and stability during growth. During the soak interval, all abnormal conditions (such as interrupts, interjects, and diagnostic failures related to growth) must be investigated and resolved immediately. Growth equipment, being soaked, must be error free for at least the time specified 9. 1A Processor operation must be closely monitored during this procedure 10. Items 1 through 3 are being performed to test GCP capture and recovery unit 11. Alarms will be received when switches are set to 1B Processor position		
1	At GCP Capture and Recovery Unit, Depress **RESET** Switch; Ensure **SET** LED Off and At Indicator/Remote Control Unit, Set All Switches to All 1B Position; Ensure Only Red LEDs On	INST	—
2	At MTC Terminal, Enter Message **INH:ONEB!**. At GCP Capture and Recovery Unit, Ensure **SET** LED On. At Indicator/Remote Control Unit, Ensure Switch Indicators Returned to 1A (Green) Position and **GCRRU MONITOR** Indicator On	TELCO/INST	—
3	At MTC Terminal, Enter Message **ALW:ONEB!**. At GCP Capture and Recovery Unit, Ensure **SET** LED Off. At Indicator/Remote Control Unit, Ensure **GCRRU MONITOR** Indicator Off	TELCO/INST	—
4	Switch CCs To Make Other CC Standby (**SW:CC!**)	TELCO	DLP-506
5	At GCP Capture and Recovery Unit, Depress **RESET** Switch; Ensure **SET** LED Off and At Indicator/Remote Control Unit, Set All Switches to All 1B Position; Ensure Only Red LEDs On	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
6	At MTC Terminal, Enter Message **INH:ONEB!**. At GCP Capture and Recovery Unit, Ensure **SET** LED On and at Indicator/Remote Control Unit, Ensure Switch Indicators Returned to 1A (Green) Position and **GCRRU MONITOR** Indicator Is On	TELCO/INST	—
7	At MTC Terminal, Enter Message **ALW:ONEB!**. At GCP Capture and Recovery Unit, Ensure **SET** LED OFF. At Indicator/Remote Control Unit, Ensure **GCRRU MONITOR** Indicator Is Off	TELCO/INST	—
8	At Indicator/Remote Control Unit, Rotate **ALL-1B** Key to **OFF** Position	INST	—
9	At Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	INST	—
10	Notify Next Higher Technical Support Group That PUB Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 11 Through 13	TELCO	—
11	Ensure 1A Processor CC Demand Diagnostics Have Been Successfully Completed Within 1 Week of Performing This Procedure	TELCO	—
12	Ensure No API Interjects or Interrupts or BLMs Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
13	Ensure ***4ESS***™ Switch Is in Stable Condition With No Audits	TELCO	DLP-530
14	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-529
	NOTE: Items 15 through 37 are being performed to connect 1A Processor PUB 0 to PUB 0 conversion switch unit		
15	Set Up Storage Oscilloscope	INST	—
16	Store Input Messages on 1A Processor Terminal for PUB Looping Test	TELCO	DLP-508
17	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—
18	Enter Message **STOP:TEST;PUSYS!**; Ensure OK Response Is Received	TELCO	—
19	Diagnose PUB 0 Using Restore Message (**RST:PUB 0!**)	TELCO	DLP-505
20	Diagnose PUB 1 Using Restore Message (**RST:PUB 1!**)	TELCO	DLP-505
21	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
	(Continued on Page 3)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
22	Remove PUB 0 From Service (**RMV:PUB 0!**)	TELCO	DLP-507
23	At PUBB Frame, Remove Power Using Power Switch	TELCO	DLP-502
24	At PUBB Frame, Disconnect PUB 0 Cables Going to PPI Frame	INST	—
25	Connect Disconnected End of PUB 0 Cables (Item 24) to PU 1A Connectors on PUB 0 Conversion Switch Unit	INST	—
26	Connect PUB 0 Jumper Cables to 4E Connectors on PUB 0 Conversion Switch Unit	INST	—
27	Connect Other End of PUB 0 Jumper Cables (Item 26) to PUB 0 Connectors on PUBB Frame	INST	—
28	At PUBB Frame Power Switch, Depress **ON** Switch (Leave Power Switch in **ROS** Position); Ensure **PWR OFF** Lamp Is Off	TELCO/INST	—
29	Diagnose PUB 0; Expect CATP Results (**DGN:PUB 0;RAW!**)	TELCO/INST	DLP-528
30	Office Technician Must Observe PUB 0 Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of PUB 0 Conversion Switch Unit Installation	TELCO	—
31	Execute PUB-Looping Test To Verify PUB 0 at Conversion Switch Unit:		
	1. Advance Program and Set Up Loop To Observe Bit 0 on PU Write and Reply Bus	TELCO	DLP-509
	2. Scope Bit 0 on PU Write Bus at Conversion Switch Unit	INST	DLP-511
	3. Scope Bit 0 on PU Reply Bus at Conversion Switch Unit	INST	DLP-557
	4. At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 0!**)	TELCO	—
	5. Advance Program and Set Up Loop to Observe Bits 1 to 35 on PU Write Bus, Bits 0 to 11 on PU Enable Address Bus and Bits 1 to 23 on PU Reply Bus	TELCO	DLP-509
	6. Scope Bits 1 to 35 on PU Write Bus at Conversion Switch Unit	INST	DLP-512
	7. Scope Bits 0 to 11 on PU Enable Address Bus at Conversion Switch Unit	INST	DLP-513
	8. Scope Bits 1 to 23 on PU Reply Bus at Conversion Switch Unit	INST	DLP-514
	9. At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 0!**)	TELCO	—
	10. Set Up Loop To Observe PU Control Bus and Miscellaneous Bus Bits	TELCO	DLP-515
	11. Scope PU Control Bus and Miscellaneous Bus Bits at Conversion Switch Unit	INST	DLP-516

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
31 (Contd)	12. At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 0!**)	TELCO	—
	13. Stop Maintenance Control Program Client	TELCO	DLP-518
	14. Disconnect Storage Oscilloscope From Conversion Switch Unit	INST	—
32	At PUBB Frame Power Switch, Rotate **ROS/OFF** Switch to Normal Position	TELCO/INST	DLP-567
33	At MTC Terminal, Restore PUB 0 to Service (**RST:PUB 0!**)	TELCO	DLP-505
34	Enter Message **TEST:PUSYS!**	TELCO	—
35	Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
36	Notify Next Higher Technical Support Group That PUB 0 Conversion Switch Unit Installation Is Complete	TELCO	—
37	Soak PUB 0 Conversion Switch Unit Installation for at Least One Non Cabling Shift Before Proceeding	TELCO/INST	—
38	Notify Next Higher Technical Support Group That PUB Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 39 Through 41	TELCO	—
39	Ensure 1A Processor CC Demand Diagnostics Have Been Successfully Completed Within One Week of Performing This Procedure	TELCO	—
40	Ensure No API Interjects or Interrupts Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
41	Ensure ***4ESS*** Switch Is in Stable Condition	TELCO	DLP-530
42	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-529
	NOTE: Items 43 through 65 are being performed to connect 1A Processor PUB 1 to PUB 1 conversion switch unit		
43	Set Up Storage Oscilloscope (if Not Set Up)	INST	—
44	Store Input Messages on 1A Processor Terminal for PUB Looping Test	TELCO	DLP-508
45	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—
46	At MTC Terminal, Enter Message **STOP:TEST;PUSYS!** Ensure OK Response Is Received	TELCO	—
47	Diagnose PUB 0 Using Restore Message (**RST:PUB 0!**)	TELCO	DLP-505
48	Diagnose PUB 1 Using Restore Message (**RST:PUB 1!**)	TELCO	DLP-505

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
49	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
50	Remove PUB 1 From Service (**RMV:PUB 1!**)	TELCO	DLP-507
51	At PUBB Frame, Remove Power Using Power Switch	TELCO	DLP-502
52	At PUBB Frame, Disconnect PUB 1 Cables Going to PPI Frame	INST	—
53	Connect Disconnected End of PUB 1 Cables (Item 52) to PU 1A Connectors on PUB 1 Conversion Switch Unit	INST	—
54	Connect PUB 1 Jumper Cables to 4E Connectors on PUB 1 Conversion Switch Unit	INST	—
55	Connect Other End of PUB 1 Jumper Cables (Item 54) to PUB 1 Connectors on PUBB Frame	INST	—
56	At PUBB Frame Power Switch, Depress **ON** Switch (Leave Power Switch in **ROS** Position); Ensure **PWR OFF** Lamp Is Off	TELCO/INST	—
57	Diagnose PUB 1; Expect CATP Results (**DGN:PUB 1;RAW!**)	TELCO/INST	DLP-528
58	Office Technician Must Observe PUB 1 Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of PUB 1 Conversion Switch Unit Installation	TELCO	—
59	Execute PUB Looping Test To Verify PUB 1 at Conversion Switch Unit:		
	1. Advance Program and Set Up Loop To Observe Bit 0 on PU Write and Reply Bus	TELCO	DLP-509
	2. Scope Bit 0 on PU Write Bus at Conversion Switch Unit	INST	DLP-511
	3. Scope Bit 0 on PU Reply Bus at Conversion Switch Unit	INST	DLP-557
	4. At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 1!**)	TELCO	—
	5. Advance Program and Set Up Loop to Observe Bits 1 to 35 on PU Write Bus, Bits 0 to 11 on PU Enable Address Bus and Bits 1 to 23 on PU Reply Bus	TELCO	DLP-509
	6. Scope Bits 1 to 35 on PU Write Bus at Conversion Switch Unit	INST	DLP-512
	7. Scope Bits 0 to 11 on PU Enable Address Bus at Conversion Switch Unit	INST	DLP-513
	8. Scope Bits 1 to 23 on PU Reply Bus at Conversion Switch Unit	INST	DLP-514
	9. At 1A Processor Terminal, Enter Stop Looping Message (**EX:PUB 1**)	TELCO	—
	10. Set Up Loop To Observe PU Control Bus and Miscellaneous Bus Bits	TELCO	DLP-515

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
59 (Contd)	11. Scope PU Control Bus and Miscellaneous Bus Bits at Converstion Switch Unit	INST	DLP-516
	12. At 1A Processor Terminal, Enter Stop Looping Message (EX:PUB 1!)	TELCO	—
	13. Stop Maintenance Control Program Client	TELCO	DLP-518
	14. Disconnect Storage Oscilloscope From Conversion Switch Unit	INST	—
60	At PUBB Frame Power Switch, Rotate **ROS/OFF** Switch to Normal Position	TELCO/INST	DLP-567
61	At MTC Terminal, Restore PUB 1 to Service (RST:PUB 1!)	TELCO	DLP-505
62	Enter Message TEST:PUSYS!	TELCO	—
63	At MTC Terminal, Enter Message ALW:MACLI,CLASS MTCE! To Allow REX	TELCO	—
64	Notify Next Higher Technical Support Group That PUB 1 Conversion Switch Unit Installation Is Complete	TELCO	—
65	Soak PUB 1 Conversion Switch Unit Installation for at Least One Non-Cabling Shift Before Continuing	TELCO/INST	—
66	On Status Sheet in AT&T 234-185-019, Initial and Date Completion of This Prodecure	TELCO/INST	—

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

		RESPONSIBILITY	
	WARNING: No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. 1B Processor AU bus (AUB) cabling must be connected to conversion switch units and verified before performing this procedure 2. 1B GCP processor conversion switch unit alarm cables and remote unit must be connected and verified 3. 1B Processor GCP capture and recovery unit must be installed and verified 4. Appropriate Input/Output manual must be used if clarification of input message or output message is necessary 5. This procedure must be performed during light traffic periods 6. This procedure contains soak interval for verifying system operation and stability during growth. During the soak interval, all abnormal conditions (such as interrupts, interjects, and diagnostic failures related to growth) must be investigated and resolved immediately. Growth equipment, being soaked, must be error free for at least the time specified 7. 1A Processor operation must be closely monitored during this procedure		
1	Notify Next Higher Technical Support Group That AUB Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 2 Through 4	TELCO	—
2	Ensure 1A Processor CC Demand Diagnostics Have Been Successfully Completed Within 1 Week of Performing This Procedure	TELCO	—
3	Ensure No API Interjects or Interrupts or BLMs Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
4	Ensure *4ESS*™ Switch Is in Stable Condition With No Audits	TELCO	DLP-530
5	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-529
6	Set Up Storage Oscilloscope	INST	—
7	Store AUB 0 Input Messages on 1A Processor Terminal for AUB Looping Test	TELCO	DLP-519
8	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
9	At APS MCRT, Enter Following Messages To Inhibit Automatic Diagnostics: • INH:DMQ;SRC REX! • INH:DMQ;SRC ADP!	TELCO	—
	NOTE: Items 10 through 17 are being performed to diagnose AUB and associated units		
10	At MTC Terminal, Determine Which API Is Standby (OP:APSTATUS!)	TELCO	DLP-526
11	Diagnose AUB (Same Member Number as Standby API) Using Restore Message (RST:AUB a!)	TELCO	DLP-505
12	Diagnose DUS (Same Member Number as Standby API) Using Restore Message (RST:DUS a!)	TELCO	DLP-505
13	Diagnose API (Item 10) Using Restore Message (RST:API a!)	TELCO	DLP-505
	NOTE: Procedure must not be continued until API is restored to service		
14	At MTC Terminal, Switch APIs To Make Other API Standby (SW:APS 0!)	TELCO	DLP-527
15	Diagnose AUB (Same Member Number as Standby API) Using Restore Message (RST:AUB a!)	TELCO	DLP-505
16	Diagnose DUS (Same Member Number as Standby API) Using Restore Message (RST:DUS a!)	TELCO	DLP-505
17	Diagnose Standby API Using Restore Message (RST:API a!)	TELCO	DLP-505
	NOTE: Procedure must not be continued until API is restored to service		
18	At MTC Terminal, Determine Which API Is Standby (OP:APSTATUS!)	TELCO	DLP-526
19	If API 0 Is Not Standby, Switch APIs To Make API 0 Standby (SW:APS 0!)	TELCO	DLP-527
20	Remove AUB 0 From Service (RMV:AUB 0!)	TELCO	DLP-507
	NOTE: Items 21 through 45 are being performed to connect 1A Processor AUB 0 to AUB 0 conversion switch unit		
21	Remove Power From API 0 Using Power Switch	TELCO	DLP-502
22	Remove Power From DUS 0 Using Power Switch	TELCO	DLP-502
23	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
24	At API Frame 0, Disconnect AUB 0 Cables	INST	—
25	At AUB 0 Conversion Switch Unit, Connect Disconnected End of AUB 0 Cables	INST	—
26	Connect Jumper Cables Between AUB 0 Conversion Switch Unit and API Frame 0	INST	—
27	Restore Power to API 0 Using Power Switch (API Will Remain Out-of-Service)	TELCO/INST	DLP-576
28	Restore Power to DUS 0 Using Power Switch (DUS Will Remain Out-of-Service)	TELCO/INST	DLP-576
29	Office Technician Must Observe AUB 0 Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of AUB 0 Conversion Switch Unit Installation	TELCO	—
	NOTE: Notify next higher technical support if any errors are encountered during diagnostic testing. The test must be immediately aborted		
30	Execute Phase 99 Diagnostic Scoping Test To Verify AUB 0 at AUB 0 Conversion Switch Unit:		
	1. Enter Execute Messages for Looping on AU Write Bus (EX:AUB 0;START! then EX:AUB 0:PH 99,ADR 42-75!)	TELCO	DLP-520
	2. Scope AU Write Bus Bits 0 to 23 at AUB 0 Conversion Switch Unit	INST	DLP-522
	3. Enter Stop Looping Message (EX:AUB 0!)	TELCO	—
	4. Enter Execute Message for Looping on AU Address Bus (EX:AUB 0:PH 99,ADR 75-120!)	TELCO	DLP-520
	5. Scope AU Address Bus Bits 0 to 15 at AUB 0 Conversion Switch Unit	INST	DLP-523
	6. Enter Stop Looping Message (EX:AUB 0!)	TELCO	—
	7. Enter Execute Message for Looping on AU Store Address Bus (EX:AUB 0:PH 99,ADR 163-206!)	TELCO	DLP-520
	8. Scope AU Store Address Bus Bits 0 to 21 at AUB 0 Conversion Switch Unit	INST	DLP-524
	9. Enter Stop Looping Message (EX:AUB 0!)	TELCO	—
	10. Enter Execute Message for Looping on AU Reply Bus (EX:AUB 0:PH 99,ADR 120-163!)	TELCO	DLP-520
	11. Scope AU Reply Bus Bits 0 to 23 at AUB 0 Conversion Switch Unit	INST	DLP-525
	12. Enter Stop Looping Message (EX:AUB 0!)	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
30 (Contd)	13. Stop Maintenance Control Program Client	TELCO	DLP-518
	14. Disconnect Storage Oscilloscope From Conversion Switch Unit	INST	—
31	At MTC Terminal, Restore AUB 0 to Service (**RST:AUB 0!**)	TELCO/INST	DLP-505
32	Diagnose DUS 0; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:DUS 0;RAW!**)	TELCO/INST	DLP-528
33	Diagnose API 0; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:API 0;RAW!**)	TELCO/INST	DLP-528
34	Switch CCs (**SW:CC!**)	TELCO	DLP-506
35	Diagnose DUS 0; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:DUS 0;RAW!**)	TELCO/INST	DLP-528
36	Diagnose API 0; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:API 0;RAW!**)	TELCO/INST	DLP-528
37	Restore DUS 0 to Service (**RST:DUS 0!**)	TELCO/INST	DLP-505
38	Restore API 0 to Service (**RST:API 0!**)	TELCO/INST	DLP-505
39	Diagnose AUB 0 Using Restore Message (**RST:AUB 0!**) (ATP Required)	TELCO	DLP-505
40	Scope AU Control Leads at AUB 0 Conversion Switch	TELCO/INST	DLP-569
41	Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
42	At APS MCRT, Enter Following Messages To Allow Automatic Diagnostics: • **ALW:DMQ;SRC REX!** • **ALW:DMQ;SRC ADP!**	TELCO	—
43	Notify Next Higher Technical Support Group That AUB 0 Conversion Switch Unit Installation Is Complete	TELCO	—
44	At MTC Terminal, Switch APIs To Make API 0 Active for Soaking (**SW:APS 0!**)	TELCO	DLP-527
45	Soak AUB 0 Conversion Switch Unit Installation for at Least One Non Cabling Shift Before Proceeding	TELCO/INST	—
46	Notify Next Higher Technical Support Group That AUB Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 46 Through 47	TELCO	—
47	Ensure 1A Processor CC Demand Diagnostics Have Been Successfully Completed Within 1 Week of Performing This Procedure	TELCO	—
	(Continued on Page 5)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
48	Ensure No API Interjects or Interrupts Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
49	Ensure ***4ESS*** Switch Is in Stable Condition With No Audits	TELCO	DLP-530
50	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-529
51	Set Up Storage Oscilloscope (if Not Set Up)	INST	—
52	Store AUB 1 Input Messages on 1A Processor Terminal for AUB Looping Test	TELCO	DLP-519
53	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—
54	At APS MCRT, Enter Following Messages To Inhibit Automatic Diagnostics: • **INH:DMQ;SRC REX!** • **INH:DMQ;SRC ADP!**	TELCO	—
	NOTE: Items 55 through 62 are being performed to diagnose AUB and associated units		
55	At MTC Terminal, Determine Which API Is Standby (**OP:APSTATUS!**)	TELCO	DLP-526
56	Diagnose AUB (Same Member Number as Standby API) Using Restore Message (**RST:AUB a!**)	TELCO	DLP-505
57	Diagnose DUS (Same Member Number as Standby API) Using Restore Message (**RST:DUS a!**)	TELCO	DLP-505
58	Diagnose API (Item 55) Using Restore Message (**RST:API a!**)	TELCO	DLP-505
	NOTE: Procedure must not be continued until API is restored to service		
59	At MTC Terminal, Switch APIs To Make Other API Standby (**SW:APS 0!**)	TELCO	DLP-527
60	Diagnose AUB (Same Member Number as Standby API) Using Restore Message (**RST:AUB a!**)	TELCO	DLP-505
61	Diagnose DUS (Same Member Number as Standby API) Using Restore Message (**RST:DUS a!**)	TELCO	DLP-505
62	Diagnose Standby API Using Restore Message (**RST:API a!**)	TELCO	DLP-505
	NOTE: Procedure must not be continued until API is restored to service		
63	At MTC Terminal, Determine Which API Is Standby (**OP:APSTATUS!**)	TELCO	DLP-526
64	If API 1 Is Not Standby, Switch APIs To Make API 1 Standby (**SW:APS 0!**)	TELCO	DLP-527
	NOTE: Items 65 through 90 are being performed to connect 1A Processor AUB 1 to AUB 1 conversion switch unit		
	(Continued on Page 6)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
65	Remove AUB 1 From Service (RMV:AUB 1!)	TELCO	DLP-507
66	Remove Power From API 1 Using Power Switch	TELCO	DLP-502
67	Remove Power From DUS 1 Using Power Switch	TELCO	DLP-502
68	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	INST	—
69	At API Frame 1, Disconnect AUB 1 Cables From DUS 1	INST	—
70	At AUB 1 Conversion Switch Unit, Connect Disconnected End of AUB 1 Cables	INST	—
71	Connect Jumper Cables Between AUB 1 Conversion Switch Unit and API Frame 1	INST	—
72	Restore Power to API 1 Using Power Switch (API Will Remain Out-of-Service)	TELCO/INST	DLP-576
73	Restore Power to DUS 1 Using Power Switch (DUS 1 Will Remain Out-of-Service)	TELCO/INST	DLP-576
74	Office Technician Must Observe AUB 1 Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of AUB 1 Conversion Switch Unit Installation	TELCO	—
	NOTE: Notify next higher technical support if any errors are encountered during diagnostic testing. The test must be immediately aborted		
75	Execute Phase 99 Diagnostic Scoping Test To Verify AUB 1 at AUB 1 Conversion Switch Unit:		
	1. Enter Execute Messages for Looping on AU Write Bus (EX:AUB 1;START! then EX:AUB 1:PH 99,ADR 212-245!)	TELCO	DLP-520
	2. Scope AU Write Bus Bits 0 to 23 at AUB 1 Conversion Switch Unit	INST	DLP-522
	3. Enter Stop Looping Message (EX:AUB 1!)	TELCO	—
	4. Enter Execute Message for Looping on AU Address Bus (EX:AUB 1:PH 99,ADR 245-270!)	TELCO	DLP-520
	5. Scope AU Address Bus Bits 0 to 15 at AUB 1 Conversion Switch Unit	INST	DLP-523
	6. Enter Stop Looping Message (EX:AUB 1!)	TELCO	—
	(Continued on Page 7)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
75 (Contd)	7. Enter Execute Message far Looping on AU Store Address Bus (**EX:AUB 1:PH 99,ADR 333-356!**)	TELCO	DLP-520
	8. Scope AU Store Address Bus Bits 0 to 21 at AUB 1 Conversion Switch Unit	INST	DLP-524
	9. Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
	10. Enter Execute Message for Looping on AU Reply Bus (**EX:AUB 1:PH 99,ADR 270-333!**)	TELCO	DLP-520
	11. Scope AU Reply Bus Bits 0 to 23 at AUB 1 Conversion Switch Unit	INST	DLP-525
	12. Enter Stop Looping Message (**EX:AUB 1!**)	TELCO	—
	13. Stop Maintenance Control Program Client	TELCO	DLP-518
	14. Disconnect Storage Oscilloscope From Conversion Switch Unit	INST	—
76	At MTC Terminal, Restore AUB 1 to Service (**RST:AUB 1!**)	TELCO/INST	DLP-505
77	Diagnose DUS 1; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:DUS 1;RAW!**)	TELCO/INST	DLP-528
78	Diagnose API 1; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:API 1;RAW!**)	TELCO/INST	DLP-528
79	Switch CCs (**SW:CC!**)	TELCO	DLP-506
80	Diagnose DUS 1; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:DUS 1;RAW!**)	TELCO/INST	DLP-528
81	Diagnose API 1; Ensure All Phases Run Are ATP or Explainable CATP (**DGN:API 1;RAW!**)	TELCO/INST	DLP-528
82	Restore DUS 1 to Service (**RST:DUS 1!**)	TELCO/INST	DLP-505
83	Restore API 1 to Service (**RST:API 1!**)	TELCO/INST	DLP-505
84	Diagnose AUB 1 Using Restore Message (**RST:AUB 1!**) (ATP Required)	TELCO	DLP-505
85	Scope AU Control Leads at AUB 1 Conversion Switch	TELCO/INST	DLP-569
86	Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
87	At APS MCRT, Enter Following Messages To Allow Automatic Diagnostics: • **ALW:DMQ;SRC REX!** • **ALW:DMQ;SRC ADP!**	TELCO	—
	(Continued on Page 8)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
88	Notify Next Higher Technical Support Group That AUB 1 Conversion Switch Unit Installation Is Complete	TELCO	—
89	At MTC Terminal, Switch APIs to Make API 1 for Soaking (SW:APS 0!)	TELCO	DLP-527
90	Soak AUB 1 Conversion Switch Unit Installation for at Least One Non-Cabling Shift Before Continuing	TELCO/INST	—
91	On Status Sheet in AT&T 234-185-019, Initial and Date Completion of This Procedure	TELCO/INST	—

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

		RESPONSIBILITY	
	WARNING: No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. Base IO/IOP must have been reconfigured to access PUB on new primary extension from PUBB frame 2. 1B Processor GCP cabling must be connected to conversion switch units and verified before performing this procedure 3. 1B Processor conversion switch unit alarm cables must be connected and verified 4. 1B Processor GCP capture and recovery unit must be installed and verified 5. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary 6. All input messages are to be entered at MTC terminal 7. This procedure must be performed during light traffic periods 8. This procedure contains soak interval for verifying system operation and stability during growth. During the soak interval, all abnormal conditions (such as interrupts, interjects, and diagnostic failures related to growth) must be investigated and resolved immediately. Growth equipment, being soaked, must be error free for at least the time specified 9. 1A Processor operation must be closely monitored during this procedure 10. Procedure may be safely stopped after cabling and successfully testing a unit. If stopping, REX must be allowed. When resuming, Items 1 through 7 should be performed to ensure system stability		
1	Notify Next Higher Technical Support Group That GCP Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 2 Through 4	TELCO	—
2	Ensure 1A Processor CC Demand Diagnostics Have Been Successfully Completed Within 1 Week of Performing This Procedure	TELCO	—
3	Ensure No API Interjects or Interrupts or BLMs Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
4	Ensure ***4ESS***™ Switch Is in Stable Condition With No Audits	TELCO	DLP-530
5	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode Listed Units Must Be Restored to Service	TELCO	DLP-529
6	Obtain and Set Up Storage Scope	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
7	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—
8	If Office Contains Extended Pollable DIF-E Frames (Member Numbers Greater Than 23), Perform Items 9 Through 25; Otherwise, Go to Item 27	TELCO/INST	—
	NOTE: Items 9 through 26 are being performed to connect GCP cable associated with extended pollable DIF-E frames (member numbers greater than 23)		
9	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
10	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby (**SW:CC!**)	TELCO	DLP-506
11	Diagnose One Extended Pollable DIF-E Frame That GCP OPPUn Cable Will Terminate Using Restore Message (**RST:DIF a,CONTR 0!**)	TELCO	DLP-532
12	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
13	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-507
14	At PPI Frame, Disconnect GCP OPPUn Cable for Extended Pollable DIF-E Frame	INST	—
15	At PPI Frame, Connect New GCP OPPUn Jumper Cable to Location Vacated in Item 14	INST	—
16	At CC 0 GCP Conversion Switch Unit, Connect Other End of New GCP OPPUn Jumper Cable (Originating From PPI) to 1A Connector for Extended Pollable DIF-E Frame	INST	—
17	At CC 0 GCP Conversion Switch Unit, Connect Disconnected End of OPPUn Cable (Originating From PPI) to 4E Connector for Extended Pollable DIF-E Frame	INST	—
18	Restore CC 0 to Service (**RST:CC 0!**)	TELCO/INST	DLP-505
19	Diagnose Extended Pollable DIF-E Frame That GCP Cable Is Associated With (**DGN:DIF a,CONTR 0!**)	TELCO/INST	DLP-533
	NOTE: Items 20 through 25 are being performed to test signal on OPPUn cable to extended pollable DIF-E frame		
20	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
21	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
22	When Diagnostic Is Run in Item 23, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
23	Diagnose Extended Pollable DIF-E Frame (Item 19) That GCP Cable Is Associated With, Specifying Phase 6 (**DGN:DIF a,CONTR 0:PH 6!**)	TELCO/INST	DLP-534
24	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
25	Restore Extended Pollable DIF-E Frame (Item 19) That GCP Cable Is Associated With (**RST:DIF a,CONTR 0!**)	TELCO	DLP-532
26	Go To Item 45. SCS Does Not Need To Be Cabled Since Extended Pollable DIF-E Frame Has Been Connected	TELCO/INST	—
27	If Office Contains Service Circuit System and Extended Pollable DIF-E Frame Was Not Connected, Perform Items 28 Through 44; Otherwise, Go to Item 45	TELCO/INST	—
	NOTE: Items 28 through 44 are being performed to connect GCP cables associated with SCS		
28	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
29	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby (**SW:CC!**)	TELCO	DLP-506
30	Diagnose Far-End Unit That GCP OPPUn Cables Will Terminate Using Restore Message (**RST:SCS a,CONTR 0!**)	TELCO	DLP-559
31	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
32	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-507
33	At PPI Frame Disconnect GCP OPPUn Cable for SCS	INST	—
34	At PPI Frame, Connect New GCP OPPUn Extension Cable to Location Vacated in Item 33	INST	—
35	At CC 0 GCP Conversion Switch Unit, Connect Other End of New GCP OPPUn Extension Cable (Originating From PPI) to 1A Connector for SCS	INST	—
36	At CC 0 GCP Conversion Switch Unit, Connect Disconnected End of OPPUn Cable (Originating From PPI) to 4E Connector for SCS	INST	—
37	Restore CC 0 to Service (**RST:CC 0!**)	TELCO/INST	DLP-505

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
38	Diagnose SCS That GCP Cable Is Associated With (DGN:SCS a,CONTR 0!)	TELCO/INST	DLP-560
	NOTE: Items 39 through 44 are being performed to test signal on OPPUn cable to SCS		
39	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
40	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
41	When Diagnostic Is Run in Item 42, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
42	Diagnose SCS (Item 38) That GCP Cables Are Associated With, Specifying Phase 6 (DGN:SCS a,CONTR 0:PH 6!)	TELCO/INST	DLP-561
43	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
44	Restore SCS (Item 38) That GCP Cables Are Associated With (RST:SCS a,CONTR 0!)	TELCO	DLP-559
	NOTES: 1. Items 45 through 71 are being performed to install CC 0 GCP conversion switch unit into GCP cable path to network clock (NCLK) chains 2. NCLK chains must be diagnosed in member number 3, 1, 2, and 0 order 3. PUBs must be kept duplex at all times (CATP results will be received if one PUB is OOS. Some hardware checks may be left out)		
45	Diagnose Each NCLK Chain in Following Order Using Restore Message (RST:NCLK 0,CHAIN a!): • NCLK Chain 3 • NCLK Chain 1 • NCLK Chain 2 • NCLK Chain 0	TELCO	DLP-538
46	Switch CCs (SW:CC!)	TELCO	DLP-506
47	Diagnose Each NCLK Chain in Following Order Using Restore Message (RST:NCLK 0,CHAIN a!): • NCLK Chain 3 • NCLK Chain 1 • NCLK Chain 2 • NCLK Chain 0	TELCO	DLP-538
	(Continued on Page 5)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
48	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
49	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby (**SW:CC!**)	TELCO	DLP-506
50	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
	NOTE: Items 51 through 68 are to be repeated for each NCLK chain in member number 3, 1, 2, and 0 order		
51	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-507
52	Remove NCLK (3, 1, 2, or 0) From Service (**RMV:NCLK 0,CHAIN a!**) (a = 3, 1, 2, or 0)	TELCO	—
53	At PPI Frame, Disconnect GCP OPPUn Cable for NCLK Chain (3, 1, 2, or 0)	INST	—
54	At PPI Frame, Connect New GCP OPPUn Jumper Cable to Location Vacated in Item 53	INST	—
55	At CC 0 GCP Conversion Switch Unit, Connect Other End of New GCP OPPUn Jumper Cable (Originating From PPI) to 1A Connector for NCLK Chain (3, 1, 2, or 0)	INST	—
56	At CC 0 GCP Conversion Switch Unit, Connect Disconnected End of OPPUn Cable (Originating From PPI) to 4E Connector for NCLK Chain (3, 1, 2, or 0)	INST	—
57	Restore CC 0 to Service (**RST:CC 0!**)	TELCO/INST	DLP-505
	NOTE: Notify next higher technical support group if errors were encountered during NCLK chain diagnostics		
58	Diagnose NCLK Chain (3, 1, 2, or 0) That GCP Cable Is Associated With (**DGN:NCLK 0,CHAIN a!**)	TELCO	DLP-539
	NOTE: Items 59 through 67 are being performed to test signal on OPPUn cable to NCLK chain		
59	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
60	Switch CCs (**SW:CC!**)	TELCO	DLP-506
61	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-507
62	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
	(Continued on Page 6)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
63	When Diagnostic Is Run in Item 64, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
	NOTE: Notify next higher technical support group if errors were encountered during NCLK chain diagnostics		
64	Diagnose NCLK Chain (3, 1, 2, or 0) That GCP Cable Is Associated With Specifying Phase 2 (DGN:NCLK 0,CHAIN a:PH 2!)	TELCO/INST	DLP-566
65	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
66	Restore CC 1 to Service (RST:CC 1!)	TELCO	DLP-505
67	Restore NCLK Chain (3, 1, 2, or 0) That GCP Cable Is Associated With (RST:NCLK 0,CHAIN a!)	TELCO	DLP-538
68	Go to Item 69 (for NCLK Chain 1) or Item 70 (for NCLK Chain 2) or Item 71 (for NCLK Chain 0) or Item 72 (if All NCLK Chains Are Connected)	TELCO/INST	—
69	Repeat Items 48 Through 68 To Install GCP Conversion Switch Unit to NCLK Chain 1	TELCO/INST	—
70	Repeat Items 48 Through 68 To Install GCP Conversion Switch Unit to NCLK Chain 2	TELCO/INST	—
71	Repeat Items 48 Through 68 To Install GCP Conversion Switch Unit to NCLK Chain 0	TELCO/INST	—
	NOTES: 1. Items 72 through 101 are being performed to install CC 0 GCP conversion switch unit into CGP cable path to base SPs 2. Base SPs must be installed to CC 0 GCP conversion switch unit in following order: SP 0 Controller 0 and SP 0 Controller 1; then SP 1 Controller 0 and SP 1 Controller 1 (GCP cable being moved contains GCPs for both controllers) 3. Items 72 through 98 are to be repeated for each base SP		
72	Obtain and Set Up Storage Oscilloscope (if Not Set Up)	INST	—
73	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
74	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby (SW:CC!)	TELCO	DLP-506
75	Diagnose Both Base SP Controller 0 That GCP OPPUn Cable Will Terminate Using Restore Message (RST:SP a,CONTR 0!)	TELCO	DLP-541

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
76	Diagnose Both Base SP Controller 1 That GCP OPPUn Cable Will Terminate Using Restore Message (**RST:SP a,CONTR 1!**)	TELCO	DLP-541
77	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
78	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-507
79	At PPI Frame, Disconnect GCP OPPUn Cable for One Base SP	INST	—
80	At PPI Frame, Connect New GCP OPPUn Jumper Cable to Location Vacated in Item 79	INST	—
81	At CC 0 GCP Conversion Switch Unit, Connect Other End of New GCP OPPUn Jumper Cable (Originating From PPI) to 1A Connector for One Base SP	INST	—
82	At CC 0 GCP Conversion Switch Unit, Connect Disconnected End of OPPUn Cable (Originating From PPI) to 4E Connector for One Base SP	INST	—
83	Restore CC 0 to Service (**RST:CC 0!**)	TELCO/INST	DLP-505
84	Diagnose One Base SP Controller That GCP Cable Is Associated With (**DGN:SP a,CONTR 0!**)	TELCO/INST	DLP-542
	NOTE: Items 85 through 90 are being performed to test four signals on OPPUn cable to one base SP Controller 0		
85	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
86	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
87	When Diagnostic Is Run in Item 88, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
88	Diagnose Base SP Controller (Item 84) That GCP Cable Is Associated With, Specifying Phase 2 (**DGN:SP a,CONTR 0:PH 2!**)	TELCO/INST	DLP-543
89	Ensure Signal Trace Has Proper Amplitude (9.5±0.5V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
90	Repeat Items 86 Through 89 for Each Controller 0 Pulse Point	TELCO/INST	—
91	Restore Base SP Controller 0 (Item 84) That GCP Cable Is Associated With (**RST:SP a,CONTR 0!**)	TELCO	DLP-541

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: Items 92 through 98 are being performed to test four signals on OPPUn cable to one base SP Controller 1		
92	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
93	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
94	When Diagnostic Is Run in Item 92, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
95	Diagnose Base SP Controller (Item 84) That GCP Cable Is Associated With, Specifying Phase 2 (**DGN:SP a,CONTR 1:PH 2!**)	TELCO/INST	DLP-543
96	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
97	Repeat Items 93 Through 96 for Each Controller 1 Pulse Point	TELCO/INST	—
98	Restore Base SP Controller (Item 84) That GCP Cable Is Associated With (**RST:SP a,CONTR 1!**)	TELCO	DLP-541
99	Go to Item 100 (for Next Base SP) or Item 101 (if Both Base SPs are Connected)	TELCO/INST	—
100	Repeat Items 77 Through 99 To Install GCP Conversion Switch Unit to SP 1	TELCO/INST	—
101	If Office Contains IOUS 0 to 5 IOP Frames (J5A006C or J5A006D), Perform Items 102 Through 138; Otherwise, Go To Item 139	TELCO/INST	—
	NOTES: 1. Items 102 through 138 are being performed to install CC 0 GCP conversion switch unit into GCP cable path to IOP frame 2. Base IOP frame must be installed to GCP conversion switch unit from lowest to highest member number order 3. Items 102 through 138 are to be repeated for each equipped IOP frame		
102	Obtain and Set Up Storage Oscilloscope (if Not Set Up)	INST	—
103	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
104	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby (**SW:CC!**)	TELCO	DLP-506
105	Diagnose Lowest IOUS (IOUS 0 to 5) in IOP Frame That GCP OPPUn Cable Will Terminate Using Restore Message (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-544

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
106	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
107	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-507
108	At PPI Frame, Disconnect GCP OPPUn Cable for Lowest IOUS (IOUS 0 to 5) in IOP Frame	INST	—
109	At PPI Frame, Connect New GCP OPPUn Jumper Cable to Location Vacated in Item 108	INST	—
110	At CC 0 GCP Conversion Switch Unit, Connect Other End of New GCP OPPUn Jumper Cable (Originating From PPI) to 1A Connector for Lowest IOUS in IOP Frame	INST	—
111	At CC 0 GCP Conversion Switch Unit, Connect Disconnected End of OPPUn Cable (Originating From PPI) to 4E Connector for Lowest IOUS in IOP Frame	INST	—
112	Restore CC 0 to Service (**RST:CC 0!**)	TELCO/INST	DLP-505
113	Restore Lowest IOUS in IOP Frame That GCP Cable Is Associated With (**RST:IOUS a,IPUB 0!**)	TELCO/INST	DLP-544
	NOTE: Items 114 through 119 are being performed to test signal on OPPUn cable to lowest IOUS in IOP frame		
114	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
115	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
116	When Diagnostic Is Run in Item 117, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
117	Diagnose IOUS (Item 113) That GCP Cable Is Associated With (**DGN:IOUS a,IPUB 0!**)	TELCO/INST	DLP-545
118	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
119	Restore IOUS (Item 113) That GCP Cable Is Associated With (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-544
120	If IOP Frame Contains Two IOUSs and Highest Numbered IOUS Has Not Been Connected to CC 0 GCP Conversion Switch Unit, Perform Items 121 Through 137; Otherwise, Go to Item 138	TELCO/INST	—
121	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine if CC 0 Is Still Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
122	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby (**SW:CC!**)	TELCO	DLP-506

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
123	Diagnose Highest IOUS in IOP Frame That GCP OPPUn Cable Will Terminate Using Restore Message (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-544
124	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Still Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
125	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-507
126	At PPI Frame, Disconnect GCP OPPUn Cable for Highest IOUS in IOP Frame	INST	—
127	At PPI Frame, Connect New GCP OPPUn Jumper Cable to Location Vacated in Item 126	INST	—
128	At CC 0 GCP Conversion Switch Unit, Connect Other End of New GCP OPPUn Jumper Cable (Originating From PPI) to 1A Connector for Highest IOUS in IOP Frame	INST	—
129	At CC 0 GCP Conversion Switch Unit, Connect Disconnected End of New GCP OPPUn Cable Originating From PPI) to 4E Connector for Highest IOUS in IOP Frame	INST	—
130	Restore CC 0 to Service (**RST:CC 0!**)	TELCO/INST	DLP-505
131	Restore Highest IOUS in Base IOP Frame That GCP Cable Is Associated With **(RST:IOUS a,IPUB 0!)**	TELCO/INST	DLP-544
	NOTE: Items 132 through 137 are being performed to test signal on OPPUn cable to highest IOUS in IOP frame		
132	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
133	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
134	When Diagnostic Is Run in Item 135, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
135	Diagnose IOUS (Item 113) That GCP Cable Is Associated With **(DGN:IOUS a,IPUB 0!)**	TELCO/INST	DLP-545
136	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
137	Restore IOUS (Item 113) That GCP Cable Is Associated With (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-544
138	Repeat Items 105 Through 137 for Each Equipped IOP Frame (1 or 2)	TELCO/INST	—
139	If Office Contains Base IOUS IO Frame (J5A006A), Perform Items 140 Through 161; Otherwise, Go To Item 162	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTES: 1. Items 140 through 161 are being performed to install CC 0 GCP conversion switch unit into GCP cable path to IO frames 2. Base IO frames must be installed to GCP conversion switch unit from lowest to highest member number order 3. Items 140 through 161 are to be repeated for each equipped IO frame		
140	Obtain and Set Up Storage Oscilloscope	INST	—
141	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
142	If CC 1 Is Standby, Switch CCs To Make CC 0 Standby (**SW:CC!**)	TELCO	DLP-506
143	Diagnose Lowest IOUS in Base IO Frame That GCP OPPUn Cable Will Terminate Using Restore Message (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-544
144	Diagnose Highest IOUS in Base IO Frame That GCP OPPUn Cable Will Terminate Using Restore Message (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-544
145	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
146	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-507
147	At PPI Frame, Disconnect GCP OPPUn Cable for One IO Frame	INST	—
148	At PPI Frame, Connect New GCP OPPUn Jumper Cable to Location Vacated in Item 147	INST	—
149	At CC 0 GCP Conversion Switch Unit, Connect Other End of New GCP OPPUn Jumper Cable (Originating From PPI) to 1A Connector for One IO Frame	INST	—
150	At CC 0 GCP Conversion Switch Unit, Connect Disconnected End of OPPUn Cable (Originating From PPI) to 4E Connector for One IO Frame	INST	—
151	Restore CC 0 to Service (**RST:CC 0!**)	TELCO/INST	DLP-505
152	Diagnose Lowest IOUS That GCP Cable Is Associated With Using Restore Message (**RST:IOUS a,IPUB 0!**)	TELCO/INST	DLP-544
153	Diagnose Highest IOUS That GCP Cable Is Associated With Using Restore Message (**RST:IOUS a,IPUB 0!**)	TELCO/INST	DLP-544
	(Continued on Page 12)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: Items 154 through 159 are being performed to test signal on OPPUn cable to one IO frame		
154	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 0 GCP Conversion Switch Unit Installation	TELCO	—
155	At CC 0 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
156	When Diagnostic Is Run in Item 156, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
157	Diagnose IOUS (Item 152) That GCP Cable Is Associated With (**DGN:IOUS a,IPUB 0!**)	TELCO/INST	DLP-545
158	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
159	Restore IOUS (Item 152) That GCP Cable Is Associated With (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-544
160	Repeat Items 155 Through 159 For Highest IOUS	TELCO/INST	—
161	Repeat Items 140 Through 160 for Each Equipped IO Frame	TELCO/INST	—
162	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
163	Notify Next Higher Technical Support Group That CC 0 GCP Conversion Switch Unit Installation Is Complete	TELCO	—
164	Soak CC 0 GCP Conversion Switch Unit Installation for at Least One Non Cabling Shift	TELCO/INST	—
	NOTE: Items 165 through 328 are being performed to install CC 1 GCPs to 1A Processor		
165	Notify Next Higher Technical Support Group That CC 1 GCP Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 166 through 168	TELCO	—
166	Ensure 1A Processor CC Demand Diagnostics Have Been Successfully Completed Within 1 Week of Performing This Procedure	TELCO	—
167	Ensure No API Interjects or Interrupts or BLMs Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
168	Ensure ***4ESS*** Switch Is in Stable Condition With No Audits	TELCO	DLP-530
169	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-529

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
170	Obtain and Set Up Storage Oscilloscope	INST	—
171	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—
172	If Office Contains Extended Pollable DIF-E Frames, (Member Numbers Greater Than 23), Perform Items 173 Through 190; Otherwise, Go to Item 191	TELCO/INST	—
	NOTE: Items 173 through 190 are being performed to connect GCP cable associated with extended pollable DIF-E frames (member numbers greater than 23)		
173	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
174	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (**SW:CC!**)	TELCO	DLP-506
175	Diagnose One Extended Pollable DIF-E Frame That GCP Cable Will Terminate Using Restore Message (**RST:DIF a,CONTR 1!**)	TELCO	DLP-532
176	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
177	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-507
178	At PPI Frame, Disconnect GCP 1PPUn Cable for Extended Pollable DIF-E Frame	INST	—
179	At PPI Frame, Connect New GCP 1PPUn Jumper Cable to Location Vacated in Item 178	INST	—
180	At CC 1 GCP Conversion Switch Unit, Connect Other End of New GCP 1PPUn Jumper Cable (Originating From PPI) to 1A Connector for Extended Pollable DIF-E Frame	INST	—
181	At CC 1 GCP Conversion Switch Unit, Connect Disconnected End of 1PPUn Cable (Originating From PPI) to 4E Connector for Extended Pollable DIF-E Frame	INST	—
182	Restore CC 1 to Service (**RST:CC 1!**)	TELCO/INST	DLP-505
183	Diagnose Extended Pollable DIF-E Frame That GCP Cable Is Associated With (**DGN:DIF a,CONTR 1!**)	TELCO/INST	DLP-533
	NOTE: Items 184 through 189 are being performed to test signal on 1PPUn Cable to Extended Pollable DIF-E Frame		
184	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
185	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
186	When Diagnostic Is Run in Item 187, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
187	Diagnose Extended Pollable DIF-E Frame (Item 183) That GCP Cable Is Associated With, Specifying Phase 6 (DGN:DIF a,CONTR 1:PH 6!)	TELCO/INST	DLP-534
188	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scope Adapter	INST	—
189	Restore Extended Pollable DIF-E Frame (Item 183) That GCP Cable Is Associated With (RST:DIF a,CONTR 1!)	TELCO	DLP-532
190	Go To Item 209. SCS Does Not Need To Be Cabled Since Extended Pollable DIF-E Frame Has Been Connected	TELCO/INST	—
191	If Office Contains Service Circuit System, Perform Items 192 Through 208; Otherwise, Go to Item 209	TELCO/INST	—
	NOTE: Items 192 through 208 are being performed to connect GCP cables associated with SCS		
192	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
193	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (SW:CC!)	TELCO	DLP-506
194	Diagnose Far-End Unit That GCP 1PPUn Cables Will Terminate Using Restore Message (RST:SCS a,CONTR 1!)	TELCO	DLP-559
195	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
196	Remove CC 1 From Service (RMV:CC 1!)	TELCO	DLP-507
197	At PPI Frame, Disconnect GCP 1PPUn Cable for SCS	INST	—
198	At PPI Frame, Connect New GCP 1PPUn Extension Cable to Location Vacated in Item 197	INST	—
199	At CC 1 GCP Conversion Switch Unit, Connect Other End of New GCP 1PPUn Extension Cable (Originating From PPI) to 1A Connector for SCS	INST	—
200	At CC 1 GCP Conversion Switch Unit, Connect Disconnected End of 1PPUn Cable (Originating From PPI) to 4E Connector for SCS	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
201	Restore CC 1 to Service (**RST:CC 1!**)	TELCO/INST	DLP-505
202	Diagnose SCS That GCP Cable Is Associated With (**DGN:SCS a,CONTR 1!**)	TELCO/INST	DLP-560
	NOTE: Items 203 through 208 are being performed to test signal on 1PPUn cable to SCS		
203	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
204	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
205	When Diagnostic Is Run in Item 206, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
206	Diagnose SCS (Item 202) That GCP Cable Is Associated With, Specifying Phase 6 (**DGN:SCS a,CONTR 1:PH 6!**)	TELCO/INST	DLP-561
207	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
208	Restore SCS (Item 202) That GCP Cable Is Associated With (**RST:SCS a,CONTR 1!**)	TELCO	DLP-559
	NOTES: 1. Items 209 through 235 are being performed to install CC 1 GCP conversion switch unit into GCP cable path to network clock (NCLK) chains 2. NCLK chains must be diagnosed in member number 3, 1, 2, and 0 order 3. PUBs must be kept duplex at all times (CATP results will be received if one PUB is OOS. Some hardware checks may be left out)		
209	Diagnose Each NCLK Chain in Following Order Using Restore Message (**RST:NCLK 0,CHAIN a!**): • NCLK Chain 3 • NCLK Chain 1 • NCLK Chain 2 • NCLK Chain 0	TELCO	DLP-538
210	Switch CCs (**SW:CC!**)	TELCO	DLP-506
211	Diagnose Each NCLK Chain in Following Order Using Restore Message (**RST:NCLK 0,CHAIN a!**): • NCLK Chain 3 • NCLK Chain 1 • NCLK Chain 2 • NCLK Chain 0	TELCO	DLP-538

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
212	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
213	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (**SW:CC!**)	TELCO	DLP-506
214	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
	NOTE: Items 215 through 232 are to be repeated for each NCLK chain in member number 3, 1, 2, and 0 order		
215	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-507
216	Remove NCLK (3, 1, 2, or 0) From Service (**RMV:NCLK 0,CHAIN a!**) (a = 3, 1, 2, or 0)	TELCO	—
217	At PPI Frame, Disconnect GCP 1PPUn Cable for NCLK Chain (3, 1, 2, or 0)	INST	—
218	At PPI Frame, Connect New GCP 1PPUn Jumper Cable to Location Vacated in Item 217	INST	—
219	At CC1 GCP Conversion Switch Unit, Connect Other End of New GCP 1PPUn Jumper Cable (Originating From PPI) to 1A Connector for NCLK Chain (3, 1, 2, or 0)	INST	—
220	At CC 1 GCP Conversion Switch Unit, Connect Disconnected End of 1PPUn Cable (Originating From PPI) to 4E Connector for NCLK Chain (3, 1, 2, or 0)	INST	—
221	Restore CC 1 to Service (**RST:CC 1!**)	TELCO/INST	DLP-505
	NOTE: Notify next higher technical support group if errors were encountered during NCLK chain diagnostics		
222	Diagnose NCLK Chain (3, 1, 2, or 0) That GCP Cable Is Associated With (**DGN:NCLK 0,CHAIN a!**)	TELCO/INST	DLP-539
	NOTE: Items 223 through 231 are being performed to test signal on 1PPUn cable to NCLK chain		
223	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
224	Switch CCs (**SW:CC!**)	TELCO	DLP-506
225	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-507
226	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
227	When Diagnostic Is Run in Item 228, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
	NOTE: Notify next higher technical support group if errors were encountered during NCLK chain diagnostics		
228	Diagnose NCLK Chain (3, 1, 2, or 0) That GCP Cable Is Associated With Specifying Phase 2 (DGN:NCLK 0,CHAIN a:PH 2!)	TELCO/INST	DLP-566
229	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
230	Restore CC 0 to Service (RST:CC 0!)	TELCO	DLP-505
231	Restore NCLK Chain (3, 1, 2, or 0) That GCP Cable Is Associated With (RST:NCLK 0,CHAIN a!)	TELCO	DLP-538
232	Go to Item 233 (for NCLK Chain 1) or Item 234 (for NCLK Chain 2) or Item 235 (for NCLK Chain 0) or Item 236 (if All NCLK Chains Are Connected)	TELCO/INST	—
233	Repeat Items 212 Through 232 To Install GCP Conversion Switch Unit to NCLK Chain 1	TELCO/INST	—
234	Repeat Items 212 Through 232 To Install GCP Conversion Switch Unit to NCLK Chain 2	TELCO/INST	—
235	Repeat Items 212 Through 232 To Install GCP Conversion Switch Unit to NCLK Chain 0	TELCO/INST	—
	NOTES: 1. Items 236 through 265 are being performed to install CC 1 GCP conversion switch unit into CGP cable path to base SPs 2. Base SPs must be installed to CC 1 GCP conversion switch unit in following order: SP 0 Controller 0 and SP 0 Controller 1; then SP 1 Controller 0 and SP 1 Controller 1 (GCP cable being moved contains GCPs for both controllers) 3. Items 236 through 265 are to be repeated for each base SP		
236	Obtain and Set Up Storage Oscilloscope (if Not Set Up)	INST	—
237	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
238	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (SW:CC!)	TELCO	DLP-506
239	Diagnose Both Base SP Controller 0 That GCP 1PPUn Cable Will Terminate Using Restore Message (RST:SP a,CONTR 0!)	TELCO	DLP-541

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
240	Diagnose Both Base SP Controller 1 That GCP 1PPUn Cable Will Terminate Using Restore Message (RST:SP a,CONTR 1!)	TELCO	DLP-541
241	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
242	Remove CC 1 From Service (RMV:CC 1!)	TELCO	DLP-507
243	At PPI Frame, Disconnect GCP 1PPUn Cable for One Base SP	INST	—
244	At PPI Frame, Connect New GCP 1PPUn Jumper Cable to Location Vacated in Item 243	INST	—
245	At CC 1 GCP Conversion Switch Unit, Connect Other End of New GCP 1PPUn Jumper Cable (Originating From PPI) to 1A Connector for One Base SP	INST	—
246	At CC 1 GCP Conversion Switch Unit, Connect Disconnected End of 1PPUn Cable (Originating From PPI) to 4E Connector for One Base SP	INST	—
247	Restore CC 1 to Service (RST:CC 1!)	TELCO/INST	DLP-505
248	Diagnose One Base SP Controller That GCP Cable Is Associated With (DGN:SP a,CONTR b!)	TELCO/INST	DLP-542
	NOTE: Items 249 through 255 are being performed to test four signals on 1PPUn Cable to One Base SP Controller 0		
249	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
250	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
251	When Diagnostic Is Run in Item 252, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
252	Diagnose Base SP Controller (Item 248) That GCP Cable Is Associated With, Specifying Phase 2 (DGN:SP a,CONTR 0:PH 2!)	TELCO/INST	DLP-543
253	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
254	Repeat Items 250 Through 253 for Each Controller 0 Pulse Point	TELCO/INST	—
255	Restore Base SP Controller 0 (Item 248) That GCP Cable Is Associated With (RST:SP a,CONTR 0!)	TELCO	DLP-541

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: Items 256 through 262 are being performed to test four signals on 1PPUn Cable to One Base SP Controller 1		
256	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
257	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
258	When Diagnostic Is Run in Item 259, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
259	Diagnose Base SP Controller (Item 248) That GCP Cable Is Associated With, Specifying Phase 2 (**DGN:SP a,CONTR 1:PH 2!**)	TELCO/INST	DLP-543
260	Ensure Signal Trace has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
261	Repeat Items 257 Through 260 for Each Controller 1 Pulse Point	TELCO/INST	—
262	Restore Base SP Controller 1 (Item 248) That GCP Cable Is Associated With **(RST:SP a,CONTR 1!)**	TELCO	DLP-541
263	Go to Item 264 (for Next Base SP) or Item 265 (if Both Base SPs Are Connected)	TELCO/INST	—
264	Repeat Items 241 Through 263 To Install GCP Conversion Switch Unit to SP 1	TELCO/INST	—
265	If Office Contains IOUS 0 to 5 IOP Frame (J5A006C or J5A006D), Perform Items 266 Through 302; Otherwise, Go To Item 303	TELCO/INST	—
	NOTE: 1. Items 266 through 302 are being performed to install CC 1 GCP conversion switch unit into GCP cable path to IOP frame 2. Base IOPs frames must be installed to GCP conversion switch unit from lowest to highest member number order 3. Items 266 through 302 are to repeated for each equipped IOP frame		
266	Obtain and Set Up Storage Oscilloscope (if Not Set Up)	INST	—
267	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
268	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (**SW:CC!**)	TELCO	DLP-506
	(Continued on Page 20)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
269	Diagnose Lowest IOUS (IOUS 0 to 5) in IOP Frame That GCP 1PPUn Cable Will Terminate Using Restore Message (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-544
270	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
271	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-507
272	At PPI Frame, Disconnect GCP 1PPUn Cable for Lowest IOUS (IOUS 0 to 5) in IOP Frame	INST	—
273	At PPI Frame, Connect New GCP 1PPUn Jumper Cable to Location Vacated in Item 272	INST	—
274	At CC 1 GCP Conversion Switch Unit, Connect Other End of New GCP 1PPUn Jumper Cable (Originating From PPI) to 1A Connector for Lowest IOUS in IOP Frame	INST	—
275	At CC 1 GCP Conversion Switch Unit, Connect Disconnected End of 1PPUn Cable (Originating From PPI) to 4E Connector for Lowest IOUS in IOP Frame	INST	—
276	Restore CC 1 to Service (**RST:CC 1!**)	TELCO/INST	DLP-505
277	Restore Lowest IOUS in IOP Frame That GCP Cable Is Associated With (**RST:IOUS a,IPUB 0!**)	TELCO/INST	DLP-544
	NOTE: Items 278 through 283 are being performed to test signal on 1PPUn cable to lowest IOUS in frame IOP		
278	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
279	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
280	When Diagnostic Is Run in Item 281, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
281	Diagnose IOUS (Item 277) That GCP Cable Is Associated With (**DGN:IOUS a,IPUB 0!**)	TELCO/INST	DLP-545
282	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
283	Restore IOUS (Item 277) That GCP Cable Is Associated With (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-544
	(Continued on Page 21)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
284	If Base IOP Frame Contains Two IOUSs and Highest Numbered IOUS Has Not Been Connected to CC 1 GCP Conversion Switch Unit, Perform Items 285 Through 301; Otherwise, Go to Item 302	TELCO/INST	—
285	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine if CC 1 Is Still Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
286	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (**SW:CC!**)	TELCO	DLP-506
287	Diagnose Highest IOUS in IOP Frame That GCP 1PPUn Cable Will Terminate Using Restore Message (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-544
288	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associate With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
289	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-507
290	At PPI Frame, Disconnect GCP 1PPUn Cable for Highest IOUS in IOP Frame	INST	—
291	At PPI Frame, Connect New GCP 1PPUn Extension Cable to Location Vacated in Item 290	INST	—
292	At CC 1 GCP Conversion Switch Unit, Connect Other End of New GCP 1PPUn Extension Cable (Originating From PPI) to 1A Connector for Highest IOUS in IOP Frame	INST	—
293	At CC 1 GCP Conversion Switch Unit, Connect Disconnected End of 1PPUn Cable (Originating From CC 1) to 4E Connector for Highest IOUS in IOP Frame	INST	—
294	Restore CC 1 to Service (**RST:CC 1!**)	TELCO/INST	DLP-505
295	Restore Highest IOUS in Base IOP that GCP Cable Is Associated With (**RST:IOUS a,IPUB 0!**)	TELCO/INST	DLP-544
	NOTE: Items 296 through 301 are being performed to test signal on 1PPUn cable to highest IOUS in IOP frame		
296	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
297	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
298	When Diagnostic Is Run in Item 299, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
299	Diagnose IOUS (Item 295) That GCP Cable Is Associated With (DGN:IOUS a,IPUB 0!)	TELCO/INST	DLP-545
300	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
301	Restore IOUS (Item 295) That GCP Cable Is Associated With (RST:IOUS a,IPUB 0!)	TELCO	DLP-544
302	Repeat Items 269 Through 301 for Each Equipped IOP Frame (1 or 2)	TELCO/INST	—
303	If Office Contains Base IOUS IO Frame (J5A006A), Perform Items 304 Through 327; Otherwise, Go To Item 326	TELCO/INST	—
	NOTES: 1. Items 304 through 325 are being performed to install CC 1 GCP conversion switch unit into GCP cable path to IO frames 2. Base IO frames must be installed to GCP conversion switch unit form lowest to highest member number order 3. Items 304 through 325 are to be repeated for each equipped IO frame		
304	Obtain and Set Up Storage Oscilloscope (if Not Set Up)	INST	—
305	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
306	If CC 0 Is Standby, Switch CCs To Make CC 1 Standby (SW:CC!)	TELCO	DLP-506
307	Diagnose Lowest IOUS in Base IO Frame That GCP 1PPUn Cable Will Terminate Using Restore Message (RST:IOUS a,IPUB 0!)	TELCO	DLP-544
308	Diagnose Highest IOUS in Base IO Frame That GCP 1PPUn Cable Will Terminate Using Restore Message (RST:IOUS a,IPUB 0!)	TELCO	DLP-544
309	At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
310	Remove CC 1 From Service (RMV:CC 1!)	TELCO	DLP-507
311	At PPI Frame, Disconnect GCP 1PPUn Cable for One IO Frame	INST	—
312	At PPI Frame, Connect New GCP 1PPUn Jumper Cable to Location Vacated in Item 311	INST	—
313	At CC 1 GCP Conversion Switch Unit, Connect Other End of New GCP 1PPUn Jumper Cable (Originating From PPI) to 1A Connector for One IO Frame	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
314	At CC 1 GCP Conversion Switch Unit, Connect Disconnected End of 1PPUn Cable to 4E Connector for One IO Frame	INST	—
315	Restore CC 1 to Service (**RST:CC 1!**)	TELCO/INST	DLP-505
316	Diagnose Lowest IOUS That GCP Cable Is Associated With Using Restore Message (**RST:IOUS a,IPUB 0!**)	TELCO/INST	DLP-544
317	Diagnose Highest IOUS That GCP Cable Is Associated With Using Restore Message (**RST:IOUS a,IPUB 0!**)	TELCO/INST	DLP-544
	NOTE: Items 318 through 323 are being performed to test signal on IPPUn cable to one 10 frame		
318	Office Technician Must Observe Scoping Since Successful Completion of This Scoping Will Be Considered Acceptance of This Portion of CC 1 GCP Conversion Switch Unit Installation	TELCO	—
319	At CC 1 GCP Conversion Switch Unit, Connect Storage Scope Probe to 4E Probe Point	INST	—
320	When Diagnostic Is Run in Item 311, Capture Signal Trace Using Storage Scope (Repeat Until Signal Trace Is Received)	INST	—
321	Diagnose IOUS (Item 316) That GCP Cable Is Associated With (**DGN:IOUS a,IPUB 0!**)	TELCO/INST	DLP-545
322	Ensure Signal Trace Has Proper Amplitude (7V to 10V) With Minimum Distortion. When Finished, Remove Scoping Adapter	INST	—
323	Restore IOUS (Item 316) That GCP Cables Are Associated With (**RST:IOUS a,IPUB 0!**)	TELCO	DLP-544
324	Repeat Items 319 Through 323 for Highest IOUS	TELCO/INST	—
325	Repeat Items 304 through 324 for Each Equipped IO Frame	TELCO/INST	—
326	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
327	Notify Next Higher Technical Support Group That CC 1 GCP Conversion Switch Unit Installation Is Complete	TELCO	—
328	Soak CC 1 GCP Conversion Switch Unit Installation for at Least One Non-Cabling Shift	TELCO/INST	—
329	Verify All Cables Have Been Installed	INST	—
330	On Status Sheet in AT&T 234-185-019, Initial and Date Completion of This Procedure	TELCO/INST	—

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

		RESPONSIBILITY	
	WARNING: No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. 1B Processor SSD cabling must be connected to conversion switch unit and verified before performing this procedure 2. 1B Processor conversion switch unit alarm cables and remote unit must be connected and verified before performing this procedure 3. 1B Processor GCP capture and recovery unit must be installed and verified before performing this procedure 4. Appropriate Input/Output Message Manuals must be used if clarification of input/output messages is necessary 5. This procedure must be performed during light traffic periods 6. 1A Processor operation must be closely monitored during this procedure 7. This procedure may be safely stopped after cabling and successfully testing each unit. If stopping, REX must be allowed. When resuming, Items 1 through 7 must be performed to ensure system stability. The following equipment must have Scan and SD jumper cables installed: • PCD 0, CONV 0 and CONV 1 • PCD 1, CONV 0 and CONV 1 • PCD 0, DAMON 0 and CONV 2 (If equipped) • PCD 1, DAMON 0 and CONV 2 (If equipped) • Each Equipped TUC Pair (0 and 1, ... n) • DUS 0 • DUS 1 • API 0		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	• API 1 • IO/IOP Frame 0, IOUS 0, IPUB 0 • IO/IOP Frame 0, IOUS 1, IPUB 1 • IO/IOP Frame 1, IOUS 2, IPUB 0 • IO/IOP Frame 1, IOUS 3, IPUB 1		
1	Notify Next Higher Technical Support Group That SSD Conversion Switch Unit Installation to 1A Processor Is Being Performed. Request Information To Complete Items 2 Through 4	TELCO	—
2	Ensure 1A Processor CC Demand Diagnostics Have Been Successfully Completed Within 1 Week of Performing This Procedure	TELCO	—
3	Ensure No API Interjects or Interrupts or BLMs Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
4	Ensure *4ESS*™ Switch Is in Stable Condition With No Audits	TELCO	DLP-530
5	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode. All Out-of-Service Units Must Be Restored To Service	TELCO	DLP-529
6	At MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit 1A Processor REX	TELCO	—
7	At MTC Terminal, Enter Message **MON:CHAN SREC1!** To Allow Monitoring of SREC1 Channel	TELCO	—
8	If Office Is Equipped With PCD Frame, Go To Item 9. Otherwise, Go To Item 14	TELCO/INST	—
9	Perform Following for PCD 0, CONV 0 and CONV 1; and PCD 1, CONV 0 and CONV 1:	—	—
	1. At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
	2. At SSD Conversion Switch Unit, Connect One New Scan and SD Jumper Cable for Applicable PCD Frame (0/1) and Unit (CONV 0/1) Being Connected to Proper 1A SSD Connector	INST	—
	3. Remove Applicable PCD Frame (0/1) and Unit (CONV 0) From Service **(RMV:PCD a,CONV 0!)**	TELCO	DLP-547
	4. Diagnose Applicable PCD Frame (0/1) and Unit (CONV 0) Previously Removed From Service (Item 9.3) **(DGN:PCD a,CONV 0!)**	TELCO	DLP-548

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
9 (Contd)	5. Using Power Switch, Remove Power From Applicable PCD Frame (O/1) and Unit (CONV O) Previously Removed From Service (Item 9.3)	TELCO	DLP-502
	NOTE: When the SSD cable is removed, the unit diagnostics will start automatically. This is the result of erroneous scan point data received by the 1A Processor. Since the unit is powered down, the diagnostics will fail.		
	6. At PPI Frame, Disconnect Scan and SD Cable Associated With Applicable PCD Frame (O/1) and Unit (CONV O) Previously Removed From Service (Item 9.3)	INST	—
	7. At SSD Conversion Switch Unit, Connect Scan and SD Cable Previously Disconnected (Item 9.6) to SSD 4E Connector Associated With Applicable PCD Frame (O/1) and Unit (CONV O/1) Previously Removed From Service (Item 9.3)	INST	—
	8. At PPI Frame, Connect Other End of New Scan and SD Jumper Cable (Item 9.2) to PPI Frame Location Previously Vacated (Item 9.6)	INST	—
	9. Using Power Switch, Restore Power to Applicable PCD Frame (O/1) and Unit (CONV O) Previously Removed From Service (Item 9.3)	TELCO/INST	DLP-504
	10. Restore Applicable PCD Frame (O/1) and Unit (CONV O) Previously Removed From Service (Item 9.3) to Service (RST:PCD a,CONV O!)	TELCO/INST	DLP-549
	11. Perform Power Cycle Test for Applicable PCD Frame (O/1) and Unit (CONV O/1) Previously Restored to Service (Item 9.10)	TELCO/INST	DLP-550
	12. If Power Cycle Test for Both CONV O and CONV 1 in Applicable PCD Frame (O/1) Has Not Been Performed, Repeat From Item 9.11. Otherwise, Go to Item 9.13	TELCO/INST	—
	13. If Scan and SD Jumper Cable Has Not Been Installed for PCD 1, CONV O and CONV 1, Repeat From Item 9.1. Otherwise, Go To Item 10	TELCO/INST	—
10	Perform Following for PCD O, DAMON O and CONV 2 (if equipped); and PCD 1, DAMON O and CONV 2 (if equipped):	—	—
	1. At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
	2. At SSD Conversion Switch Unit, Connect One New Scan and SD Jumper Cable for Applicable PCD Frame (O/1) and Unit (DAMON O) Being Connected to Proper 1A SSD Connector	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
10 (Contd)	3. Remove Applicable PCD Frame (O/1) and Unit (DAMON O) From Service (**RMV:PCD a,DAMON O!**)	TELCO	DLP-547
	4. Diagnose Applicable PCD Frame (O/1) and Unit (DAMON O) Previously Removed From Service (Item 10.3) (**DGN:PCD a,DAMON O!**)	TELCO	DLP-548
	5. Using Power Switch, Remove Power From Applicable PCD Frame (O/1) and Unit (DAMON O) Previously Removed From Service (Item 10.3)	TELCO	DLP-502
	6. If PCD Frame (O/1) Is Equipped With Converter 2, Perform Items 10.7 Through 10.9. Otherwise, Go To Item 10.10	TELCO	—
	7. Remove Applicable PCD Frame (O/1) and Unit (CONV 2) From Service (**RMV:PCD a,CONV 2!**)	TELCO	DLP-547
	8. Diagnose Applicable PCD Frame (O/1) and Unit (CONV 2) Previously Removed From Service (Item 10.7) (**DGN:PCD a,CONV 2!**)	TELCO	DLP-548
	9. Using Power Switch, Remove Power From Applicable PCD Frame (O/1) and Unit (CONV 2) Previously Removed From Service (Item 10.7)	TELCO	DLP-502
	NOTE: When the SSD cable is removed, the unit diagnostics will start automatically. This is the result of erroneous scan point data received by the 1A Processor. Since the unit is powered down, the diagnostics will fail.		
	10. At PPI Frame, Disconnect Scan and SD Cable Associated With Applicable PCD Frame (O/1) and Unit (DAMON O) Previously Removed From Service (Item 10.3)	INST	—
	11. At SSD Conversion Switch Unit, Connect Scan and SD Cable Previously Disconnected (Item 10.10) to SSD 4E Connector Associated With Applicable PCD Frame (O/1) and Unit (DAMON O) Previously Removed From Service (Item 10.3)	INST	—
	12. At PPI Frame, Connect Other End of New Scan and SD Jumper Cable (Item 10.2) to PPI Frame Location Previously Vacated (Item 10.10)	INST	—
	13. Using Power Switch, Restore Power to Applicable PCD Frame (O/1) and Unit (DAMON O) Previously Removed From Service (Item 10.3)	TELCO/INST	DLP-504
	14. Restore Applicable PCD Frame (O/1) and Unit (DAMON O) Previously Removed From Service (Item 10.3) to Service (**RST:PCD a,DAMON O!**)	TELCO/INST	DLP-549
	15. Perform Power Cycle Test for Applicable PCD Frame (O/1) and Unit (DAMON O) Previously Restored to Service (Item 10.13)	TELCO/INST	DLP-551

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
10 (Contd)	16. If PCD Frame (O/1) Is Equipped With Converter 2, Perform Items 10.17 through 10.19. Otherwise Go To Item 10.20	–	–
	17. Using Power Switch, Restore Power to Applicable PCD Frame (O/1) and Unit (CONV 2) Previously Removed From Service (Item 10.7)	TELCO/INST	DLP-504
	18. Restore Applicable PCD Frame (O/1) and Unit (CONV 2) Previously Removed From Service (Item 10.7) to Service (**RST:PCD a,CONV 2!**)	TELCO/INST	DLP-549
	19. Perform Power Cycle Test for Applicable PCD Frame (O/1) and Unit (CONV 2) Previously Restored to Service (Item 10.18)	TELCO/INST	DLP-550
	20. If Scan and SD Jumper Cable Has Not Been Installed for PCD 1, DAMON 0, Repeat From Item 10.1. Otherwise, Go To Item 11	TELCO/INST	–
11	Safe Point to Temporarily Stop This Procedure. If Stopping, Perform Items 12 and 13. Otherwise, Go To Item 14	TELCO/INST	–
12	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** to Allow 1A Processor REX	TELCO	–
13	Stop Now Until Resuming	TELCO/INST	–
14	Perform Following for All Equipped TUC Pairs (0 and 1, 2 and 3, ... n):	–	–
	1. At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
	2. At SSD Conversion Switch Unit, Connect One New Scan and SD Jumper Cable for Applicable TUC Pair (0 and 1, etc.) Being Connected to Proper 1A SSD Connector	INST	–
	NOTE: One Scan and SD jumper cable is associated with one TUC pair (0 and 1, 2 and 3, ... n). Therefore, Steps 14.3, 14.4, 14.5, 14.9 and 14.10 must be performed on both TUCs		
	3. Remove Applicable TUC Pair (0 and 1, etc.) From Service (**RMV:TUC a!** Then **RMV:TUC b!**)	TELCO	DLP-547
	4. Diagnose Applicable TUC Pair (0 and 1, etc.) Previously Removed From Service (Item 14.3) (**DGN:TUC a!** Then **DGN:TUC b!**)	TELCO	DLP-548
	5. Using Power Switches, Remove Power From Applicable TUC Pair (0 and 1, etc.) Previously Removed From Service (Item 14.3)	TELCO	DLP-502

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
14 (Contd)	**NOTE:** When the SSD cable is removed, the unit diagnostics will start automatically. This is the result of erroneous scan point data received by the 1A Processor. Since the unit is powered down, the diagnostics will fail.		
	6. At PPI Frame, Disconnect Scan and SD Cable Associated With Applicable TUC Pair (0 and 1, etc.) Previously Removed From Service (Item 14.3)	INST	—
	7. At SSD Conversion Switch Unit, Connect Scan and SD Cable Previously Disconnected (Item 14.6) to SSD 4E Connector Associated With Applicable TUC Pair (0 and 1, etc.) Previously Removed From Service (Item 14.3)	INST	—
	8. At PPI Frame, Connect Other End of New Scan and SD Jumper Cable (Item 14.2) to PPI Frame Location Previously Vacated (Item 14.6)	INST	—
	9. Using Power Switches, Restore Power to Applicable TUC Pair (0 and 1, etc.) Previously Removed From Service (Item 14.3)	TELCO/INST	DLP-504
	10. Restore Applicable TUC Pair (0 and 1, etc.) Previously Removed From Service (Item 14.3) to Service (**RST:TUC a!**, Then **RST:TUC b!**)	TELCO/INST	DLP-549
	11. Perform Power Cycle Test for First Applicable TUC In Pair (0 and 1, etc.) Previously Restored to Service (Item 14.10)	TELCO/INST	DLP-552
	12. Repeat Item 14.11 For Second Applicable TUC In Pair (0 and 1, etc.) Previously Restored to Service (Item 14.10)	TELCO/INST	—
	13. If Scan and SD Jumper Cables Have Not Been Installed for All Equipped TUC Pairs (0 and 1, ... n), Repeat From Item 14.1. Otherwise, Go To Item 15	TELCO/INST	—
15	Safe Point to Temporarily Stop This Procedure. If Stopping, Perform Items 16 and 17. Otherwise, Go To Item 18	TELCO/INST	—
16	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** to Allow 1A Processor REX	TELCO	—
17	Stop Now Until Resuming	TELCO/INST	—
18	Perform Following for DUS 0 and DUS 1:	—	—
	1. At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
	(Continued on Page 7)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
18 (Contd)	2. At SSD Conversion Switch Unit, Connect One New Scan and SD Jumper Cable for Applicable DUS (O/1) Being Connected to Proper 1A SSD Connector	INST	—
	3. Remove Applicable DUS (O/1) From Service (**RMV:DUS a!**)	TELCO	DLP-547
	4. Diagnose Applicable DUS (O/1) Previously Removed From Service (Item 18.3) **(DGN:DUS a!)**	TELCO	DLP-548
	5. Using Power Switch, Remove Power From Applicable DUS (O/1) Previously Removed From Service (Item 18.3)	TELCO	DLP-502
	NOTE: When the SSD cable is removed, the unit diagnostics will start automatically. This is the result of erroneous scan point data received by the 1A Processor. Since the unit is powered down, the diagnostics will fail.		
	6. At PPI Frame, Disconnect Scan and SD Cable Associated With Applicable DUS (O/1) Previously Removed From Service (Item 18.3)	INST	—
	7. At SSD Conversion Switch Unit, Connect Scan and SD Cable Previously Disconnected (Item 18.6) to SSD 4E Connector Associated With Applicable DUS (O/1) Previously Removed From Service (Item 18.3)	INST	—
	8. At PPI Frame, Connect Other End of New Scan and SD Jumper Cable (Item 18.2) to PPI Frame Location Previously Vacated (Item 18.6)	INST	—
	9. Using Power Switch, Restore Power to Applicable DUS (O/1) Previously Removed From Service (Item 18.3)	TELCO/INST	DLP-504
	10. Restore Applicable DUS (O/1) Previously Removed From Service (Item 18.3) to Service (**RST:DUS a!**)	TELCO/INST	DLP-549
	11. Perform Power Cycle Test for Applicable DUS Previously Restored to Service (Item 18.10)	TELCO/INST	DLP-553
	12. At MTC Terminal, Enter Message **SW:APS 0!** to Switch AU Buses	TELCO	—
	13. If Scan and SD Jumper Cables Have Not Been Installed for DUS 0 and DUS 1, Repeat From Item 18.1. Otherwise, Go To Item 19	TELCO/INST	—
19	Safe Point to Temporarily Stop This Procedure. If Stopping, Perform Items 20 and 21. Otherwise, Go To Item 22	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
20	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** to Allow 1A Processor REX	TELCO	—
21	Stop Now Until Resuming	TELCO/INST	—
22	Perform Following for API 0 and API 1:	—	—
	1. At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
	2. At 3B MCRT, Enter Messages **INH:DMQ;SRC REX!** and **INH:DMQ;SRC ADP!** To Inhibit REX	TELCO	—
	3. At SSD Conversion Switch Unit, Connect One New Scan and SD Jumper Cable for Applicable API (0/1) Being Connected to Proper 1A SSD Connector	INST	—
	4. Remove Applicable API (0/1) From Service	TELCO	DLP-547
	5. Diagnose Applicable API (0/1) Previously Removed From Service (Item 22.4) **(DGN:API a!)**	TELCO	DLP-548
	6. Using Power Switch, Remove Power From Applicable API (0/1) Previously Removed From Service (Item 22.4)	TELCO	DLP-502
	NOTE: When the SSD cable is removed, the unit diagnostics will start automatically. This is the result of erroneous scan point data received by the 1A Processor. Since the unit is powered down, the diagnostics will fail.		
	7. At PPI Frame, Disconnect Scan and SD Cable Associated With Applicable API (0/1) Previously Removed From Service (Item 22.4)	INST	—
	8. At SSD Conversion Switch Unit, Connect Scan and SD Cable Previously Disconnected (Item 22.7) to SSD 4E Connector Associated With Applicable API (0/1) Previously Removed From Service (Item 22.4)	INST	—
	9. At PPI Frame, Connect Other End of New Scan and SD Jumper Cable (Item 22.3) to PPI Frame Location Previously Vacated (Item 22.7)	INST	—
	10. Using Power Switch, Restore Power to Applicable API (0/1) Previously Removed From Service (Item 22.4)	TELCO/INST	DLP-504
	11. Restore Applicable API (0/1) Previously Removed From Service (Item 22.4) to Service (**RST:API a!**)	TELCO/INST	DLP-549
	(Continued on Page 9)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
22 (Contd)	12. Perform Power Cycle Test for Applicable API Previously Restored to Service (Item 22.10)	TELCO/INST	DLP-554
	13. At MTC Terminal, Enter Message **SW:APS 0!** To Switch AU Buses	TELCO	—
	14. If Scan and SD Jumper Cables Have Not Been Installed for API 0 and API 1, Repeat From Item 22.1. Otherwise, Go To Item 22.15	TELCO/INST	—
	15. At 3B MCRT, Enter Messages **ALW:DMQ;SRC REX!** and **ALW:DMQ;SRC ADP!** To Allow REX	TELCO	—
23	Safe Point to Temporarily Stop This Procedure. If Stopping, Perform Items 24 and 25. Otherwise, Go To Item 26	TELCO/INST	—
24	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow 1A Processor REX	TELCO	—
25	Stop Now Until Resuming	TELCO/INST	—
26	Perform Following for IO/IOP Frame 0,IOUS 0, IPUB 0; IO/IOP Frame 0, IOUS 1, IPUB 1; IO/IOP Frame 1,IOUS 2, IPUB 0 and IO/IOP Frame 1,IOUS 3, IPUB 1:	—	—
	1. At 1B Processor Indicator/Remote Control Unit, Ensure All Switches Associated With Equipped Office Equipment Are Set to 1A Processor Position (Associated LEDs On Green)	TELCO	DLP-531
	2. At SSD Conversion Switch Unit, Connect One New Scan and SD Jumper Cable for Applicable IO/IOP Frame (0/1) and Unit (IOUS/IPUB) Being Connected to Proper 1A SSD Connector	INST	—
	3. Remove Applicable IO/IOP Frame (0/1) and Unit (IOUS/IPUB) From Service	TELCO	DLP-547
	4. Diagnose Applicable IO/IOP Frame (0/1) and Unit (IOUS/IPUB) Previously Removed From Service (Item 26.3) (**DGN:IOUS a!**)	TELCO	DLP-548
	5. Using Power Switches, Remove Power From Applicable IO/IOP Frame (0/1) and Unit (IOUS/IPUB) Previously Removed From Service (Item 26.3)	TELCO	DLP-585
	NOTE: When the SSD cable is removed, the unit diagnostics will start automatically. This is the result of erroneous scan point data received by the 1A Processor. Since the unit is powered down, the diagnostics will fail.		
	6. At PPI Frame, Disconnect Scan and SD Cable Associated With Applicable IO/IOP Frame (0/1) and Unit (IOUS/IPUB) Previously Removed From Service (Item 26.3)	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
26 (Contd)	7. At SSD Conversion Switch Unit, Connect Scan and SD Cable Previously Disconnected (Item 26.6) to SSD 4E Connector Associated With Applicable IO/IOP Frame (0/1) and Unit (IOUS/IPUB) Previously Removed From Service (Item 26.3)	INST	—
	8. At PPI Frame, Connect Other End of New Scan and SD Jumper Cable (Item 26.2) to PPI Frame Location Previously Vacated (Item 26.6)	INST	—
	9. Using Power Switches, Restore Power to Applicable IO/IOP Frame (0/1) and Unit (IOUS/IPUB) Previously Removed From Service (Item 26.3)	TELCO/INST	DLP-504
	10. Restore Applicable IO/IOP Frame (0/1) and Unit (IOUS/IPUB) Previously Removed From Service (Item 26.3) to Service	TELCO/INST	DLP-549
	11. If Scan and SD Jumper Cables Were Just Connected to IO/IOP Frame 0, IOUS 0, IPUB 0, Go to Item 26.12. Otherwise, Go To Item 26.13	TELCO/INST	—
	12. At MTC Terminal, Enter Message **STOP:MON;CHAN SREC1!**	TELCO	—
	13. Perform Power Cycle Test for Applicable IO/IOP Frame (0/1) and Unit (IOUS/IPUB) Previously Restored to Service (Item 26.10)	TELCO/INST	DLP-555
	14. If Scan and SD Jumper Cables Were Just Connected to IO/IOP Frame 0, IOUS 0, IPUB 0, Go to Item 26.15. Otherwise, Go To Item 26.16	TELCO/INST	—
	15. At MTC Terminal, Enter Message **MON:CHAN SREC1!**	TELCO	—
	16. If Scan and SD Jumper Cables Have Not Been Installed for IO/IOP Frame 0, IOUS 0, IPUB 0; IO/IOP Frame 0, IOUS 1, IPUB 1; IO/IOP Frame 1, IOUS 2, IPUB 0 and IO/IOP Frame 1, IOUS 3, IPUB 1, Repeat From Item 26.1. Otherwise, Go To Item 27	TELCO/INST	—
27	At MTC Terminal, Enter Message **STOP:MON;CHAN SREC1!**	TELCO	—
28	At MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow 1A Processor REX	TELCO	—
29	On Status Sheet in AT&T 234-185-019, Initial and Date Completion of This Procedure	TELCO/INST	—
30	Notify Next Higher Technical Support Group That SSD Conversion Switch Unit Is Installed	TELCO	—

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

		RESPONSIBILITY	
	WARNING: No other growth or maintenance activity is allowed during this procedure		
	NOTES: 1. This procedure must be performed during light traffic periods 2. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary 3. GCP Capture and Remote Recovery Unit will be connected to CC 1 first		
1	Notify Next Higher Technical Support Group That GCP Capture Remote Recovery Unit Installation Is Being Performed. Request Information To Complete Items 2 Through 4	TELCO	—
2	Ensure 1A Processor CC Demand Diagnostics Have Been Successfully Completed Within 1 Week of Performing This Procedure	TELCO	—
3	Ensure No API Interjects, Interrupts, or BLMs Have Occurred Within 24 Hours of Performing This Procedure	TELCO	—
4	Ensure *4ESS*™ Switch Is in Stable Condition With No Audits	TELCO	DLP-530
5	Ensure All 1A Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-529
6	Mount GCP Capture and Remote Recovery Unit	INST	—
7	At 1A MTC Terminal, Enter Message **INH:MACLI,CLASS MTCE;REX!** To Inhibit REX	TELCO	—
8	At 3B MCRT, Enter Following Messages To Inhibit Automatic Diagnostics: • **INH:DMQ;SRC REX!** • **INH:DMQ;SRC ADP!**	TELCO	—
9	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which 1A Processor CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
10	At 1A MTC Terminal, Diagnose Standby CC (Item 9) Using Restore Message (**RST:CC a!**)	TELCO	DLP-505
11	Switch CCs To Make Other CC Standby (**SW:CC!**)	TELCO	DLP-506
12	Diagnose Standby CC Using Restore Message (**RST:CC a!**)	TELCO	DLP-505
13	At 1A Processor MCC **PROCESSOR DISPLAY** Panel, Determine Which 1A Processor CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
14	If CC 0 Is Standby, At 1A MTC Terminal, Switch CCs To Make CC 1 Standby (**SW:CC!**)	TELCO	DLP-506
15	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-507

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
16	Remove Power From CC 1 Using Power Switch	TELCO	DLP-502
17	Connect Power Cables to CC 1	INST	—
18	At CC 1 Fuse Panel, Install +24V Fuse for GCP Capture and Remote Recovery Unit	INST	—
19	Insert KS-14174,L7 Designation Pin Adjacent to Fuse Installed in Item 18	INST	—
20	At CC 1, Remove Bus Terminating Resistors (BTRs) (if Present) From Signal Cable Locations, Then Connect Signal Cables	INST	—
21	At CC 1, Determine if API 0 and DUS 0 BTRs Are Installed	INST	—
22	If API 0 and DUS 0 BTRs Are Not Installed (Item 21), Perform Items 23 Through 41; Otherwise, Go to Item 42	TELCO/INST	—
23	At 1A MTC Terminal, Determine Which API Is Standby **(OP:APSTATUS!)**	TELCO	DLP-526
24	Diagnose Standby API (Item 23) Using Restore Message **(RST:API a!)**	TELCO	DLP-505
25	Diagnose Standby DUS (Same Member Number Used in Item 24) Using Restore Message **(RST:DUS a!)**	TELCO	DLP-505
26	Switch APIs To Make Other API Standby **(SW:APS 0!)**	TELCO	DLP-527
27	Diagnose Standby API Using Restore Message **(RST:API a!)**	TELCO	DLP-505
28	Diagnose Standby DUS (Same Member Number Used in Item 27) Using Restore Message **(RST:DUS a!)**	TELCO	DLP-505
29	Determine Which API Is Standby **(OP:APSTATUS!)**	TELCO	DLP-526
30	If API 1 Is Standby, Switch APIs To Make API 0 Standby **(SW:APS 0!)**	TELCO	DLP-527
31	Remove API 0 From Service **(RMV:API 0!)**	TELCO	DLP-507
32	Remove Power From API 0 Using Power Switch	TELCO	DLP-502
33	At CC 1, Install BTR for API 0	INST	—
34	Restore Power to API 0 Using Power Switch	TELCO/INST	DLP-504
35	At 1A MTC Terminal, Remove AUB 0 From Service **(RMV:AUB 0!)**	TELCO	DLP-507
36	Remove Power From DUS 0 Using Power Switch	TELCO	DLP-502
37	At CC 1, Install BTR for DUS 0	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
38	Restore Power to DUS 0 Using Power Switch	TELCO/INST	DLP-504
39	At 1A MTC Terminal, Restore AUB 0 to Service (RST:AUB 0!)	TELCO/INST	DLP-505
40	Restore DUS 0 to Service (RST:DUS 0!)	TELCO/INST	DLP-505
41	Restore API 0 to Service (RST:API 0!)	TELCO/INST	DLP-505
42	At CC 1 Power Switch, Depress **ON** Switch To Power Up DUS 0 (Leave **ROS/OFF** Switch in **ROS** Position); Ensure **PWR OFF** Lamp Is Off	TELCO/INST	–
43	At GCP Capture and Remote Recovery Unit, Ensure **POWER** LED Is On. If **SET** LED Is On, Depress **RESET** Pushbutton; Ensure **SET** LED Is Off	INST	–
44	At CC 1 Power Switch, Rotate **ROS/OFF** Switch to Normal Position	TELCO/INST	DLP-567
45	If Office Is in 4E18 Generic, Perform Items 46 Through 50; Otherwise, Go to Item 51	TELCO/INST	–
46	At 1A MTC Terminal, Diagnose Standby CC 1 Using Restore Message (RST:CC 1!)	TELCO/INST	DLP-505
47	Switch CCs To Make CC 1 Active (SW:CC!) (GCP Capture and Remote Recovery Unit **SET** LED On)	TELCO	DLP-506
48	Enter Message ALW:ONEB! To Turn Off GCP Capture and Remote Recovery Unit **SET** LED; Ensure **SET** LED Is Off	TELCO/INST	–
49	Enter Message INH:ONEB! To Turn On GCP Capture and Remote Recovery Unit **SET** LED; Ensure **SET** LED Is On	TELCO/INST	–
50	Switch CCs To Make CC 0 Active (SW:CC!)	TELCO	DLP-506
51	Remove Standby CC 1 From Service (RMV:CC 1!)	TELCO	DLP-507
52	At CC 1 Fuse Panel, Remove +24 Fuse (Item 18) for GCP Capture and Remote Recovery Unit; Ensure **POWER** LED Is Off	INST	–
53	At 1A MTC Terminal, Restore CC 1 to Service (RST:CC 1!); Wait 10 Minutes Before Proceeding	TELCO/INST	DLP-505
54	Switch CCs To Make CC 0 Standby (SW:CC!)	TELCO	DLP-506
	NOTE: GCP Capture and Remote Recovery Unit will be connected to CC 0 next		
55	Remove CC 0 From Service (RMV:CC 0!)	TELCO	DLP-507
56	Remove Power From CC 0 Using Power Switch	TELCO	DLP-502
57	Connect Power Cables to CC 0	INST	–

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
58	At CC 0 Fuse Panel, Install +24V Fuse for GCP Capture and Remote Recovery Unit	INST	—
59	Insert KS-14174,L7 Designation Pin Adjacent to Fuse Installed in Item 58	INST	—
60	At CC 0, Remove BTRs (if Present) From Signal Cable Locations, Then Connect Signal Cables	INST	—
61	At CC 0, Determine if API 1 and DUS 1 BTRs Are Installed	INST	—
62	If API 1 and DUS 1 BTRs Are Not Installed (Item 61), Perform Items 63 Through 81; Otherwise, Go to Item 82	TELCO/INST	—
63	At 1A MTC Terminal, Determine Which API Is Standby **(OP:APSTATUS!)**	TELCO	DLP-526
64	Diagnose Standby API (Item 63) Using Restore Message (**RST:API a!**)	TELCO	DLP-505
65	Diagnose Standby DUS (Same Member Number Used in Item 64) Using Restore Message (**RST:DUS a!**)	TELCO	DLP-505
66	Switch APIs To Make Other API Standby (**SW:APS 0!**)	TELCO	DLP-527
67	Diagnose Standby API Using Restore Message (**RST:API a!**)	TELCO	DLP-505
68	Diagnose Standby DUS (Same Member Number Used in Item 67) Using Restore Message (**RST:DUS a!**)	TELCO	DLP-505
69	Determine Which API Is Standby (**OP:APSTATUS!**)	TELCO	DLP-526
70	If API 0 Is Standby, Switch APIs To Make API 1 Standby (**SW:APS 0!**)	TELCO	DLP-527
71	Remove API 1 From Service (**RMV:API 1!**)	TELCO	DLP-507
72	Remove Power From API 1 Using Power Switch	TELCO	DLP-502
73	At CC 0, Install BTR for API 1	INST	—
74	Restore Power to API 1 Using Power Switch	TELCO/INST	DLP-504
75	At 1A MTC Terminal, Remove AUB 1 From Service (**RMV:AUB 1!**)	TELCO	DLP-507
76	Remove Power From DUS 1 Using Power Switch	TELCO	DLP-502
77	At CC 0, Install BTR for DUS 1	INST	—
78	Restore Power to DUS 1 Using Power Switch	TELCO/INST	DLP-504
79	At 1A MTC Terminal, Restore AUB 1 to Service (**RST:AUB 1!**)	TELCO/INST	DLP-505
80	Restore DUS 1 to Service (**RST:DUS 1!**)	TELCO/INST	DLP-505

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
81	Restore API 1 to Service (RST:API 1!)	TELCO/INST	DLP-505
82	At CC 0 Power Switch, Depress **ON** To Power Up CC 0 (Leave **ROS/OFF** Switch in **ROS** Position); Ensure **PWR OFF** Lamp Is Off	TELCO/INST	—
83	At GCP Capture and Remote Recovery Unit, Ensure **POWER** LED Is On. If **SET** LED Is On, Depress **RESET** Pushbutton; Ensure **SET** LED Is Off	INST	—
84	At CC 0 Power Switch, Rotate **ROS/OFF** Switch to Normal Position	TELCO/INST	DLP-567
85	At 1A MTC Terminal, Diagnose Standby CC 0 Using Restore Message (RST:CC 0!) Wait 10 Minutes Before Proceeding	TELCO/INST	DLP-505
86	Switch CCs To Make CC 0 Active (SW:CC!)	TELCO	DLP-506
87	At GCP Capture and Remote Recovery Unit, Depress **RESET** Pushbutton; Ensure **SET** LED Is Off	INST	—
88	Connect P-Wire Paired Cable From **GCP TRIGGER INPUT** Binding Posts at Indicator/Remote Control Unit to GCP Capture and Remote Recovery Unit	INST	—
89	If Office Is in 4E18 Generic, Perform Items 90 Through 92; Otherwise, Go to Item 93	TELCO/INST	—
90	At Indicator/Remote Control Unit, Turn **ALL-1B** Key Switch to **ON** Position and Operate **ARM** Switch to **ALL** Position; Ensure Only Red LEDs Are On	INST	—
91	At 1A MTC Terminal, Enter Message INH:ONEB! To Turn On GCP Capture and Remote Recovery Unit **SET** LED; Ensure All LEDs at Indicator/Remote Control Unit Return to 1A Indication (Green) and **GCP TRIGGER** Lamp Is On (Amber)	TELCO/INST	—
92	Enter Message ALW:ONEB! To Turn Off GCP Capture and Remote Recovery Unit **SET** LED; Ensure **SET** LED Is Off and at Indicator/Remote Control Unit, Ensure **GCP TRIGGER** Lamp Is Off	TELCO/INST	—
93	At 1A MTC Terminal, Remove CC 1 From Service (RMV:CC 1!)	TELCO	DLP-507
94	At CC 1 Fuse Panel, Install +24V Fuse for GCP Capture and Remote Recovery Unit; Ensure **POWER** LED Is On	INST	—
95	At 1A MTC Terminal, Restore CC 1 to Service (RST:CC 1!)	TELCO/INST	DLP-505
96	At Indicator/Remote Control Unit, Turn **ALL-1B** Key Switch to **OFF** Position and **ALL-1A** Key Switch to **ON** Position	INST	—
	(Continued on Page 6)		

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

97	At 1A MTC Terminal, Enter Message **ALW:MACLI,CLASS MTCE!** To Allow REX	TELCO	—
98	At 3B MCRT, Enter Following Messages To Allow Automatic Diagnostics: • **ALW:DMQ;SRC REX!** • **ALW:DMQ;SRC ADP!**	TELCO	—

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

		RESPONSIBILITY	
	WARNING: An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling		
	NOTE: This procedure must be performed during light traffic periods		
1	Determine Base MDN Value for Miscellaneous SD Points That Control Backup Alarms (**VER:UTYPE:GRID 1!**)	TELCO/INST	DLP-570
2	Ensure Office Alarms Are Cleared	TELCO	—
3	Test Office Alarms	TELCO	DLP-571
4	Using Office Drawing T-nnnn-Hn-462, Determine SP Equipment Location of MDN Point (Item 1) for Connecting MDN Cable to OAG 1	INST	—
5	Run Alarm Transfer Control Cable From Base SP Matrix Frame to OAG 1 Unit (Do Not Connect at This Time)	INST	—
6	Notify Next Higher Technical Support Group That Alarms May Be Received	TELCO	—
7	Ensure Office Alarms Are Cleared	TELCO	—
8	At PPI Frame, Disconnect DA00, DA01, and DA02 Cable (From Base SP Matrix Frame)	INST	—
9	At Base SP Matrix Frame, Locate and Mark Backup Software Alarm Cable (DA00, DA01, and DA02) at Locations Determined in Item 4	INST	—
10	At Base SP Matrix Frame, Disconnect Backup Software Alarm Cable (DA00, DA01, DA02, DB00, DB01, and DB02)	INST	—
11	At Base SP Matrix Frame, Connect Alarm Transfer Control Cable (From OAG 1 Unit) to Locations Vacated in Item 10	INST	—
12	At OAG 1 Unit in Miscellaneous A Frame, Connect Alarm Transfer Control Cable (From Base SP Matrix Frame)	INST	—
13	At OAG 1 Unit in Miscellaneous A Frame, Connect Intraframe Wiring for Alarm Transfer Control Cable	INST	—
14	Notify Next Higher Technical Support Group That Critical, Major, and Minor Alarms Will Be Received	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
15	At 1A MTC Terminal, Enter Message **ORD:SD;OPR:MDN O'a!** To Test DA00 for Critical Alarm (a = Octal MDN Value Determined in Item 1); Ensure Critical Alarm Is Sounded and **ORD:SD;OPR:MDN b, , COMPLETED** Message Is Received (b = Decimal MDN Value)	TELCO/INST	—
16	Enter Message **ORD:SD;RLS:MDN O'a!** To Test DA00 To Retire Critical Alarm (a = Octal MDN Used in Item 15); Ensure Critical Alarm Is Retired and **ORD:SD;RLS:MDN b, , COMPLETED** Message Is Received (b = Decimal MDN Value)	TELCO/INST	—
17	Enter Message **ORD:SD;OPR:MDN O'a+1!** To Test DA01 for Major Alarm (a+1 = Octal MDN Value Determined in Item 1 Plus 1): Ensure Major Alarm Is Sounded and **ORD:SD;OPR:MDN b+1, , COMPLETED** Message Is Received (b+1 = Decimal MDN Value Plus 1)	TELCO/INST	—
18	Enter Message **ORD:SD;RLS:MDN O'a+1!** To Test DA01 To Retire Major Alarm (a+1 = Octal MDN Used in Item 17); Ensure Major Alarm Is Retired and **ORD:SD;RLS:MDN b+1, , COMPLETED** Message Is Received (b+1 = Decimal MDN Value)	TELCO/INST	—
19	Enter Message **ORD:SD;OPR:MDN O'a+2!** To Test DA02 for Minor Alarm (a+2 = Octal MDN Value Determined in Item 1 Plus 2); Ensure Minor Alarm Is Sounded and **ORD:SD;OPR:MDN b+2, , COMPLETED** Message Is Received (b+2 = Decimal MDN Value Plus 2)	TELCO/INST	—
20	Enter Message **ORD:SD:RLS:MDN O'a+2!** To Test DA02 To Retire Major Alarm (a+2 = Octal MDN Used in Item 19); Ensure Minor Alarm Is Retired and **ORD:SD;RLS:MDN b+2, , COMPLETED** Message Is Received (b+2 = Decimal MDN Value)	TELCO/INST	—
21	Notify Next Higher Technical Support Group That Critical, Major, and Minor Alarm Testing Is Completed	TELCO	—
	NOTE: Items 22 through 25 are being performed to connect PPI frame to 1B SSD conversion switch and test.		
22	At PPI Frame, Disconnect Alarm Cable	INST	—
23	At SSD Conversion Switch, Connect Alarm Cable Disconnected in Item 22	INST	—
24	Connect Jumper Cable Between PPI Frame and SSD Conversion Switch	INST	—
25	Test Alarms From PPI Frame	TELCO/INST	DLP-572

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
26	At 1B Processor Utility System Workstation, if I/O Message Process Is Not Started, Start I/O Message Process	INST	—
27	Enable Utility Paging Administration (UPAD) **(ALW:UPAD!)**	INST	—
28	Ensure 1B Processor Complex Units Are In Service **(OP:OOSUNITS!)**	INST	—
	CAUTION: Care must be taken to ensure proper control knobs are operated		
29	At SSD Conversion Switch, Operate Two Control Knobs at Equipment Location 088 Clockwise to **1B** Position	TELCO	
	NOTE: 1B CVSW OFNL (1B Conversion Switch Off Normal) alarm message will begin printing at 1A MTC terminal		
30	Software Critical Alarm Will Be Received When **AMA [AND ICDR] TRANSFER BUFFER OVERFLOW** Message Is Reported at 1B Processor Utility System Workstation. Ensure the Following: • At Alarm Panel, **AUD** and **CR** Lamps Light • Audible Critical Alarm Sounds • At Top of 1B Processor MCC Terminal Screen, **CRITICAL** Colored White on Red	INST	—
31	At 1B Processor MCC Terminal, Depress **ALM RLS** Key To Retire Critical Alarm. Ensure the Following: • At Alarm Panel, **AUD** and **CR** Lamps Off • Audible Critical Alarm Retired • At Top of 1B Processor MCC Terminal Screen, **CRITICAL** Colored White on Black • At 1B Processor Utility System Workstation, **RTR:ALM MOC COMPL** Message Is Received Disregard Software Critical Alarm That Will Be Received Periodically	INST	—
	NOTE: Items 32 through 36 are being performed to test 1B Processor software major alarm		
32	At 1B Processor Utility System Workstation, Enter Message **ALW:FNS 0!;** Ensure **ALW:FNS 0 COMPLETED** Message Is Received	INST	—
	(Continued on Page 4)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
33	At Back of 1B Processor Cabinet 0, Disconnect Power From Fans at F5 and F6; After Short Period of Time Ensure the Following: • At Alarm Panel, **AUD** and **MJ** Lamps Light • Audible Major Alarm Sounds • At Top of 1B Processor MCC Terminal Screen, **MAJOR** Colored White on Red	INST	—
34	Connect Power Back to Fans (F5 and F6) Powered Down in Item 33	INST	—
35	At 1B Processor MCC Terminal, Depress **ALM RLS** Key To Retire Major Alarm. Ensure the Following: • At Alarm Panel, **AUD** and **MJ** Lamps Off • Audible Major Alarm Retired • At Top of 1B Processor MCC Terminal Screen, **MAJOR** Colored White on Black • At 1B Processor Utility System Workstation, RTR:ALM MOC COMPL Message Is Received	INST	—
36	At 1B Processor Utility System Workstation, Enter Message ALW:FNS 0! To Initialize Fan System; Ensure ALW:FNS 0 COMPLETED Message Is Received	INST	—
	NOTE: Items 37 through 39 are being performed to test 1B Processor software minor alarm		
37	At 1B Processor Utility System Workstation, Enter Message INH:MACLI,CLASS MTCE;ALL!. Ensure the Following: • At Alarm Panel, **AUD** and **MN** Lamps Light • Audible Minor Alarm Sounds • At Top of 1B Processor MCC Terminal Screen, **MINOR** Colored Black on Yellow for Short Time	INST	—
38	At 1B Processor MCC Terminal, Depress **ALM RLS** Key To Retire Minor Alarm at Alarm Panel	INST	—
39	At 1B Processor Utility System Workstation, Enter Message ALW:MACLI,CLASS MTCE! To Allow REX	INST	—
	(Continued on Page 5)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: Items 40 through 42 are being performed to test 1B Processor hardware major alarm	INST	—
40	At Fuse Unit in 1B Processor Cabinet 0, Remove Fuse for PS 0 at Location A046	INST	—
41	Insert Blown Fuse at Location A046; Ensure Audible Major Alarm Sounds	INST	—
42	Remove Blown Fuse (Item 41) and Insert Good Fuse in its Place; Ensure Audible Major Alarm Is Retired	INST	—
	CAUTION: Care must be taken to ensure proper control knobs are operated		
43	At SSD Conversion Switch, Operate Two Control Knobs at Equipment Location 088 Counterclockwise to **1A** Position (1B CVSW OFNL Message Will Stop Printing and Critical Alarm Will Stop Sounding)	TELCO	—
44	Notify Next Higher Technical Support Group That Critical, Major, and Minor Alarm Is Completed	TELCO	—

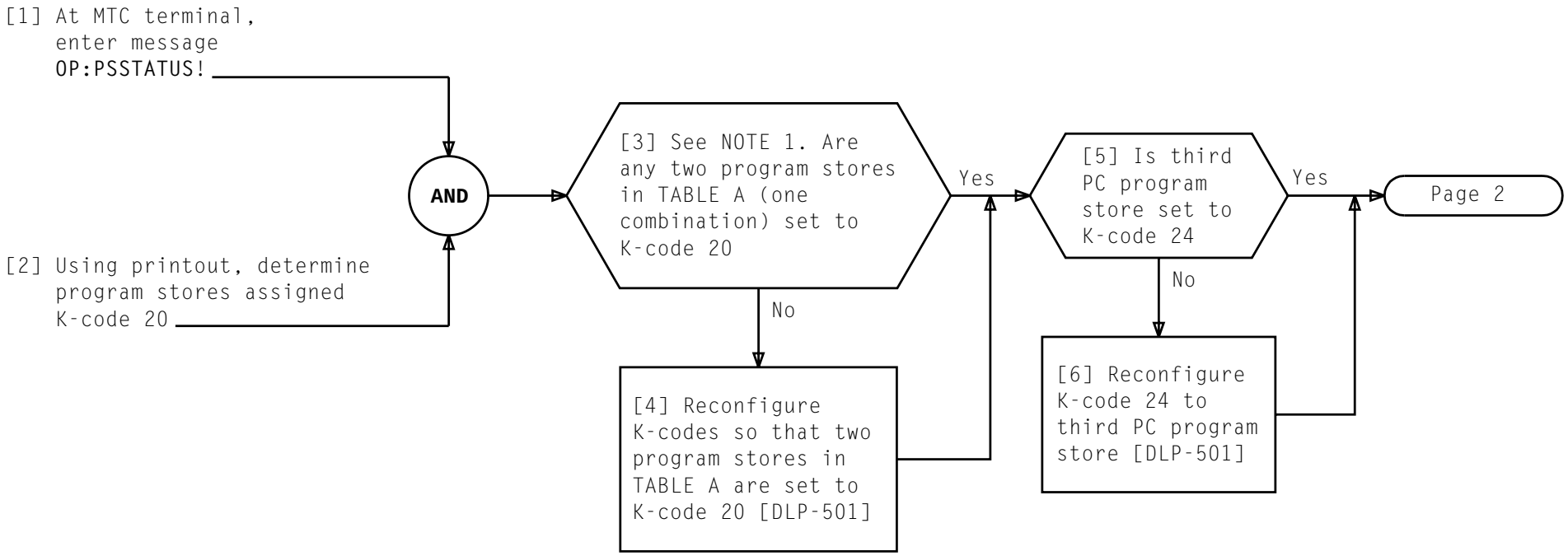
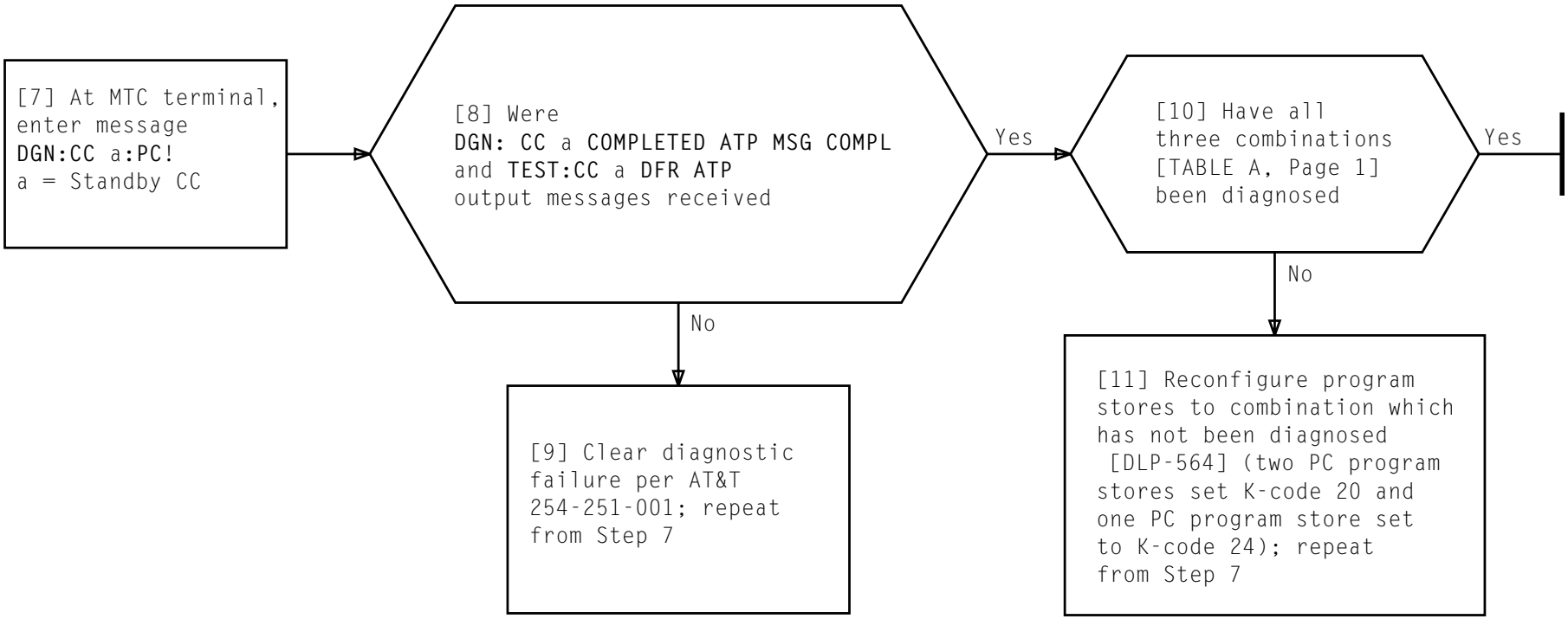


TABLE A	
PC PS COMBINATIONS	
256K START OFFICE	64K START OFFICE
0 and 2	18 and 20
0 and 4	18 and 22
2 and 4	20 and 22

NOTE 1

If office was equipped initially with 256K stores, program stores 0, 2, and 4 are normally the PC stores (K-code 20). If office was equipped initially with 64K stores that were replaced by 256K stores, program stores 18, 20, and 22 are normally the PC stores

RUN 1A PROCESSOR CC DIAGNOSTIC USING PC OPTION



RUN 1A PROCESSOR CC DIAGNOSTIC USING PC OPTION

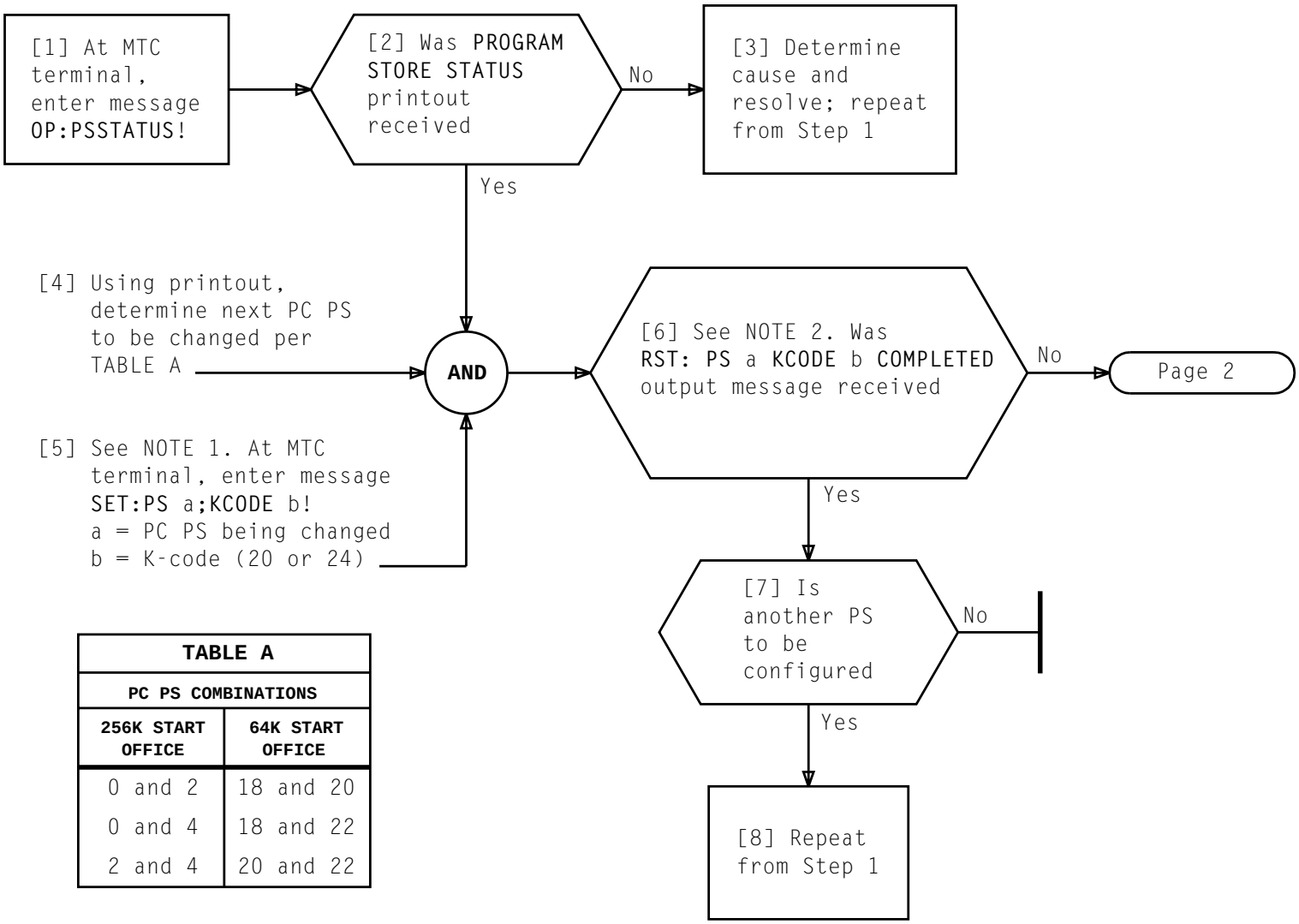
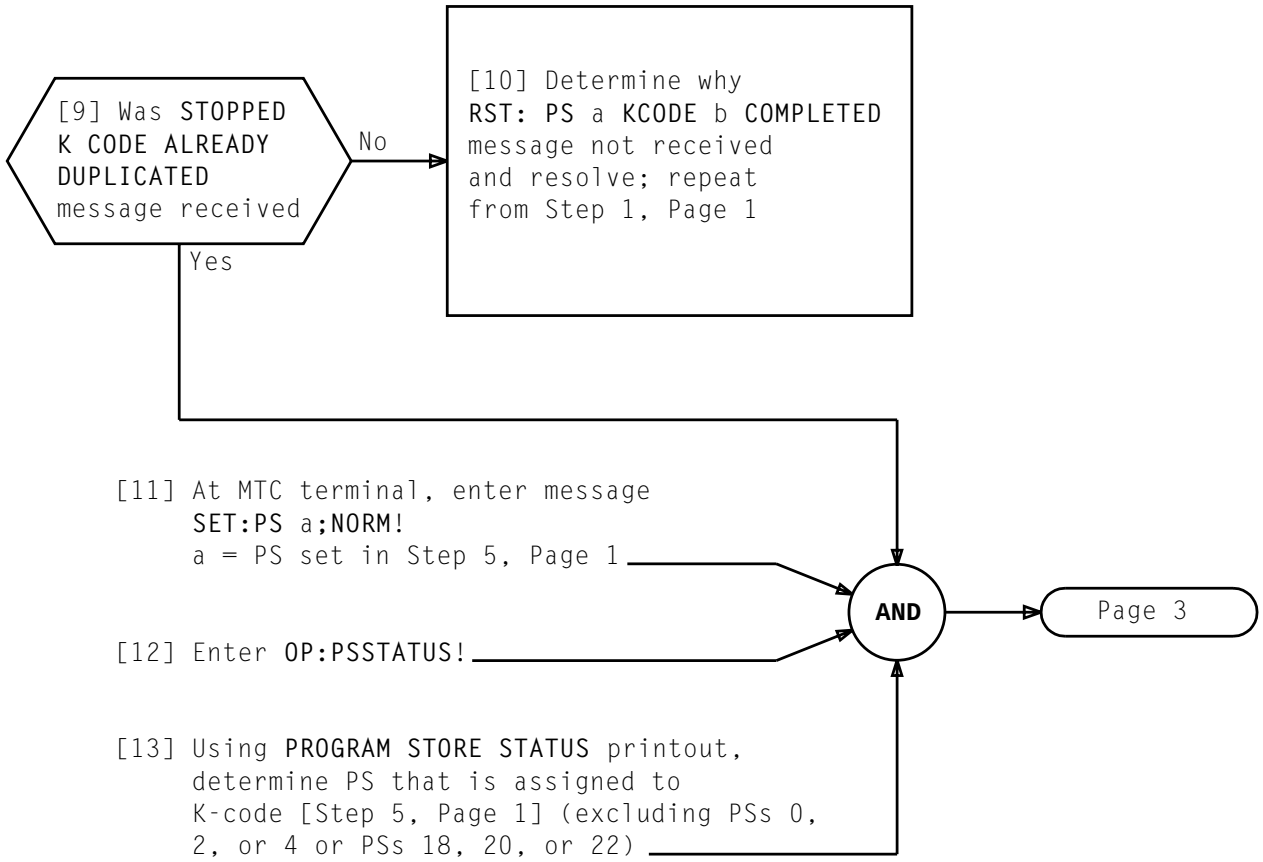


TABLE A	
PC PS COMBINATIONS	
256K START OFFICE	64K START OFFICE
0 and 2	18 and 20
0 and 4	18 and 22
2 and 4	20 and 22

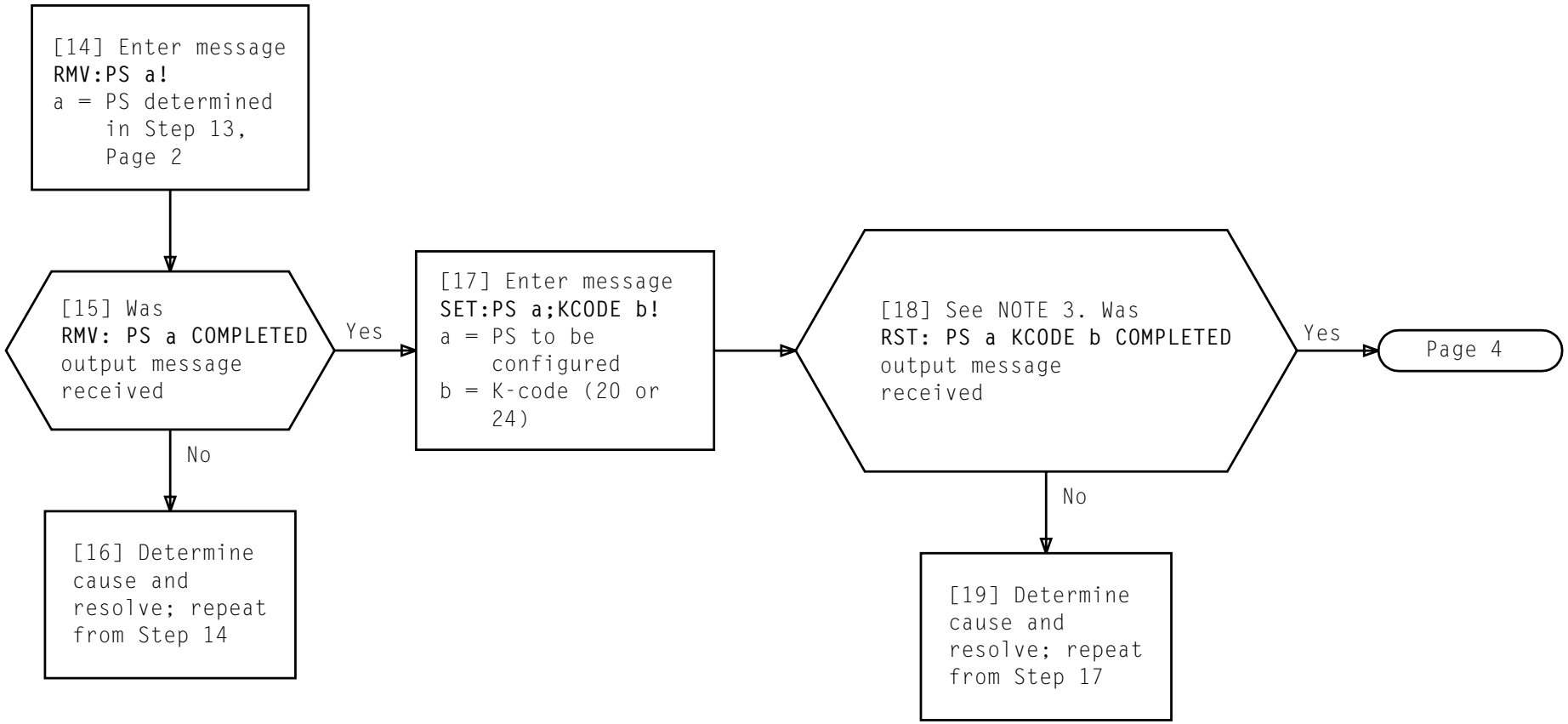
NOTES

1. Program store may need to be removed in order to set PC PS to appropriate K-code
2. CATP bit 15 will be received if standby CC is out-of-service

CONFIGURE PS TO K-CODE

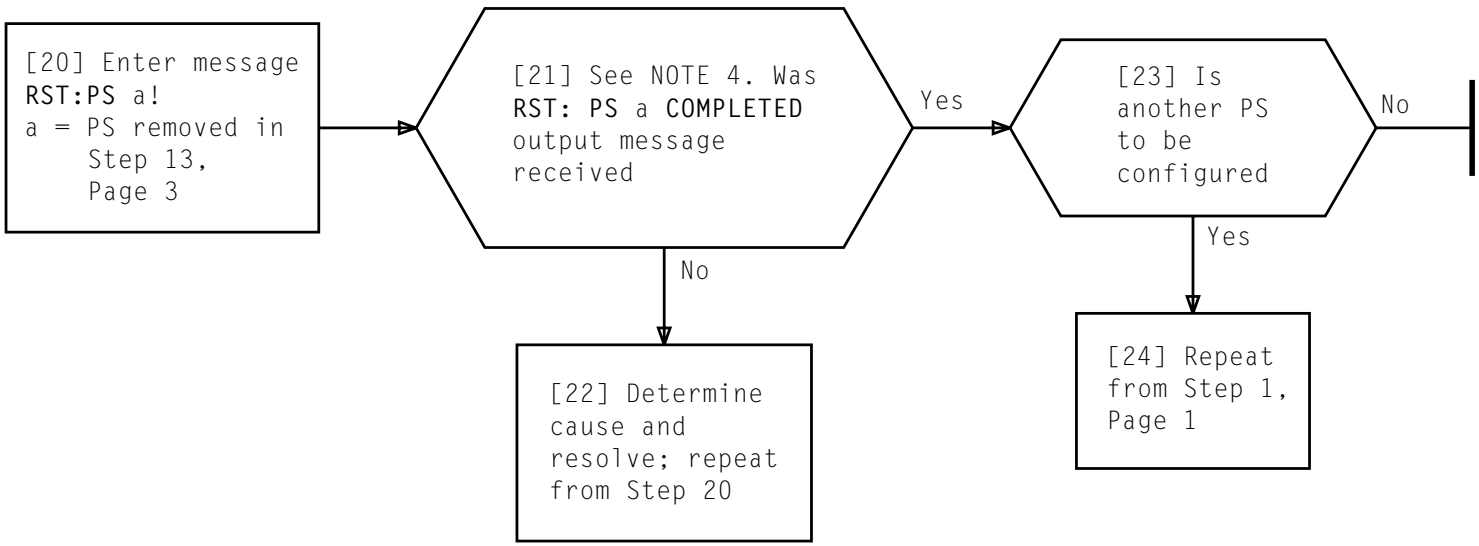


CONFIGURE PS TO K-CODE



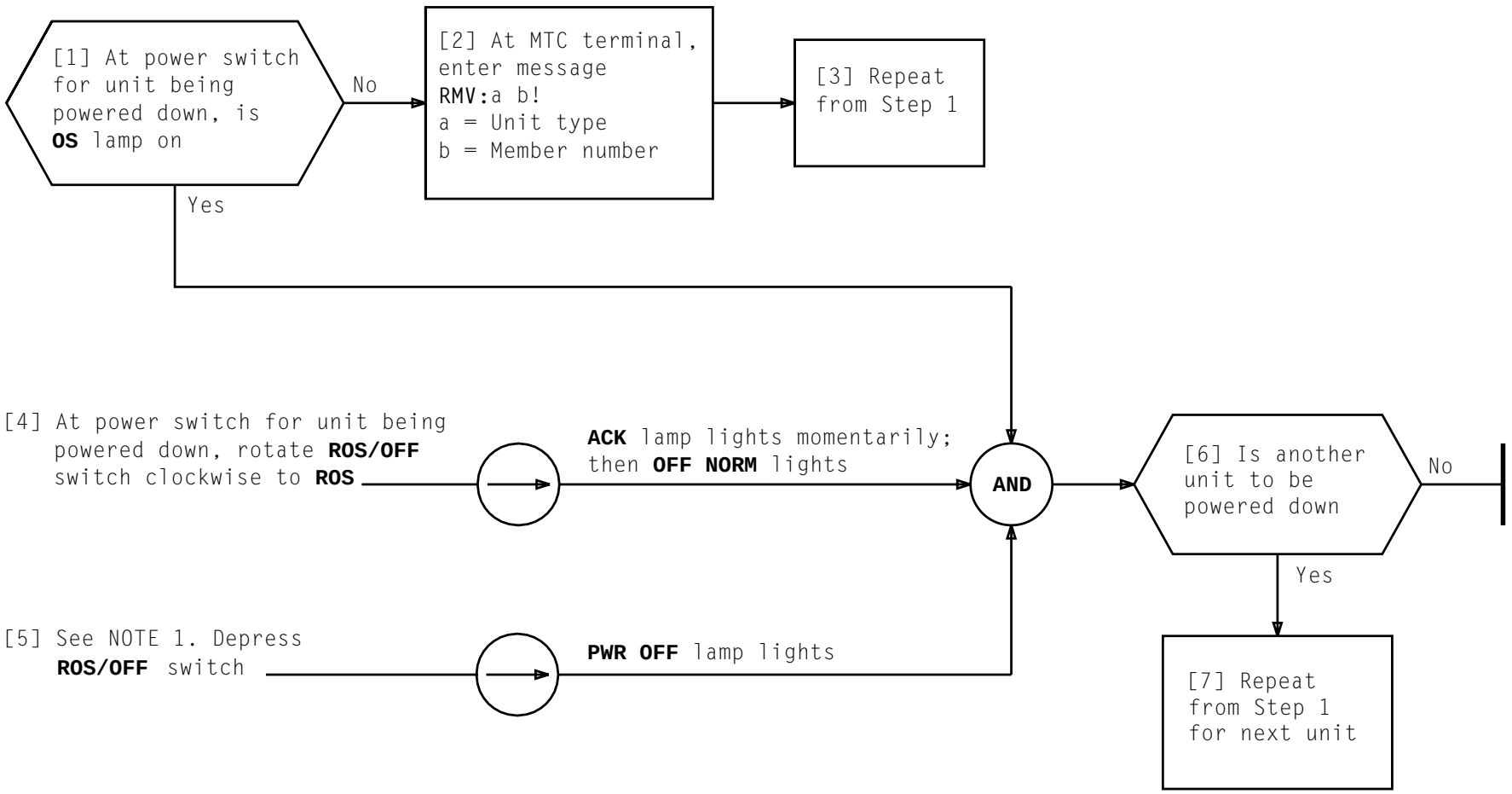
NOTE 3
CATP bit 15 will be received if standby CC is out-of-service

CONFIGURE PS TO K-CODE



NOTE 4
CATP bit 15 will be received if standby CC is out-of-service

CONFIGURE PS TO K-CODE



NOTE 1
If power is being removed from converter in PCDF, switch S2 will be set automatically to **OFF** when power is removed

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REMOVE POWER FROM UNIT USING POWER SWITCH

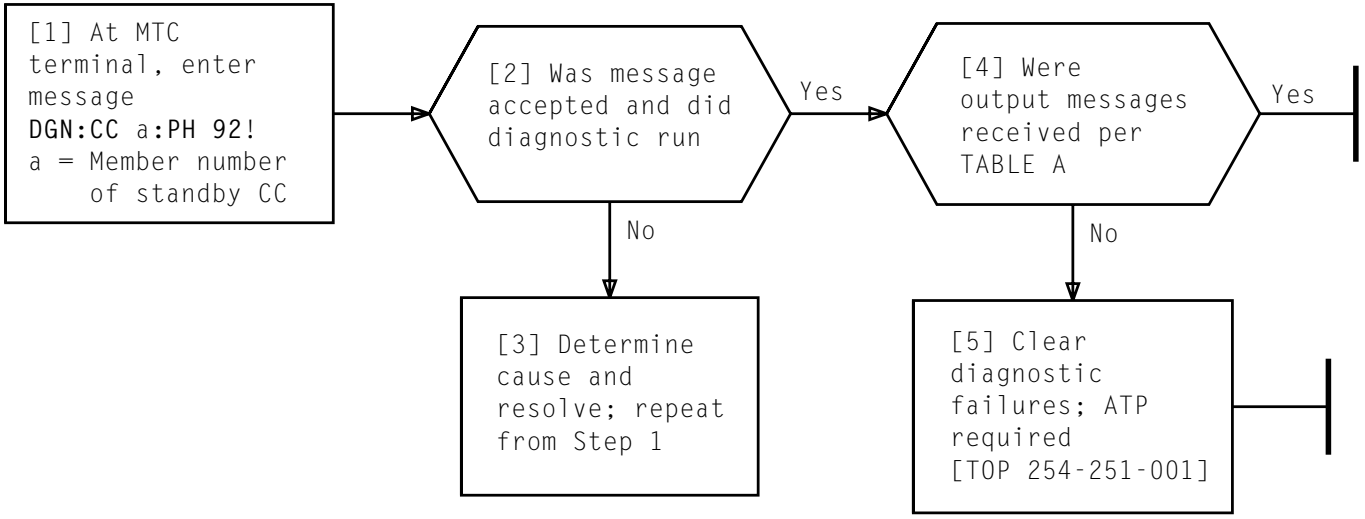
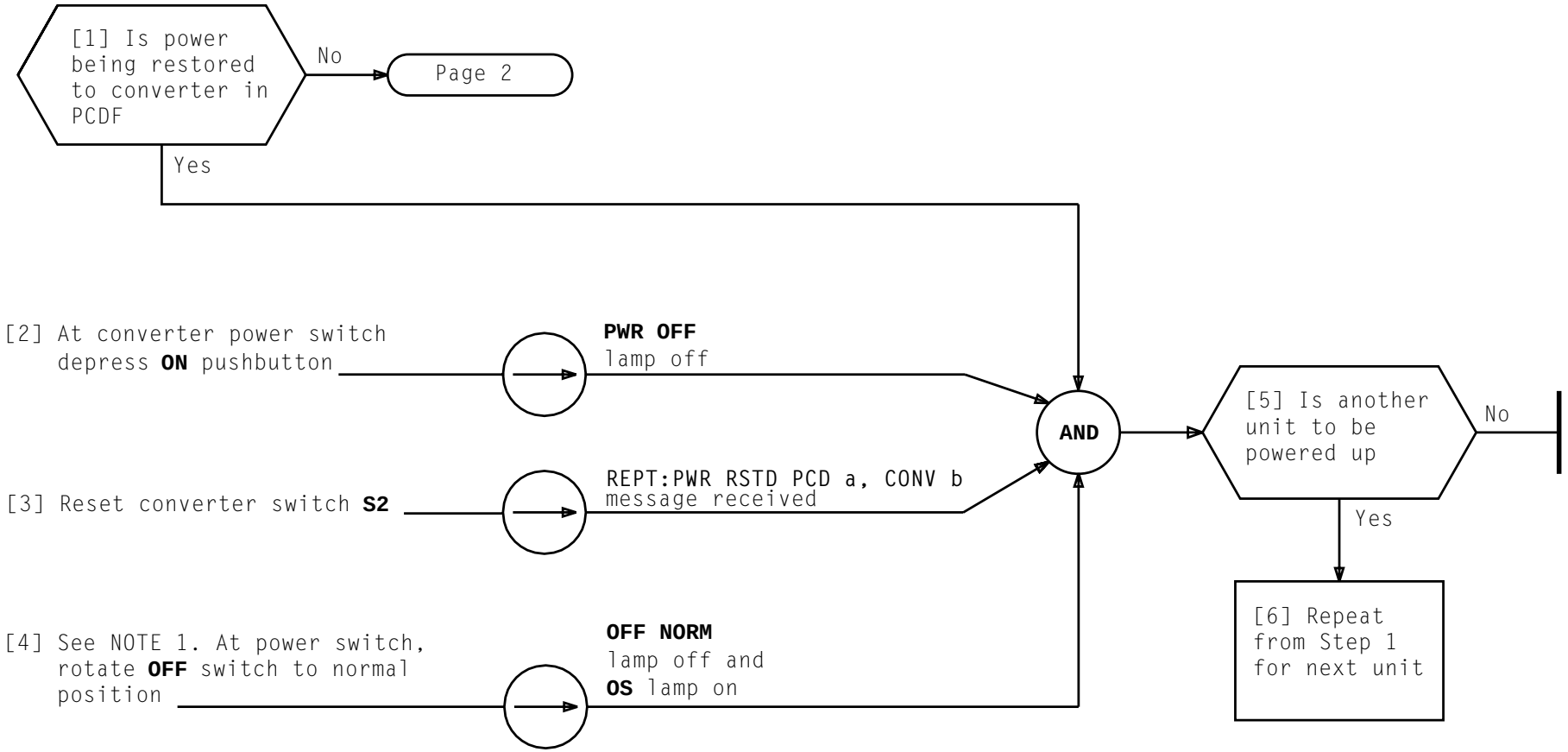


TABLE A

MESSAGE NUMBER	OUTPUT MESSAGES
1	DGN: CC a PH 92 ATP MSG STARTED DGN: CC a COMPLETED ATP MSG COMPL TEST:CC b DFR ATP

a = Member number of standby CC
b = Member number of active CC

DIAGNOSE STANDBY CENTRAL CONTROL — PHASE 92



NOTE 1
Operation of **OFF** switch will cause diagnostic to be run with NTR results

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234-353-001	**DLP**
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RESTORE POWER WITH POWER SWITCH

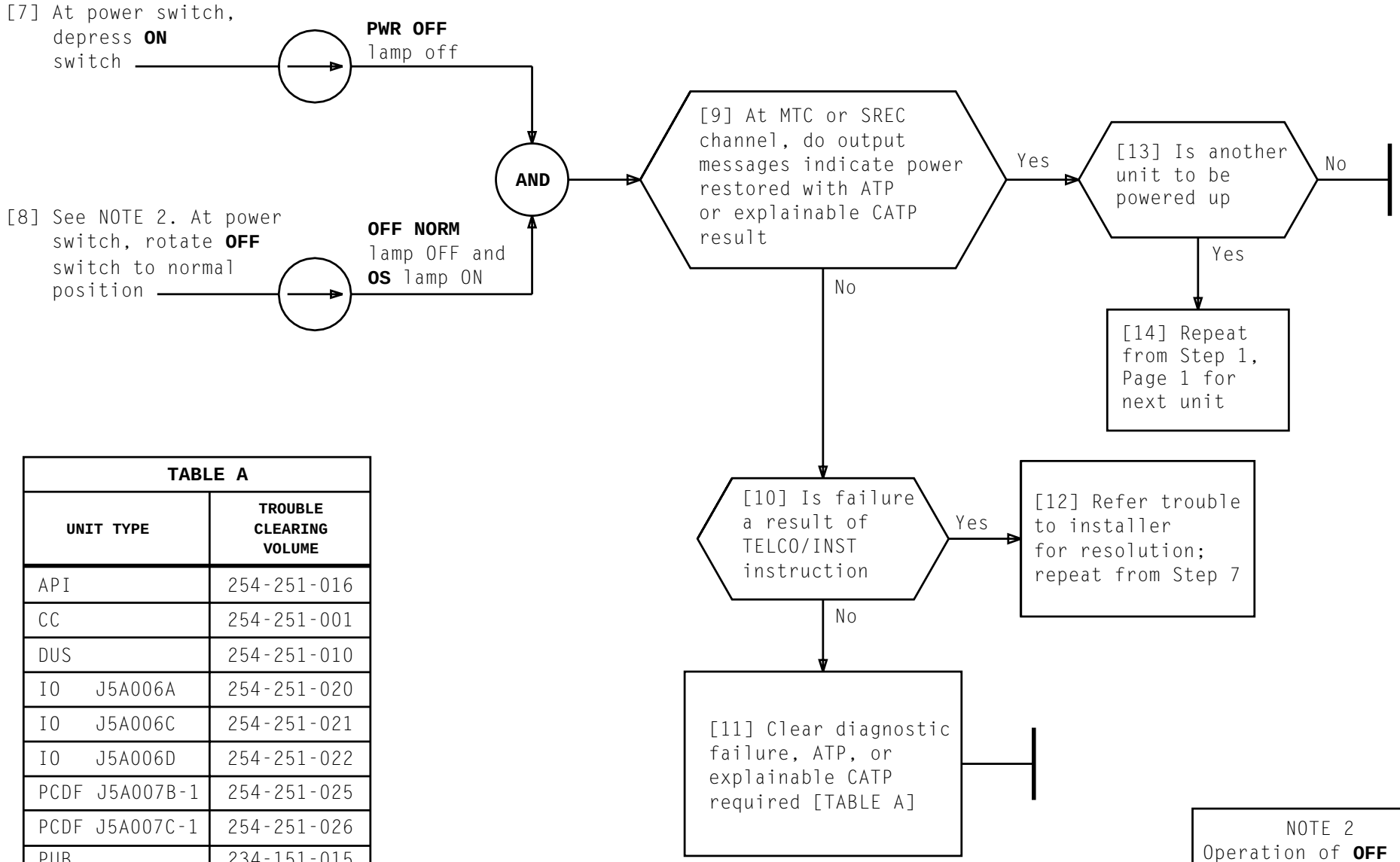


TABLE A	
UNIT TYPE	**TROUBLE CLEARING VOLUME**
API	254-251-016
CC	254-251-001
DUS	254-251-010
IO J5A006A	254-251-020
IO J5A006C	254-251-021
IO J5A006D	254-251-022
PCDF J5A007B-1	254-251-025
PCDF J5A007C-1	254-251-026
PUB	234-151-015
TUC	254-251-010

NOTE 2
Operation of **OFF** switch will cause diagnostic to be run

RESTORE POWER WITH POWER SWITCH

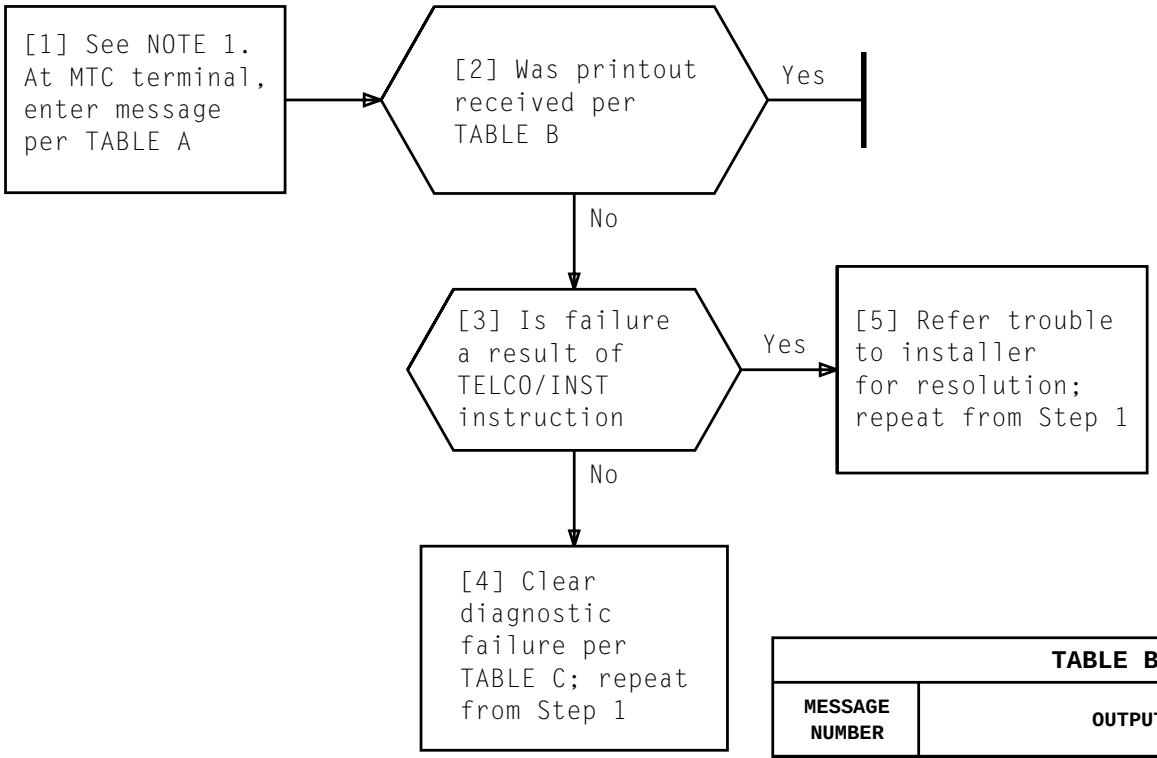


TABLE A

MESSAGE NUMBER	INPUT MESSAGE
1	RST:a b!

a = API, AUB, CC, DUS, IOUS, PUB, or TUC
b = Member number

TABLE B

MESSAGE NUMBER	OUTPUT MESSAGE
1	DGN: a b COMPLETED, c MSG COMPL RST: a b COMPLETED or RST: a b COMPL

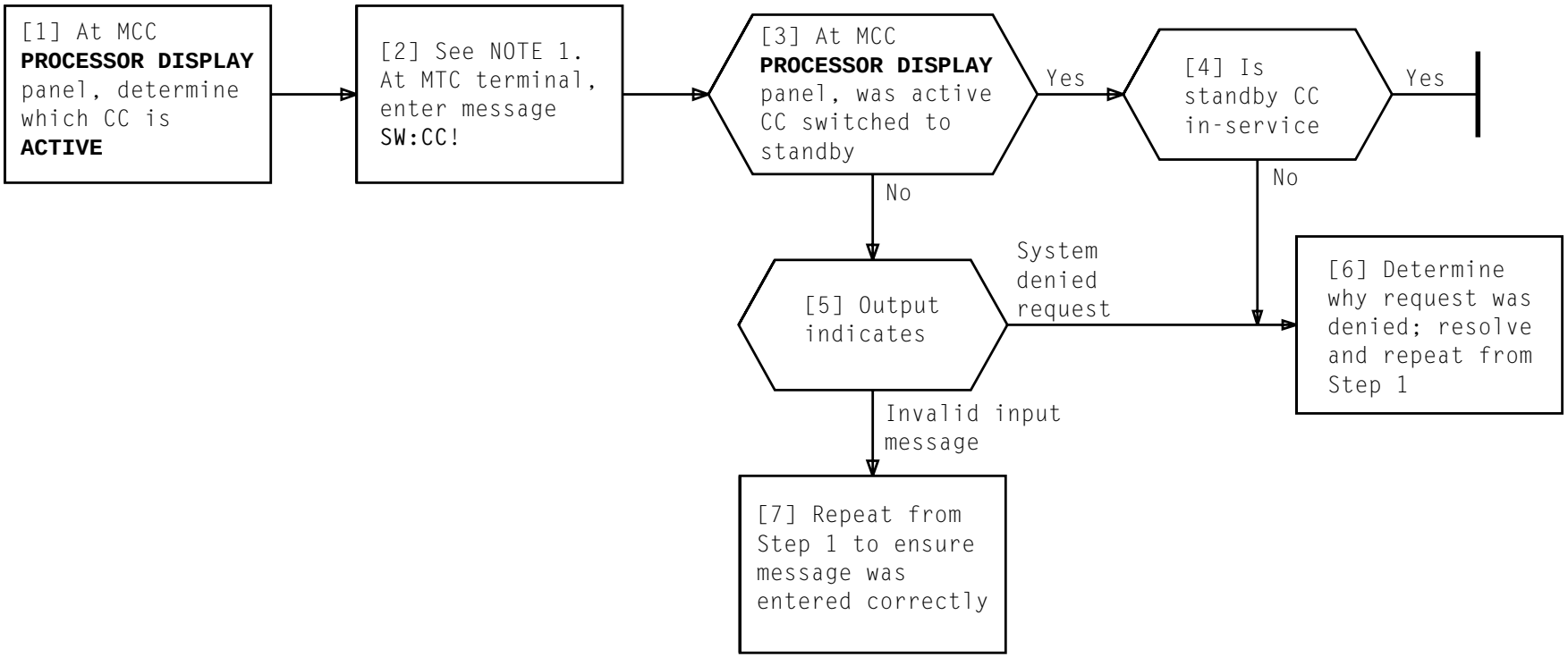
a = API, AUB, CC, IOUS, PUB or TUC
b = Member number
c = ATP or CATP

TABLE C

UNIT TYPE	TROUBLE CLEARING VOLUME
API	254-251-016
AUB	254-251-010
CC	254-251-001
DUS	254-251-010
IOUS (J5A006A)	234-351-020
IOUS (J5A006C)	234-351-021
IOUS (J5A006D)	234-351-022
PUB	234-151-015
TUC	254-251-010

NOTE 1
Restore message will cause diagnostic to be run. Unit will be restored if ATP or CATP

RESTORE API, AUB, CC, DUS, IOUS, PUB, OR TUC TO SERVICE



NOTE 1
B-level interrupt will occur

SWITCH CENTRAL CONTROLS

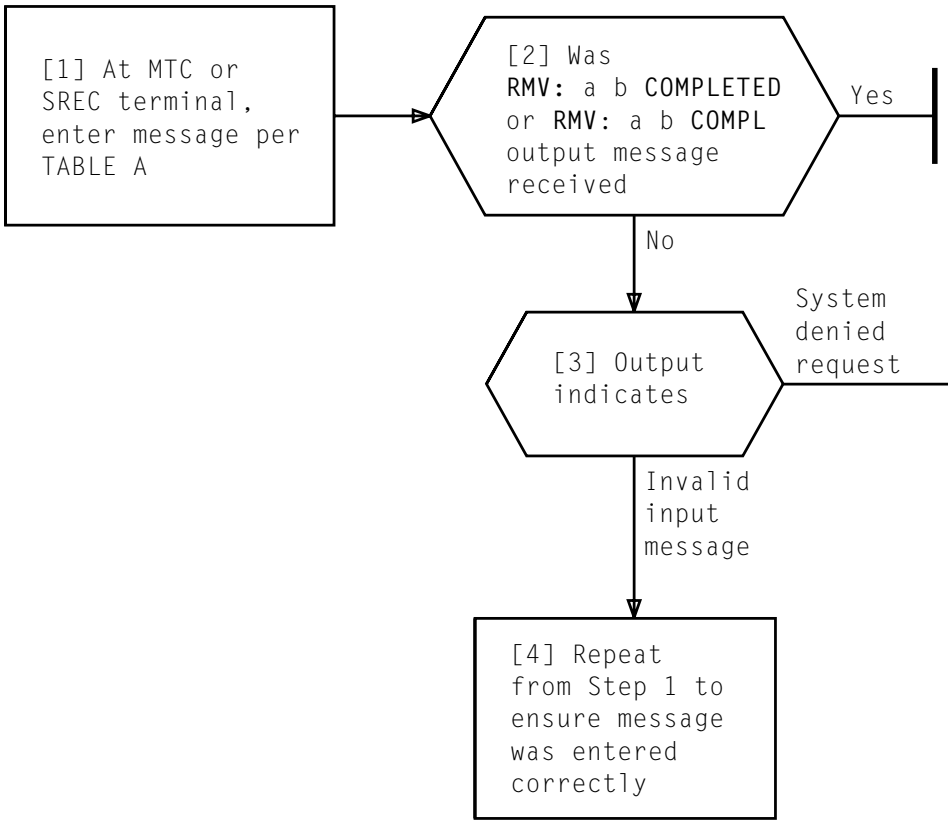


TABLE A

MESSAGE NUMBER	INPUT MESSAGE
1	RMV:a b!

a = API or AUB or CC or DUS or PUB or TUC

b = Member number

REMOVE API, AUB, CC, DUS, PUB, OR TUC FROM SERVICE

1. Get program listings PR-4A510 (PUDGPBGR) and PR-4A512 (PUDGPB02) (See FIG. 1)

2. Using PR-4A512, verify address of ITEM 1 in TABLE A

3. Using PR-4A510, verify addresses of ITEMS 2 through 6 in TABLE A

TABLE A

ITEM	STATEMENT LABEL	ADDRESS
1	STM10600	543
2	PBTS2600	200
3	PBTS2900	207
4	PBTS3600	246
5	PBTS4400	616
6	PBTS13800	1675

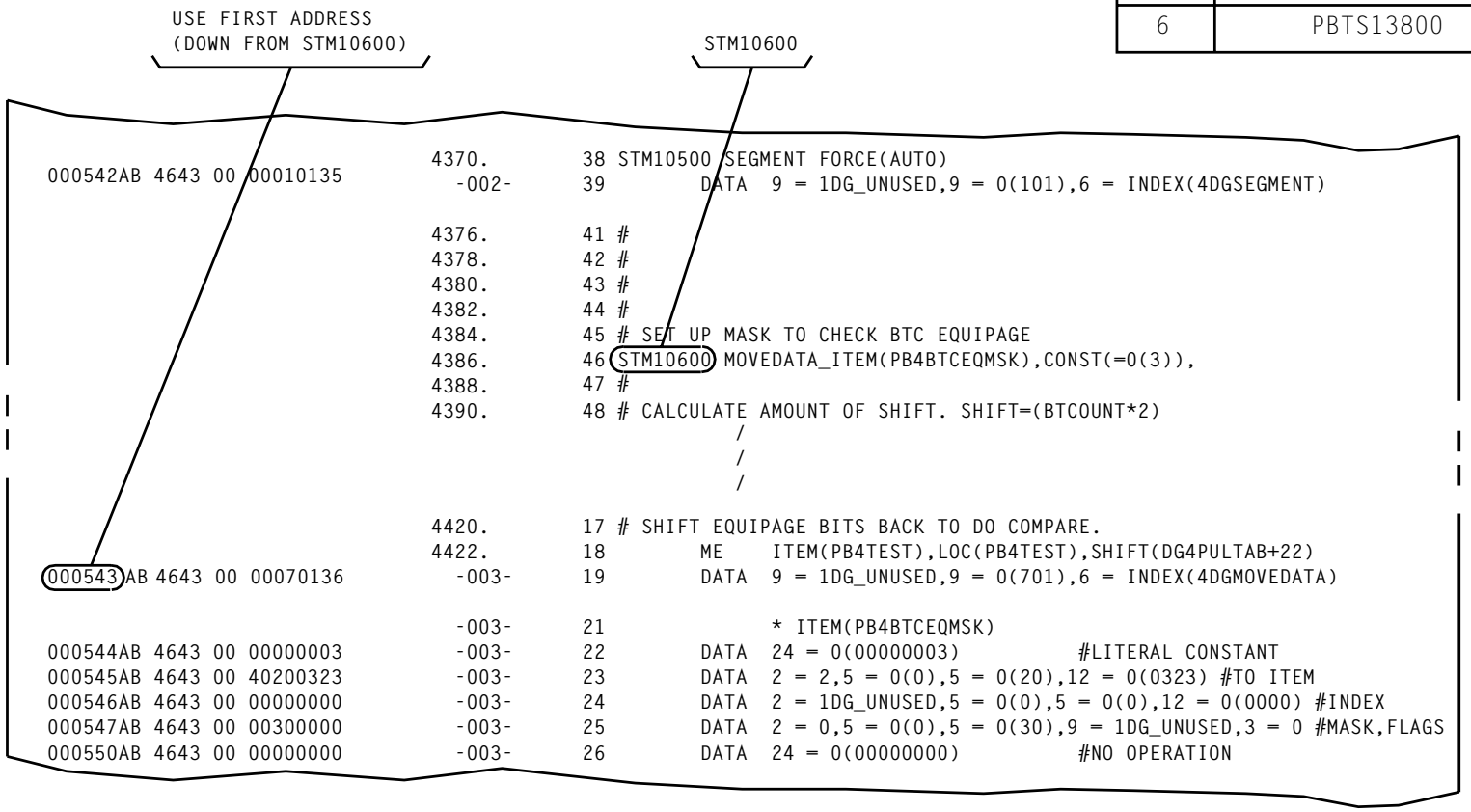


FIG. 1 — Location of STM10600 and Address to Use

STORE INPUT MESSAGES ON 4ESS™ SWITCH INPUT/OUTPUT TERMINAL FOR PUB LOOPING TEST

At SREC or Beltline Terminal:

4. Depress **FORM ENTER** key to **ON**

   CAUTION: The messages must not be entered into system at this time

5. Type input messages per TABLE B

6. Depress **FORM ENTER** key to **OFF**

End of procedure

TABLE B

NUMBER	INPUT MESSAGE	NUMBER	INPUT MESSAGE
1	EX:PUB a;START! a = Bus 0 or 1	7	EX:PUB a:ADR 616-1675! a = Bus 0 or 1
2	EX:PUB a:PH 2,ADR 543! a = Bus 0 or 1	8	OP:MACLI,CLASS MTCE!
3	EX:PUB a;STEP! a = Bus 0 or 1	9	STOP:MACLI,CLASS MTCE,SUBCLASS a! a = CLASS MTCE SUBCLASS number from output message assigned to PUB diagnostic*
4	EX:PUB a:ADR 200-207! a = Bus 0 or 1		*To obtain CLASS MTCE SUBCLASS number, type and send OP:MACLI,CLASS MTCE!. From system response, determine which maintenance subclass number is associated with PUB and use that number for "a" for NUMBER 10 message
5	EX:PUB a! a = Bus 0 or 1		
6	EX:PUB a:ADR 207-246! a = Bus 0 or 1		

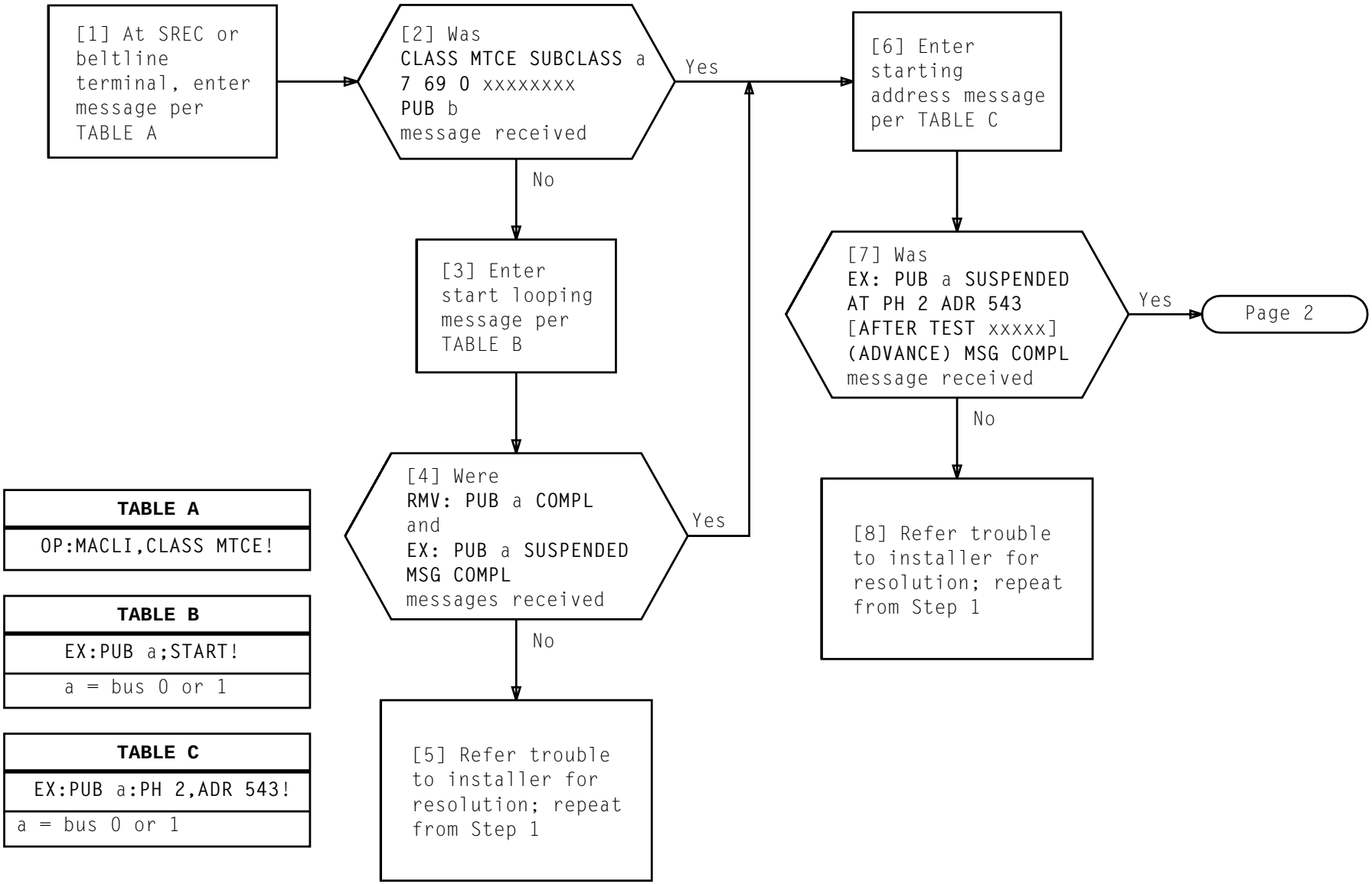


TABLE A
OP:MACLI,CLASS MTCE!

TABLE B
EX:PUB a;START!
a = bus 0 or 1

TABLE C
EX:PUB a:PH 2,ADR 543!
a = bus 0 or 1

ADVANCE PROGRAM AND SET UP LOOP TO OBSERVE BIT ON PU ENABLE ADDRESS AND/OR WRITE AND REPLY BUSES

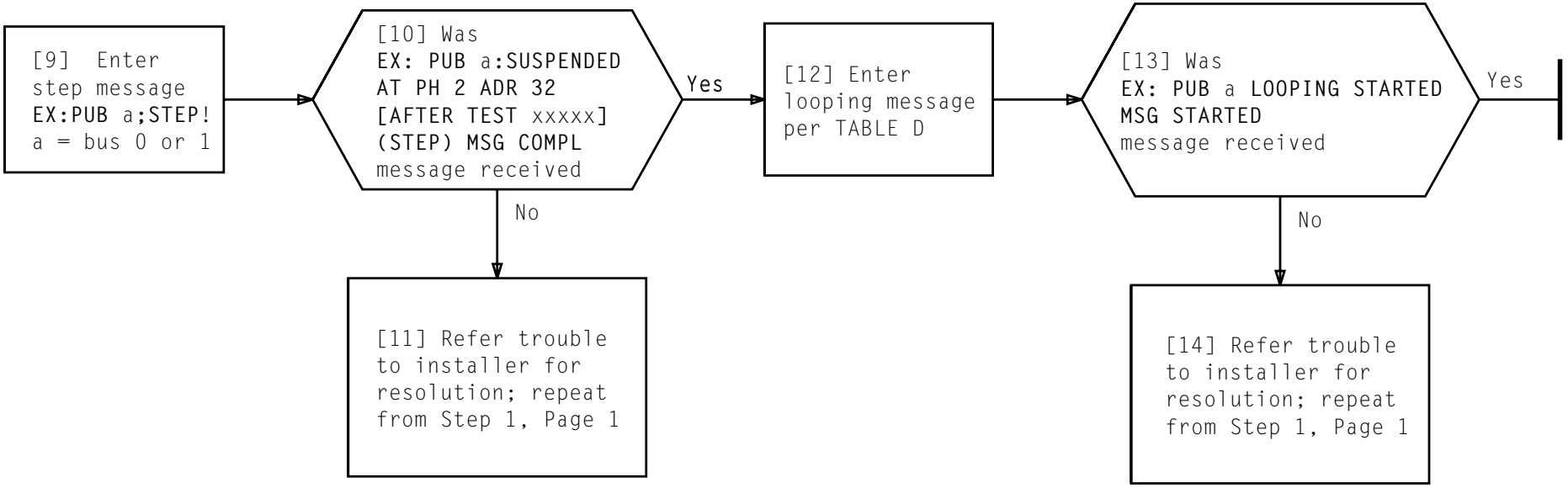
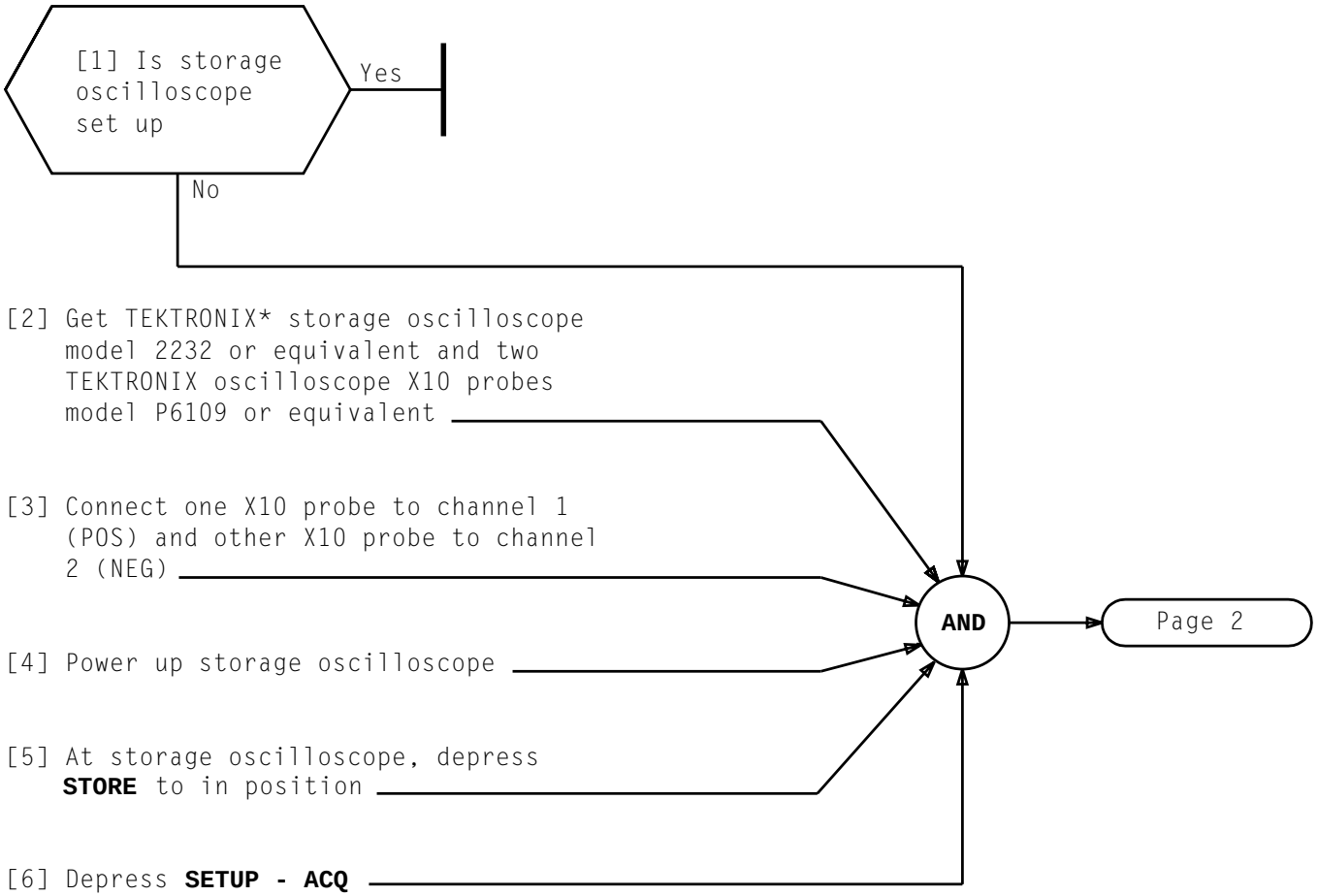


TABLE D

EX:PUB a:ADR b-c!

a = bus 0 or 1
b = 200 for bit 0 PU write and reply bus or 207 for other bits
c = 207 for bit 0 PU write and reply bus or 246 for other bits

ADVANCE PROGRAM AND SET UP LOOP TO OBSERVE BIT ON PU ENABLE ADDRESS AND/OR WRITE AND REPLY BUSES



* Registered trademark of TEKTRONIX, Inc.

SET UP STORAGE OSCILLOSCOPE FOR PUB LOOPING TEST

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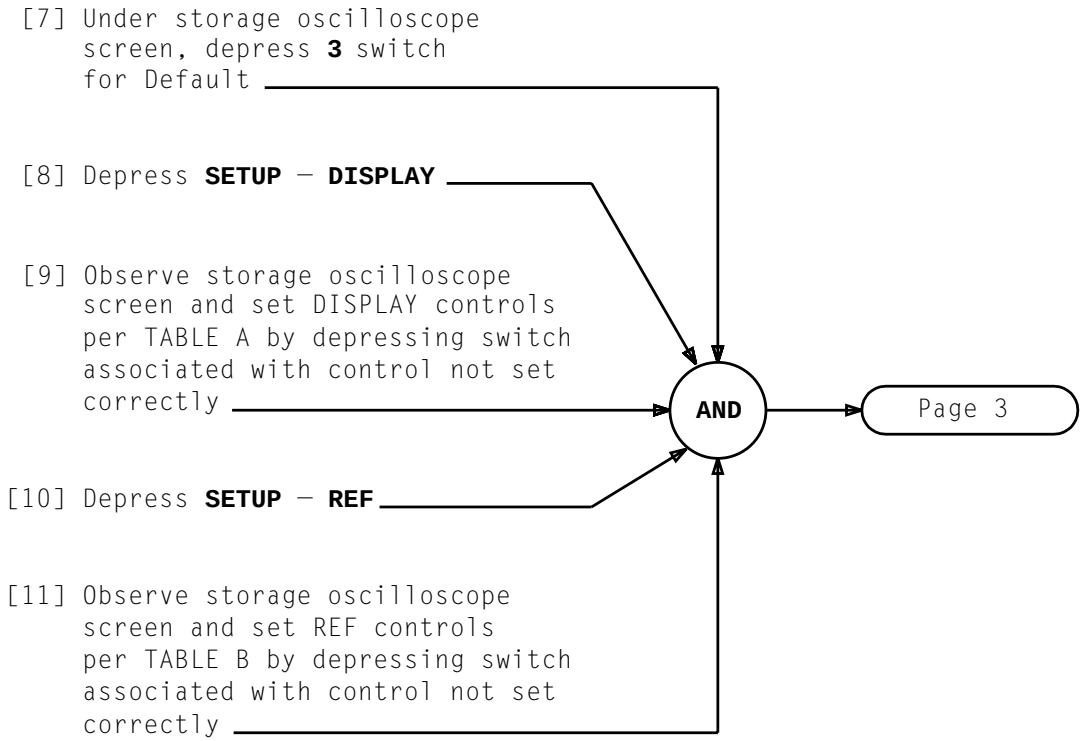


TABLE A

COLUMN	CONTROLS	SWITCH*
1	ΔT	SAVE REF
2	ON	1
3	ON	2

*Switches under display screen are associated with column that they are under

TABLE B

COLUMN	CONTROLS	SWITCH*
1	Format	SAVE REF
2	Ref1	1
3	CH1	2
4	X1	3
5	Vert Gain: 0.2V	4K (for Vert Gain:) and adjust CURSORS to obtain 0.2V

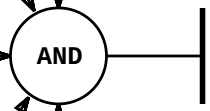
*Switches under display screen are associated with column that they are under

SET UP STORAGE OSCILLOSCOPE FOR PUB LOOPING TEST

[12] Depress **SETUP** – **REF** to return to screen

[13] Determine one location in FIG. 1, Page 5 where bus scoping adapter can be connected

[14] Connect storage scope with bus scoping adapter to connector location determined in Step 13 [see DLP-568 on how to use bus scoping adapter]



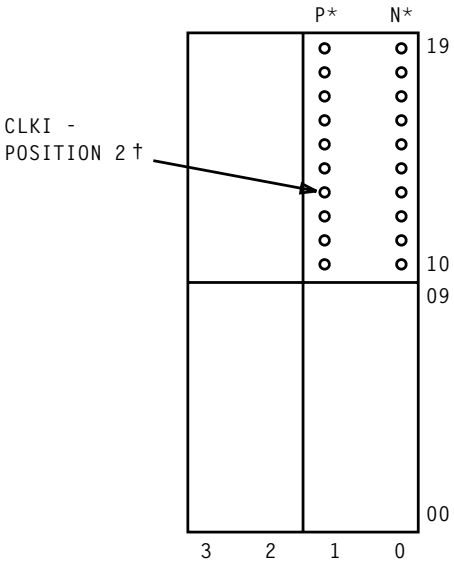
[15] Set bus scoping adapter to position 2

[16] Adjust storage scope per TABLE C, Page 4 for waveform in FIG. 2, Page 5

SET UP STORAGE OSCILLOSCOPE FOR PUB LOOPING TEST

TABLE C
OSCILLOSCOPE CONTROL SETTINGS FOR MODEL 2232

CONTROLS	POSITION
CURSORS	Don't Care
SAVE/CONT	Depress until SAVE is not displayed
STORE	Depress (out)
VAR HOLDOFF	Don't Care
VERTICAL — POSITION (left)	Rotate to 2 o'clock position
VERTICAL — A/B SWP SEP	Don't Care
VERTICAL — POSITION (right)	Rotate to 10 o'clock position
VERTICAL MODE — CH 1 BOTH CH 2	BOTH
VERTICAL MODE — X-Y	Out position
VERTICAL MODE — BW LIMIT	Out position
VERTICAL MODE — ADD ALT CHOP	ADD
VERTICAL — CH 1 VOLTS/DIV	2
VERTICAL — CH 1 VOLTS/DIV — AC GND DC	DC
VERTICAL — INVERT	Depress (in)
VERTICAL — CH 2 VOLTS/DIV	2
VERTICAL — CH 2 VOLTS/DIV — AC GND DC	DC
HORIZONTAL — POSITION	Rotate to 1 o'clock position
HORIZONTAL — MODE	A
HORIZONTAL — A and B SEC/DIV	.2 μs
B TRIGGER — SLOPE	Don't Care
B TRIGGER — LEVEL	Don't Care
A TRIGGER — TV FIELD — NORM	Depress (in)
A TRIGGER — SLOPE	Out position
A TRIGGER — LEVEL	Rotate to 2 o'clock position
A TRIGGER — A & B SOURCE	CH 1
A TRIGGER — A COUPL	NORM
A TRIGGER — A EXT COUPL	Don't Care

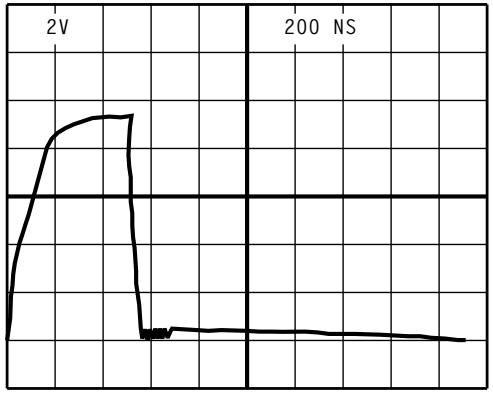


FRAME	
IO	
BUS 0	080-10
BUS 1	080-35
IOP	
BUS 0	080-29
BUS 1	076-29

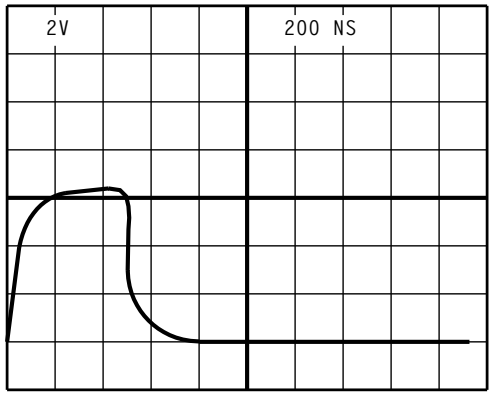
* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

† POSITION 2 IS ON BUS SCOPING ADAPTER

FIG. 1



NORMAL PULSE AT DRIVER



NORMAL PULSE 500 FEET FROM DRIVER

FIG. 2

SET UP STORAGE OSCILLOSCOPE FOR PUB LOOPING TEST

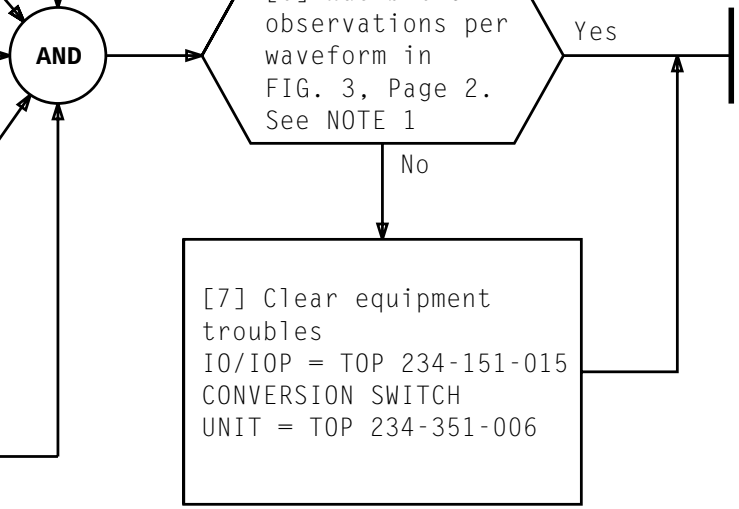
[1] Obtain TEKTRONIX* storage oscilloscope model 2232 or equivalent with two identical X10 (times 10) probes that was set up earlier

[2] Use FIG. 1, Page 2 if scoping prior to inserting Conversion Switch Unit. Use FIG. 2, Page 2 if scoping after inserting Conversion Switch Unit

[3] Locate connector location in FIG., determined in Step 2, for bus to be scoped

[4] Connect storage scope with scoping adapter to connector location determined in Step 2 [See DLP-568 on how to use scope adapter]

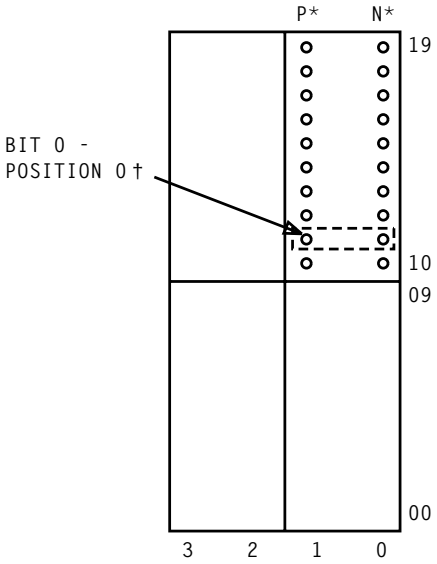
[5] Scope bit 0 in dashed line box, per FIG., determined in Step 2, at connector location in Step 3



NOTE 1
Pulse waveform will vary, depending on distance away from driver. Waveform measurements should be similar to examples shown in FIG. 3, Page 3

* Registered trademark of TEKTRONIX, Inc.

SCOPE PU WRITE BUS BIT 0

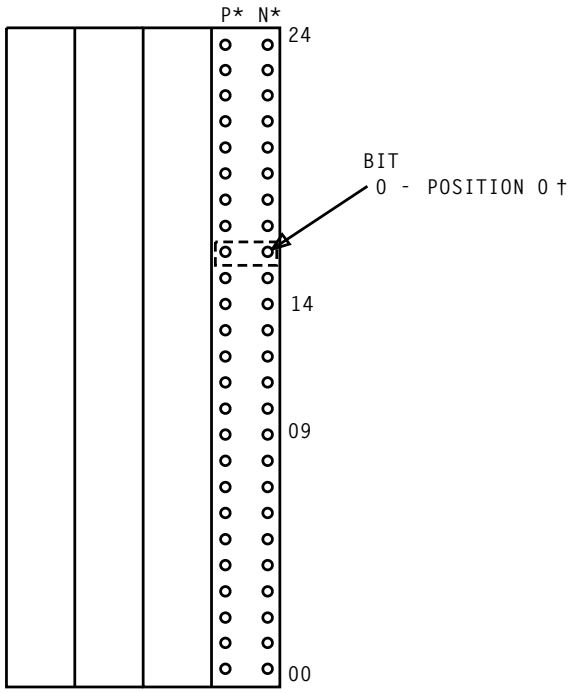


IO	
BUS 0	080-03
BUS 1	080-27
IOP	
BUS 0	080-31
BUS 1	076-31

* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 1



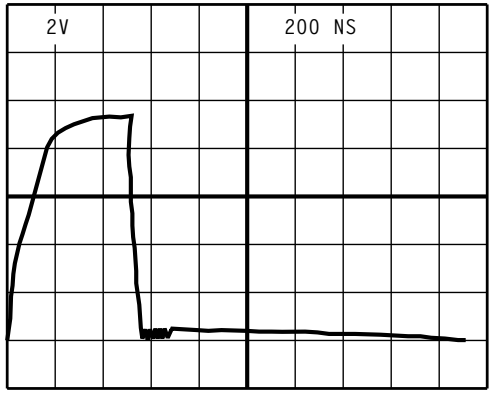
CONVERSION SWITCH UNIT

04-008

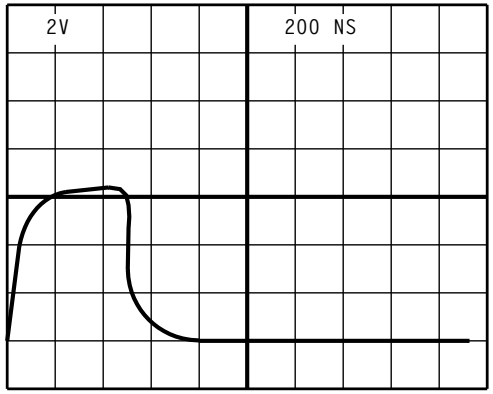
* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

† POSITION 0 IS ON
BUS SCOPING ADAPTER

FIG. 2



NORMAL PULSE AT DRIVER



NORMAL PULSE 500 FEET FROM DRIVER

FIG. 3

SCOPE PU WRITE BUS BITS 0

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[1] Use FIG. 1, Page 2 if scoping prior to inserting Conversion Switch Unit. Use FIG. 2, Page 3 if scoping after inserting Conversion Switch Unit

[2] Locate connector locations in FIG., determined in Step 1, for bus to be scoped

[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [see DLP-568 on how to use scope adapter]

[4] Scope bits 1 to 35 in dashed line box, per FIG., determined in Step 1, at connector locations in Step 2. Observe oscilloscope for FIG. 3, Page 4, waveform. See NOTE 1

AND

PU write bus bits 1 to 35 scoped

[5] Were all observations per waveform in FIG. 3, Page 4. See NOTE 1

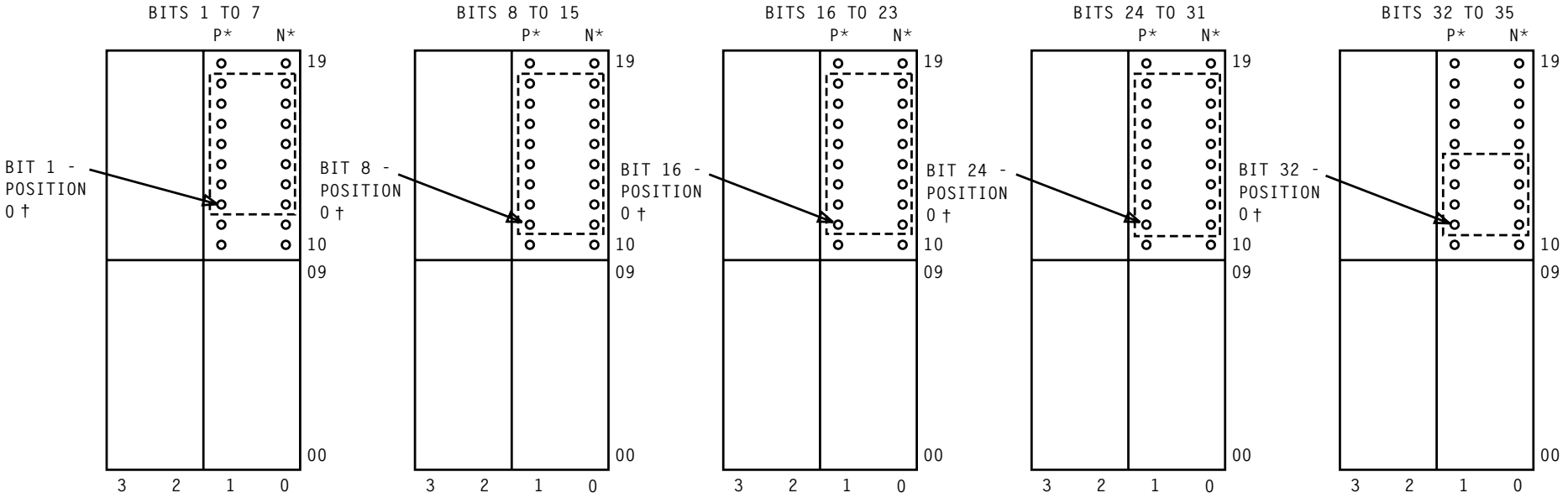
Yes

No

[6] Clear equipment trouble IO/IOP = TOP 234-151-015 CONVERSION SWITCH UNIT = TOP 234-351-006

NOTE 1
Pulse waveform will vary, depending on distance away from driver. Waveform measurements should be similar to examples shown in FIG. 3, Page 4

SCOPE PU WRITE BUS BITS 1 TO 35



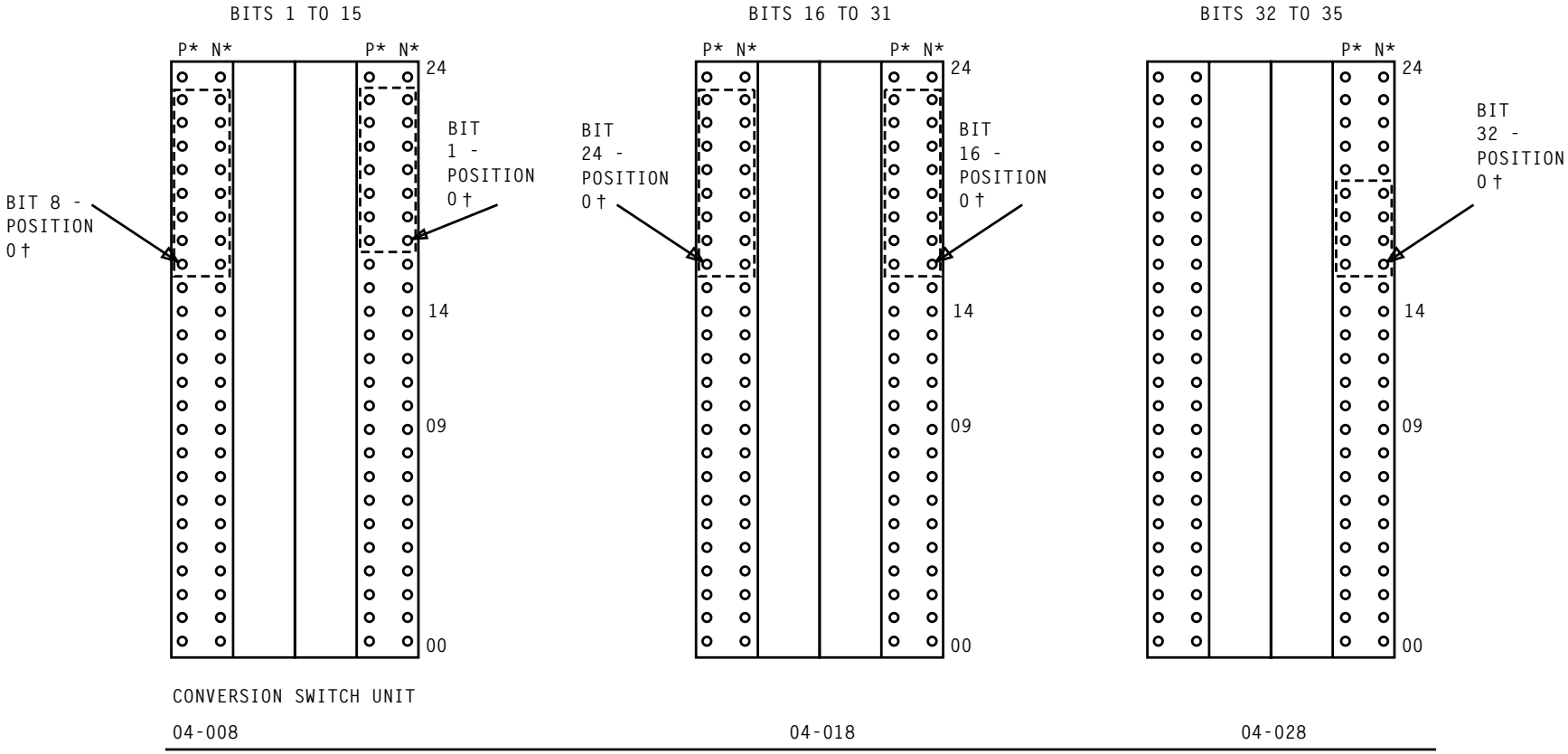
FRAME	BITS 1 TO 7	BITS 8 TO 15	BITS 16 TO 23	BITS 24 TO 31	BITS 32 TO 35
IO					
BUS 0	080-03	080-04	080-05	080-06	080-07
BUS 1	080-27	080-28	080-29	080-31	080-32
IOP					
BUS 0	080-31	080-33	080-34	080-36	080-37
BUS 1	076-31	076-33	076-34	076-36	076-37

* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD

† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 1

SCOPE PU WRITE BUS BITS 1 TO 35

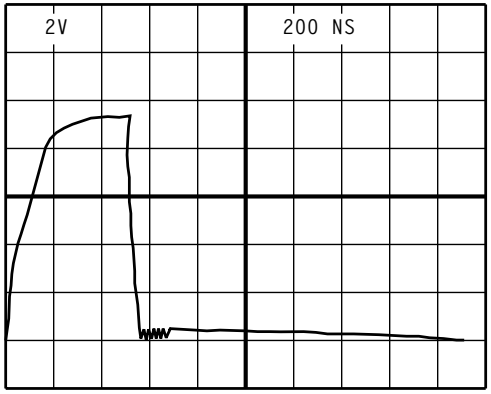


* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

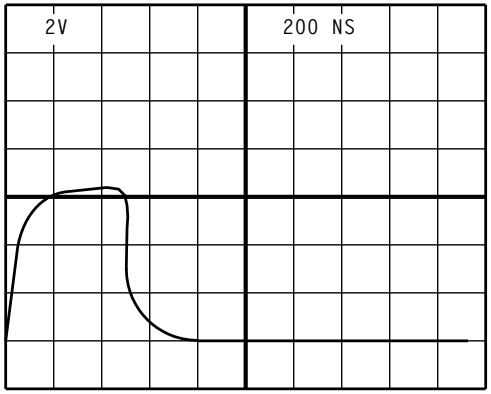
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 2

SCOPE PU WRITE BUS BITS 1 TO 35



NORMAL PULSE AT DRIVER



NORMAL PULSE 500 FEET FROM DRIVER

FIG. 3

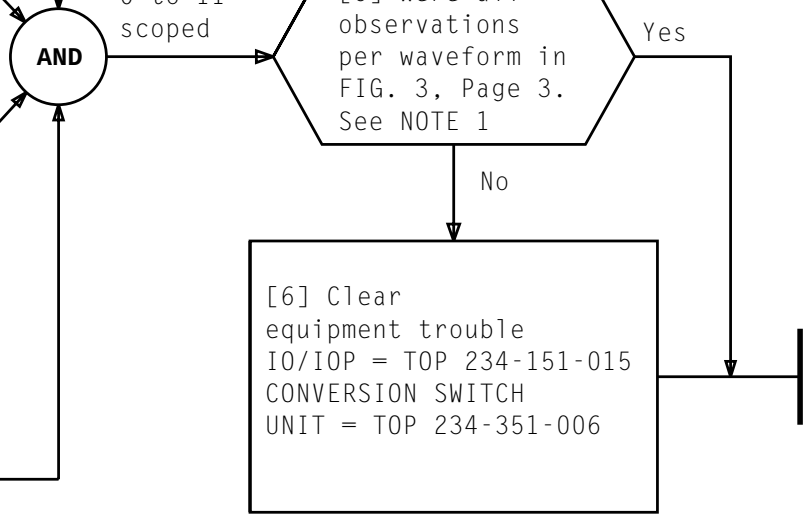
SCOPE PU WRITE BUS BITS 1 TO 35

[1] Use FIG. 1, Page 2 if scoping prior to inserting Conversion Switch Unit. Use FIG. 2, Page 3 if scoping after inserting Conversion Switch Unit

[2] Locate connector locations in FIG., determined in Step 1, for bus to be scoped

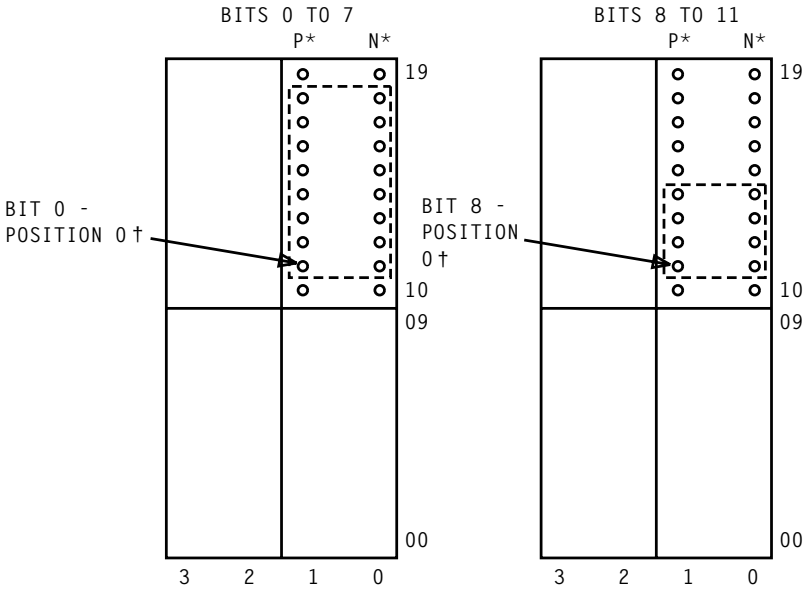
[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [see DLP-568 on how to use scope adapter]

[4] Scope bits 0 to 11 in each dashed line box, per FIG., determined in Step 1, at connector locations in Step 2. Observe oscilloscope waveform [FIG. 3, Page 3]. See NOTE 1



NOTE 1
Pulse waveform will vary, depending on distance away from driver. Waveform measurements should be similar to examples shown in FIG. 3, Page 3

SCOPE PU ENABLE ADDRESS BUS BITS 0 TO 11



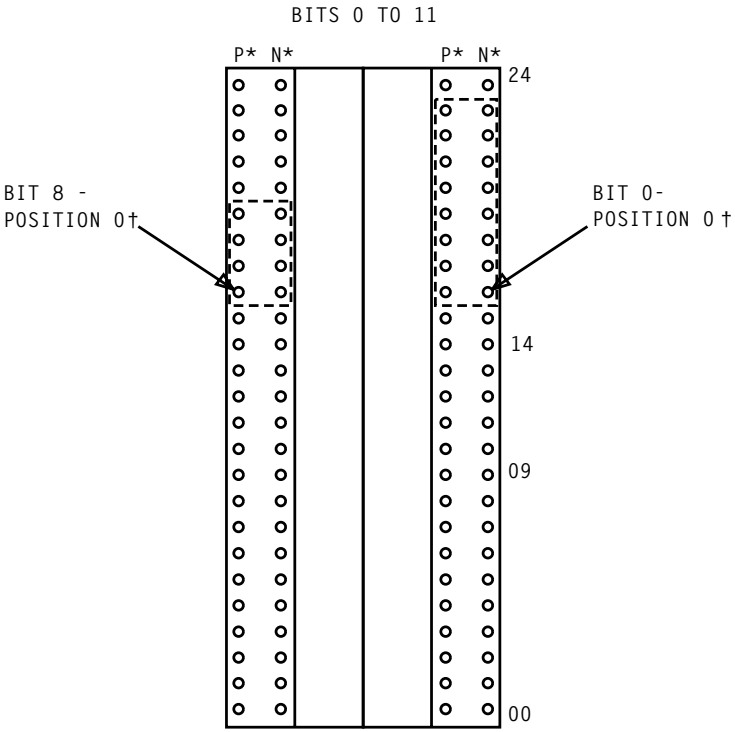
FRAME	BITS 0 TO 7	BITS 8 TO 11
IO		
BUS 0	080-08	080-09
BUS 1	080-33	080-34
IOP		
BUS 0	080-24	080-27
BUS 1	076-24	076-27

* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD

† POSITION 0 IS ON BUS SCOPING ADAPTER

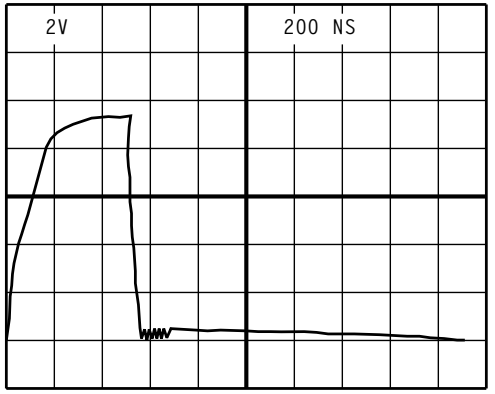
FIG. 1

SCOPE PU ENABLE ADDRESS BUS BITS 0 TO 11

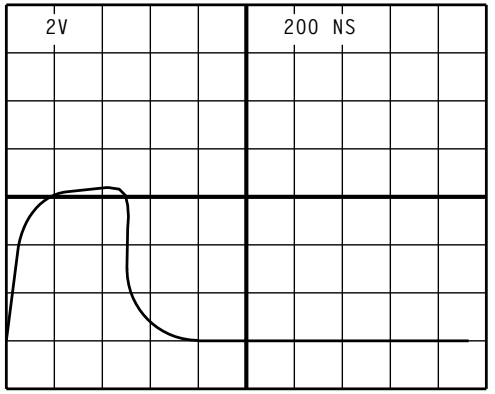


* P FOR POSITIVE LEAD AND
  N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 2



NORMAL PULSE AT DRIVER



NORMAL PULSE 500 FEET FROM DRIVER

FIG. 3

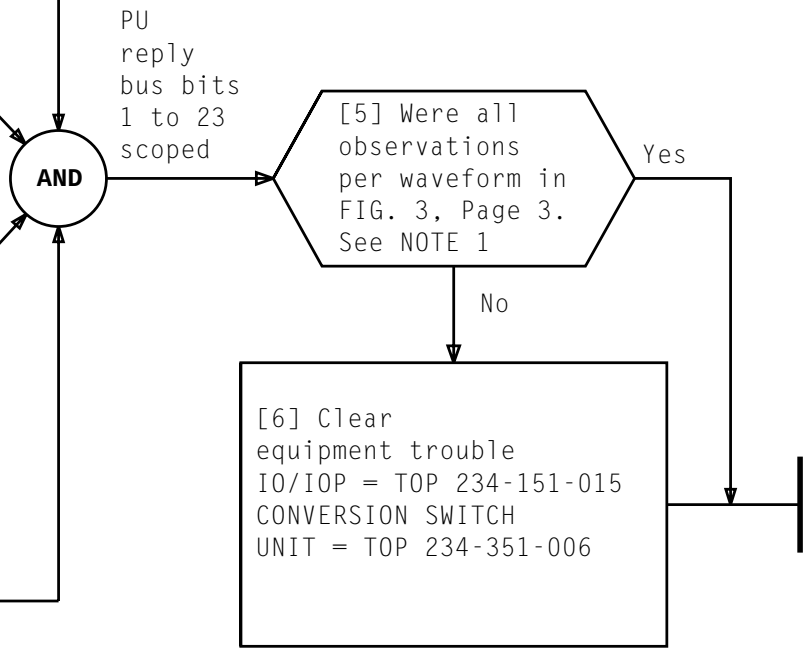
SCOPE PU ENABLE ADDRESS BUS BITS 0 TO 11

[1] Use FIG. 1, Page 2 if scoping prior to inserting Conversion Switch Unit. Use FIG. 2, Page 3 if scoping after inserting Conversion Switch Unit

[2] Locate connector locations in FIG., determined in Step 1, for bus to be scoped

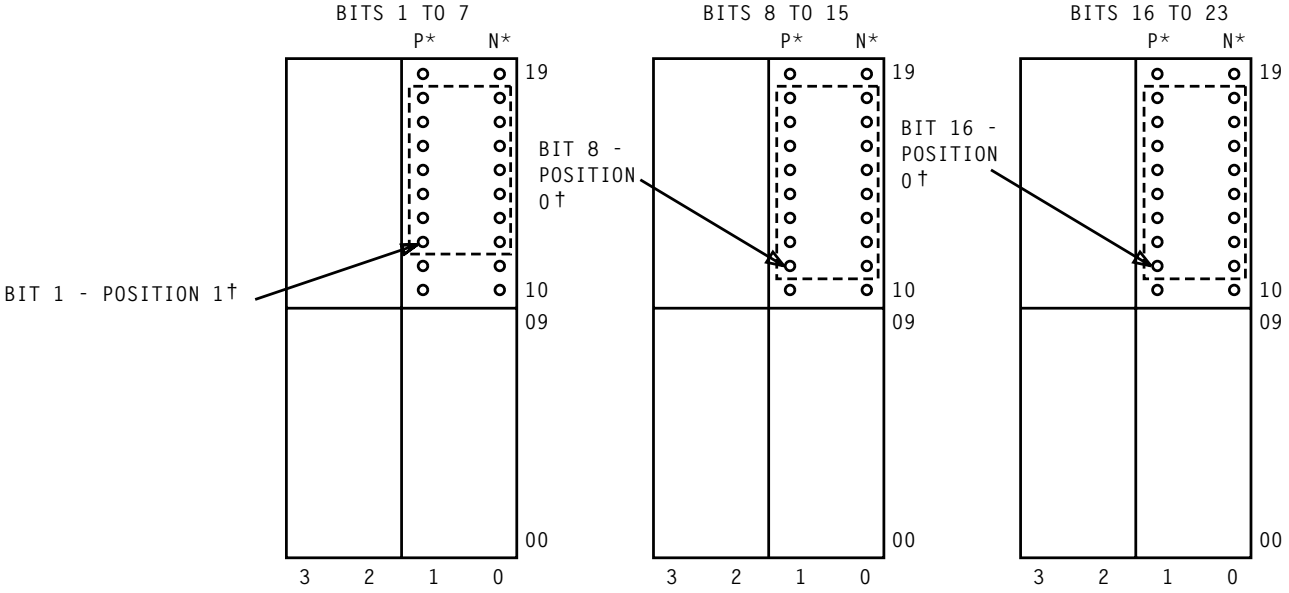
[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [see DLP-568 on how to use scope adapter]

[4] Scope bits 1 to 23 in each dashed line box, per FIG., determined in Step 1, at connector locations in Step 2. Observe oscilloscope waveform [FIG. 3, Page 3]. See NOTE 1



NOTE 1
Pulse waveform will vary, depending on distance away from driver. Waveform measurements should be similar to examples shown in FIG. 3, Page 3

SCOPE PU REPLY BUS BITS 1 TO 23

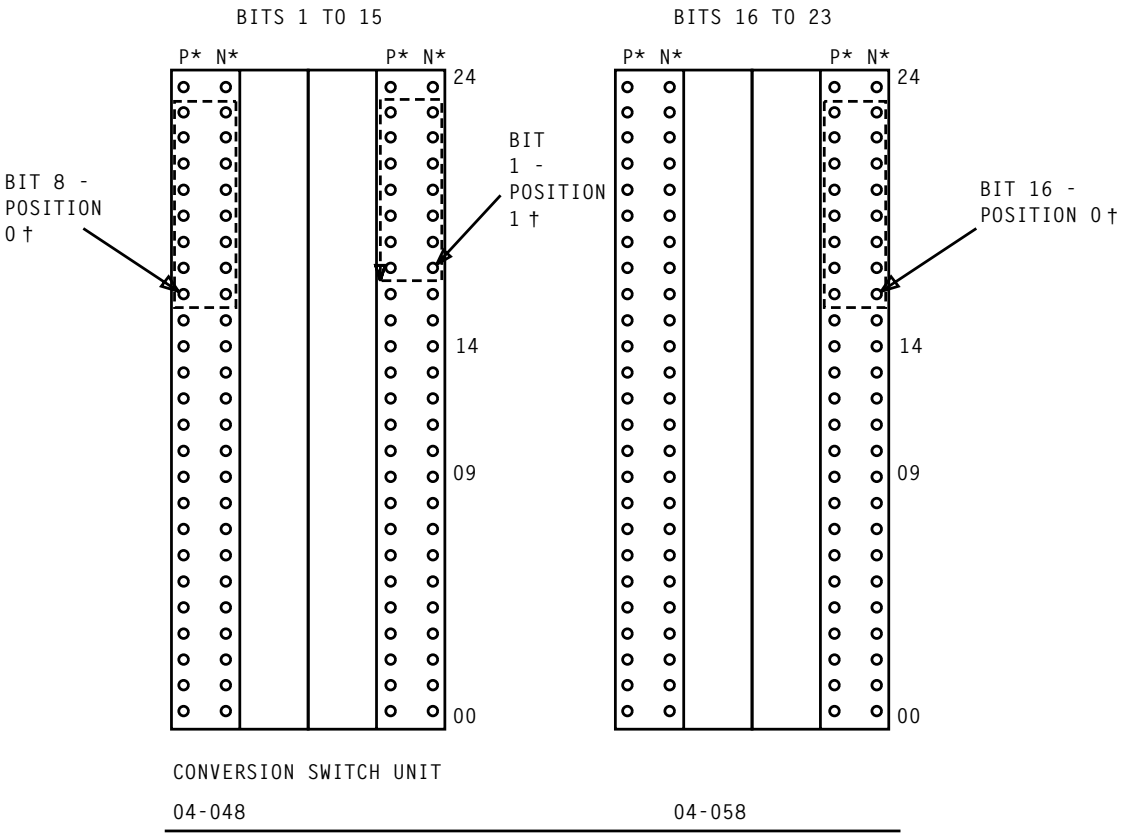


FRAME	BITS 0 TO 7	BITS 8 TO 15	BITS 16 TO 23
IO			
BUS 0	080-11	080-12	080-13
BUS 1	080-36	080-37	080-38
IOP			
BUS 0	080-40	080-41	080-42
BUS 1	076-40	076-41	076-42

* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD
† POSITION GIVEN IS ON BUS SCOPING ADAPTER

FIG. 1

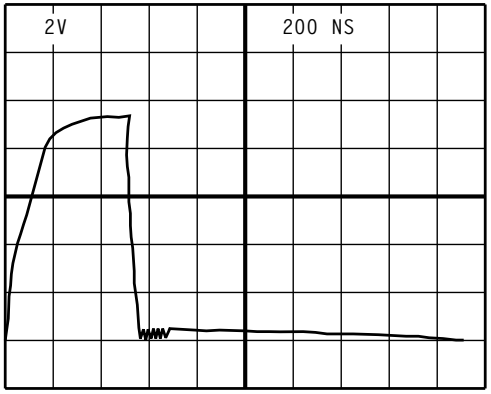
SCOPE PU REPLY BUS BITS 1 TO 23



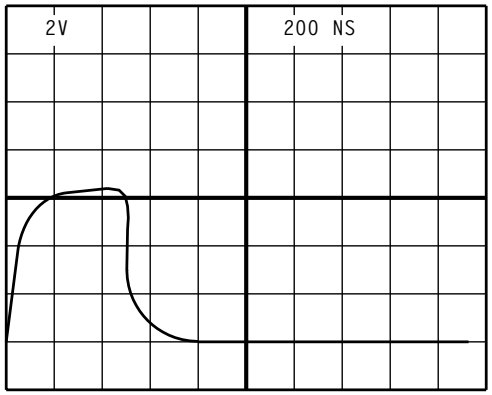
* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

† POSITION GIVEN IS ON BUS SCOPING ADAPTER

FIG. 2



NORMAL PULSE AT DRIVER



NORMAL PULSE 500 FEET FROM DRIVER

FIG. 3

SCOPE PU REPLY BUS BITS 1 TO 23

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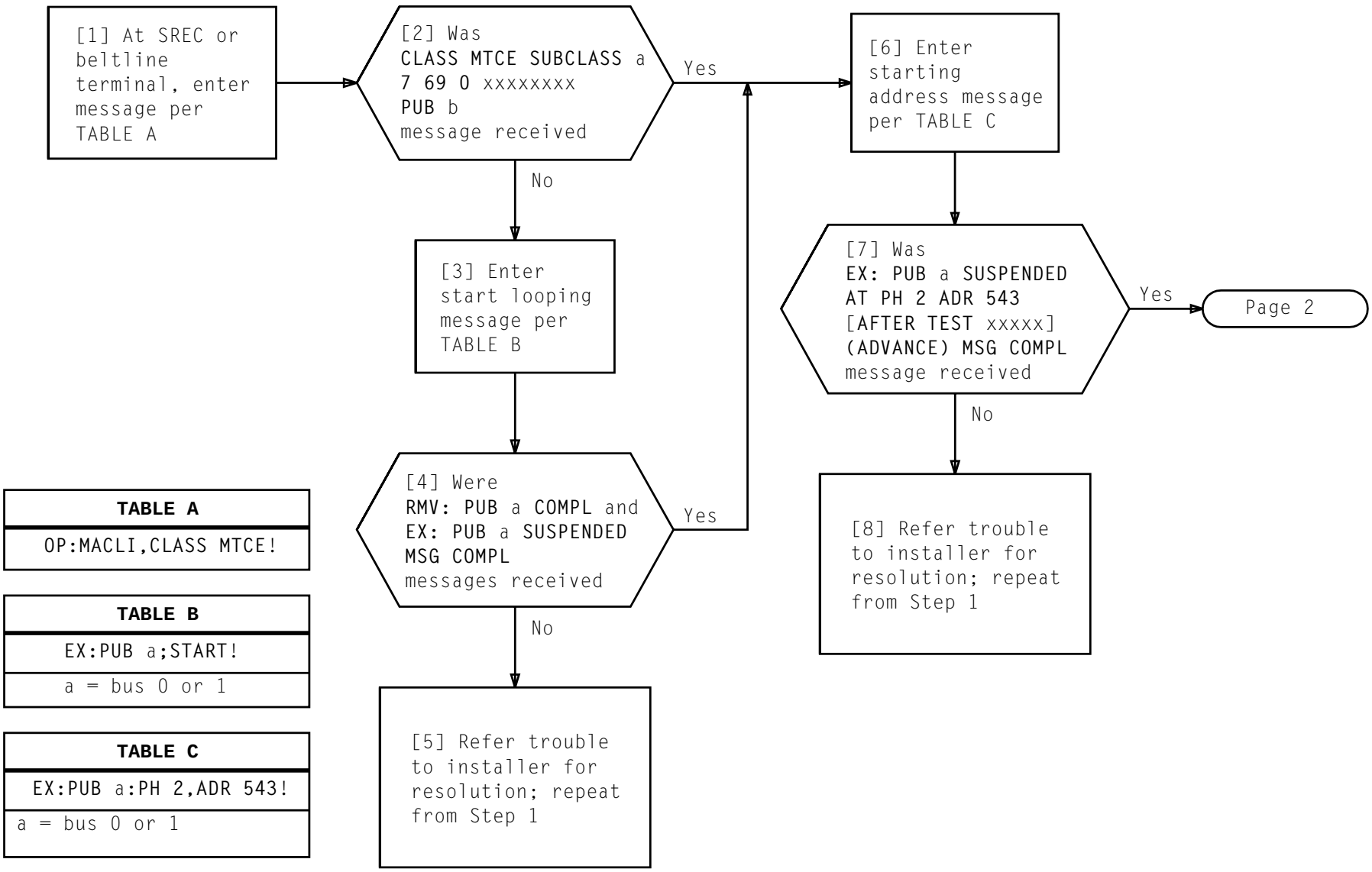


TABLE A
OP:MACLI,CLASS MTCE!

TABLE B
EX:PUB a;START!
a = bus 0 or 1

TABLE C
EX:PUB a:PH 2,ADR 543!
a = bus 0 or 1

ADVANCE PROGRAM AND SET UP LOOP TO OBSERVE PU CONTROL BUS AND MISCELLANEOUS BUS BITS

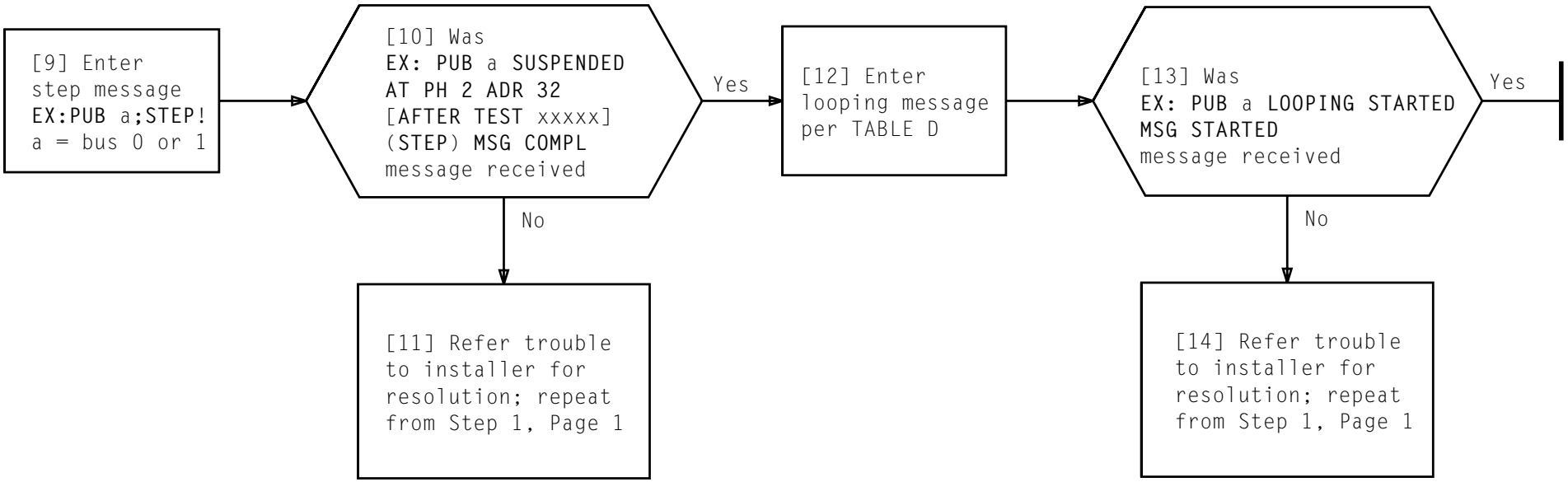
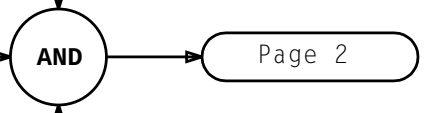


TABLE D
EX:PUB a:ADR 616-1675!
a = bus 0 or 1

ADVANCE PROGRAM AND SET UP LOOP TO OBSERVE PU CONTROL BUS AND MISCELLANEOUS BUS BITS

[1] Use FIG. 1, Page 3 if scoping prior to inserting Conversion Switch Unit. Use FIG. 2, Page 4 if scoping after inserting Conversion Switch Unit

[2] Locate connector locations in FIG., determined in Step 1, for bus branch to be scoped



[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [see DLP-568 on how to use scope adapter]

SCOPE PU CONTROL BUS AND MISCELLANEOUS BUS BITS

[4] Scope P- and N-pins in each dashed line box of connectors 2 through 4, per FIG., determined in Step 1, Page 1, at connector locations in Step 2. Observe oscilloscope waveform [FIG. 3, Page 5]. See NOTE 1

[5] Scope P- and N-pins in dashed line box of connector 1, per FIG., determined in Step 1, Page 1, at connector location in Step 2. Observe oscilloscope waveform [FIG. 3, Page 5]. See NOTE 1. If problem occurs in seeing bit, use external trigger on scope and connect to trigger bit associated with faulty bit. See TABLE B and FIG., determined in Step 1, Page 1

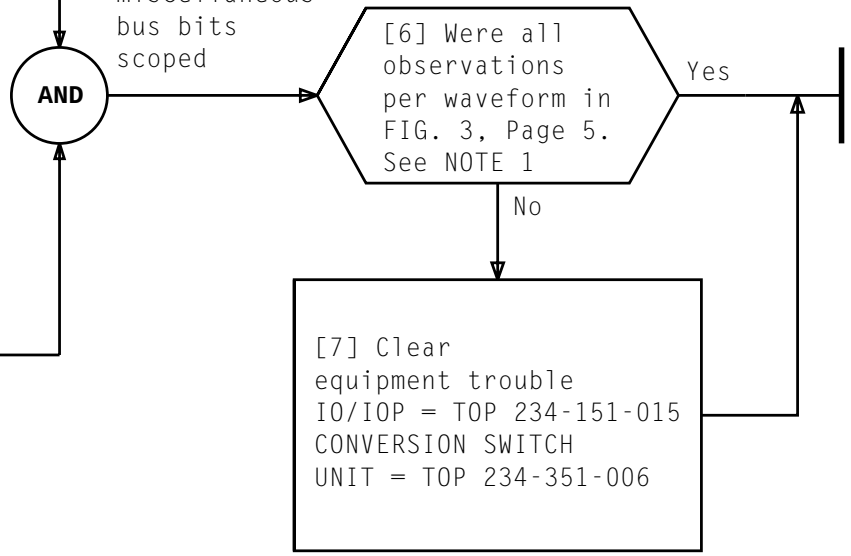
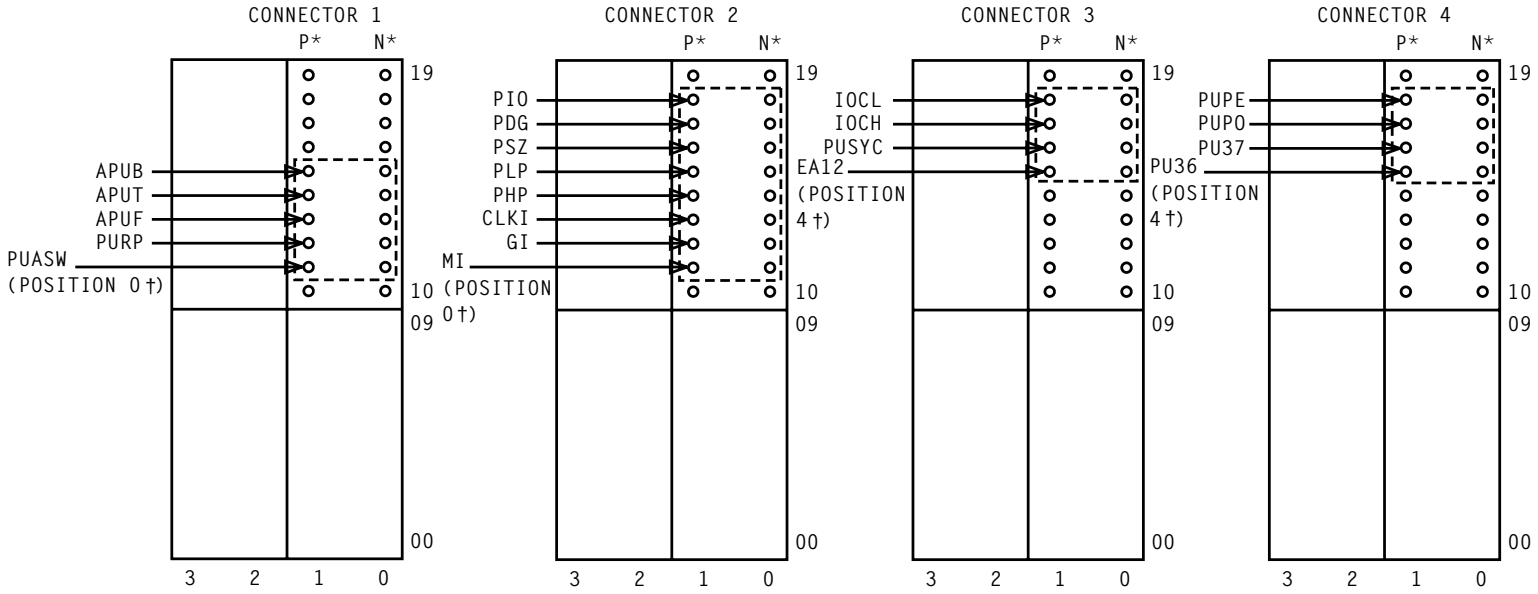


TABLE B	
FAULTY BIT	TRIGGER BIT
APUB	PSZ
APUF	CLKI
APUT	PLP
PUASW	MI
PURP	GI

NOTE 1
Pulse waveform will vary, depending on distance away from driver. Waveform measurements should be similar to examples shown in FIG. 3, Page 5

SCOPE PU CONTROL BUS AND MISCELLANEOUS BUS BITS



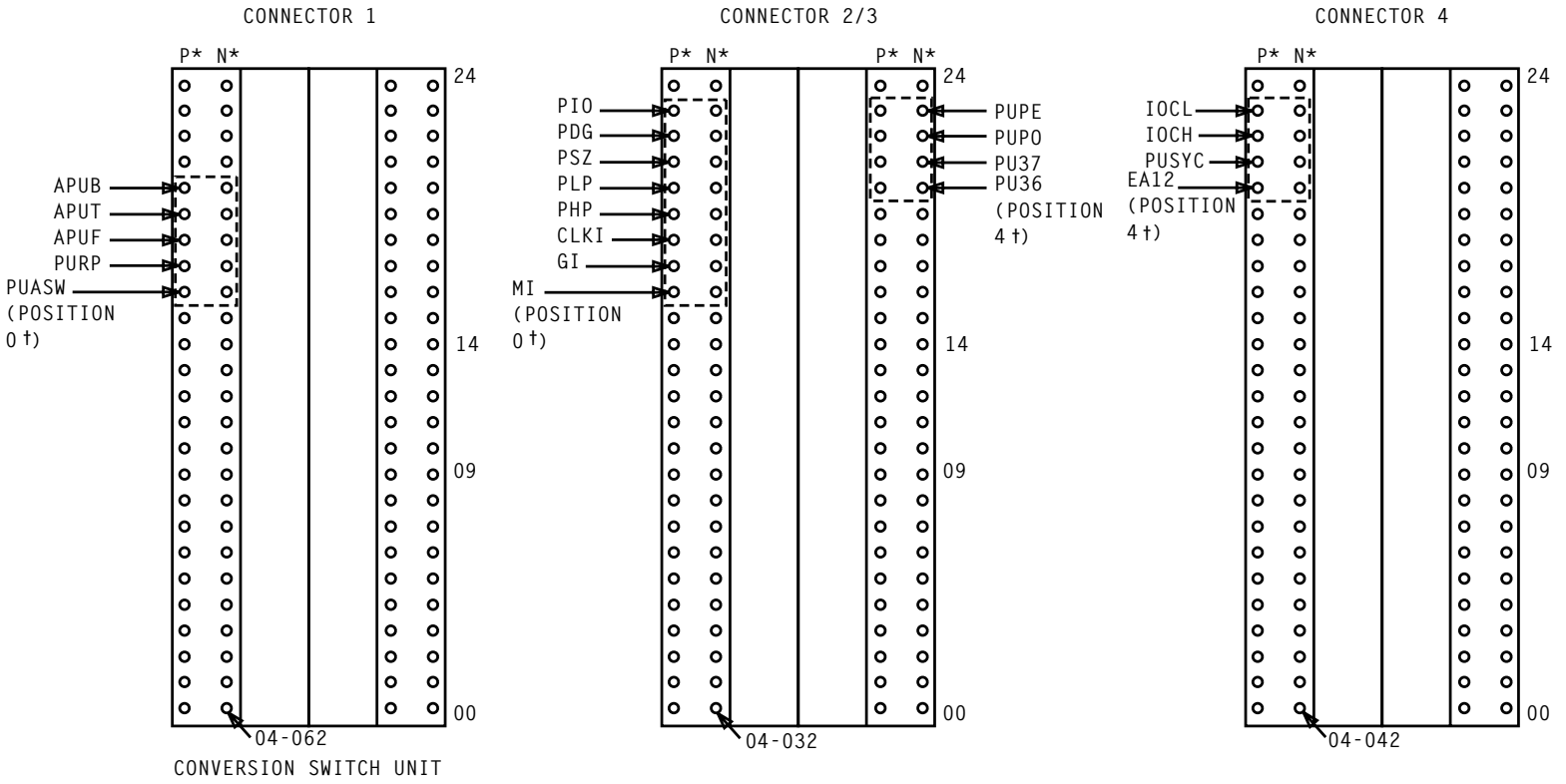
FRAME	CONNECTOR 1	CONNECTOR 2	CONNECTOR 3	CONNECTOR 4
IO				
BUS 0	080-14	080-10	080-09	080-07
BUS 1	080-39	080-35	080-34	080-32
IOP				
BUS 0	080-39	080-29	080-27	080-37
BUS 1	076-39	076-29	076-27	076-37

*P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD

† POSITION GIVEN IS ON BUS SCOPING ADAPTER

FIG. 1

SCOPE PU CONTROL BUS AND MISCELLANEOUS BUS BITS

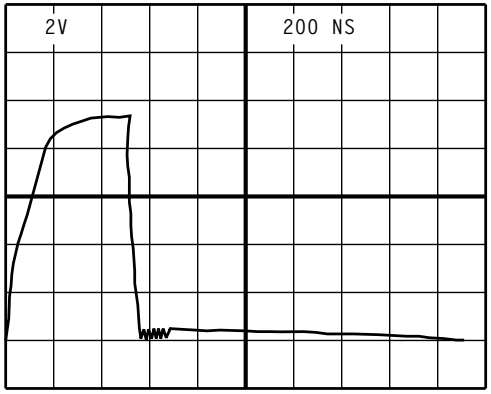


* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

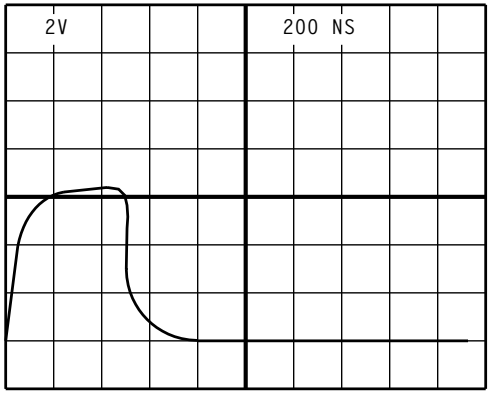
† POSITION GIVEN IS ON BUS SCOPING ADAPTER

FIG. 2

SCOPE PU CONTROL BUS AND MISCELLANEOUS BUS BITS



NORMAL PULSE AT DRIVER



NORMAL PULSE 500 FEET FROM DRIVER

FIG. 3

SCOPE PU CONTROL BUS AND MISCELLANEOUS BUS BITS

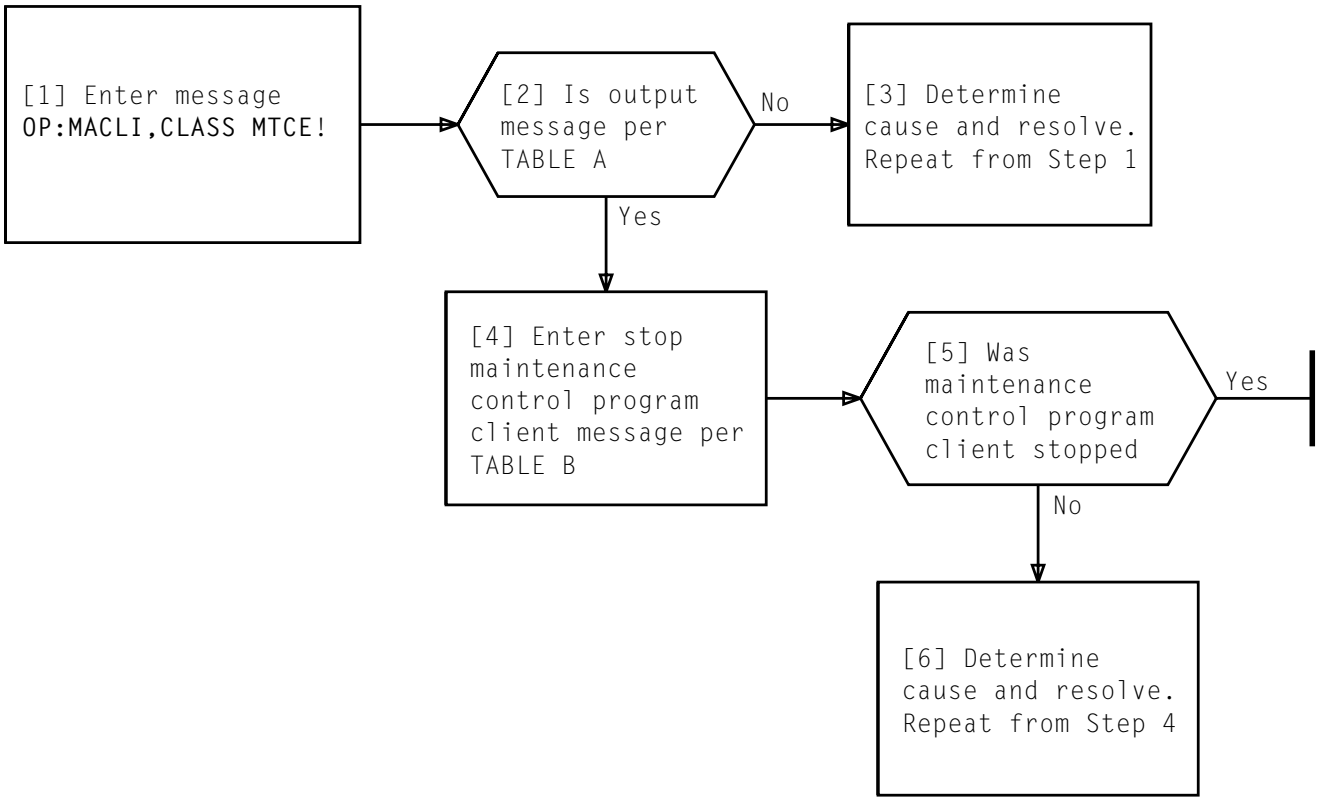


TABLE A
OP:MACLI CLASS MTCE SUBCLASS 0 a - d e f CLASS MTCE SUBCLASS 1 a - d e f CLASS MTCE SUBCLASS 2 a - d e f
a - d = NONE or variable data e = Unit type f = Member number

TABLE B
STOP:MACLI,CLASS MTCE,SUBCLASS a!
a = CLASS MTCE SUBCLASS number from output message assigned to AUB or PUB diagnostics

STOP MAINTENANCE CONTROL PROGRAM CLIENT

At SREC or Beltline Terminal:

[1] Depress **FORM ENTER** key to **ON**

[2] Read NOTE 1. Type input messages per TABLE A

[3] Depress **FORM ENTER** key to **OFF**

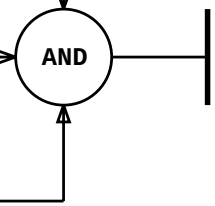
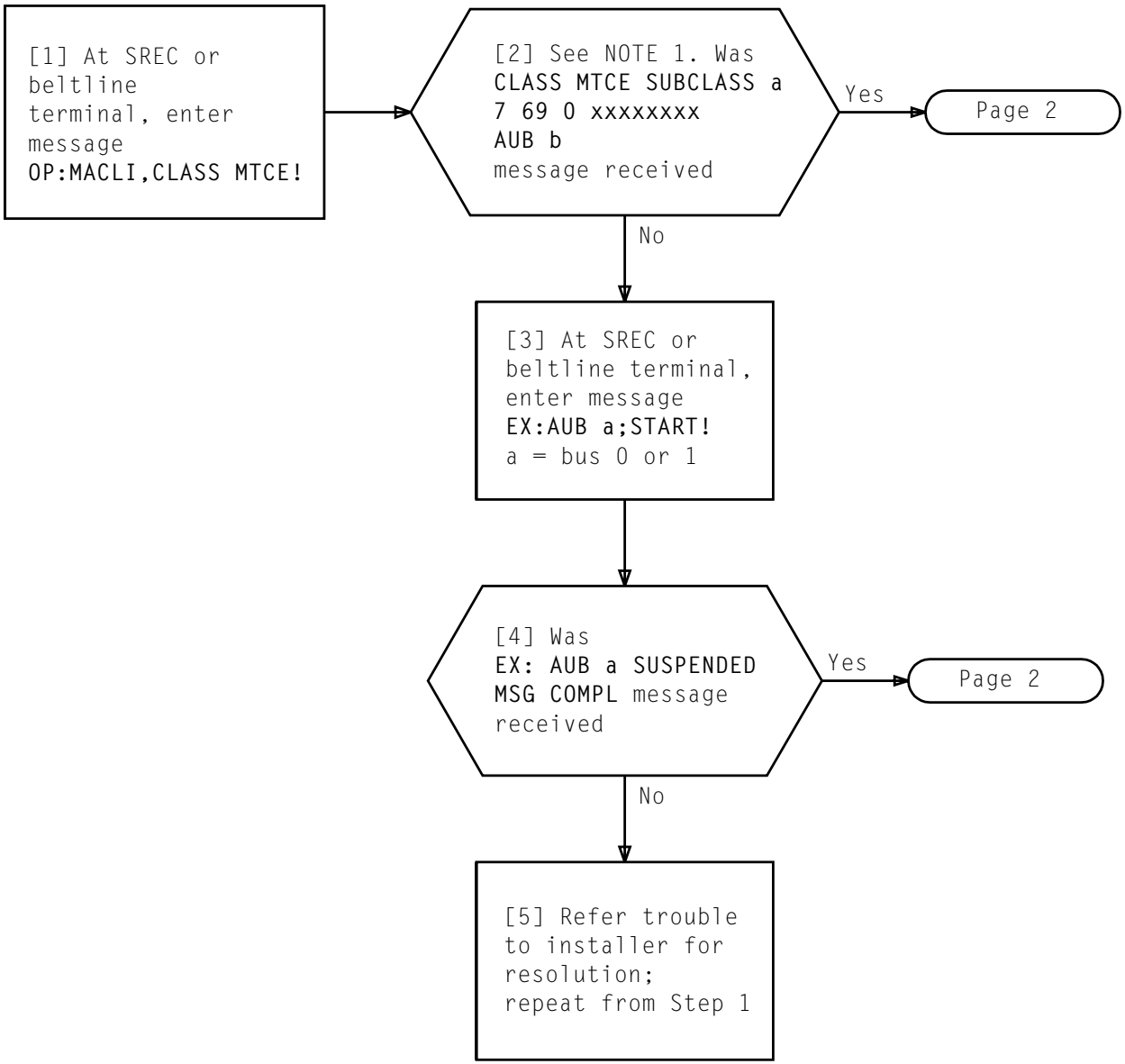


TABLE A

NUMBER	INPUT MESSAGES
1	INH:MACLI,CLASS MTCE;REX!
2	EX:AUB a;START! a = Bus 0 or 1
3	EX:AUB a:PH 99,ADR b a = Bus 0 or 1 b = 42-75 (for bus 0) or 212-245 (for bus 1)
4	EX:AUB a:PH 99,ADR b a = Bus 0 or 1 b = 75-120 (for bus 0) or 245-270 (for bus 1)
5	EX:AUB a:PH 99,ADR b a = Bus 0 or 1 b = 163-206 (for bus 0) or 333-356 (for bus 1)
6	EX:AUB a:PH 99,ADR b a = Bus 0 or 1 b = 120-163 (for bus 0) or 270-333 (for bus 1)
7	EX:AUB a! a = Bus 0 or 1
8	OP:MACLI,CLASS MTCE!
9	STOP:MACLI,CLASS MTCE,SUBCLASS a! a = CLASS MTCE SUBCLASS number from OP:MACLI output message assigned to AUB diagnostics.
10	ALW:MACLI,CLASS MTCE!

NOTE 1
Messages must not be entered into system at this time

STORE AU BUS PHASE 99 INPUT MESSAGES



NOTE 1
If problem occurs when setting up loop, use program listing ABDG99 (PR-5A737)

ENTER EXECUTE MESSAGES FOR LOOPING ON SPECIFIED AU BUS

[6] Using TABLE A, determine TABLE that contains input message for AU bus to be scoped

[7] At SREC or beltline terminal, enter in looping message determined in Step 6

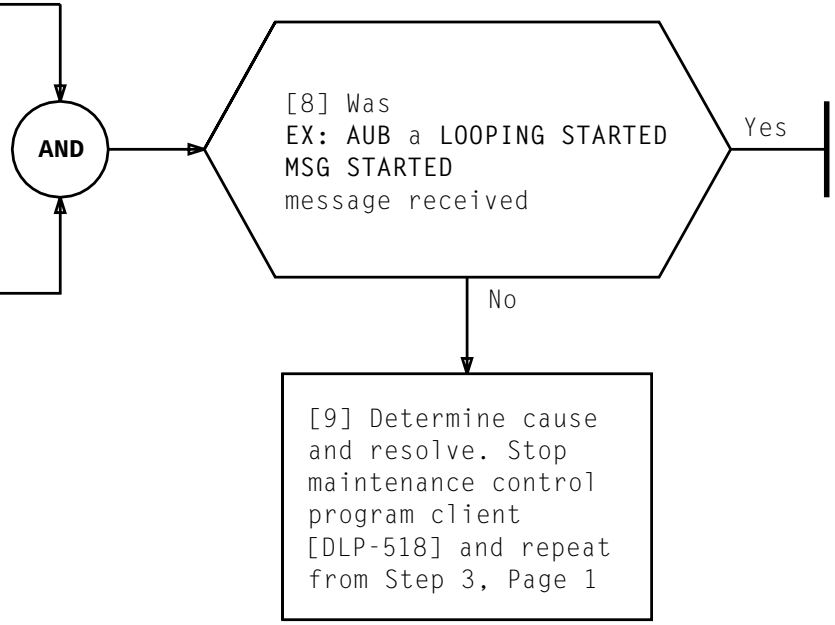


TABLE A	
AU BUS	TABLE
Write	B
Address	C
Store-Address	D
Reply	E

ENTER EXECUTE MESSAGES FOR LOOPING ON SPECIFIED AU BUS

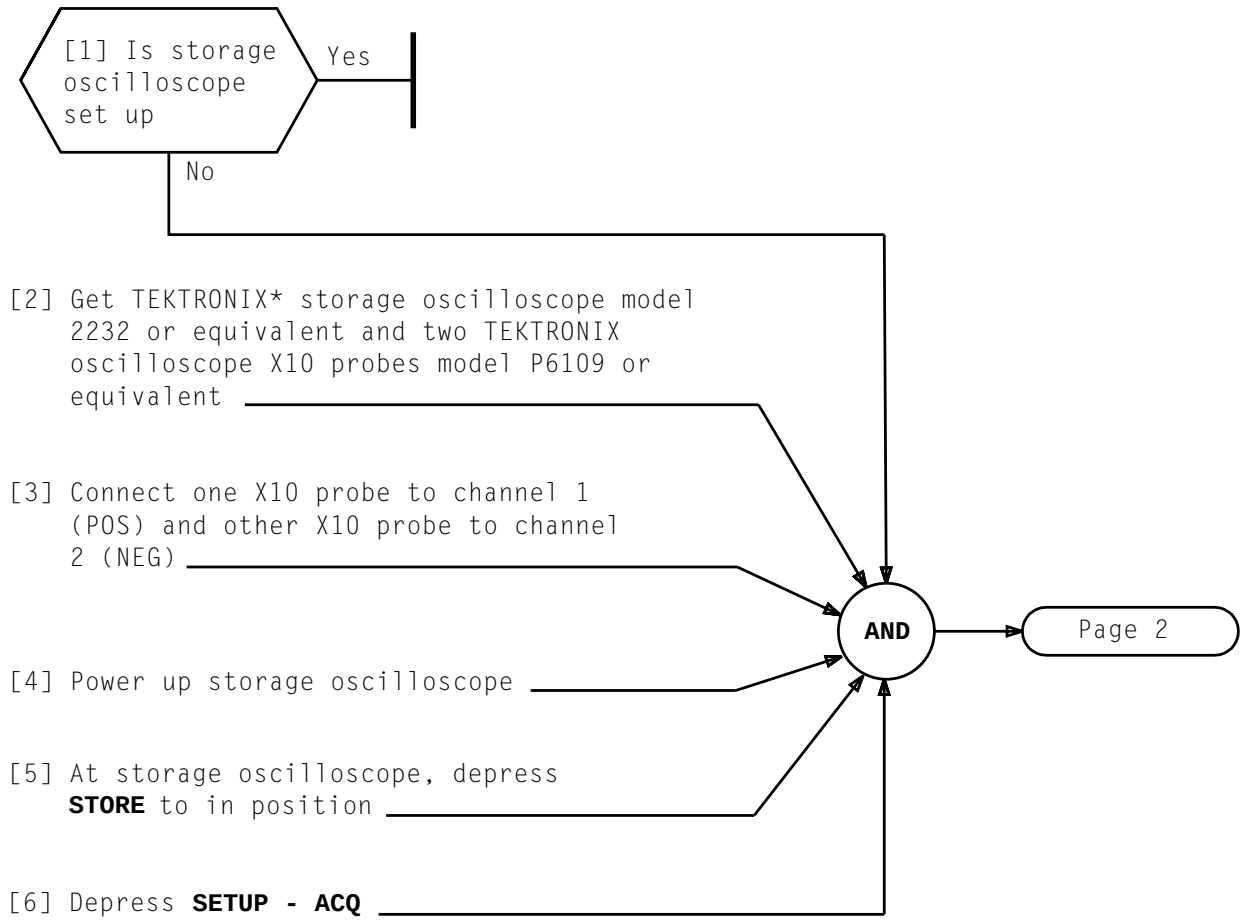
TABLE B — AU WRITE BUS
EX:AUB a:PH 99,ADR b!
a = Bus 0 or 1 b = 42-75 (for bus 0) or 212-245 (for bus 1)

TABLE C — AU ADDRESS BUS
EX:AUB a:PH 99,ADR b!
a = Bus 0 or 1 b = 75-120 (for bus 0) or 245-270 (for bus 1)

TABLE D — AU STORE ADDRESS BUS
EX:AUB a:PH 99,ADR b!
a = Bus 0 or 1 b = 163-206 (for bus 0) or 333-356 (for bus 1)

TABLE E — AU REPLY BUS
EX:AUB a:PH 99,ADR b!
a = Bus 0 or 1 b = 120-163 (for bus 0) or 270-333 (for bus 1)

ENTER EXECUTE MESSAGES FOR LOOPING ON SPECIFIED AU BUS



* Registered trademark of TEKTRONIX, Inc.

SET UP STORAGE OSCILLOSCOPE FOR SCOPING AU BUS

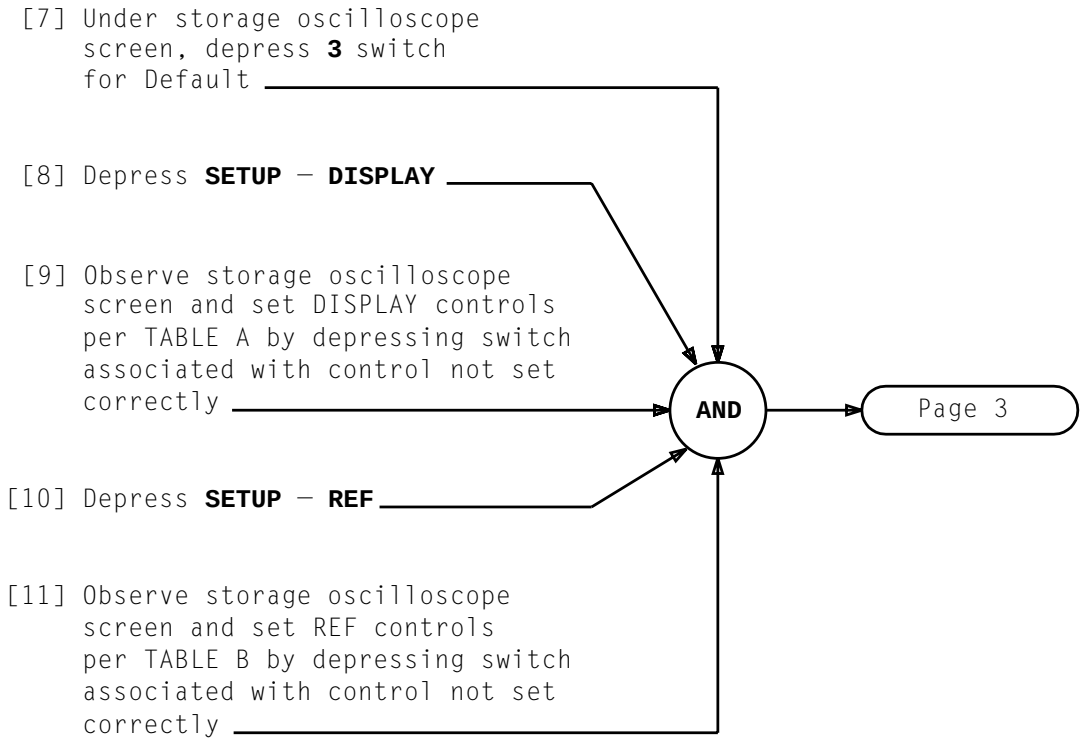


TABLE A

COLUMN	CONTROLS	SWITCH*
1	ΔT	SAVE REF
2	ON	1
3	ON	2

*Switches under display screen are associated with column that they are under

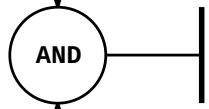
TABLE B

COLUMN	CONTROLS	SWITCH*
1	Format	SAVE REF
2	Ref1	1
3	CH1	2
4	X1	3
5	Vert Gain: 0.2V	4K (for Vert Gain:) and adjust CURSORS to obtain 0.2V

*Switches under display screen are associated with column that they are under

SET UP STORAGE OSCILLOSCOPE FOR SCOPING AU BUS

[12] Depress **SETUP** – **REF** to return to screen



[13] Set 2232 storage oscilloscope
controls per TABLE C, Page 4

SET UP STORAGE OSCILLOSCOPE FOR SCOPING AU BUS

TABLE C — OSCILLOSCOPE CONTROL SETTINGS FOR MODEL 2232	
CONTROLS	**POSITION**
CURSORS	Don't Care
SAVE/CONT	Depress until SAVE is not displayed
STORE	Depress (in)
VAR HOLDOFF	Don't Care
VERTICAL — POSITION (left)	Rotate to 11 o'clock position
VERTICAL — A/B SWP SEP	Don't Care
VERTICAL — POSITION (right)	Rotate to 12 o'clock position
VERTICAL MODE — CH 1 BOTH CH 2	BOTH
VERTICAL MODE — X-Y	Out position
VERTICAL MODE — BW LIMIT	Out position
VERTICAL MODE — ADD ALT CHOP	ADD
VERTICAL — CH 1 VOLTS/DIV	2
VERTICAL — CH 1 VOLTS/DIV — AC GND DC	DC
VERTICAL — INVERT	Depress (in)
VERTICAL — CH 2 VOLTS/DIV	2
VERTICAL — CH 2 VOLTS/DIV — AC GND DC	DC
HORIZONTAL — POSITION	Rotate to 1 o'clock position
HORIZONTAL — MODE	A
HORIZONTAL — A and B SEC/DIV	.1 μs
B TRIGGER — SLOPE	Don't Care
B TRIGGER — LEVEL	Don't Care
A TRIGGER — TV FIELD — NORM	Depress (in)
A TRIGGER — SLOPE	Out position
A TRIGGER — LEVEL	Rotate to 1 o'clock position
A TRIGGER — A & B SOURCE	CH 1
A TRIGGER — A COUPL	NORM
A TRIGGER — A EXT COUPL	Don't Care

[1] Using TABLE A, determine FIG. that contains last frame/unit where AU write bus is to be scoped

[2] Locate connector locations in FIG., determined in Step 1, for bus section to be scoped

[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [see DLP-568 on how to use bus scoping adapter]

[4] See NOTE 1. Adjust storage scope to observe waveform for bit 0 pattern per FIG. 3, Page 3

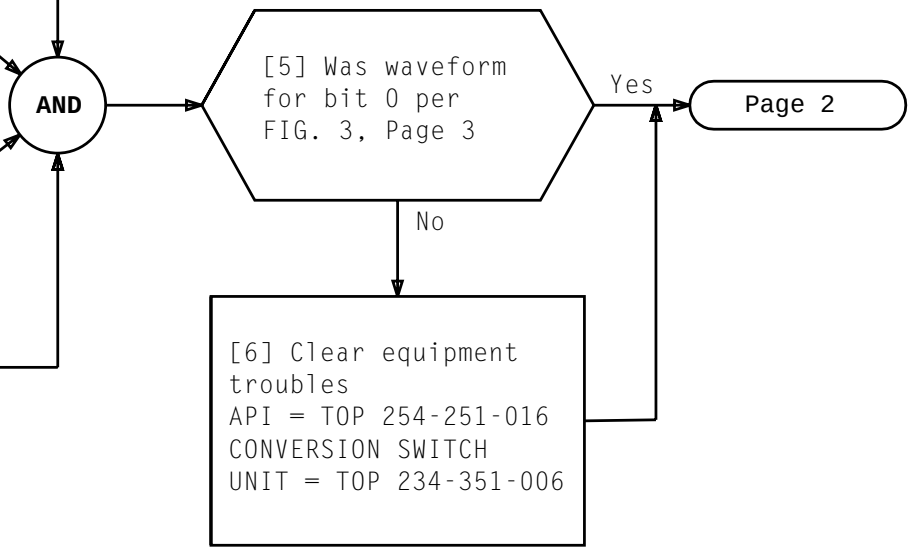
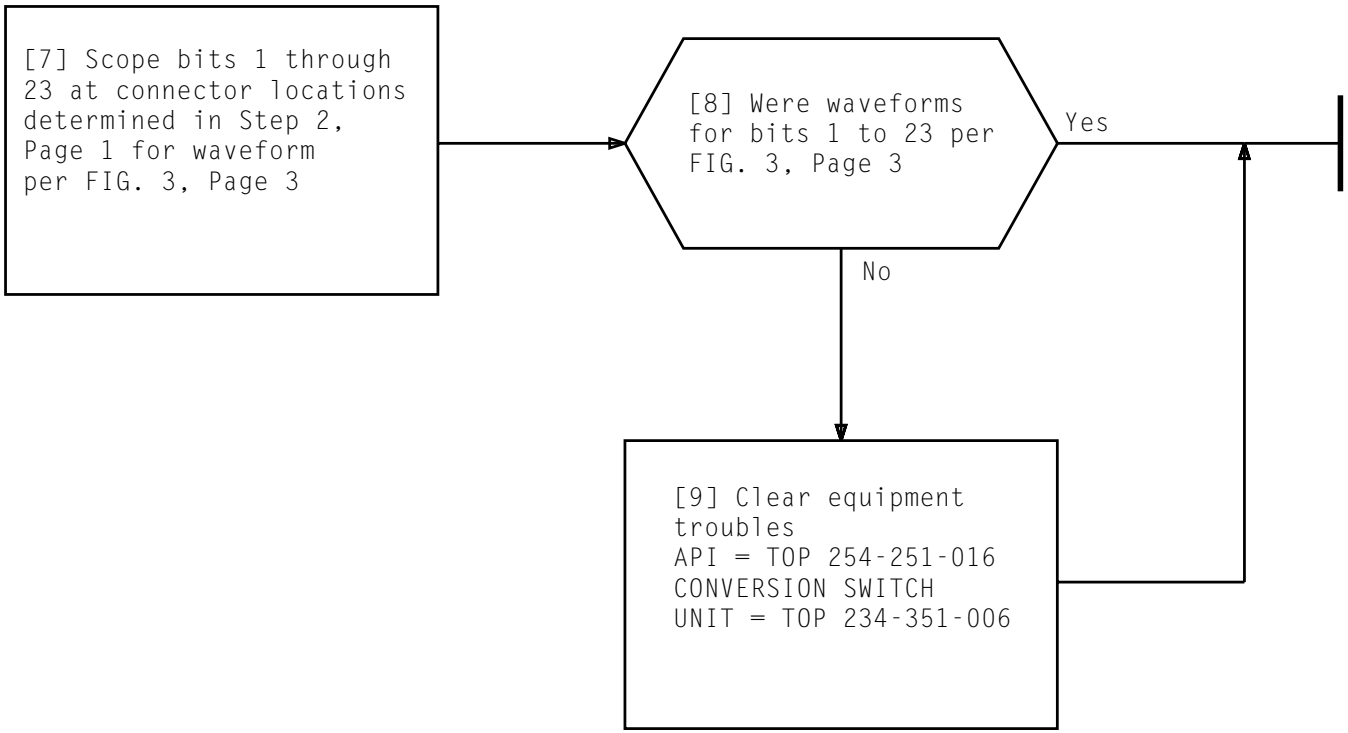


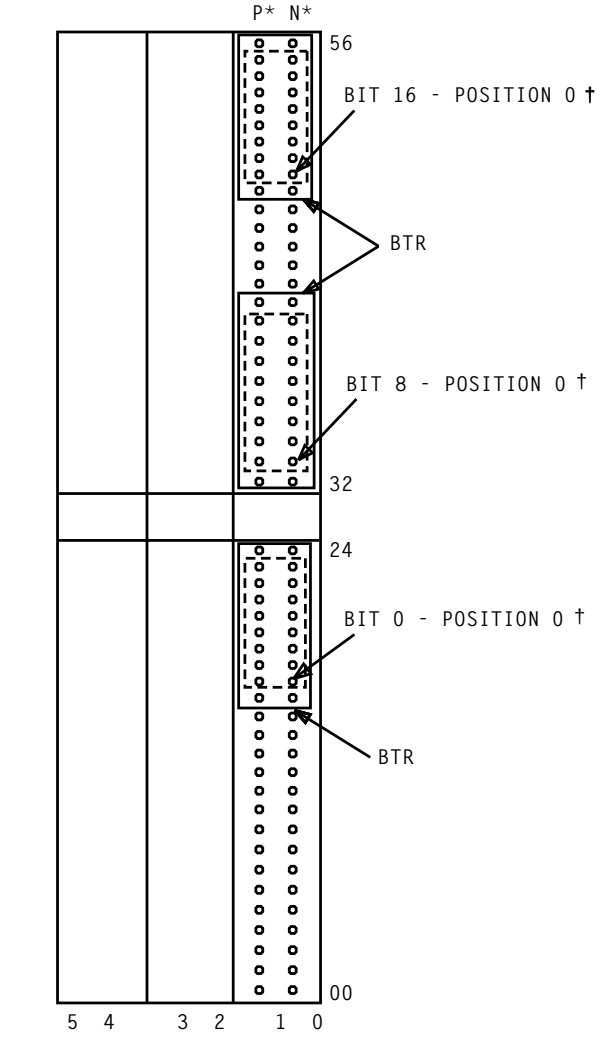
TABLE A		
FRAME/UNIT	**FIG.**	**PAGE**
API	1	3
AUB CONVERSION SWITCH UNIT	2	4

NOTE 1
CURSORS may also need to be adjusted to observe bit pattern

SCOPE AU WRITE BUS BITS 0 TO 23



SCOPE AU WRITE BUS BITS 0 TO 23



* P FOR POSITIVE LEAD
N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 1

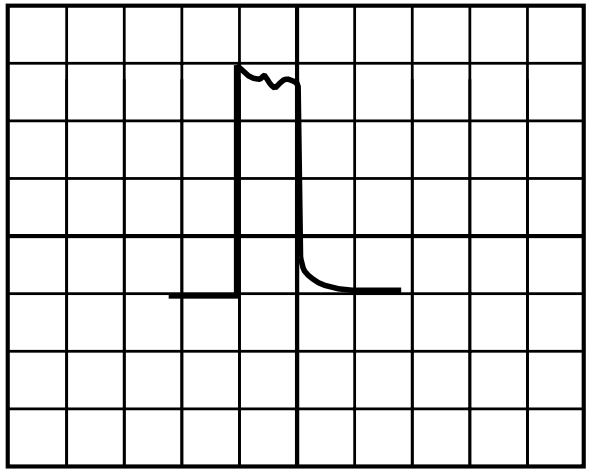
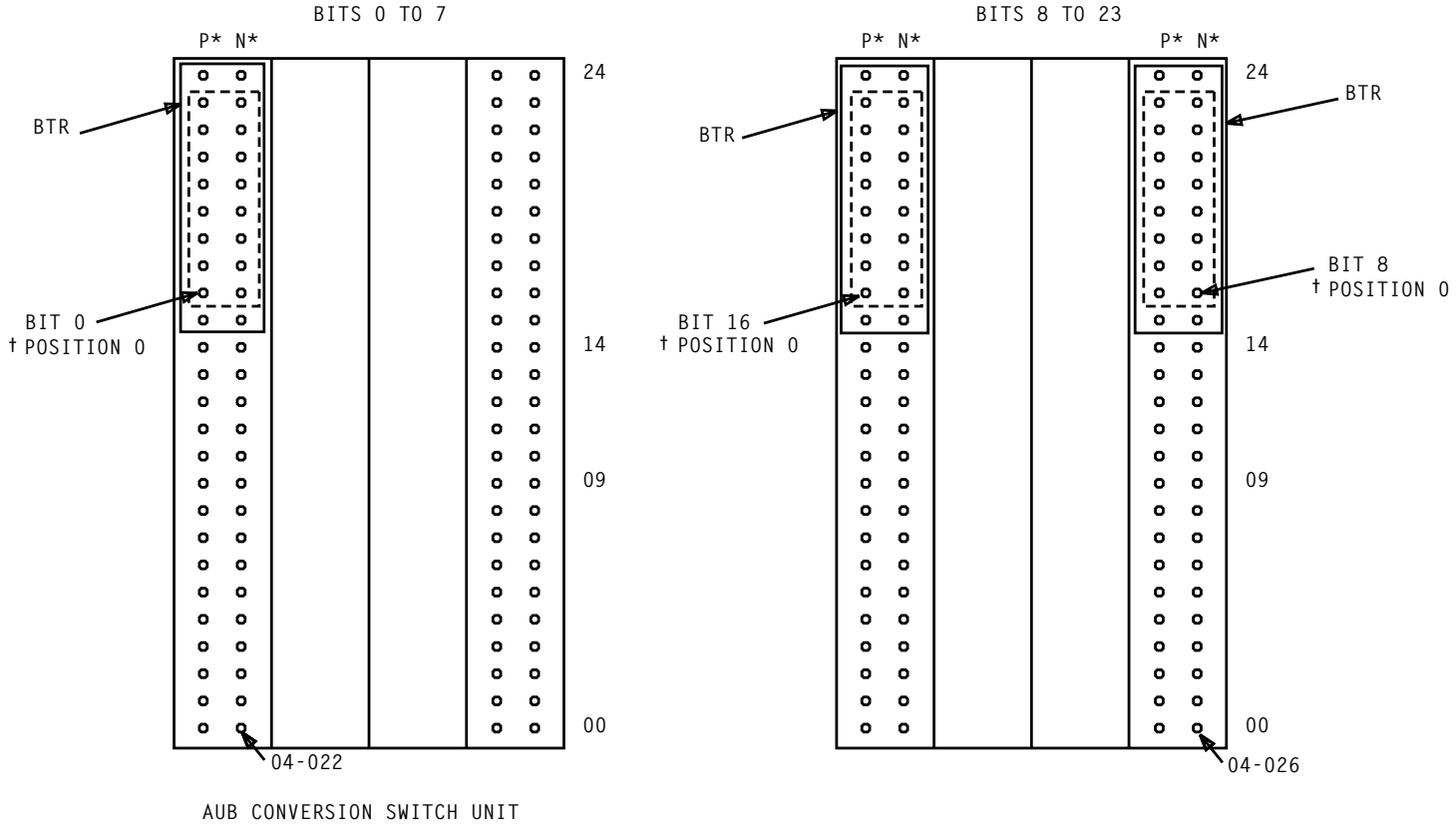


FIG. 3 - Typical Waveform

SCOPE AU WRITE BUS BITS 0 TO 23



* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD
† POSITION 0 IS ON SCOPE ADAPTER

FIG. 2

SCOPE AU WRITE BUS BITS 0 TO 23

[1] Using TABLE A, determine FIG. that contains last frame/unit where AU address bus is to be scoped

[2] Locate connector locations in FIG., determined in Step 1, for bus section to be scoped

[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [see DLP-568 on how to use scope adapter]

[4] See NOTE 1. Scope bits 0 through 15 at connector locations determined in Step 2 for waveform per FIG. 3, Page 2

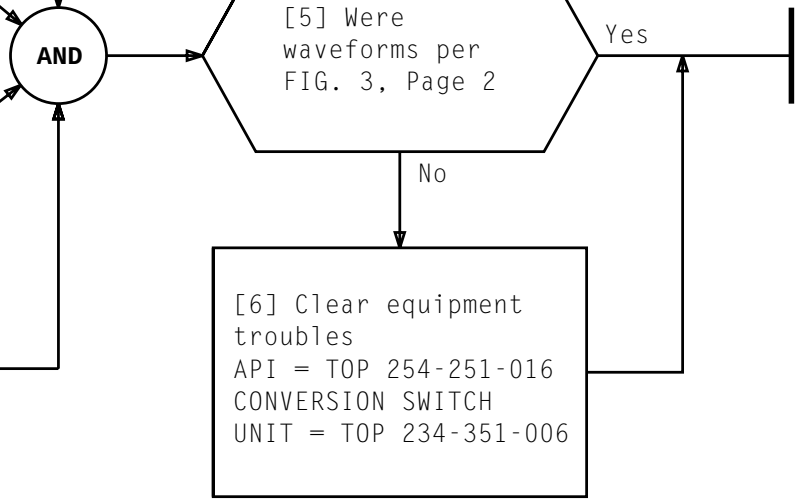
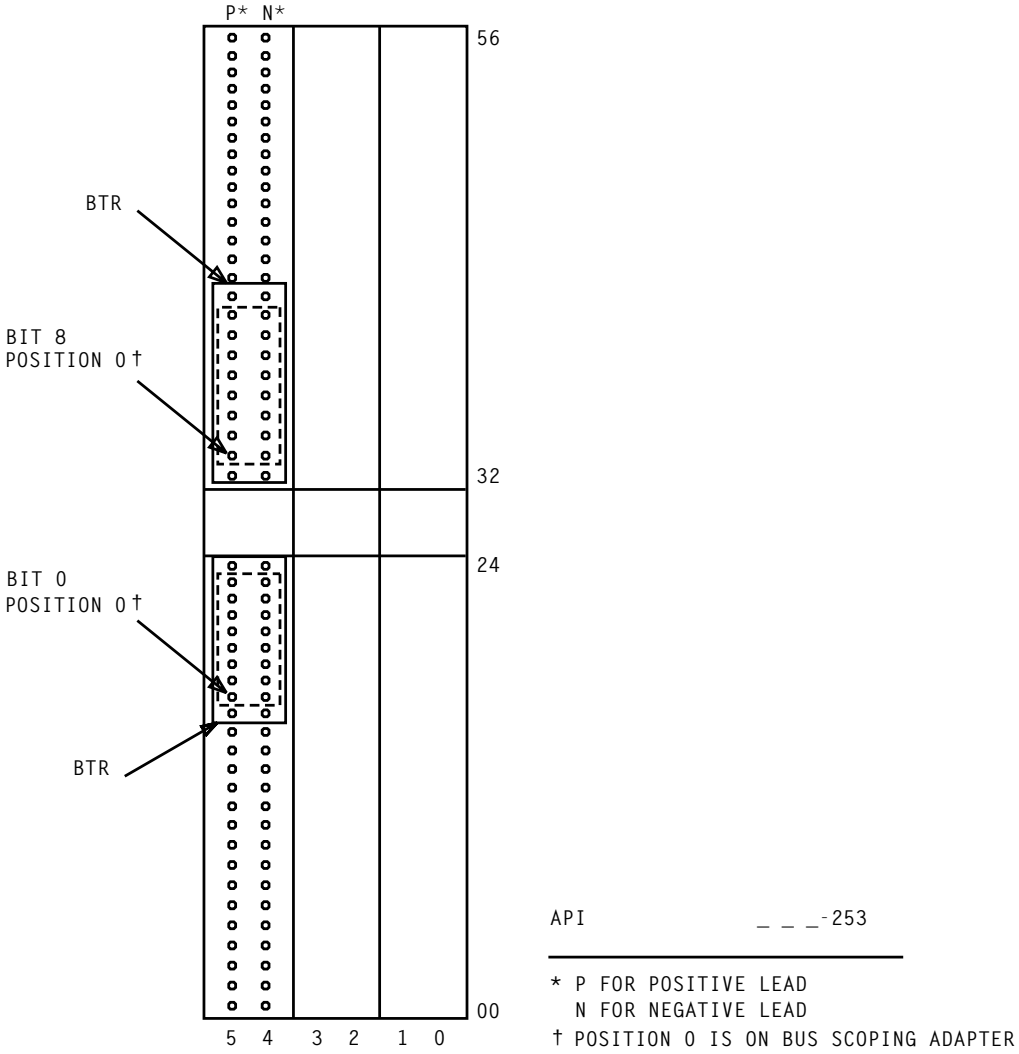


TABLE A		
FRAME/UNIT	**FIG.**	**PAGE**
API	1	2
AUB CONVERSION SWITCH UNIT	2	3

NOTE 1
CURSORS may need to be adjusted to observe bit pattern

SCOPE AU ADDRESS BUS BITS 0 TO 15



API _ _ _-253

* P FOR POSITIVE LEAD
  N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 1

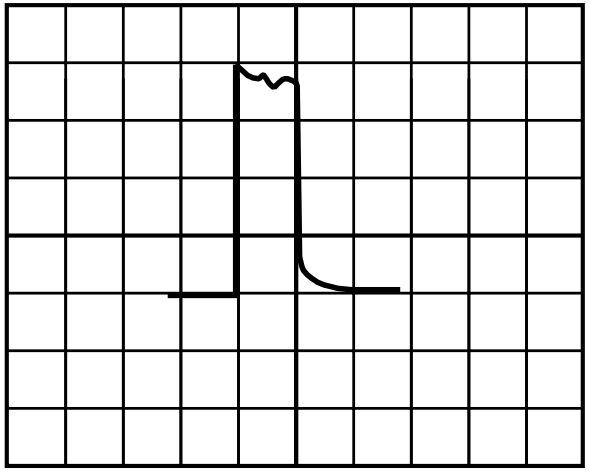
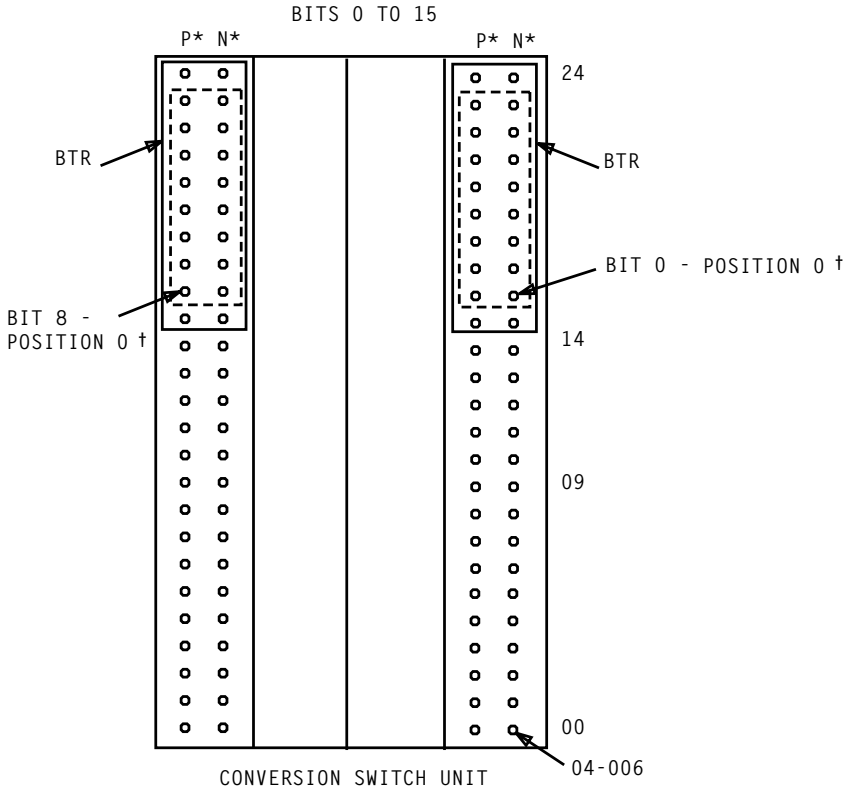


FIG. 3 - Typical Waveform

SCOPE AU ADDRESS BUS BITS 0 TO 15



* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 2

SCOPE AU ADDRESS BUS BITS 0 TO 15

[1] Using TABLE A, determine FIG. that contains last frame/unit where AU address bus is to be scoped

[2] Locate connector locations in FIG., determined in Step 1, for bus section to scoped

[3] Connect storage scope with scoping adapter to connector location determined in Step 2 [See DLP-568 on how to use scope adapter]

[4] See NOTE 1. Scope bits 0 through 21 at connector locations determined in Step 2 for waveform per FIG. 3, Page 2

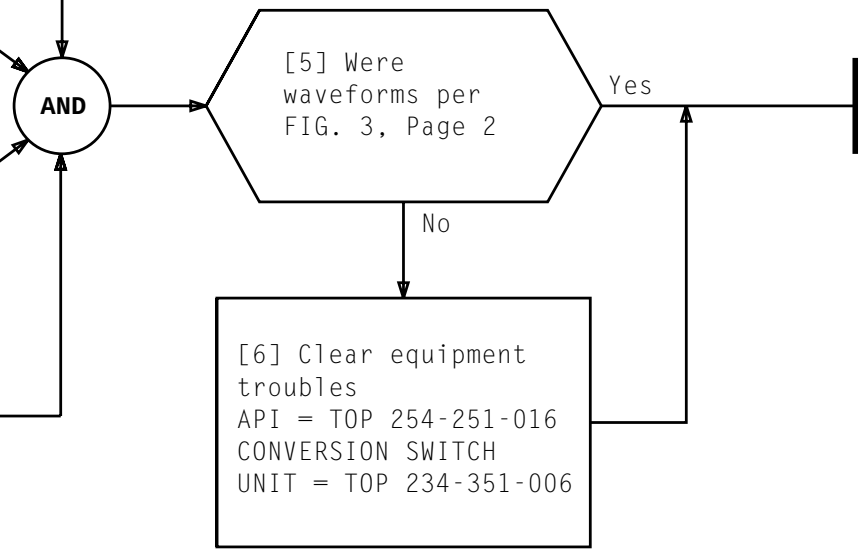
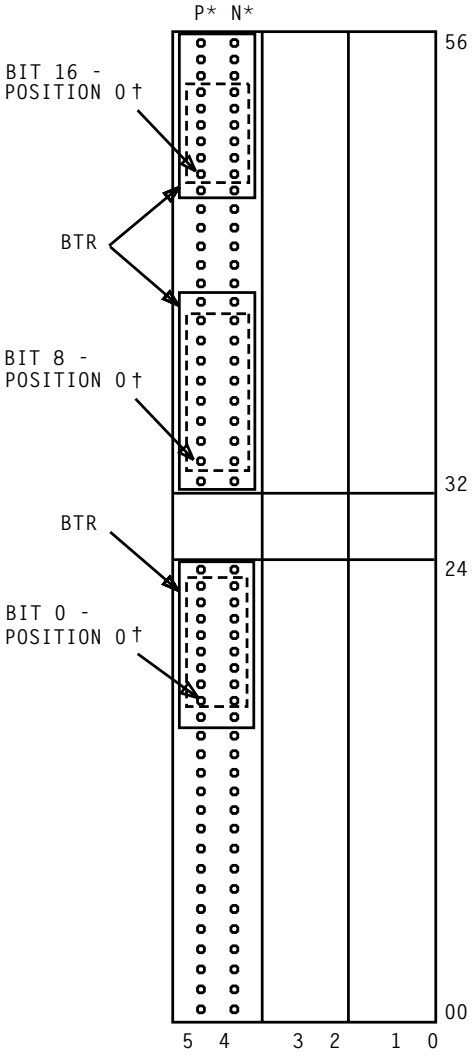


TABLE A		
FRAME/UNIT	**FIG.**	**PAGE**
API	1	2
AUB CONVERSION SWITCH UNIT	2	3

NOTE 1
CURSORS may need to be adjusted to observe bit pattern

SCOPE AU STORE ADDRESS BUS BITS 0 TO 21



API _ _ _-265

* P FOR POSITIVE LEAD
N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 1

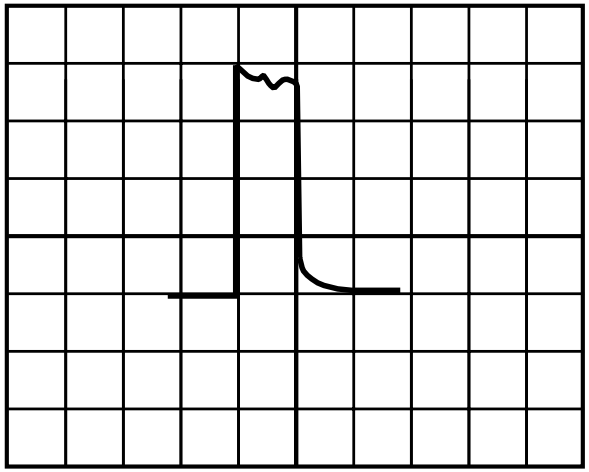
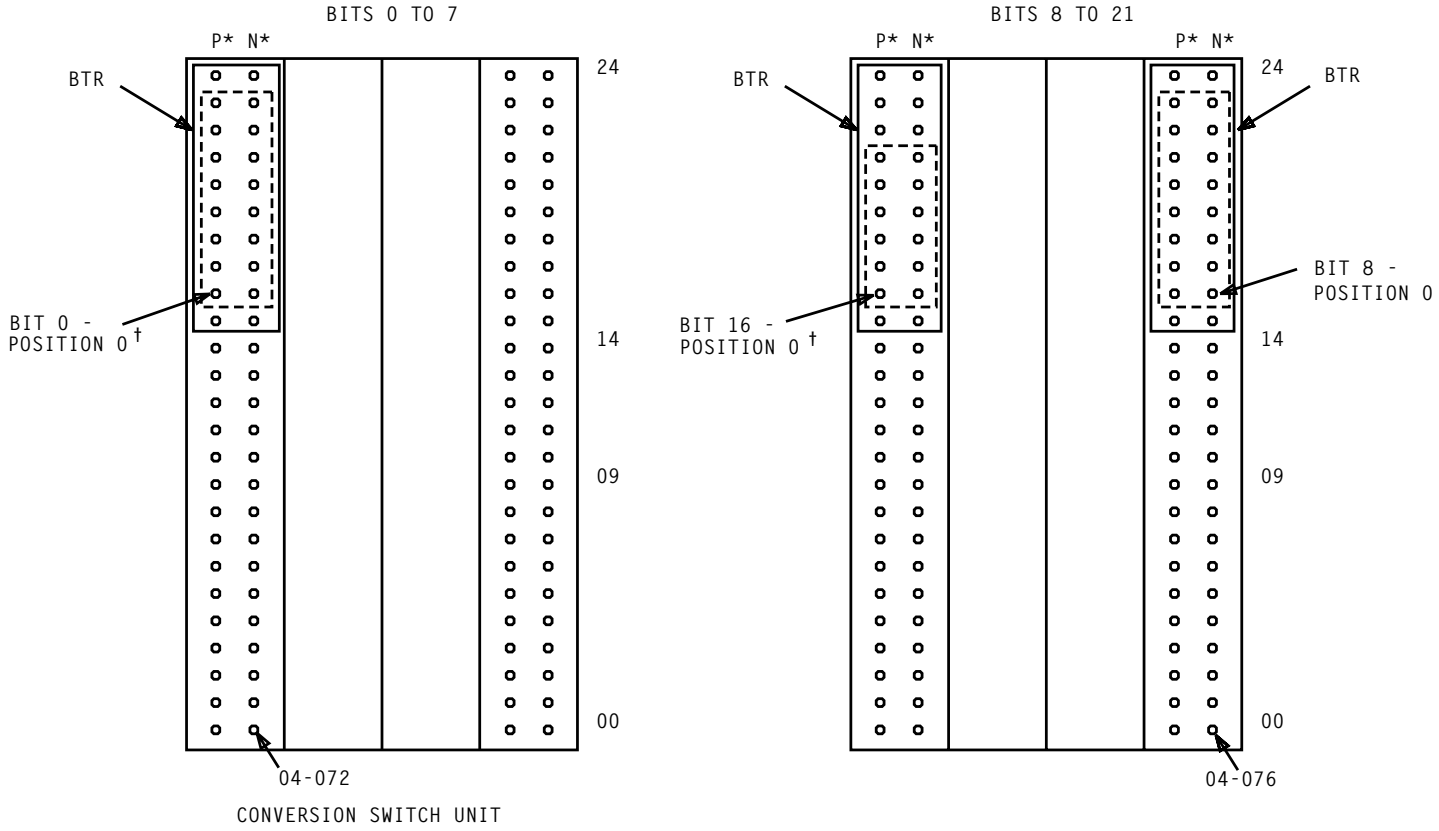


FIG. 3 - Typical Waveform

SCOPE AU STORE ADDRESS BUS BITS 0 TO 21



* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 2

SCOPE AU STORE ADDRESS BUS BITS 0 TO 21

[1] Using TABLE A, determine FIG. that contains last frame/unit where AU reply bus is to be scoped

[2] Locate connector locations in FIG., determined in Step 1, for bus section to be scoped

[3] Connect storage scope with scoping adapter to connector location determined in Step 2 [see DLP-568 on how to use scope adapter]

[4] See NOTES 1 and 2. Scope bits 0 through 23 at connector locations determined in Step 2 for waveform per FIG. 3, Page 2

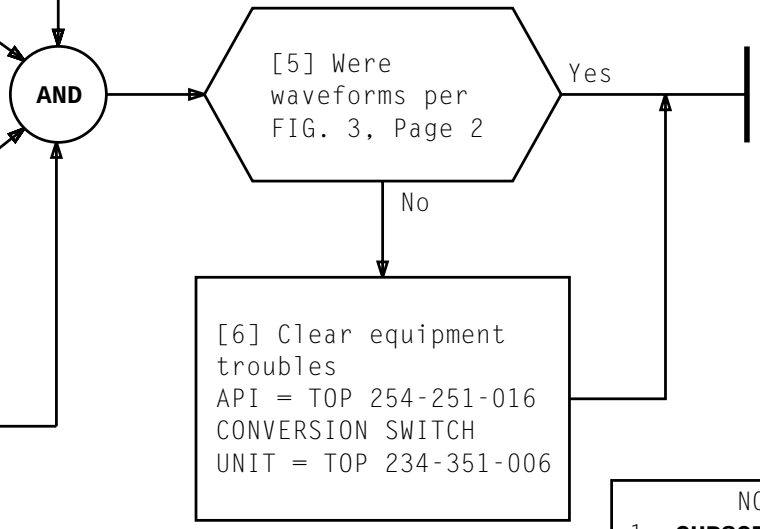
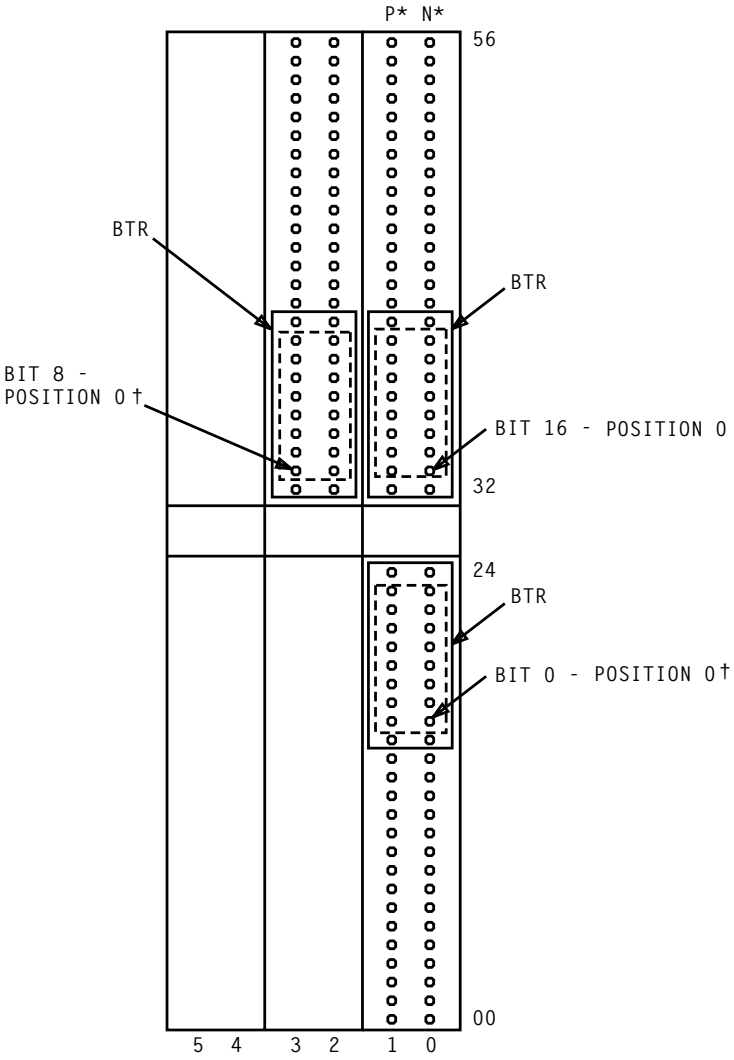


TABLE A		
FRAME/UNIT	**FIG.**	**PAGE**
API	1	2
AUB CONVERSION SWITCH UNIT	2	3

NOTES

1. **CURSORS** may need to be adjusted to observe bit pattern
2. Width of valid AU reply bus pulse can be 70 ns to 180 ns (DMA) or 300 ns to 600 ns (GCP). FIG. 3, Page 2 shows a typical reply pulse (DMA) which is 100 ns wide

SCOPE AU REPLY BUS BITS 0 TO 23



API _ _ _ 265

* P FOR POSITIVE LEAD
N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 1

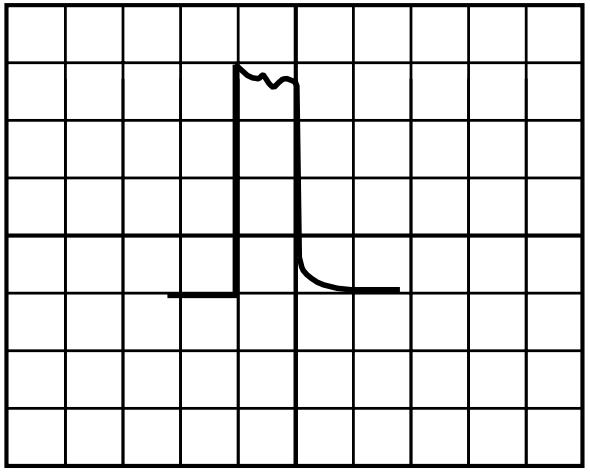


FIG. 3 - Typical Waveform

SCOPE AU REPLY BUS BITS 0 TO 23

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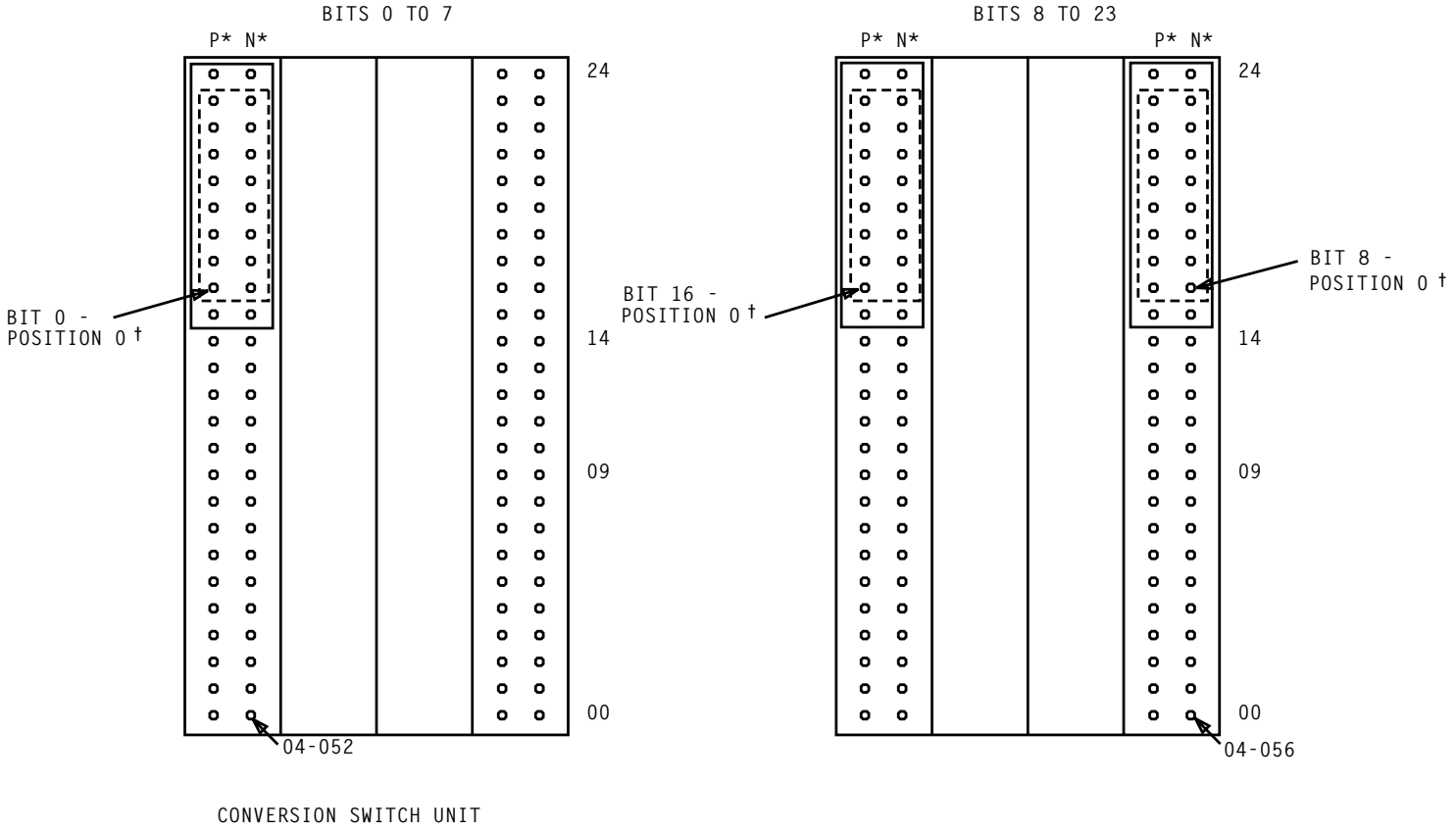


* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 2

SCOPE AU REPLY BUS BITS 0 TO 23

[1] At MTC terminal, enter message
OP:APSTATUS!

AND

[2] Using printout and FIG. 1, determine API member number assigned SBY and record as standby for later use

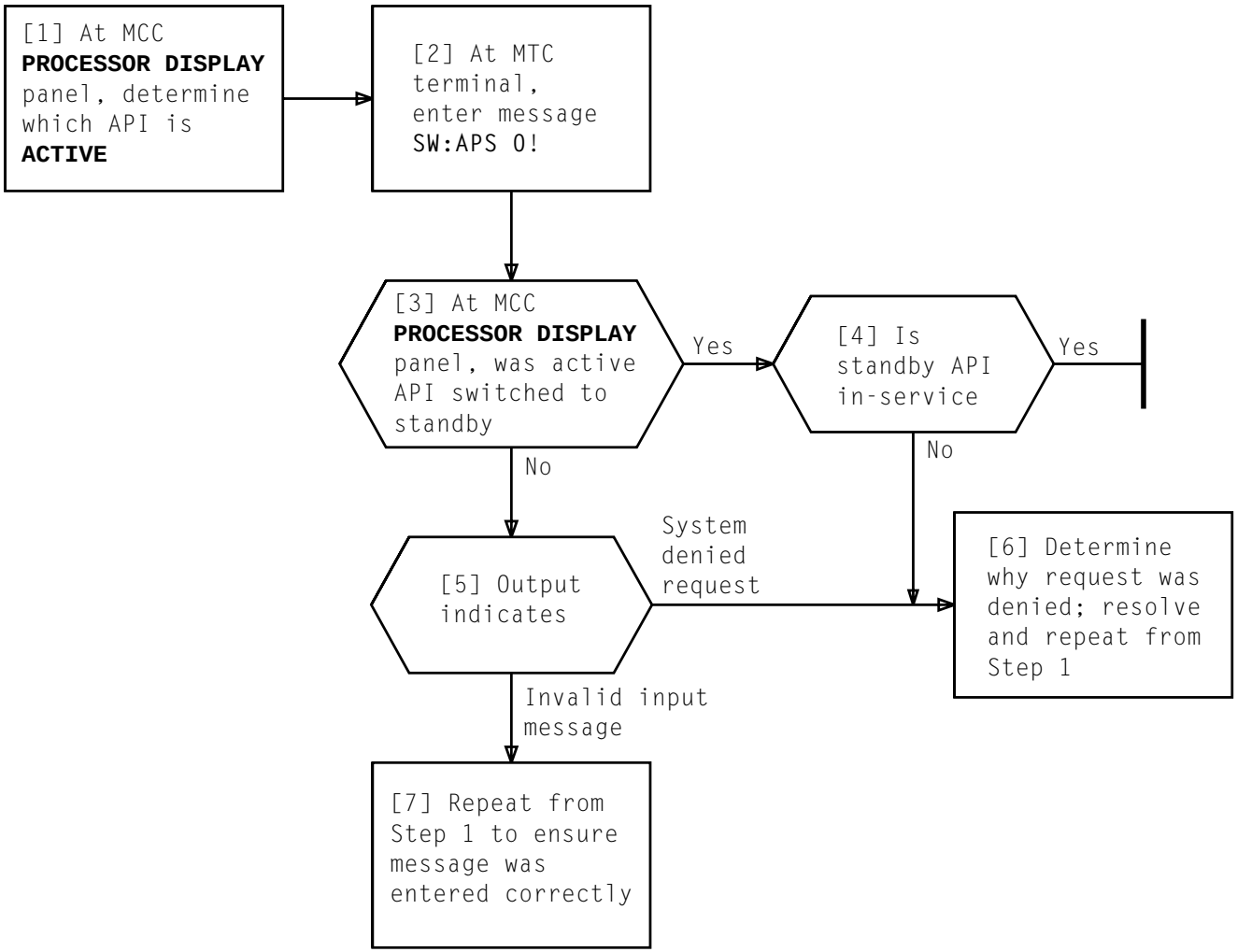
Record this value

APS 0 API a **ACT API** b **SBY**

a = Active API member number
b = Standby API member number

FIG. 1 — Sample OP:APSTATUS Printout

DETERMINE STANDBY API


[1] At MCC **PROCESSOR DISPLAY** panel, determine which API is **ACTIVE**
[2] At MTC terminal, enter message SW:APS 0!
[3] At MCC **PROCESSOR DISPLAY** panel, was active API switched to standby
Yes
[4] Is standby API in-service
Yes
No
No
System denied request
[5] Output indicates
[6] Determine why request was denied; resolve and repeat from Step 1
Invalid input message
[7] Repeat from Step 1 to ensure message was entered correctly

SWITCH APIs

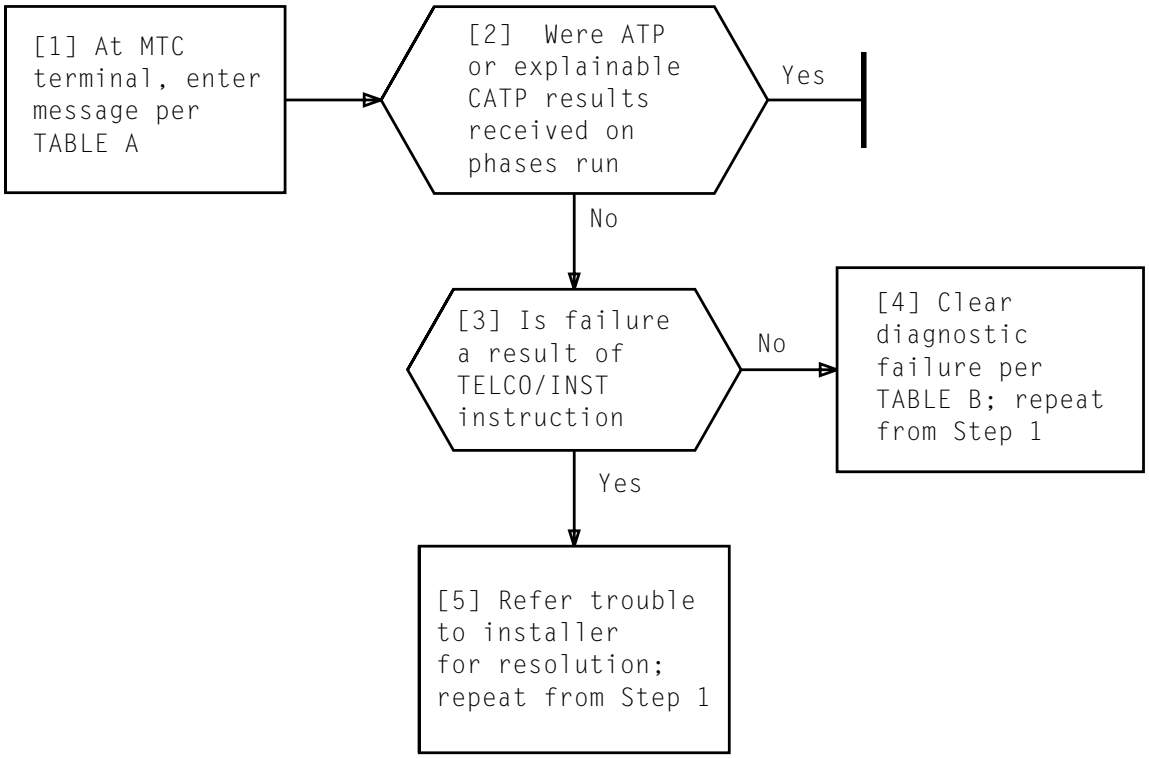
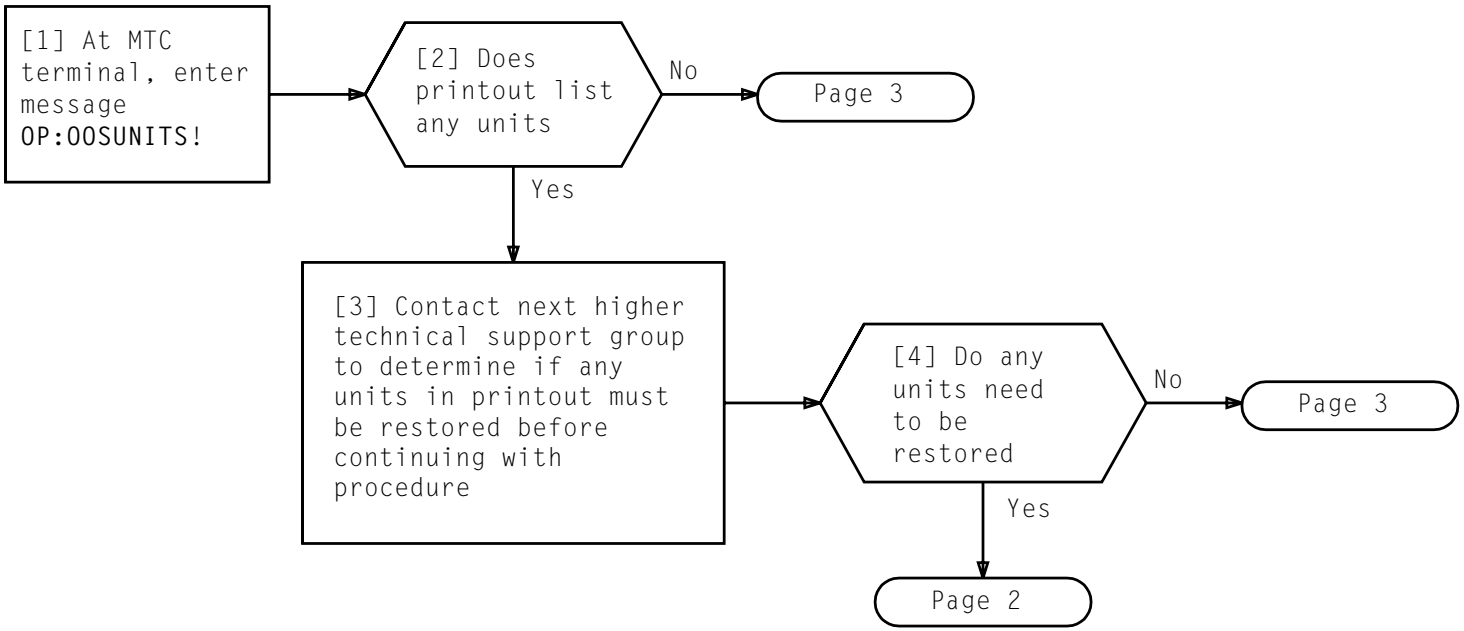


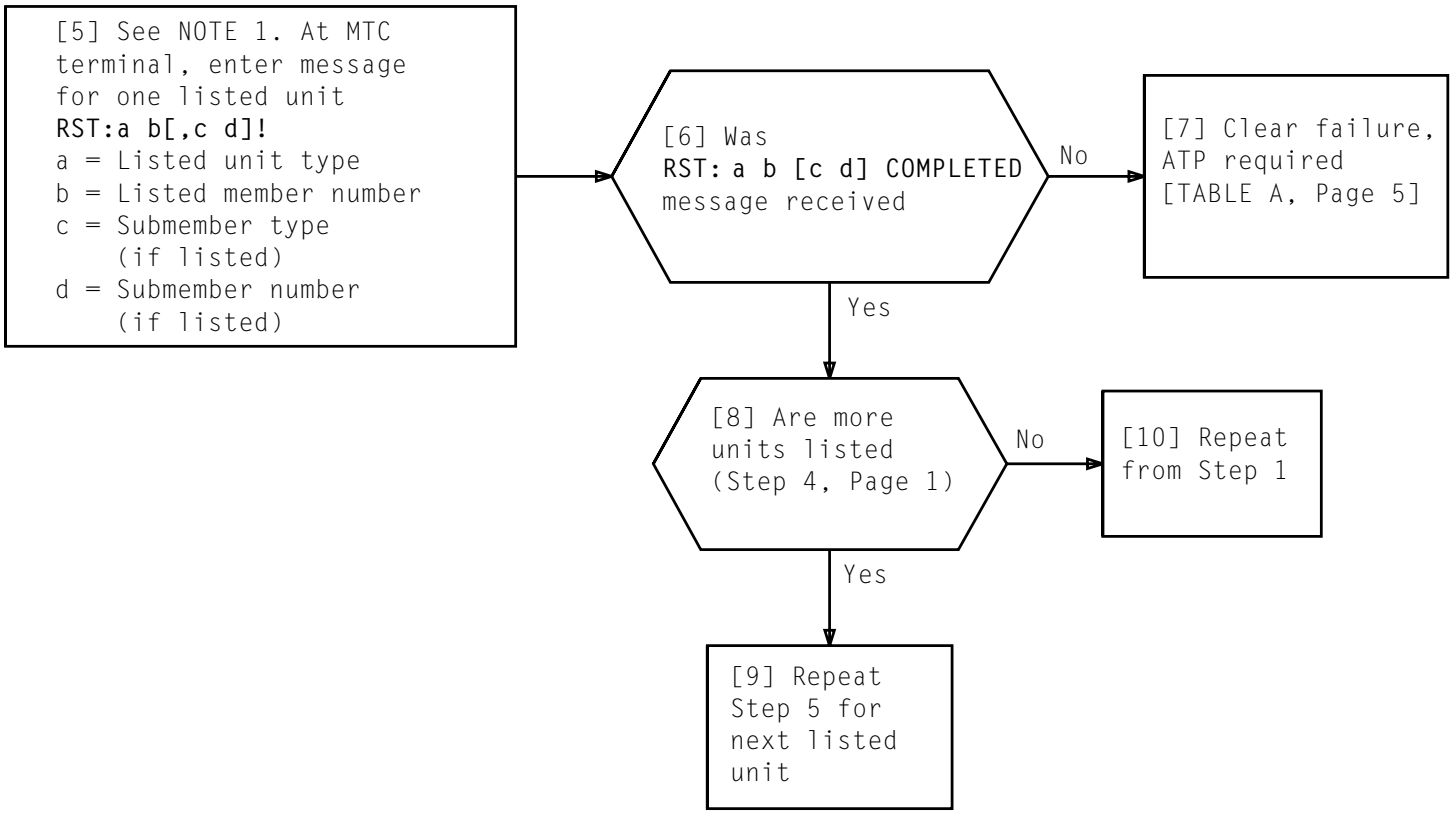
TABLE A	
MESSAGE NUMBER	**INPUT MESSAGE**
1	DGN:a b;RAW!
a = API or AUB or CC or DUS or PUB or TUC	
b = Member number	

TABLE B	
UNIT TYPE	**TROUBLE CLEARING VOLUME**
API	254-251-016
AUB	254-251-010
CC	254-251-001
DUS	254-251-010
PUBB	234-151-015
TUC	254-251-010
Conversion Switch Unit	234-351-006

DIAGNOSE API, AUB, CC, DUS, PUB OR TUC

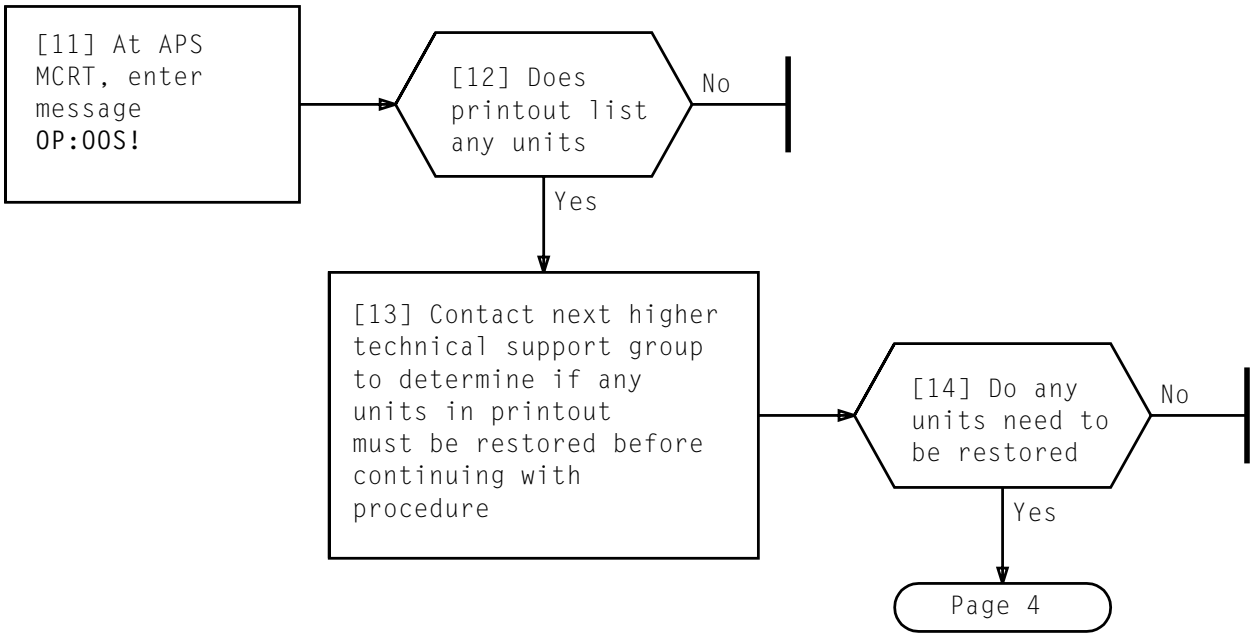


ENSURE ALL UNITS ARE IN-SERVICE

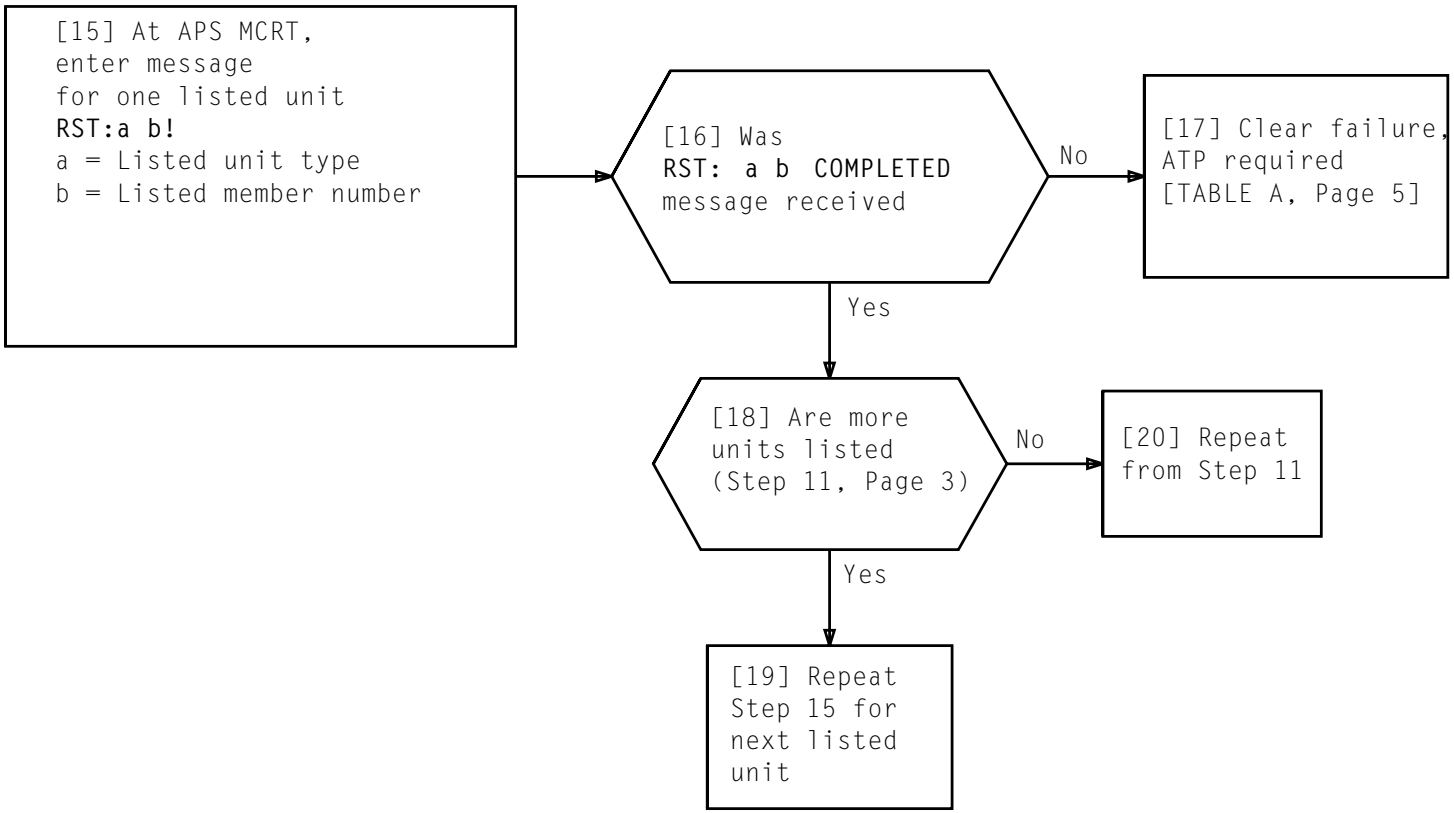


NOTE 1
Variables c and d are only to be used if submember is listed

ENSURE ALL UNITS ARE IN-SERVICE



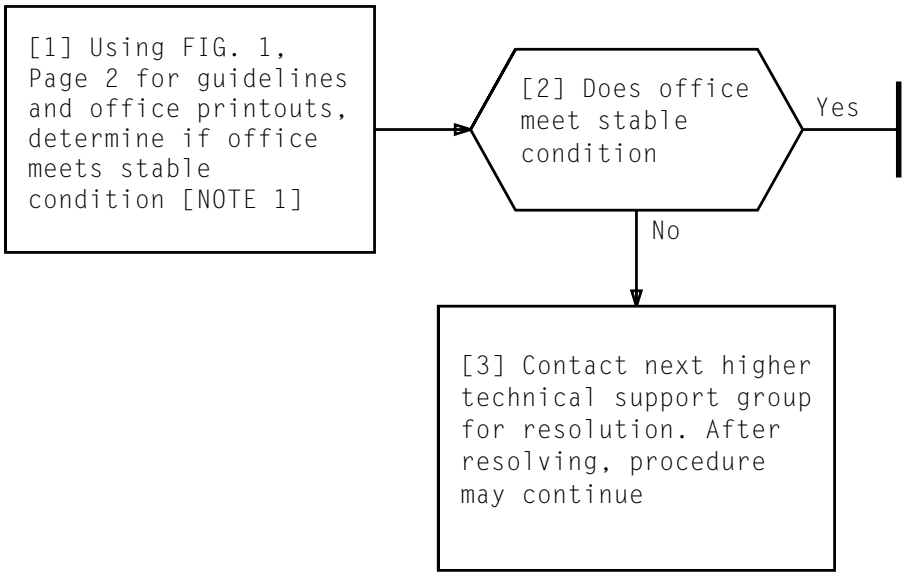
ENSURE ALL UNITS ARE IN-SERVICE



ENSURE ALL UNITS ARE IN-SERVICE

TABLE A			
UNIT TYPE	**TROUBLE CLEARING VOLUME**	**UNIT TYPE**	**TROUBLE CLEARING VOLUME**
3B Computer Model 1	254-301-812 254-301-813	MCC/PPI	234-151-006
3B Computer Model 2/3	254-302-812	MFS	234-151-041
ADS (TUC and DUS)	254-251-010	MISC A, B, C	234-151-043
API	254-251-016	NCLK	234-151-013
AUB	254-251-010	PCDF J5A007B	254-251-025
CC	254-251-001	PCDF J5A007C	254-251-026
CNI	234-151-120	PS	254-251-005
CS	254-251-005	PUBB	234-151-015
DIF	234-151-055	SCS	234-151-077 (LEC) 234-151-077AC (AT&T)
DT	234-151-045	SP1	234-151-031
EST	234-151-050	SP2	234-151-032
IO J5A006A	254-251-020	TGR	234-151-033
IO J5A006C	254-251-021	TMS	234-151-011
IO J5A006D	254-251-022	TSI	234-151-012
		VIF	234-151-025

ENSURE ALL UNITS ARE IN-SERVICE



NOTE 1
FIG. 1 is based on 7-day rolling average for all per day measures; all other measures are as indicated. All resolved troubles are discounted from measures

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DETERMINE IF OFFICE IS STABLE

- INTERRUPTS

1A PROCESSOR	≤ 1 PER MEMBER NUMBER PER DAY ≤ 3 PER DAY TOTAL
TMS, NC, PUB, IO, CCIS	≤ 2 PER MEMBER NUMBER PER DAY ≤ 4 PER DAY TOTAL
PERIPHERY, PER OPERATIONAL SP CORE (SP, DT, TSI) OR DIF (DIF, TSI COMPLEX) (THE ALLOWABLE DAILY INTERRUPT COUNT SHALL NOT EXCEED 25, REGARDLESS OF OFFICE SIZE)	≤ 3 PER DAY
PBFRs	≤ 1 PER DAY

- INTERJECTS — ≤ 2 PER MEMBER NUMBER PER DAY
≤ 5 PER DAY TOTAL

- BASE LEVEL
  ANALYZED, CORRECTED AND/OR UNDERSTOOD

- PHASES/DUPLEX FAILURES

DIRECTED PHASE 1	≤ 1 IN 2 WEEKS
SYSTEM PHASE 1	≤ 1 IN 1 WEEK
PHASE 2 OR 3	≤ 1 IN 4 WEEKS
DT, VIF, OR EST	≤ 1 IN 4 WEEKS
TGR/TER LINK PAIR	≤ 1 IN 2 WEEKS

- OUT-OF-SERVICE UNITS

NUMBER OUT-OF-SERVICE	≤ 5 AT ANYTIME

CRITICAL UNITS:

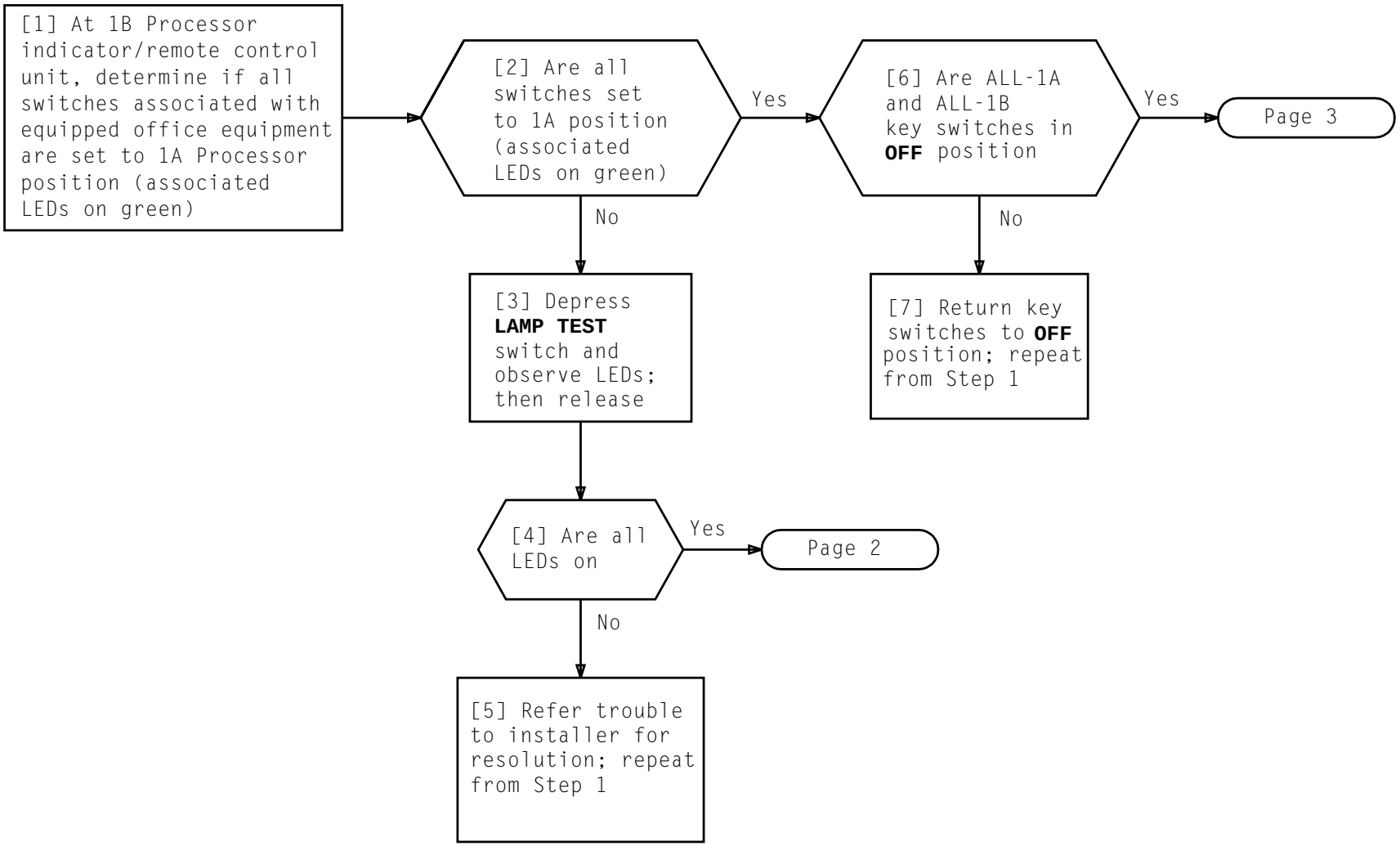
CC	DIF	PS	TMSP
CS	LN	PUB	TSI
CU	NCLK	SP	

- 3B COMPUTER

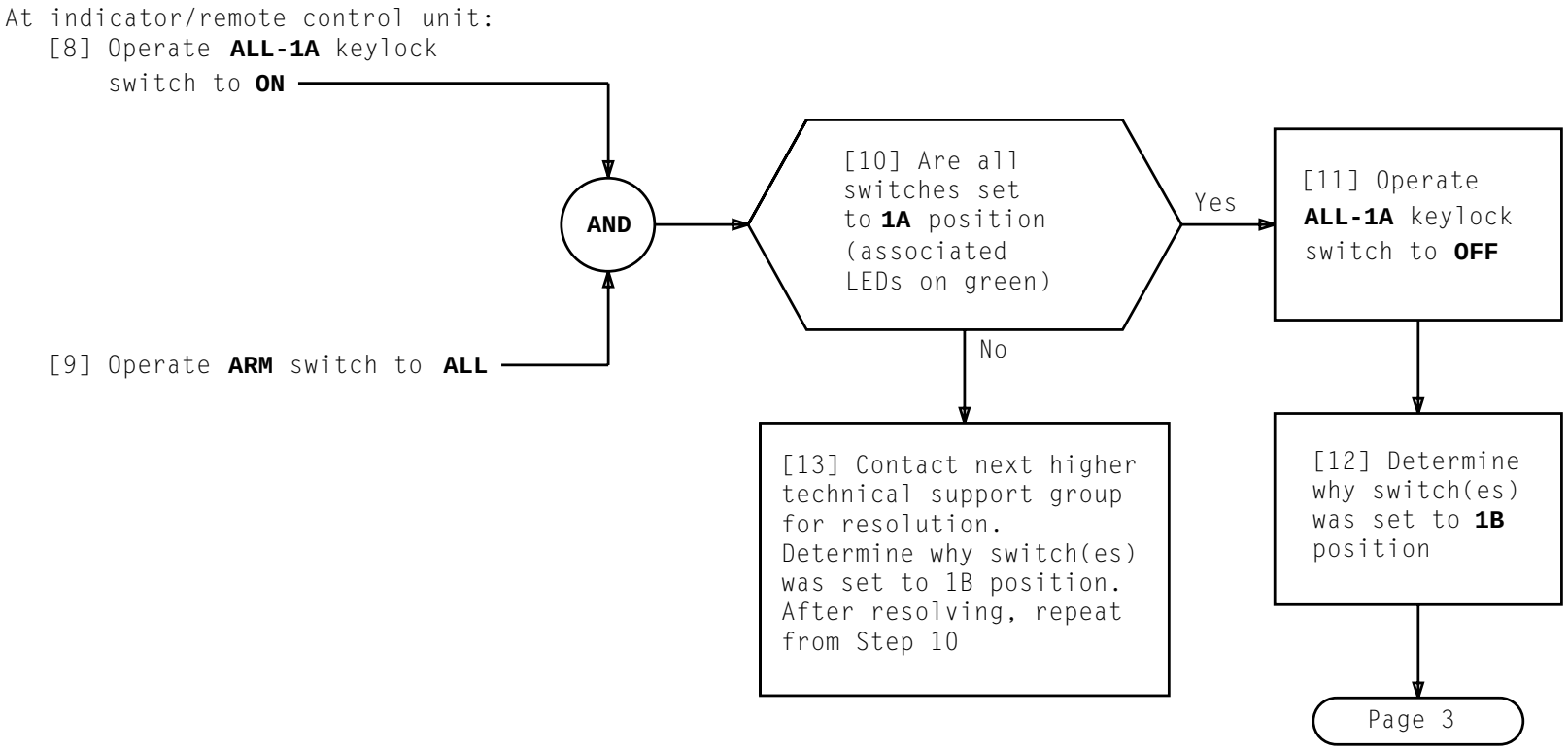
INTERRUPTS	≤ 3 PER DAY
PHASE 1	≤ 1 IN 4 WEEKS
PHASE 2 OR 3	≤ 1 IN 4 WEEKS
CNI RING INIT	≤ 1 IN 2 WEEKS
CNI RING TRANSPORT ERRORS	≤ 2 PER DAY
DLNE ERRORS	≤ 1 PER DAY

FIG. 1 - Office Stability Guidelines

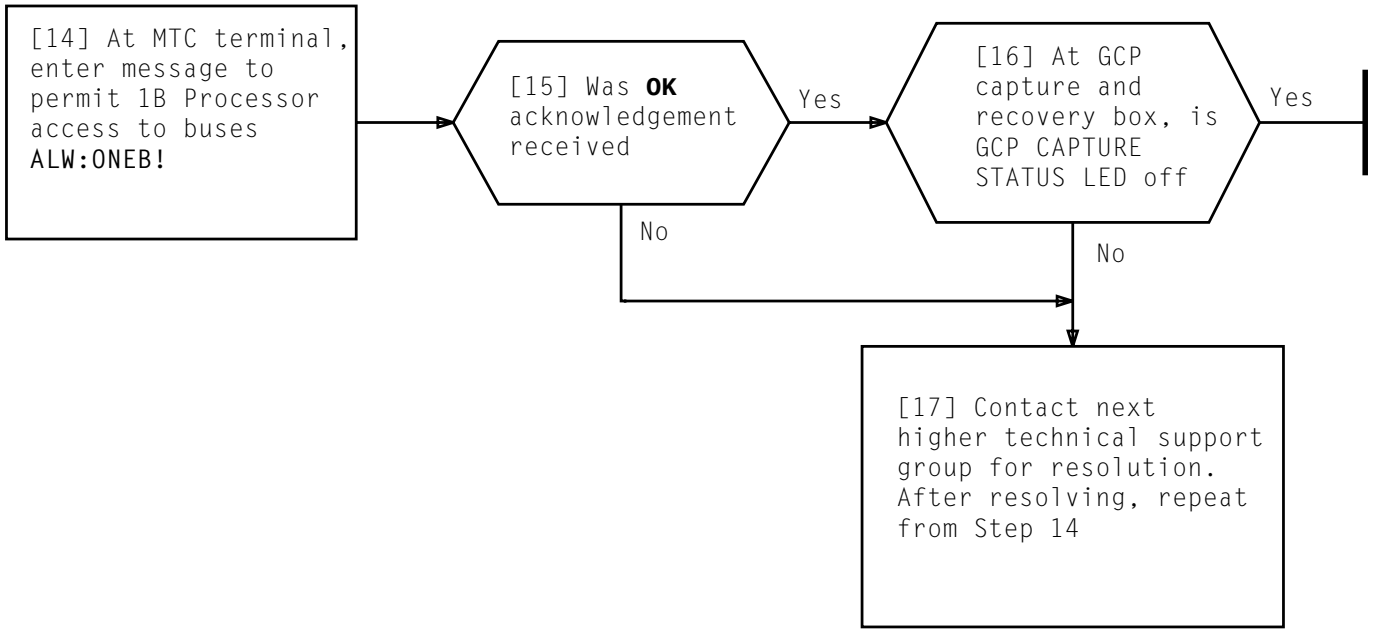
DETERMINE IF OFFICE IS STABLE



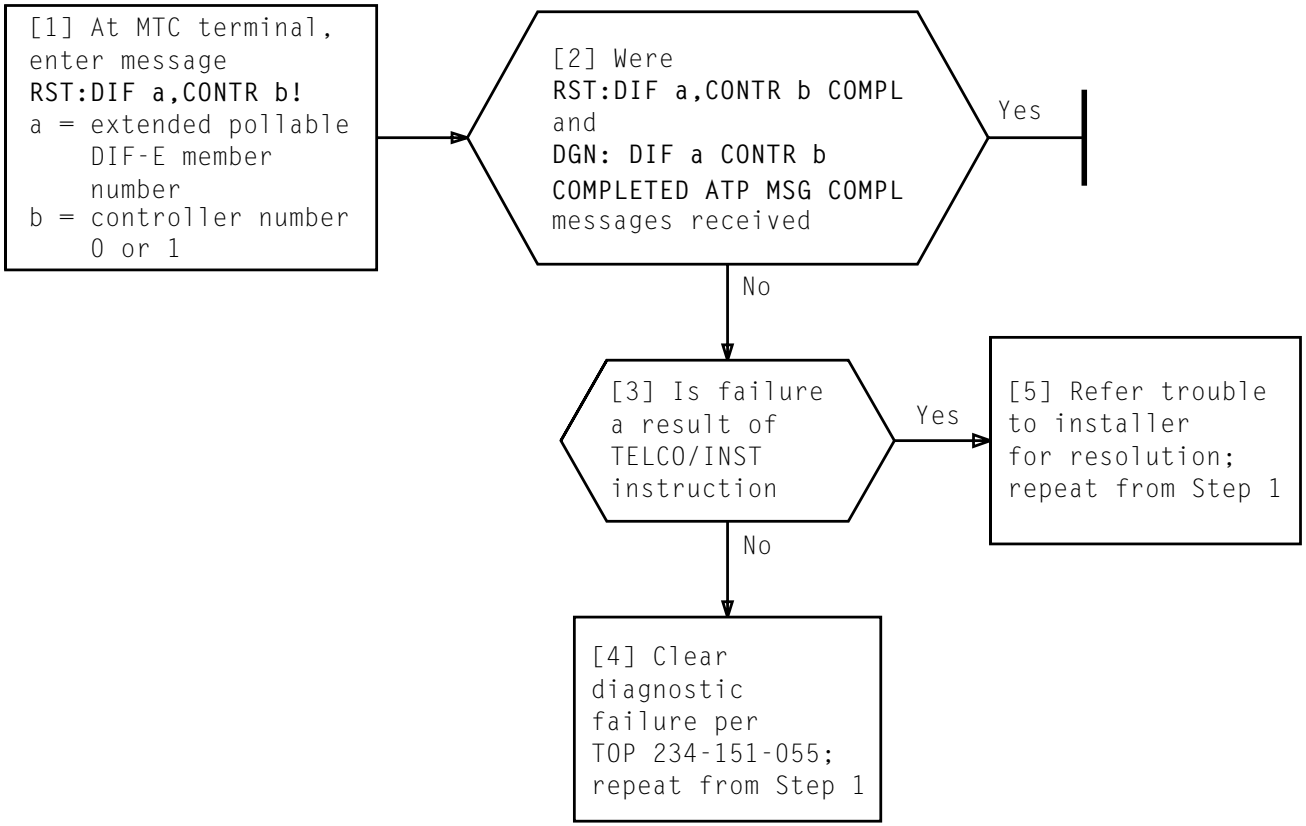
ENSURE 1B PROCESSOR INDICATOR/REMOTE CONTROL UNIT SWITCHES SET TO 1A PROCESSOR POSITION AND PERMIT BUS ACCESS



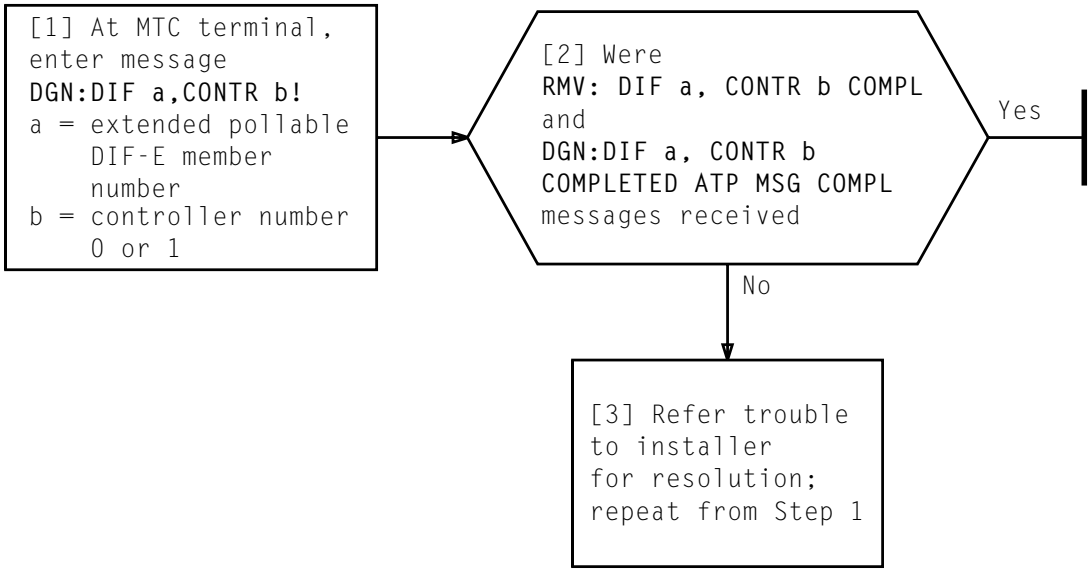
ENSURE 1B PROCESSOR INDICATOR/REMOTE CONTROL UNIT SWITCHES SET TO 1A PROCESSOR POSITION AND PERMIT BUS ACCESS



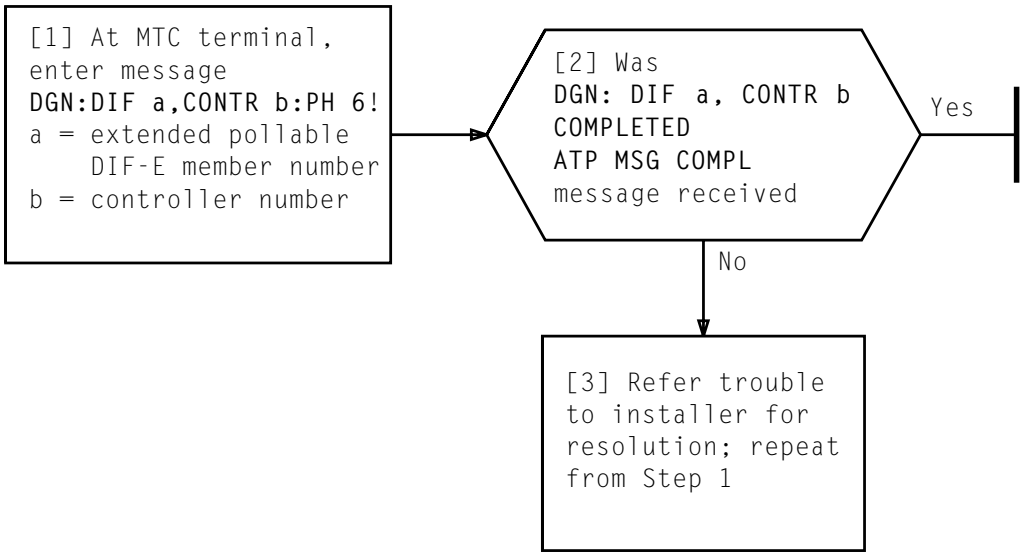
ENSURE 1B PROCESSOR INDICATOR/REMOTE CONTROL UNIT SWITCHES SET TO 1A PROCESSOR POSITION AND PERMIT BUS ACCESS



RESTORE EXTENDED POLLABLE DIF-E TO SERVICE



DIAGNOSE EXTENDED POLLABLE DIF-E



DIAGNOSE EXTENDED POLLABLE DIF-E PHASE 6

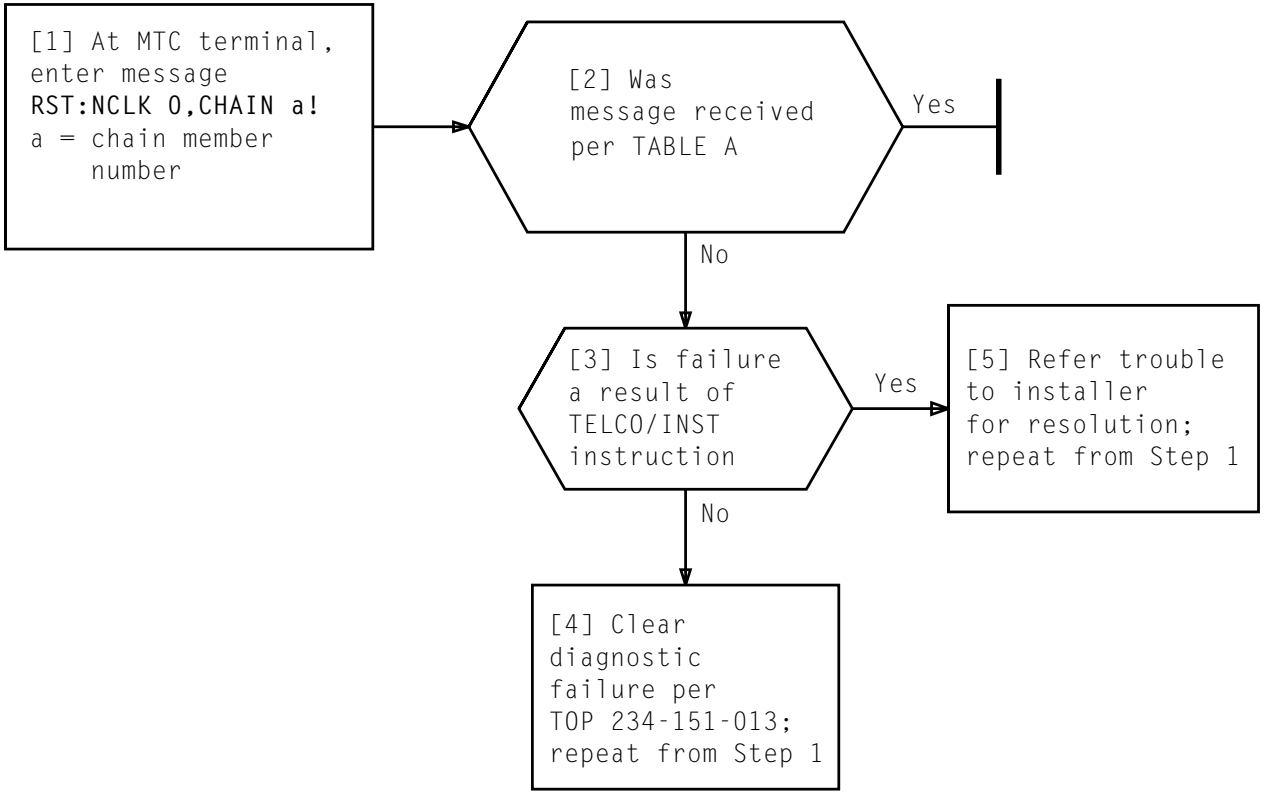
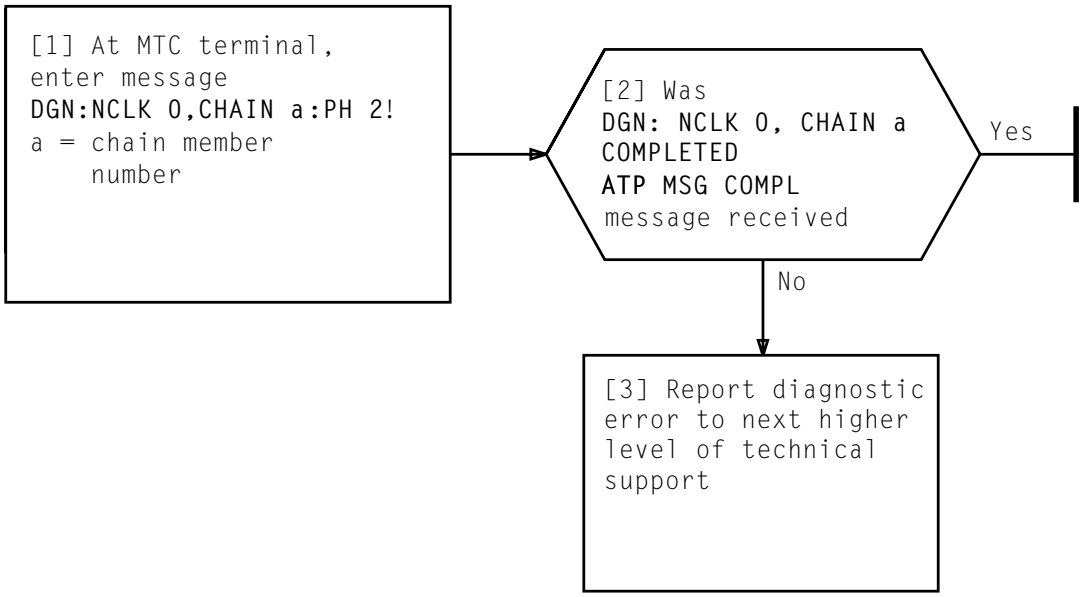


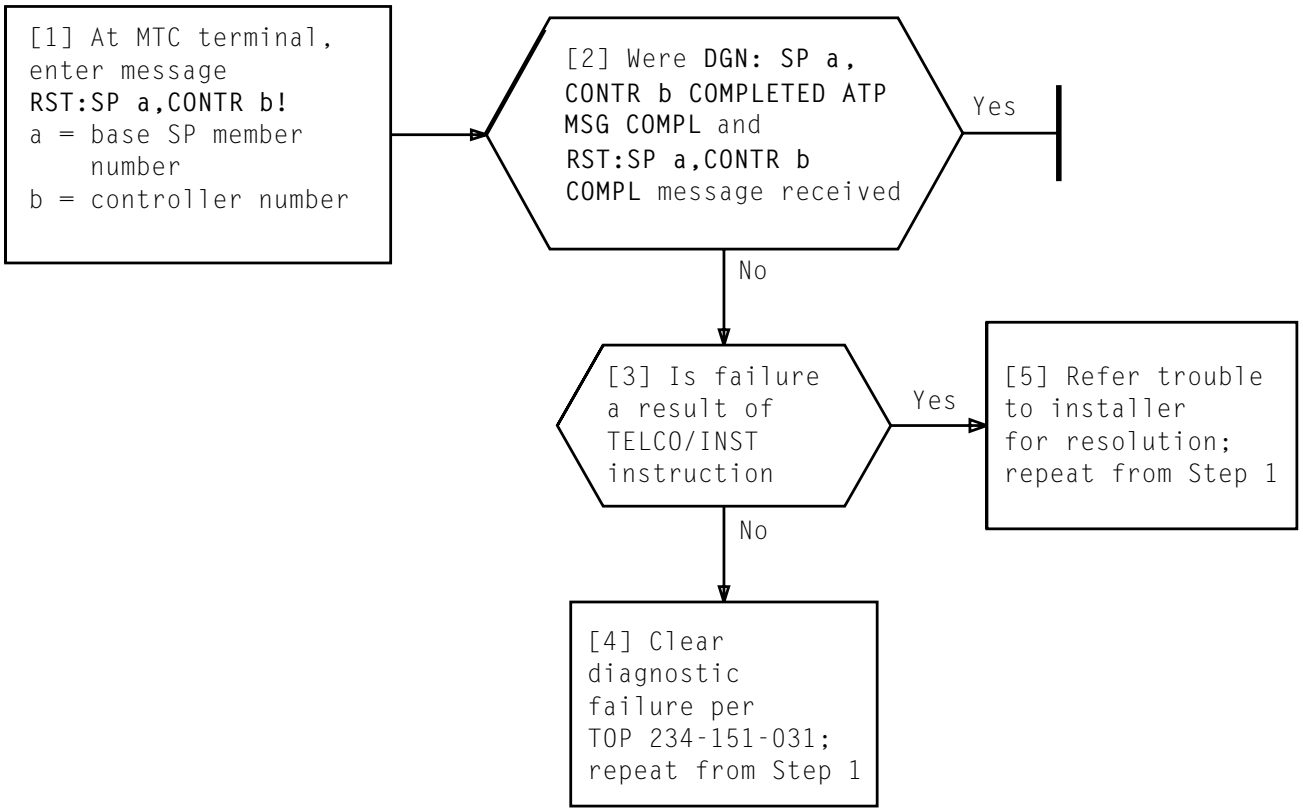
TABLE A

MESSAGE NUMBER	OUTPUT MESSAGES
1	RMV: NCLK 0, CHAIN a COMPL DGN: NCLK 0, CHAIN a COMPLETED ATP MSG COMPL REPT:NCLK 0:OSC I/S - CHAIN a RESTORED (WITH OSC) COMPLETE RST: NCLK 0, CHAIN a COMPL

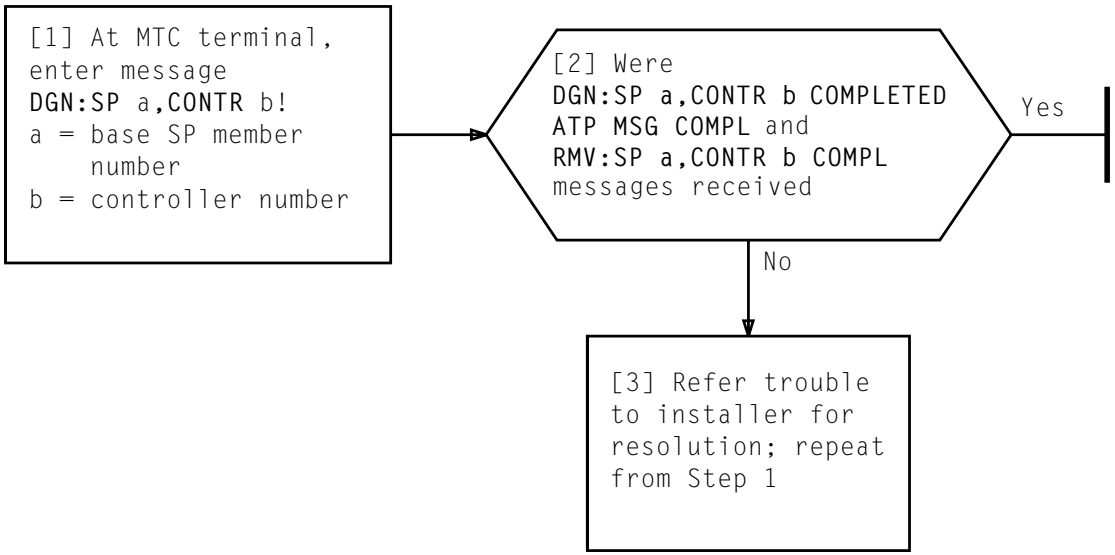
RESTORE NETWORK CLOCK CHAIN TO SERVICE



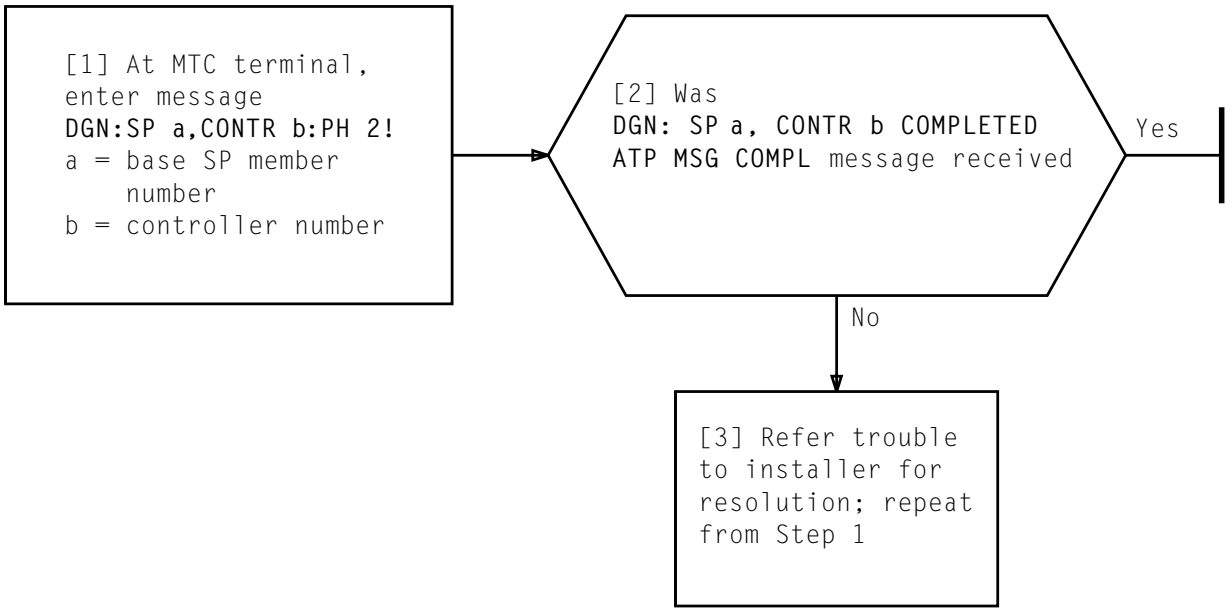
DIAGNOSE NETWORK CLOCK CHAIN



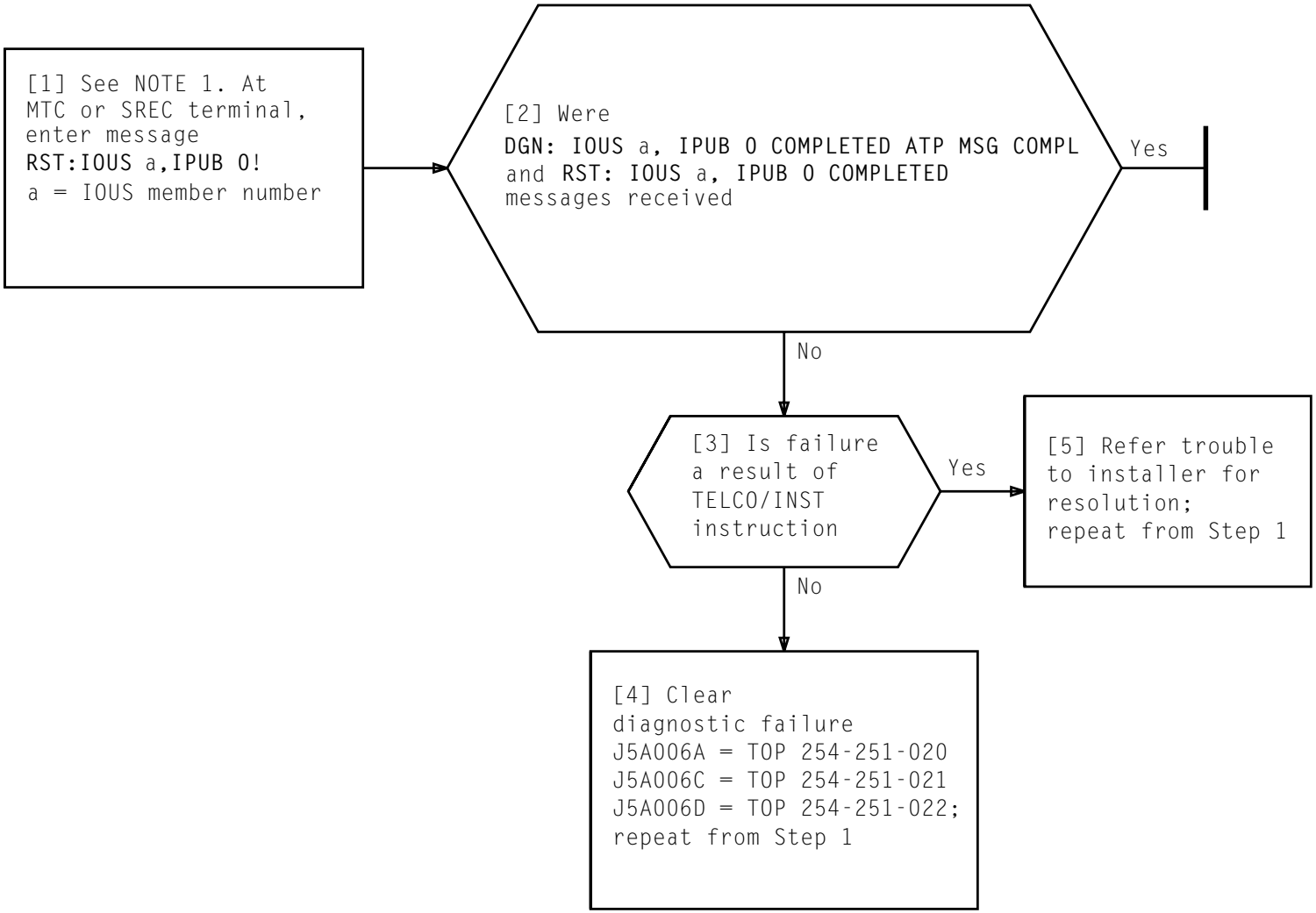
RESTORE BASE SP CONTROLLER TO SERVICE



DIAGNOSE BASE SP CONTROLLER

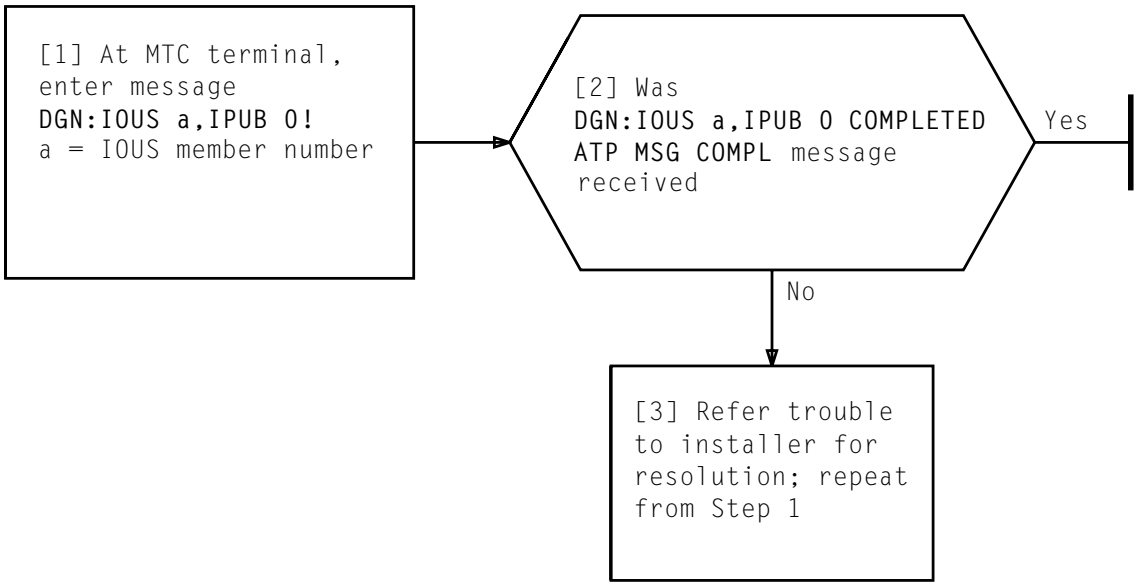


DIAGNOSE BASE SP CONTROLLER PHASE 2

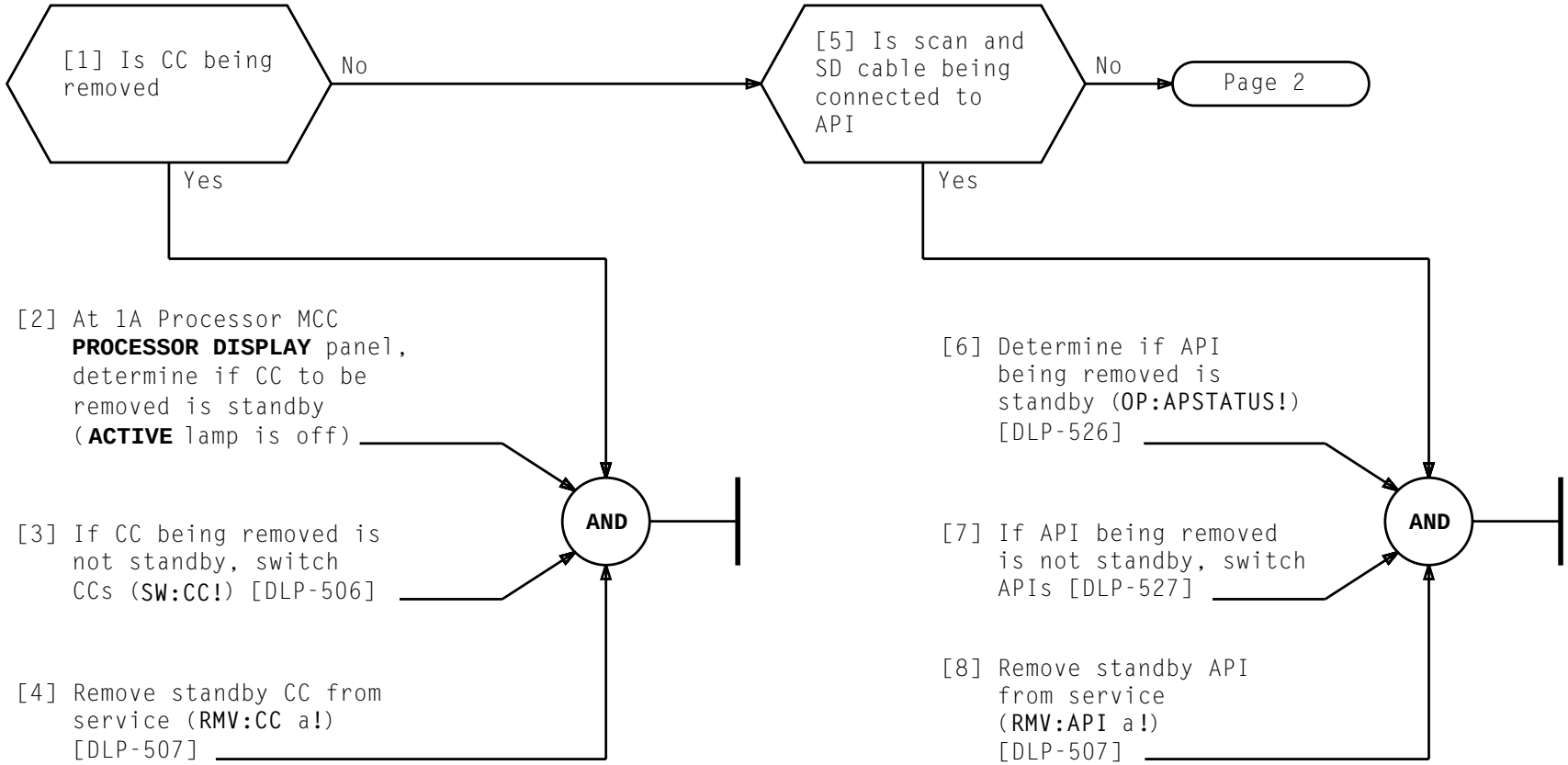


RESTORE IO/IOP TO SERVICE

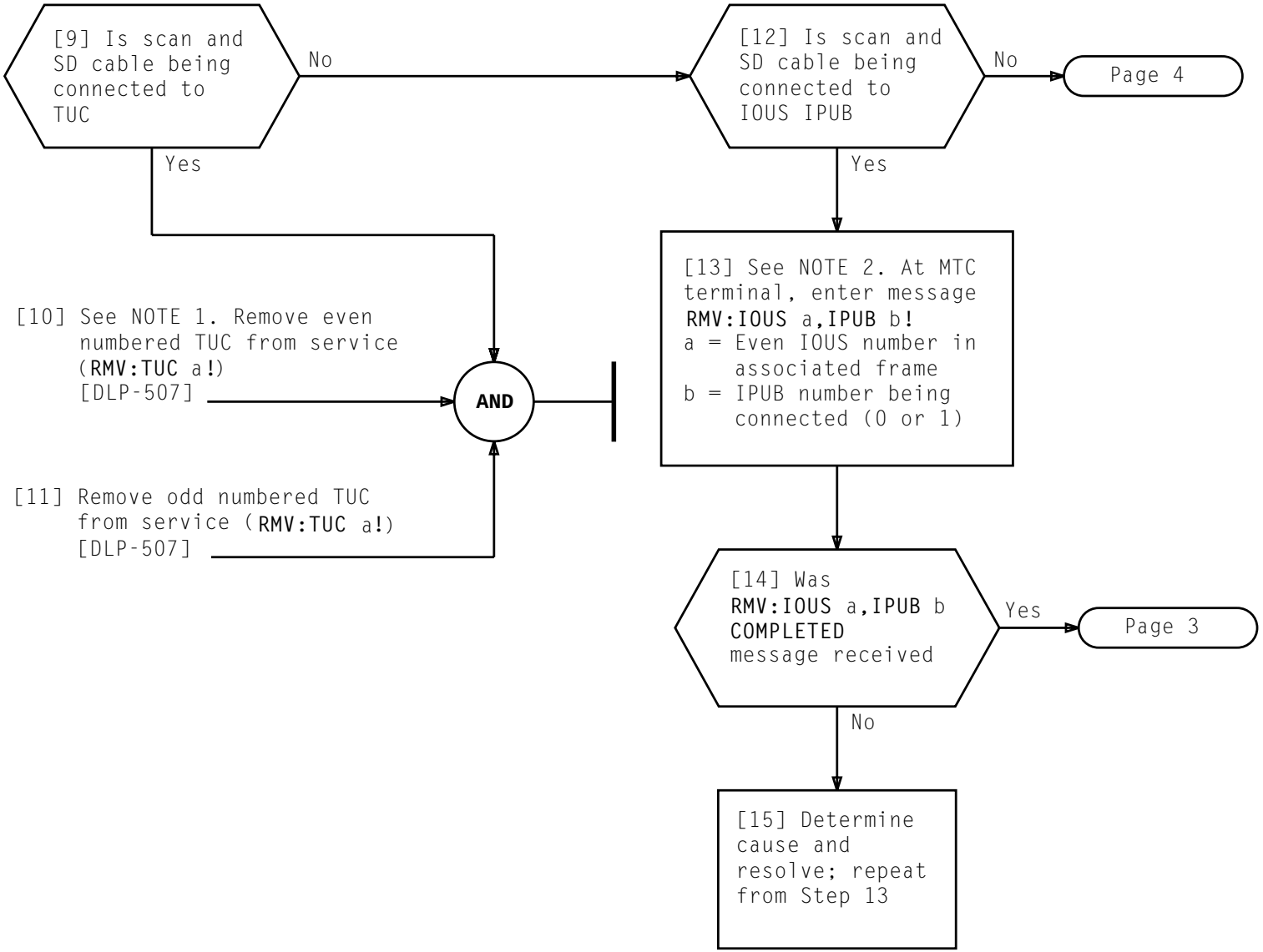
NOTE 1
If IOUS 0 is being restored, SREC terminal must be used to enter RST message



DIAGNOSE IO/IOP



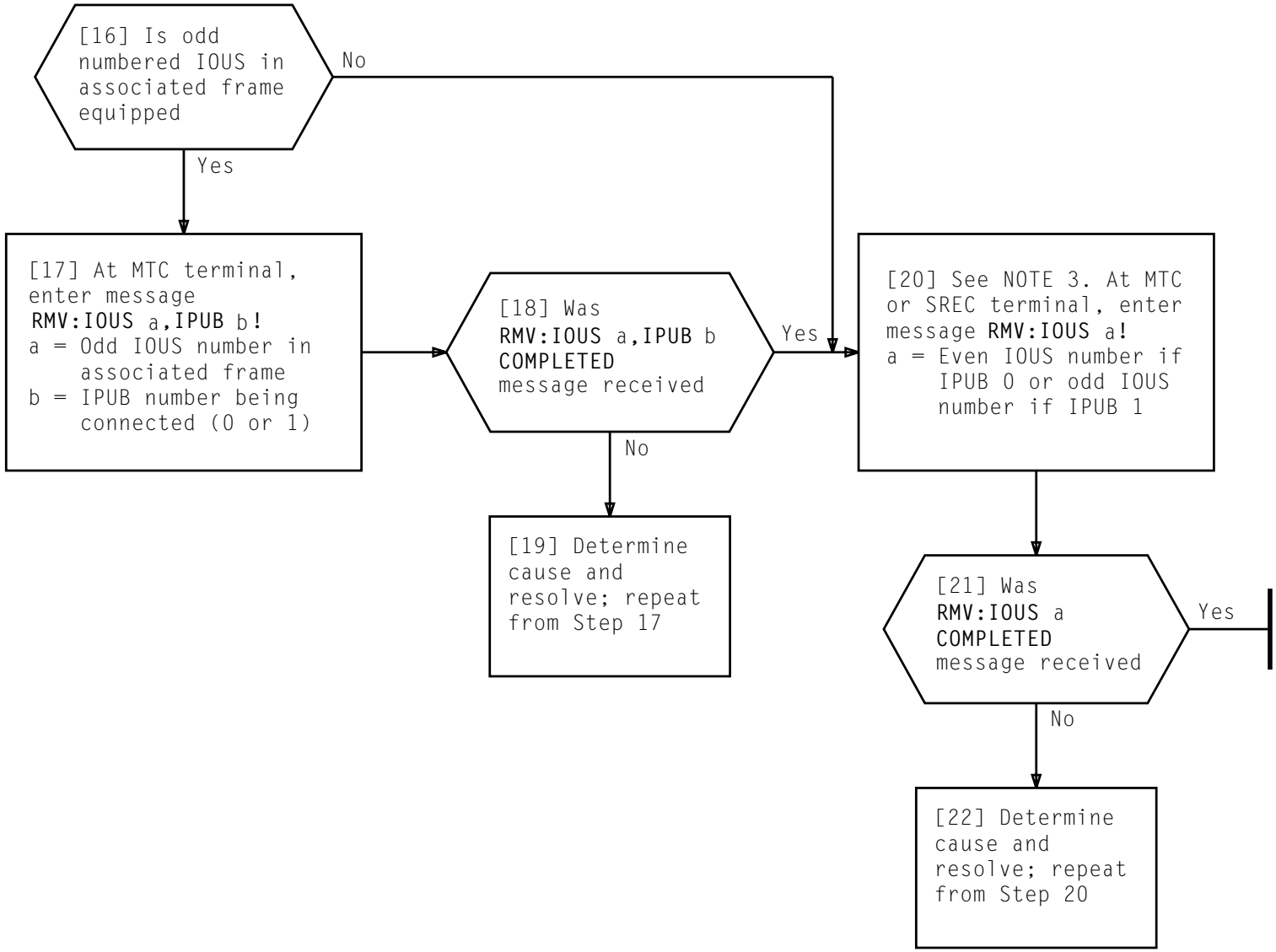
REMOVE UNIT OR FRAME FROM SERVICE



NOTES

1. One scan and SD cable is associated with one TUC pair (0 and 1, 2, and 3, etc).
2. Even and odd IOUSs in IO/IOP frame are associated with each IPUB

REMOVE UNIT OR FRAME FROM SERVICE



NOTE 3
Message must be entered from SREC terminal if removing IOUS 0 or MTC terminal if removing any other IOUS

REMOVE UNIT OR FRAME FROM SERVICE

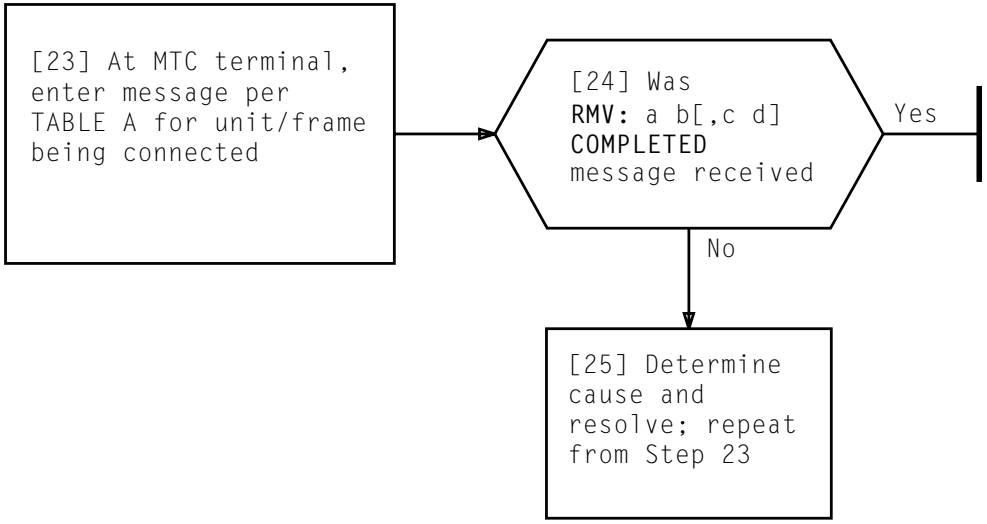
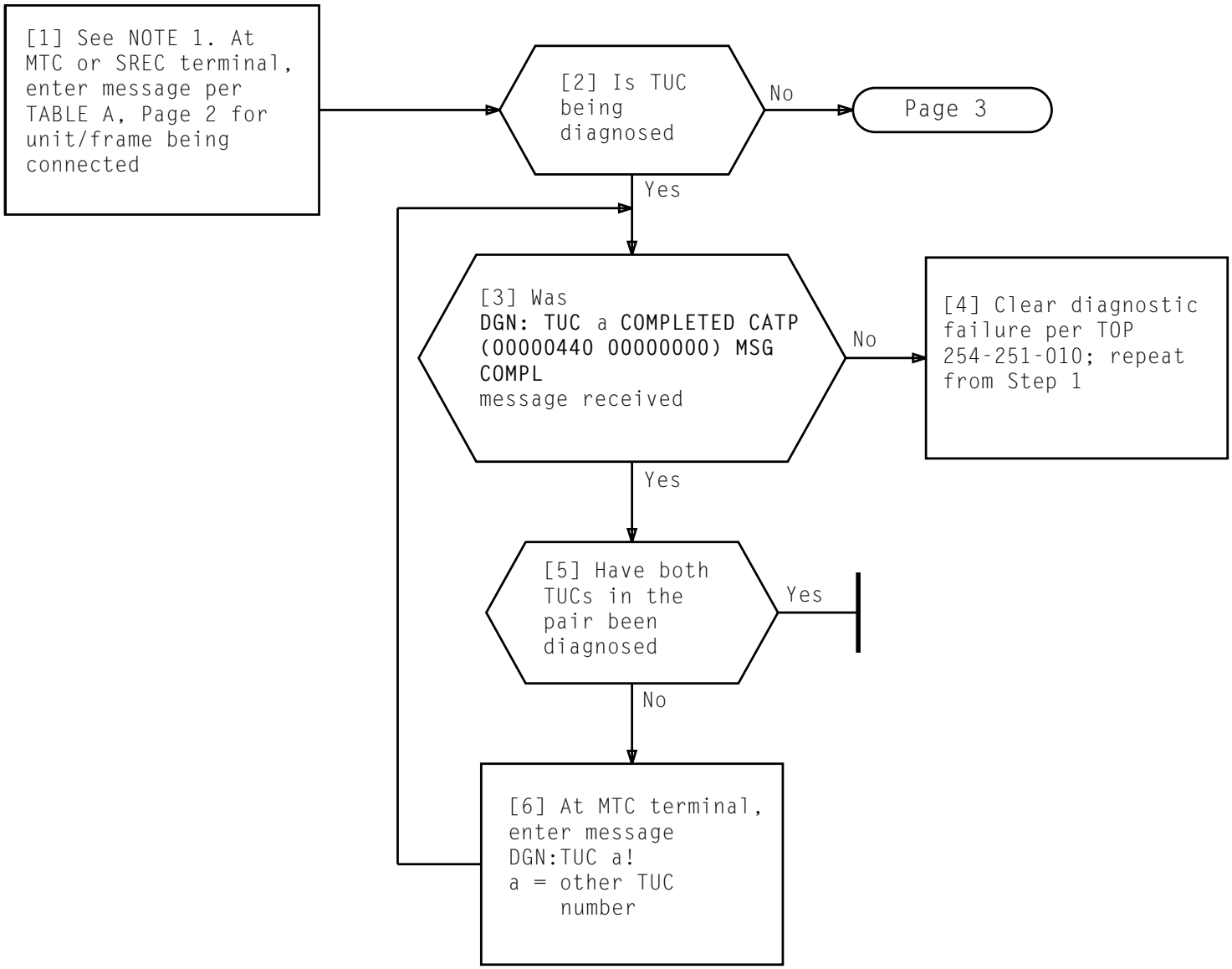


TABLE A

MESSAGE NUMBER	INPUT MESSAGES
1	RMV:PCD a,CONV b! a = PCD number (0 or 1) b = Converter number (0, 1, or 2)
2	RMV:PCD a,DAMON 0 a = PCD number (0 or 1)
3	RMV:DUS a! a = DUS number (0 or 1)

REMOVE UNIT OR FRAME FROM SERVICE



NOTE 1
If IOUS 0 is being diagnosed, SREC terminal must be used to enter message. MTC terminal should be used for all other diagnostics

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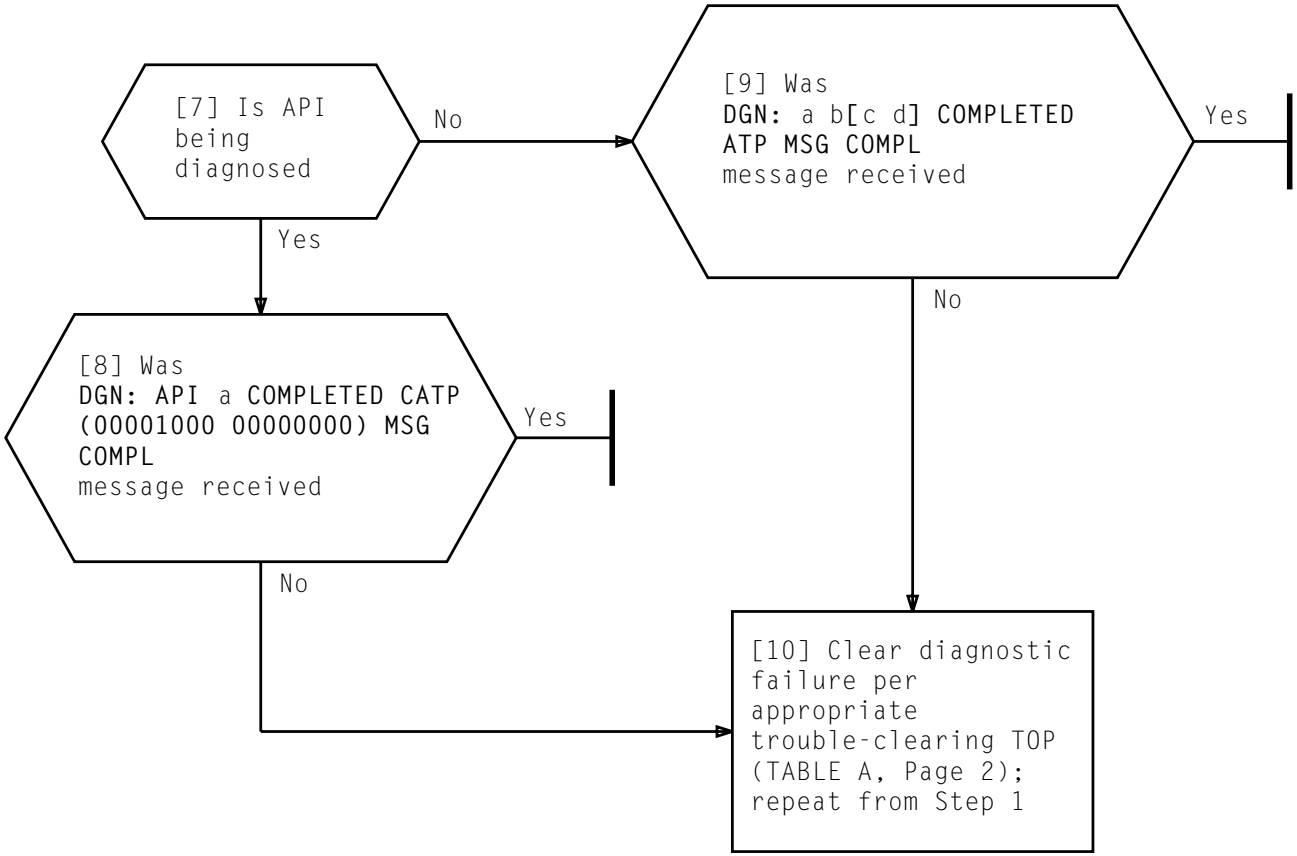
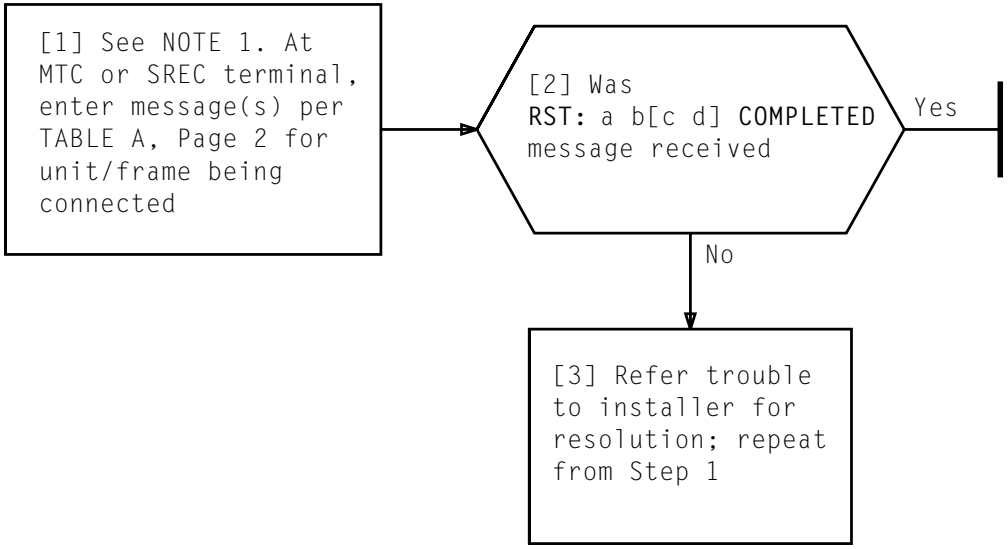
DIAGNOSE UNIT OR FRAME

TABLE A		
MESSAGE NUMBER	**INPUT MESSAGE**	**TROUBLE-CLEARING VOLUME**
1	DGN:PCD a,CONV b! a = PCD number (0 or 1) b = Converter number (0, 1, or 2)	J5A007B = 254-251-025 J5A007C = 254-251-026
2	DGN:PCD a,DAMON 0! a = PCD number (0 or 1)	
3	DGN:TUC c! c = TUC member number	254-251-010
4	DGN:DUS d! d = DUS member number (0 or 1)	
5	DGN:API e! e = API member number (0 or 1)	254-251-016
6*	DGN:IOUS f! f = IOUS number	J5A006A = 254-251-020 J5A006C = 254-251-021 J5A006D = 254-251-022
* IPUBs are not diagnsosed		



DIAGNOSE UNIT OR FRAME

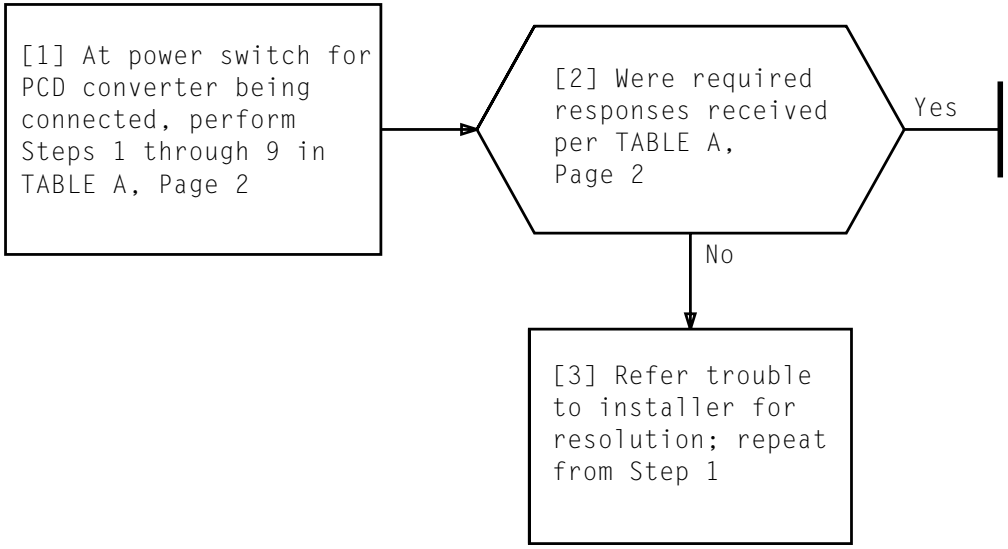


NOTE 1
When restoring IOUS 0, RST messages must be entered from SREC terminal

RESTORE UNIT OR FRAME TO SERVICE

TABLE A

MESSAGE NUMBER	INPUT MESSAGE	TROUBLE-CLEARING VOLUME
1	RST:PCD a,CONV b! a = PCD number (0 or 1) b = Converter number (0, 1, or 2)	J5A007B = 254-251-025 J5A007C = 254-251-026
2	RST:PCD a,DAMON 0! a = PCD number (0 or 1)	
3	RST:TUC c! c = TUC member number	254-251-010
4	RST:DUS d! d = DUS member number (0 or 1)	
5	RST:API e! e = API member number (0 or 1)	254-251-016
6	RST:IOUS f,IPUB g! RST:IOUS h,IPUB g! f = Even IOUS number (0 or 1) g = IPUB number (0 or 1) h = Odd IOUS number (if equipped) RST:IOUS f!	J5A006A = 254-251-020 J5A006C = 254-251-021 J5A006D = 254-251-022
7	RST:CC i!	254-251-001



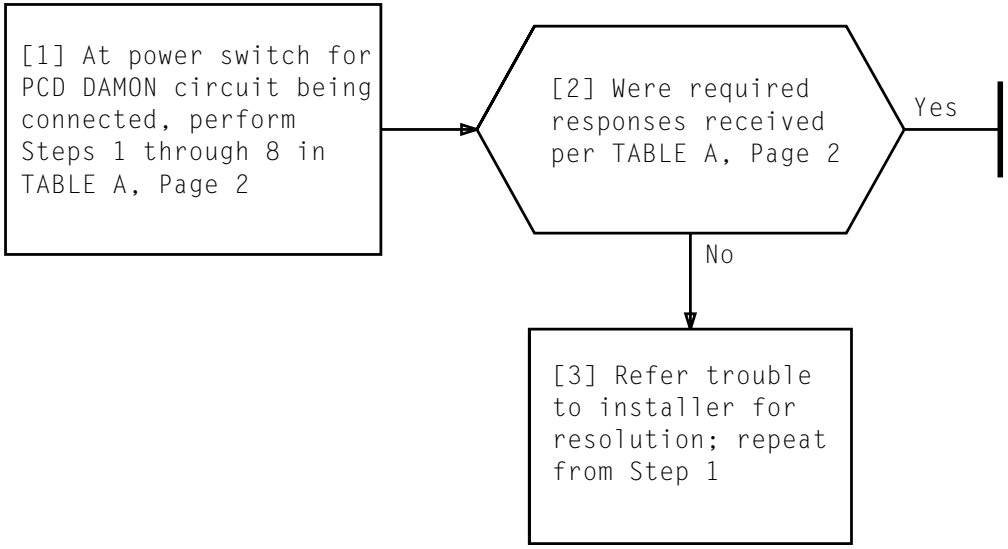
PERFORM PCD CONVERTER POWER CYCLE TEST

TABLE A

STEP	ACTION	REQUIRED RESPONSES				OUTPUT MESSAGES
		POWER SWITCH LAMPS				
		OFF NORM	ACK	OS	PWR OFF	
1	Observe initial conditions	Off	Off	Off	Off	None
2	Depress and hold **TEST** pushbutton	*ON*	*ON*	*ON*	*ON*	None
3	Release **TEST** pushbutton	*OFF*	*OFF*	*OFF*	*OFF*	None
4	***Rotate **ROS/OFF** switch clockwise to **ROS** position	*ON*	*ON* then *OFF*	*OFF* then *ON*	Off	RMV: PCD a, CONV b COMPLETED a = PCD member number b = Converter number
5	†Depress and release **ROS/OFF** switch	On	Off	On	*ON*	REPT: MAN PWR RMVD PCD a, CONV b RMV: PCD a, CONV b COMPLETED
6	Wait at least 1 minute, then depress and release **ON** pushbutton	On	Off	On	*OFF*	None
7	Reset converter switch **S2**	On	Off	On	Off	REPT: PWR RSTD PCD a, CONV b
8	Rotate **ROS**/**OFF** switch counter-clockwise to normal position	*OFF*	*ON* then *OFF*	On	Off	DGN: PCD a, CONV b PH c NTR DGN: PCD a, CONV b COMPLETED NTR RST: PCD a, CONV b STOPPED OOS FAULT
9	At MTC terminal, enter message RST:PCD a,CONV b! a = PCD member number b = Converter number	Off	Off	On then *OFF*	Off	DGN: PCD a, CONV b PH c ATP DGN: PCD a, CONV b COMPLETED ATP RST: PCD a, CONV b STOPPED

* **ACK**, **OS**, **FA**, and **PA** lamps on mate converter light momentarily
† Converter switch **S2** is thrown as a result of removing power

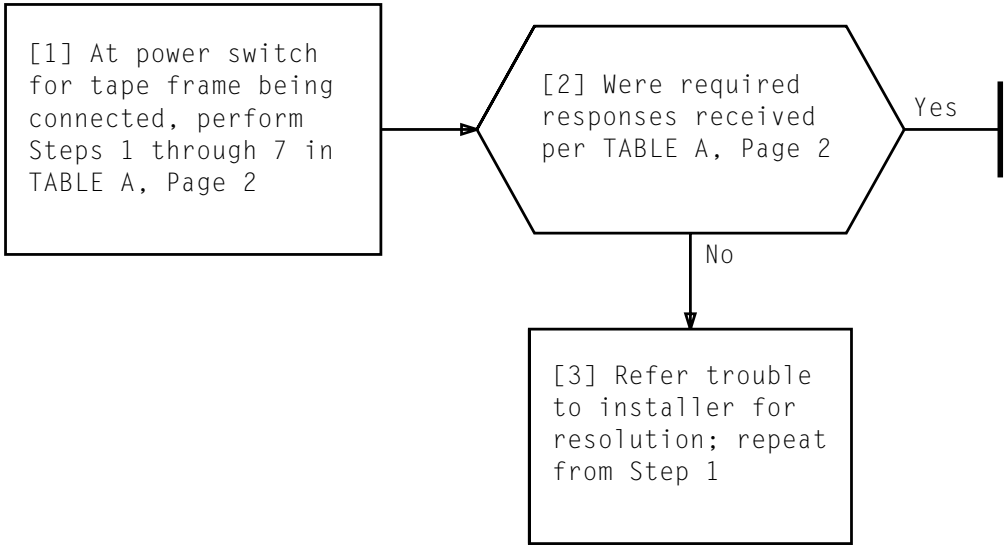
PERFORM PCD CONVERTER POWER CYCLE TEST



PERFORM PCD DAMON CIRCUIT POWER CYCLE TEST

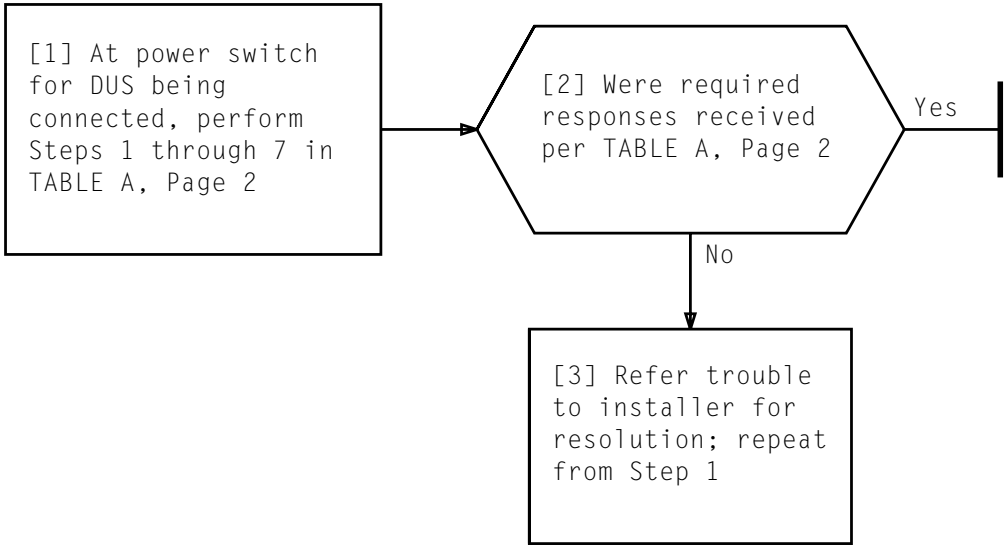
TABLE A

STEP	ACTION	REQUIRED RESPONSES				
		POWER SWITCH LAMPS				OUTPUT MESSAGES
		OFF NORM	ACK	OS	PWR OFF	
1	Observe initial conditions	Off	Off	Off	Off	None
2	Depress and hold **TEST** pushbutton	*ON*	*ON*	*ON*	*ON*	None
3	Release **TEST** pushbutton	*OFF*	*OFF*	*OFF*	*OFF*	None
4	Rotate **ROS/OFF** switch clockwise to **ROS** position	*ON*	*ON* then *OFF*	*OFF* then *ON*	Off	RMV: PCD a, DAMON 0 COMPLETED a = Member number of PCD being tested
5	Depress and release **ROS/OFF** switch	On	Off	On	*ON*	REPT: MAN PWR RMVD PCD a, DAMON 0 RMV: PCD a, DAMON 0 COMPLETED
6	Depress and release **ON** pushbutton	On	Off	On	*OFF*	REPT: PWR RSTD PCD a, DAMON 0
7	Rotate **ROS/OFF** switch counterclockwise to normal position	*OFF*	*ON* then *OFF*	On	Off	DGN: PCD a, DAMON 0 PH1 NTR DGN: PCD a, DAMON 0 COMPLETED NTR RST: PCD a, DAMON 0 STOPPED OOS FAULT
8	At MTC terminal, enter message RST:PCD a,DAMON 0! a = PCD member number being tested	Off	*ON* then *OFF*	On then *OFF*	Off	DGN: PCD a, DAMON 0 PH1 ATP DGN: PCD a, DAMON 0 COMPLETED ATP RST: PCD a, DAMON 0 COMPLETED



PERFORM TAPE FRAME POWER CYCLE TEST

TABLE A						
STEP	ACTION	REQUIRED RESPONSES				
		POWER SWITCH LAMPS				OUTPUT MESSAGES
		OFF NORM	ACK	OS	PWR OFF	
1	Observe initial conditions	Off	Off	Off	Off	None
2	Depress and hold **TEST** pushbutton	*ON*	*ON*	*ON*	*ON*	None
3	Release **TEST** pushbutton	*OFF*	*OFF*	*OFF*	*OFF*	None
4	Rotate **ROS**/**OFF** switch clockwise to **ROS** position	*ON*	*ON* then *OFF*	*OFF* then *ON*	Off	RMV: TUC a COMPLETED a = TUC member number
5	Depress and release **ROS**/**OFF** switch	On	Off	On	*ON*	REPT: MAN PWR RMVD TUC a RMV: TUC a COMPLETED
6	Depress and release **ON** pushbutton	On	Off	On	*OFF*	REPT: PWR RSTD TUC a
7	Rotate **ROS**/**OFF** switch counterclockwise to normal position	*OFF*	*ON* then *OFF*	On then *OFF*	Off	DGN: TUC a COMPLETED CATP RST: TUC a COMPLETED

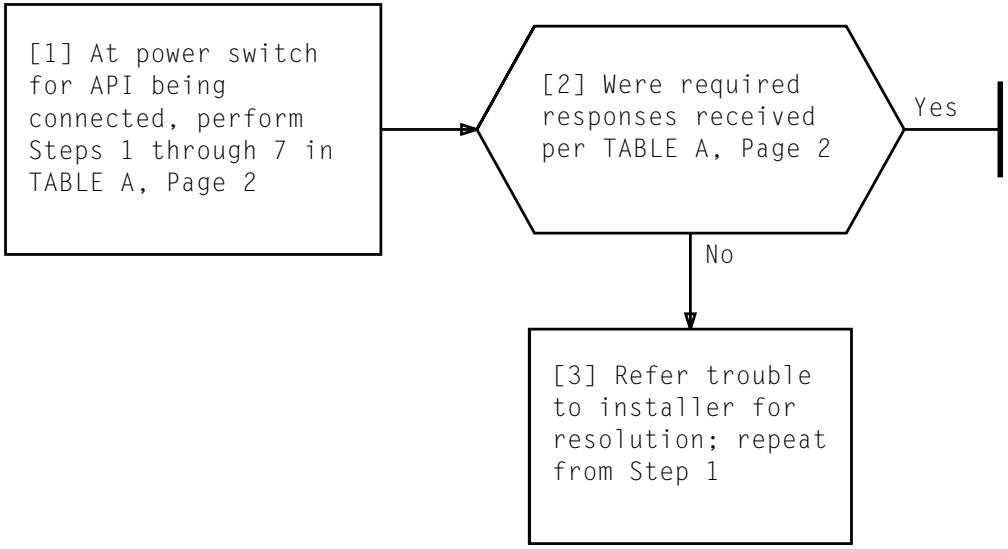


PERFORM DUS POWER CYCLE TEST

TABLE A

STEP	ACTION	REQUIRED RESPONSES				
		POWER SWITCH LAMPS				OUTPUT MESSAGES
		OFF NORM	ACK	OS	PWR OFF	
1	Observe initial conditions	Off	Off	Off	Off	None
2	Depress and hold **TEST** pushbutton	*ON*	*ON*	*ON*	*ON*	None
3	Release **TEST** pushbutton	*OFF*	*OFF*	*OFF*	*OFF*	None
4	Rotate **ROS**/**OFF** switch clockwise to **ROS** position	*ON*	*ON* then *OFF*	*OFF* then *ON*	Off	RMV: DUS a COMPLETED a = Member number of DUS
5	Depress and release **ROS**/**OFF** switch	On	Off	On	*ON*	REPT: MAN PWR RMVD DUS a FRM: API b b = API member number RMV: DUS a COMPLETED
6	Depress and release **ON** pushbutton	On	Off	On	*OFF*	REPT: PWR RSTD DUS a FRM: API b
7	Rotate **ROS**/**OFF** switch counterclockwise to normal position	*OFF*	*ON* then *OFF*	On then *OFF*	Off	DGN: DUS a :TUC c COMPLETED CATP c = TUC member number TEST: DUS a : TUC c ATP RST: DUS a COMPLETED

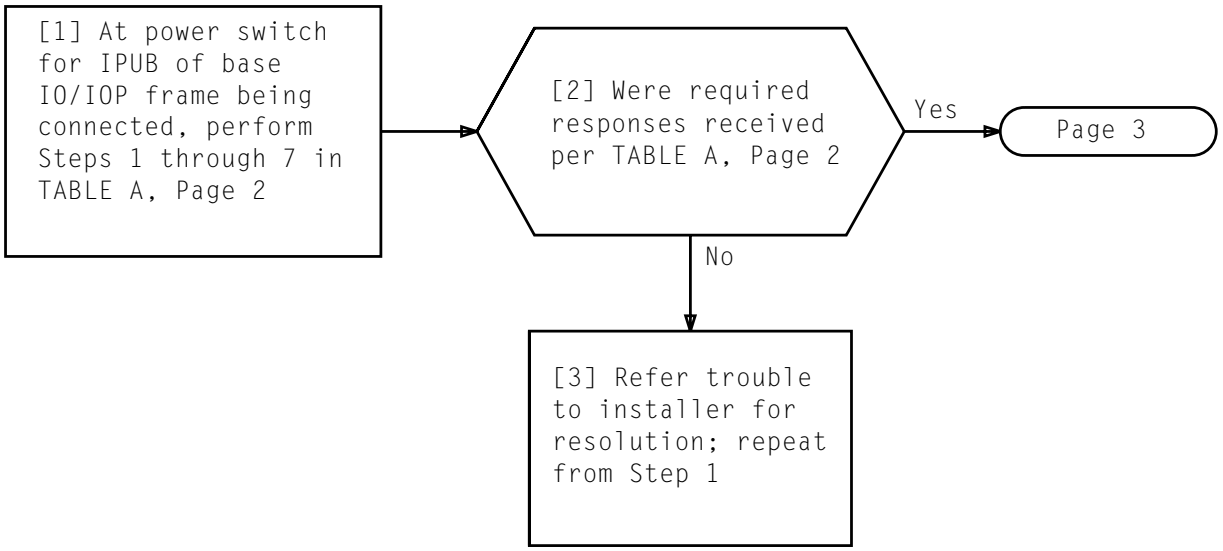
PERFORM DUS POWER CYCLE TEST



PERFORM API POWER CYCLE TEST

TABLE A

STEP	ACTION	REQUIRED RESPONSES				
		POWER SWITCH LAMPS				OUTPUT MESSAGES
		OFF NORM	ACK	OS	PWR OFF	
1	Observe initial conditions	Off	Off	Off	Off	None
2	Depress and hold **TEST** pushbutton	*ON*	*ON*	*ON*	*ON*	None
3	Release **TEST** pushbutton	*OFF*	*OFF*	*OFF*	*OFF*	None
4	Rotate **ROS/OFF** switch clockwise to **ROS** position	*ON*	*ON* then *OFF*	*OFF* then *ON*	Off	RMV: API a COMPLETED a = API member number
5	Depress and release **ROS/OFF** switch	On	Off	On	*ON*	REPT: MAN PWR RMVD API a RMV: API a COMPLETED
6	Depress and hold **ON** pushbutton until **PWR OFF** lamp goes off	On	Off	On	*OFF*	REPT: PWR RSTD API a
7	Rotate **ROS/OFF** switch counterclockwise to normal position	*OFF*	*ON* then *OFF*	On then *OFF*	Off	DGN: API a COMPLETED ATP TEST: API a ATP RST: API a COMPLETED

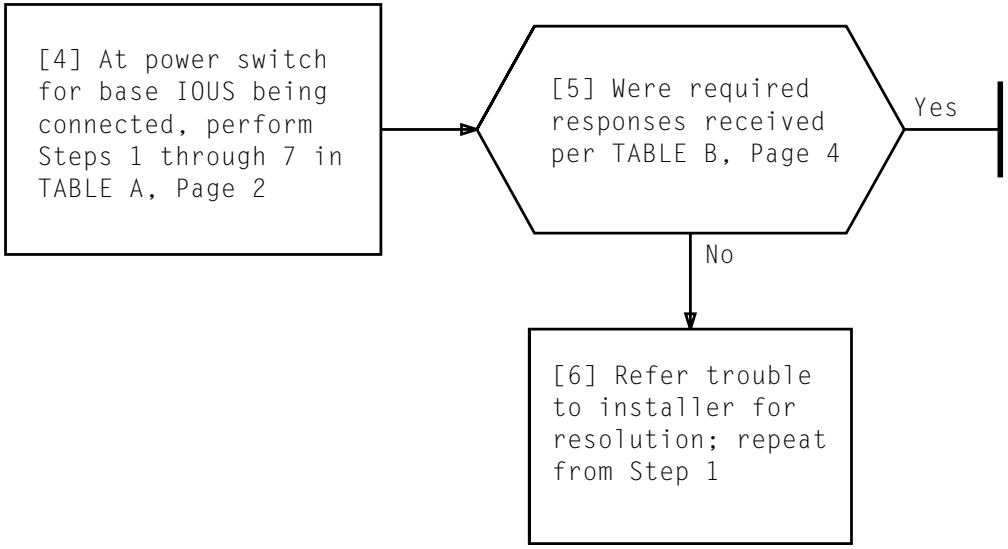


PERFORM BASE IOUS POWER CYCLE TEST

TABLE A

STEP	ACTION	REQUIRED RESPONSES				
		POWER SWITCH LAMPS				OUTPUT MESSAGES
		OFF NORM	ACK	OS	PWR OFF	
1	Observe initial conditions	Off	Off	Off	Off	None
2	Depress and hold **TEST** pushbutton	*ON*	*ON*	*ON*	*ON*	None
3	Release **TEST** pushbutton	*OFF*	*OFF*	*OFF*	*OFF*	None
4	Rotate **ROS**/**OFF** switch clockwise to **ROS** position	*ON*	*ON* then *OFF*	*OFF* then *ON*	Off	RMV: IOUS a IPUB b COMPLETED RMV: IOUS a IPUB b COMPLETED a = IOUS member number b = IO bus number (0 or 1)
5	Depress and release **ROS**/**OFF** switch	On	Off	On	*ON*	REPT: MAN PWR RMVD IOUS a, IPUB b FRM:IO c c = Frame number RMV: IOUS a IPUB b COMPLETED RMV: IOUS a IPUB b COMPLETED
6	Depress and release **ON** pushbutton	On	Off	On	*OFF*	REPT:PWR RSTD IOUS a, IPUB b FRM:IO c
7	Rotate **ROS**/**OFF** switch counterclockwise to normal position	*OFF*	*ON* then *OFF*	On then *OFF*	Off	DGN:IOUS a, IPUB b COMPLETED CATP RST:IOUS a, IPUB b COMPLETED

PERFORM BASE IOUS POWER CYCLE TEST



PERFORM BASE IOUS POWER CYCLE TEST

TABLE B

STEP	ACTION	REQUIRED RESPONSES				
		POWER SWITCH LAMPS				OUTPUT MESSAGES
		OFF NORM	ACK	OS	PWR OFF	
1	Observe initial conditions	Off	Off	Off	Off	None
2	Depress and hold **TEST** pushbutton	*ON*	*ON*	*ON*	*ON*	None
3	Release **TEST** pushbutton	*OFF*	*OFF*	*OFF*	*OFF*	None
4	Rotate **ROS**/**OFF** switch clockwise to **ROS** position	*ON*	*ON* then *OFF*	*OFF* then *ON*	Off	RMV: IOUS a COMPLETED a = Member number of IOUS
5	Depress and release **ROS**/**OFF** switch	On	Off	On	*ON*	REPT: MAN PWR RMVD IOUS a FRM: IO b b = Frame number RMV: IOUS a COMPLETED
6	Depress and release **ON** pushbutton	On	Off	On	*OFF*	REPT:PWR RSTD IOUS a FRM: IO b
7	Rotate **ROS**/**OFF** switch counterclockwise to normal position	*OFF*	*ON* then *OFF*	On then *OFF*	Off	DGN:IOUS a COMPLETED CATP RST:IOUS a COMPLETED DGN:IOUS a c 0 COMPLETED ATP RST:IOUS a c 0 COMPLETED DGN:IOUS a c 1 COMPLETED ATP RST:IOUS a c 1 COMPLETED c = IOMP or IOUC

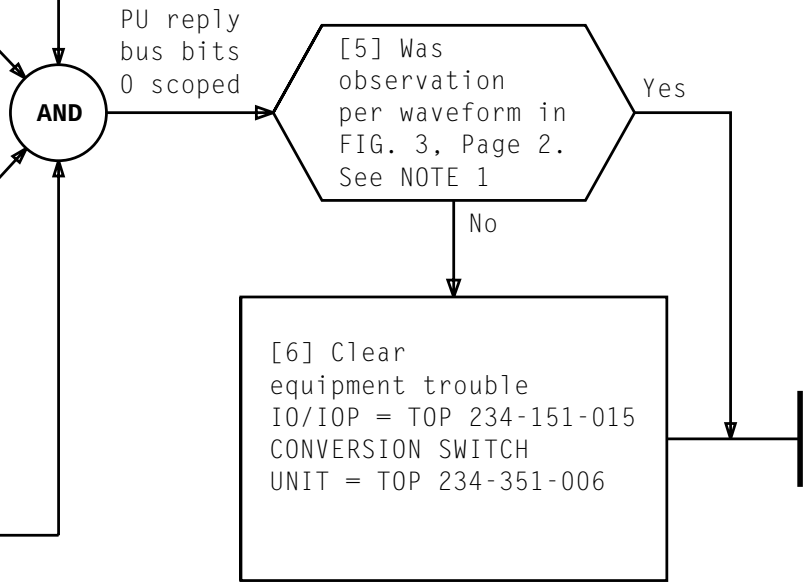
PERFORM BASE IOUS POWER CYCLE TEST

[1] Use FIG. 1, Page 2 if doing initial scoping. Use FIG. 2, Page 2 if adding conversion switch unit

[2] Locate connector location in FIG., determined in Step 1, for bus to be scoped

[3] Connect storage scope with bus scoping adapter to connector location determined in Step 2 [See DLP-568 on how to use scope adapter]

[4] Scope bit 0 in dashed line box, per FIG., determined in Step 1, at connector locations on line in Step 2. Observe oscilloscope waveform [FIG. 3, Page 2]. See NOTE 1



NOTE 1
Pulse waveform will vary, depending on distance away from driver. Waveform measurements should be similar to examples shown in FIG. 3, Page 2

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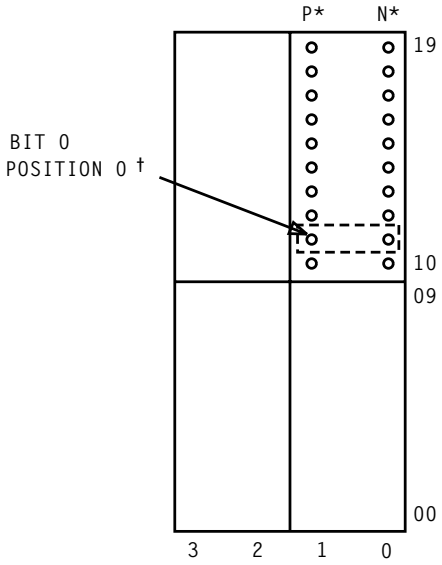
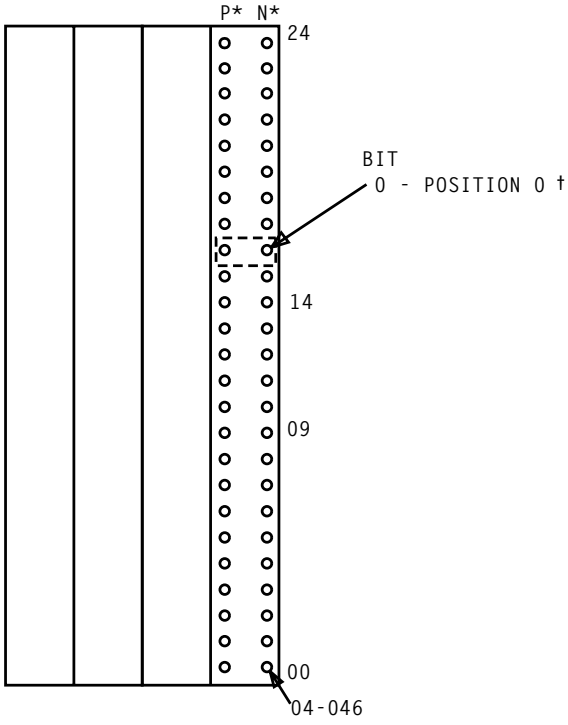
SCOPE PU REPLY BUS BIT 0



FRAME	
IO	
BUS 0	080-11
BUS 1	080-36
IOP	
BUS 0	080-40
BUS 1	076-40

* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

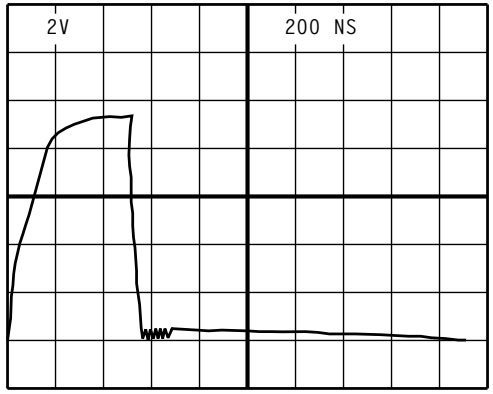
FIG. 1



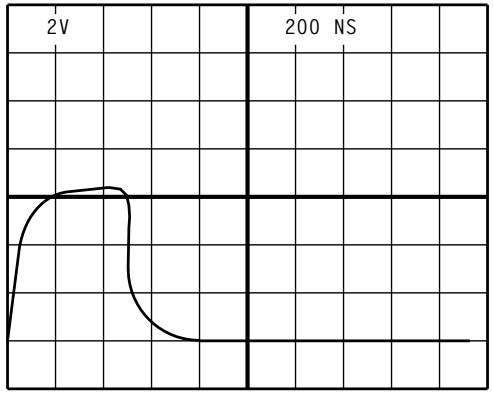
CONVERSION SWITCH UNIT

* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD
† POSITION 0 IS ON BUS SCOPING ADAPTER

FIG. 2



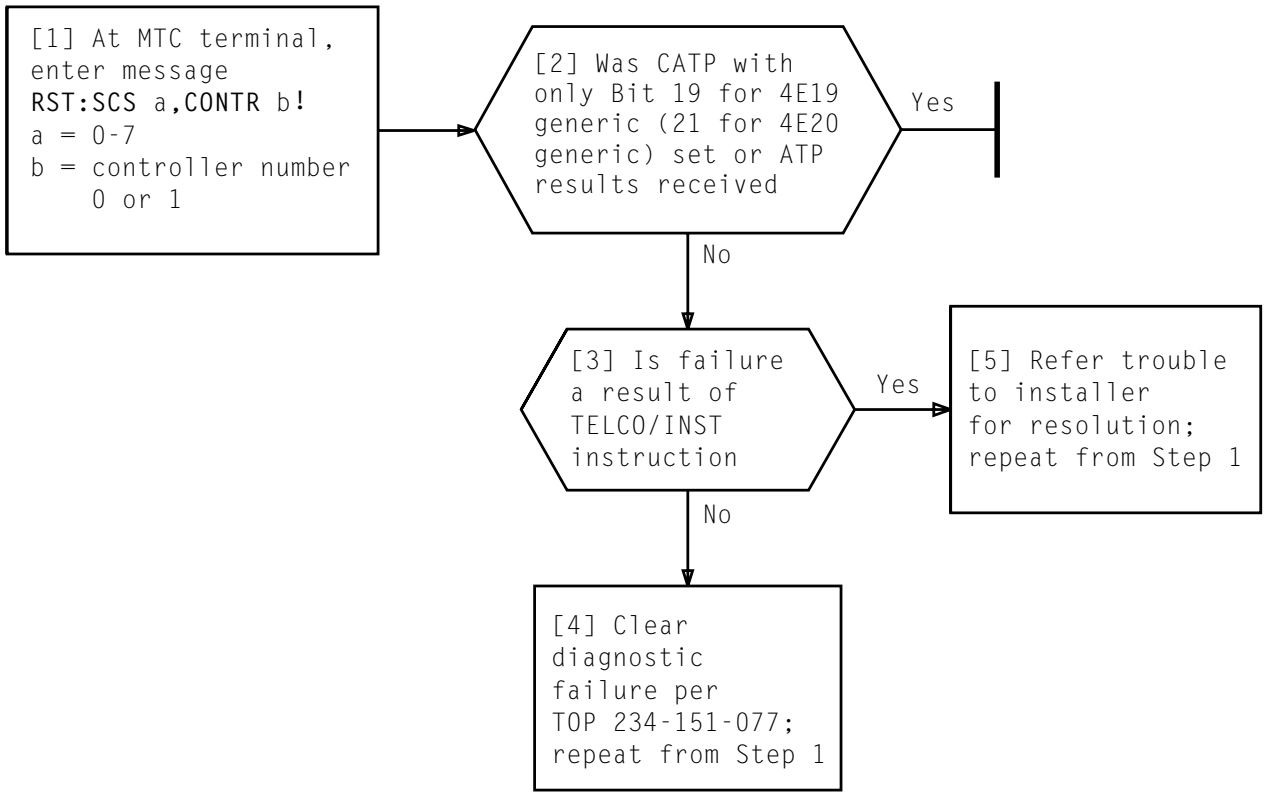
NORMAL PULSE AT DRIVER



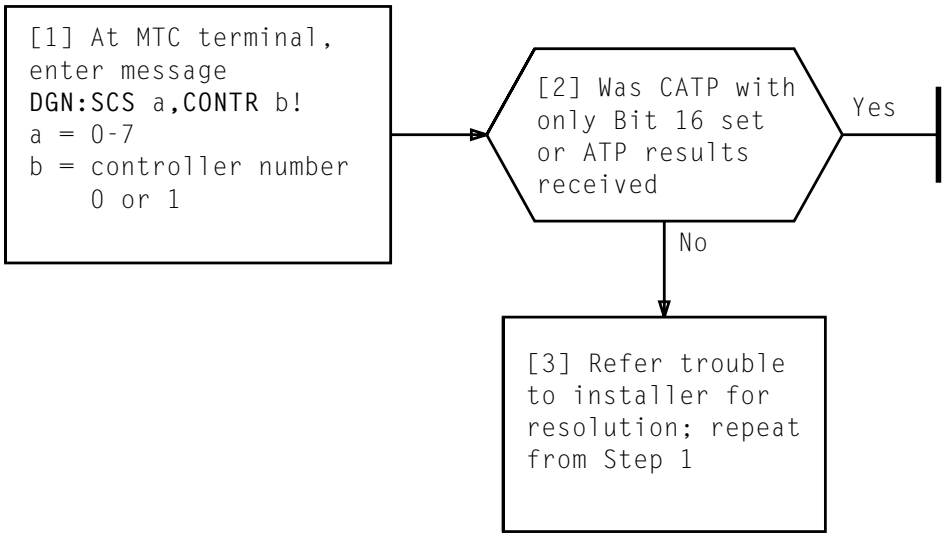
NORMAL PULSE 500 FEET FROM DRIVER

FIG. 3

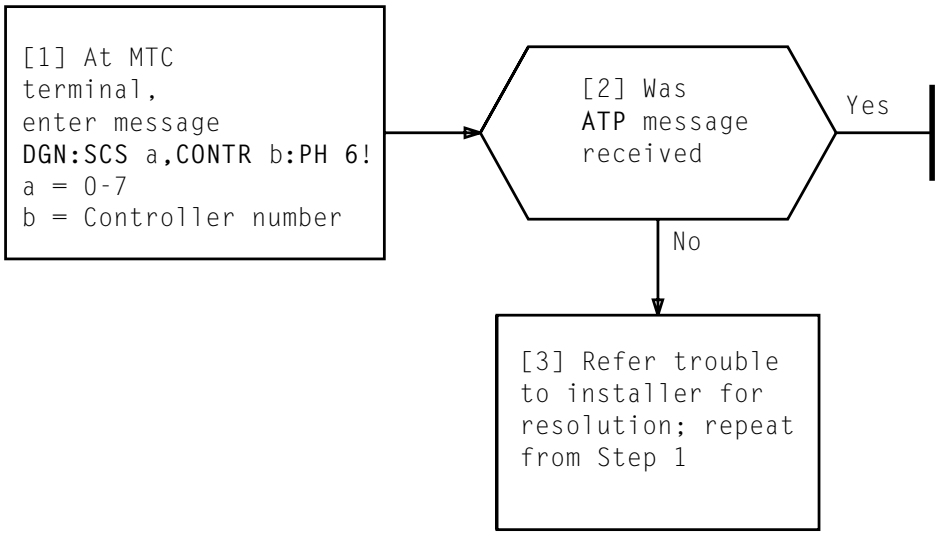
SCOPE PU REPLY BUS BITS 0



RESTORE SCS CONTROLLER TO SERVICE

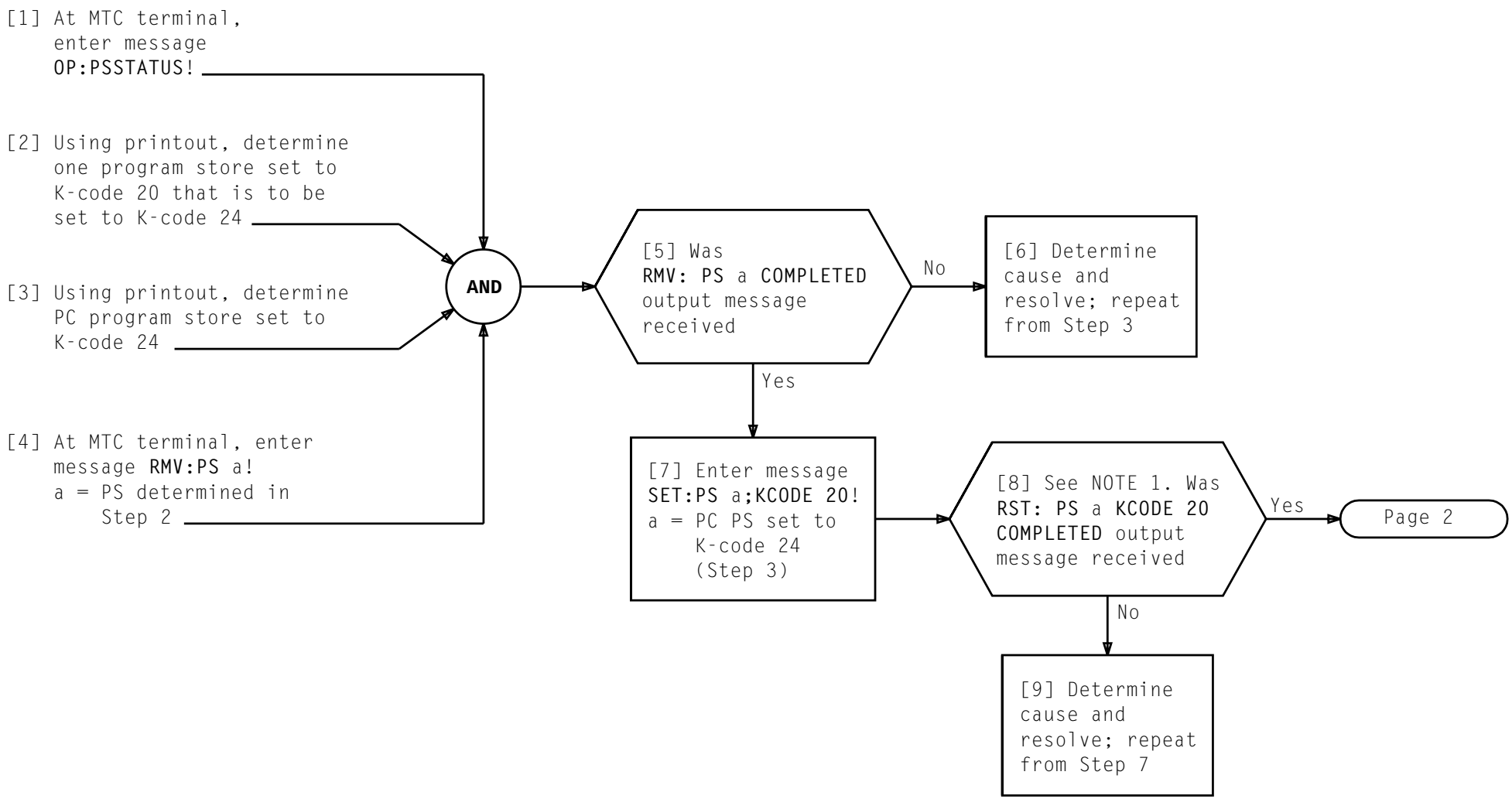


DIAGNOSE SCS CONTROLLER



DIAGNOSE SCS CONTROLLER

CONFIGURE PS TO K-CODE AFTER INITIAL SETTING



NOTE 1
CATP bit 15 will be received if standby CC is out-of-service

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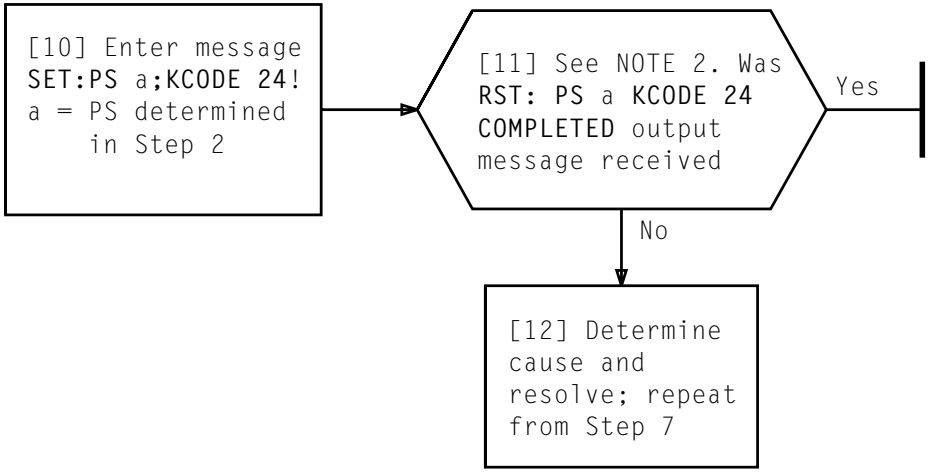

NOTE 2
CATP bit 15 will be received if standby CC is out-of-service

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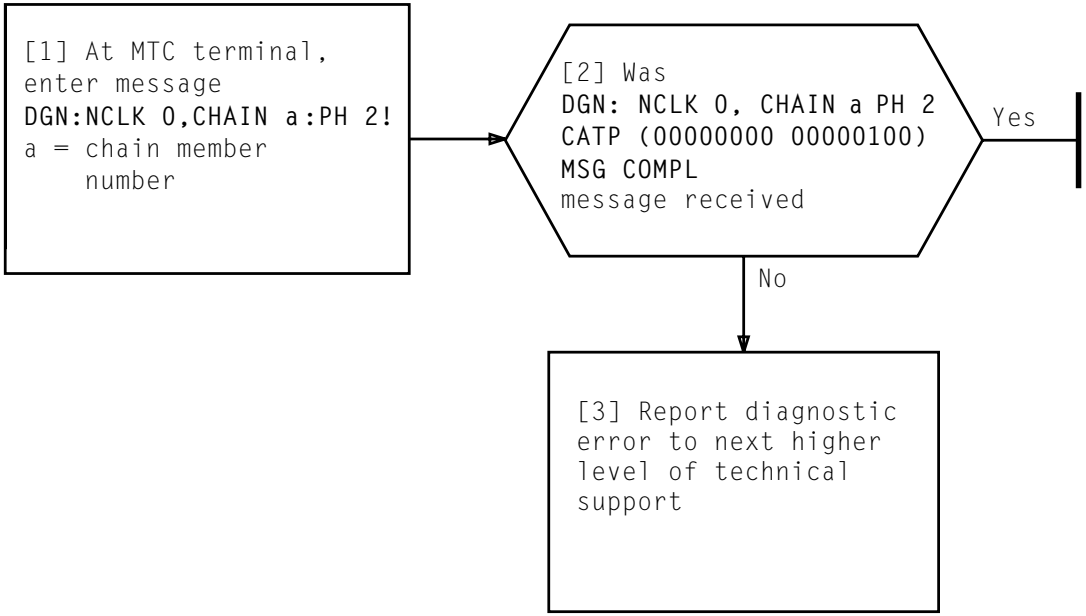
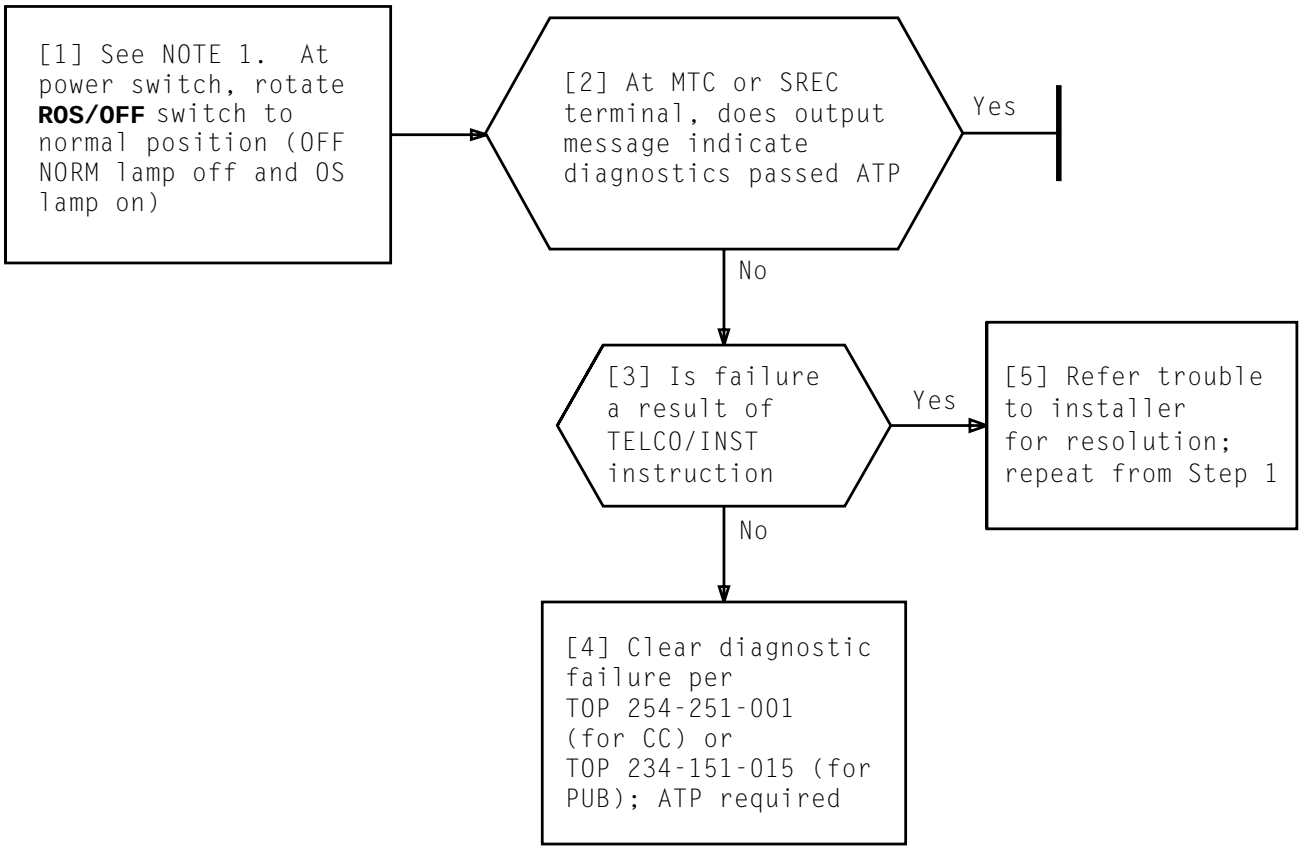
CONFIGURE PS TO K-CODE AFTER INITIAL SETTING



DIAGNOSE NETWORK CLOCK CHAIN SPECIFYING PHASE 2



NOTE 1
Operation of **ROS/OFF** switch will cause diagnostic to be run

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ROTATE ROS/OFF SWITCH TO NORMAL POSITION

[1] Ensure scope probes from storage scope are wrapped around each other with positive lead connected to channel 1 and negative lead connected to channel 2 and ground leads are attached together

[2] See FIG. 1, Page 2. At bus scoping adapter, connect probe from channel 1 to P connector and channel 2 to N connector

[3] Connect bus scoping adapter connector to connector at unit/frame to be scoped [FIG. 1, Page 2]

[4] Using bus scoping adapter, starting at position 0, scope each bit, as required through range 0 to 7

[5] If more than one connector is to be scoped, disconnect bus scoping adapter connector and reconnect to another connector to be scoped. Repeat Steps 4 and 5 for each connector to be scoped. See TABLE A for scope adapter position to associated bit

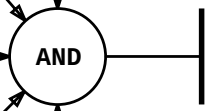


TABLE A

BIT	ASSOCIATED SCOPE ADAPTER POSITION	BIT	ASSOCIATED SCOPE ADAPTER POSITION
0	0	16	0
1	1	17	1
2	2	18	2
3	3	19	3
4	4	20	4
5	5	21	5
6	6	22	6
7	7	23	7
8	0		
9	1		
10	2		
11	3		
12	4		
13	5		
14	6		
15	7		

HOW TO USE BUS SCOPING ADAPTER

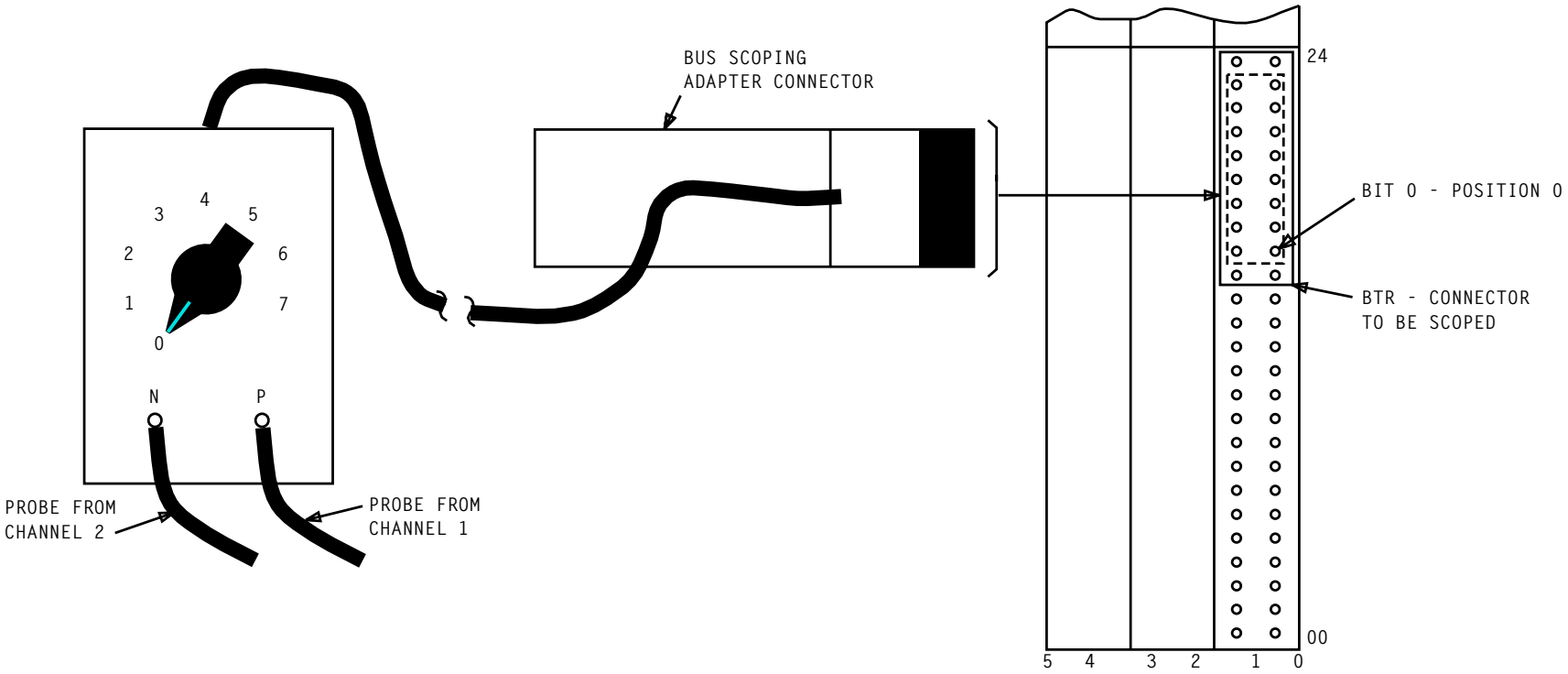


FIG. 1 — Bus Scoping Adapter Connections

HOW TO USE BUS SCOPING ADAPTER

SCOPE AU CONTROL LEADS

[1] Ensure that scope probes are wrapped around each other with positive lead connected to Channel 1 and negative lead connected to Channel 2 and that ground leads are attached together

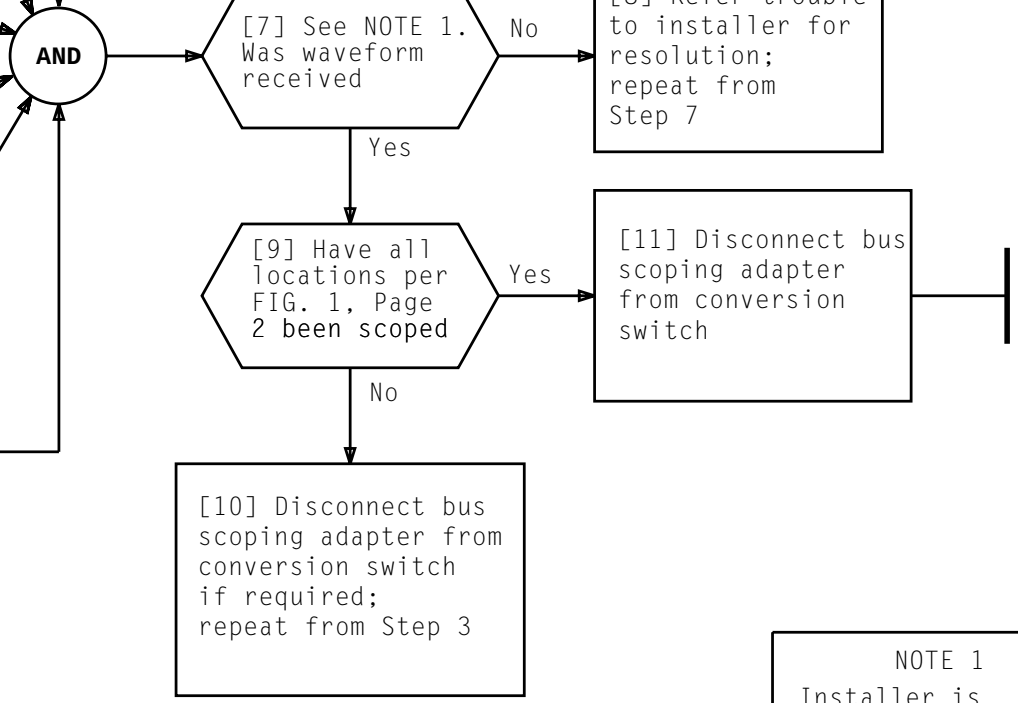
[2] At oscilloscope, depress **STORE** to in position

[3] At AUB conversion switch, connect bus scoping adapter to one location per FIG. 1, Page 2. See DLP-568 on how to use bus scoping adapter

[4] At oscilloscope, depress **SGL SWP** repeatedly until **READY** LED lights

[5] Depress **SAVE/CONT** twice

[6] At MTC terminal, enter message per TABLE A, Page 3 associated with bit being scoped. Message may need to be reentered if waveform is not received



NOTE 1
Installer is responsible to scope for waveform

Issue 1	**NOV 1995**
234-353-001	**DLP**
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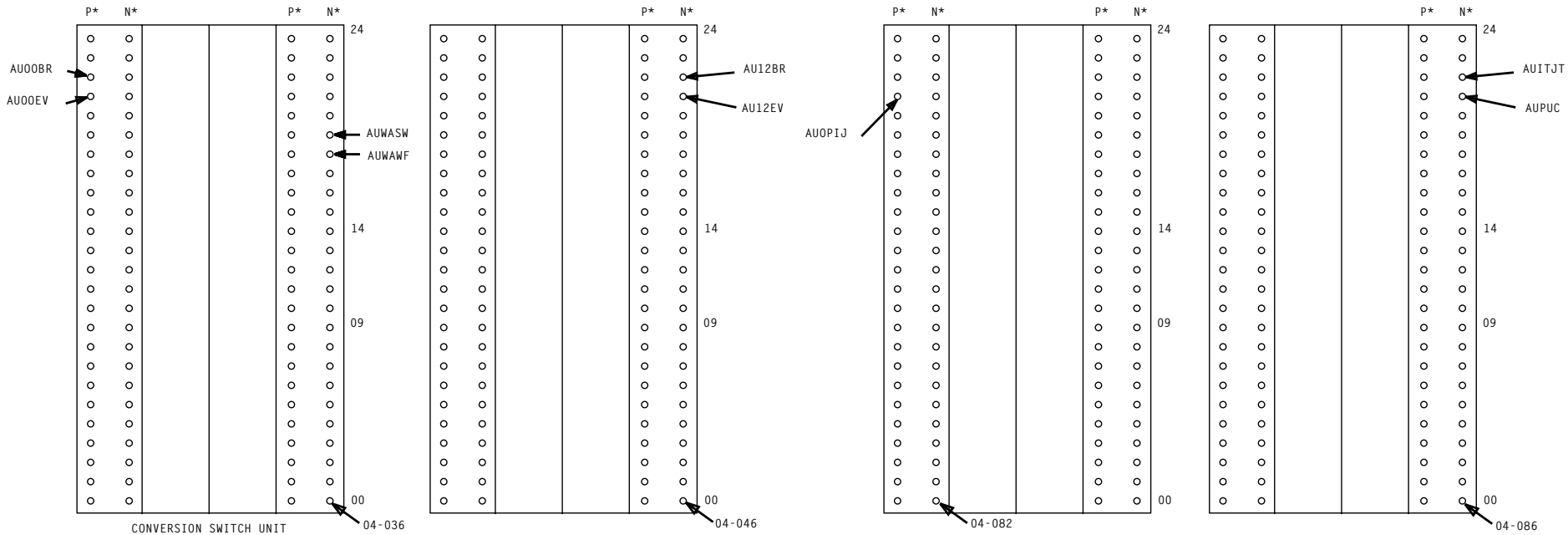


* P FOR POSITIVE LEAD AND
N FOR NEGATIVE LEAD

FIG. 1

SCOPE AU CONTROL LEADS

TABLE A		
BIT NAME	**BUS SCOPING ADAPTER POSITION**	**INPUT MESSAGE**
AUWAWF	2	RST:AUB a!
AUWASW	3	RST:AUB a!
AU00EV	5	RST:API a!
AU00BR	6	RST:API a!
AU12EV	5	RST:DUS a!
AU12BR	6	RST:DUS a!
AUOPLJ	7	RST:AUB a!
AUPUC	5	RST:AUB a!
AUITJT	6	RST:AUB a!
a = 0 or 1 - associated with conversion switch being scoped		

SCOPE AU CONTROL LEADS

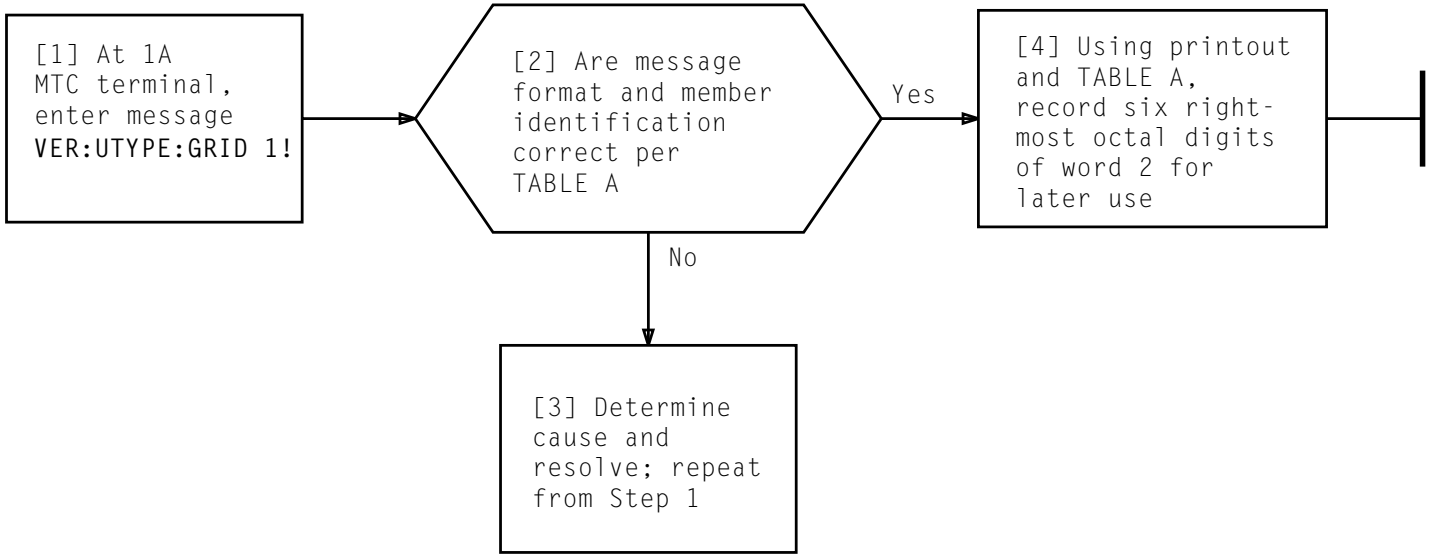


TABLE A

MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN GRID, MEMN 1, ME OPER, ENTRY ADDRESS b, ENTRY SIZE 4, CUR WORD 0 _____ _____ (WORD 2) _____

a = Floor location number
b = Starting octal address for unit type entry

DETERMINE MDN VALUE FOR MISCELLANEOUS SD POINTS

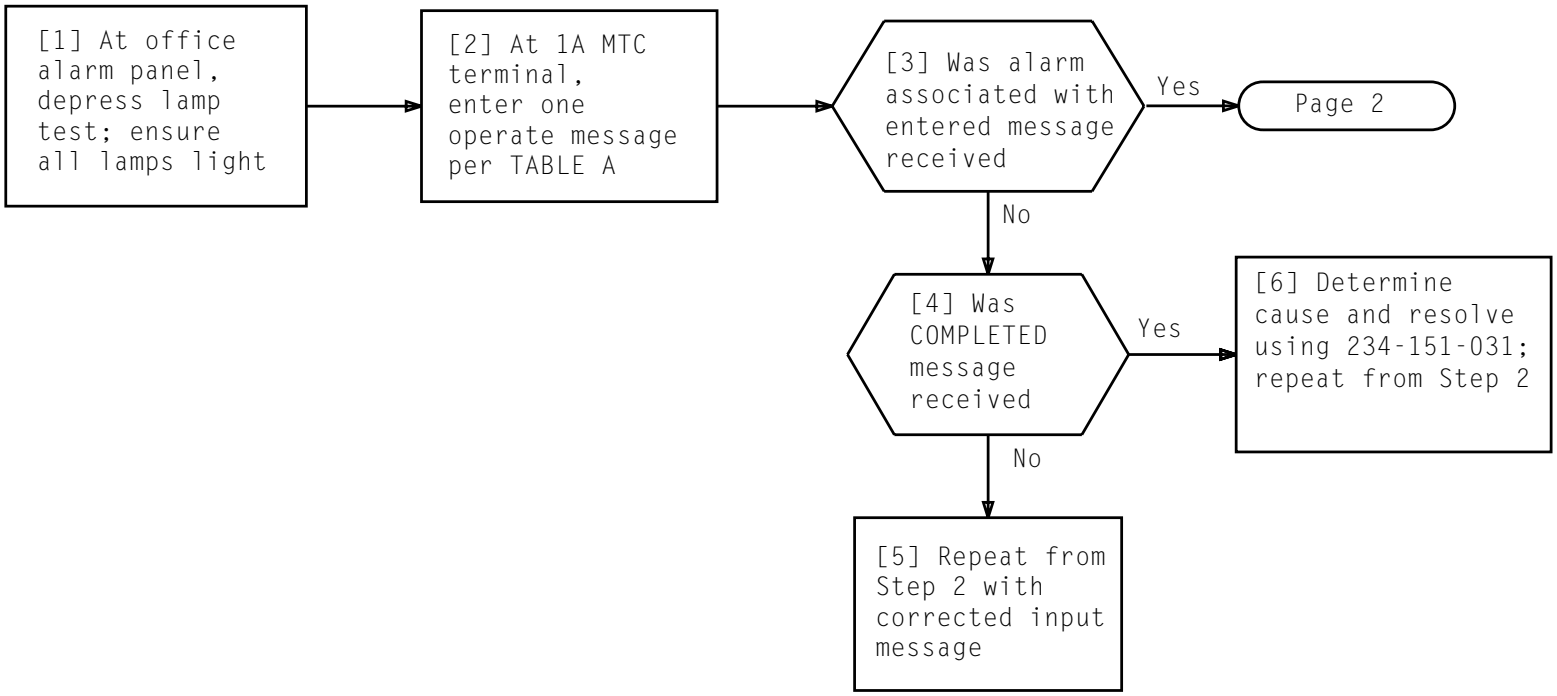


TABLE A

ALARM	OPERATE INPUT MESSAGE
CRITICAL	ORD:SD;OPR:MDN O'a!
MAJOR	ORD:SD;OPR:MDN O'a+1!
MINOR	ORD:SD;OPR:MDN O'a+2!

a = Octal MDN value recorded earlier
a+1 = Octal MDN value recorded earlier plus 1
a+2 = Octal MDN value recorded earlier plus 2

TEST OFFICE ALARMS

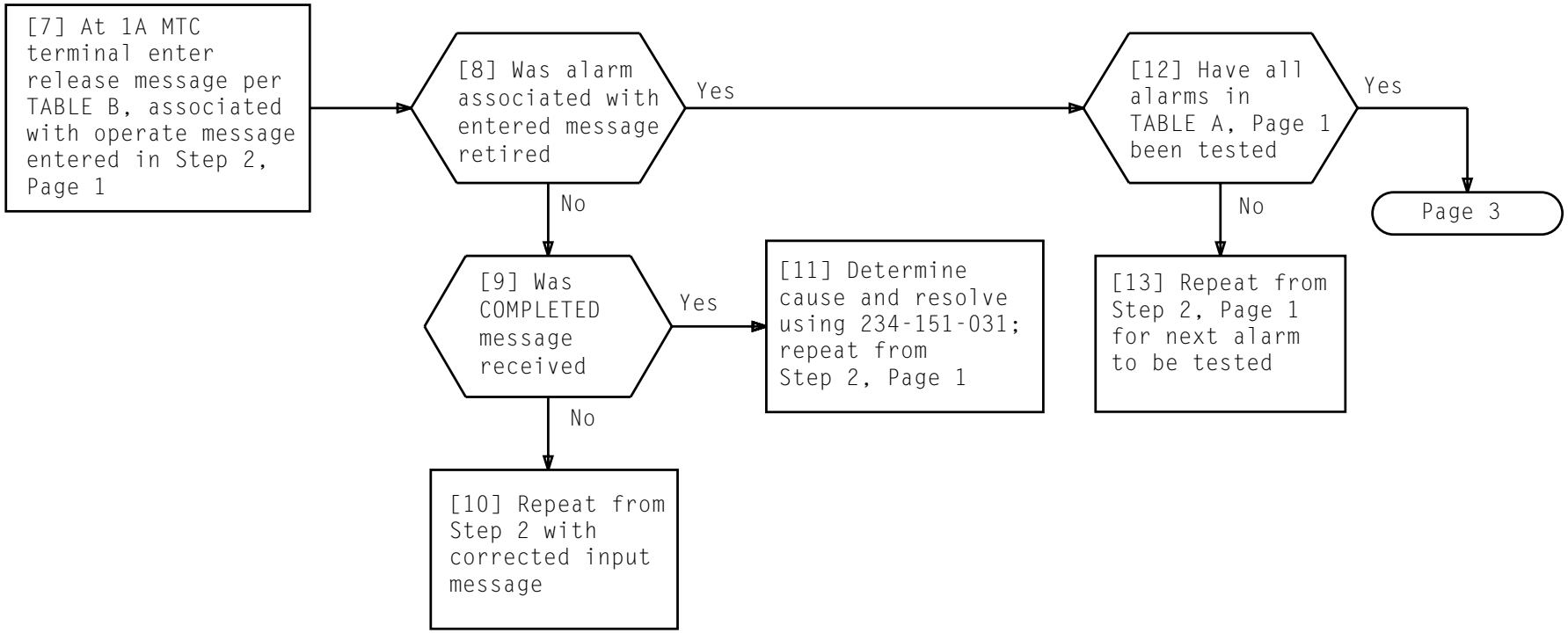


TABLE A

ALARM	RELEASE INPUT MESSAGE
CRITICAL	ORD:SD;RLS:MDN 0'a!
MAJOR	ORD:SD;RLS:MDN 0'a+1!
MINOR	ORD:SD;RLS:MDN 0'a+2!

a = Octal MDN value recorded earlier
a+1 = Octal MDN value recorded earlier plus 1
a+2 = Octal MDN value recorded earlier plus 2

TEST OFFICE ALARMS

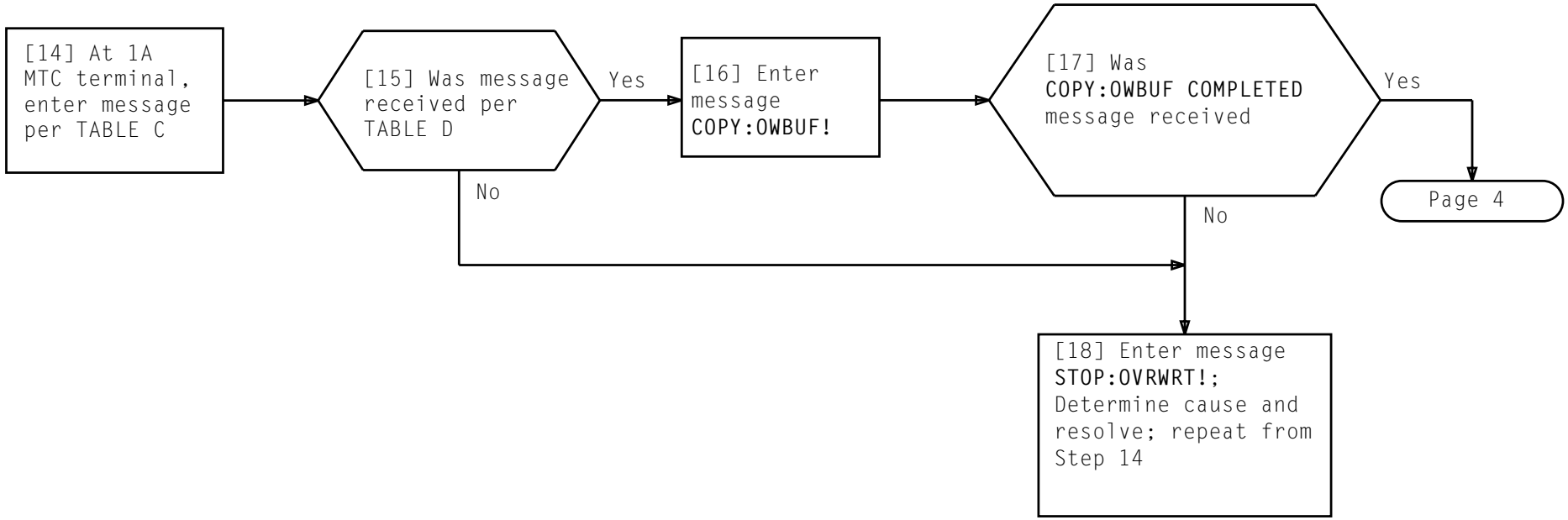


TABLE C

MESSAGE NUMBER	INPUT MESSAGE
1	IN:OWBUF:FS,ID GEN,ADR 6477633,DATA (20041336,122),OLDDATA (14,3661413)!

TABLE D

MESSAGE NUMBER	OUTPUT MESSAGE
1	IN:OWBUF FS ADR OLDDATA NEWDATA 06477633 00000014 20041336 03661413 00000122

TEST OFFICE ALARMS

[19] At 1A Processor MCC **SYSTEM DISPLAY** panel, depress and hold **LAMP TEST - 3** key; ensure all **DATA INSERT** keys are on. Then release **LAMP TEST - 3** key

[20] Depress and hold **LAMP TEST - 4** key; ensure on **SYSTEM ALARMS** panel that **CRITICAL, MAJOR**, and **MINOR** lamps are on. Then release **LAMP TEST - 4** key

[21] At 1A Processor MCC **SYSTEM DISPLAY** panel, ensure all **DATA INSERT** keys are off

[22] See NOTE 1. At 1A MTC terminal, enter message RMV:MCC 0!; ensure RMV:MCC 0 COMPLETED message is received

[23] Enter message DGN:MCC 0:PH 92!; at **SYSTEM DISPLAY** panel, ensure that **36** is displayed in **NUMERIC DISPLAY**

[24] At 1A Processor MCC **SYSTEM DISPLAY** panel, depress **DATA INSERT** key **13** to start test

AND

[25] At **SYSTEM DISPLAY** panel, is **120** displayed in **NUMERIC DISPLAY**

Yes

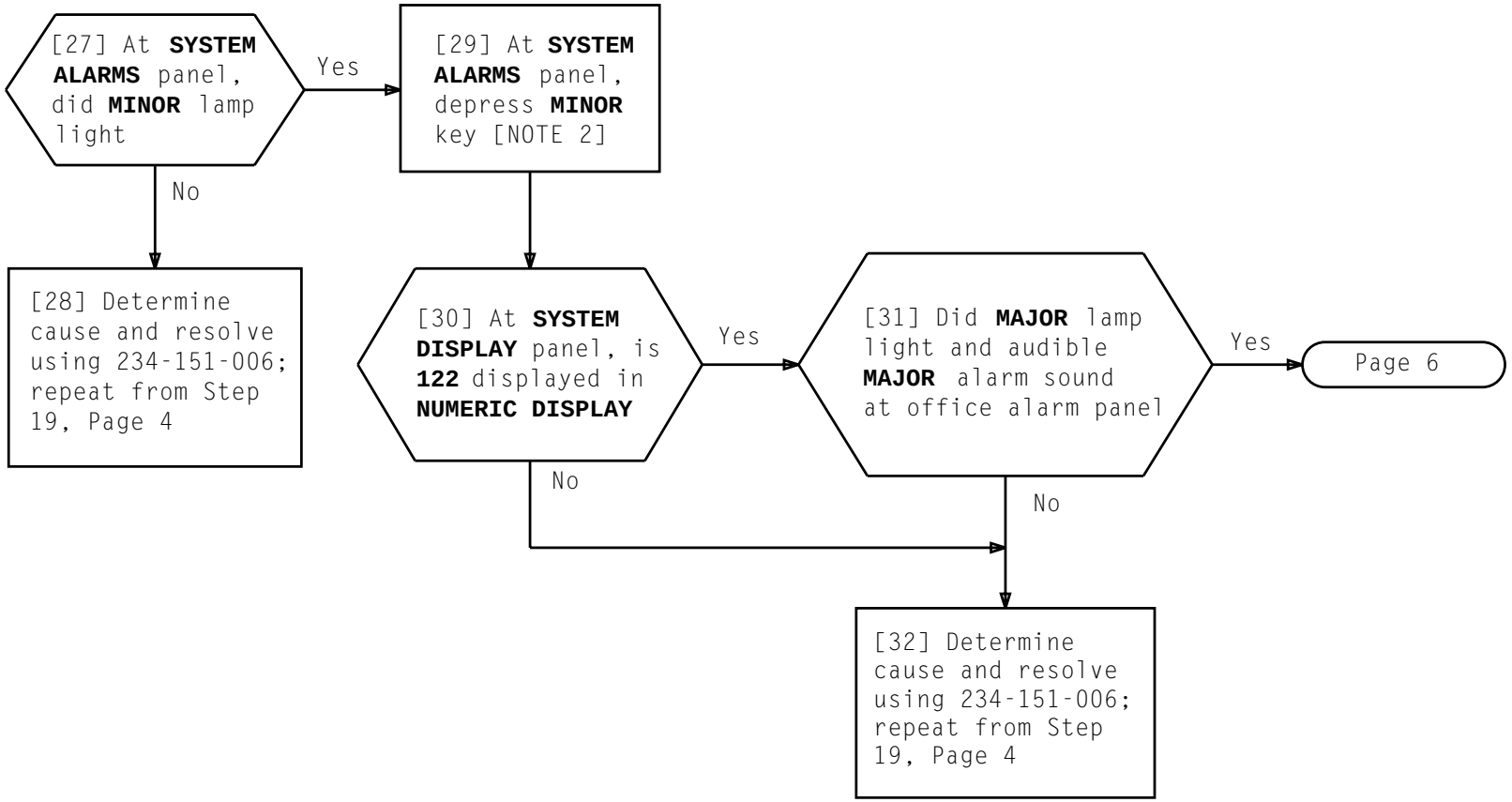
Page 5

No

[26] Determine cause and resolve; repeat from Step 25

NOTE 1

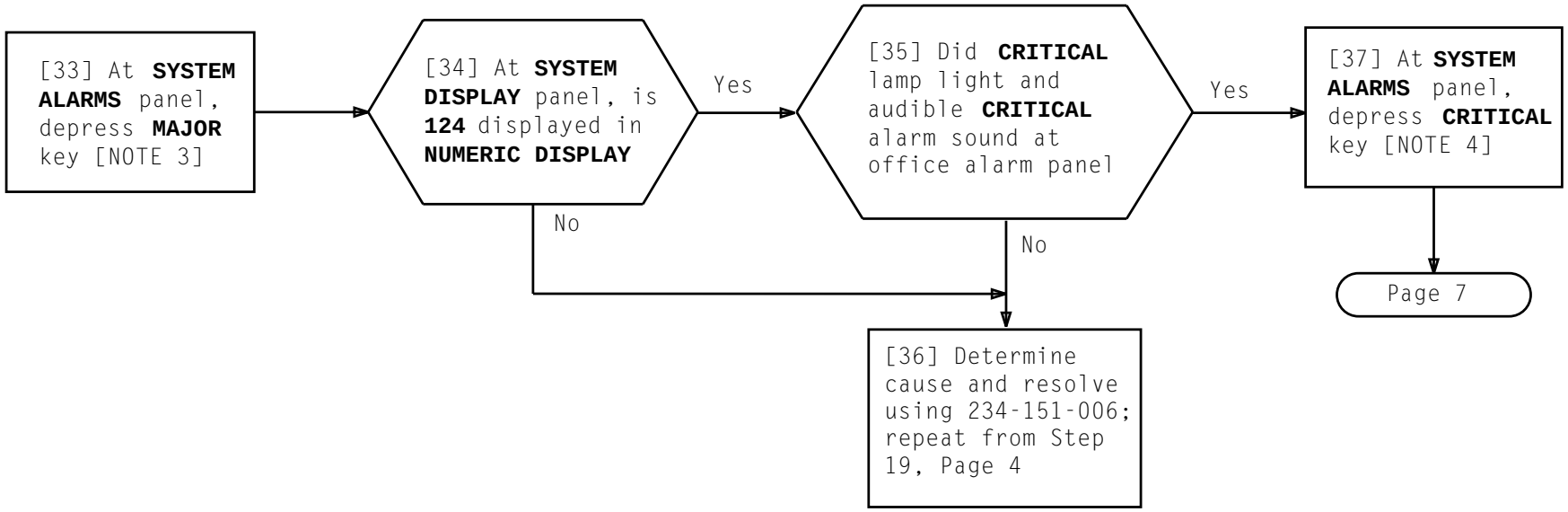
Steps 23 through 40, Pages 4-7 must be performed without delay. If phase 92 continues past 125 in **NUMERIC DISPLAY,** OP:MACLI,CLASS MTCE! message must be entered to obtain SUBCLASS number. STOP:MACLI, CLASS MTCE, SUBCLASS a! message must be entered to stop phase 92 diagnostic



NOTE 2

MINOR lamp should extinguish

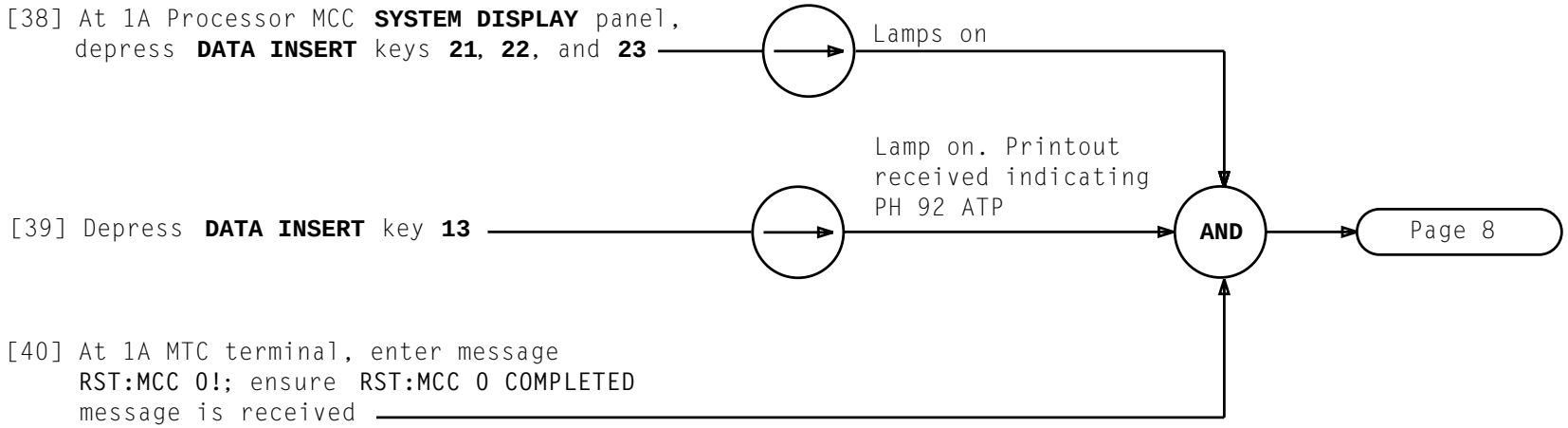
TEST OFFICE ALARMS

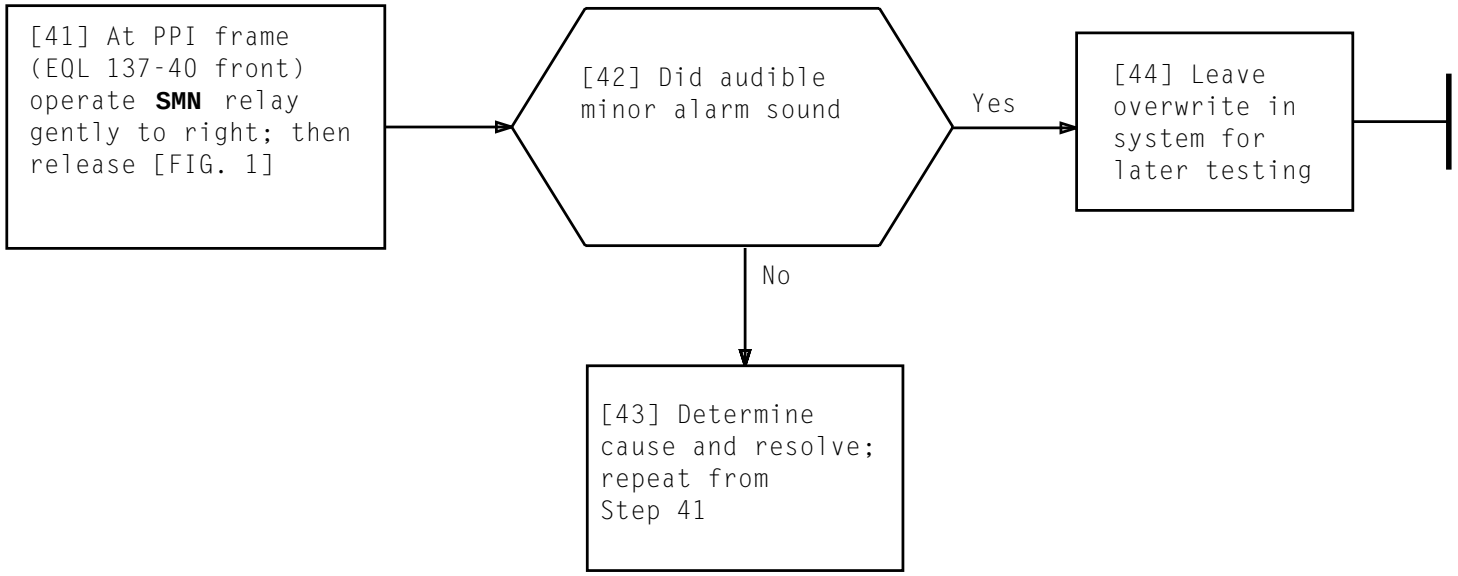


NOTES

3. **MAJOR** lamp will extinguish and audible major alarm will retire
4. **CRITICAL** lamp will extinguish and audible critical alarm will retire

TEST OFFICE ALARMS


[38] At 1A Processor MCC **SYSTEM DISPLAY** panel, depress **DATA INSERT** keys **21**, **22**, and **23**
Lamps on
[39] Depress **DATA INSERT** key **13**
Lamp on. Printout received indicating PH 92 ATP
AND
Page 8
[40] At 1A MTC terminal, enter message RST:MCC 0!; ensure RST:MCC 0 COMPLETED message is received



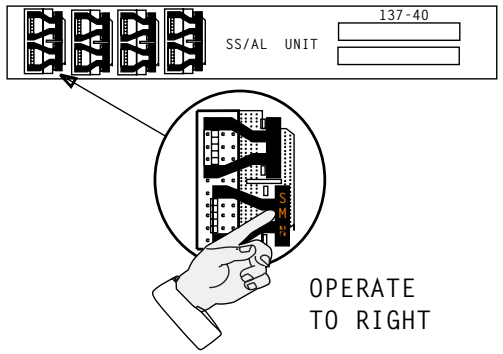


FIG. 1 - Relay Location in PPI Frame

TEST OFFICE ALARMS

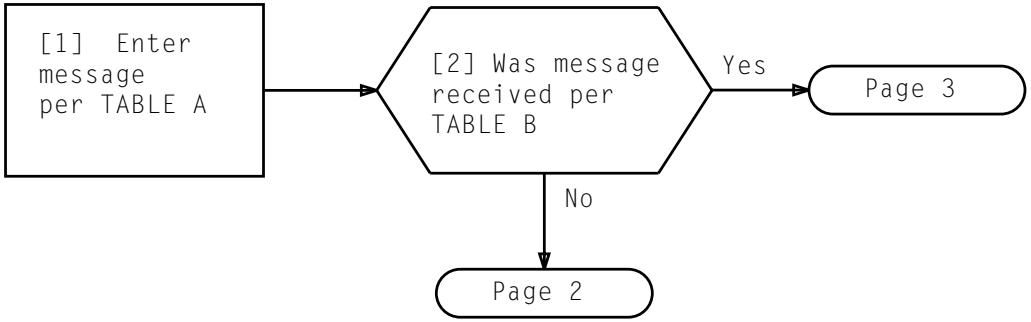


TABLE A	
MESSAGE NUMBER	**INPUT MESSAGE**
1	DUMP:FS,ACT,ID GEN,ADR 6477633,L2!

TABLE B	
MESSAGE NUMBER	**OUTPUT MESSAGE**
1	DUMP:FS,ACT,ADR 6477633,INC +0 COMPLETED 06477633 20041336 00000122

TEST ALARMS FROM PPI FRAME

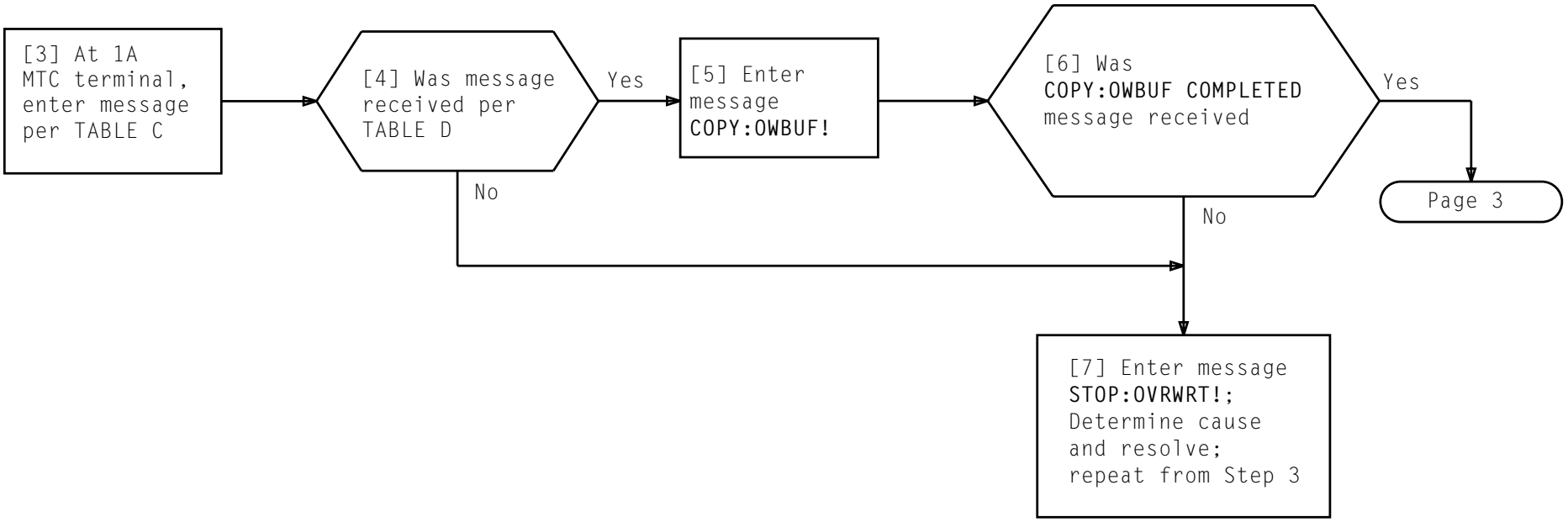


TABLE C

MESSAGE NUMBER	INPUT MESSAGE
1	IN:OWBUF:FS,ID GEN,ADR 6477633,DATA (20041336,122),OLDDATA (14,3661413)!

TABLE D

MESSAGE NUMBER	OUTPUT MESSAGE
1	IN:OWBUF FS ADR OLDDATA NEWDATA FS ADR 00000014 20041336 03661413 00000122

TEST ALARMS FROM PPI FRAME

[8] At 1A Processor MCC **SYSTEM DISPLAY** panel, depress and hold **LAMP TEST - 3** key; ensure all **DATA INSERT** keys are on. Then release **LAMP TEST - 3** key

[9] Depress and hold **LAMP TEST - 4** key; ensure on **SYSTEM ALARMS** panel that **CRITICAL, MAJOR**, and **MINOR** lamps are on. Then release **LAMP TEST - 4** key

[10] At 1A Processor MCC **SYSTEM DISPLAY** panel, ensure all **DATA INSERT** keys are off

[11] At office alarm panel, depress lamp test; ensure all lamps light

[12] See NOTE 1. At 1A MTC terminal, enter message RMV:MCC 0!; ensure RMV:MCC 0 COMPLETED message is received

[13] Enter message DGN:MCC 0:PH 92!; at **SYSTEM DISPLAY** panel, ensure that **36** is displayed in **NUMERIC DISPLAY**

[14] At 1A Processor MCC **SYSTEM DISPLAY** panel, depress **DATA INSERT** key **13** to start test

AND

[15] At **SYSTEM DISPLAY** panel, is **120** displayed in **NUMERIC DISPLAY**

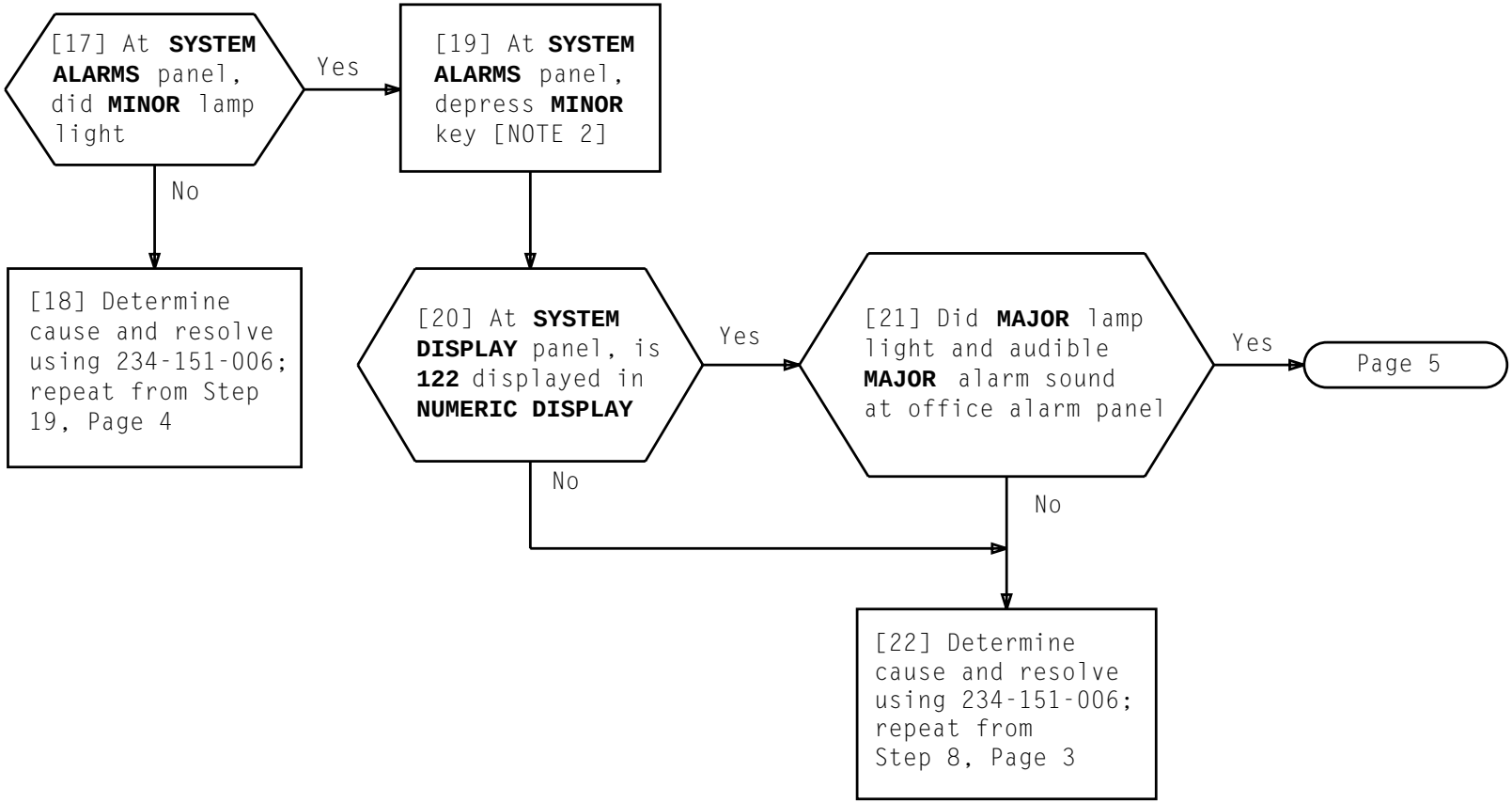
Yes → Page 4

No → [16] Determine cause and resolve; repeat from Step 15

NOTE 1

Steps 13 through 30, Pages 3-6 must be performed without delay. If phase 92 continues past 125 in **NUMERIC DISPLAY,** OP:MACLI,CLASS MTCE! message must be entered to obtain SUBCLASS number. STOP:MACLI, CLASS MTCE, SUBCLASS a! message must be entered to stop phase 92 diagnostic

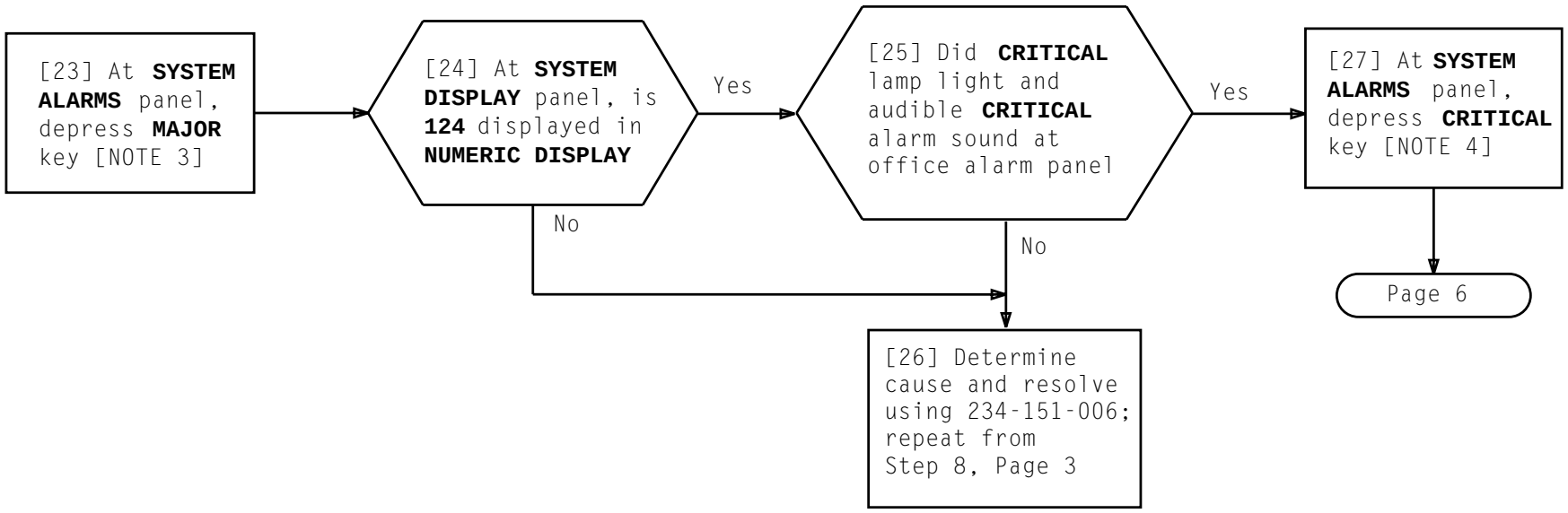
TEST ALARMS FROM PPI FRAME



NOTE 2

MINOR lamp should extinguish

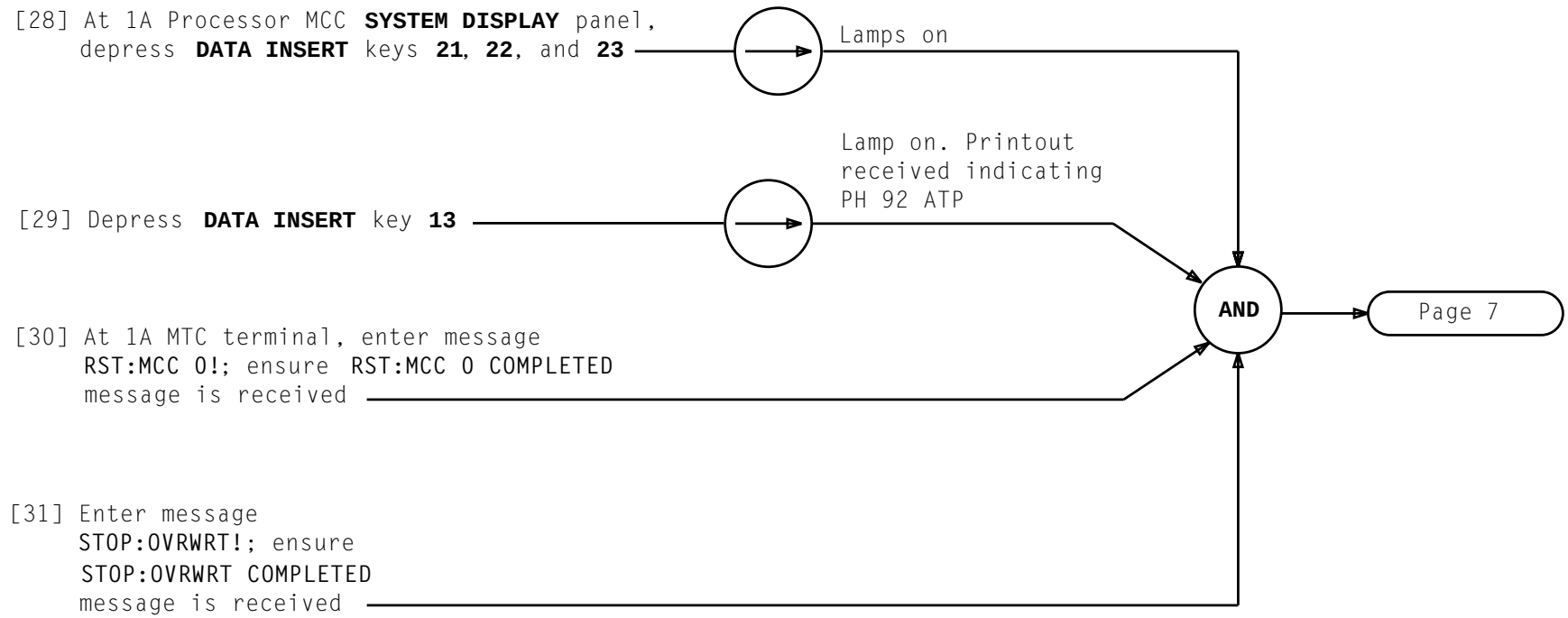
TEST ALARMS FROM PPI FRAME



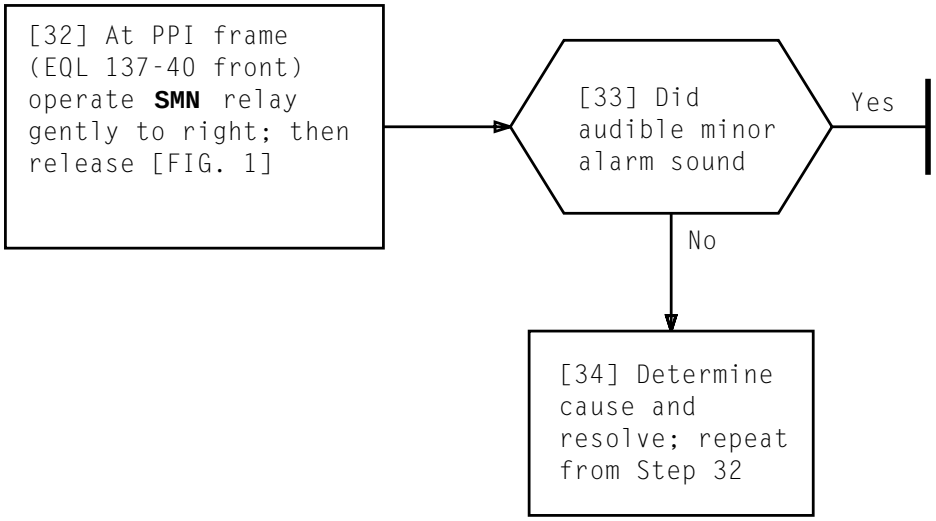
NOTES

3. **MAJOR** lamp will extinguish and audible major alarm will retire
4. **CRITICAL** lamp will extinguish and audible critical alarm will retire

TEST ALARMS FROM PPI FRAME



TEST ALARMS FROM PPI FRAME



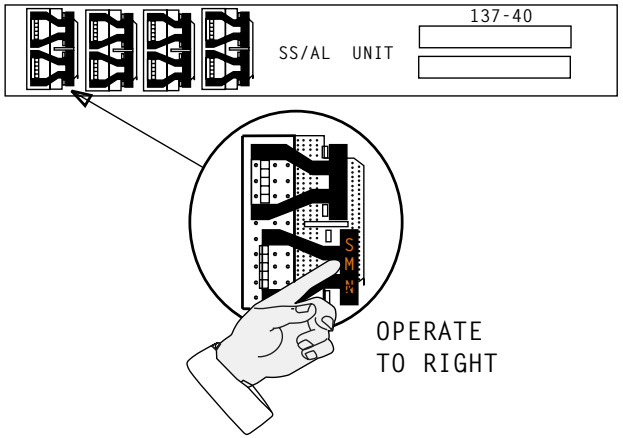
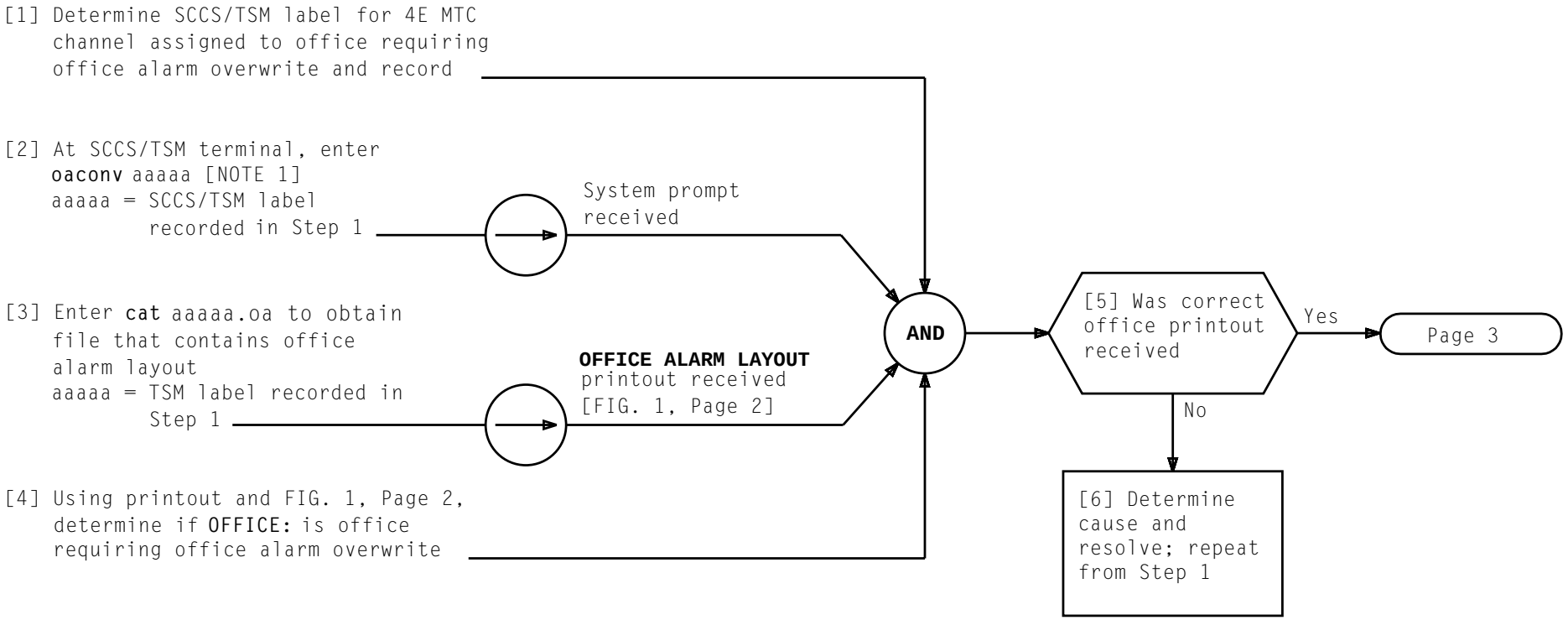


FIG. 1 - Relay Location in PPI Frame

TEST ALARMS FROM PPI FRAME



ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNITS (PERFORMED BY TCC)

NOTE 1

Message will execute and create file that contains office alarm layout for office requiring overwrite

OFFICE ALARM LAYOUT

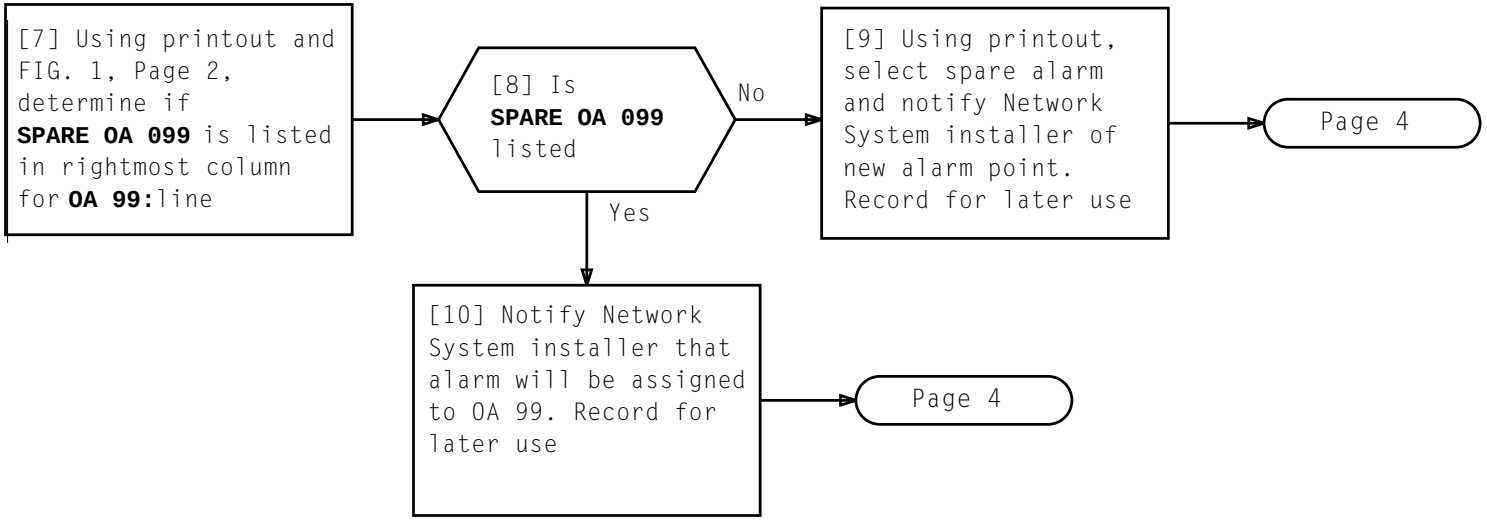
Name of office requiring overwrite

OFFICE: PLANILLL01T Jan,24,1994

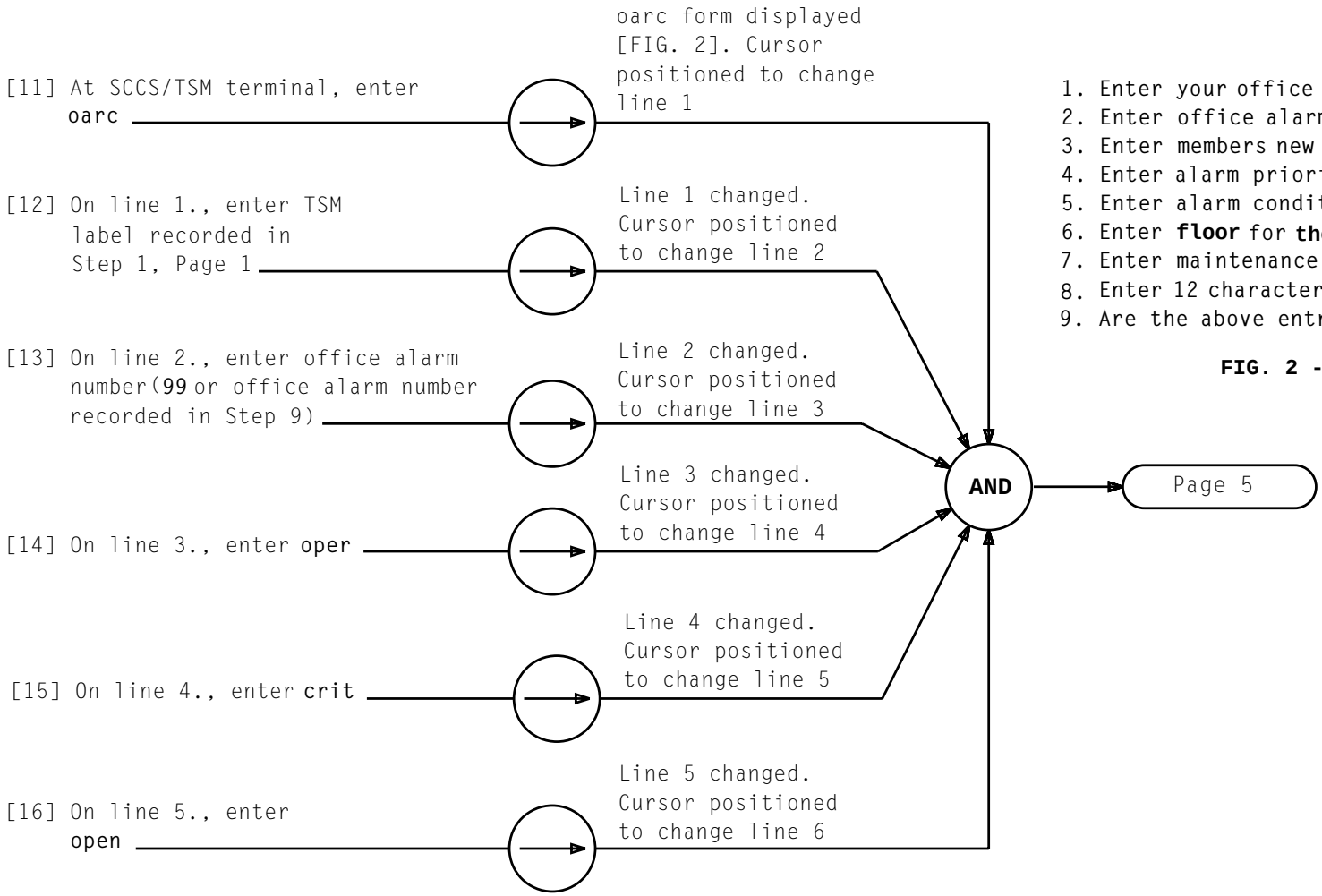
```
ALARM    #  EQUIP    MSN     STATE    CTR   PRIORITY    FLR      ENGLISH

OA      0:  OPER    0103113  CLOS     MOC     CRIT        0   GROUND  FAULT
OA      1:  OPER    0003114  CLOS     MOC     CRIT        0   REC PWR OFF
OA      2:  OPER    0103114  CLOS     MOC     CRIT        0   AC PWR  FAIL
OA      3:  OPER    0003714  CLOS     MOC     CRIT        0   TR SHUTDOWN
OA      4:  OPER    0104002  CLOS     MOC     MAJR        0   MV SHUTDOWN
                        .
                        .
OA     96:  OPER    0104300  CLOS     MOC     INFO        1   SPARE OA 096
OA     97:  OPER    0004414  CLOS     MOC     INFO        1   SPARE OA 097
OA     98:  OPER    0104301  CLOS     MOC     INFO        1   SPARE OA 098
OA     99:  OPER    0004415  CLOS     MOC     INFO        0   SPARE OA 099   } Office alarm 99
OA    100:  OPER    0104302  CLOS     MOC     CMIN        0   PD 0@
OA    101:  OPER    0004500  CLOS     MOC     MAJR        0   PD 0@
                        .
                        .
```

FIG. 1 - Sample Office Alarm Layout Printout

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNITS (PERFORMED BY TCC)



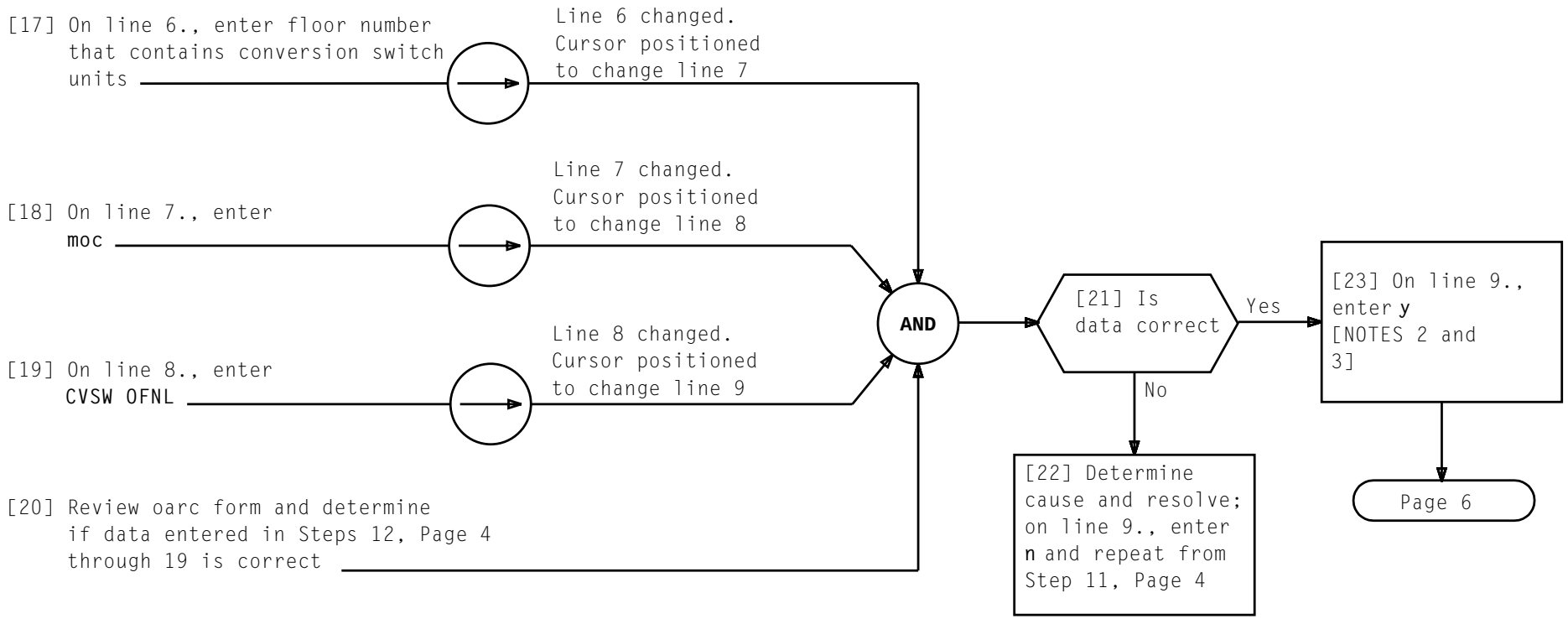
ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNITS (PERFORMED BY TCC)



1. Enter your office name (TSM label).
2. Enter office alarm member number (0-127).
3. Enter members new equipage (uneq, grow, sgro, oper).
4. Enter alarm priority **(crit,** majr, cmin, smin, info).
5. Enter alarm condition of contacts (open/closed).
6. Enter **floor** for **the** source of alarm (1-1023).
7. Enter maintenance **center** (moc, toc, tec1 to tec5).
8. Enter 12 character **alarm** message.
9. Are the above entries correct (y,n)?

FIG. 2 - Sample oarc Form

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNITS (PERFORMED BY TCC)



NOTES

2. Program will convert entered data into overwrite format and input to office identified in Step 1, Page 1
3. Program will ask if alarm works properly; answer must not be entered at this time

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNITS (PERFORMED BY TCC)

[24] Notify technician at office where overwrite was entered that office alarm is assigned to OA xx; request office technician and installer to test new alarm. Wait for information from office technician that alarm tests were successful

[25] On line that asks if alarm works properly, enter **y**

Program asks if you want to do a **UPD:HDATA ?**

[26] On line that asks if you want to do a **UPD:HDATA**, enter **y**

System prompt received

[27] Enter **oaconv** aaaaa[NOTE 4]
aaaaa = TSM label recorded in Step 1, Page 1

System prompt received

[28] Enter **cat** aaaaa.oa to obtain file that contains office alarm layout
aaaaa = TSM label recorded in Step 1, Page 1

OFFICE ALARM LAYOUT printout received [FIG. 1, Page 2]

[29] Using printout and FIG. 1, Page 2, determine if **OFFICE:** is office requiring office alarm overwrite

AND

[30] Was correct office printout received

Yes

Page 7

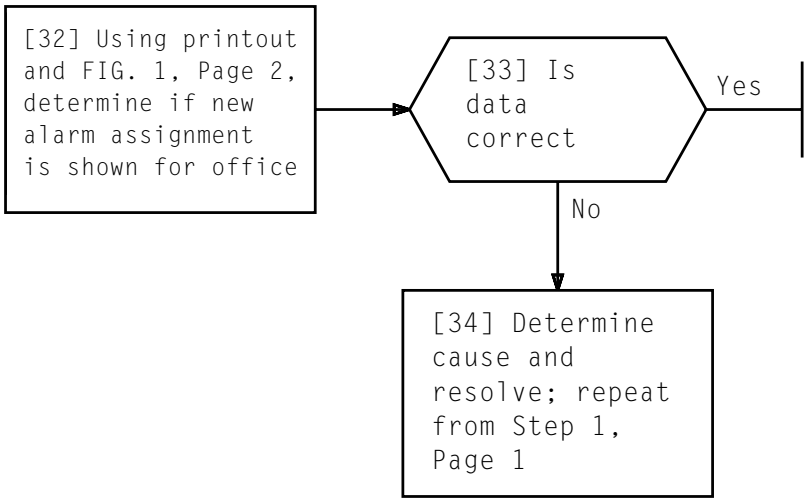
No

[31] Determine cause and resolve; repeat from Step 1

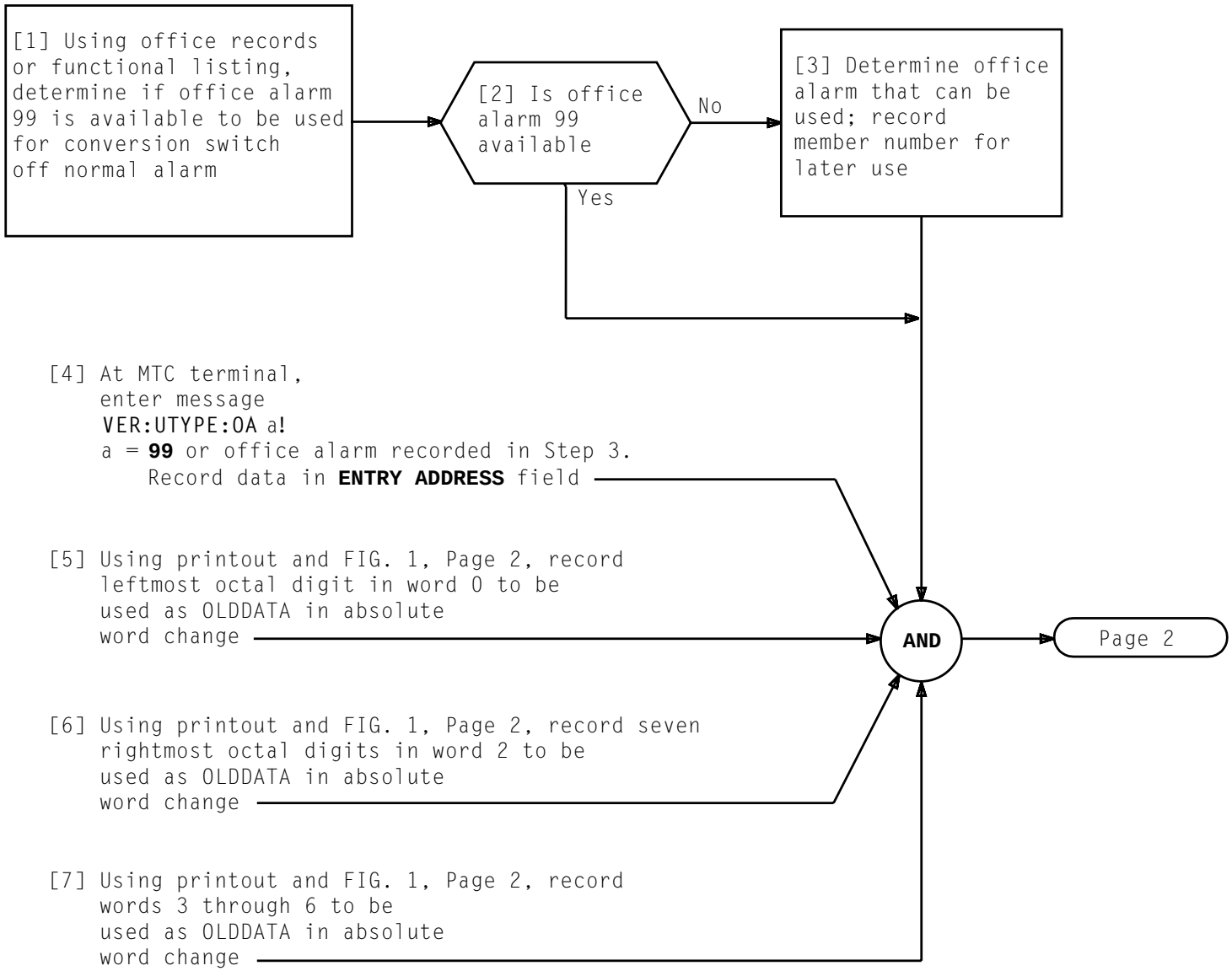
NOTE 4

Message will execute and create file that contains office alarm layout for office requiring overwrite

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNITS (PERFORMED BY TCC)



ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNITS (PERFORMED BY TCC)



ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

[8] Determine floor number where conversion switch units are located

[9] Convert floor number (Step 8) to binary and record in FIG. 2 in Binary Value row (Binary Bit Positions 8 through 17)

AND

Page 3

[10] Using FIG. 2, convert binary to octal and record in FIG. 2 in Octal Value row

VER:UTMN;OPT()CUR: FLN _____ UTYN OA,

MEMN _____, ME UNEQ,
ENTRY ADDRESS _____ ENTRY SIZE 7,

CUR
WORD 0 WORD 0 _____ WORD 2 WORD 3
WORD 4 WORD 5 WORD 6

FIG. 1 - OA Unit Type Printout

Binary Bit Position →	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Binary Value →	0	0	0	_	_	_	_	_	_	_	_	_	_	1	0	0	0	1	0	1	1
Octal Value →		0			_			_			_			_			1			3	

FIG. 2 - Binary to Octal Conversion

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

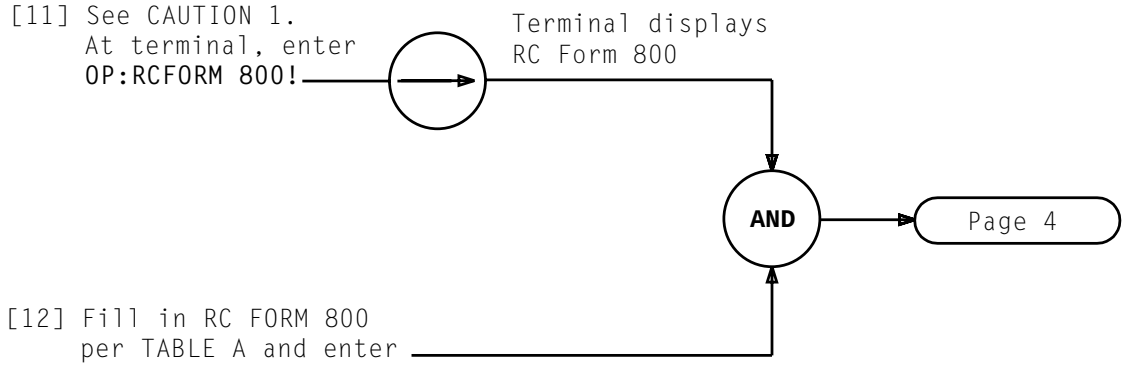


TABLE A

MESSAGE NUMBER	INPUT MESSAGE
1	RC:FUNC;CHG;OPT(ABSOLUTE),a: FSONLY b, ADDRESS c, ORNU d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ !

a = **TST**
b = **N**
c = Address recorded in Step 1, Page 1
d = Order number
e = **2**
f = **21**
g = **0** (Zero)
h = **O** (Letter O)
i = Octal value in FIG. 2, Page 2
j = Octal data recorded in Step 6, Page 1

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

CAUTION 1
Calling up RC Form will cause all CRT data to be cleared

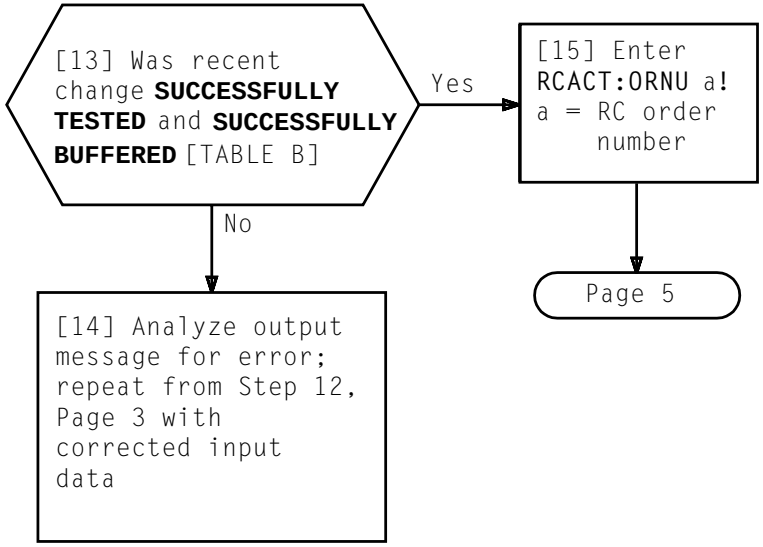


TABLE B

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 2, SIZE 21, DISP 0, BINOCT 0, NEWDATA c, OLDDATA d, REMARKS_ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _____ _____ _____ _____ _____ _____ _____

a = address recorded in Step 1, Page 1
b = order number
c = entered NEWDATA
d = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

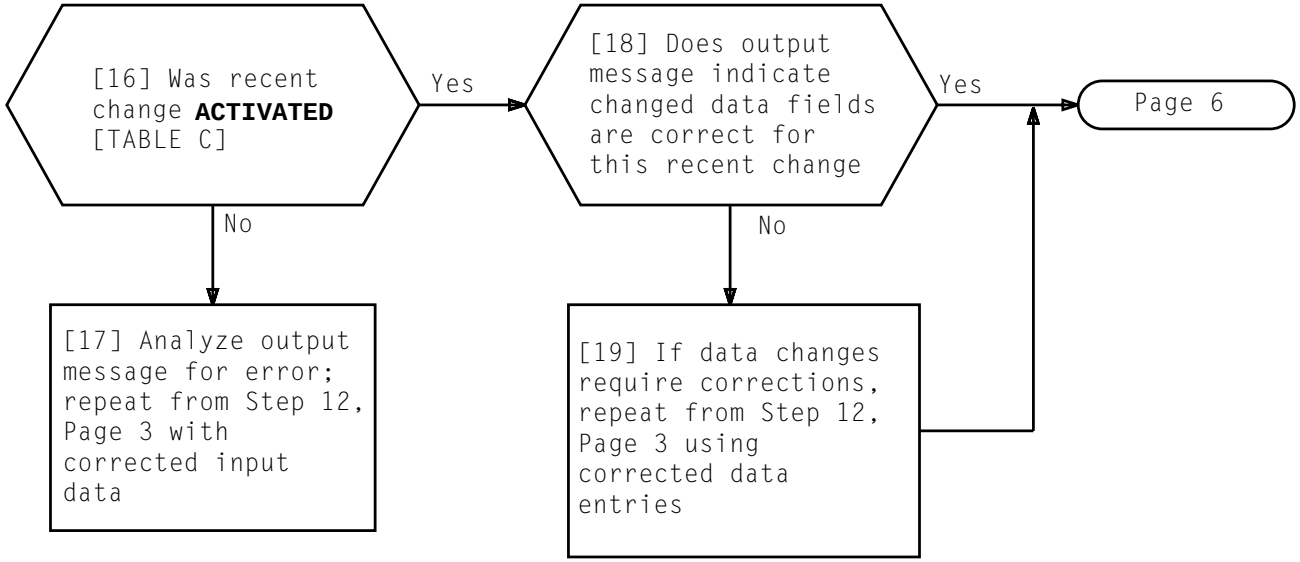


TABLE C

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESSa, ORNU b, WORDNO 2, SIZE 21, DISP 0, BINOCT 0, NEWDATA c, OLDDATA d, REMARKS _ !

a = address recorded in Step 1, Page 1
b = order number
c = entered NEWDATA
d = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

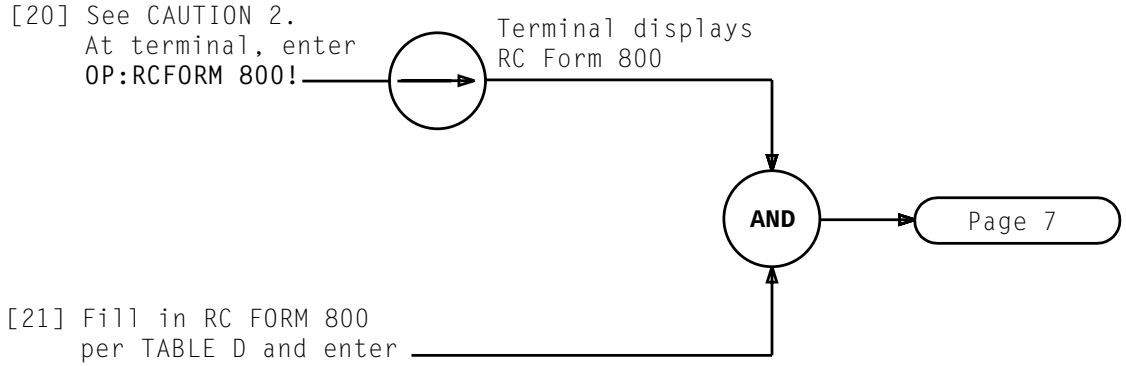


TABLE D

MESSAGE NUMBER	INPUT MESSAGE
1	RC:FUNC;CHG;OPT(ABSOLUTE),a: FSONLY b, ADDRESS c, ORNU d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ !

a = **TST**
b = **N**
c = Address recorded in Step 1, Page 1
d = Order number
e = **3**
f = **24**
g = **0** (Zero)
h = **O** (Letter O)
i = **20653123** (ascii for **CVS**)
j = Octal data (Word 3) recorded in Step 7, Page 1

CAUTION 2
Calling up RC Form will cause all CRT data to be cleared

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

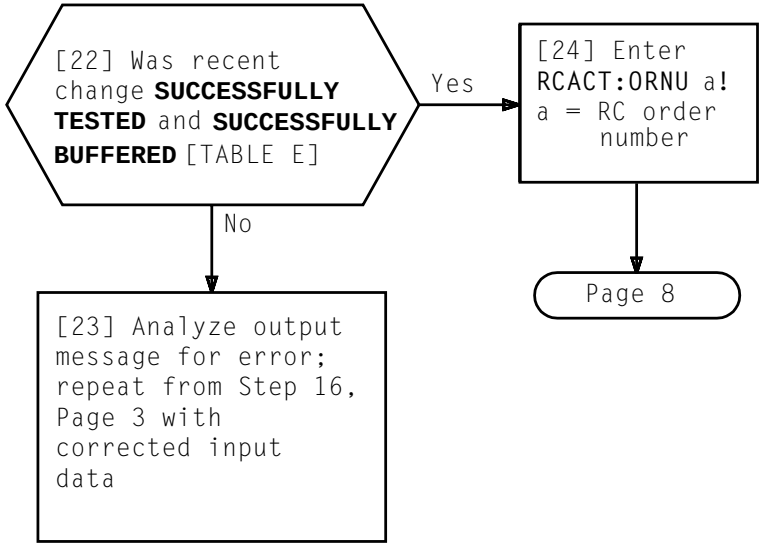


TABLE E

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 3, SIZE 24, DISP 0, BINOCT 0, NEWDATA 20653123, OLDDATA c, REMARKS_ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _____ _____ _____ 20653123 _____ _____ _____

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

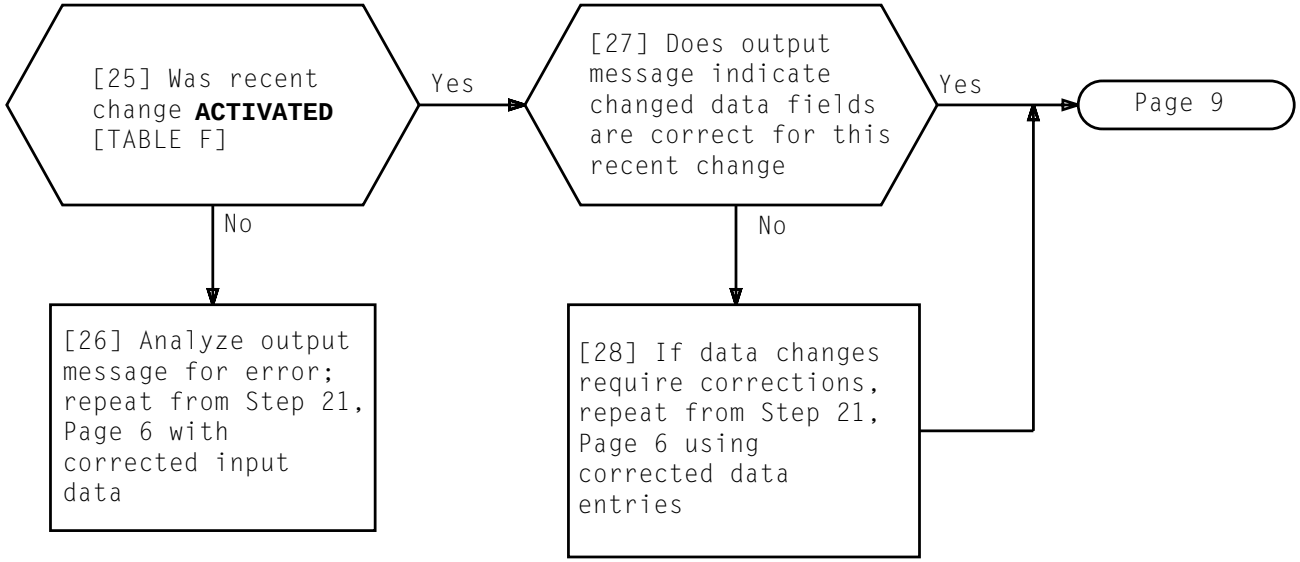


TABLE F

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 3, SIZE 24, DISP 0, BINOCT 0, NEWDATA 20653123, OLDDATA c, REMARKS _ !

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

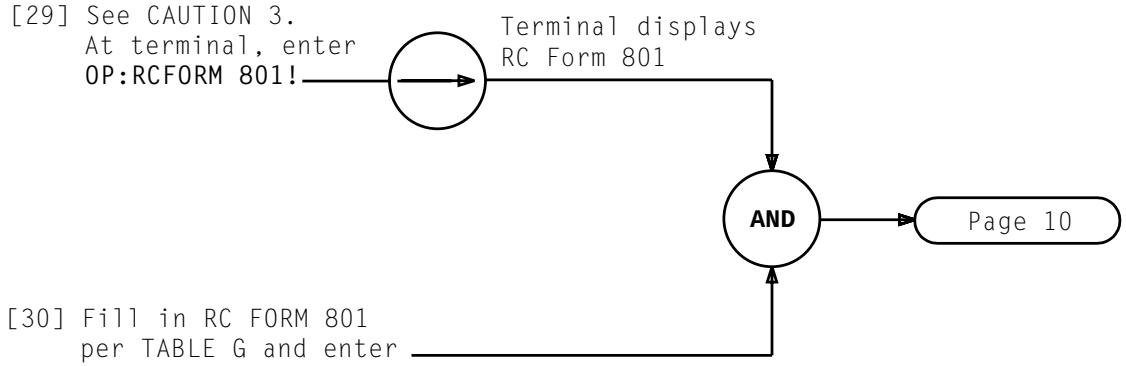


TABLE G

MESSAGE NUMBER	INPUT MESSAGE
1	RC:FUNC;CHG;OPT(ABSOLUTE),a: FSONLY b, ADDRESS c, ORNU d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ !

a = **TST**
b = **N**
c = Address recorded in Step 1, Page 1
d = Order number
e = **4**
f = **24**
g = **0** (Zero)
h = **O** (Letter O)
i = **25620117** (ascii for **W**<space>**O**)
j = Octal data (Word 4) recorded in Step 7, Page 1

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

CAUTION 3
Calling up RC Form will cause all CRT data to be cleared

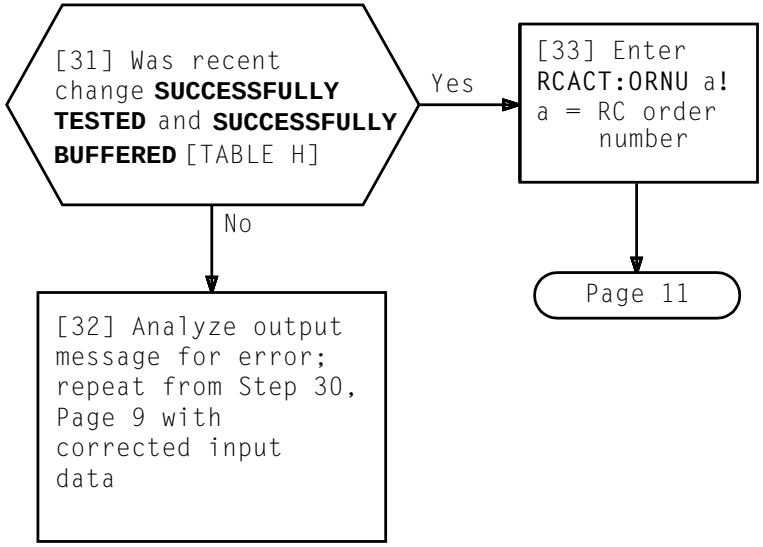


TABLE H

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 4, SIZE 24, DISP 0, BINOCT 0, NEWDATA 25620117, OLDDATA c, REMARKS_ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _____ _____ _____ _____ 25620117 _____ _____

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

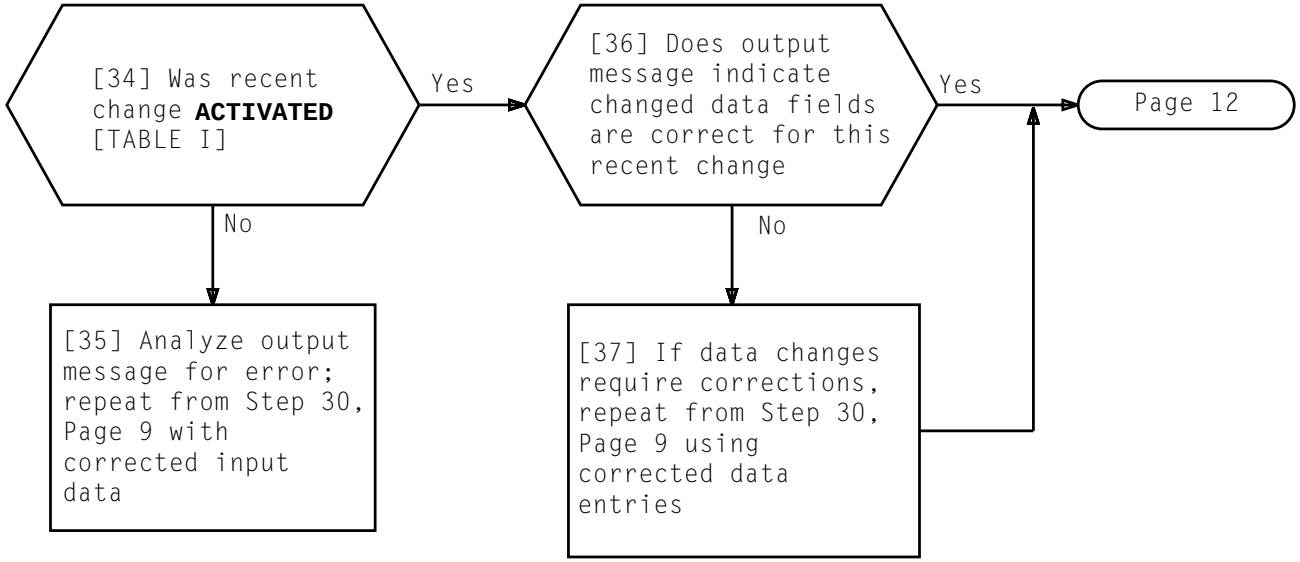


TABLE I

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 4, SIZE 24, DISP 0, BINOCT 0, NEWDATA 25620117, OLDDATA c, REMARKS _ !

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

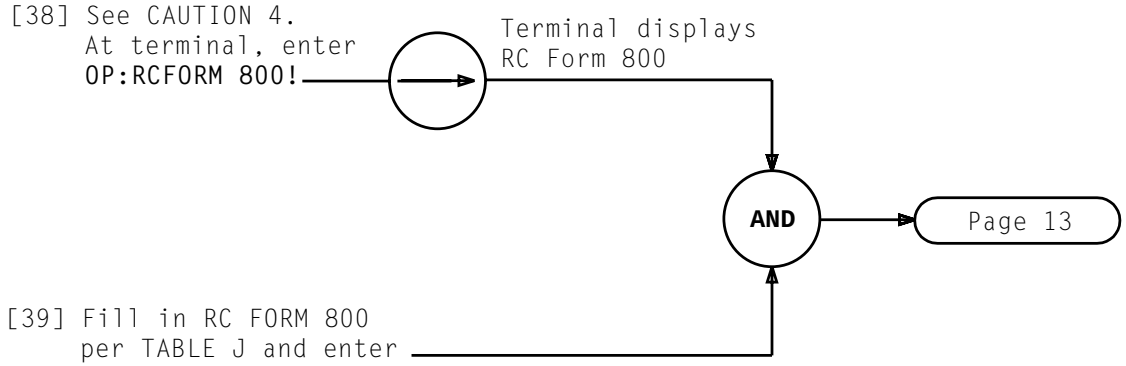


TABLE J

MESSAGE NUMBER	INPUT MESSAGE
1	RC:FUNC;CHG;OPT(TRANS),a: FSONLY b, ADDRESS c, ORNU d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ !

a = **TST**
b = **N**
c = Address recorded in Step 1, Page 1
d = Order number
e = **5**
f = **24**
g = **0** (Zero)
h = **O** (Letter O)
i = **21447114** (ascii for **FNL**)
j = Octal data (Word 5) recorded in Step 7, Page 1

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

CAUTION 4
Calling up RC Form will cause all CRT data to be cleared

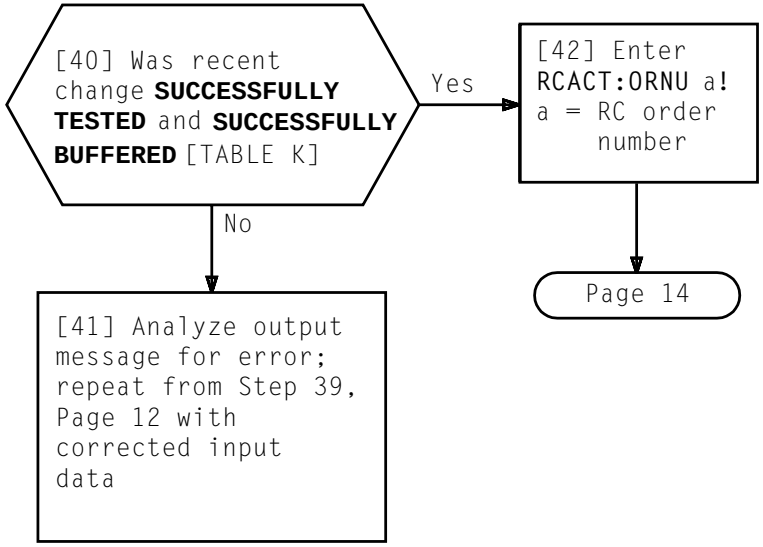


TABLE K

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 5, SIZE 24, DISP 0, BINOCT 0, NEWDATA 21447114, OLDDATA c, REMARKS_ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _____ _____ _____ _____ _____ 21447114 _____ _____

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

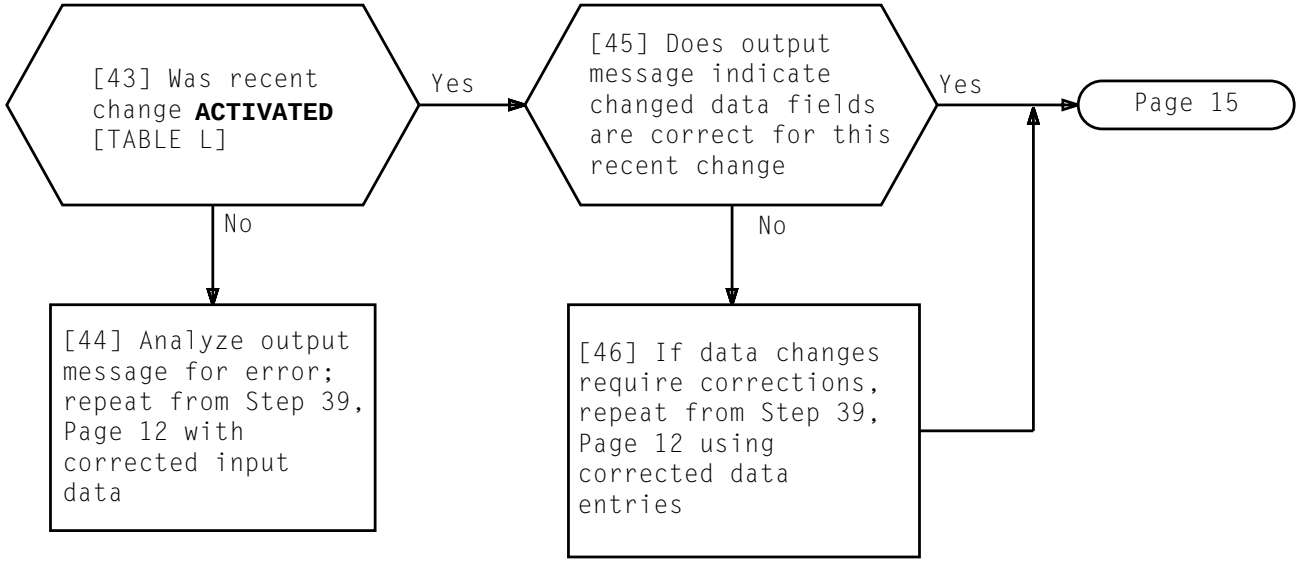


TABLE L

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 5, SIZE 24, DISP 0, BINOCT 0, NEWDATA 21447114, OLDDATA c, REMARKS _ !

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

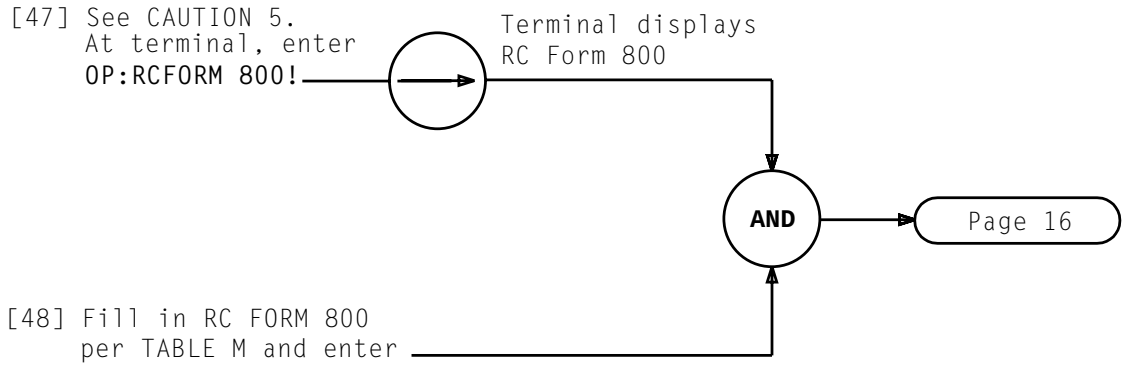


TABLE M

MESSAGE NUMBER	INPUT MESSAGE
1	RC:FUNC;CHG;OPT(ABSOLUTE),a: FSONLY b, ADDRESS c, ORNU d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ !

a = **TST**
b = **N**
c = Address recorded in Step 1, Page 1
d = Order number
e = **6**
f = **24**
g = **0** (Zero)
h = **O** (Letter O)
i = **10020040** (ascii for <space><space><space>)
j = Octal data (Word 6) recorded in Step 7, Page 1

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

CAUTION 5
Calling up RC Form will cause all CRT data to be cleared

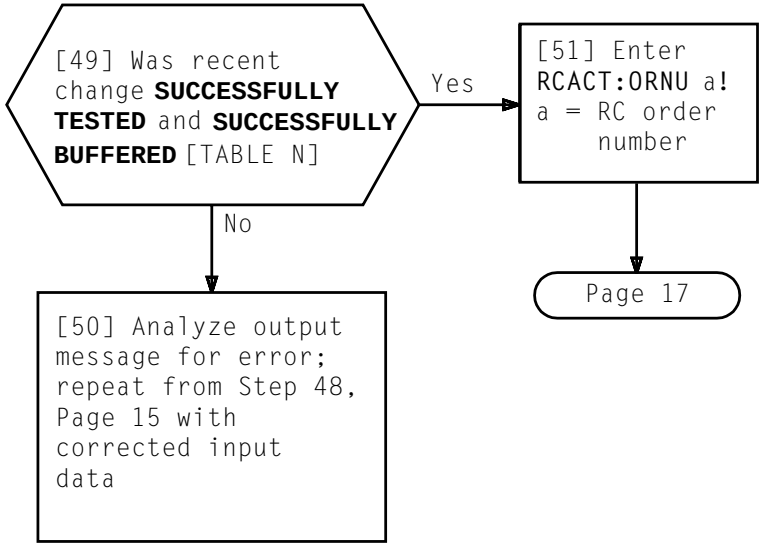


TABLE N

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 6, SIZE 24, DISP 0, BINOCT 0, NEWDATA 10020040, OLDDATA c, REMARKS_ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 _____ _____ _____ _____ _____ _____ 10020040

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

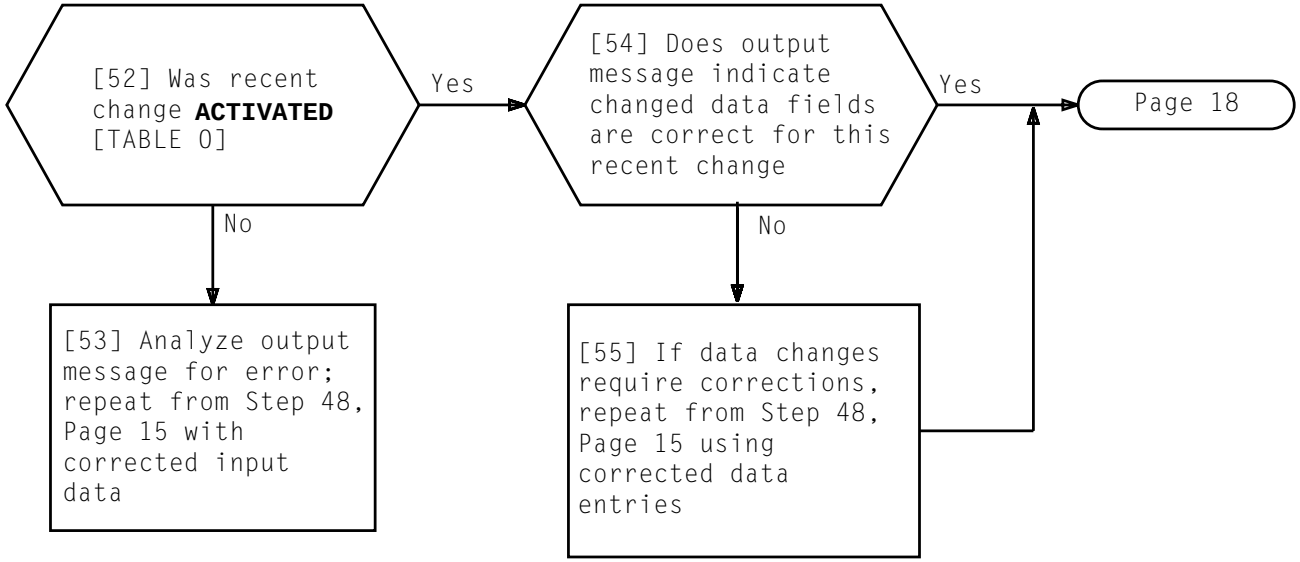


TABLE O

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 6, SIZE 24, DISP 0, BINOCT 0, NEWDATA 10020040, OLDDATA c, REMARKS _ !

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

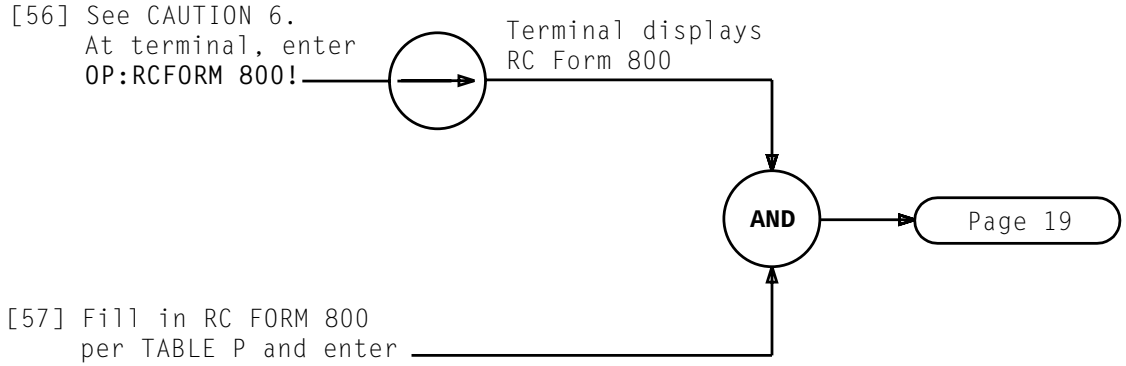


TABLE P

MESSAGE NUMBER	INPUT MESSAGE
1	RC:FUNC;CHG;OPT(ABSOLUTE),a: FSONLY b, ADDRESS c, ORNU d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ !

a = **TST**
b = **N**
c = Address recorded in Step 1, Page 1
d = Order number
e = **0** (Zero)
f = **3**
g = **21**
h = **O** (Letter O)
i = **6** (sets office alarm to operational)
j = Octal data recorded in Step 5, Page 1

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)

CAUTION 6
Calling up RC Form will cause all CRT data to be cleared

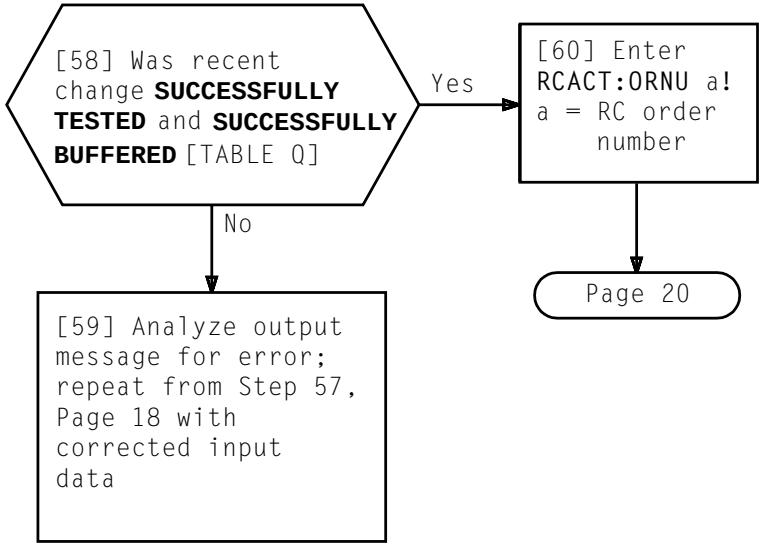


TABLE Q

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 0, SIZE 3, DISP 21, BINOCT 0, NEWDATA 6, OLDDATA c, REMARKS_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ ! REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED WORD 0 6_____ _____ _____ _____ _____ _____ _____

a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

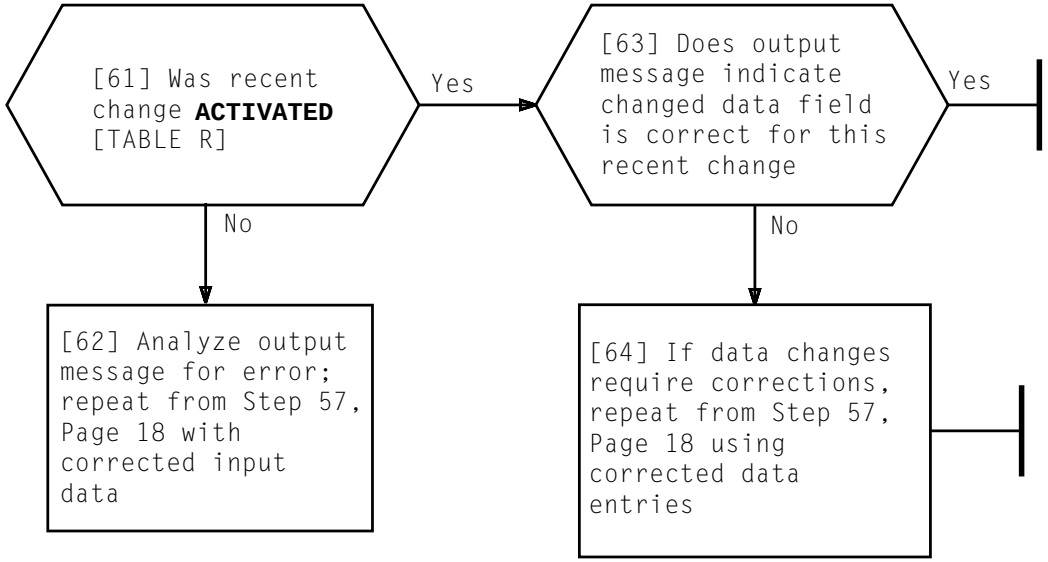
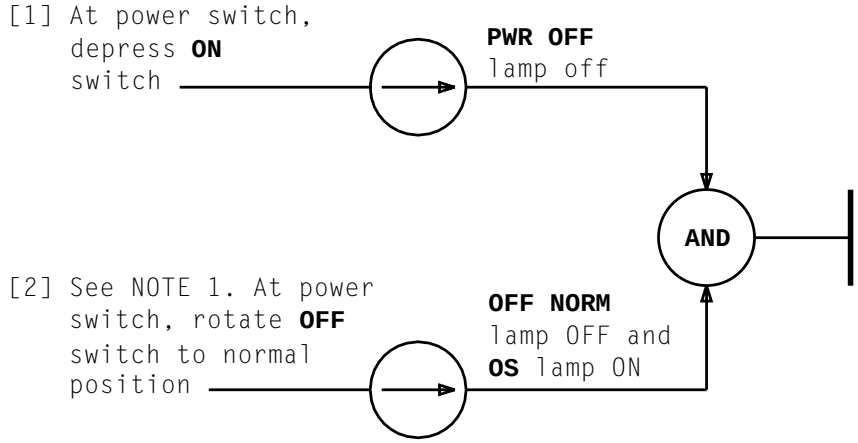


TABLE R

MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N, ADDRESS a, ORNU b, WORDNO 0, SIZE 3, DISP 21, BINOCT 0, NEWDATA 6, OLDDATA c, REMARKS _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ !

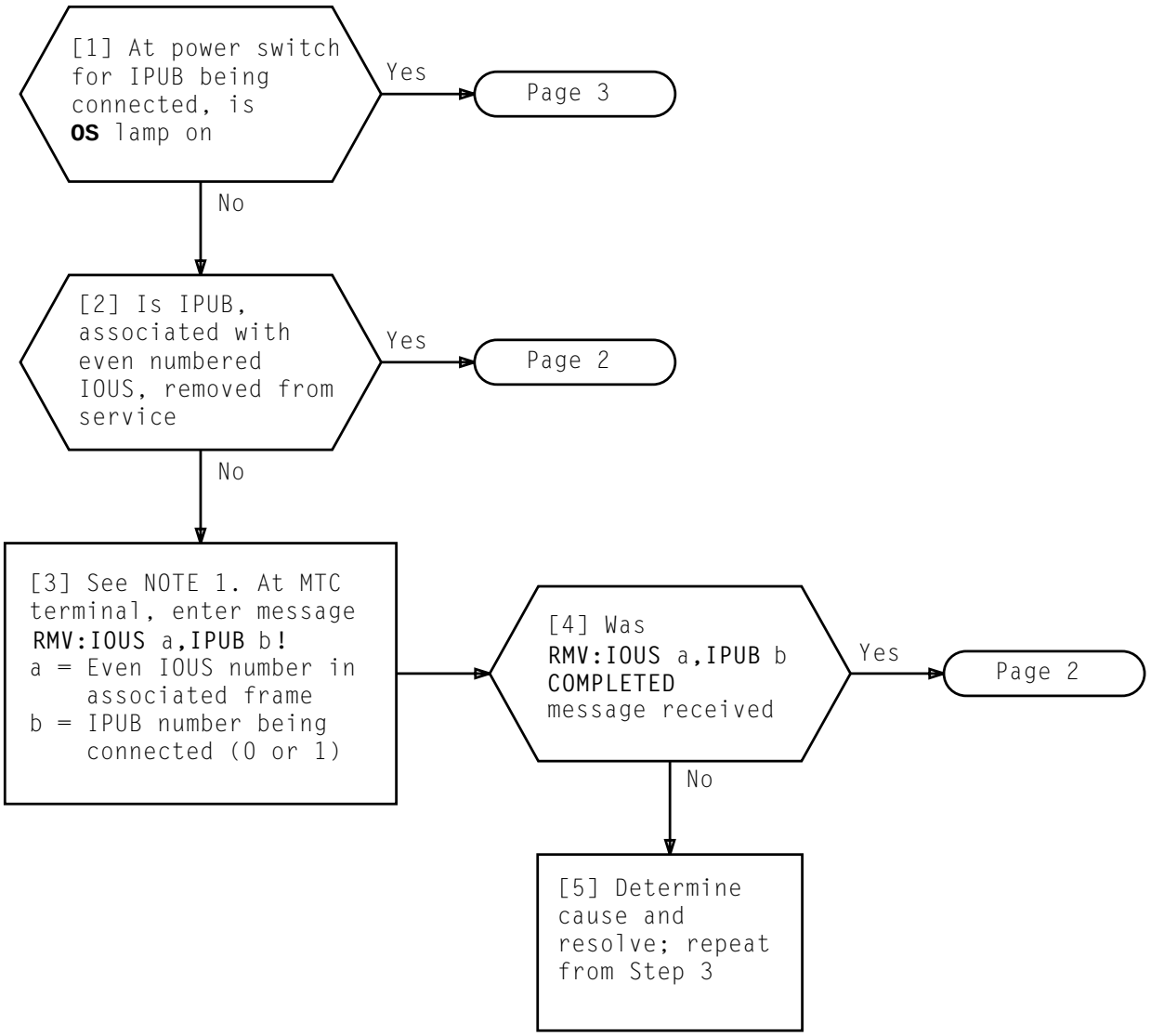
a = address recorded in Step 1, Page 1
b = order number
c = entered OLDDATA

ASSIGN OFFICE ALARM FOR CONVERSION SWITCH UNIT (PERFORMED FOR LEC OFFICES)



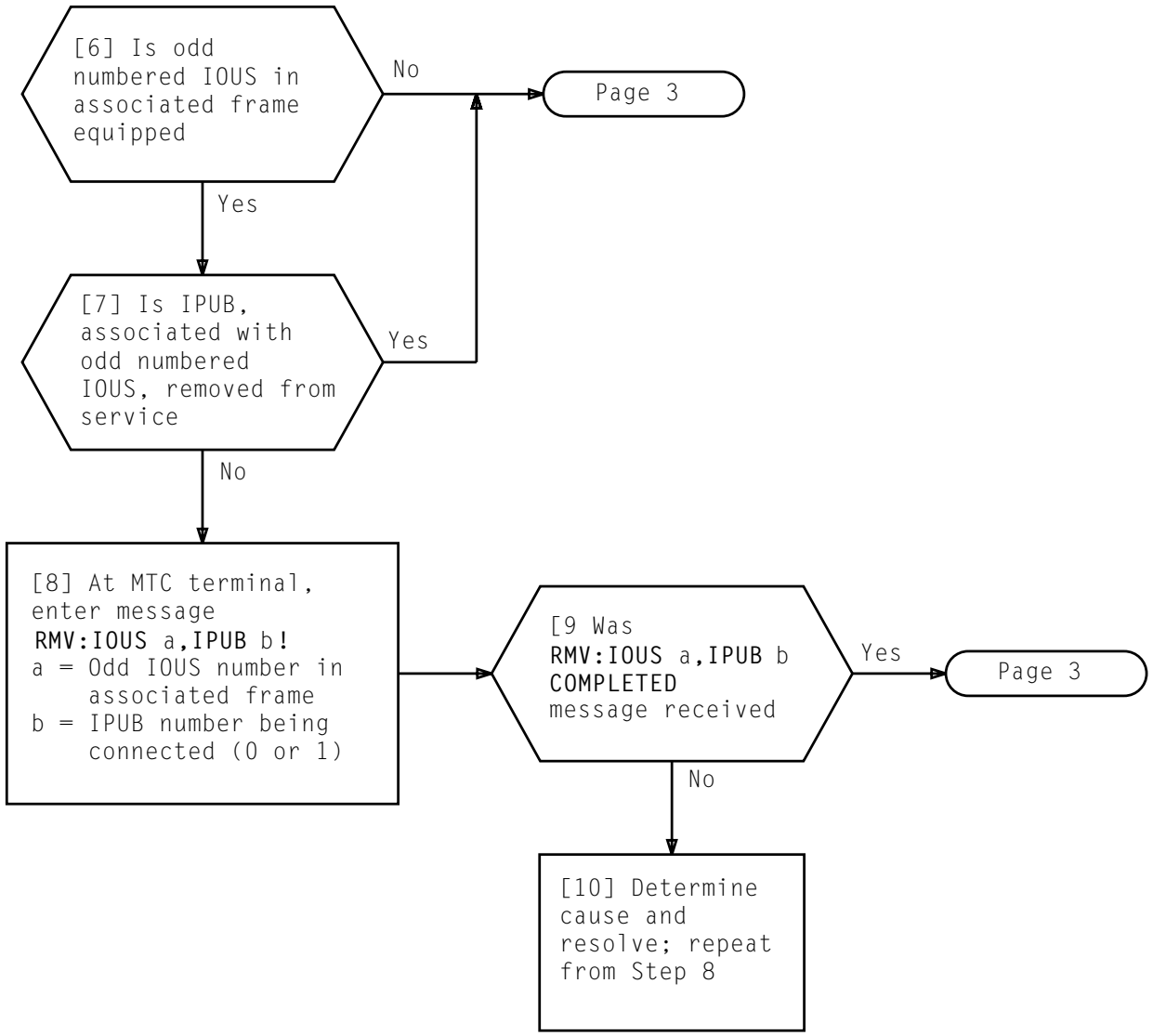
RESTORE POWER WITH POWER SWITCH

NOTE 1
Operation of **OFF** switch will cause diagnostic to be run

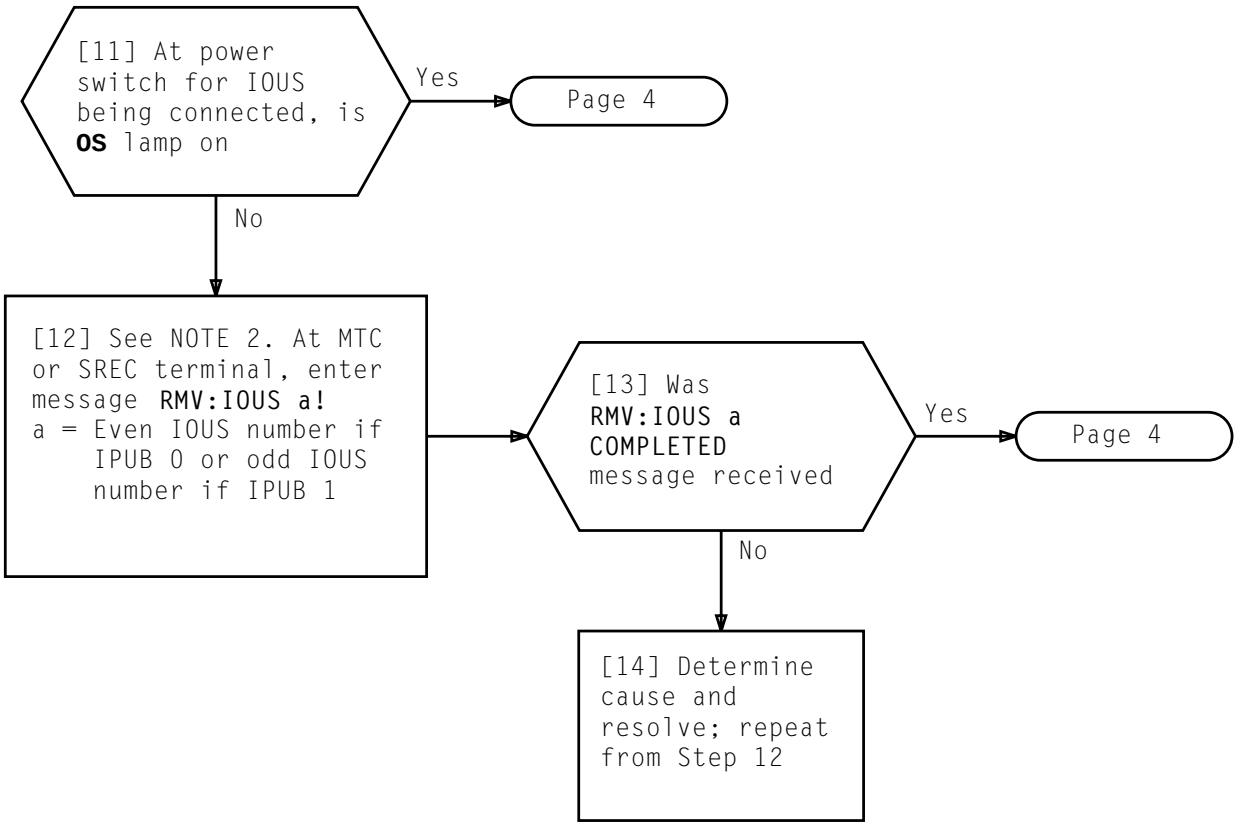


REMOVE POWER FROM IOUS/IPUB USING POWER SWITCH

NOTE 1
Even and odd IOUSs in IO/IOP frame are associated with each IPUB



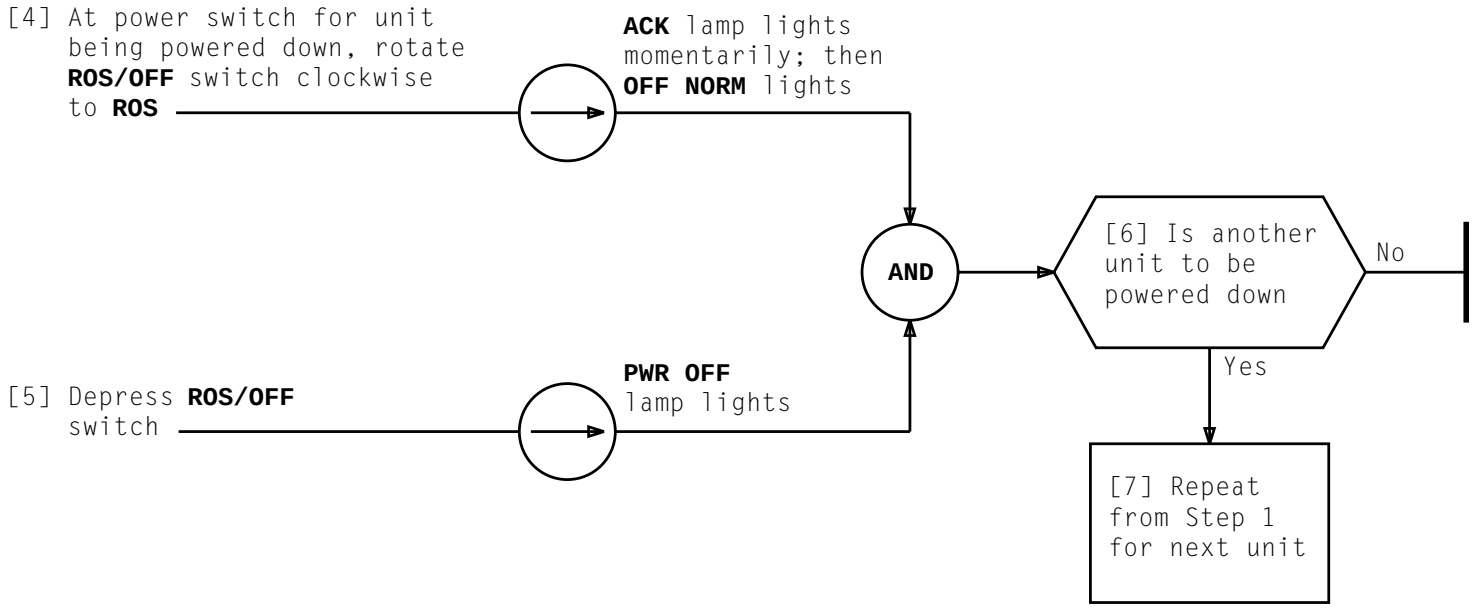
REMOVE POWER FROM IOUS/IPUB USING POWER SWITCH



NOTE 2

Message must be entered from SREC terminal if removing IOUS 0 or MTC terminal if removing any other IOUS

REMOVE POWER FROM IOUS/IPUB USING POWER SWITCH



REMOVE POWER FROM IOUS/IPUB USING POWER SWITCH

ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE
IXL-001		DLP-525		DLP-570							
NTP-002		DLP-526		DLP-571							
NTP-003		DLP-527		DLP-572							
NTP-004		DLP-528		DLP-573							
NTP-005		DLP-529		DLP-575							
NTP-006		DLP-530		DLP-576							
NTP-007		DLP-531		DLP-585							
NTP-008		DLP-532		CKL-891							
NTP-009		DLP-533		TNG-893							
NTP-010		DLP-534									
NTP-011		DLP-538									
DLP-500		DLP-539									
DLP-501		DLP-541									
DLP-502		DLP-542									
DLP-503		DLP-543									
DLP-504		DLP-544									
DLP-505		DLP-545									
DLP-506		DLP-547									
DLP-507		DLP-548									
DLP-508		DLP-549									
DLP-509		DLP-550									
DLP-510		DLP-551									
DLP-511		DLP-552									
DLP-512		DLP-553									
DLP-513		DLP-554									
DLP-514		DLP-555									
DLP-515		DLP-557									
DLP-516		DLP-559									
DLP-518		DLP-560									
DLP-519		DLP-561									
DLP-520		DLP-564									
DLP-521		DLP-566									
DLP-522		DLP-567									
DLP-523		DLP-568									
DLP-524		DLP-569									