Task Oriented Practice
(TOP)

4ESS™ SWITCH

I/O, IOP, TUC, CS, ECS, AND PS

GROWTH/DEGROWTH

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TITLE PAGE	000

FIND YOUR JOB IN THE LIST BELOW . . . . . THEN GO TO

Acceptance NTP-002

CMS; Low Speed — High Speed CMS — Replace [Used by Telephone Company (TELCO) Personnel Only] NTP-009

EADAS; Low Speed — High Speed EADAS — Replace (Used by TELCO Personnel Only) NTP-010
ECS — Add 256K ECS Unit to CS-PS Frame — Support to Installer (INST) NTP-018
ECS — Convert CS Hardware to Extended Call Store (ECS) and Add ECS Side Frame — Support to Installer (INST) . . . NTP-017
ECS — Add 256K ECS Unit to ECS Frame — Support to Installer NTP-019

IOMP — IOUS — Add (Support to Installer) NTP-006
IOP Frame — Add (Support to Installer) NTP-007
IOUC — IOUS — Add and Activate (Used by TELCO Personnel Only) NTP-003
IOUC — IOUS — Deactivate and Remove (Used by TELCO Personnel Only) NTP-008
IOUC Port — IOUS — Activate (Used by TELCO Personnel Only) NTP-004
IOUS — IOP Frame — Add (Support to Installer) NTP-005

Logical Channel — Add (Used by TELCO Personnel Only) NTP-015
Logical Channel — Degrow (Used by TELCO Personnel Only) NTP-016

Tape Frame — Degrow (Support to Installer) NTP-014
Tape Frame — DUS — Add (Support to Installer) NTP-011

256K CS Unit(s) — New Bus Branch — Add (Support to Installer) NTP-013
256K Store Unit — Existing Bus Branch — Add (Support to Installer) NTP-012

Acceptance tests are not required for verification of the growth procedures contained in this volume. The readiness of a frame or unit to become part of the operating system is established by the successful completion of the particular growth procedure in its entirety.

ACCEPTANCE

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

		RESPONSIBILITY	
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. If XAPP overwrites were used during a shift, item 36 must be performed at the end of that shift 3. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing		
1	At MTC Channel, Enter **INH:WPAD!; OK** Output Message Required	TELCO	—
2	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
3	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC** a**;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC** a**:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LG**a**PGRO!**)	TELCO	DLP-504
4	Execute XAPP Library Program (**EX:LIBSYS:PKG LG**a**PGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
5	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,**a**)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, items 4 and 5 must be performed before using XAPP input messages		
6	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp ON)	TELCO	—
7	Determine From Equipment Order Input/Output Unit Controller (IOUC) To Be Added	TELCO	—
8	Verify UNEQ State of IOUC Channel and Port Equipage	TELCO	DLP-507

ADD AND ACTIVATE IOUC IN OPERATIONAL IOUS

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: Items 9 and 10 must be performed without interruption		
9	Change and Verify Channel Data	TELCO	DLP-510
10	Change and Verify Channel Equipage Unequipped to Grow	TELCO	DLP-511
11	Remove Power From IOUC To Be Added:		
	A. If I/O Is SD-5A021: Depress **PWR OFF CHANNEL** Key of IOUC To Be Added (**PWR OFF CHANNEL** Lamp ON)	TELCO	—
	B. If I/O Is SD-5A049 or 5A052:		
	1. Request Users of Other Channels on Growth Associated IOMP To Transfer to Their Backup Channel	TELCO	—
	2. Remove Growth Associated IOMP From Service (**RMV:IOUS** a,**IOMP** b!)	TELCO	DLP-512
	3. Power Down Growth Associated IOMP	TELCO	DLP-513
	C. If I/O Is SD-4C049:		
	1. Request Users of Other Channels on Growth Associated IOMP To Transfer to Their Backup Channel	TELCO	—
	2. Remove Growth Associated IOMP From Service (**RMV:IOUS** a,**IOMP** b!)	TELCO	DLP-512
	3. Power Down Growth Associated IOMP	TELCO	DLP-514
12	If Data Set(s) Are Required:		
	1. If Existing Data Sets Have To Be Powered Down To Add New Data Sets:		
	1. Remove Working IOUC(s) Associated With Data Sets From Service (**RMV:IOUS** a,**IOUC** b!)	TELCO	DLP-515
	2. Power Down Data Set(s)	TELCO	—
	2. Install New Data Set(s) With Interframe Cables	TELCO	—
	3. Power Up New Data Set(s)	TELCO	—
	(Continued to Page 3)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
12 (Contd)	4. If Existing Data Sets Were Powered Down:		
	1. Power Up Data Set(s)	TELCO	—
	2. Restore IOUC(s) Removed From Service in Item 12.1.1 to Service (**RST:IOUS** a,**IOUC** b!)	TELCO	DLP-516
13	Connect Port Cable(s) at I/O Frame (if Not Equipped):		
	A. If I/O Frame Is J5A006A: Connect Port Cable(s) for Each Port To Be Added on Growth IOUC	TELCO	DLP-517
	B. If I/O Frame Is J5A006C: Connect Port Cable(s) for Each Port To Be Added on Growth IOUC	TELCO	DLP-518
	C. If I/O Frame Is J5A006D: Connect Port Cable(s) for Each Port To Be Added on Growth IOUC	TELCO	DLP-519
14	If I/O Is SD-5A021: Select IOUC Operating Speed	TELCO	DLP-520
15	If I/O Is SD-5A021 and Signaling Converters Required: Add Signaling Converters to I/O Frame	TELCO	DLP-521
16	Install Circuit Pack(s) for Growth IOUC:		
	A. If I/O Is SD-5A021	TELCO	DLP-522
	B. If I/O Is SD-5A049 or 5A052	TELCO	DLP-523
	C. If I/O Is SD-4C049	TELCO	DLP-524
17	Restore Power to IOUC To Be Added:		
	A. If I/O Is SD-5A021: Depress **PWR OFF CHANNEL** Key (**PWR OFF CHANNEL** Lamp OFF)	TELCO	—
	B. If I/O Is SD-5A049 or 5A052: Restore Power to Growth Associated IOMP	TELCO	DLP-525
	C. If I/O Is SD-4C049: Restore Power to Growth Associated IOMP	TELCO	DLP-526
	NOTE: If data set is required and high speed channel is associated with IOUC, data set must be connected for diagnostics to pass		
18	Diagnose Growth IOUC (**DGN:IOUS** a,**IOUC** b!)	TELCO	DLP-527
19	Change and Verify Channel Equipage Grow to Special Growth	TELCO	DLP-528

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
20	Change and Verify Channel Equipage Special Growth to Operational	TELCO	DLP-529
21	Determine From Equipment Order IOUC Port(s) To Be Activated	TELCO	—
	NOTE: Items 22 through 25 must be performed without interruption		
22	Change and Verify Port Data	TELCO	DLP-530
23	Repeat Item 22 for Each Additional IOUC Port To Be Activated Within This Growth IOUC	TELCO	—
24	Change and Verify Port Equipage Unequipped to Grow	TELCO	DLP-531
25	Repeat Item 24 for Each Additional IOUC Port To Be Activated Within This Growth IOUC	TELCO	—
26	If Terminal Device Is Equipped With Answer-Back Option: Perform Answer-Back Test (DGN:IOUS a,IOUC b:PORT c!)	TELCO	DLP-532
27	Repeat Item 26 for Each Port To Be Activated on This Growth IOUC	TELCO	—
28	Change and Verify Port Equipage Grow to Special Growth	TELCO	DLP-533
29	Repeat Item 28 for Each Additional IOUC Port To Be Activated Within This Growth IOUC	TELCO	—
30	Change and Verify Port Equipage Special Growth to Operational	TELCO	DLP-534
31	Repeat Item 30 for Each Additional IOUC Port To Be Activated Within This Growth IOUC	TELCO	—
32	Restore Growth IOUC to Service:		
	A. If I/O Is SD-5A021: (RST:IOUS a,IOUC b!)	TELCO	DLP-516
	B. If I/O Is SD-5A049 or 5A052 or 4C049:		
	1. Restore IOMP to Service (RST:IOUS a,IOMP b!)	TELCO	DLP-535
	2. Request Users of Other Channels on Growth Associated IOMP to Return to Their Primary Channel	TELCO	—
	3. Restore Growth IOUC to Service (RST:IOUS a,IOUC b!)	TELCO	DLP-516
33	Test Terminal Device(s) Connecting to Port(s) on This IOUC (if Required)	TELCO	DLP-536
34	Terminate Execution of XAPP Library Program (STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0 ,CLIENT 0	TELCO	DLP-537
35	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp OFF)	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
36	Write New ODA TWRP Tape	TELCO	DLP-538
37	If Office Is a 4E15 or Earlier Generic, Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (**OP:PSSTATUS!**)	TELCO	—
38	If Office Is a 4E15 or Earlier Generic, Set PS, Determined in Item 37, to NORM (**SET:PS** a**;NORM!**)	TELCO	—
39	At MTC Channel, Enter **ALW:WPAD!; OK** Output Message Required	TELCO	—

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

		RESPONSIBILITY	
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. If XAPP overwrites were used during a shift, item 24 must be performed at the end of that shift 3. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing		
1	At MTC Channel, Enter **INH:WPAD!; OK** Output Message Required	TELCO	—
2	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
3	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
4	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0 ,CLIENT 0**)	TELCO	DLP-505
5	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, items 4 and 5 must be performed before using XAPP input messages		
6	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp ON)	TELCO	—
7	Determine From Equipment Order Input/Output Unit Controller (IOUC) Port To Be Activated	TELCO	—
	(Continued on Page 2)		

ACTIVATE IOUC PORT IN OPERATIONAL IOUC

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
8	Verify UNEQ State of IOUC Port Equipage	TELCO	DLP-507
9	If IOUC Is in Service: Remove IOUC From Service (**RMV:IOUS** a,**IOUC** b!)	TELCO	DLP-515
10	Remove Power From Growth Associated IOUC:		
	A. If I/O Is SD-5A021: Depress **PWR OFF CHANNEL** Key of IOUC To Be Added (**PWR OFF CHANNEL** Lamp Lighted)	TELCO	—
	B. If I/O Is SD-5A049 or 5A052:		
	1. Request Users of Other Channels on Growth Associated IOMP To Transfer to Their Backup Channel	TELCO	—
	2. Remove Growth Associated IOMP From Service (**RMV:IOUS** a,**IOMP** b!)	TELCO	DLP-512
	3. Power Down Growth Associated IOMP	TELCO	DLP-513
	C. If I/O Is SD-4C049:		
	1. Request Users of Other Channels on Growth Associated IOMP To Transfer to Their Backup Channel	TELCO	—
	2. Remove Growth Associated IOMP From Service (**RMV:IOUS** a,**IOMP** b!)	TELCO	DLP-512
	3. Power Down Growth Associated IOMP	TELCO	DLP-514
11	If Data Set Is Required:		
	1. If Existing Data Sets Have To Be Powered Down To Add New Data Sets:		
	1. Remove Working IOUC(s) Associated With Data Sets From Service (**RMV:IOUS** a,**IOUC** b!)	TELCO	DLP-515
	2. Power Down Data Set(s)	TELCO	—
	2. Install New Data Set With Interface Cables	TELCO	—
	3. Power Up New Data Set	TELCO	—
	4. If Existing Data Sets Were Powered Down:		
	1. Power Up Data Set(s)	TELCO	—
	2. Restore IOUC(s) Removed From Service in Item 11.1.1 to Service (**RST:IOUS** a,**IOUC** b!)	TELCO	DLP-516

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
12	Connect Cables of Port To Be Activated at IOUC and Terminal Strip and Ensure That They Are Firmly Seated:		
	A. If I/O Frame Is J5A006A	TELCO	DLP-517
	B. If I/O Frame Is J5A006C	TELCO	DLP-518
	C. If I/O Frame Is J5A006D	TELCO	DLP-519
13	If I/O Is SD-5A021 and Signaling Converter Required: Add Signaling Converter to I/O Frame	TELCO	DLP-521
14	Restore Power to Growth Associated IOUC:		
	A. If I/O Is SD-5A021: Depress **PWR OFF CHANNEL** Key (**PWR OFF CHANNEL** Lamp OFF)	TELCO	—
	B. If I/O Is SD-5A049 or 5A052: Restore Power to Growth Associated IOMP	TELCO	DLP-525
	C. If I/O Is SD-4C049: Restore Power to Growth Associated IOMP	TELCO	DLP-526
	NOTE: Items 15 and 16 must be performed without interruption		
15	Change and Verify Port Data	TELCO	DLP-530
16	Change and Verify Port Equipage Unequipped to Grow	TELCO	DLP-531
17	If Terminal Device Is Equipped With Answer-Back Feature: Perform Answer-Back Test (**DGN:IOUS** a,**IOUC** b:**PORT** c!)	TELCO	DLP-532
18	Change and Verify Port Equipage Grow to Special Growth	TELCO	DLP-533
19	Change and Verify Port Equipage Special Growth to Operational	TELCO	DLP-534
20	Restore Growth Associated IOUC to Service:		
	A. If I/O Is SD-5A021 (**RST:IOUS** a,**IOUC** b!)	TELCO	DLP-516
	B. If I/O Is SD-5A049 or 5A052 or 4C049:		
	1. Restore IOMP to Service (**RST:IOUS** a,**IOMP** b!)	TELCO	DLP-535
	2. Request Users of Other Channels on Growth Associated IOMP to Return to Their Primary Channel	TELCO	—
	3. Restore Growth Associated IOUC to Service (**RST:IOUS** a,**IOUC** b!)	TELCO	DLP-516
	(Continued on Page 4)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
21	Test Terminal Device Connecting to Growth Port (if Required)	TELCO	DLP-536
22	Terminate Execution of XAPP Library Program (STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!)	TELCO	DLP-537
23	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp OFF)	TELCO	—
24	Write New ODA TWRP Tape	TELCO	DLP-538
25	If Office Is a 4E15 or Earlier Generic, Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (OP:PSSTATUS!)	TELCO	—
26	If Office Is a 4E15 or Earlier Generic, Set PS, Determined in Item 25, to NORM (SET:PS a;NORM!)	TELCO	—
27	At MTC Channel, Enter ALW:WPAD!; OK Output Message Required	TELCO	—

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

		RESPONSIBILITY	
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. If XAPP overwrites were used during a shift, item 60 must be performed at the end of that shift 3. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing		
1	Perform Preliminary Installation Activities	INST	—
2	At MTC Channel, Enter **INH:WPAD!; OK** Output Message Required	TELCO	—
3	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
4	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
5	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0 ,CLIENT 0**)	TELCO	DLP-505
6	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, items 5 and 6 must be performed before using XAPP input messages		
7	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp ON)	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
8	Verify Member Equipage UNEQ for Growth Input/Output Unit Selector (IOUS) (VER:UTMN;CUR:a b,ME!)	TELCO/INST	DLP-542
9	Verify Words 1 Through 8 in Growth IOUS Unit Type Translator (Using Verify Entry Message):		
	A. Growth IOUS Is Member Number 1 or 3	TELCO/INST	DLP-544
	B. Growth IOUS Is Member Number 5 or 7	TELCO/INST	DLP-546
10	Change and Verify Hardware Generation for Growth IOUS	TELCO/INST	DLP-549
11	Change and Verify Member Type for Growth IOUS	TELCO/INST	DLP-550
12	Change and Verify Member Equipage Unequipped to Grow (Growth IOUS)	TELCO/INST	DLP-551
13	Request Users of Channels on Upper IOUS to Transfer to Backup Channel	TELCO	—
14	Remove Power With Power Switch (Upper IOUS)	TELCO	—
15	Remove Power With Power Switch (Bus Interface Unit 0)	TELCO	—
16	Remove Power With Power Switch (Bus Interface Unit 1)	TELCO	—
17	Remove Power Conversion and Distribution (PCD) Frame Fuses for Upper and Lower IOUS and Bus Interface Units 0 and 1	TELCO	—
18	Install Lower IOUS	INST	—
19	Connect Power Feeders to Lower IOUS	INST	—
20	Run Loose Wire	INST	—
21	Install Tape Cables in 82A Apparatus Mountings on Growth IOUS Backplane	INST	—
22	Replace PCD Fuses Removed in Item 17	TELCO	—
23	Test IOP Frame Major Alarms for Lower IOUS	INST	—
24	Verify Scan and SD Points for Lower IOUS	INST	—
25	Remove PUB 0 From Service (RMV:PUB 0!)	TELCO	DLP-552
26	Restore Power With Power Switch (Bus Interface Unit 0)	TELCO/INST	DLP-553
27	Restore Power With Power Switch (Upper IOUS)	TELCO/INST	DLP-553
	(Continued on Page 3)		

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
28	Rotate **OFF** Switch Counterclockwise to Normal Position and Depress **ON** Switch for Lower IOUS	INST	—
29	Diagnose Upper IOUS and Lower IOUS Using PUB 0	INST	—
30	Remove Power With Power Switch (Bus Interface Unit 0)	TELCO	—
31	Restore PUB 0 to Service (**RST:PUB 0**!)	TELCO/INST	DLP-554
32	Remove PUB 1 From Service (**RMV:PUB 1**!)	TELCO	DLP-552
33	Restore Power With Power Switch (Bus Interface Unit 1)	TELCO/INST	DLP-553
34	Diagnose Upper IOUS and Lower IOUS Using PUB 1	INST	—
35	If Any Repairs or Maintenance Was Required to Either Bus Interface Circuit or IOUS:		
	1. Remove Power With Power Switch (Bus Interface Unit 1)	TELCO	—
	2. Restore PUB 1 to Service (**RST:PUB 1**!)	TELCO/INST	DLP-554
	3. Repeat From Item 25	TELCO/INST	—
36	Restore PUB 1 to Service (**RST:PUB 1**!)	TELCO/INST	DLP-554
37	Restore Power With Power Switch (Bus Interface Unit 0)	TELCO/INST	DLP-553
38	Power Up Lower IOUS	INST	—
39	Diagnose Lower IOUS	INST	—
40	Restore Power With Power Switch (Upper IOUS)	TELCO/INST	DLP-553
41	Request Users of Channels on Upper IOUS To Return to Their Primary Channels	TELCO	—
42	Change and Verify Member Equipage Grow to Special Growth (Growth IOUS)	TELCO/INST	DLP-555
43	Change and Verify Member Equipage Special Growth to Operational (Growth IOUS)	TELCO/INST	DLP-556
44	Restore IOUS to Service (Lower IOUS) (**RST:IOUS** a!)	TELCO	DLP-557
	(Continued on Page 4)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
45	Add an Input/Output Micro-Processor (IOMP) to Growth IOUS:		
	1. Change and Verify Submember Hardware Generation for Growth IOMP	TELCO/INST	DLP-558
	2. Change and Verify Submember Equipage Unequipped to Grow (Growth IOMP)	TELCO/INST	DLP-559
	3. Diagnose Growth IOMP	INST	—
	4. Change and Verify Submember Equipage Grow to Special Growth (Growth IOMP)	TELCO/INST	DLP-560
	5. Change and Verify Submember Equipage Special Growth to Operational (Growth IOMP)	TELCO/INST	DLP-561
	6. Restore Growth IOMP to Service (**RST:IOUS** a,**IOMP** b!)	TELCO/INST	DLP-535
46	Determine From Equipment Order Input/Output Unit Controller(s) [IOUC(s)] To Be Added to Grown IOMP	INST	—
47	Remove Power From Grown IOMP:		
	1. Remove Grown IOMP From Service (**RMV:IOUS** a,**IOMP** b!)	TELCO	DLP-512
	2. Power Down Grown IOMP:		
	A. If I/O Is SD-5A049 or 5A052	TELCO	DLP-513
	B. If I/O Is SD-4C049	TELCO	DLP-514
48	For Each Growth IOUC:		
	NOTE: Items 48.1 and 48.2 must be performed without interruption		
	1. Change and Verify Channel Data	TELCO/INST	DLP-510
	2. Change and Verify Channel Equipage Unequipped to Grow	TELCO/INST	DLP-511
	(Continued on Page 5)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
49	If Data Set(s) Are Required:		
	1. If Existing Data Sets Have To Be Powered Down To Add New Data Sets:		
	1. Remove Working IOUC(s) Associated With Data Sets From Service (**RMV:IOUS** a,**IOUC** b!)	TELCO	DLP-515
	2. Power Down Data Set(s)	TELCO	—
	2. Install New Data Set(s) With Interframe Cables	INST	—
	3. Power Up New Data Set(s)	TELCO	—
	4. If Existing Data Sets Were Powered Down:		
	1. Power Up Data Set(s)	TELCO	—
	2. Restore IOUC(s) Removed From Service in Item 49.1.1 to Service (**RST:IOUS** a,**IOUC** b!)	TELCO	DLP-516
50	Connect Cables at Terminal Device(s) and I/O Frame for All Growth IOUCs	INST	—
51	Verify or Install Circuit Packs for All Growth IOUCs in Grown IOMP	INST	—
52	Restore Power to Grown IOMP:		
	A. If I/O Is SD-5A049 or 5A052	TELCO	DLP-525
	B. If I/O Is SD-4C049	TELCO	DLP-526
53	For Each Growth IOUS:		
	1. Diagnose Growth IOUS (**DGN:IOUS** a,**IOUC** b!)	TELCO	DLP-527
	2. Change and Verify Channel Equipage Grow to Special Growth	TELCO/INST	DLP-528
	3. Change and Verify Channel Equipage Special Growth to Operational	TELCO/INST	DLP-529
	4. Determine From Equipment Order IOUC Port(s) To Be Activated	INST	—
	(Continued on Page 6)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
53 (Contd)	5. For Each Port To Be Activated:		
	NOTE: Items 53.5.1 and 53.5.2 must be performed without interruption		
	1. Change and Verify Port Data	TELCO/INST	DLP-530
	2. Change and Verify Port Equipage Unequipped to Grow	TELCO/INST	DLP-531
	3. If Terminal Device Connected to Port Is Equipped With Answer-Back Option: Perform Answer-Back Test (**DGN:IOUS** a,**IOUC** b:**PORT** c!)	TELCO	DLP-532
	4. Change and Verify Port Equipage Grow to Special Growth	TELCO/INST	DLP-533
	5. Change and Verify Port Equipage Special Growth to Operational	TELCO/INST	DLP-534
54	Restore Grown IOMP to Service (**RST:IOUS** a,**IOMP** b!)	TELCO	DLP-535
55	Restore All Grown IOUCs to Service (**RST:IOUS** a,**IOUC** b!)	TELCO	DLP-516
56	Test All Terminal Devices Connecting to Grown Ports	TELCO	DLP-536
57	If Second IOMP Is To Be Equipped on This Order: Repeat Items 45 Through 56 for Remaining IOMP	TELCO/INST	—
58	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0**!)	TELCO	DLP-537
59	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp OFF)	TELCO	—
60	Write New ODA TWRP Tape	TELCO	DLP-538
61	If Office Is a 4E15 or Earlier Generic, Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (**OP:PSSTATUS**!)	TELCO	—
62	If Office Is a 4E15 or Earlier Generic, Set PS, Determined in Item 61, to NORM (**SET:PS** a;**NORM**!)	TELCO	—
63	At MTC Channel, Enter **ALW:WPAD**!; **OK** Output Message Required	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.		
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. If XAPP overwrites were used during a shift, item 56 must be performed at the end of that shift 3. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing		
1	Perform Preliminary Installation Activities	INST	—
2	Determine From Office Records IOUS Member Number Assignments	TELCO	—
3	Diagnose IOUS To Be Grown **(DGN:IOUS** a**!)**	TELCO	DLP-662
4	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
5	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC** a**;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC** a**:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LG**a**PGRO!**)	TELCO	DLP-504
6	Execute XAPP Library Program (**EX:LIBSYS:PKG LG**a**PGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
7	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,**a**)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, items 6 and 7 must be performed before using XAPP input messages		

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
8	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE** — **RESTRICT RECENT CHANGES** Key (Lamp ON)	TELCO	—
9	Remove IOMP 0 From Service **(RMV:IOUS**a**,IOMP 0!)**	TELCO	DLP-661
10	Remove Power With Power Switch (Growth Associated IOUS)(IOMP 0)	TELCO	DLP-xxx
11	Remove Power Conversion and Distribution (PCD) Frame Fuses for Growth Associated IOUS	TELCO	DLP-xxx
12	At IOMP 0 Replace DMAC Circuit Packs With FG85, FG86, and FG87 Circuit Packs	INST	—
13	Change and Verify Hardware Version Translation for New Circuit Packs	TELCO	DLP-618
14	Restore IOMP 0 to Service **(RST:IOUS**a**,IOMP 0!)**	TELCO	DLP-
15	At Growth Associated IOUS Power Switch Depress **ON** Switch Leaving **OFF** Switch in **ROS**	TELCO	—
16	Verify Submember Equipage UNEQ for Growth Input/Output Microprocessor (IOMP) (**VER:UTMN:IOUS** a**,SUBMEM** b**,SME!**)	TELCO/INST	DLP-562
17	Remove IOUS From Service **(RMV:IOUS**a**!)**	TELCO	DLP-661
18	Remove Power With Power Switch (Growth Associated IOUS)(IOMP 1)	TELCO	DLP-xxx
19	Remove Power Conversion and Distribution (PCD) Frame Fuses for Growth Associated IOUS	TELCO	—
20	Install and Connect IOMP 1	INST	—
21	Replace PCD Fuses Removed in Item 14	TELCO	—
22	At Growth Associated IOUS Power Switch Depress **ON** Switch Leaving **OFF** Switch in **ROS**	TELCO	—
23	Change and Verify Submember Hardware Generation for Growth IOMP 1	TELCO/INST	DLP-558
24	Change and Verify Submember Equipage Unequipped to Grow (Growth IOMP 1)	TELCO/INST	DLP-559
25	Diagnose Growth IOUC IOMP 1 **(DGN:IOUC** a**, IOMP 1!)**	TELCO	DLP-527
26	Restore Power Switch to Normal Position (Growth Associated IOUS)	TELCO/INST	DLP-564
27	Restore IOUS to Service **(RST:IOUS** a**!)**	TELCO	DLP-660
28	Change and Verify Submember Equipage Grow to Special Growth (Growth IOMP) (IOMP 1)	TELCO/INST	DLP-560
29	Change and Verify Submember Equipage Special Growth to Operational (Growth IOMP) (IOMP 1)	TELCO/INST	DLP-561
30	Restore Growth IOMP 1 to Service **(RST:IOUS** a**,IOMP 1!)**	TELCO/INST	DLP-535
31	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
32	Remove Power From Grown IOMP 1:		
	1. Remove Grown IOMP From Service (**RMV:IOUS** a,**IOMP** 1)	TELCO	DLP-512
	2. Power Down Grown IOMP:	TELCO	DLP-514
33	For Each Growth IOUC (8-15):		
	NOTE: Items 33.1 and 33.2 must be performed without interruption		
	1. Change and Verify Channel Data	TELCO/INST	DLP-510
	2. Change and Verify Channel Equipage Unequipped to Grow	TELCO/INST	DLP-511
34	Install New Paradyne 3511 Data Set(s) With Interframe Cables	INST	—
35	Power Up New Data Set(s)	TELCO	—
36	Connect Cables at Data Sets and I/O Frame for All Growth IOUCs (8-15)	INST	—
37	Verify or Install TN82 Circuit Packs for All Growth IOUCs in Grown IOMP 1	INST	—
38	Restore Power to Growth IOMP (IOMP 1)	TELCO	DLP-526
39	Grow IOUCs in 1 IOMP:		
	1. Diagnose One Growth IOUC (**DGN:IOUS** a,**IOUC** b!)	TELCO	DLP-527
	2. Change and Verify Channel Equipage Grow to Special Growth	TELCO/INST	DLP-528
	3. Change and Verify Channel Equipage Special Growth to Operational	TELCO/INST	DLP-529
	4. For Each Port to Be Activated:		
	NOTE: Items 39.5.1 and 39.5.2 must be performed without interruption		
	1. Change and Verify Data for Growth IOUC Port 1	TELCO/INST	DLP-530
	2. Change and Verify Port Data Equipage Unequipped to Grow	TELCO/INST	DLP-531
	3. Change and Verify Port Data Equipage Grow to Special Growth	TELCO/INST	DLP-533
	4. Change and Verify Port Data Equipage Special Growth to Operational	TELCO/INST	DLP-534
40	Repeat From 39.1 for Each Growth IOUC		
	(Continued on Page 4)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
41	Restore Grown IOMP 1 to Service (**RST:IOUS** a,**IOMP** b!)	TELCO	DLP-535
42	Restore All Grown IOUCs to Service (**RST:IOUS** a,**IOUC** b!)	TELCO	DLP-516
43	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
44	Verify Local Loop for Grown IOUC (8-15) Ports **(DGN:IOUS** a, **IOUC** b: **PH93)**	TELCO	DLP-663
45	Connect Paradyne 3511 Data Sets to Network (D4,GTC)	INST	—
46	Verify Remote Loop for Grown IOUC (8-15) Ports **(DGN:IOUS** a, **IOUC** b: **PH94)**	TELCO	DLP-664
47	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
48	Define Channel/Link Relationship		
49	Remove All IOUC Channels (8-15) From Service **(RMV:IOUS** a, **IOUC** b!)	TELCO	DLP-515
50	Update Translator for ASTN Links **(RC:MISC; FHA, FTA:** a,b,c,d,e!)	TELCO	DLP-665
51	Verify IOUC Channel/Link **(OP:SCHAN; LINKSTAT!)**	TELCO	DLP-666
52	Restore All IOUC Channels (8-15) to Service (**RST:IOUS** a, **IOUC** b!)	TELCO	DLP-516
53	Verify Connectivity From IOUC Port 1 to Far End Connection **(OP:SCHAN; LINKSTAT!)**	TELCO	DLP-666
54	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0**!)	TELCO	DLP-537
55	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp OFF)	TELCO	—
56	Write New ODA TWRP Tape	TELCO	DLP-538

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

		RESPONSIBILITY	
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. If XAPP overwrites were used during a shift, item 57 must be performed at the end of that shift 3. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing		
1	Perform Preliminary Installation Activities	INST	—
2	At MTC Channel, Enter **INH:WPAD!; OK** Output Message Required	TELCO	—
3	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
4	If Library Package Containing Program XAPP Does Not Reside in File System:	TELCO	—
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
5	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0**)	TELCO	DLP-505
6	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, items 5 and 6 must be performed before using XAPP input messages		
7	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp ON)	TELCO	—
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
8	Verify Member Equipage UNEQ for Growth Input/Output Unit Selector (IOUS) (Upper IOUS) (**VER:UTMN:IOUS** a,ME!)	TELCO/INST	DLP-542
9	If Lower IOUS Is To Be Equipped: Verify Member Equipage UNEQ for Growth IOUS (Lower IOUS) (**VER:UTMN:IOUS** a,ME!)	TELCO/INST	DLP-542
10	Verify Words 1 Through 8 in Growth IOUS Unit Type Translator (Upper IOUS — Using Verify Enter Message):		
	A. Growth IOUS Is Member Number 2	TELCO/INST	
	B. Growth IOUS Is Member Number 4 or 6	TELCO/INST	DLP-546
11	If Lower IOUS Is To Be Equipped: Verify Words 1 Through 8 in Growth IOUS Unit Type Translator (Lower IOUS — Using Verify Entry Message):		
	A. Growth IOUS Is Member Number 3	TELCO/INST	DLP-544
	B. Growth IOUS Is Member Number 5 or 7	TELCO/INST	DLP-546
12	Connect and Test I/O Processor Frame Major Alarm	INST	—
13	Connect All Scan, Signal Distributor (SD), and Pulse Point Wiring	INST	—
14	Change and Verify Hardware Generation for Growth IOUS (Upper IOUS)	TELCO/INST	DLP-549
15	If Lower IOUS Is To Be Equipped: Change and Verify Hardware Generation for Growth IOUS (Lower IOUS)	TELCO/INST	DLP-549
16	Change and Verify Member Type for Growth IOUS (Upper IOUS)	TELCO/INST	DLP-550
17	If Lower IOUS Is To Be Equipped: Change and Verify Member Type for Growth IOUS (Lower IOUS)	TELCO/INST	DLP-550
18	Change and Verify Member Equipage Unequipped to Grow (Upper IOUS)	TELCO/INST	DLP-551
19	If Lower IOUS Is To Be Equipped: Change and Verify Member Equipage Unequipped to Grow (Lower IOUS)	TELCO/INST	DLP-551
20	Verify Scan and SD Points for Bus Interface Units 0 and 1, Upper IOUS, and Lower IOUS (if Equipped)	INST	—
	(Continued on Page 3)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
21	Extend or Insert Peripheral Unit Bus (PUB) per TOP 234-153-045. Continue Procedure at Item 22 Upon Completion	TELCO/INST	—
22	Remove PUB 0 From Service (**RMV:PUB 0!**)	TELCO	DLP-552
23	Rotate **OFF** Switches Counterclockwise to Normal Position and Depress **ON** Switch for Bus Interface Unit 0, Upper IOUS, and Lower IOUS (if Equipped)	INST	—
24	Diagnose Upper IOUS and Lower IOUS (if Equipped) Using PUB 0. TELCO Enter **DGN:IOUS a:PUB 0,PH (1,2)!**	TELCO/INST	—
25	Rotate **OFF** Switch Clockwise to **ROS** Position and Depress for Bus Interface Unit 0	INST	—
26	Restore PUB 0 to Service (**RST:PUB 0!**)	TELCO/INST	DLP-554
27	Remove PUB 1 From Service (**RMV:PUB 1!**)	TELCO	DLP-552
28	Rotate **OFF** Switch Counterclockwise to Normal Position and Depress **ON** Switch for Bus Interface Unit 1	INST	—
29	Diagnose Upper IOUS and Lower IOUS (if Equipped) Using PUB 1. TELCO Enter **DGN:IOUS a:PUB 1,PH (1,3)!**	TELCO/INST	—
30	If Any Repairs or Maintenance Was Required to Either Bus Interface Circuit or IOUS:		
	1. Rotate **OFF** Switch Clockwise to **ROS** Position and Depress for Bus Interface Unit 1	INST	—
	2. Restore PUB 1 to Service (**RST:PUB 1!**)	TELCO/INST	DLP-554
	3. Repeat From Item 23	TELCO/INST	
31	Restore PUB 1 to Service (**RST:PUB 1!**)	TELCO/INST	DLP-554
32	Rotate **OFF** Switch Counterclockwise to Normal Position and Depress **ON** Switch for Bus Interface Unit 0	INST	—
33	Diagnose Upper IOUS	INST	—
34	If Lower IOUS Is To Be Equipped: Diagnose Lower IOUS	INST	—
35	Change and Verify Member Equipage Grow to Special Growth (Upper IOUS)	TELCO/INST	DLP-555
36	If Lower IOUS Is To Be Equipped: Change and Verify Member Equipage Grow to Special Growth (Lower IOUS)	TELCO/INST	DLP-555

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
37	Change and Verify Member Equipage Special Growth to Operational (Upper IOUS)	TELCO/INST	DLP-556
38	Restore IOUS to Service (Upper IOUS) (**RST:IOUS** a!)	TELCO/INST	DLP-557
39	If Lower IOUS Is To Be Equipped: Change and Verify Member Equipage Special Growth to Operational (Lower IOUS)	TELCO/INST	DLP-556
40	If Lower IOUS Is To Be Equipped: Restore IOUS to Service (Lower IOUS) (**RST:IOUS** a!)	TELCO/INST	DLP-557
41	Add an Input/Output Microprocessor (IOMP) to Growth IOUS:	TELCO/INST	
	1. Change and Verify Submember Hardware Generation for Growth IOMP	TELCO/INST	DLP-558
	2. Change and Verify Submember Equipage Unequipped to Grow (Growth IOMP)	TELCO/INST	DLP-559
	3. Diagnose Growth IOMP	INST	—
	4. Change and Verify Submember Equipage Grow to Special Growth (Growth IOMP)	TELCO/INST	DLP-560
	5. Change and Verify Submember Equipage Special Growth to Operational (Growth IOMP)	TELCO/INST	DLP-561
	6. Restore Growth IOMP to Service (**RST:IOUS** a,**IOMP** b!)	TELCO/INST	DLP-535
42	Determine From Equipment Order Input/Output Unit Controller(s) [IOUC(s)] To Be Added to Grown IOMP	INST	—
43	Remove Power From Grown IOMP:		
	1. Remove Grown IOMP From Service (**RMV:IOUS** a,**IOMP** b!)	TELCO	DLP-512
	2. Power Down Grown IOMP:		
	A. If I/O Is SD-5A049 or 5A052	TELCO	DLP-513
	B. If I/O Is SD-4C049	TELCO	DLP-514
44	For Each Growth IOUC:		
	NOTE: Items 44.1 and 44.2 must be performed without interruption		
	1. Change and Verify Channel Data	TELCO/INST	DLP-510
	2. Change and Verify Channel Equipage Unequipped to Grow	TELCO/INST	DLP-511
	(Continued on Page 5)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
45	If Data Set(s) Are Required:		
	1. If Existing Data Sets Have To Be Powered Down To Add New Data Sets:		
	1. Remove Working IOUC(s) Associated With Data Sets From Service (**RMV:IOUS** a,**IOUC** b!)	TELCO	DLP-515
	2. Power Down Data Set(s)	TELCO	—
	2. Install New Data Set(s) With Interframe Cables	INST	—
	3. Power Up New Data Set(s)	TELCO	—
	4. If Existing Data Sets Were Powered Down:		
	1. Power Up Data Set(s)	TELCO	—
	2. Restore IOUC(s) Removed From Service in Item 45.1.1 to Service (**RST:IOUS** a,**IOUC** b!)	TELCO	DLP-516
46	Connect Cables at Terminal Device(s) and I/O Frame for All Growth IOUCs	INST	—
47	Verify or Install Circuit Packs for All Growth IOUCs in Grown IOMP	INST	—
48	Restore Power to Grown IOMP:		
	A. If I/O Is SD-5A049 or 5A052	TELCO	DLP-525
	B. If I/O Is SD-4C049	TELCO	DLP-526
49	For Each Growth IOUC:		
	1. Diagnose Growth IOUC (**DGN:IOUS** a,**IOUC** b!)	TELCO	DLP-527
	2. Change and Verify Channel Equipage Grow to Special Growth	TELCO/INST	DLP-528
	3. Change and Verify Channel Equipage Special Growth to Operational	TELCO/INST	DLP-529
	4. Determine From Equipment Order IOUC Port(s) To Be Activated	INST	—
	(Continued on Page 6)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
49 (Contd)	5. For Each Port To Be Activated:		
	NOTE: Items 49.5.1 and 49.5.2 must be performed without interruption		
	1. Change and Verify Port Data	TELCO/INST	DLP-530
	2. Change and Verify Port Equipage Unequipped to Grow	TELCO/INST	DLP-531
	3. If Terminal Device Connected to Port Is Equipped With Answer-Back Option: Perform Answer-Back Test (**DGN:IOUS** a,**IOUC** b:**PORT** c!)	TELCO	DLP-532
	4. Change and Verify Port Equipage Grow to Special Growth	TELCO/INST	DLP-533
	5. Change and Verify Port Equipage Special Growth to Operational	TELCO/INST	DLP-534
50	Restore Grown IOMP to Service (**RST:IOUS** a,**IOMP** b!)	TELCO	DLP-535
51	Restore All Grown IOUCs to Service (**RST:IOUS** a,**IOUC** b!)	TELCO	DLP-516
52	Test All Terminal Devices Connecting to Grown Ports	TELCO	DLP-536
53	If Second IOMP Is To Be Equipped on This Order: Repeat Items 41 Through 52 for Remaining IOMP	TELCO/INST	—
54	If Lower IOUS Is Equipped: Repeat Items 41 Through 52	TELCO/INST	—
55	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0**!)	TELCO	DLP-537
56	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp OFF)	TELCO	—
57	Write New ODA TWRP Tape	TELCO	DLP-538
58	If Office Is a 4E15 or Earlier Generic, Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (**OP:PSSTATUS**!)	TELCO	—
59	If Office Is a 4E15 or Earlier Generic, Set PS, Determined in Item 58, to NORM (**SET:PS** a;**NORM**!)	TELCO	—
60	At MTC Channel, Enter **ALW:WPAD**!; **OK** Output Message Required	TELCO	—

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

		RESPONSIBILITY	
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. If XAPP overwrites were used during a shift, item 19 must be performed at the end of that shift 3. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing		
1	At MTC Channel, Enter **INH:WPAD!; OK** Output Message Required	TELCO	—
2	Determine if Library Package Containing XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
3	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
4	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
5	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, items 4 and 5 must be performed before using XAPP Input messages		
6	If Office Is a 4E15 or Earlier Generic, Determine Input/Output Unit Controller (IOUC) Being Removed	TELCO	—
7	Remove IOUC Being Removed From Service (**RMV:IOUS a,IOUC b!**)	TELCO	DLP-515
8	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp ON)	TELCO	—
9	Degrow Port Equipage to Unequipped on IOUC Being Removed	TELCO	DLP-508
10	Repeat Item 9 for Each Port That Is Equipped in IOUC Being Removed	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
11	Degrow IOUC Equipage to Unequipped	TELCO	DLP-509
12	Remove Power From IOUC To Be Removed:		
	A. If I/O Is SD-5A021: Depress **PWR OFF CHANNEL** Key of IOUC To Be Added (**PWR OFF CHANNEL** Lamp Lighted)	TELCO	—
	B. If I/O Is SD-5A049, 5A052, or 4C049:		
	1. Request Users of Other Channels on Associated IOMP To Transfer to Their Backup Channel	TELCO	—
	2. Remove Associated IOMP From Service (RMV:IOUS a,IOMP b!)	TELCO	DLP-512
	3. Power Down Associated IOMP:		
	A. If I/O Is SD-5A049 or 5A052	TELCO	DLP-513
	B. If I/O Is SD-4C049	TELCO	DLP-514
13	Remove Circuit Packs for IOUC Being Removed:		
	A. If I/O Is SD-5A021	TELCO	DLP-565
	B. If I/O Is SD-5A049 or 5A052	TELCO	DLP-566
	C. If I/O Is SD-4C049	TELCO	DLP-567
14	If Data Set(s) Are Connected to IOUC Being Removed:		
	1. If Existing Data Set(s) Have To Be Powered Down Before Removal of Data Set(s):		
	1. Remove Working IOUC(s) Associated With Data Set(s) From Service (RMV:IOUS a,IOUC b!)	TELCO	DLP-515
	2. Power Down Existing Data Set(s)	TELCO	—
	2. Power Down Data Set(s) Being Removed	TELCO	—
	3. Remove Data Set(s) and Disconnect Interface Cables	TELCO	—
	4. If Existing Data Set(s) Were Powered Down:		
	1. Power Up Data Set(s) Removed in Item 14.1.2	TELCO	—
	2. Restore IOUC(s) Removed From Service in Item 14.1.1 (RST:IOUS a,IOUC b!)	TELCO	DLP-516

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
15	Remove Port Cables:		
	A. If I/O Frame Is J5A006A	TELCO	DLP-568
	B. If I/O Frame Is J5A006C	TELCO	DLP-569
	C. If I/O Frame Is J5A006D	TELCO	DLP-570
16	If I/O Is SD-5A049, 5A052, or 4C049:		
	1. Power Up IOMP:		
	A. If I/O Is SD-5A049 or 5A052	TELCO	DLP-525
	B. If I/O Is SD-4C049	TELCO	DLP-526
	2. Restore IOMP to Service (**RST:IOUS** a,**IOMP** b!)	TELCO	DLP-535
	3. Request Users of Channels Restored To Return to Their Primary Channel	TELCO	—
17	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537
18	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp OFF)	TELCO	—
19	Write New ODA TWRP Tape	TELCO	DLP-538
20	If Office Is a 4E15 or Earlier Generic, Determine PS Member Number Assigned to K-Code 34 When XAPP Program Was Executed (**OP:PSSTATUS!**)	TELCO	—
21	If Office Is a 4E15 or Earlier Generic, Set PS, Determined in Item 20, to NORM (**SET:PS a;NORM!**)	TELCO	—
22	At MTC Channel, Enter **ALW:WPAD!**; **OK** Output Message Required	TELCO	—

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

		RESPONSIBILITY	
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. If XAPP overwrites were used during a shift, item 22 must be performed at the end of that shift 3. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing		
1	At MTC Channel, Enter **INH:WPAD!; OK** Output Message Required	TELCO	—
2	Determine if Library Package Containing XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
3	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
4	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
5	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, items 4 and 5 must be performed before using XAPP input messages		
6	Determine if CMSH1 and CMSH2 IOUC Channels and Required Ports are Operational	TELCO	DLP-571
7	If CMSH1 or CMSH2 IOUC Channels or Required Ports Are Not Operational per Item 6:		
	1. Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537

REPLACE LOW SPEED CMS CHANNELS WITH HIGH SPEED CMS CHANNELS

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
7 (Contd)	2. If Office Is a 4E15 or Earlier Generic, Determine PS Member Number Assigned to K-Code 34 When XAPP Libary Program Was Executed (**OP:PSSTATUS!**)	TELCO	—
	3. If Office Is a 4E15 or Earlier Generic, Set PS, Determined in Item 7.2, to NORM (**SET:PS** a;**NORM!**)	TELCO	—
	4. At MTC Channel, Enter **ALW:WPAD!**; **OK** Output Message Required	TELCO	—
	NOTE: High speed CMS channels can only be grown into SD-4C049 in J5A006D frame		
	5. Discontinue This Procedure Until All Required Channels and Ports Have Been Grown per NTP-003 or NTP-004. Continue This Procedure at Item 8 Upon Completion	TELCO	—
8	Coordinate Low to High Speed CMS Replacement Activities With CMS Center	TELCO	—
9	Verify Link Level Protocol for High Speed CMS Channels	TELCO	DLP-572
10	If XAPP Library Program Was Terminated per Item 7.1: Repeat Items 1 Through 5	TELCO	—
11	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp ON)	TELCO	—
12	Degrow CMS2 to UNEQ:		
	1. Remove IOUC Associated With CMS2 From Service (**RMV:IOUS** a,**IOUC** b!)	TELCO	DLP-515
	2. Degrow Associated Port Equipage to UNEQ	TELCO	DLP-508
	3. Degrow Associated IOUC Equipage to UNEQ	TELCO	DLP-509
13	Request CMS Center to Change Over to High Speed CMS Channel	TELCO	—
14	Update Test Position Unit Type Translator With CMSH1 Channel Number	TELCO	DLP-577
15	Enter **INIT:TPDT!** and Wait for **OK** Response	TELCO	—
16	Degrow CMS4 to UNEQ:		
	1. Remove IOUC Associated With CMS4 From Service (**RMV:IOUS** a,**IOUC** b!)	TELCO	DLP-515
	2. Degrow Associated Port Equipage to UNEQ	TELCO	DLP-508
	3. Degrow Associated IOUC Equipage to UNEQ	TELCO	DLP-509
17	Degrow CMS3 to UNEQ: 1. Remove IOUC Associated With CMS3 From Service (**RMV:IOUS** a,**IOUC** b!)	TELCO	DLP-515

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
17 (Contd)	2. Degrow Associated Port Equipage to UNEQ	TELCO	DLP-508
	3. Degrow Associated IOUC Equipage to UNEQ	TELCO	DLP-509
18	Degrow CMS1 to UNEQ:		
	1. Remove IOUC Associated With CMS1 From Service (**RMV:IOUS** a,**IOUC** b!)	TELCO	DLP-515
	2. Degrow Associated Port Equipage to UNEQ	TELCO	DLP-508
	3. Degrow Associated IOUC Equipage to UNEQ	TELCO	DLP-509
19	Request CMS Center for Trunk Status Audit To Recover Lost Trunk Status When Low Speed Channels Were Degrown	TELCO	—
20	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537
21	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp OFF)	TELCO	—
22	Write New ODA TWRP Tape	TELCO	DLP-538
23	If Office Is a 4E15 or Earlier Generic, Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (**OP:PSSTATUS!**)	TELCO	—
24	If Office Is a 4E15 or Earlier Generic, Set PS, Determined in Item 23, to NORM (**SET:PS** a**;NORM!**)	TELCO	—
25	At MTC Channel, Enter **ALW:WPAD!; OK** Output Message Required	TELCO	—
26	Remove Power From One Degrown CMS Channel:		
	A. If I/O Is SD-5A021: Depress **PWR OFF CHANNEL** Key of IOUC Degrown (**PWR OFF CHANNEL** Lamp ON)	TELCO	—
	B. If I/O Is SD-5A049 or 5A052:		
	1. Request Users of Other Channels on Associated IOMP To Transfer to Their Backup Channel	TELCO	—
	2. Remove Associated IOMP From Service (**RMV:IOUS** a,**IOMP** b!)	TELCO	DLP-512
	3. Power Down Associated IOMP	TELCO	DLP-513
	(Continued on Page 4)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
27	Remove Circuit Packs for IOUC That Power Was Removed From (Item 26):		
	A. If I/O Is SD-5A021	TELCO	DLP-565
	B. If I/O Is SD-5A049 or 5A052	TELCO	DLP-566
28	If Data Set(s) Are Connected to IOUC Removed (Item 27):		
	1. If Existing Data Set(s) Have To Be Powered Down Before Removal of Data Set(s):		
	1. Remove Working IOUC(s) Associated With Data Set(s) From Service (**RMV:IOUS** a,**IOUC** b!)	TELCO	DLP-515
	2. Power Down Existing Data Set(s)	TELCO	—
	2. Power Down Data Set(s) Being Removed	TELCO	—
	3. Remove Data Set(s) and Disconnect Interface Cables	TELCO	—
	4. If Existing Data Set(s) Were Powered Down:		
	1. Power Up Data Set(s) Removed in Item 28.1.2	TELCO	—
	2. Restore IOUC(s) Removed From Service in Item 28.1.1 (**RST:IOUS** a,**IOUC** b!)	TELCO	DLP-516
29	Remove Port Cables:		
	A. If I/O Frame Is J5A006A	TELCO	DLP-568
	B. If I/O Frame Is J5A006C	TELCO	DLP-569
	C. If I/O Frame Is J5A006D	TELCO	DLP-570
30	If I/O is SD-5A049 or 5A052:		
	1. Restore Power to IOMP	TELCO	DLP-525
	2. Restore IOMP to Service (**RST:IOUS** a,**IOMP** b!)	TELCO	DLP-535
	3. Request Users of Channels Restored To Return to Their Primary Channel	TELCO	—
31	Repeat Items 26 Through 30 for Each CMS Channel Degrown	TELCO	—

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

		RESPONSIBILITY	
	NOTES: 1. EADASH1 and EADASH2 channels and ports must not be grown to operational equipage state without close coordination with appropriate Network Management (NM) Center. With permission from NM center, the low speed channel (EADASNM) will first be degrown and thereafter the high speed channel(s) will be grown to operational 2. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 3. If XAPP overwrites were used during a shift, item 15 must be performed at the end of that shift 4. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing		
1	At MTC Channel, Enter **INH:WPAD!; OK** Output Message Required	TELCO	—
2	Determine if Library Package Containing XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
3	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
4	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
5	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, items 4 and 5 must be performed before using XAPP input messages		
6	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp ON)	TELCO	—
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: High Speed EADAS channel can only be grown into SD-4C049 in J5A006D frame		
7	Add EADAS High Speed Channel, Growing Channel and Required Port to SGRO Only:		
	1. Verify UNEQ State of IOUC Channel and Port Equipage	TELCO	DLP-507
	NOTE: Items 7.2 and 7.3 must be performed without interruption		
	2. Change and Verify Channel Data	TELCO	DLP-510
	3. Change and Verify Channel Equipage Unequipped to Grow	TELCO	DLP-511
	4. Remove Power From IOUC To Be Added:		
	1. Request Users of Other Channels on Growth Associated IOMP To Transfer to Their Backup Channel	TELCO	—
	2. Remove Growth Associated IOMP From Service (**RMV:IOUS** a,**IOMP** b!)	TELCO	DLP-512
	3. Power Down Growth Associated IOMP	TELCO	DLP-514
	5. If Data Set Is Required:		
	1. If Existing Data Sets Have To Be Powered Down To Add New Data Set:		
	1. Remove Working IOUC(s) Associated With Data Sets From Service (**RMV:IOUS** a,**IOUC** b!)	TELCO	DLP-515
	2. Power Down Data Set(s)	TELCO	—
	2. Install New Data Set With Interframe Cables	TELCO	—
	3. Power Up New Data Set	TELCO	—
	4. If Existing Data Sets Were Powered Down:		
	1. Power Up Data Set(s)	TELCO	—
	2. Restore IOUC(s) Removed From Service in Item 7.5.1.1 to Service (**RST:IOUS** a,**IOUC** b!)	TELCO	DLP-516
	5. Connect Port Cable on Growth Associated IOUC	TELCO	DLP-519
	6. Install Circuit Pack for Growth IOUC	TELCO	DLP-524
	(Continued on Page 3)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
7 (Contd)	7. Restore Power to Growth Associated IOMP	TELCO	DLP-526
	8. Diagnose Growth IOUC (**DGN:IOUS** a,**IOUC** b!)	TELCO	DLP-527
	9. Change and Verify Channel Equipage Grow to Special Growth	TELCO	DLP-528
	NOTE: Items 7.10 and 7.11 must be performed without interruption		
	10. Change and Verify Port Data	TELCO	DLP-530
	11. Change and Verify Port Equipage Unequipped to Grow	TELCO	DLP-531
	12. Change and Verify Port Equipage Grow to Special Growth	TELCO	DLP-533
8	Repeat Item 7 for Remaining EADAS High Speed Channel (if Required)	TELCO	—
9	Replace Slow Speed Channel With High Speed Channel:		
	1. Coordinate With Appropriate NM Center for Precise Timing of Low to High Speed EADAS Channel Replacement Activity	TELCO	—
	2. If EADASNM Channel Is Not Degrown: Degrow EADASNM Channel to UNEQ:		
	1. Remove IOUC Associated With EADASNM From Service (**RMV:IOUS** a,**IOUC** b!)	TELCO	DLP-515
	2. Degrow Associated Port Equipage to UNEQ	TELCO	DLP-508
	3. Degrow Associated IOUC Equipage to UNEQ	TELCO	DLP-509
	3. Change and Verify an EADAS High Speed Channel Equipage to OPER:		
	1. Change and Verify Channel Equipage Special Growth to Operational	TELCO	DLP-529
	2. Change and Verify Port Equipage Special Growth to Operational	TELCO	DLP-534
	4. Restore Growth Associated IOMP to Service:		
	1. Restore IOMP to Service (**RST:IOUS** a,**IOMP** b!)	TELCO	DLP-535
	2. Request Users of Other Channels on Growth Associated IOMP To Return to Their Primary Channel	TELCO	—
	5. Restore Growth IOUC to Service (**RST:IOUS** a,**IOUC** b!)	TELCO	DLP-516
	(Continued on Page 4)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
10	Repeat Item 9 for Remaining EADAS High Speed Channel (if Required)	TELCO	—
11	Verify Link Level Protocol for High Speed EADAS Channel(s)	TELCO	DLP-572
12	Complete Testing With Appropriate NM Center	TELCO	—
13	Terminate Execution of XAPP Library Program (STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!)	TELCO	DLP-537
14	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp OFF)	TELCO	—
15	Write New ODA TWRP Tape	TELCO	DLP-538
16	If Office Is a 4E15 or Earlier Generic, Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (OP:PSSTATUS!)	TELCO	—
17	If Office Is a 4E15 or Earlier Generic, Set PS, Determined in Item 16, to NORM (SET:PS a;NORM!)	TELCO	—
18	At MTC Channel, Enter ALW:WPAD!; OK Output Message Required	TELCO	—
19	Remove Power From EADASNM Channel:		
	A. If I/O Is SD-5A021: Depress **PWR OFF CHANNEL** Key of IOUC Associated With EADASNM (**PWR OFF CHANNEL** Lamp ON)	TELCO	—
	B. If I/O Is SD-5A049 or 5A052:		
	1. Request Users of Other Channels on Associated IOMP To Transfer to Their Backup Channel	TELCO	—
	2. Remove Associated IOMP From Service (RMV:IOUS a,IOMP b!)	TELCO	DLP-512
	3. Power Down Associated IOMP	TELCO	DLP-513
20	Remove Circuit Pack From EADASNM Channel:		
	A. If I/O Is SD-5A021	TELCO	DLP-565
	B. If I/O Is SD-5A049 or 5A052	TELCO	DLP-566
	(Continued on Page 5)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
21	If Data Set Is Connected to EADASNM Channel:		
	1. If Existing Data Set(s) Have To Be Powered Down Before Removal of Data Set:		
	1. Remove Working IOUC(s) Associated With Data Set(s) From Service (**RMV:IOUS** a,**IOUC** b!)	TELCO	DLP-515
	2. Power Down Existing Data Set(s)	TELCO	—
	2. Power Down Data Set Being Removed	TELCO	—
	3. Remove Data Set and Disconnect Interface Cables	TELCO	—
	4. If Existing Data Set(s) Were Powered Down:		
	1. Power Up Data Set(s) Removed in Item 21.1.2	TELCO	—
	2. Restore IOUC(s) Removed in Item 21.1.1 (**RST:IOUS** a,**IOUC** b!)	TELCO	DLP-516
22	Remove Port Cables:		
	A. If I/O Frame Is J5A006A	TELCO	DLP-568
	B. If I/O Frame Is J5A006C	TELCO	DLP-569
	C. If I/O Frame Is J5A006D	TELCO	DLP-570
23	If Degrown Channel Is SD-5A049 or 5A052:		
	1. Restore Power to IOMP	TELCO	DLP-525
	2. Restore IOMP to Service (**RST:IOUS** a,**IOMP** b!)	TELCO	DLP-535
	3. Request Users of Channels Restored to Return to Their Primary Channels	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
		RESPONSIBILITY	
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. If XAPP overwrites were used during a shift, item 52 must be performed at the end of that shift 3. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing		
1	Perform Preliminary Installation Activities (Including Power Verification and Read and Write Head Alignment)	INST	—
2	At MTC Channel, Enter **INH:WPAD!; OK** Output Message Required	TELCO	—
3	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
4	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC** a**;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC** a**:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LG**a**PGRO!**)	TELCO	DLP-504
5	Execute XAPP Library Program (**EX:LIBSYS:PKG LG**a**PGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
6	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,**a**)!**)	TELCO	DLP-506
	NOTE: XAPP library program times out after 2 hours of inactivity. If XAPP does time out, items 5 and 6 must be performed before using XAPP input messages		
7	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp ON)	TELCO	—
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
8	Verify Member Equipage UNEQ for Growth Tape Unit Controller (TUC) (**VER:UTMN:TUC** a,**ME**!)	TELCO/INST	DLP-542
9	Change and Verify Member Type for Growth TUC	TELCO/INST	DLP-550
10	Verify Words 2 and 4 in TUC Unit Type Translator for Growth TUC (Using Verify Entry Message)	TELCO/INST	DLP-573
11	If Scan and Signal Distributor Matrix Equipment Is To Be Added to PPI Frame on This Order:		
	1. Remove PPI/MCC From Service (**RMV:MCC 0**!)	TELCO	DLP-574
	2. Remove Power With Power Switch (PPI Frame)	TELCO	—
	3. Equip Scan and Signal Distributor Matrix	INST	—
	4. Restore Power With Power Switch (PPI Frame)	TELCO/INST	DLP-553
	5. Restore PPI/MCC to Service (**RST:MCC 0**!)	TELCO/INST	DLP-575
12	Connect TUC Alarm Cables per Equipment Specification and Test Alarms With Power Switch	INST	—
13	Change and Verify Member Equipage Unequipped To Grow (Growth TUC)	TELCO	DLP-551
14	Diagnose DUS 0 Using Restore Message; ATP Required (**RST:DUS 0**!)	TELCO/INST	DLP-576
15	Remove Power With Power Switch [Data Unit Selector (DUS) 0]	TELCO	—
16	Connect Scan and SD Cables at DUS 0 Crossconnect Field and at PPI Frame	INST	—
17	Insert Fuses for Growth TUC in PCDF	INST	—
18	Connect Private Cables (SEL, SEL VERIFY, etc) and Scan/SD Cables at Growth TUC and DUS 0	INST	—
19	Restore Power With Power Switch (DUS 0)	TELCO	DLP-553
20	Execute Phase 99 Diagnostic Scoping Test to Verify DU Bus 0 at BTRs:		
	1. Store DU Bus 0 Input Messages on TTY	TELCO	DLP-578
	2. Enter Execute Messages for Looping on DU Write Bus (**EX:DUS 0;START:TUC** a! Then **EX:DUS 0:PH 99,ADR 44-115,SYNC 56**!)	TELCO	DLP-579
	3. Set Up Oscilloscope	TELCO	DLP-581
	4. Scope DU Write Bus Bits 0 to 24 at BTRs	TELCO	DLP-582
	5. Enter Stop Looping Message (**EX:DUS 0**!)	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
20 (Contd)	6. Enter Execute Message for Looping on DU Address Bus (**EX:DUS 0:PH 99,ADR 166-263,SYNC 200!**)	TELCO	DLP-579
	7. Scope DU Address Bus Bits 0 to 8 at BTRs	TELCO	DLP-583
	8. Enter Stop Looping Message (**EX:DUS 0!**)	TELCO	—
	9. Enter Execute Message for Looping on DU Reply Bus (**EX:DUS 0:PH 99,ADR 115-166,SYNC 127!**)	TELCO	DLP-579
	10. Scope DU Reply Bus Bits 0 to 24 at BTRs	TELCO	DLP-584
	11. Enter Stop Looping Message (**EX:DUS 0!**)	TELCO	—
	12. Stop Maintenance Control Program Client	TELCO	DLP-580
	13. Restore DU Bus 0 to Service (**RST:DUS 0!**)	TELCO	DLP-576
21	Execute Phase 99 Diagnostic Scoping Test to Verify DU Bus 1 at BTRs:		
	1. Store DU Bus 1 Input Messages on TTY	TELCO	DLP-578
	2. Enter Execute Messages for Looping on DU Write Bus (**EX:DUS 1;START:TUC** a! Then **EX:DUS 1:PH 99,ADR 44-115,SYNC 73!**)	TELCO	DLP-579
	3. Set Up Oscilloscope	TELCO	DLP-581
	4. Scope DU Write Bus Bits 0 to 24 at BTRs	TELCO	DLP-582
	5. Enter Stop Looping Message (**EX:DUS 1!**)	TELCO	—
	6. Enter Execute Message for Looping on DU Address Bus (**EX:DUS 1:PH 99,ADR 166-263,SYNC 227!**)	TELCO	DLP-579
	7. Scope DU Address Bus Bits 0 to 8 at BTRs	TELCO	DLP-583
	8. Enter Stop Looping Message (**EX:DUS 1!**)	TELCO	—
	9. Enter Execute Message for Looping on DU Reply Bus (**EX:DUS 1:PH 99,ADR 115-166,SYNC 144!**)	TELCO	DLP-579
	10. Scope DU Reply Bus Bits 0 to 24 at BTRs	TELCO	DLP-584
	11. Enter Stop Looping Message (**EX:DUS 1!**)	TELCO	—
	12. Stop Maintenance Control Program Client	TELCO	DLP-580

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
21 (Contd)	13. Restore DU Bus 1 to Service (**RST:DUS 1!**)	TELCO	DLP-576
22	Remove Power With Power Switch on Electrically Adjacent TUC	TELCO	—
23	Remove Power From DUS 0 Using Power Switch	TELCO	—
24	Transfer BTRs to Growth TUC and Connect Data Unit Bus Cables (BUS 0)	INST	—
25	Restore DUS 0 to Service With Power Switch	TELCO/INST	DLP-553
26	Execute Phase 99 Diagnostic Scoping Test To Verify DU Bus 0 at BTRs:		
	1. Store DU Bus 0 Input Messages on TTY (if Not Stored)	TELCO	DLP-578
	2. Enter Execute Messages for Looping on DU Write Bus (**EX:DUS 0;START:TUC** a! Then **EX:DUS 0:PH 99,ADR 44-115,SYNC 56!**)	TELCO	DLP-579
	3. Scope DU Write Bus Bits 0 to 24 at BTRs	INST	—
	4. Enter Stop Looping Message (**EX:DUS 0!**)	TELCO	—
	5. Enter Execute Message for Looping on DU Address Bus (**EX:DUS 0:PH 99,ADR 166-263,SYNC 200!**)	TELCO	DLP-579
	6. Scope DU Address Bus Bits 0 to 8 at BTRs	INST	—
	7. Enter Stop Looping Message (**EX:DUS 0!**)	TELCO	—
	8. Enter Execute Message for Looping on DU Reply Bus (**EX:DUS 0:PH 99,ADR 115-166,SYNC 127!**)	TELCO	DLP-579
	9. Scope DU Reply Bus Bits 0 to 24 at BTRs	INST	—
	10. Enter Stop Looping Message (**EX:DUS 0!**)	TELCO	—
	11. Stop Maintenance Control Program Client	TELCO	DLP-580
	12. Restore DU Bus 0 to Service (**RST:DUS 0!**)	TELCO/INST	DLP-576
27	Diagnose DUS 1 Using Restore Message; ATP Required (**RST:DUS 1!**)	TELCO/INST	DLP-576
28	Remove Power From DUS 1 With Power Switch	TELCO	—
29	Connect Private Cables (SEL, SEL VERIFY, etc) at Growth TUC and DUS 1	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
30	Transfer BTRs From Electrically Adjacent TUC to Growth TUC and Connect Data Unit Bus 1 Cables	INST	—
31	Restore DUS 1 to Service With Power Switch	TELCO/INST	DLP-553
32	Restore Electrically Adjacent TUC to Service With Power Switch	TELCO/INST	DLP-553
33	Execute Phase 99 Diagnostic Scoping Test to Verify DU Bus 1 at BTRs:		
	1. Store DU Bus 1 Input Messages on TTY (if Not Stored)	TELCO	DLP-578
	2. Enter Execute Messages for Looping on DU Write Bus (**EX:DUS 1;START:TUC** a! Then **EX:DUS 1:PH 99,ADR 44-115,SYNC 73!**)	TELCO	DLP-579
	3. Scope DU Write Bus Bits 0 to 24 at BTRs	INST	—
	4. Enter Stop Looping Message (**EX:DUS 1!**)	TELCO	—
	5. Enter Execute Message for Looping on DU Address Bus (**EX:DUS 1:PH 99,ADR 166-263,SYNC 227!**)	TELCO	DLP-579
	6. Scope DU Address Bus Bits 0 to 8 at BTRs	INST	—
	7. Enter Stop Looping Message (**EX:DUS 1!**)	TELCO	—
	8. Enter Execute Message for Looping on DU Reply Bus (**EX:DUS 1:PH 99,ADR 115-166,SYNC 144!**)	TELCO	DLP-579
	9. Scope DU Reply Bus Bits 0 to 24 at BTRs	INST	—
	10. Enter Stop Looping Message (**EX:DUS 1!**)	TELCO	—
	11. Stop Maintenance Control Program Client	TELCO	DLP-580
	12. Restore DU Bus 1 to Service (**RST:DUS 1!**)	TELCO/INST	DLP-576
34	Safe Point to Temporarily Stop This Procedure. If Stopping Longer Than 2 Hours Is Necessary:		
	1. Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537
	2. If Office Is a 4E15 or Earlier Generic, Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (**OP:PSSTATUS!**)	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
34 (Contd)	3. If Office Is a 4E15 or Earlier Generic, Set PS, Determined in Item 34.2, to NORM (SET:PS a;NORM!)	TELCO	—
	4. At MTC Channel, Enter ALW:WPAD!; OK Output Message Required	TELCO	—
	5. At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp OFF)	TELCO	—
35	If Execution of Library Program XAPP Was Terminated per Item 34 Restart Library Program as Follows:		
	1. At MTC Channel, Enter INH:WPAD!; OK Output Message Required	TELCO	—
	2. Verify if Library Package Containing Program XAPP Resides in File System (OP:LIBSTAT,FS!)	TELCO	DLP-500
	3. If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (SET:TUC a;FUNCTION LIB!)	TELCO	DLP-502
	3. Allow TUC Read Only Access (ALW:TUC a:RO!)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (LOAD:LIBSYS:FS;TAPE:PKG LGaPGRO!)	TELCO	DLP-504
	4. Execute XAPP Library Program (EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!)	TELCO	DLP-505
	5. Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (ALW:LIBMSG:CLIENT 0!)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!)	TELCO	DLP-506
	6. At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp ON)	TELCO	—
36	Power Up Growth TUC	INST	—
37	Test Growth TUC Scan and SD Points	INST	—
38	Diagnose Growth TUC With DUS 0 as Helper	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
39	Diagnose Growth TUC With Dus 1 as Helper	INST	—
40	Change and Verify Member Equipage Grow to Special Growth (Growth TUC)	TELCO	DLP-555
41	Change and Verify Member Equipage Special Growth to Operational (Growth TUC)	TELCO	DLP-556
42	Restore TUC to Service (Growth TUC) (**RST:TUC** a!)	TELCO/INST	DLP-585
43	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537
44	Enter **OP:DUSTATUS!** and Verify That Growth TUC Is UNA and INS	TELCO	—
45	Mount Diagnostic Test Tape With Write Ring on Tape Transport Associated With Growth TUC	TELCO	DLP-501
46	Set Growth TUC to Diagnostic Function (**SET:TUC** a;**FUNCTION DGN!**)	TELCO	—
47	Allow Growth TUC Read Write Access (**ALW:TUC** a:**RW!**)	TELCO	—
48	Diagnose Growth TUC Using Phases 1 Through 93. If ATP Not Received, Refer to Installer (**DGN:TUC** a:**PH 1-93!**)	TELCO/INST	—
49	Demount Diagnostic Test Tape From Growth TUC	TELCO	DLP-539
50	Restore Growth TUC to Service (**RST:TUC** a!)	TELCO	DLP-585
51	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp OFF)	TELCO	—
52	Write New ODA TWRP Tape	TELCO	DLP-538
53	If Office Is a 4E15 or Earlier Generic, At MCC **PROCESSOR DISPLAY** Panel, Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (**OP:PSSTATUS!**)	TELCO	—
54	If Office Is a 4E15 or Earlier Generic, Set PS, Determined in Item 53, to NORM (**SET:PS** a;**NORM!**)	TELCO	—
55	At MTC Channel, Enter **ALW:WPAD!**; **OK** Output Message Required	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
		RESPONSIBILITY	
	Caution: This procedure must not be used for growing extended call stores (ECSs)		
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing 3. 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		
1	Perform Preliminary Installation Activities	INST	—
2	At MTC Channel, Enter **INH:WPAD!; OK** Output Message Required	TELCO	—
3	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
4	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
5	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0 !**)	TELCO	DLP-505
6	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, Items 5 and 6 must be performed before using XAPP input messages		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
7	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	—
8	Verify Member Equipage UNEQ for Growth Store (**VER:UTMN:**a b,**ME!**)	TELCO/INST	DLP-542
9	Change and Verify Hardware Generation for Growth Store	TELCO/INST	DLP-549
10	Change and Verify Member Type for Growth Store	TELCO/INST	DLP-550
11	Change and Verify Frame Number for Growth Store:		
	A. If Growing Program Store	TELCO/INST	DLP-586
	B. If Growing CS Using 4E15 or Earlier Generic	TELCO/INST	DLP-586
	C. If Growing CS Using 4E16 or Later Generic	TELCO/INST	DLP-627
12	Change and Verify Scan Point Assignment for Growth Store	TELCO/INST	DLP-587
13	Verify Word 1 in Store Unit Type Translator for Growth Store (**VER:UTMN:**a b,**ENTRY!**)	TELCO/INST	DLP-588
14	Remove CSB (or PSB) From Service (**RMV:**a **0** !)	TELCO	DLP-589
15	Disconnect CS (or PS) Bus 0 Cables From Dummy Plate	INST	—
16	Restore CSB (or PSB) to Service (**RST:**a **0** !)	TELCO/INST	DLP-590
17	Remove CSB (or PSB) From Service (**RMV:**a 1!)	TELCO	DLP-589
18	Disconnect CS (or PS) Bus 1 Cables From Dummy Plate	INST	—
19	Restore CSB (or PSB) to Service (**RST:**a 1!)	TELCO/INST	DLP-590
20	Disconnect Miscellaneous Cables (Pulse Source, Clock Leads, etc.) From Dummy Plate	INST	—
21	Remove Dummy Plate	INST	—
22	Install Growth Store	INST	—
23	Perform Power Verification Test	INST/TELCO	—
24	Connect Miscellaneous Cables (Pulse Source, Clock Leads, etc.) to Growth Store, Power Up Growth Store, Verify K-Code Display at MCC and Perform OS and ACK SD Verification	INST/TELCO	—
25	Change and Verify Growth Store Member Equipage Unequipped to Grow:		
	A. If Growing Program Store	TELCO/INST	DLP-551

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
25 (Contd)	B. If Growing CS Using 4E15 or Earlier Generic	TELCO/INST	DLP-551
	C. If Growing CS Using 4E16 or Later Generic	TELCO/INST	DLP-626
26	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0 ,CLIENT 0**)	TELCO	DLP-537
27	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
28	Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (**OP:PSSTATUS!**)	TELCO	—
29	Set PS, Determined in Item 28, to NORM (**SET:PS a;NORM!**)	TELCO	—
30	At MTC Channel, Enter **ALW:WPAD!**; **OK** Output Message Required	TELCO	—
31	Verify Alarms (Power Will Be Removed From Growth Store)	INST	—
32	Remove CSB (or PSB) From Service (**RMV:a 1!**)	TELCO	DLP-589
33	Connect CS (or PS) Bus 1 Cables to Growth Store; TELCO Enter Message as Requested by Installer	INST/TELCO	—
34	Restore CSB (or PSB) to Service (**RST:a 1!**)	TELCO/INST	DLP-590
35	Safe Point to Temporarily Stop This Procedure		
36	Remove CSB (or PSB) From Service (**RMV:a 0!**)	TELCO	DLP-589
37	Connect CS (or PS) BUS 0 Cables to Growth Store; TELCO Enter Message as Requested by Installer	INST/TELCO	—
38	Restore CSB (or PSB) to Service (**RST:a 0!**)	TELCO/INST	DLP-590
39	Diagnose Growth ECS (**DGN:CS a!**)	TELCO/INST	DLP-607
40	Diagnose Demand Phases on Growth ECS (**DGN:CS a:PH (24-29,91)!**)	TELCO/INST	DLP-608
41	Diagnose Growth ECS Using SLOW Option (**DGN:CS a;SLOW!**)	TELCO/INST	DLP-623
42	Diagnose Demand Phases on Growth ECS Using SLOW Option (**DGN:CS a;SLOW:PH (24-29,91)!**)	TELCO/INST	DLP-624
43	At MTC Channel, Enter **INH:WPAD!**; **OK** Output Message Required	TELCO	—
44	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
45	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (SET:TUC a;FUNCTION LIB!)	TELCO	DLP-502
	3. Allow TUC Read Only Access (ALW:TUC a:RO!)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!)	TELCO	DLP-504
46	Execute XAPP Library Program (EX:LIBSYS,FS;TAPE:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!)	TELCO	DLP-505
47	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (ALW:LIBMSG:CLIENT 0!)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!)	TELCO	DLP-506
48	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	—
49	Change and Verify Growth Store Member Equipage Grow to Special Growth:		
	A. If Growing Program Store	TELCO/INST	DLP-555
	B. If Growing CS Using 4E15 or Earlier Generic	TELCO/INST	DLP-555
	C. If Growing CS Using 4E16 or Later Generic	TELCO/INST	DLP-628
50	If Generic Is 4E17 or Earlier, Change and Verify K-Code for Growth Store for Soak Mode	TELCO/INST	DLP-591
51	Change and Verify Member Equipage Special Growth to Operational for Growth Store:		
	A. If Growing Program Store	TELCO/INST	DLP-592
	B. If Growing CS Using 4E15 or Earlier Generic	TELCO/INST	DLP-592
	C. If Growing CS Using 4E16 or Later Generic	TELCO/INST	DLP-629
52	Set Growth Store to FAST Mode (SET:a b;FAST!) and Wait for COMPLETED Output Message	TELCO/INST	—
53	Terminate Execution of XAPP Library Program (STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!)	TELCO	DLP-537
54	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
55	Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (**OP:PSSTATUS!**)	TELCO	—
56	Set PS, Determined in Item 55, to NORM (**SET:PS** a;**NORM!**)	TELCO	—
57	At MTC Channel, Enter **ALW:WPAD!**; **OK** Output Message Required	TELCO	—
58	Soak Test Growth Store:		
	A. If Growth Store Is Program Store:		
	NOTE: The growth store can only be soaked if there is a nonduplicated active store available		
	1. Configure Growth PS to Soak Mode (Duplicate to a Nonduplicated Active Store)	TELCO/INST	DLP-593
	2. After 24 Hours Minimum Soak Period, Remove Growth PS From Service (**RMV:PS** a!)	TELCO	DLP-594
	B. If Growth Store Is Call Store:		
	NOTE: The growth store can only be soaked if there is a normally duplicated active store available		
	1. Configure Growth CS as Duplicate to a Normally Duplicated Store (Soak for 24 Hours Minimum)	TELCO/INST	DLP-595
	2. After 24 Hours Minimum Soak Period, Remove Growth CS From Service (**RMV:CS** a!)	TELCO	DLP-594

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

		RESPONSIBILITY	
	Caution: This procedure must not be used for growing extended call stores (ECSs)		
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing 3. 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 a least the time specified		
1	Perform Preliminary Installation Activities	INST	—
2	At MTC Channel, Enter **INH:WPAD!; OK** Output Message Required	TELCO	—
3	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
4	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC** a**;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC** a**:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LG**a**PGRO!**)	TELCO	DLP-504
5	Execute XAPP Library Program (**EX:LIBSYS:PKG LG**a**PGRO,PGM XAPP,TASK 0,CLIENT 0 !**)	TELCO	DLP-505
6	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,**a**)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, Items 5 and 6 must be performed before using XAPP input messages		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
7	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	—
8	Connect CS Frame Alarm Cables and Perform Fuse Alarm Test for Each Growth Unit	INST	—
9	Verify Member Equipage UNEQ for Each Growth CS (**VER:UTMN:CS** a,**ME!**)	TELCO/INST	DLP-542
10	Change and Verify Hardware Generation for Each Growth CS (HG = 3)	TELCO/INST	DLP-549
11	Change and Verify Member Type for Each Growth CS	TELCO/INST	—
12	Change and Verify Frame Number for Each Growth CS:		
	A. If Growing CS Using 4E15 or Earlier Generic	TELCO/INST	DLP-586
	B. If Growing CS Using 4E16 or Later Generic	TELCO/INST	DLP-627
13	Change and Verify Scan Point Assignment for Each Growth CS	TELCO/INST	DLP-587
14	Verify Word 1 in CS Unit Type Translator for Each Growth CS (**VER:UTMN:CS** a,**ENTRY!**)	TELCO/INST	DLP-588
15	Change and Verify Member Equipage Unequipped to Grow for Each Growth CS	TELCO/INST	DLP-551
16	Terminate Execution of XAPP Library Program Number (**STOP:LIBSYS:PKG LG**a**PGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537
17	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
18	Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (**OP:PSSTATUS!**)	TELCO	—
19	Set PS, Determined in Item 18, to NORM (**SET:PS** a**;NORM!**)	TELCO	—
20	Enter **ALW:WPAD!; OK** Output Message Required	TELCO	—
21	Connect Common Display Data and K-Code Bus Cables for Each Growth CS:		
	A. If CS Is Being Grown on Bus Branch A:		
	1. Remove MCC/PPI From Service (**RMV:MCC 0!**)	TELCO	DLP-574
	2. Remove Power From PPI Frame Using Power Switch	TELCO	—
	3. Remove and Connect Cables at PPI Frame	INST	—
	4. Remove and Connect Cables at CS-PS 1 Frame	INST	—
	5. Connect Cables at CS-PS 0 Frame	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
21 (Contd)	B. If CS Is Being Grown on Bus Branch B: Connect Cables at CS-PS 0 Frame	INST	—
22	Connect Private Update (Select) Cables for Each Growth CS:		
	1. If CS Is Being Grown on Bus Branch B: Remove MCC/PPI From Service (**RMV:MCC 0!**)	TELCO	DLP-574
	2. If CS Is Being Grown on Bus Branch B: Remove Power From PPI Frame Using Power Switch	TELCO	—
	3. Connect Cables at PPI Frame	INST	—
23	Connect and Verify Scan and SD Cables for Each Growth CS:		
	1. Connect Cables at PPI Frame	INST	—
	2. Restore Power to PPI Frame Using Power Switch	TELCO/INST	DLP-553
	3. Restore MCC/PPI to Service (**RST:MCC 0!**)	TELCO/INST	DLP-575
24	Apply Power to Each Growth CS	INST	—
25	At MCC **PROCESSOR DISPLAY** Panel, Verify Each Growth CS Display Indicates K-Code 14:		
	A. If Growing CS Using 4E15 or Earlier Generic	TELCO/INST	DLP-551
	B. If Growing CS Using 4E16 or Later Generic	TELCO/INST	DLP-626
26	Remove Power From Each Growth CS	INST	—
27	Connect Cables Associated With Growth CS Frame at Out-of-Service CC 1 (Pulse Source and Clock Leads):		
	1. If CC 1 Is Active: Switch CCs (**SW:CC!**)	TELCO	DLP-598
	NOTE: Items 27.2 through 28.6 must be performed without interruption		
	2. Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-597
	3. At CC 1, Connect Pulse Source and Clock Cables From Growth Store Frame	INST	—
	4. Restore CC 1 to Service (**RST:CC 1!**)	TELCO/INST	DLP-596
28	Connect Cables Associated With Growth CS Frame at Out-of-Service CC 0 (Pulse Source and Clock Leads):		
	1. If CC 0 Is Active: Switch CCs (**SW:CC!**)	TELCO	DLP-598

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
28 (Contd)	2. Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-597
	3. At CC 0, Connect Pulse Source and Clock Cables From Growth Store Frame	INST	—
	4. Restore CC 0 to Service (**RST:CC 0!**)	TELCO/INST	DLP-596
	5. Restore CSB 0 to Verify Integrity of Bus (**RST:CSB 0!**)	TELCO/INST	DLP-590
	6. Restore CSB 1 to Verify Integrity of Bus (**RST:CSB 1!**)	TELCO/INST	DLP-590
29	Execute Phase 99 Diagnostic Scoping Test to Verify Growth CSB 0 at Bus Terminating Resistors (BTRs):		
	1. Store CSB 0 Input Messages on MTC Channel	TELCO	DLP-602
	2. Enter Execute Messages for Looping on CS Write Bus (**EX:CSB 0;START!** then **EX:CSB 0:PH 99,ADR 24-37!**)	TELCO	DLP-603
	3. Set Up Oscilloscope	TELCO	DLP-604
	4. Scope CS Write Bus Bits 0 to 25 at BTRs	TELCO	DLP-605
	5. Enter Stop Looping Message (**EX:CSB 0!**)	TELCO	—
	6. Enter Execute Message for Looping on CS Address Bus (**EX:CSB 0:PH 99,ADR 11-24!**)	TELCO	DLP-603
	7. Scope CS Address Bus Bits 0 to 20 at BTRs	TELCO	DLP-606
	8. Enter Stop Looping Message (**EX:CSB 0!**)	TELCO	—
	9. Stop Maintenance Control Program Client	TELCO	DLP-580
	10. Restore CSB 0 to Service (**RST:CSB 0!**)	TELCO	DLP-590
30	Execute Phase 99 Diagnostic Scoping Test to Verify Growth CSB 1 at BTRs:		
	1. Store CSB 1 Input Messages on MTC Channel	TELCO	DLP-602
	2. Enter Execute Messages for Looping on CS Write Bus (**EX:CSB 1;START!** then **EX:CSB 1:PH 99,ADR 56-71!**)	TELCO	DLP-603
	3. Set Up Oscilloscope (if Not Set Up)	TELCO	DLP-604
	4. Scope CS Write Bus Bits 0 to 25 at BTRs	TELCO	DLP-605
	5. Enter Stop Looping Message (**EX:CSB 1!**)	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
30 (Contd)	6. Enter Execute Message for Looping on CS Address Bus (**EX:CSB 1:PH 99,ADR 43-56!**)	TELCO	DLP-603
	7. Scope CS Address Bus Bits 0 to 20 at BTRs	TELCO	DLP-606
	8. Enter Stop Looping Message (**EX:CSB 1!**)	TELCO	—
	9. Stop Maintenance Control Program Client	TELCO	DLP-580
	10. Restore CSB 1 to Service (**RST:CSB 1!**)	TELCO	DLP-590
	NOTE: Items 31 through 32.10 must be performed without interruption		
31	Transfer BTRs to Growth CS Frame and Connect Bus 0 Cables:		
	1. Remove CSB 0 From Service (**RMV:CSB 0!**)	TELCO	DLP-589
	2. If CS Is Being Grown on Bus Branch A and CC 1 Is Active: Switch CCs (**SW:CC!**)	TELCO	DLP-598
	3. If CS Is Being Grown on Bus Branch B and CC 0 Is Active: Switch CCs (**SW:CC!**)	TELCO	DLP-598
	4. Transfer Write and Address Bus BTRs From Standby CC to CS-PS Frame	INST	—
	5. Connect Write and Address Bus Cables	INST	—
	6. Connect Reply Bus Cables	INST	—
	7. Apply Power to Each Growth CS	INST	—
	8. Diagnose CSB 0 (**DGN:CSB 0!**)	TELCO/INST	—
32	Execute Phase 99 Diagnostic Scoping Test to Verify Extended Bus at BTRs (Bus 0):		
	1. Store CSB 0 Input Messages on MTC Channel (if Not Done)	TELCO	DLP-602
	2. Enter Execute Messages for Looping on CS Write and Reply Buses (**EX:CSB 0;START:CS** a! then **EX:CSB 0:PH 99,ADR 24-37!**)	TELCO	DLP-603
	3. Scope CS Write Bus Bits 0 to 25 at BTRs	INST	—
	4. Scope CS Reply Bus Bits 0 to 25 at BTRs. See TOP 254-251-001	INST	—
	5. Enter Stop Looping Message (**EX:CSB 0!**)	TELCO	—
	6. Enter Execute Message for Looping on CS Address Bus (**EX:CSB 0:PH 99,ADR 11-24!**)	TELCO	DLP-603

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
32 (Contd)	7. Scope CS Address Bus Bits 0 to 20 at BTRs	INST	—
	8. Enter Stop Looping Message (**EX:CSB 0!**)	TELCO	—
	9. Stop Maintenance Control Program Client	TELCO	DLP-580
	10. Restore CSB 0 to Service (**RST:CSB 0!**)	TELCO/INST	DLP-590
	11. Remove Power From Each Growth CS	INST	—
33	Safe Point to Temporarily Stop This Procedure		
	NOTE: Items 34 through 35.10 must be performed without interruption		
34	Transfer BTRs to Growth CS Frame and Connect Bus 1 Cables:		
	1. Remove CSB 1 From Service (**RMV:CSB 1!**)	TELCO	DLP-589
	2. If CS Is Being Grown on Bus Branch A and CC 1 Is Active: Switch CCs (**SW:CC!**)	TELCO	DLP-598
	3. If CS Is Being Grown on Bus Branch B and CC 0 Is Active: Switch CCs (**SW:CC!**)	TELCO	DLP-598
	4. Transfer Write and Address Bus BTRs From Standby CC to CS-PS Frame	INST	—
	5. Connect Write and Address Bus Cables	INST	—
	6. Connect Reply Bus Cables	INST	—
	7. Apply Power to Each Growth CS	INST	—
	8. Diagnose CSB 1 (**DGN:CSB 1!**)	TELCO/INST	—
35	Execute Phase 99 Diagnostic Scoping Test to Verify Extended Bus at BTRs (Bus 1):		
	1. Store CSB 1 Input Messages on MTC Channel (if Not Done)	TELCO	DLP-602
	2. Enter Execute Messages for Looping on CS Write and Reply Buses (**EX:CSB 1;START:CS** a! then **EX:CSB 1:PH 99,ADR 56-71!**)	TELCO	DLP-603
	3. Scope CS Write Bus Bits 0 to 25 at BTRs	INST	—
	4. Scope CS Reply Bus Bits 0 to 25 at BTRs. See TOP 254-251-001	INST	—
	5. Enter Stop Looping Message (**EX:CSB 1!**)	TELCO	—
	6. Enter Execute Message for Looping on CS Address Bus (**EX:CSB 1:PH 99,ADR 43-56!**)	TELCO	DLP-603

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
35 (Contd)	7. Scope CS Address Bus Bits 0 to 20 at BTRs	INST	—
	8. Enter Stop Looping Message (**EX:CSB 1!**)	TELCO	—
	9. Stop Maintenance Control Program Client	TELCO	DLP-580
	10. Restore CSB 1 to Service (**RST:CSB 1!**)	TELCO/INST	DLP-590
36	Safe Point to Temporarily Stop This Procedure		
37	Diagnose Each Growth CS (**DGN:CS** a!)	TELCO/INST	DLP-607
38	Diagnose Each Growth CS Using Demand Diagnostics (**DGN:CS** a**:PH (24-29,91)!**)	TELCO/INST	DLP-608
39	Diagnose Growth ECS Using SLOW (**DGN:CS** a**;SLOW!**)	TELCO/INST	DLP-623
40	Diagnose Demand Phases on Growth ECS Using SLOW Option (**DGN:CS** a**;SLOW:PH (24-29,91)!**)		—
41	Enter **INH:WPAD!; OK** Output Message Required	TELCO	—
42	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
43	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC** a**;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC** a**:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LG**a**PGRO!**)	TELCO	DLP-504
44	Execute XAPP Library Program (**EX:LIBSYS:PKG LG**a**PGRO,PGM XAPP,TASK 0,CLIENT!0**	TELCO	DLP-505
45	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,**a**)!**)	TELCO	DLP-506
46	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	—
47	Change and Verify Member Equipage Grow to Special Growth for Each Growth CS	TELCO/INST	DLP-555

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
48	If CS 0 Was Grown:		
	NOTE: CS 0 can only be grown to K-code 0, ACT. This member number is required K-code and cannot be soaked		
	1. Enter **VER:UTMN:CSKTRANS!** and Find Member Number Assigned to K-Code 0, ACT in Output Message. Record for Later Reference	TELCO/INST	—
	2. Change and Verify K-Code for CS 0 to K-Code 0	TELCO/INST	DLP-609
	3. Change and Verify Member Equipage for CS 0 Special Growth to Operational (Specify ACT)	TELCO/INST	DLP-610
	4. Restore CS 0 to Service (**RST:CS 0!**)	TELCO/INST	DLP-600
	5. Remove CS (Recorded in Item 48.1) From Service (**RMV:CS** a!)	TELCO	DLP-594
	6. Degrow CS (Recorded in Item 48.1) to Special Growth	TELCO/INST	DLP-611
	7. Change and Verify K-Code for CS Recorded in Item 48.1	TELCO/INST	DLP-591
	8. Change and Verify Member Equipage for CS (Recorded in Item 48.1) Special Growth to Operational	TELCO/INST	DLP-592
	9. Set CS 0 to FAST Mode (**SET:CS 0;FAST!**) and Wait for **COMPLETED** Output Message	TELCO/INST	—
	NOTE: CS recorded in Item 48.1 can be used immediately as required K-code in system. Soaking is not necessary		
	10. If CS 0 Was Only CS to Be Grown: Perform Items 52 Through 56. Upon Completion, End of Procedure	TELCO	—
	11. If CS 0 Was Not Only CS to Be Grown: Go to Item 49	TELCO/INST	—
49	Change and Verify K-Code for Each Growth CS for Soak Mode:	—	—
	A. If Growing CS Using 4E15 or Earlier Generic	TELCO/INST	DLP-555
	B. If Growing CS Using 4E16 or Later Generic	TELCO/INST	DLP-628
50	Change and Verify Member Equipage Special Growth to Operational for Each Growth CS	TELCO/INST	DLP-592
	(Continued on Page 9)		

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
51	Set Each Growth CS to FAST Mode (**SET:CS** a;**FAST!**) and Wait for **COMPLETED** Output Message:		—
	A. If Growing CS Using 4E15 or Earlier Generic	TELCO/INST	DLP-592
	B. If Growing CS Using 4E16 or Later Generic	TELCO/INST	DLP-629
52	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537
53	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
54	Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (**OP:PSSTATUS!**)	TELCO	—
55	Set PS, Determined in Item 54, to NORM (**SET:PS** a;**NORM!**)	TELCO	—
56	Enter **ALW:WPAD!**; **OK** Output Message Required	TELCO	—
57	Soak Test Each Growth CS:		
	NOTES: 1. Only one growth CS can be soaked at a time 2. Soak for 24 hours minimum		
	1. Configure Growth CS as Duplicate to a Normally Duplicated Store (Soak for 24 Hours Minimum)	TELCO/INST	DLP-595
	2. If Another CS Is to Be Soaked: Remove Soaked CS From Service (**RMV:CS** a!)	TELCO	DLP-594
	3. Repeat Item 55 for Each CS Still to Be Soaked	TELCO/INST	—

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

		RESPONSIBILITY	
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in per local practice 2. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing		
1	Execute Phase 99 Diagnostic Scoping Test to Verify DU Bus 0 at BTRs:		
	1. Store DU Bus 0 Input Messages on TTY	TELCO	DLP-578
	2. Enter Execute Message for Looping on DU Write Bus (**EX:DUS 0;START:TUC** a! Then **EX:DUS 0:PH 99,ADR 44-115,SYNC 56**!)	TELCO	DLP-579
	3. Set Up Oscilloscope	TELCO	DLP-581
	4. Scope DU Write Bus Bits 0 to 24 at BTRs	TELCO	DLP-582
	5. Enter Stop Looping Message (**EX:DUS 0**!)	TELCO	—
	6. Enter Execute Message for Looping on DU Address Bus (**EX:DUS 0:PH 99,ADR 166-263,SYNC 200**!)	TELCO	DLP-579
	7. Scope DU Address Bus Bits 0 to 8 at BTRs	TELCO	DLP-583
	8. Enter Stop Looping Message (**EX:DUS 0**!)	TELCO	—
	9. Enter Execute Message for Looping on DU Reply Bus (**EX:DUS 0:PH 99,ADR 115-166,SYNC 127**!)	TELCO	DLP-579
	10. Scope DU Reply Bus Bits 0 to 24 at BTRs	TELCO	DLP-584
	11. Enter Stop Looping Message (**EX:DUS 0**!)	TELCO	—
	12. Stop Maintenance Control Program Client	TELCO	DLP-580
	13. Restore DU Bus 0 to Service (**RST:DUS 0**!)	TELCO	DLP-576
2	Execute Phase 99 Diagnostic Scoping Test to Verify DU Bus 1 at BTRs:		
	1. Store DU Bus 1 Input Messages on TTY	TELCO	DLP-578
	2. Enter Execute Messages for Looping on DU Write Bus (**EX:DUS 1;START:TUC** a! Then **EX:DUS 1:PH 99,ADR 44-115,SYNC 73**!)	TELCO	DLP-579

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
2 (Contd)	3. Set Up Oscilloscope	TELCO	DLP-581
	4. Scope DU Write Bus Bits 0 to 24 at BTRs	TELCO	DLP-582
	5. Enter Stop Looping Message (**EX:DUS 1!**)	TELCO	—
	6. Enter Execute Message for Looping on DU Address Bus (**EX:DUS 1:PH 99,ADR 166-263,SYNC 227!**)	TELCO	DLP-579
	7. Scope DU Address Bus Bits 0 to 8 at BTRs	TELCO	DLP-583
	8. Enter Stop Looping Message (**EX:DUS 1!**)	TELCO	—
	9. Enter Execute Message for Looping on DU Reply Bus (**EX:DUS 1:PH 99,ADR 115-166,SYNC 144!**)	TELCO	DLP-579
	10. Scope DU Reply Bus Bits 0 to 24 at BTRs	TELCO	DLP-584
	11. Enter Stop Looping Message (**EX:DUS 1!**)	TELCO	—
	12. Stop Maintenance Control Program Client	TELCO	DLP-580
	13. Restore DU Bus 1 to Service (**RST:DUS 1!**)	TELCO	DLP-576
3	At MTC Channel, Enter **INH:WPAD!**; **OK** Output Message Required	TELCO	—
4	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
5	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
6	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
	(Continued on Page 3)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
7	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
	NOTE: XAPP library program times out after 2 hours of inactivity. If XAPP does time out, Items 6 and 7 must be performed before using XAPP input messages		
8	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp ON)	TELCO	—
9	Remove Power With Power Switch From TUC(s) Being Degrown	TELCO	—
10	Change and Verify Member Equipage Operational to Unequipped for TUC(s) Being Degrown	TELCO/INST	DLP-543
11	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537
12	Write New ODA TWRP Tape	TELCO	DLP-538
13	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp OFF)	TELCO	—
14	If Office Is a 4E15 or Earlier Generic, Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (**OP:PSSTATUS!**)	TELCO	—
15	If Office Is a 4E15 or Earlier Generic, Set PS, Determined in Item 14, to NORM (**SET:PS a;NORM!**)	TELCO	—
16	At MTC Channel, Enter **ALW:WPAD!**; **OK** Output Message Required	TELCO	—
17	If Even Numbered TUC(s) Is Being Removed:		
	1. At PCD Frame, Remove DAMON 0 Using PSA Power Switch	TELCO	—
	2. Remove Fuses for Even Numbered Degrown TUC(s) at PCD Frame	INST	—
	3. Disconnect Power Feeders Between Even Numbered Degrown TUC(s) and PCD Frame (+24V and −48V)	INST	—
	4. At PCD Frame, Restore DAMON 0 Using PSA Power Switch	TELCO/INST	DLP-553
	5. Restore PCD 0 to Service (**RST:PCD 0,DAMON 0!**)	TELCO/INST	—
	(Continued on Page 4)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
18	If Odd Numbered TUC(s) Is Being Removed:		
	1. At PCD Frame, Remove DAMON 0 Using PSB Power Switch	TELCO	—
	2. Remove Fuses for Odd Numbered Degrown TUC(s) at PCD Frame	INST	—
	3. Disconnect Power Feeders Between Odd Numbered Degrown TUC(s) and PCD Frame (+24V and −48V)	INST	—
	4. At PCD Frame, Restore DAMON 0 Using PSB Power Switch	TELCO/INST	DLP-553
	5. Restore PCD 1 to Service (**RST:PCD 1,DAMON 0!**)	TELCO/INST	—
19	Remove MCC/PPI From Service (**RMV:MCC 0!**)	TELCO	DLP-574
20	Remove Power With Power Switch From DUS 0 and PPI Frame	TELCO	—
21	Disconnect Alarm Cable From Degrown TUC(s) and Rewire if Necessary	INST	—
22	Disconnect Scan and SD Cables Associated With Degrown TUC(s) at DUS 0 and PPI Frame	INST	—
23	Disconnect Private Cables (SEL, SEL-VER, etc) and Scan and SD Cables at TUC(s) and DUS 0. At DUS 0, Connect 942C Shorting Plug in Place of Removed SEL, SEL-VER Cable	INST	—
24	Restore Power to PPI Frame Using Power Switch	TELCO/INST	DLP-553
25	Restore MCC/PPI to Service (**RST:MCC 0!**)	TELCO/INST	DLP-575
26	If TUC(s), Electrically Adjacent to Degrown TUC(s), Are Assigned an Active Function: Reassign That Function to Unassigned or Noncritical TUC	TELCO	DLP-601
27	Remove TUC(s), Electrically Adjacent to Degrown TUC(s), From Service (**RMV:TUC** a!)	TELCO	DLP-612
28	Remove Power With Power Switch From TUC(s) Electrically Adjacent to Degrown TUC(s)	TELCO	—
29	Disconnect DU Bus 0 Cables From Degrown TUC(s) and Recable if Required	INST	—
30	If TUC Is Being Removed From End of DU Bus: Transfer DU Bus 0 BTRs to TUC Now at End of Bus	INST	—
31	Restore Power to DUS 0 and Electrically Adjacent TUC(s) Using Power Switch	TELCO/INST	DLP-553
32	Restore Electrically Adjacent TUC(s) to Service (**RST:TUC** a!)	TELCO/INST	DLP-585
33	Execute Phase 99 Diagnostic Scoping Test to Verify DU Bus 0 at BTRs:		
	1. Store DU Bus 0 Input Messages on TTY (if Not Stored)	TELCO	DLP-578

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
33 (Contd)	2. Enter Execute Messages for Looping on DU Write Bus (**EX:DUS 0;START:TUC** a! Then **EX:DUS 0:PH 99,ADR 44-115,SYNC 56!**)	TELCO	DLP-579
	3. Scope DU Write Bus Bits 0 to 24 at BTRs	INST	—
	4. Enter Stop Looping Message (**EX:DUS 0!**)	TELCO	—
	5. Enter Execute Message for Looping on DU Address Bus (**EX:DUS 0:PH 99,ADR 166-263,SYNC 200!**)	TELCO	DLP-579
	6. Scope DU Address Bus Bits 0 to 8 at BTRs	INST	—
	7. Enter Stop Looping Message (**EX:DUS 0!**)	TELCO	—
	8. Enter Execute Message for Looping on DU Reply Bus (**EX:DUS 0:PH 99,ADR 115-166,SYNC 127!**)	TELCO	DLP-579
	9. Scope DU Reply Bus Bits 0 to 24 at BTRs	INST	—
	10. Enter Stop Looping Message (**EX:DUS 0!**)	TELCO	—
	11. Stop Maintenance Control Program Client	TELCO	DLP-580
	12. Restore DU Bus 0 to Service (**RST:DUS 0!**)	TELCO/INST	DLP-576
	NOTE: This is a safe point to temporarily stop this procedure		
34	Remove Power With Power Switch From DUS 1	TELCO	—
35	Disconnect Private Cables (SEL, SEL-VER, etc) at TUC(s) and DUS 1. At DUS 1, Connect 942C Shorting Plug in Place of Removed SEL, SEL-VER Cable	INST	—
36	Remove TUC(s), Electrically Adjacent to Degrown TUC(s) From Service (**RMV:TUC** a!)	TELCO	DLP-612
37	Remove Power With Power Switch From TUC(s) Electrically Adjacent to Degrown TUC(s)	TELCO	—
38	Disconnect DU Bus 1 Cables From Degrown TUC(s) and Recable if Required	INST	—
39	If TUC Is Being Removed From End of DU Bus: Transfer DU Bus 1 BTRs to TUC Now at End of Bus	INST	—
40	Restore Power to DUS 1 and Electrically Adjacent TUCs Using Power Switch	TELCO/INST	DLP-553
41	Restore Electrically Adjacent TUCs to Service (**RST:TUC** a!)	TELCO/INST	DLP-585
	(Continued on Page 6)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
42	Execute Phase 99 Diagnostic Scoping Test to Verify DU Bus 1 at BTRs:		
	1. Store DU Bus 1 Input Messages on TTY (if Not Stored)	TELCO	DLP-578
	2. Enter Execute Messages for Looping on DU Write Bus (**EX:DUS 1;START:TUC** a! Then **EX:DUS 1:PH 99,ADR 44-115,SYNC 73**!)	TELCO	DLP-579
	3. Scope DU Write Bus Bits 0 to 24 at BTRs	INST	—
	4. Enter Stop Looping Message (**EX:DUS 1**!)	TELCO	—
	5. Enter Execute Message for Looping on DU Address Bus (**EX:DUS 1:PH 99,ADR 166-263,SYNC 227**!)	TELCO	DLP-579
	6. Scope DU Address Bus Bits 0 to 8 at BTRs	INST	—
	7. Enter Stop Looping Message (**EX:DUS 1**!)	TELCO	—
	8. Enter Execute Message for Looping on DU Reply Bus (**EX:DUS 1:PH 99,ADR 155-166,SYNC 144**!)	TELCO	DLP-579
	9. Scope DU Reply Bus Bits 0 to 24 at BTRs	INST	—
	10. Enter Stop Looping Message (**EX:DUS 1**!)	TELCO	—
	11. Stop Maintenance Control Program Client	TELCO	DLP-580
	12. Restore DU Bus 1 to Service (**RST:DUS 1**!)	TELCO/INST	DLP-576
43	Remove TUC Hardware From Floor	TELCO/INST	—

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

		RESPONSIBILITY	
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. If XAPP overwrites were used during a shift, item 13 must be performed at the end of that shift 3. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing		
1	Using Office Records, Determine if Logical Channel Being Grown Is Assigned to an IOUC	TELCO	—
2	If Logical Channel Is Assigned to an IOUC, Deactivate and Remove IOUC in Operational IOUS Using NTP-008. Upon Completion, Continue at Item 3	TELCO	—
3	At MTC Channel, Enter **INH:WPAD!**; **OK** Output Message Required	TELCO	—
4	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
5	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC** a**;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC** a**:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LG**a**PGRO!**)	TELCO	DLP-504
6	Execute XAPP Library Program (**EX:LIBSYS:PKG LG**a**PGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
7	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,**a**)!**)	TELCO	DLP-506
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: XAPP Library Program times out after 2 hours of Inactivity. If XAPP does time out, items 6 and 7 must be performed before using XAPP input messages		
8	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp ON)	TELCO	—
9	Assign Growth Logical Channel for Logical Operation	TELCO	DLP-613
10	At MTC Channel, Enter Message **OP:LCHAN!** To Verify Logical Channel Has Been Assigned. Ensure **STATUS** for Growth Logical Channel Is **ELIGIBLE**	TELCO	—
11	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537
12	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp OFF)	TELCO	—
13	Write New ODA TWRP Tape	TELCO	DLP-538
14	If Office Is a 4E15 or Earlier Generic, Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (**OP:PSSTATUS!**)	TELCO	—
15	If Office Is a 4E15 or Earlier Generic, Set PS, Determined in Item 14, to NORM (**SET:PS a;NORM!**)	TELCO	—
16	At MTC Channel, Enter **ALW:WPAD!**; **OK** Output Message Required	TELCO	—

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

		RESPONSIBILITY	
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. If XAPP overwrites were used during a shift, item 11 must be performed at the end of that shift 3. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing		
1	Ensure Logical Channel Being Degrown Is Not Active; Then Inhibit	TELCO	DLP-614
2	At MTC Channel, Enter **INH:WPAD!**; **OK** Output Message Required	TELCO	—
3	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
4	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC** a**;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC** a**:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LG**a**PGRO!**)	TELCO	DLP-504
5	Execute XAPP Library Program (**EX:LIBSYS:PKG LG**a**PGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
6	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,**a**)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, items 5 and 6 must be performed before using XAPP input messages		
7	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp ON)	TELCO	—
8	Change Logical Channel to UNEQ	TELCO	DLP-615

DEGROW LOGICAL CHANNEL

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
9	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537
10	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp OFF)	TELCO	—
11	Write New ODA TWRP Tape	TELCO	DLP-538
12	If Office Is a 4E15 or Earlier Generic, Determine PS Member Number Assigned to K-Code 34 When XAPP Library Program Was Executed (**OP:PSSTATUS!**)	TELCO	—
13	If Office Is a 4E15 or Earlier Generic, Set PS, Determined in Item 12, to NORM (**SET:PS a;NORM!**)	TELCO	—
14	At MTC Channel, Enter **ALW:WPAD!**; **OK** Output Message Required	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		
	CAUTION: SCP A69 must be installed prior to ECS conversion to prevent D-levels. Please include the application of this SCP as part of ECS growth procedure.		
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing 3. This procedure contains soak intervals 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 4. DLP-630 should be read to understand how 5-day soak periods are used during this procedure 5. Steps 1 to 4 and 6 through 11 which does CC phase 91 diagnostics should be performed 3 to 5 days before the actual ECS growth procedure starts		
1	Ensure Current Generic and ODA Tapes Are Available	TELCO	—
2	Ensure All 1A Processor Units Are in Service and Trouble Free	TELCO	—
3	Ensure Normally Duplicated CS K-Codes Are Duplicated	TELCO	—
4	Using REX Printouts, Ensure All Equipped CSs Have Been Diagnosed ATP Within Past 2 Days	TELCO	—
5	Perform Preliminary Installation Activities	INST	—
6	At MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
	CAUTION: Until further notice, when performing CC PC demand diagnostics, base PC stores (PS 0, 2, 4, or 18, 20, 22) must be equipped with FE63 circuit packs instead of FE70 circuit packs. If base PC stores are equipped with FE70 circuit packs, these circuit packs must be replaced with FE63 circuit packs per local practice before performing CC PC demand diagnostics. After diagnostics are complete, FE70 circuit packs must be reinstalled.		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
7	Run CC Diagnostic Phase 91 to Test PC Function (Three Combinations)	TELCO	DLP-621
8	Restore Standby CC to Service (**RST:CC** a!)	TELCO	DLP-596
9	Switch CCs (**SW:CC**!)	TELCO	DLP-598
10	Run CC Diagnostic Phase 91 to Test PC Function (Three Combinations)	TELCO	DLP-621
11	Restore Standby CC to Service (**RST:CC** a!)	TELCO	DLP-596
12	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS**!)	TELCO	DLP-500
13	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC** a;**FUNCTION LIB**!)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC** a:**RO**!)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LG**aPGRO!)	TELCO	DLP-504
14	Execute XAPP Library Program (**EX:LIBSYS:PKG LG**aPGRO,PGM XAPP,TASK 0,CLIENT 0!)	TELCO	DLP-505
15	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0**!)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,**a)!)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, Items 14 and 15 must be performed before using XAPP input messages		
16	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE** – **RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	–
	NOTE: Items 17 through 31 are being performed to change **FE63** circuit pack with **FE260** circuit pack in CSs 0, 1, 2, and 3		
17	Diagnose CS 0 Using Restore Message (**RST:CS 0**!)	TELCO	DLP-616
18	Remove CS 0 From Service (**RMV:CS 0**!)	TELCO	–
19	Diagnose CS 0 Using SLOW Option (**DGN:CS 0;SLOW**!)	TELCO	DLP-623
20	Remove Power From CS 0 Using Power Switch	TELCO	DLP-617

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
21	At CS 0, Remove **FE63** Circuit Pack and Install **FE260** Circuit Pack in Its Place	INST	—
22	Change and Verify Hardware Version for CS 0	TELCO/INST	DLP-618
23	Change and Verify Frame Number and Type for CS 0	TELCO/INST	DLP-627
24	Restore Power to CS 0 Using Power Switch (**ROS/OFF** Switch to Normal Position) (Rest Call Store, Stopped OOS Removed)	TELCO/INST	DLP-553
25	Diagnose Demand Phases on CS 0 (DGN:CS 0:PH (24-29,91)!)	TELCO/INST	DLP-608
26	Diagnose CS 0 Using SLOW Option (DGN:CS 0;SLOW!)	TELCO/INST	DLP-623
27	Diagnose Demand Phases on CS 0 Using SLOW Option (DGN:CS 0;SLOW:PH (24-29,91)!)	TELCO/INST	DLP-624
28	Restore CS 0 to Service (RST:CS 0!); ATP Required	TELCO/INST	DLP-600
29	This Is Start of 5-Day Soak Period for CS 0	TELCO/INST	—
30	At MTC Channel, Enter Message OP:CSSTATUS!; Ensure Printout Shows SOAK Count at 5 for CS 0	TELCO/INST	—
31	Repeat Items 17 Through 30 for CSs 1, 2, Then 3, Replacing CS 0 With CS Being Changed	TELCO/INST	—
32	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE** — **RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
33	Terminate Execution of XAPP Library Program (STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!)	TELCO	DLP-537
34	Safe Point To Temporarily Stop This Procedure	TELCO/INST	—
35	Add CS 13 (for 256K Start Office) in CS-PS Frame 1 or CS 5 (for 64K Start Office) in CS-PS Frame 0 per NTP-018. Continue This Procedure at Item 35 Upon Completion	TELCO/INST	—
36	Safe Point To Temporarily Stop This Procedure	TELCO/INST	—
37	Add CS 14 (for 256K Start Office) in CS-PS Frame 1 or CS 6 (for 64K Start Office) in CS-PS Frame 0 per NTP-018. Continue This Procedure at Item 37 Upon Completion	TELCO/INST	—
38	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
39	At MTC Channel, Enter Message OP:CSSTATUS!; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs (Except for CSs That Have Completed 5-Day Soak)	TELCO/INST	—
	NOTE: No more than six CSs can soak at a time. Only the number of CSs that have completed 5-day soak period can be converted in Items 46 through 68		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
40	Determine if Conversion Can Continue	TELCO/INST	DLP-620
41	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
42	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
43	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
44	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, Items 43 and 44 must be performed before using XAPP input messages		
45	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	—
	NOTE: Items 46 through 68 are being performed to change **FE63** circuit pack with **FE260** circuit pack in CSs 4, 5, 6, and 7 (for 256K start office) or CSs 4, 36, 37, and 38 (for 64K start office)		
46	Diagnose CS 4 Using Restore Message (**RST:CS 4!**)	TELCO	DLP-616
47	Remove CS4 From Service (**RMV:CS 4!**)	TELCO	—
48	Diagnose CS 4 Using SLOW Option (**DGN:CS 4;SLOW!**)	TELCO	DLP-623
49	Remove Power From CS 4 Using Power Switch	TELCO	DLP-617
50	At CS 4, Remove **FE63** Circuit Pack and Install **FE260** Circuit Pack in its Place	INST	—
51	Change and Verify Hardware Version for CS 4	TELCO/INST	DLP-618

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
52	Change and Verify Frame Number and Type for Growth ECS	TELCO/INST	DLP-627
53	Restore Power to CS 4 Using Power Switch (**ROS/OFF** Switch to Normal Position)	TELCO/INST	DLP-553
54	Diagnose Demand Phases on CS 4 (**DGN:CS 4:PH (**24-29,91**)**!)	TELCO/INST	DLP-608
55	Diagnose CS 4 Using SLOW Option (**DGN:CS 4;SLOW**!)	TELCO/INST	DLP-623
56	Diagnose Demand Phases on CS 4 Using SLOW Option (**DGN:CS 4;SLOW:PH (24-29,91)**!)	TELCO/INST	DLP-624
57	Restore CS 4 to Service (**RST:CS 4**!); ATP Required	TELCO/INST	DLP-600
58	This Is Start of 5-Day Soak Period for CS 4	TELCO/INST	—
59	At MTC Channel, Enter Message **OP:CSSTATUS**!; Ensure Printout Shows SOAK Count at 5 for CS 4	TELCO/INST	—
60	Determine if Conversion Can Continue	TELCO/INST	DLP-620
61	If XAPP Library Program Was Terminated (Item 60), Repeat Items 41 Through 59 for CS 5 (for 256K Start Office) or CS 36 (for 64K Start Office), Replacing CS 4 with CS Being Changed. Continue at Item 63 Upon Completion	TELCO/INST	—
62	If XAPP Library Program Was Not Terminated (Item 60), Repeat Items 46 Through 59 for CS 5 (for 256K Start Office or CS 36 (for 64K Start Office), Replacing CS 4 With CS Being Changed. Continue at Item 63 Upon Completion	TELCO/INST	—
63	Determine if Conversion Can Continue	TELCO/INST	DLP-620
64	If XAPP Library Program Was Terminated (Item 63), Repeat Items 41 Through 59 for CS 6 (for 256K Start Office) or CS 37 (for 64K Start Office), Replacing CS 4 With CS Being Changed. Continue at Item 66 Upon Completion	TELCO/INST	—
65	If XAPP Library Program Was Not Terminated (Item 63), Repeat Items 46 Through 59 for CS 6 (for 256K Start Office) or CS 37 (for 64K Start Office), Replacing CS 4 With CS Being Changed. Continue at Item 66 Upon Completion	TELCO/INST	—
66	Determine if Conversion Can Continue	TELCO/INST	DLP-620
67	If XAPP Library Program Was Terminated (Item 66), Repeat Items 41 Through 59 for CS 7 (for 256K Start Office) or CS 38 (for 64K Start Office), Replacing CS 4 With CS Being Changed. Continue at Item 69 Upon Completion	TELCO/INST	—
	Continued on Page 6		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
68	If XAPP Library Program Was Not Terminated (Item 66), Repeat Items 46 Through 59 for CS 7 (for 256K Start Office) or CS 38 (for 64K Start Office), Replacing CS 4 With CS Being Changed. Continue at Item 69 Upon Completion	TELCO/INST	—
69	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
70	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537
71	Determine if Addition Can Continue	TELCO/INST	DLP-620
72	Add CS 15 (for 256K Start Office) in CS-PS Frame 1 or CS 7 (for 64K Start Office) in CS-PS Frame 0 per NTP-018. Continue This Procedure at Item 73 Upon Completion	TELCO/INST	—
73	At MTC Channel, Enter Message **OP:CSSTATUS!**; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs	TELCO/INST	—
74	Determine if Conversion Can Continue	TELCO/INST	DLP-620
75	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
76	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
77	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
78	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, Items 77 and 78 must be performed before using XAPP input messages		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
79	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE** — **RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	—
	NOTE: Items 80 through 93 are being performed to change **FE63** circuit pack with **FE260** circuit pack in CS 8 (for 256K Start Office) or CS 39 (for 64K Start Office)		
80	Diagnose CS 8/39 Using Restore Message (**RST:CS** a!)	TELCO	DLP-616
81	Remove CS 8/39 From Service (**RMV:CS** a!)	TELCO	—
82	Diagnose CS 8/39 Using SLOW Option (**DGN:CS** a**;SLOW**!)	TELCO	DLP-623
83	Remove Power From CS 8/39 Using Power Switch	TELCO	DLP-617
84	At CS 8/39, Remove **FE63** Circuit Pack and Install **FE260** Circuit Pack in its Place	INST	—
85	Change and Verify Hardware Version for CS 8/39	TELCO/INST	DLP-618
86	Change and Verify Frame Number and Type for Growth ECS	TELCO/INST	DLP-627
87	Restore Power to CS 8/39 Using Power Switch (**ROS/OFF** Switch to Normal Position)	TELCO/INST	DLP-553
88	Diagnose Demand Phases on CS 8/39 (**DGN:CS** a**:PH (24-29,91)**!)	TELCO/INST	DLP-608
89	Diagnose CS 8/39 Using SLOW Option (**DGN:CS** a**;SLOW**!)	TELCO/INST	DLP-623
90	Diagnose Demand Phases on CS 8/39 Using SLOW Option (**DGN:CS** a**;SLOW:PH (24-29,91)**!)	TELCO/INST	DLP-624
91	Restore CS 8/39 to Service (**RST:CS** a!); ATP Required	TELCO/INST	DLP-600
92	This Is Start of 5-Day Soak Period for CS 8/39	TELCO/INST	—
93	At MTC Channel, Enter Message **OP:CSSTATUS**!; Ensure Printout SOAK Count at 5 for CS 8/39	TELCO/INST	—
94	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE** — **RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
95	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0**!)	TELCO	DLP-537
	NOTES: 1. Items 97 through 132 are being performed to add/replace CSB cables 2. CSB cables may have to be removed and replaced for 64K New Start Offices		
96	Safe Point To Temporarily Stop This Procedure	TELCO/INST	—
97	At MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With ACTIVE Lamp Off)	TELCO	—
98	Diagnose Standby CC (Item 97) Using Restore Message (**RST:CC** a!)	TELCO	DLP-596

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
99	Switch CCs (**SW:CC**!)	TELCO	DLP-598
100	Diagnose New Standby CC Using Restore Message (**RST:CC** a!)	TELCO	DLP-596
101	If CC 0 Is Active, Switch CCs (**SW:CC**!)	TELCO	DLP-598
102	Diagnose CSB 0 (**DGN:CSB 0**!)	TELCO	DLP-625
103	Diagnose PSB 0 (**DGN:PSB 0**!)	TELCO	DLP-625
104	Remove Power From CC 0 Using Power Switch	TELCO	DLP-617
105	Add/Replace 11 Cables for CSB 0 Between CC 0 and CC 1 at CC 0	INST	—
106	Restore Power to CC 0 Using Power Switch; Except CATP	TELCO/INST	DLP-553
107	Restore CSB 0 to Service (**RST:CSB 0**!)	TELCO/INST	DLP-590
108	Restore PSB 0 to Service (**RST:PSB 0**!)	TELCO/INST	DLP-590
109	Switch CCs (**SW:CC**!)	TELCO	DLP-598
110	Diagnose CSB 0 (**DGN:CSB 0**!)	TELCO	DLP-625
111	Diagnose PSB 0 (**DGN:PSB 0**!)	TELCO	DLP-625
112	Remove Power From CC 1 Using Power Switch	TELCO	DLP-617
113	Add/Replace 11 Cables for CSB 0 Between CC 0 and CC 1 at CC 1	INST	—
114	Restore Power to CC 1 Using Power Switch; Expect CATP	TELCO/INST	DLP-553
115	Restore CSB 0 to Service (**RST:CSB 0**!)	TELCO/INST	DLP-590
116	Restore PSB 0 to Service (**RST:PSB 0**!)	TELCO/INST	DLP-590
117	Switch CCs (**SW:CC**!)	TELCO	DLP-598
118	Diagnose CSB 1 (**DGN:CSB 1**!)	TELCO	DLP-625
119	Diagnose PSB 1 (**DGN:PSB 1**!)	TELCO	DLP-625
120	Remove Power From CC 0 Using Power Switch	TELCO	DLP-617
121	Add/Replace 11 Cables for CSB 1 Between CC 0 and CC 1 at CC 0	INST	—
122	Restore Power to CC 0 Using Power Switch; Expect CATP	TELCO/INST	DLP-553

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
123	Restore CSB 1 to Service (**RST:CSB 1!**)	TELCO/INST	DLP-590
124	Restore PSB 1 to Service (**RST:PSB 1!**)	TELCO/INST	DLP-590
125	Switch CCs (**SW:CC!**)	TELCO	DLP-598
126	Diagnose CSB 1 (**DGN:CSB 1!**)	TELCO	DLP-625
127	Diagnose PSB 1 (**DGN:PSB 1!**)	TELCO	DLP-625
128	Remove Power From CC 1 Using Power Switch	TELCO	DLP-617
129	Add/Replace 11 Cables for CSB 1 Between CC 0 and CC 1 at CC 1	INST	—
130	Restore Power to CC 1 Using Power Switch	TELCO/INST	DLP-553
131	Restore CSB 1 to Service (**RST:CSB 1!**)	TELCO/INST	DLP-590
132	Restore PSB 1 to Service (**RST:PSB 1!**)	TELCO/INST	DLP-590
133	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
134	At MTC Channel, Enter Message **OP:CSSTATUS!**; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs	TELCO/INST	—
	NOTE: Items 135 through 170 are being performed to install 36 circuit packs for CSB branches C and D in CCs 0 and 1		
135	At MCC **PROCESSOR DISPLAY** Panel, Determine Which CC Is Standby (CC With **ACTIVE** Lamp Off)	TELCO	—
136	Diagnose Standby CC (Item 133) Using Restore Message (**RST:CC** a!)	TELCO	DLP-596
137	Switch CCs (**SW:CC!**)	TELCO	DLP-598
138	Diagnose New Standby CC Using Restore Message (**RST:CC** a!)	TELCO	DLP-596
139	If CC 0 Is Active, Switch CCs (**SW:CC!**)	TELCO	DLP-598
140	Diagnose CSB 0 (**DGN:CSB 0!**)	TELCO	DLP-625
141	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-597
142	Remove Power From CC 0 Using Power Switch	TELCO	DLP-617
143	At CC 0, Install 9 CSB 0 Circuit Packs and If Required an FC15 Pulse Driver Circuit Pack	INST	—
144	Restore Power to CC 0 Using Power Switch	TELCO/INST	DLP-553

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
145	Restore CC 0 to Service (**RST:CC 0!**); Expect CATP	TELCO/INST	DLP-596
146	Restore CSB 0 to Service (**RST:CSB 0!**)	TELCO/INST	DLP-590
147	Switch CCs (**SW:CC!**)	TELCO	DLP-598
148	Diagnose CSB 0 (**DGN:CSB 0!**)	TELCO	DLP-625
149	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-597
150	Remove Power From CC 1 Using Power Switch	TELCO	DLP-617
151	At CC 1, Install 9 CSB 0 Circuit Packs and If Required an FC15 Pulse Driver Circuit Pack	INST	—
152	Restore Power to CC 1 Using Power Switch	TELCO/INST	DLP-553
153	Restore CC 1 to Service (**RST:CC 1!**) Expect CATP	TELCO/INST	DLP-596
154	Restore CSB 0 to Service (**RST:CSB 0!**)	TELCO/INST	DLP-590
155	Switch CCs (**SW:CC!**)	TELCO	DLP-598
156	Diagnose CSB 1 (**DGN:CSB 1!**)	TELCO	DLP-625
157	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	DLP-597
158	Remove Power From CC 0 Using Power Switch	TELCO	DLP-617
159	At CC 0, Install 9 CSB 1 Circuit Packs	INST	—
160	Restore Power to CC 0 Using Power Switch	TELCO/INST	DLP-553
161	Restore CC 0 to Service (**RST:CC 0!**); Expect CATP	TELCO/INST	DLP-596
162	Restore CSB 1 to Service (**RST:CSB 1!**)	TELCO/INST	DLP-590
163	Switch CCs (**SW:CC!**)	TELCO	DLP-598
164	Diagnose CSB 1 (**DGN:CSB 1!**)	TELCO	DLP-625
165	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-597
166	Remove Power From CC 1 Using Power Switch	TELCO	DLP–617
167	At CC 1, Install 9 CSB 1 Circuits Packs	INST	—
168	Restore Power to CC 1 Using Power Switch	TELCO/INST	DLP-553
169	Restore CC 1 to Service (**RST:CC 1!**); Expect CATP	TELCO/INST	DLP-596

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
170	Restore CSB 1 to Service (**RST:CSB 1!**)	TELCO/INST	DLP-590
	NOTE: Items 172 through 176 are being performed to install circuit packs in PPI frame for new CSs		
171	Remove PPI/MCC From Service	TELCO/INST	DLP-633
172	Diagnose PPI/MCC (**DGN:MCC 0!**)	TELCO	DLP-619
173	Remove Power From PPI Frame Using Power Switch	TELCO	DLP-617
174	At PPI Frame, Install Six Circuit Packs for CSs 16 Through 21	INST	—
175	Restore Power to PPI Frame Using Power Switch	TELCO/INST	DLP-553
176	Restore PPI/MCC to Service (**RST:MCC 0!**); ATP Required	TELCO/INST	DLP-575
177	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
178	At MTC Channel, Enter Message **OP:CSSTATUS!**; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs (Except for CSs That Have Completed 5-Day Soak)	TELCO/INST	—
179	Run CC Cables to ECS Frame and Connect at ECS Frame Only	INST	—
180	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
181	At MTC Channel, Enter Message **OP:CSSTATUS!**; Ensure Printout Does Not Show SOAK Count as 0 for Any Converted or Added CSs (Except for CSs That Have Completed 5-Day Soak)	TELCO/INST	—
182	Determine if Conversion Can Continue	TELCO/INST	DLP-620
183	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO/INST	DLP-500
184	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
185	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
186	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0**!)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,**a)!)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, Items 185 and 186 must be performed before using XAPP input messages		
187	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	—
	NOTE: Items 188 through 210 are being performed to change FE63 circuit pack to FE260 circuit pack in CSs 9, 10, 11, and 12 (for 256K start office) or CSs 40, 41, 42, and 43 (for 64K start office)		
188	Diagnose CS 9/40 Using Restore Message (**RST:CS** a!)	TELCO	DLP-616
189	Remove CS 9/40 From Service (**RMV:CS** a!)	TELCO	—
190	Diagnose CS 9/40 Using SLOW Option (**DGN:CS** a**;SLOW**!)	TELCO	DLP-623
191	Remove Power From CS 9/40 Using Power Switch	TELCO	DLP-617
192	At CS 9/40 Remove **FE63** Circuit Pack and Install **FE260** Circuit Pack in its Place	INST	—
193	Change and Verify Hardware Version for CS 9/40	TELCO/INST	DLP-618
194	Change and Verify Frame Number and Type for Growth ECS	TELCO/INST	DLP-627
195	Restore Power to CS 9/40 Using Power Switch (**ROS/OFF** Switch to Normal Position)	TELCO/INST	DLP-553
196	Diagnose Demand Phases on CS 9/40 (**DGN:CS** a**:PH (24-29,91)**!)	TELCO/INST	DLP-608
197	Diagnose CS 9/40 Using SLOW Option (**DGN:CS** a**;SLOW**!)	TELCO/INST	DLP-623
198	Diagnose Demand Phases on CS 9/40 Using SLOW Option (**DGN:CS** a**;SLOW:PH (24-29,91)**!)	TELCO/INST	DLP-624
199	Restore CS 9/40 to Service (**RST:CS** a!); ATP Required	TELCO/INST	DLP-600
200	This Is Start of 5-Day Soak Period for CS 9/40	TELCO/INST	—
201	At MTC Channel, Enter Message **OP:CSSTATUS**!; Ensure Printout Shows SOAK Count at 5 for CS 7/38	TELCO/INST	—
202	Determine if Conversion Can Continue	TELCO/INST	DLP-620

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
203	If XAPP Library Program Was Terminated (Item 202), Repeat Items 183 Through 201 for CS 10 (for 256K Start Office) or CS 41 (for 64K Start Office), Replacing CS 9/40 With CS Being Changed. Continue at Item 205 Upon Completion	TELCO/INST	—
204	If XAPP Library Program Was Not Terminated (Item 202), Repeat Items 188 Through 201 for CS 10 (for 256K Start Office) or CS 41 (for 64K Start Office), Replacing CS 9/40 With CS Being Changed. Continue at Item 205 Upon Completion	TELCO/INST	—
205	Determine if Conversion Can Continue	TELCO/INST	DLP-620
206	If XAPP Library Program Was Not Terminated (Item 205), Repeat Items 183 Through 201 for CS 11 (for 256K Start Office) or CS 42 (for 64K Start Office), Replacing CS 9/40 With CS Being Changed. Continue at Item 208 Upon Completion	TELCO/INST	—
207	If XAPP Library Program Was Not Terminated (Item 205), Repeat Items 188 Through 201 for CS 11 (for 256K Start Office) or CS 42 (for 64K Start Office), Replacing CS 9/40 With CS Being Changed, Continue at Item 208 Upon Completion	TELCO/INST	—
208	Determine if Conversion Can Continue	TELCO/INST	DLP-620
209	If XAPP Library Program Was Terminated (Item 208), Repeat Items 183 Through 201 for CS 12 (for 256K Start Office) or CS 43 (for 64K Start Office), Replacing CS 9/40 With CS Being Changed. Continue at Item 211 Upon Completion	TELCO/INST	—
210	If XAPP Library Program Was Not Terminated (Item 208), Repeat Items 188 Through 201 for CS 12 (for 256K Start Office) or CS 43 (for 64K Start Office), Replacing CS 9/40 With CS Being Changed. Continue at Item 211 Upon Completion	TELCO/INST	—
211	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
212	Terminate Execution of XAPP Library Program (STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!)	TELCO	DLP-537
213	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
214	At MTC Channel, Enter Message OP:CSSTATUS!; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs (Except for CSs That Have Completed 5-Day Soak)	TELCO/INST	—
215	Perform Power Verification Tests on Each ECS Unit in ECS Frame	INST	—
216	Restore PCD to Service (RST:PCD 0,DAMAN 0!)	TELCO	DLP-631

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
217	Connect ECS Frame Alarm Cables	INST	—
218	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
219	At MTC Channel, Enter Message **OP:CSSTATUS!**; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs (Except for CSs That Have Completed 5-Day Soak)	TELCO/INST	—
220	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
221	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC** a;**FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC** a **RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LG**a**PGRO!**)	TELCO	DLP-504
222	Execute XAPP Library Program (**EX:LIBSYS:PKG LG**a**PGRO,PGM XAPP,TAK 0,CLIENT 0!**)	TELCO	DLP-505
223	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,**a**)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, Items 222 and 223 must be performed before using XAPP input messages		
224	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	—
225	Verify Member Equipage UNEQ for Each Growth ECS (**VER:UTMN:CS** a**,ME!**)	TELCO/INST	DLP-542
226	Change and Verify Member Equipage Unequipped to Grow for Each Growth ECS	TELCO/INST	DLP-626
227	Change and Verify Hardware Generation for Each Growth ECS (HG = 3)	TELCO/INST	DLP-549
228	Change and Verify Member Type for Each Growth ECS (MT = 1)	TELCO/INST	DLP-550
229	Change and Verify Frame Number and Type for Each Growth ECS	TELCO/INST	DLP-627

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
230	Change and Verify Scan Point Assignment for Each Growth ECS	TELCO/INST	DLP-587
231	Change and Verify Hardware Version for Each Growth ECS	TELCO/INST	DLP-618
232	Verify Word 1 in CS Unit Type Translator for Each Growth ECS (**VER:UTMN:CS** a,**ENTRY**!)	TELCO/INST	DLP-588
233	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LG**a**PGRO,PGM XAPP,TASK 0,CLIENT 0**!)	TELCO	DLP-537
234	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE** — **RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
235	Connect Common Display Data and K-Code Bus Cables From CS-PS Frame 1 to ECS Frame	INST	—
236	Remove MCC/PPI From Service (**RMV:MCC 0**!)	TELCO/INST	DLP-574
237	Remove Power From PPI Frame Using Power Switch	TELCO/INST	DLP-617
238	Connect Private Update (Select) Cables From PPI Frame to ECS Frame	INST	—
239	Connect and Verify Scan and SD Cables From PPI Frame to ECS Frame	INST	—
240	Restore Power to PPI Frame Using Power Switch	TELCO/INST	DLP-553
241	Restore MCC/PPI to Service (**RST:MCC 0**!)	TELCO/INST	DLP-575
242	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
243	At MTC Channel, Enter Message **OP:CSSTATUS**!; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs (Except for CSs That Have Completed 5-Day Soak)	TELCO/INST	—
244	Apply Power to One Growth ECS and Verify Scan Point Change	INST	—
245	At MCC **PROCESSOR DISPLAY** Panel, Verify **MTCE** and CSB Routing Lamps and CS Display Indicates K-Code 14	INST/TELCO	—
246	Perform **OS** and **ACK** SD Point Verification	INST/TELCO	—
247	Verify Alarms and ROS-PWR Scan Points (Power Removed From Growth ECS at Completion of Verification Tests)	INST	—
248	Repeat Items 244 Through 247 for Each Growth ECS	INST/TELCO	—
249	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
250	At MTC Channel, Enter Message **OP:CSSTATUS**!; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs (Except for CSs That Have Completed 5-Day Soak)	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
251	At MCC **PROCESSOR DISPLAY** Panel, Determine if CC 0 Is Standby (CC 0 **ACTIVE** Lamp Off)	TELCO	—
252	If CC 0 Is Active, Switch CCs (**SW:CC**!)	TELCO	DLP-598
	NOTE: Items 253 through 262 must be performed without interruption		
253	Remove CC 0 From Service (**RMV:CC 0**!)	TELCO	DLP-597
254	Remove Power From Standby CC 0 Using Power Switch	TELCO	DLP-617
255	Connect Pulse Source and Clock Cables From Standby CC to ECS Frame	INST	—
256	Restore Power to Standby CC 0 Using Power Switch	TELCO/INST	DLP-553
257	Restore CC 0 to Service (**RST:CC 0**!)	TELCO/INST	DLP-596
258	Soak Standby CC for 30 Minutes	TELCO/INST	—
259	Switch CCs (**SW:CC**!)	TELCO	DLP-598
260	Repeat Items 253 Through 257, Replacing CC 0 With CC 1	TELCO/INST	—
261	Restore CSB 0 to Verify Integrity of Bus (**RST:CSB 0**!)	TELCO/INST	DLP-590
262	Restore CSB 1 to Verify Integrity of Bus (**RST:CSB 1**!)	TELCO/INST	DLP-590
263	Soak Standby CC for 30 Minutes	TELCO/INST	—
264	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
265	At MTC Channel, Enter Message **OP:CSSTATUS**!; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs (Except for CSs That Have Completed 5-Day Soak)	TELCO/INST	—
	NOTE: Items 266 through 269 must be performed without interruption		
266	Remove BTRs to Growth ECS Frame and Connect Bus 0 Cables:		
	1. If CSs 16 Through 19 Are Being Grown in ECS Frame 0 on Bus Branch D and CC 0 Is Active, Switch CCs (**SW:CC**!)	TELCO	DLP-598
	2. If CSs 16 Through 19 Are Being Grown in ECS Frame 1 on Bus Branch C and CC 1 Is Active, Switch CCs (**SW:CC**!)	TELCO	DLP-598
	3. Remove CSB 0 From Service (**RMV:CSB 0**!)	TELCO	DLP-589
	4. Remove Standby CC From Service (**RMV:CC** a!)	TELCO	DLP-597

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
266 (Contd)	5. Remove Power From Standby CC Using Power Switch	TELCO	DLP-617
	6. Remove Write, Address, and Reply Bus BTRs From Standby CC to ECS Frame	INST	—
	7. Connect Write and Address Bus Cables	INST	—
	8. Connect Reply Bus Cables	INST	—
	9. Restore Power to Standby CC Using Power Switch; Expect CATP	TELCO/INST	DLP-553
	10. Restore Standby CC to Service (**RST:CC** a!) Expect CATP Bits:46, 1=1	TELCO/INST	DLP-596
	11. Apply Power to Each Growth ECS (16-19 Only)	INST	—
	12. Diagnose CSB 0 (**DGN:CSB 0**!)	TELCO/INST	—
	13. Remove Power From Each Growth ECS at Power Swich	INST	—
267	Remove BTRs and Connect Bus 0 Cables:		
	1. If CSB Branch C Cables Are To Be Added for ECS Frame 0 and CC 1 Is Active, Switch CCs (**SW:CC**!)	TELCO	DLP-598
	NOTE: CSB Branch C addition also includes connection of the CSB cables in the ECS frame at dummy plate positions for ECS units 20 and 21		
	2. If CSB Branch D Cables Are To Be Added for ECS Frame 1 and CC 0 Is Active, Switch CCs (**SW:CC**!)	TELCO	DLP-598
	NOTE: CSB Branch D addition also includes connection of the CSB cables in the ECS frame at dummy plate positions for ECS units 20 and 21		
	3. Remove Standby CC From Service (**RMV:CC** a!)	TELCO	DLP-597
	4. Remove Power From Standby CC Using Power Switch	TELCO	DLP-617
	5. Remove Write, Address, and Reply Bus BTRs From Standby CC to ECS Frame	INST	—
	6. Connect Write and Address Bus Cables	INST	—
	7. Connect Reply Bus Cables	INST	—
	8. Restore Power to Standby CC Using Power Switch; Expect CATP	TELCO/INST	DLP-553
	9. Restore Standby CC to Service (**RST:CC** a!) Expect CATP Bits:46, 1=1	TELCO/INST	DLP-596

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
267 (Contd)	10. Apply Power to Each Growth ECS (16-19 Only)	INST	—
	11. Diagnose CSB 0 (**DGN:CSB 0**!)	TELCO/INST	—
268	Execute Phase 99 Diagnostic Scoping Test to Verify Extended Bus at BTRs (Bus 0):		
	1. Store CSB 0 Input Messages on TTY (if Not Done)	TELCO	DLP-602
	2. Enter Execute Messages for Looping on CS Write and Reply Buses, and Power Cycle CSB 0 (**EX:CSB 0;START:CS** a! (a = CS in ECS Frame) Then **EX:CSB 0:PH 99,ADR 24-37**!)	TELCO	DLP-634
	3. Set Up Oscilloscope	INST	DLP-604
	4. Scope CS Write Bus Bits 0 to 25 at BTRs (Use DLP-605)	INST	—
	5. Scope CS Reply Bus Bits 0 to 25 at BTRs (Use DLP-632)	INST	—
	6. Enter Stop Loopig Message (**EX:CSB 0**!)	TELCO	—
	7. Enter Execute Message for Looping on CS Address Bus (**EX:CSB 0:PH 99,ADR 11-24**!)	TELCO	DLP-603
	8. Scope CS Address Bus Bits 0 to 20 at BTRs (Use DLP-606)	INST	—
	9. Enter Stop Looping Message (**EX:CSB 0**!)	TELCO	—
	10. Stop Maintenance Control Program Client	TELCO	DLP-580
	11. Restore CSB 0 to Service (**RST:CSB 0**!)	TELCO/INST	DLP-590
	12. If ECS is Being Added to the ECS Frame, Remove Power From Each Growth ECS	INST	—
269	Repeat Item 268 to Scope Opposite CSB Branch	TELCO/INST	—
270	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
271	At MTC Channel, Enter Message **OP:CSSTATUS**!; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs (Except for CSs That Have Completed 5-Day Soak)	TELCO/INST	—
	NOTE: Items 272 through 275 must be performed without interruption		
272	Remove BTRs and Connect Bus 1 Cables:		
	1. If CSs 16 Through 19 Are Being Grown in ECS Frame 0 on Bus Branch D and CC 0 Is Active, Switch CCs (**SW:CC**!)	TELCO	DLP-598
	(Continued on Page 19)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
272 (Contd)	2. If CSs 16 Through 19 Are Being Grown in ECS Frame 1 on Bus Branch C and CC 1 Is Active, Switch CCs (**SW:CC**!)	TELCO	DLP-598
	3. Remove CSB 1 From Service (**RMV:CSB 1**!)	TELCO	DLP-589
	4. Remove Standby CC From Service (**RMV:CC** a!)	TELCO	DLP-597
	5. Remove Power From Standby CC Using Power Switch	TELCO	DLP-617
	6. Remove Write, Address, and Reply Bus BTRs From Standby CC	INST	—
	7. Connect Write and Address Bus Cables	INST	—
	8. Connect Reply Bus Cables	INST	—
	9. Restore Power to Standby CC Using Power Switch; Expect CATP	TELCO/INST	DLP-553
	10. Restore Standby CC to Service (RST:CC a!) Expect CATP Bits;46, 1=1	TELCO/INST	DLP-596
	11. Apply Power to Each Growth ECS (116-19 only)		
	12. Diagnose CSB 1 (DGN:CSB 1!)	TELCO/INST	—
	13. Remove Power From Each Growth ECS at Power Switch	INST	—
273	Remove BTRs and Connect Bus 1 Cables:		
	1. If CSB Branch C Cables Are To Be Added for ECS Frame 0 and CC 1 Is Active, Switch CCs (**SW:CC**!)	TELCO	DLP-598
	NOTE: CSB Branch C addition also includes connection of the CSB cables in the ECS frame at dummy plate positions for ECS units 20 and 21		
	2. If CSB Branch D Cables Are To Be Added for ECS Frame 1 and CC 0 Is Active, Switch CCs (**SW:CC**!)	TELCO	DLP-598
	NOTE: CSB Branch D addition also includes connection of the CSB cables in the ECS frame at dummy plate positions for ECS units 20 and 21		
	3. Remove Standby CC From Service (**RMV:CC** a!)	TELCO	DLP-597
	4. Remove Power From Standby CC Using Power Switch	TELCO	DLP-617
	5. Remove Write, Address, and Reply Bus BTRs From Standby CC	INST	—
	6. Connect Write and Address Bus Cables	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
273 (Contd)	7. Connect Reply Bus Cables	INST	—
	8. Restore Power to Standby CC Using Power Switch; Expect CATP	TELCO/INST	DLP-553
	9. Restore Standby CC to Service (**RST:CC** a!) Expect CATP Bits:46, 1=1	INST	—
	10. Apply Power to Each Growth ECS (16-19 Only)	TELCO/INST	DLP-596
	11. Diagnose CSB 1 (**DGN:CSB 1**!)	TELCO/INST	—
274	Execute Phase 99 Diagnostic Scoping Test to Verify Extended Bus at BTRs (Bus 1):		
	1. Store CSB 1 Input Messages on TTY (if Not Done)	TELCO	DLP-602
	2. Enter Execute Message for Looping on CS Write and Reply Buses (**EX:CSV 1;START:CS** a! (a = CS in ECS Frame) then **EX:CSB 1:PH 99,ADR 56-71**!)	TELCO	DLP-603
	3. Scope CS Write Bus Bits 0 to 25 at BTRs (Use DLP-605)	INST	—
	4. Scope CS Reply Bus Bits 0 to 25 at BTRs (Use DLP-632)	INST	—
	5. Enter Stop Looping Message (**EX:CSB 1**!)	TELCO	—
	6. Enter Execute Message for Looping on CS Address Bus (**EX:CSB 1:PH 99,ADR 43-56**!)	TELCO	DLP-603
	7. Scope CS Address Bus Bits 0 to 20 at BTRs (Use DLP-606)	INST	—
	8. Enter Stop Looping Message (**EX:CSB 1**!)	TELCO	—
	9. Stop Maintenance Control Program Client	TELCO	DLP-580
	10. Restore CSB 1 to Service (**RST:CSB 1**!)	TELCO/INST	DLP-590
	11. If ECS is Being Added to ECS Frame, Remove Power From Each Growth ECS	INST	—
275	Repeat Item 274 to Scope Opposite CSB Branch	TELCO/INST	—
276	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
277	At MTC Channel, Enter Message **OP:CCSTATUS**!; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs (Except for CSs That Have Completed 5-Day Soak)	TELCO/INST	—
278	Determine if Addition Can Continue	TELCO/INST	DLP-620
279	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS**!)	TELCO	DLP-500

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
280	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC** a**;FUNCTION LIB**!)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC** a**:RO**!)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LG**a**PGRO**!)	TELCO	DLP-504
281	Execute XAPP Library Program (**EX:LIBSYS:PKG LG**a**PGRO,PGM XAPP,TASK 0,CLIENT 0**!)	TELCO	DLP-505
282	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0**!)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,**a**)**!)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, Items 281 and 282 must be performed before using XAPP input messages		
283	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	—
284	Apply Power to Growth ECS 16	INST	—
285	Diagnose Growth ECS 16 (**DGN:CS 16**!)	TELCO/INST	DLP-607
286	Diagnose Demand Phases on Growth ECS 16 (**DGN:CS 16:PH (24-29,91)**!)	TELCO/INST	DLP-608
287	Diagnose Growth ECS 16 Using SLOW Option (**DGN:CS 16;SLOW**!)	TELCO/INST	DLP-623
288	Diagnose Demand Phases on Growth ECS 16 Using SLOW Option (**DGN:CS 16;SLOW:PH (24-29,91)**!)	TELCO/INST	DLP-624
289	Switch CCs (**SW:CC**!)	TELCO	DLP-598
290	Repeat Items 285 through 288 With Other CC Active	TELCO/INST	—
291	Change and Verify Member Equipage Grow to Special Growth for Growth ECS 16	TELCO/INST	DLP-628
292	Change and Verify Member Equipage Special Growth to Operational for Growth ECS 16	TELCO/INST	DLP-629
293	Restore ECS 16 to Service to Start Soak Period (**RST:CS 16**!)	TELCO/INST	DLP-600
294	This Is Start of 5-Day Soak Period for Growth ECS 16	TELCO/INST	—
295	At MTC Channel, Enter Message **OP:CSSTATUS**!; Ensure Printout Shows SOAK Count at 5 for Growth ECS 16	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
296	Determine if Addition Can Continue	TELCO/INST	DLP-620
297	If XAPP Library Program Was Terminated (Item 300), Repeat Items 279 Through 285 for Growth ECS, Replacing ECS 16 With ECS 17. Continue at Item 299 Upon Completion	TELCO/INST	—
298	If XAPP Library Program Was Not Terminated (Item 296), Repeat Items 284 Through 295 for Growth ECS, Replacing ECS 16 With ECS 17. Continue at Item 299 Upon Completion	TELCO/INST	—
299	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537
300	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
301	Safe Point to Temporarily Stop This Procedure	TELCO	—
302	At MTC Channel, Enter Message **OP:CSSTATUS!**; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs (Exceept for CSs That Have Completed 5-Day Soak)	TELCO/INST	—
303	Determine if Addition Can Continue	TELCO/INST	DLP-620
304	Determine if Library Package Containing Program XAPP resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
305	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
306	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
307	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, Items 306 and 307 must be performed before using XAPP input messages		

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
308	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	—
309	Apply Power to Growth ECS 18	INST	—
310	Diagnose Growth ECS 18 (**DGN:CS 18**!)	TELCO/INST	DLP-607
311	Diagnose Demand Phases on Growth ECS 18 (**DGN:CS 18:PH (24-29,91)**!)	TELCO/INST	DLP-608
312	Diagnose Growth ECS 18 Using SLOW Option (**DGN:CS 18;SLOW**!)	TELCO/INST	DLP-623
313	Diagnose Demand Phases on Growth ECS 18 Using SLOW Option (**DGN:CS 18;SLOW:PH (24-29,91)**!)	TELCO/INST	DLP-624
314	Switch CCs **(SW:CC!)**	TELCO	—
315	Repeat Items 310 Through 313 With Other CC Active	TELCO/INST	—
316	Change and Verify Member Equipage Grow to Special Growth for Growth ECS 18	TELCO/INST	DLP-628
317	Change and Verify Member Equipage special Growth to Operational for Growth ECS 18	TELCO/INST	DLP-629
318	Restore ECS 18 to Service To start Soak Period **(RST:CS 18!)**	TELCO/INST	DLP-630
319	This Is Start of 5-Day Soak Period for Growth ECS 18	TELCO/INST	—
320	At MTC Channel, Enter Message **OP:CSSTATUS**!; Ensure Printout Shows SOAK Count at 5 for Growth ECS 18	TELCO/INST	—
321	Determine if Addition Can Continue	TELCO/INST	DLP-620
322	If XAPP Library Program Was Terminated (Item 321), Repeat Items 304 Through 320 for Growth ECS, Replacing ECS 18 With ECS 19. Continue at Item 324 Upon Completion	TELCO/INST	—
323	If XAPP Library Program Was Not Terminated (Item 321), Repeat Items 309 Through 320 for Growth ECS, Replacing ECS 18 With ECS 19. Continue at Item 324 Upon Completion	TELCO/INST	—
324	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0**!)	TELCO	DLP-537
325	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
326	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
327	At MTC Channel, Enter Message **OP:CSSTATUS**!; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs (Except for CSs That Have Completed 5-Day Soak)	TELCO/INST	—
	(Continued on Page 24)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
328	Using CSSTATUS Printout, Determine if SOAK Count Is Less Than or Equal to 4. If SOAK Count Is Less Than or Equal to 4, Continue With Procedure; Otherwise, Wait for REX to Run and Repeat From Item 327	TELCO/INST	—
	NOTE: Items 329 through 354 are being performed to convert CC 0 for ECS Operation		
329	At MCC **PROCESSOR DISPLAY** Panel, Determine if CC 0 Is Standby (CC 0 **ACTIVE** Lamp Off)	TELCO	—
330	If CC 0 Is Active, Switch CCs (**SW:CC!**)	TELCO	DLP-598
331	Remove CC 0 From Service (**RMV:CC 0!**)	TELCO	—
332	Diagnose CC 0 (**DGN:CC 0!**)	TELCO	DLP-625
333	Remove Power From CC 0 Using Power Switch	TELCO	DLP-617
334	Install Wiring in CC 0	INST	—
335	Restore Power to CC 0 Using Power Switch; Expect CATP	TELCO/INST	DLP-553
336	Diagnose CC 0 Using Restore Message (**RST:CC 0!**)	TELCO/INST	DLP-596
337	Switch CCs (**SW:CC!**)	TELCO/INST	DLP-598
338	Diagnose CC 1 Using Restore Message (**RST:CC 1!**)	TELCO/INST	DLP-596
339	Switch CCs (**SW:CC!**)	TELCO	DLP-598
340	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
341	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
342	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
343	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
343 (Contd)	B. If Inputting Message From Channel Other Than MTC (ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, Items 342 and 343 must be performed before using XAPP input messages		
344	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE** – **RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	–
345	Remove CC 0 From Service (RMV:CC 0!)	TELCO	DLP-597
346	Remove Power From CC 0 Using Power Switch		
347	At CC 0, Remove **FA109** Circuit Pack and Install **FA1818** Circuit Pack in its Place	INST	–
348	Change and Verify Hardware Version for CC 0	TELCO/INST	DLP-618
349	Terminate Execution of XAPP Library Program (STOP:LIBSYS:PKG LGaPGRO,PGM SAPP,TASK 0,CLIENT 0!)	TELCO	DLP-537
350	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE – RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	–
351	Restore Power to CC 0 Using Power Switch	TELCO/INST	DLP-553
352	Run CC Diagnostic Phase 91 to Test PC Function (Three Combinations)	TELCO/INST	DLP-621
353	Restore CC 0 to Service (RST:CC 0!)	TELCO/INST	DLP-596
354	Soak CC 0 for 5 Days. Do Not Continue Until 5-Day Soak Has Completed	TELCO/INST	–
	NOTE: Items 355 through 380 are being performed to convert CC 1 for ECS Operation		
355	At MCC **PROCESSOR DISPLAY** Panel, Determine if CC 1 Is Standby (CC **ACTIVE** Lamp Off)	TELCO	–
356	If CC 1 Is Active, Switch CCs (SW:CC!)	TELCO	DLP-598
357	Diagnose CC 1 (DGN:CC 1!)	TELCO	DLP-625
358	Remove CC 1 From Service (RMV:CC 1!)	TELCO	–
359	Remove Power From CC 1 Using Power Switch	TELCO	DLP-617
360	Install Wiring in CC 1	INST	–
361	Restore Power to CC 1 Using Power Switch; Expect CATP	TELCO/INST	DLP-553
362	Diagnose CC 1 Using Restore Message (RST:CC 1!)	TELCO/INST	DLP-596

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
363	Switch CCs (**SW:CC!**)	TELCO	DLP-598
364	Diagnose CC 0 Using Restore Message (**RST:CC 0!**)	TELCO/INST	DLP-596
365	Switch CCs (**SW:CC!**)	TELCO	DLP-598
366	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
367	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS.FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
368	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
369	Allow Library Message Channel:		
	A. If Inputtig Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, Items 368 and 369 must be performed before using XAPP input message		
370	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	—
371	Remove CC 1 From Service (**RMV:CC 1!**)	TELCO	DLP-597
372	Remove Power From CC 1 Using Power Switch	TELCO	DLP-617
373	At CC 1, Remove **FA109** Circuit Pack and Install **FA1818** Circuit Pack in Its Place	INST	—
374	Change and Verify Hardware Version for CC 1	TELCO/INST	DLP-618
375	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537
376	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
377	Restore Power to CC 1 Using Power Switch	TELCO/INST	DLP-553
378	Run CC Diagnostic Phase 91 to Test PC Function (Three Combinations)	TELCO/INST	DLP-621
379	Restore CC 1 to Service (RST:CC 1!)	TELCO/INST	DLP-596
380	Soak CC 1 for 5 Days	TELCO/INST	—

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

		RESPONSIBILITY	
	CAUTION: This procedure must only be used for growing extended call stores (ECSs) in CS-PS frame		
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing 3. 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		
1	Perform Preliminary Installation Activities	INST	—
2	At MTC Channel, Enter Message **OP:CSSTATUS!**; Ensure Printout Does Not Show SOAK Count as 0 for Any Converted or Added CSs (Except for CSs That Have Completed 5-Day Soak)	TELCO/INST	—
3	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
4	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504
5	Execute XAPP Library Program (**EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
6	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
	(Continued on Page 2)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, Items 5 and 6 must be performed before using XAPP input messages		
7	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE** – **RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	–
8	Verify Member Equipage UNEQ for Growth ECS (**VER:UTMN:CS** a,**ME**!)	TELCO/INST	DLP-542
9	Change and Verify Hardware Generation for Growth ECS (HG = 3)	TELCO/INST	DLP-549
10	Change and Verify Member Type for Growth ECS (MT = 1)	TELCO/INST	DLP-550
11	Change and Verify Frame Number and Type for Growth ECS	TELCO/INST	DLP-627
12	Change and Verify Scan Point Assignment for Growth ECS	TELCO/INST	DLP-587
13	Verify Word 1 in Store Unit Type Translator for Growth ECS (**VER:UTMN:**a b,**ENTRY**!)	TELCO/INST	DLP-588
14	Remove CSB From Service (**RMV:CSB 0** !)	TELCO	DLP-589
15	Disconnect CSB 0 Cables From Dummy Plate	INST	–
16	Restore CSB to Service (**RST:CSB 0** !)	TELCO/INST	DLP-590
17	Remove CSB From Service (**RMV:CSB 1**!)	TELCO	DLP-589
18	Disconnect CSB 1 Cables From Dummy Plate	INST	–
19	Restore CSB to Service (**RST:CSB 1**!)	TELCO/INST	DLP-590
20	Disconnect Miscellaneous Cables (Pulse Source, Clock Leads, etc.) From Dummy Plate	INST	–
21	Remove Dummy Plate	INST	–
22	Install Growth Store	INST	–
23	Perform Power Verification Test	INST/TELCO	–
24	Connect Miscellaneous Cables (Pulse Source, Clock Leads, etc.) to Growth Store, Power Up Growth Store, Verify K-Code Display at MCC and Perform OS and ACK SD Verification	INST/TELCO	–
25	Change and Verify Growth ECS Member Equipage Unequipped to Grow	TELCO/INST	DLP-626
26	Change and Verify Hardware Version for Growth ECS	TELCO/INST	DLP-618
	(Continued on Page 3)		

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
27	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0 ,CLIENT 0**)	TELCO	DLP-537
28	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
29	Verify Alarms (Power Will Be Removed From Growth Store)	INST	—
30	Safe Point to Temporarily Stop This Procedure	TELCO/INST	—
31	At MTC Channel, Enter Message **OP:CSSTATUS!**; Ensure Printout Indicates Expected SOAK Count for Any Converted or Added CSs (Except for CSs That Have Completed 5-Day Soak)	TELCO/INST	—
32	Remove CSB From Service (**RMV:CSB 1!**)	TELCO	DLP-589
33	Connect CSB 1 Cables to Growth Store	INST/TELCO	—
34	Restore CSB to Service (**RST:CSB 1!**)	TELCO/INST	DLP-590
35	Remove CSB From Service (**RMV:CSB 0!**)	TELCO	DLP-589
36	Connect CSB 0 Cables to Growth Store	INST/TELCO	—
37	Restore CSB to Service (**RST:CSB 0!**)	TELCO/INST	DLP-590
38	Diagnose Growth ECS (**DGN:CS a!**)	TELCO/INST	DLP-607
39	Diagnose Demand Phases on Growth ECS (**DGN:CS a:PH (24-29,91)!**)	TELCO/INST	DLP-608
40	Diagnose Growth ECS Using SLOW Option (**DGN:CS a;SLOW!**)	TELCO/INST	DLP-623
41	Diagnose Demand Phases on Growth ECS Using SLOW Option (**DGN:CS a;SLOW:PH (24-29,91)!**)	TELCO/INST	DLP-624
42	Determine if Library Package Containing Program XAPP Resides in File System (**OP:LIBSTAT,FS!**)	TELCO	DLP-500
43	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!**)	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!**)	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System (**LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!**)	TELCO	DLP-504

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
44	Execute XAPP Library Program (**EX:LIBSYS,FS;TAPE:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-505
45	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (**ALW:LIBMSG:CLIENT 0!**)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (**ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!**)	TELCO	DLP-506
46	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	—
47	Change and Verify Growth ECS Member Equipage Grow to Special Growth	TELCO/INST	DLP-628
48	Change and Verify Member Equipage Special Growth to Operational for Growth ECS	TELCO/INST	DLP-629
49	Terminate Execution of XAPP Library Program (**STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!**)	TELCO	DLP-537
50	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE — RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
51	Restore Growth ECS to Service To Start Soak Period (**RST:CS a!**)	TELCO/INST	DLP-600
52	This Is Start of 5-Day Soak Period for Growth ECS	TELCO/INST	—
53	At MTC Channel, Enter Message **OP:CSSTATUS!**; Ensure Printout Shows SOAK Count at 5 for Growth ECS	TELCO/INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
		RESPONSIBILITY	
	WARNING: An Antistatic strap must be worn to prevent electrostatic discharge and possible damage to circuit packs		
	NOTES: 1. Overwrites occur while using XAPP. These overwrites must be logged in at the end of each growth shift per local practices 2. A listing of XAPP error codes and an explanation of each is listed in DLP-599. These error codes may be received during XAPP I/O message processing 3. This procedure contains soak intervals 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 4. Ensure current generic and ODA tapes are available		
1	Perform Preliminary Installation Activities	INST	—
2	Ensure All Units Are in Service **(OP:OOSUNITS!)**	TELCO	DLP-635
3	At MTC Channel, Enter Message **OP:CSSTATUS!** Ensure Printout Does Not Indicate a Soak Count for Any ECS Unit(s) Except for Those Which Have Been Previously Grown Using This Procedure and Have Not Completed the 3-Day Soak Period. Verify that Growth Unit Member Number Does Not Exist	TELCO/INST	—
4	INHIBIT REX		
	1. At MTC Channel, Enter **(INH:MACLI,CLASS MTCE:REX!)**	TELCO	—
	2. At MTC Channel, Enter **(INH:DMQ;SRC ALL!)**	TELCO	—
5	Execute Phase 99 Diagnostic Scoping Test to Verify Extended Bus at BTRs (Bus 0):		
	1. Store CSB 0 Input Messages on TTY (If Not Done)	TELCO	DLP-602
	2. Enter Execute Messages for Looping on CS Write and Reply Buses, and Power Cycle CSB 0 **(EX:CSB 0;START:CS a!** (a = CS in ECS Frame) Then **EX:CSB 0:PH 99,ADR 24-37!)**	TELCO	DLP-634
	3. Set Up Oscilliscope	INST	DLP-604
	4. Scope CS Write Bus Bits 0 to 25 at BTRs (Use DLP-605)	INST	—
	5. Scope CS Reply Bus Bits 0 to 25 at BTRs (Use DLP-632)	INST	—

DO THE ITEMS BELOW IN THE ORDER LISTED			FOR DETAILS, GO TO
5 (Contd)	6. Enter Stop Looping Message **(EX:CSB 0!)**		—
	7. Enter Execute Message for Looping on CS Address Bus **(EX:CSB 0:PH 99,ADR 11-24!)**	TELCO	DLP-603
	8. Scope CS Address Bus Bits 0 to 20 at BTRs (Use DLP-606)	INST	—
	9. Enter Stop Looping Message **(EX:CSB 0!)**	TELCO	—
	10. Stop Maintenance Control Program Client	TELCO	DLP-580
	11. Restore CSB 0 to Service **(RST:CSB 0!)**	TELCO/INST	DLP-590
6	Execute Phase 99 Diagnostic Scoping Test to Verify Extended Bus at BTRs (Bus 1):		
	1. Store CSB Input Messages on TTY (if Not Done)	TELCO	DLP-602
	2. Enter Execute Messages for Looping on CS Write and Reply Buses, and Power Cycle CSB 1 **(EX:CSB 1;START:CS** a**!** (a = CS In ECS Frame) Then **EX:CSB 1:PH 99, ADR 56-71!)**	TELCO	DLP-634
	3. Set Up Oscilloscope	INST	DLP-604
	4. Scope CS Write Bus Bits 0 to 25 at BTRs (Use DLP-605)	INST	—
	5. Scope CS Reply Bus Bits 0 to 25 at BTRs (Use DLP-632)	INST	—
	6. Enter Stop Looping Message **(EX:CSB 1!)**	TELCO	—
	7. Enter Execute Message for Looping on CS Address Bus **(EX:CSB 1:PH 99,ADR 43-56!)**	TELCO	DLP-603
	8. Scope CS Address Bus Bits 0 to 20 at BTRs (Use DLP-606)	INST	—
	9. Enter Stop Looping Message **(EX:CSB 1!)**	TELCO	—
	10. Stop Maintenance Control Program Client	TELCO	DLP-580
	11. Restore CSB 1 to Service **(RST:CSB 1!)**	TELCO/INST	DLP-590
7	Determine if Library Package Containing Program XAPP Resides in File System **(OP:LIBSTAT FS!)**	TELCO	DLP-500
8	If Library Package Containing Program XAPP Resides in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function **(SET:TUC a;FUNCTION LIB!)**	TELCO	DLP-502
	3. Allow TUC Read Only Access **(ALW:TUC a:RO!)**	TELCO	DLP-503

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
8 (Contd)	4. Load Library Package containing Program XAPP in File System (Load:LIBSYS,FS;TAPE:PKG LGaPRO!)	TELCO	DLP-504
9	Execute XAPP Library Program (EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!)		
10	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel (ALW:LIBMSG:CLIENT 0!)	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC (ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!)	TELCO	DLP-506
	NOTE: XAPP Library Program times out after 2 hours of inactivity. If XAPP does time out, Items 9 and 10 must be performed before using XAPP input messages		
11	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE** – **RESTRICT RECENT CHANGES** Key (Lamp **On**)	TELCO	–
12	Verify Member Equipage UNEQ for Growth ECS Unit (VER:UTMN:CS a,ME!)	TELCO/INST	DLP-542
13	Change and Verify Hardware Generation for Growth ECS Unit **(HG = 3)**	TELCO/INST	DLP-549
14	Change and Verify Member Type for Growth ECS Unit **(MT =1)**	TELCO/INST	DLP-550
15	Change and Verify Frame Number and Type for Growth ECS Unit	TELCO/INST	DLP-627
16	Change and Verify Scan Point Assignment for Growth ECS Unit	TELCO/INST	DLP-587
17	Verify Word 1 in Store Unit Type Translator for Growth ECS Unit (VER:UTMN:a b,ENTRY !)	TELCO/INST	DLP-588
18	Remove CSB From Service (RMV:CSB 0!)	TELCO	DLP-589
19	Disconnect CSB 0 Cables From Dummy Plate	INST	–
20	Restore CSB to Service (RST:CSB 0!)	TELCO/INST	DLP-590
21	Remove CSB From Service (RMV:CSB 1!)	TELCO	DLP-589
22	Disconnect CSB 1 Cables From Dummy Plate	INST	–
23	Restore CSB to Service (RST:CSB 1!)	TELCO/INST	DLP-590
24	Disconnect Miscellaneous Cables (Pulse Source, Clock Leads, etc.) From Dummy Plate	INST	–
25	Remove Dummy Plate at the Growth ECS Unit	INST	–
26	Install Growth ECS Unit	INST	–
27	Perform Power Verification Test	INST/TELCO	–

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
28	Connect Miscellaneous Cables (Pulse Source, Clock Leads, etc.) to Growth Store, Power Up Growth Store, Verify K-Code Display at MCC and Perform OS and ACK SD Verification	INST/TELCO	—
	1. Connect Miscellaneous Cables at Growth ECS Unit	INST	—
	2. At the Power Control Switch for the Growth ECS Unit, and with **OFF** Button in **ROS** position Press **ON** Button	INST	—
	3. Verify Proper Growth ECS Unit K-Code Display. K-Code 14 Should be Displayed for Growth ECS Unit	INST/TELCO	—
	4. Perform OS and ACK SD Points Verification	INST/TELCO	—
29	Change and Verify Growth ECS Unit Member Equipage Unequipped to Grow	TELCO/INST	DLP-626
30	Change and Verify Hardware Version for Growth ECS Unit	TELCO/INST	DLP-618
31	Terminate Execution of XAPP Library Program (STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!)	TELCO	DLP-537
32	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE - RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
33	Verify Alarms (Power Will Be Removed From Growth ECS Unit)	INST	—
	1. At ECS Power Control Switch, Rotate **OFF** Button to **NORMAL** Position	INST	—
	2. Lift Designation Strip at the 136L Power Unit and Then Operate the Interlock Lever	INST	—
	3. Rotate **OFF** Button to the **ROS** Position and Depress Button	INST	—
	4. Restore Interlock Lever on 136L Power Unit to **NORMAL** Position and Lower Designation Strip	INST	—
34	Safe Point to Temporarily Stop This Procedure. If Stopping, Perform Items 35.1 Through 35.2, Otherwise, Go to Item 38	TELCO/INST	—
35	ALLOW REX		
	1. ALW:MACLI,CLASS MTCE!	TELCO	—
	2. ALW:DMQ;SRC ALL!	TELCO	—
36	Stop Procedure for Now. Resume at Item 37 When Continuing	TELCO/INST	—
	(Continued on Page 5)		

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
37	INHIBIT REX		
	1. At MTC Channel, Enter **(INH:MACLI,CLASS MTCE!)**	TELCO	—
	2 .At MTC Channel, Enter **(INH:DMQ; SRC ALL!)**	TELCO	—
38	At MTC Channel, Enter Message **OP:CSSTATUS!** Ensure Printout Does Not Indicate Soak Count for Any ECS Unit(s) Except for Those Which Have Been Previously Grown Using This Procedure and Haven't Completed 3-Day Soak. Printout Should Show OOS Growth for Growth Unit Being Grown		
39	Remove CSB From Service **(RMV:CSB 1!)**	TELCO	DLP-589
40	Connect CSB 1 Cables to Growth ECS Unit	INST/TELCO	—
	1. Connect CSB 1 Address Bus Connectors to Growth ECS Unit	INST	—
	2. Run CSB 1 Diagnostics Using Raw for Bus 1 (ATP Required)	INST/TELCO	—
	3. Repeat Steps 40.1 and 40.2 for Write Bus Connectors and Then Repeat for Reply Bus Connectors	INST/TELCO	—
	4. Apply Power to Growth ECS Unit With **OFF** Button in the **ROS** Position. Rotate the **OFF** Button to the **NORMAL** Position	INST	—
41	Execute Phase 99 Diagnostic Scoping Test to Verify Extended Bus at BTRs (Bus 1):		
	1. Store CSB 1 Input Messages on TTY (If Not Done)	TELCO	DLP-602
	2. Enter Execute Messages for Looping on CS Write and Reply Buses, and Power Cycle CSB 1 **(EX:CSB 1;START:CS a!** (a = CS in ECS Frame) Then **EX:CSB 1:PH 99,ADR 56-71!)**	TELCO	DLP-634
	3. Set Up Oscilliscope	INST	DLP-604
	4. Scope CS Write Bus Bits 0 to 25 at BTRs (Use DLP-605)	INST	—
	5. Scope CS Reply Bus Bits 0 to 25 at BTRs (Use DLP-632)	INST	—
	6. Enter Stop Looping Message **(EX:CSB 1!)**	TELCO	—
	7. Enter Execute Message for Looping on CS Address Bus **(EX:CSB 0:PH 99,ADR 43-56!)**	TELCO	DLP-603
	8. Scope CS Address Bus Bits 0 to 20 at BTRs (Use DLP-606)	INST	—
	9. Enter Stop Looping Message **(EX:CSB 1!)**	TELCO	—
	10. Stop Maintenance Control Program Client	TELCO	DLP-580
	11. Restore CSB 1 to Service **(RST:CSB 1!)**	INST/TELCO	DLP-590

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
42	Remove CSB 0 From Service (**RMV:CSB 0!**)	TELCO	DLP-589
43	Connect CSB 0 Cables to Growth ECS Unit	INST/TELCO	—
	1. Remove Power From Growth ECS Unit		
	2. Connect CSB 0 Address Bus Connectors to Growth ECS Unit	INST	—
	3. Run CSB 0 Diagnostics Using Raw for Bus 0 (ATP Required)	INST/TELCO	—
	4. Repeat Steps 43.2 and 43.3 for Write Bus Connectors and Then Repeat for Reply Bus Connectors	INST/TELCO	—
	5. Apply Power to Growth ECS Unit With **OFF** Button in the **ROS** Position	INST	—
44	Execute Phase 99 Diagnostic Scoping Test to Verify Extended Bus at BTRs (Bus 0):		
	1. Store CSB 0 Input Messages on TTY (If Not Done)	TELCO	DLP-602
	2. Enter Execute Messages for Looping on CS Write and Reply Buses, and Power Cycle CSB 0 **(EX:CSB 0;START:CS a!** (a = CS in ECS Frame) Then **EX:CSB 0:PH 99,ADR 24-37!)**	TELCO	DLP-634
	3. Set Up Oscilliscope	INST	DLP-604
	4. Scope CS Write Bus Bits 0 to 25 at BTRs (Use DLP-605)	INST	—
	5. Scope CS Reply Bus Bits 0 to 25 at BTRs (Use DLP-632)	INST	—
	6. Enter Stop Loop!	TELCO	—
	7. Enter Execute Message for Looping on CS Address Bus **(EX:CSB 0:PH 99,ADR 11-24!)**	TELCO	DLP-603
	8. Scope CS Address Bus Bits 0 to 20 at BTRs (Use DLP-606)	INST	—
	9. Enter Stop Looping Message **(EX:CSB 0!)**	TELCO	—
	10. Stop Maintenance Control Program Client	TELCO	DLP-580
	11. Restore CSB 0 to Service **(RST:CSB 0!)**	TELCO/INST	DLP-590
45	Safe Point To Temporarily Stop This Procedure. If Stopping, Perform Items 46.1 Through 46.2, Otherwise, Go to Item 49	TELCO/INST	—
46	ALLOW REX		
	1. **ALW:MACI,CLASS MTCE!**	TELCO	—
	2. **ALW:DMQ;SRC ALL!**	TELCO	—

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
47	Stop Procedure for Now, Resume at Item 48 When Continuing	TELCO/INST	—
48	INHIBIT REX		
	1. At MTC Channel, Enter **(INH:MACI1,CLASS MTCE; REX!)**	TELCO	—
	2. At MTC Channel, Enter **(INH:DMQ;SRC ALL!)**	TELCO	—
49	Determine if Library Package Containing Program XAPP Resides in File System **(OP:LIBSTAT,FS!)**		
	If Library Package Containing Program XAPP Does Not Reside in File System:		
	1. Mount Tape Containing Program XAPP on Tape Transport	TELCO	DLP-501
	2. Set TUC to Library Function (**SET:TUC a;FUNCTION LIB!)**	TELCO	DLP-502
	3. Allow TUC Read Only Access (**ALW:TUC a:RO!)**	TELCO	DLP-503
	4. Load Library Package Containing Program XAPP in File System **(LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!)**	TELCO	DLP-504
50	Execute XAPP Library Program (**EX:LIBSYS,FS;TAPE:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!)**	TELCO	DLP-505
51	Allow Library Message Channel:		
	A. If Inputting Message From MTC Channel **(ALW:LIBMSG:CLIENT 0!)**	TELCO	DLP-506
	B. If Inputting Message From Channel Other Than MTC **(ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!)**	TELCO	DLP-506
	NOTE: XAPP LIBRARY Program times out after 2 hours of inactivity. If XAPP does time out, Items 49 and 50 must be performed before using XAPP input messages		
52	At HCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE - RESTRICT RECENT CHANGES** Key (Lamp On)	TELCO	—
53	At MTC Channel, Enter Message **OP:CSSTATUS!;** Ensure Printout Does Not Indicate a Soak Count for Any ECS Unit(s) Except for Those Which Have Been Previously Grown Using This Procedure and Have Not Completed the 3-Day Soak. Printout Should Show OOS Growth for Growth Unit Being Grown	TELCO/INST	—
54	Diagnose Growth ECS Unit **(DGN:CS a!)**	TELCO/INST	DLP-607
55	Diagnose Demand Phases on Growth ECS Unit **(DGN:CS a:PH (24-29,91)!)**	TELCO/INST	DLP-608

DO THE ITEMS BELOW IN THE ORDER LISTED . . . . . FOR DETAILS, GO TO			
56	Diagnose Growth ECS Unit Using SLOW Option **(DGN:CS a;SLOW!)**	TELCO/INST	DLP-623
57	Diagnose Demand Phases on Growth ECS Unit Using SLOW Option **(DGN:CS a;SLOW PH (24-29,91)!)**	TELCO/INST	DLP-624
58	Change and Verify Growth ECS Unit Member Equipage Grow to Special Growth	TELCO/INST	DLP-628
59	Change and Verify Member Equipage Special Growth to Operational for Growth ECS Unit	TELCO/INST	DLP-629
60	Terminate Execution of XAPP Library Program **(STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!)**	TELCO	DLP-537
61	At MCC **SYSTEM STATUS** Panel, Depress **RECENT CHANGE - RESTRICT RECENT CHANGES** Key (Lamp Off)	TELCO	—
62	Restore Growth ECS Unit to Service **(RST:CSa!)**	TELCO/INST	DLP-600
63	Set Soak Interval for 3 Days Using the Following: **(SET:SOAK:CS a, DAYS 3!)**	TELCO	—
64	AT MTC Channel, Enter Message **(OP:CSSTATUS!;)** Ensure Printout Does Not Indicate a Soak Count For Any ECS Unit(s) Except for Those Which Have Been Previously Grown Using This Procedure and Have Not Completed the 3-Day Soak	TELCO/INST	—
65	ALLOW REX		
	1. **ALW:MAC1, CLASS MTCD!**	TELCO	
	2. **ALW:DMQ; SRC ALL!**	TELCO	
66	If Applicable, Repeat Steps 1 Through 66 for Each Additional ECS Unit That is To Be Grown	TELCO/INST	—

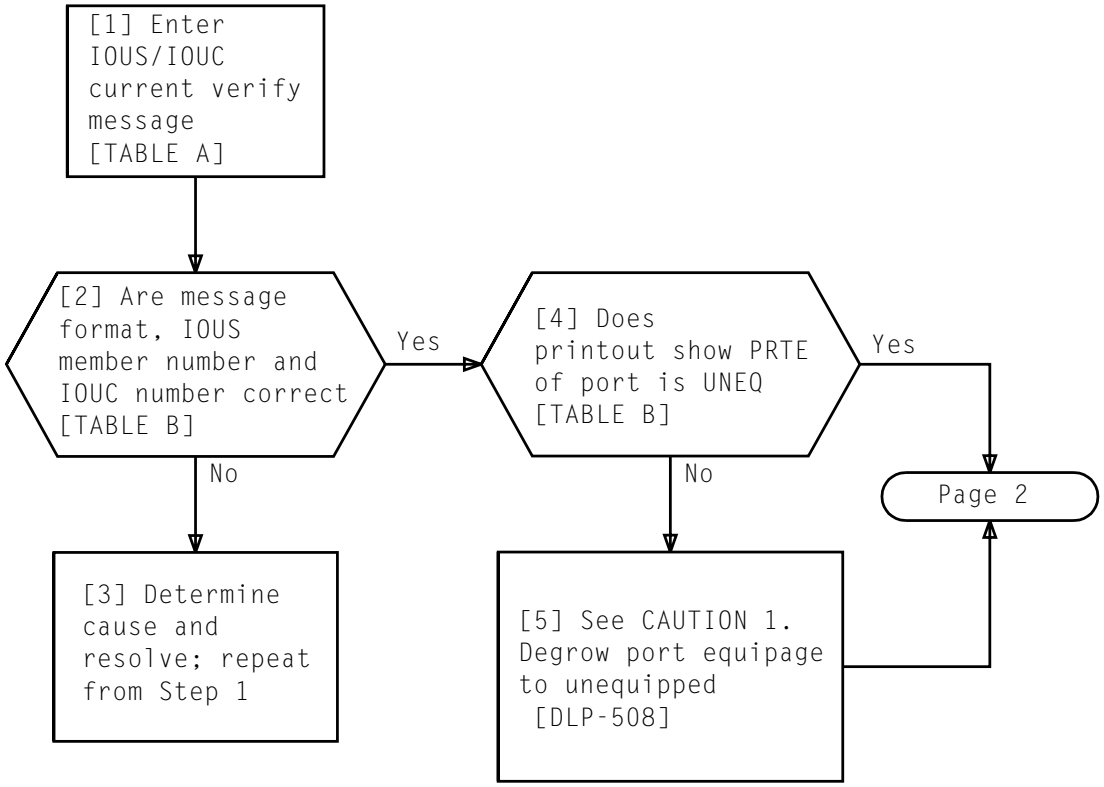


TABLE B

VER:UTMN,IOUS a,IOUC b COMPLETED

TRANSLATOR ADR=
TRANSLATOR SIZE=43

CURRENT DATA:
CE = UNEQ

•
•
•
•
•

PORT 0 ,PRTE=UNEQ

•
•

PORT 1,PRTE=UNEQ

•
•

PORT 2,PRTE=UNEQ

•
•

a = Member number

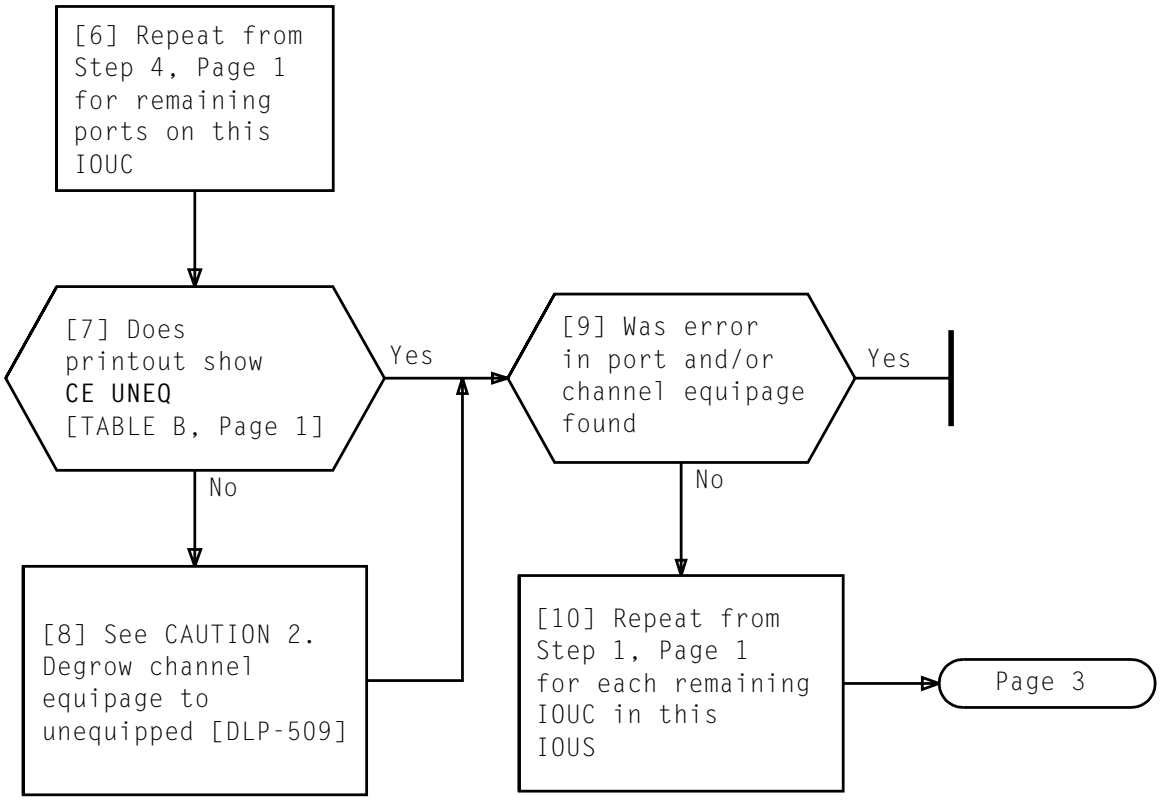
b = Submember number

TABLE A

VER:UTMN:IOUS a,IOUC b!
a = Member number of IOUS in growth frame
b = Submember number of IOUC in IOUS

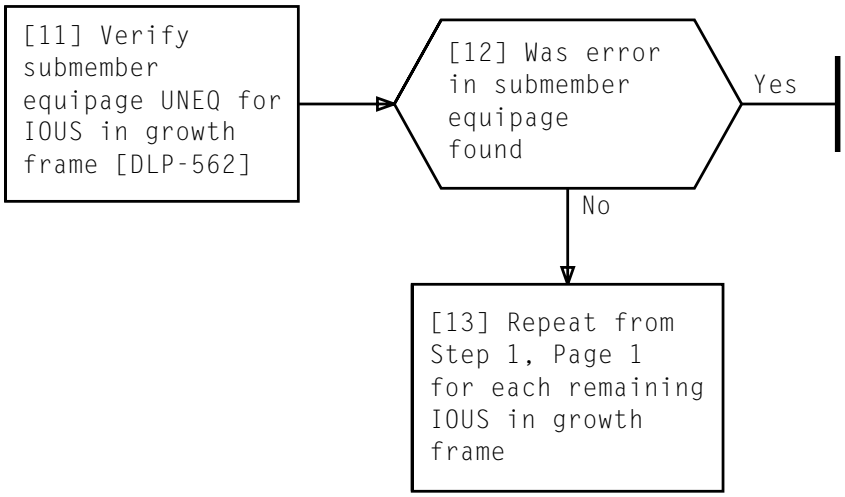
CAUTION 1
Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data changes

CLEAR ERROR IN PORT AND/OR CHANNEL OR SUBMEMBER EQUIPAGE



CAUTION 2
Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data changes

CLEAR ERROR IN PORT AND/OR CHANNEL OR SUBMEMBER EQUIPAGE



CLEAR ERROR IN PORT AND/OR CHANNEL OR SUBMEMBER EQUIPAGE

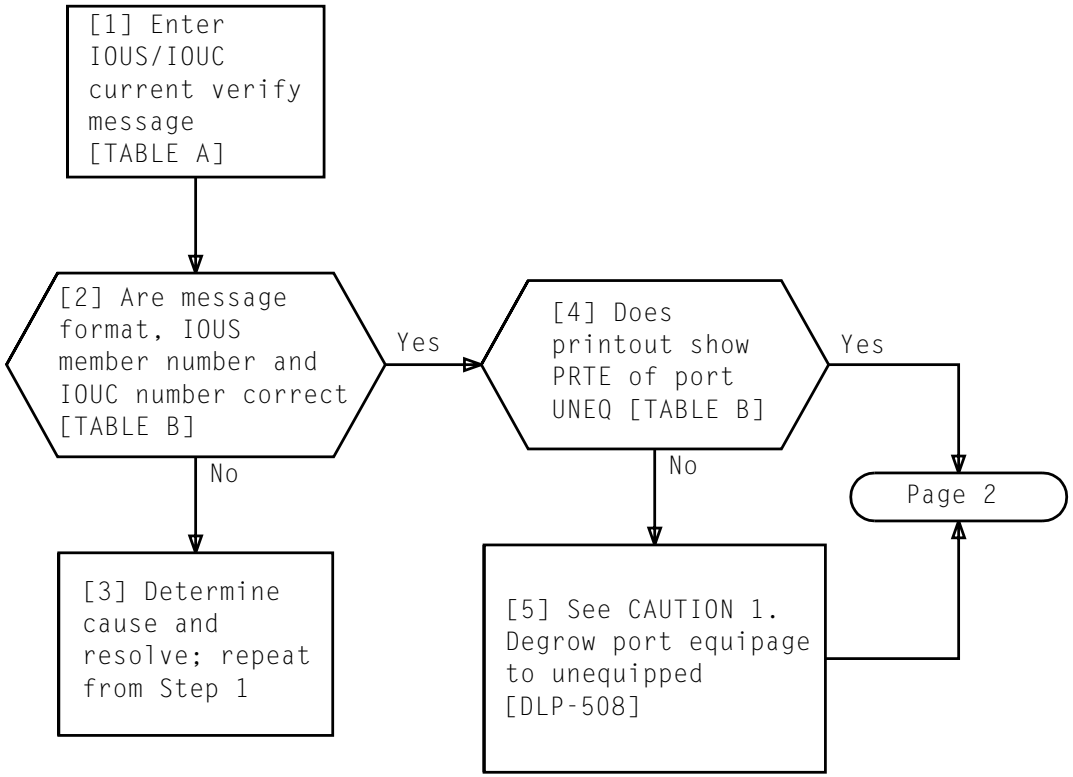


TABLE B

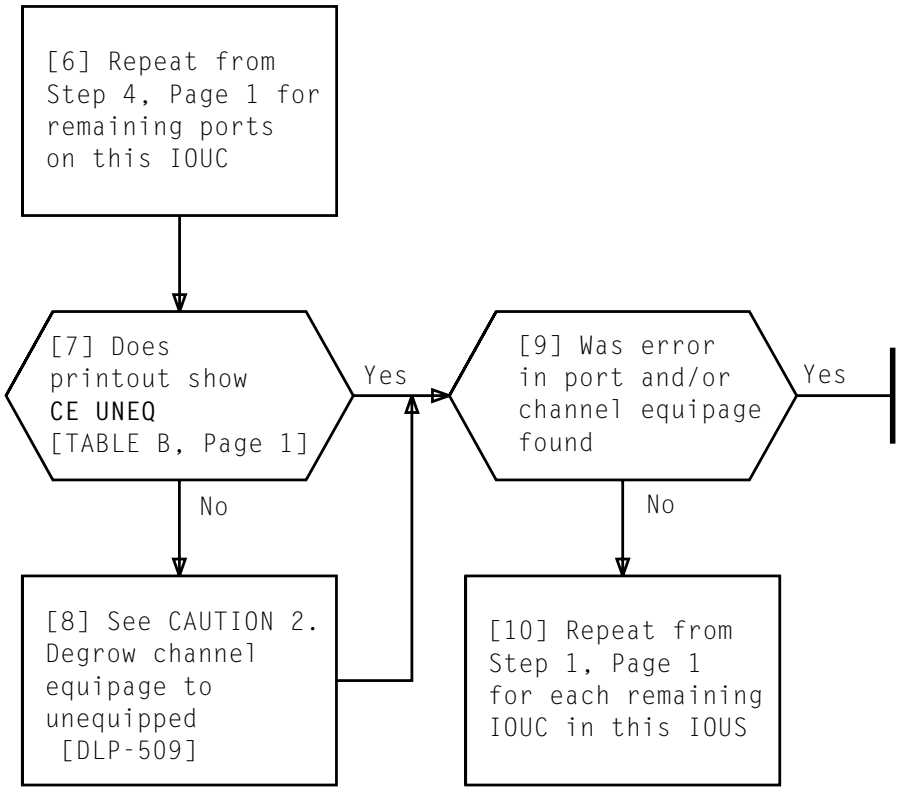
VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: CE=UNEQ • • • • • PORT 0 ,PRTE=UNEQ • • PORT 1,PRTE=UNEQ • • PORT 2,PRTE=UNEQ • •	a = Member number b = Submember number

TABLE A

VER:UTMN:IOUS a,IOUC b!
a = Member number of IOUS in growth frame
b = Submember number of IOUC in IOUS

CAUTION 1
Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data changes

CLEAR ERROR IN PORT AND/OR CHANNEL EQUIPAGE



CAUTION 2

Depending on local procedures supervisory or TELCO engineering approval must be obtained prior to performing any data changes

CLEAR ERROR IN PORT AND/OR CHANNEL EQUIPAGE

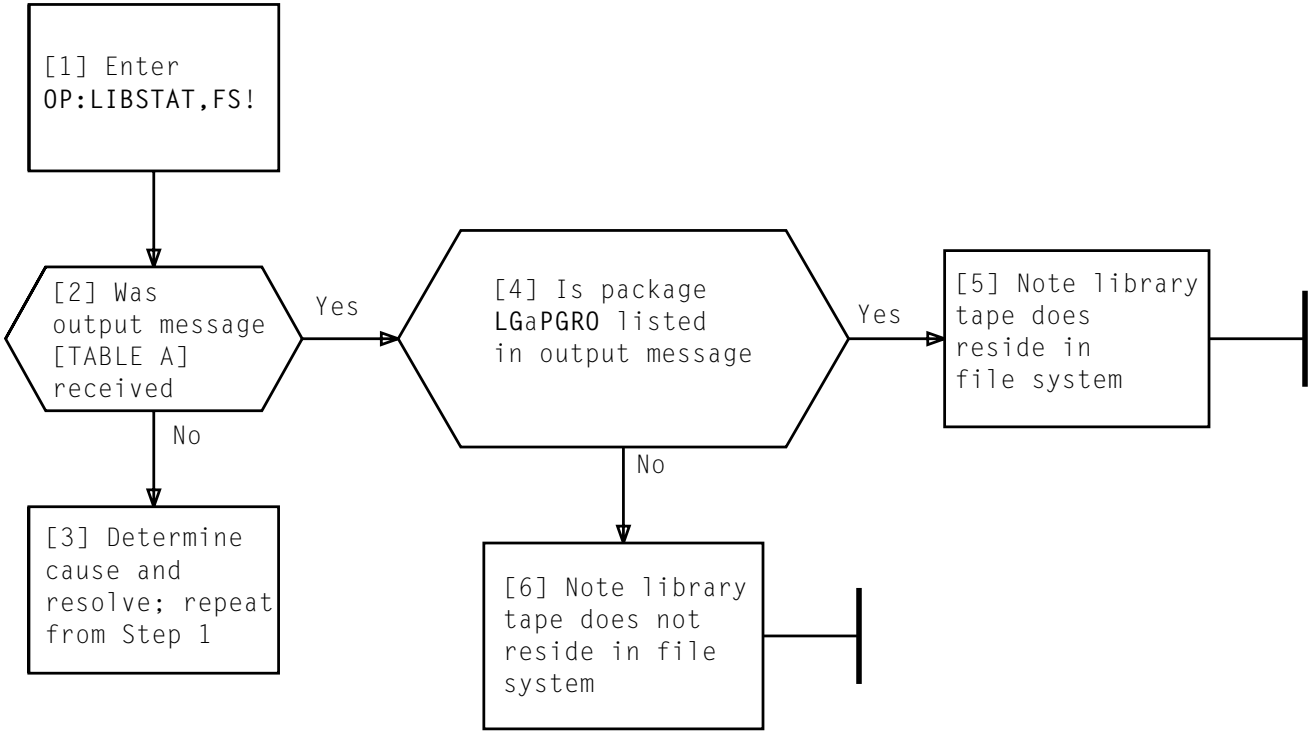
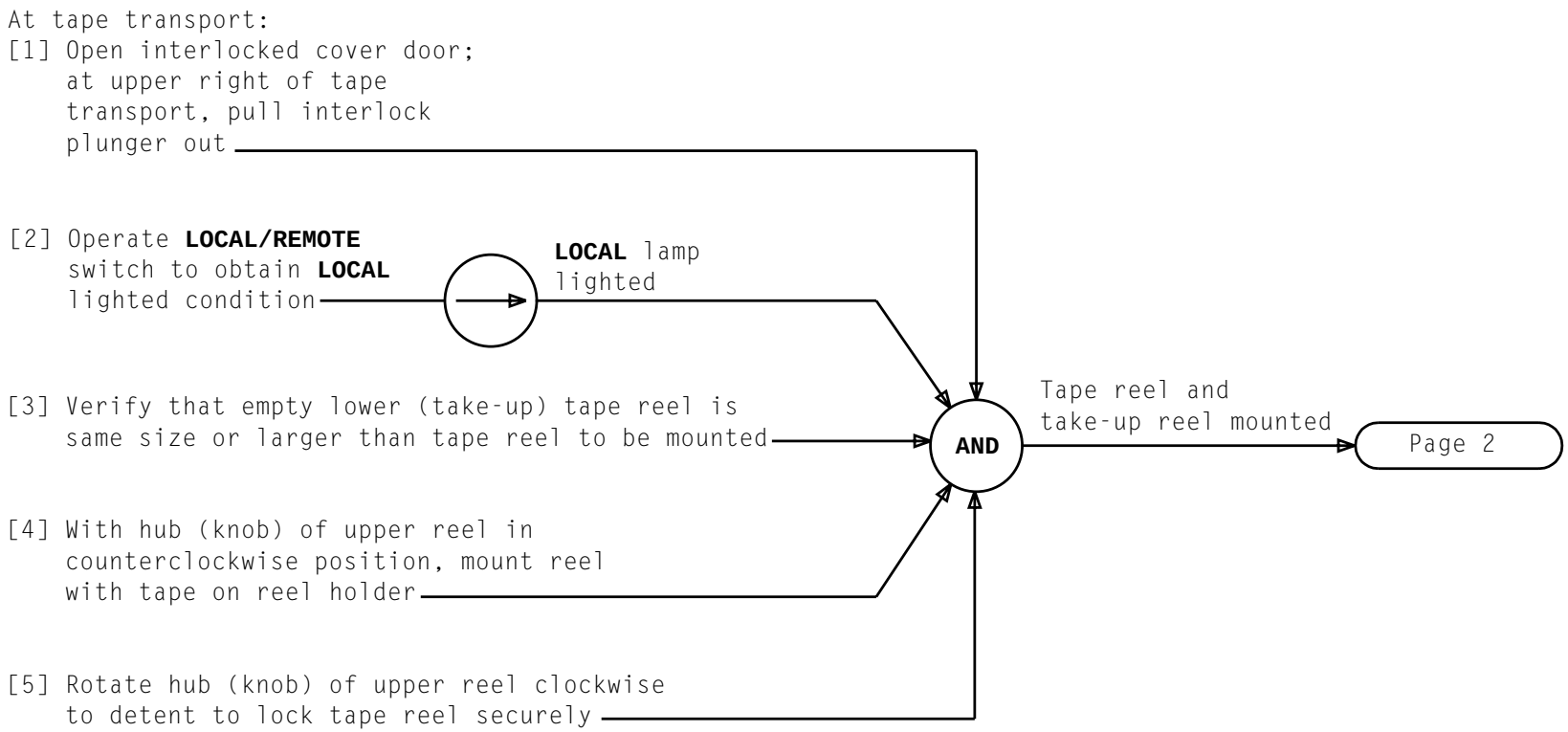


TABLE A

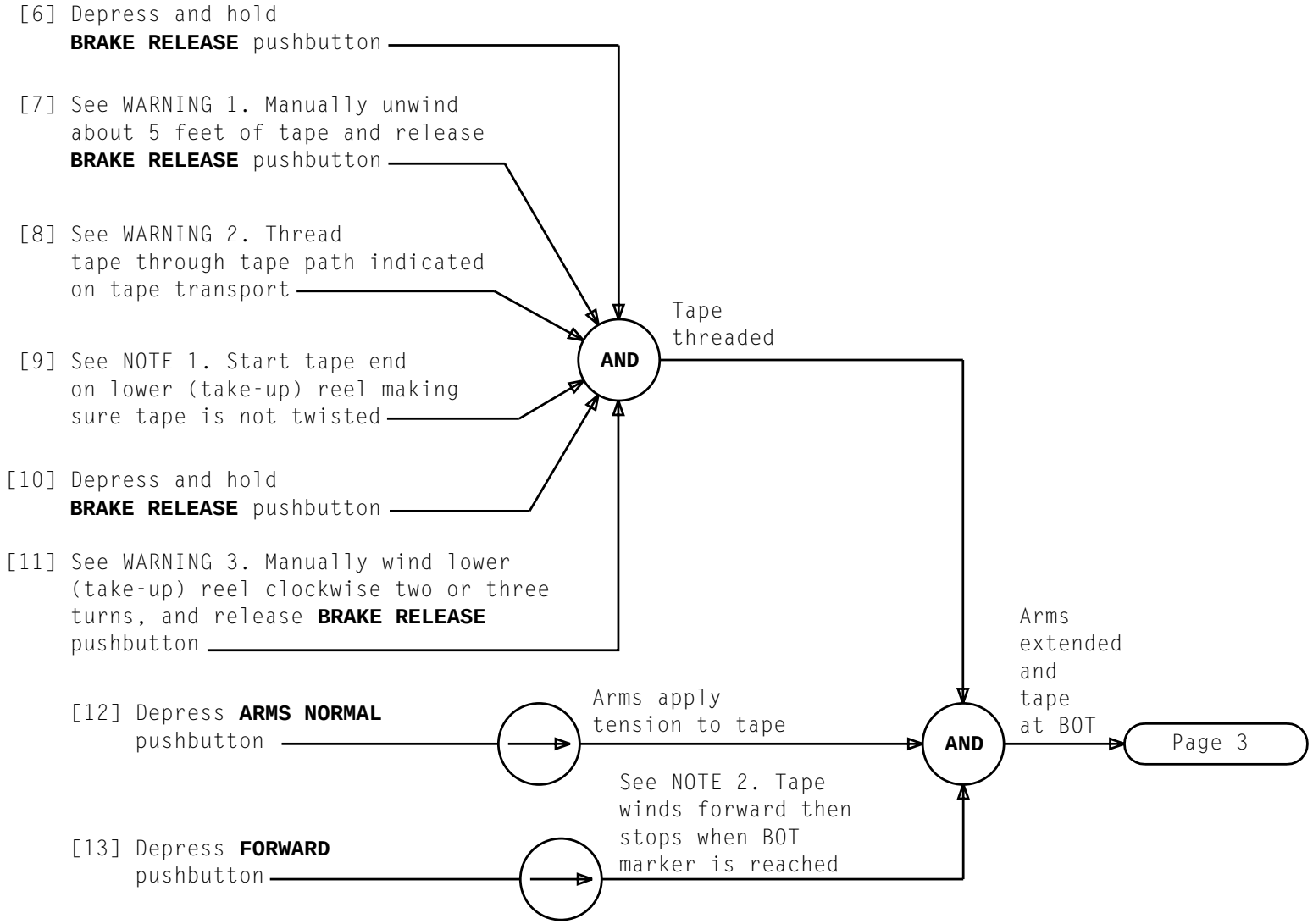
```
OP:LIBSTAT FS PF
OP:LIBSTAT COMPLETED
FS LIBRARY DIRECTORY

PKG NAME      ADDRESS      LENGTH
   .             .            .
   .             .            .
. . . . . . . . . .
```

DETERMINE IF LIBRARY TAPE CONTAINING PROGRAM TO BE USED RESIDES IN FILE SYSTEM



MOUNT TAPE ON TAPE TRANSPORT



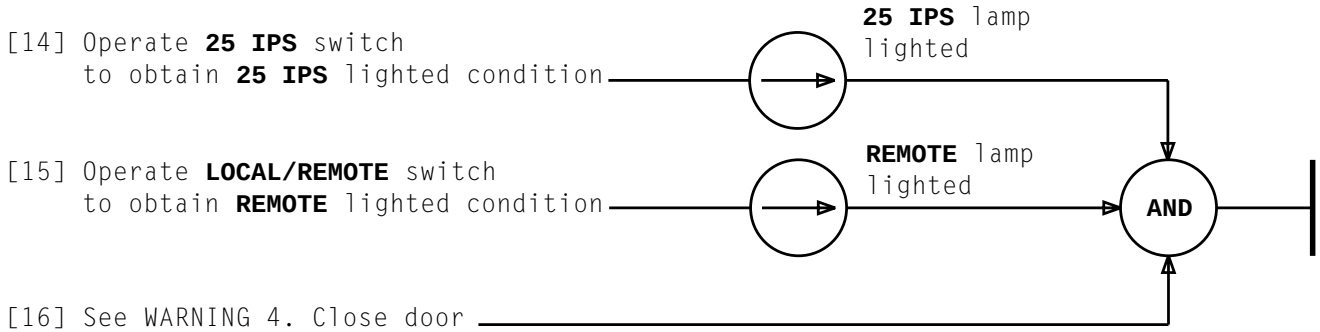
NOTES

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

WARNINGS

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

MOUNT TAPE ON TAPE TRANSPORT



WARNING 4
Closing tape transport door in a harsh manner may upset alignment

MOUNT TAPE ON TAPE TRANSPORT

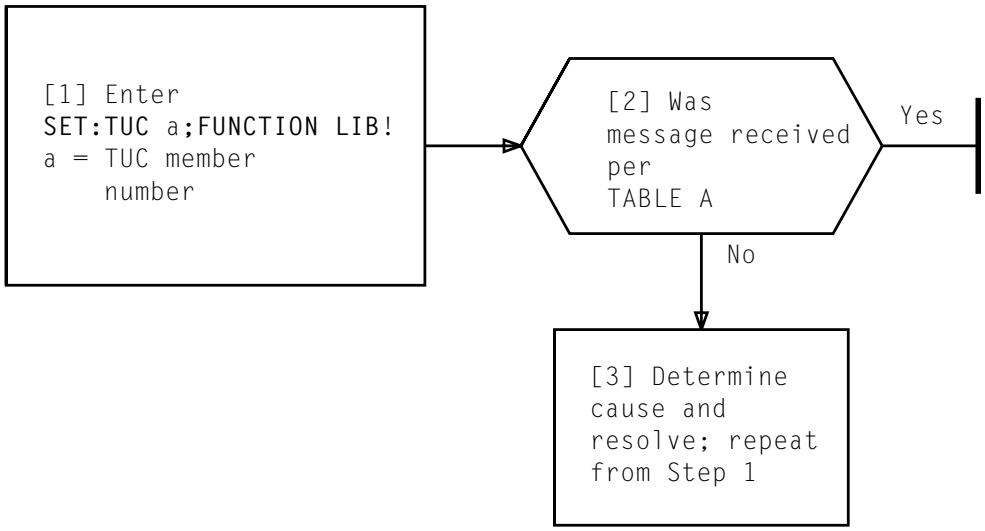
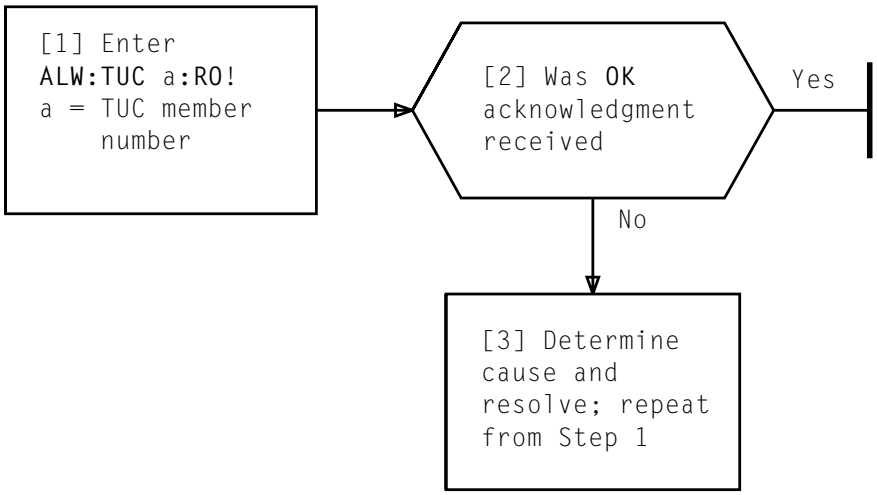


TABLE A
SET:TUC a TAPE MOUNTED ON TUC TAPE TYPE: LIB . . . . OK TO PROCESS TAPE?
a = TUC member number

SET TUC TO LIBRARY FUNCTION



ALLOW TUC READ ONLY ACCESS

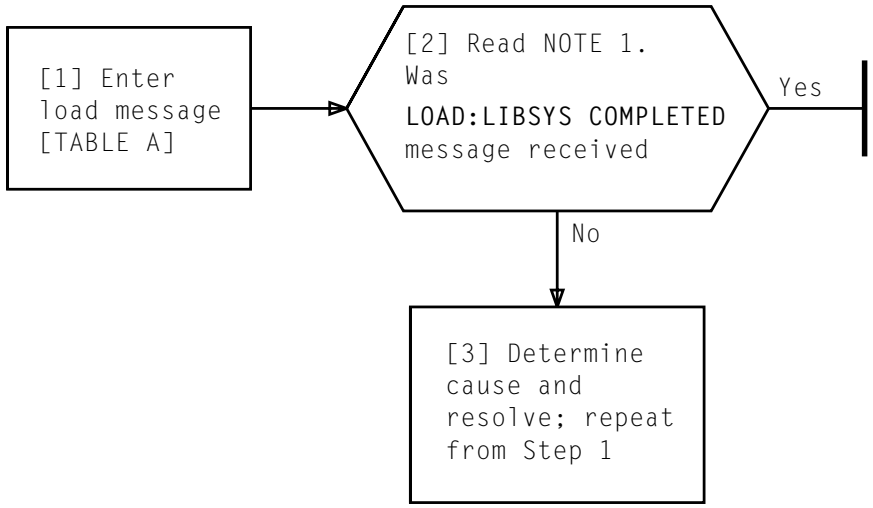


TABLE A
LOAD:LIBSYS,FS;TAPE:PKG LGaPGRO!
a = Office generic (that is, 17 for 4E17)

LOAD LIBRARY TAPE CONTAINING PROGRAM TO BE USED IN FILE SYSTEM

NOTE 1
System will not respond COMPLETED until tape loaded

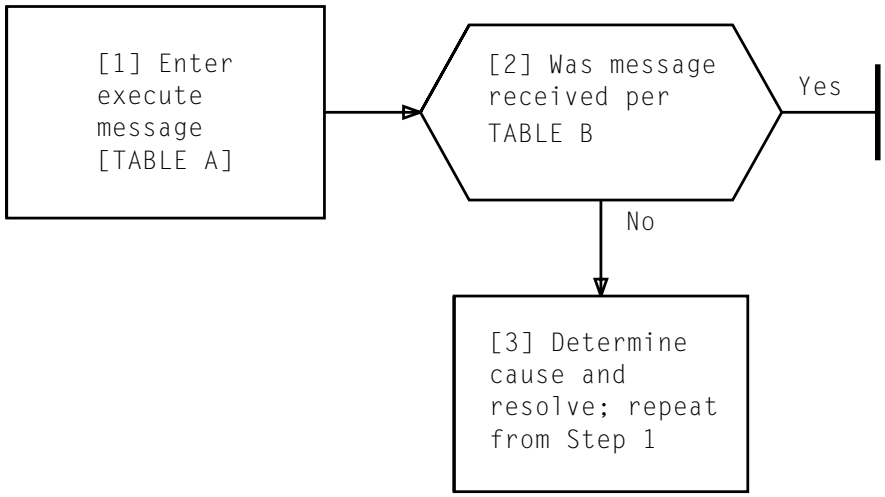


TABLE A
EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!
a = Office generic (that is, 17 for 4E17)

TABLE B
EX:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0 ,CLIENT 0 STARTED
a = Office generic

EXECUTE LIBRARY PROGRAM

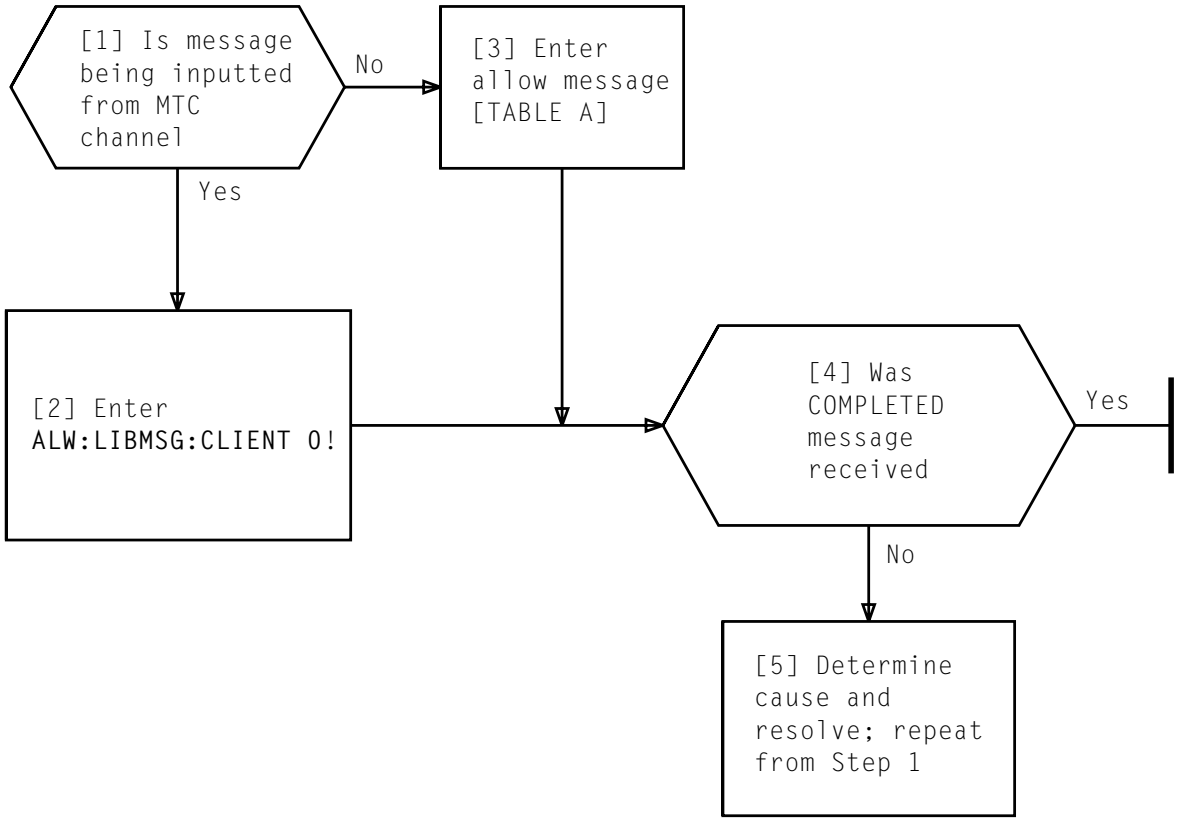


TABLE A
ALW:LIBMSG:CLIENT 0,CHAN (MTC,a)!
a = Channel name on which the message is to be inputted

ALLOW LIBRARY MESSAGE CHANNEL

SUMMARY

Using verify input message, verify that channel equipage (CE) and/or port equipage (PRTE) is UNEQ. If equipage is in error and supervisor determines change is required, change CE and/or PRTE to UNEQ

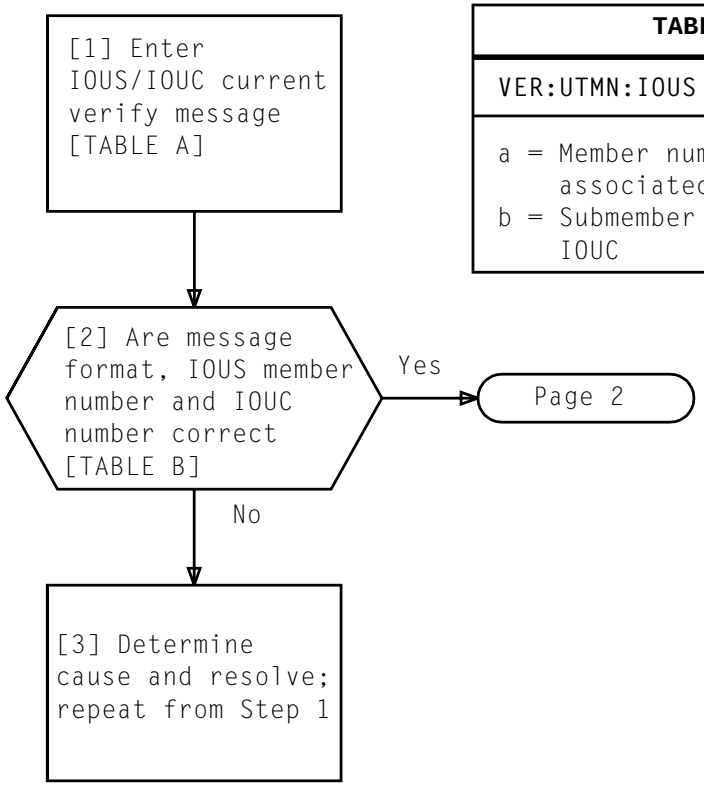


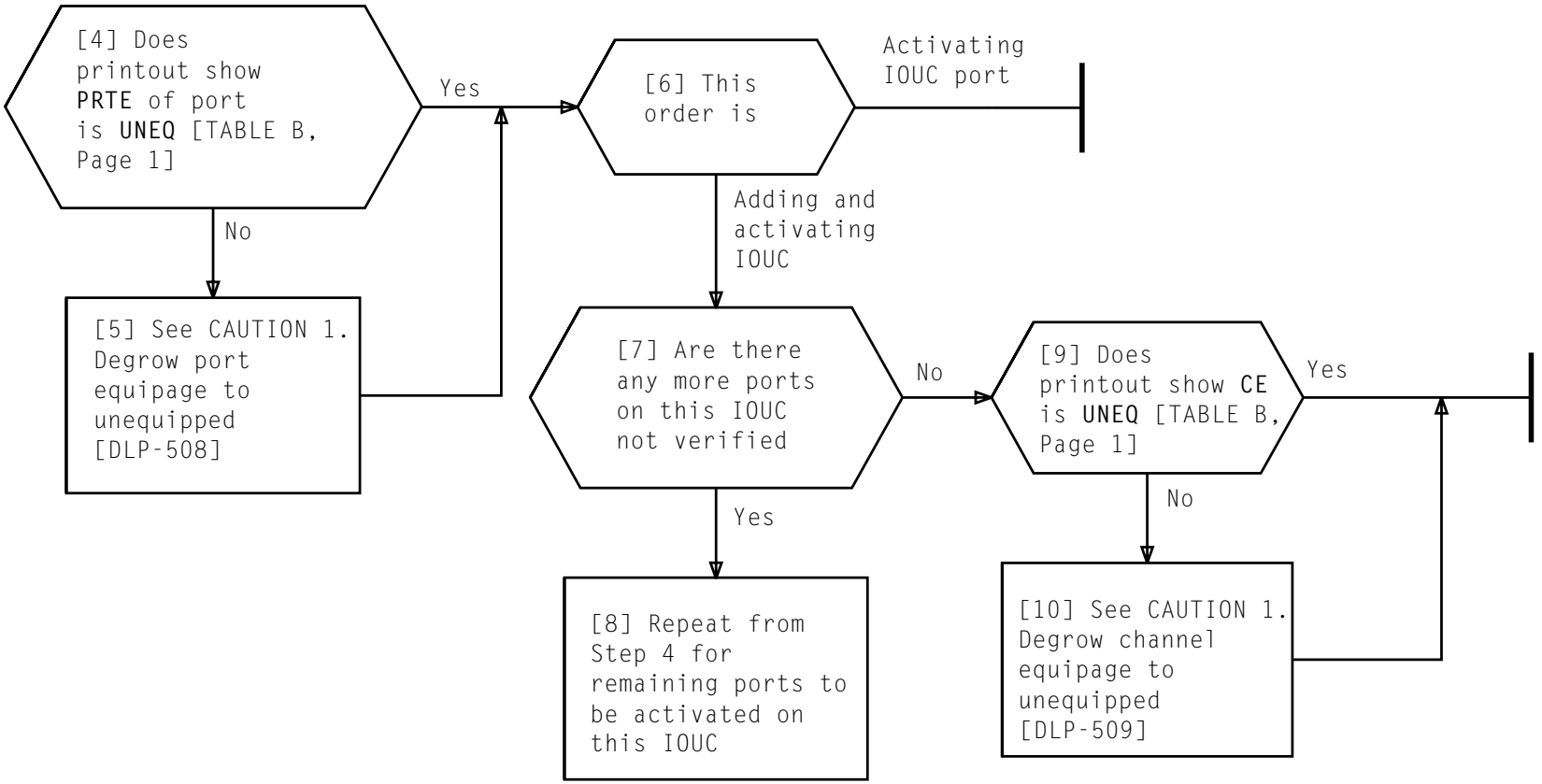
TABLE A

VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE B

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: CE=c . . . . PORT 0,PRTE=d . . . . PORT 1,PRTE=e . . PORT 2,PRTE=f . .	a = Member number b = Submember number c = Channel equipage d = Port 0 equipage e = Port 1 equipage f = Port 2 equipage

VERIFY IOUC CHANNEL AND/OR PORT EQUIPAGE



CAUTION 1

Depending on local procedures supervisory or TELCO engineering approval must be obtained prior to performing any data changes

VERIFY IOUC CHANNEL AND/OR PORT EQUIPAGE

SUMMARY

Enter change message to degrow port equipage (PRTE) from OPER to SGRO and/or from SGRO to GROW and/or from GROW to UNEQ. Verify buffered PRTE, enter copy message, verify current PRTE, and enter update message for each change in state. If after each verify, PRTE is not in right state, enter stop message and start change from beginning.

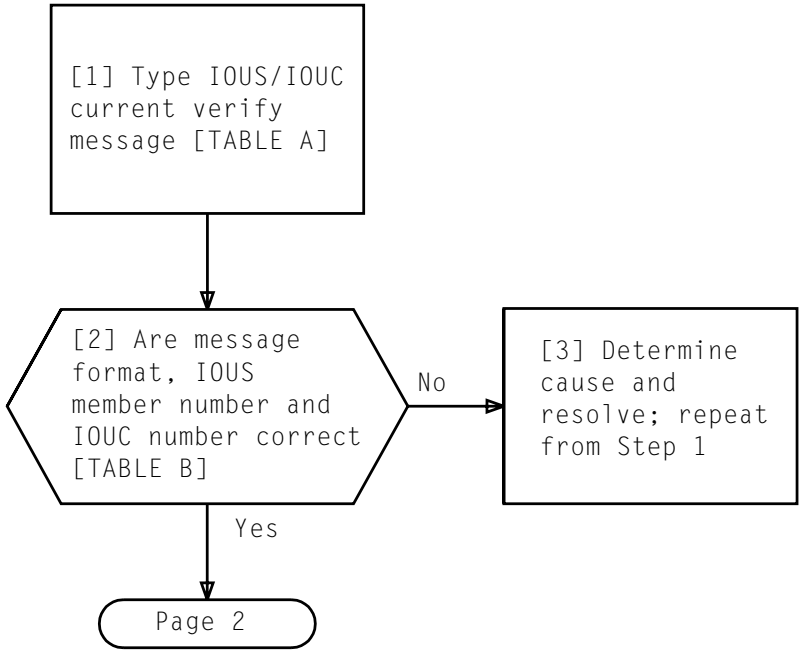


TABLE A
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

TABLE B	
VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: • • • • • • • • PORT 0,PRTE=c • • • • PORT 1,PRTE=d • • PORT 2,PRTE=e • •	a = Member number b = Submember number c = Port 0 equipage d = Port 1 equipage e = Port 2 equipage

DEGROW IOUC PORT EQUIPAGE

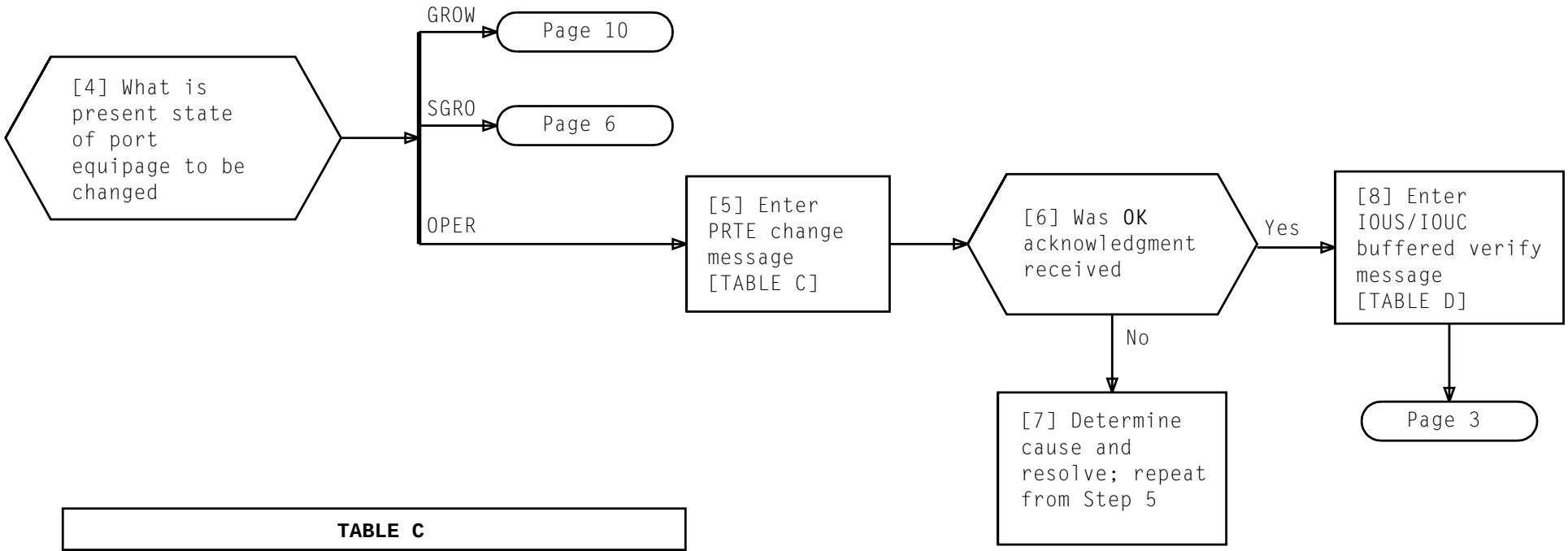


TABLE C
IN:XLBUF:IOUS a,IOUC b,PORT c,PRTE (OPER,SGRO)!
a = Member number of growth associated IOUS b = Submember number of growth IOUC c = Growth port number

TABLE D
VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

DEGROW IOUC PORT EQUIPAGE

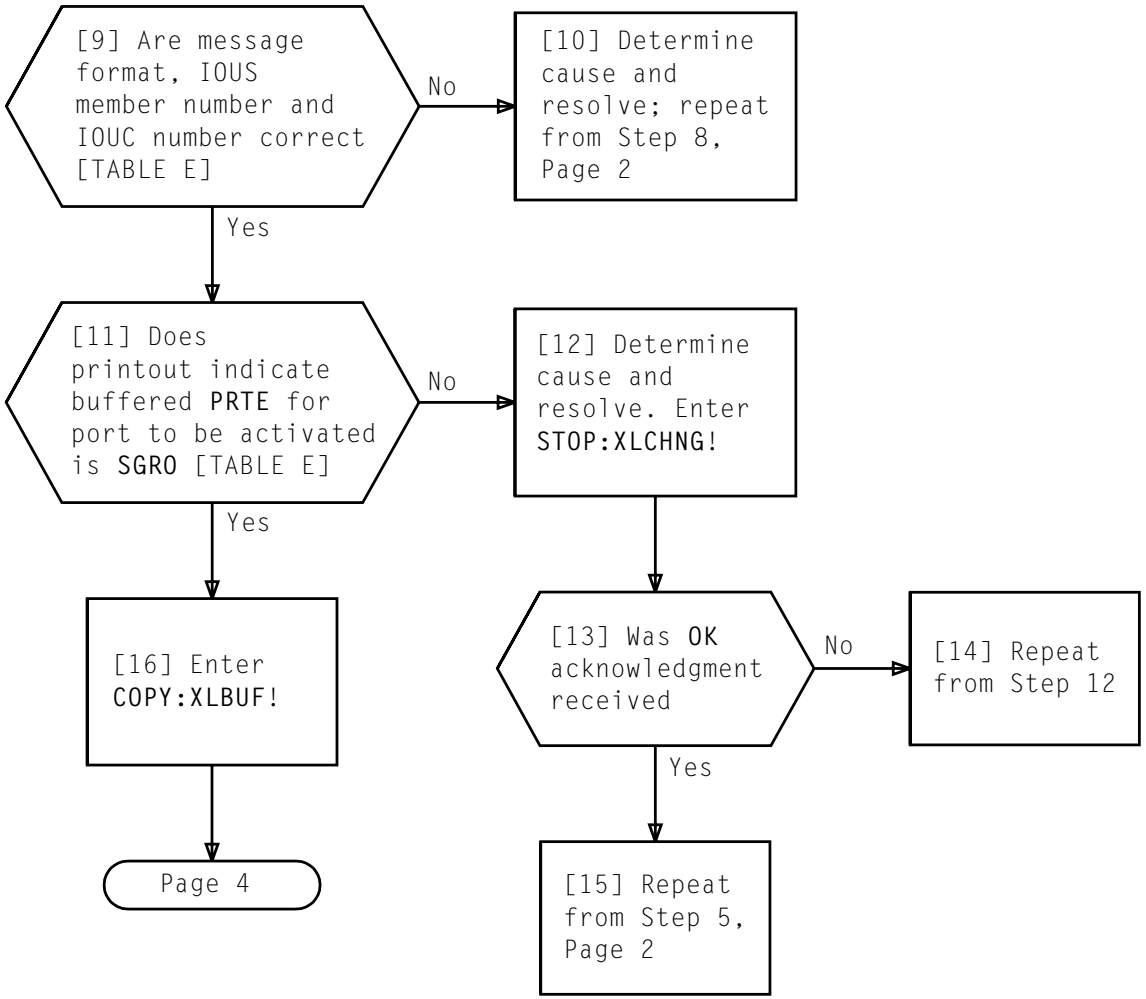


TABLE E

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 BUFFERED DATA: • • • • • • • • PORT 0 PRTE=c • • • PORT 1,PRTE=d • • PORT 2,PRTE=e • •	a = Member number b = Submember number c = Port 0 equipage d = Port 1 equipage e = Port 2 equipage

DEGROW IOUC PORT EQUIPAGE

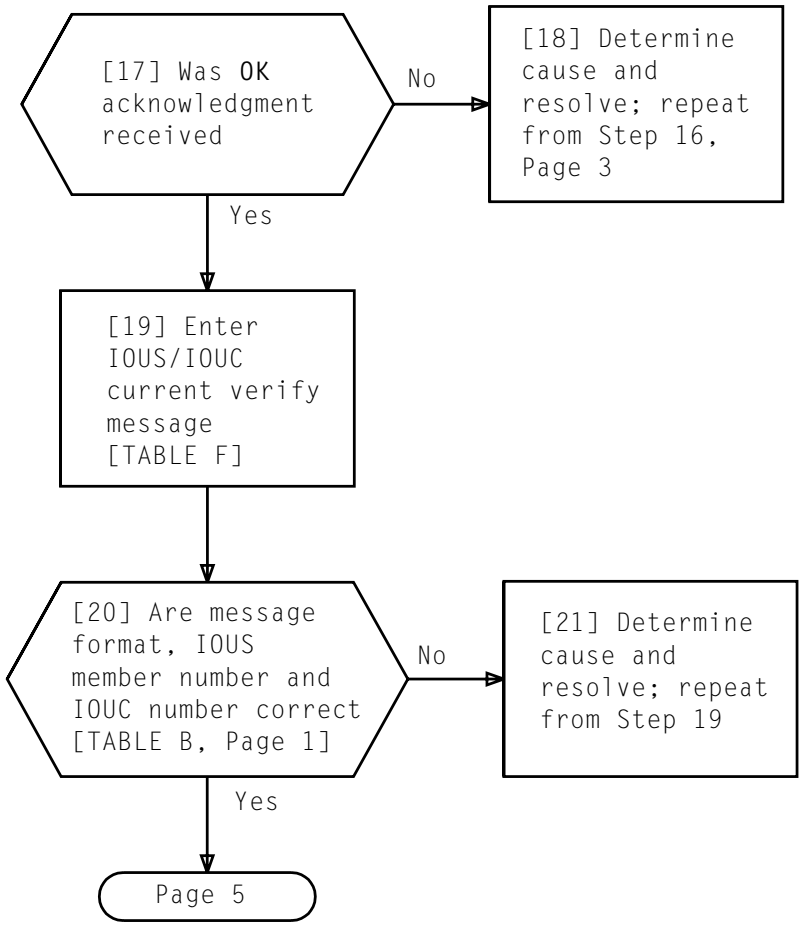
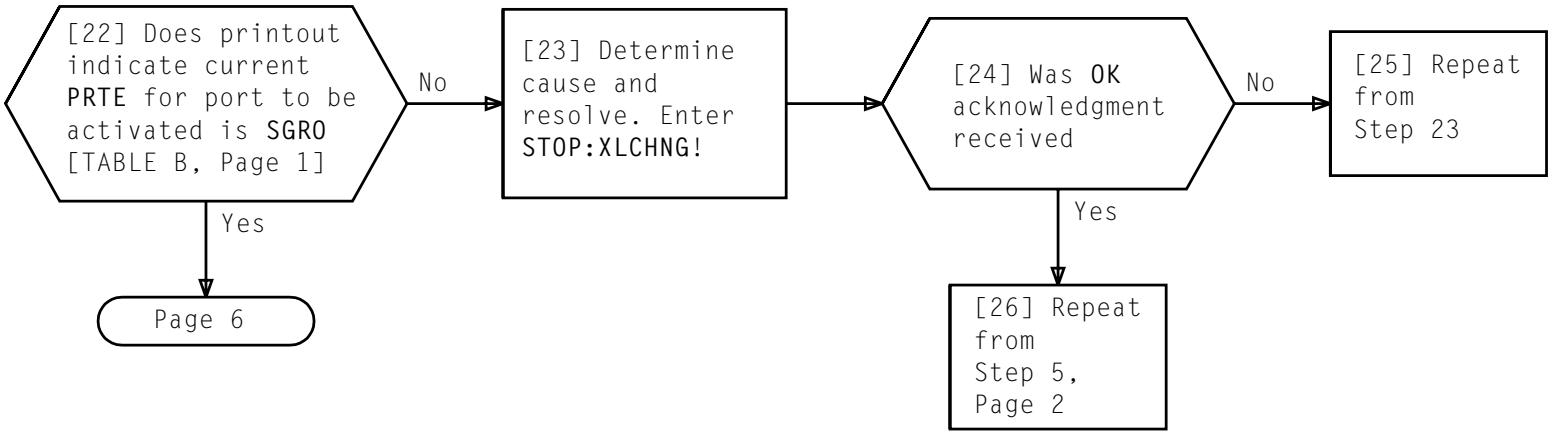


TABLE F
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

DEGROW IOUC PORT EQUIPAGE



DEGROW IOUC PORT EQUIPAGE

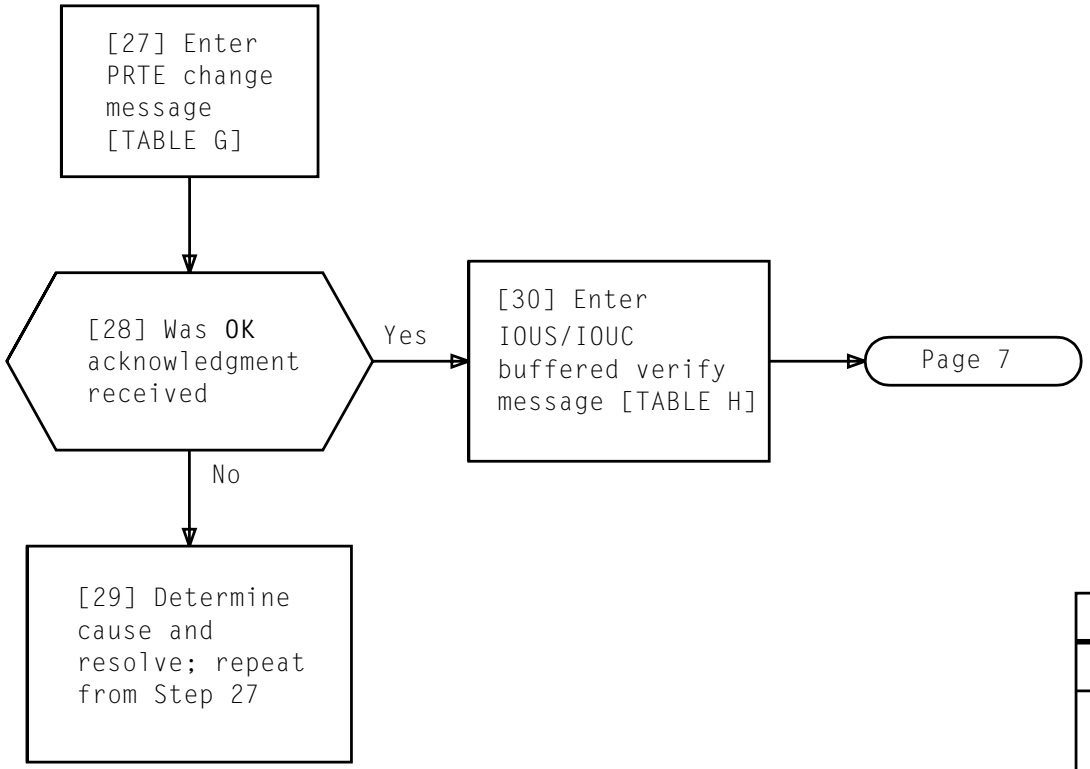


TABLE G
IN:XLBUF:IOUS a,IOUC b,PORT c,PRTE (SGRO,GROW)!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC
c = Growth port number

TABLE H
VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

DEGROW IOUC PORT EQUIPAGE

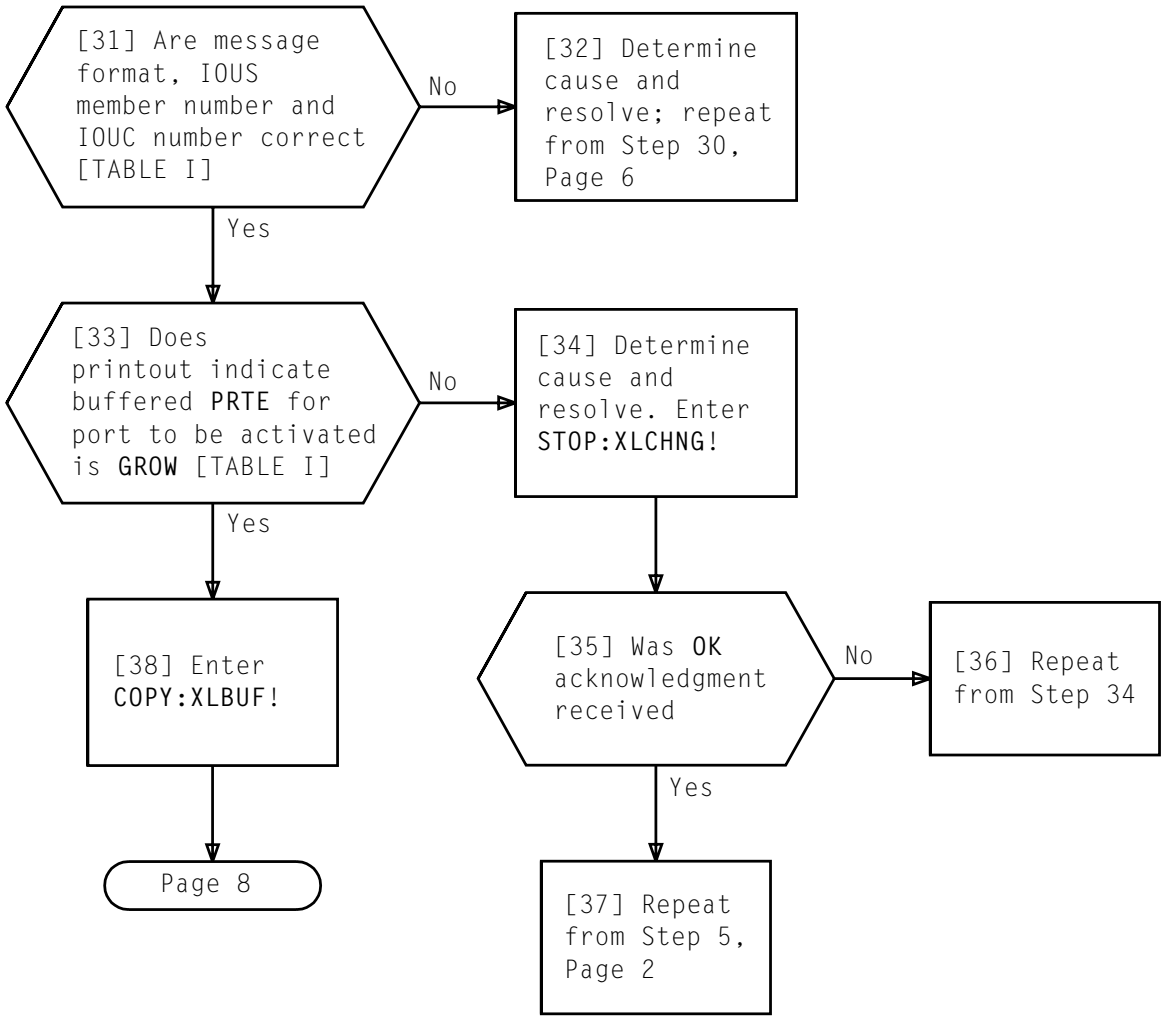


TABLE I

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 BUFFERED DATA: • • • • • • • • PORT 0,PRTE=c • • • • PORT 1,PRTE=d • • PORT 2,PRTE=e • •	a = Member number b = Submember number c = Port 0 equipage d = Port 1 equipage e = Port 2 equipage

DEGROW IOUC PORT EQUIPAGE

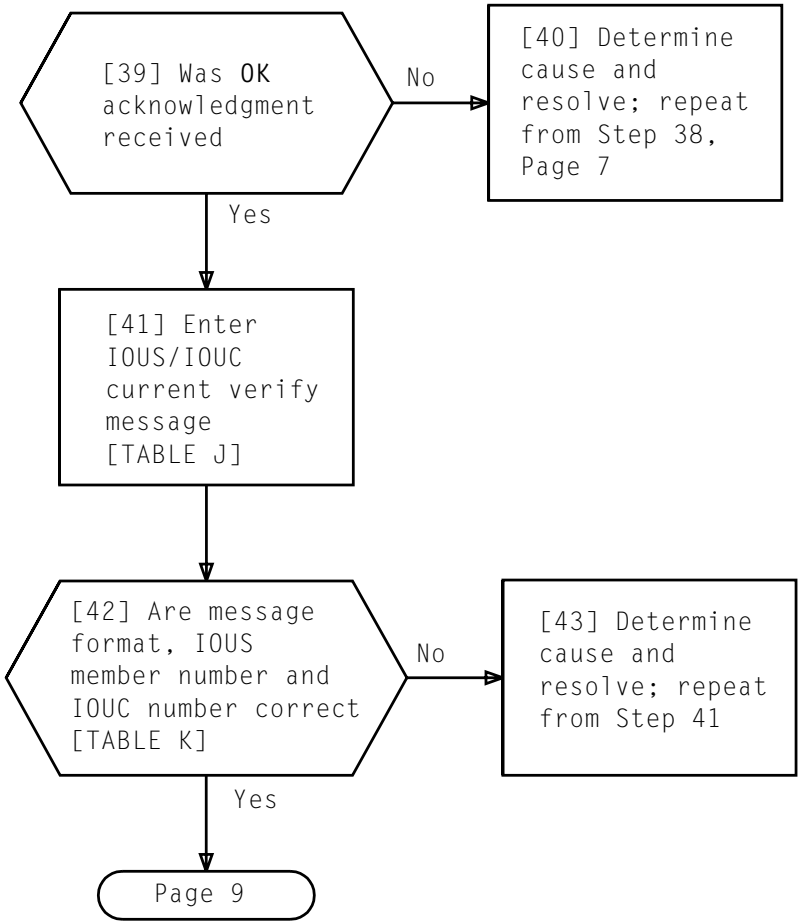
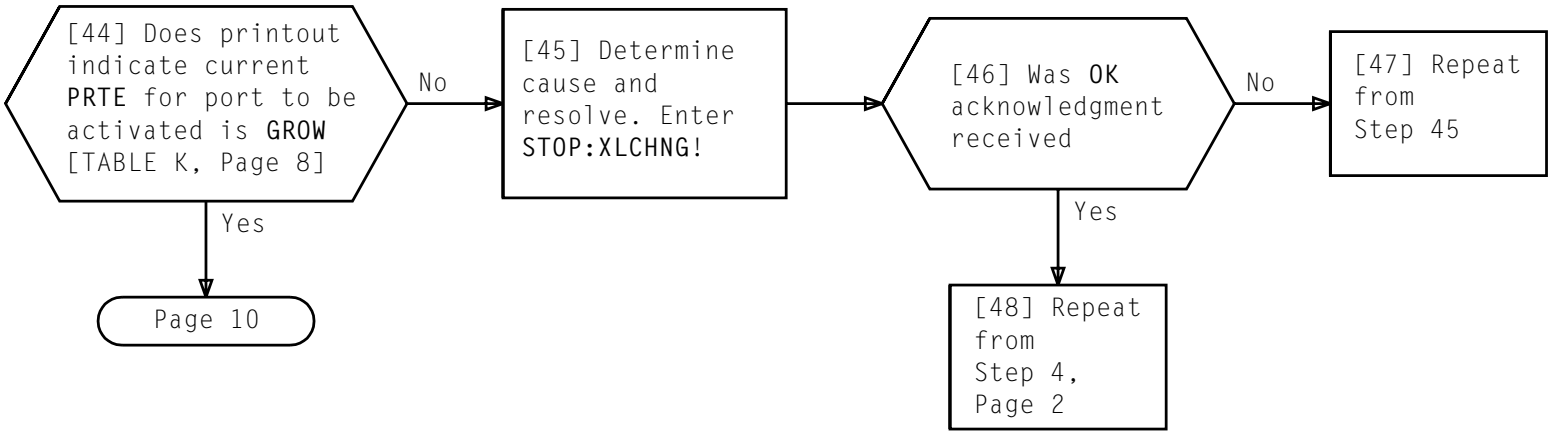


TABLE J
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

TABLE K	
VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: • • • • • • • • PORT 0,PRTE=c • • • • PORT 1,PRTE=d • • PORT 2,PRTE=e • •	a = Member number b = Submember number c = Port 0 equipage d = Port 1 equipage e = Port 2 equipage

DEGROW IOUC PORT EQUIPAGE



DEGROW IOUC PORT EQUIPAGE

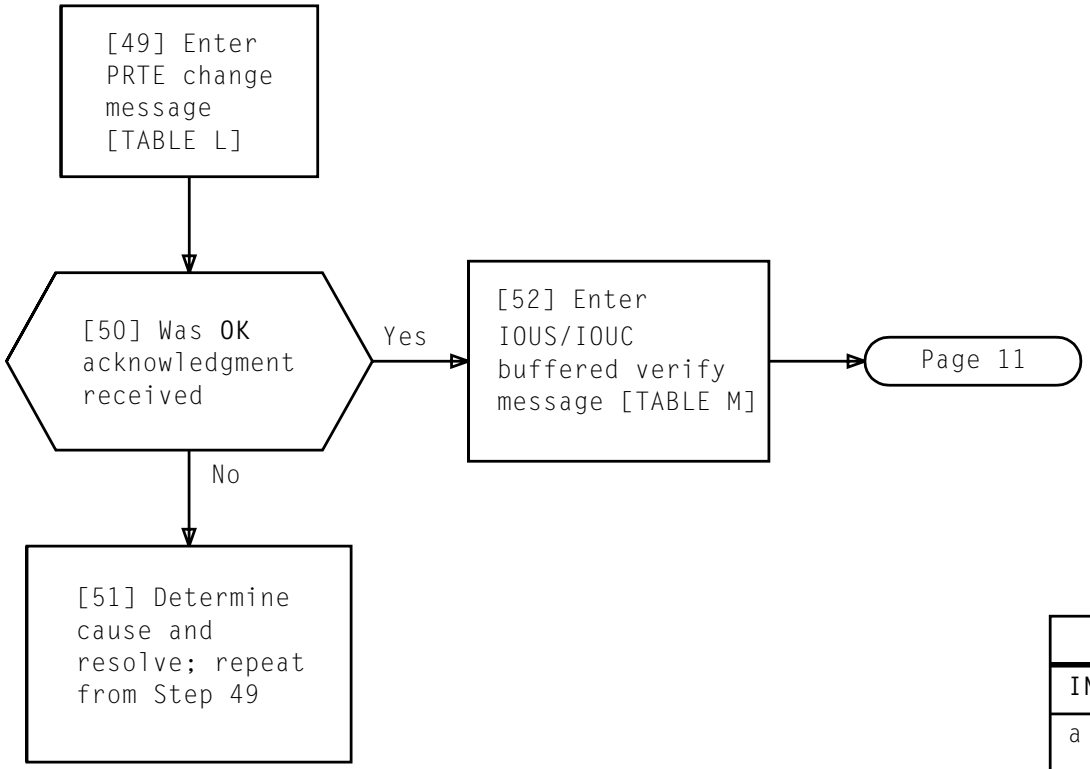


TABLE L
IN:XLBUF:IOUS a,IOUC b,PORT c,PRTE (GROW,UNEQ)!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC
c = Growth port number

TABLE M
VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

DEGROW IOUC PORT EQUIPAGE

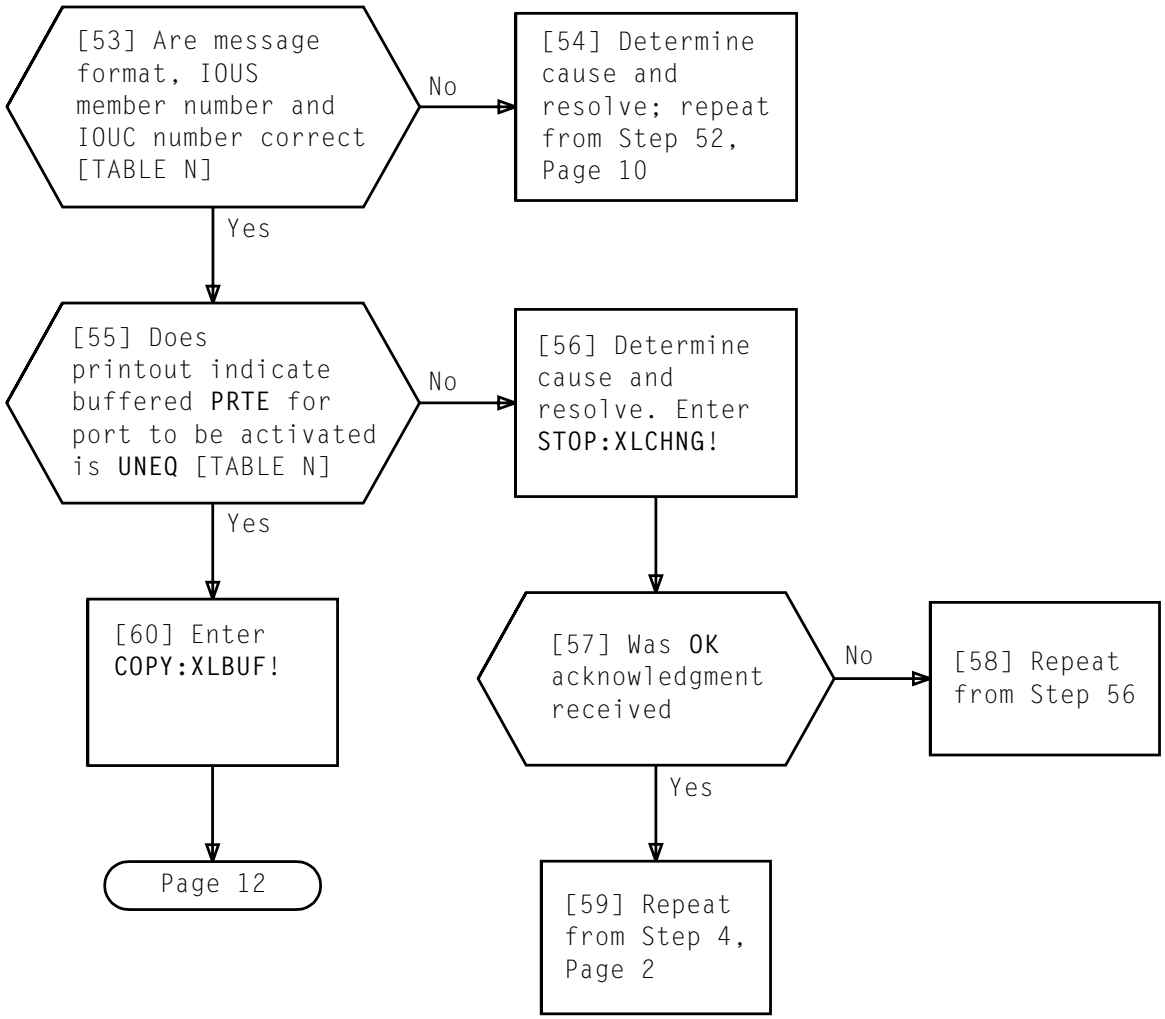


TABLE N

```
VER:UTMN,IOUS a,IOUC b COMPLETED

TRANSLATOR ADR=
TRANSLATOR SIZE=43

BUFFERED DATA:
        .
        .
        .
        .
        .
        .
        .
        .
PORT 0 PRTE=c
        .
        .
        .
        .
PORT 1,PRTE=d
        .
        .
PORT 2,PRTE=e
        .
        .
```

a = Member number

b = Submember number

c = Port 0 equipage

d = Port 1 equipage

e = Port 2 equipage

DEGROW IOUC PORT EQUIPAGE

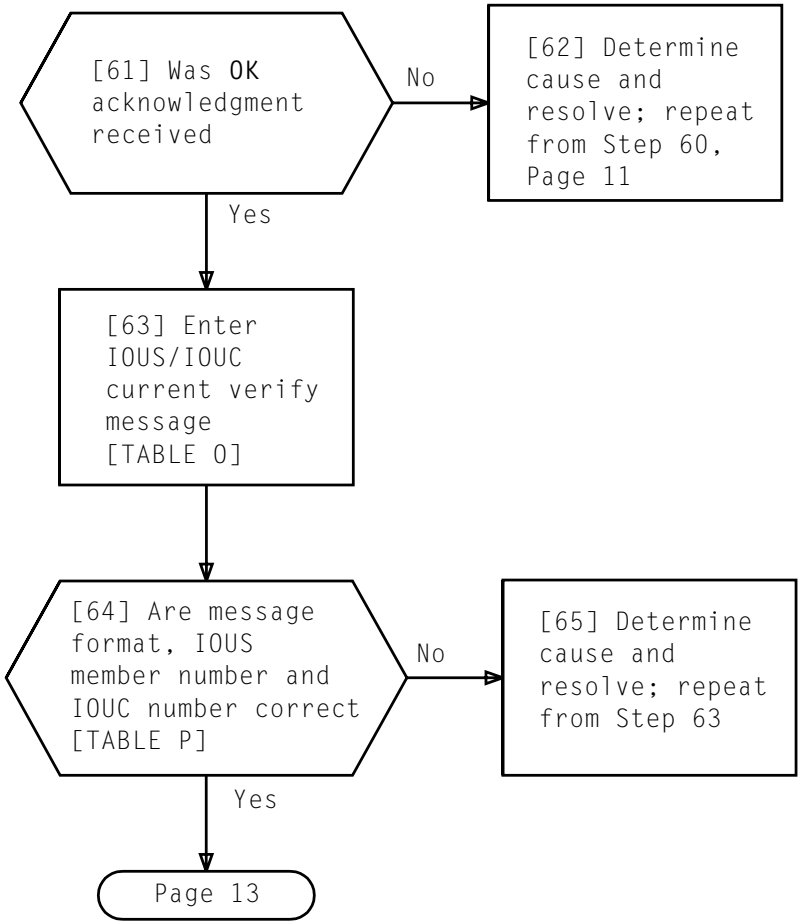


TABLE O
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

TABLE P	
VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: • • • • • • • • PORT 0 PRTE=c • • • • PORT 1,PRTE=d • • PORT 2,PRTE=e • • •	a = Member number b = Submember number c = Port 0 equipage d = Port 1 equipage e = Port 2 equipage

DEGROW IOUC PORT EQUIPAGE

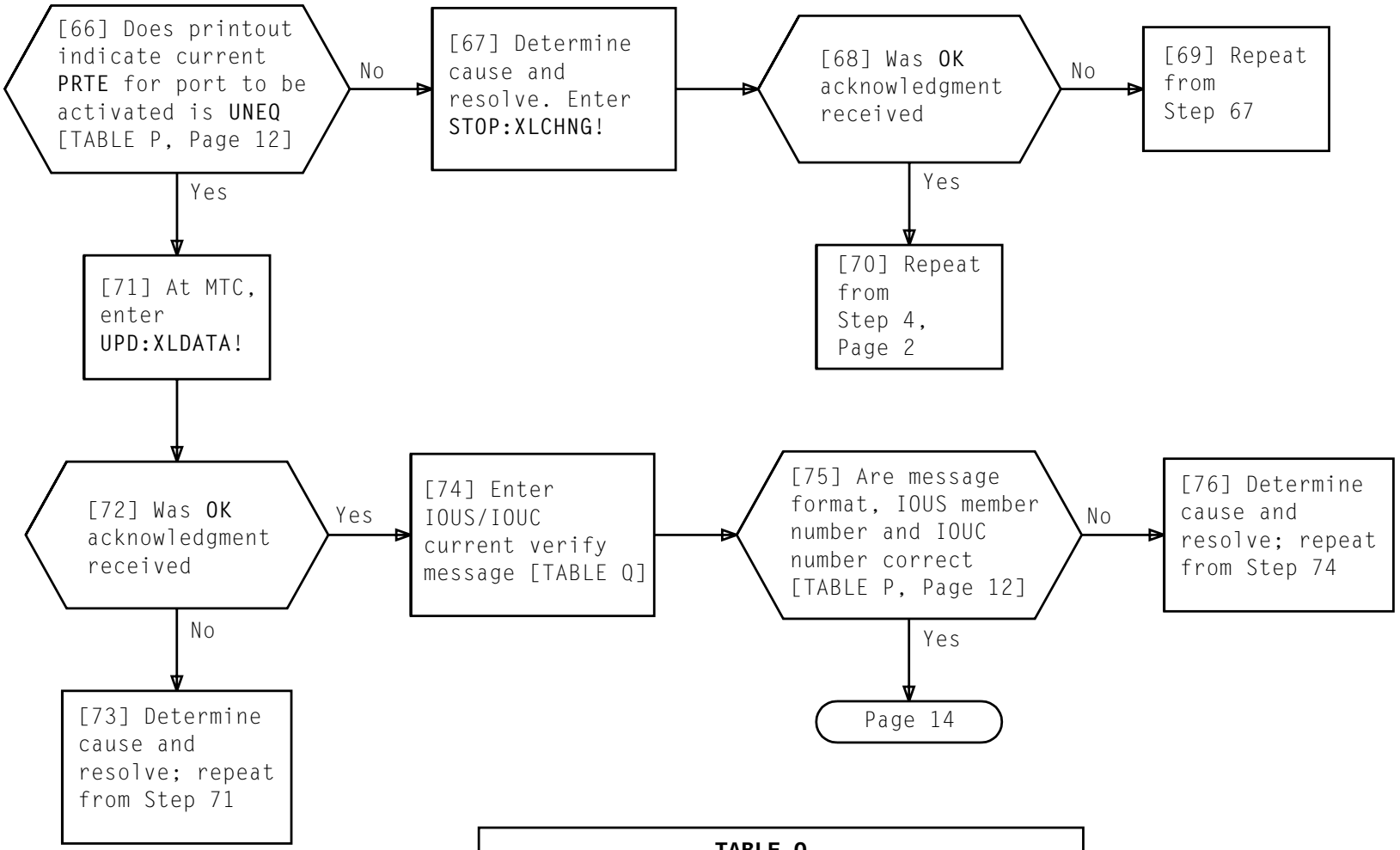
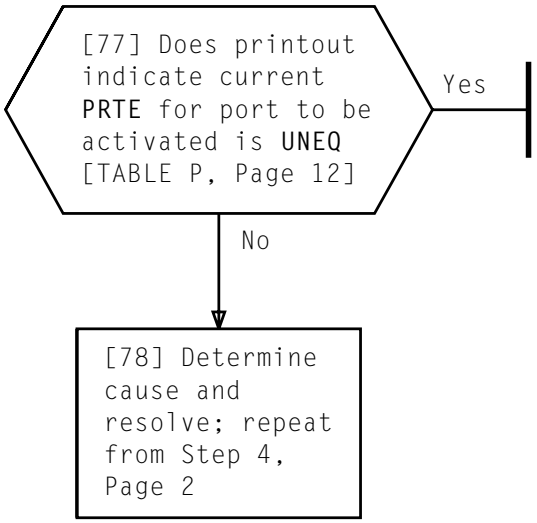


TABLE Q

VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC



DEGROW IOUC PORT EQUIPAGE

SUMMARY

Enter change message to degrow channel equipage (CE) from OPER to SGRO and/or from SGRO to GROW and/or from GROW to UNEQ. Verify buffered CE, enter copy message and verify current CE for each change in state. If after each verify, CE is not in right state, enter stop message and start change from beginning. After all required changes in equipage are in copy state, enter update message and verify current CE.

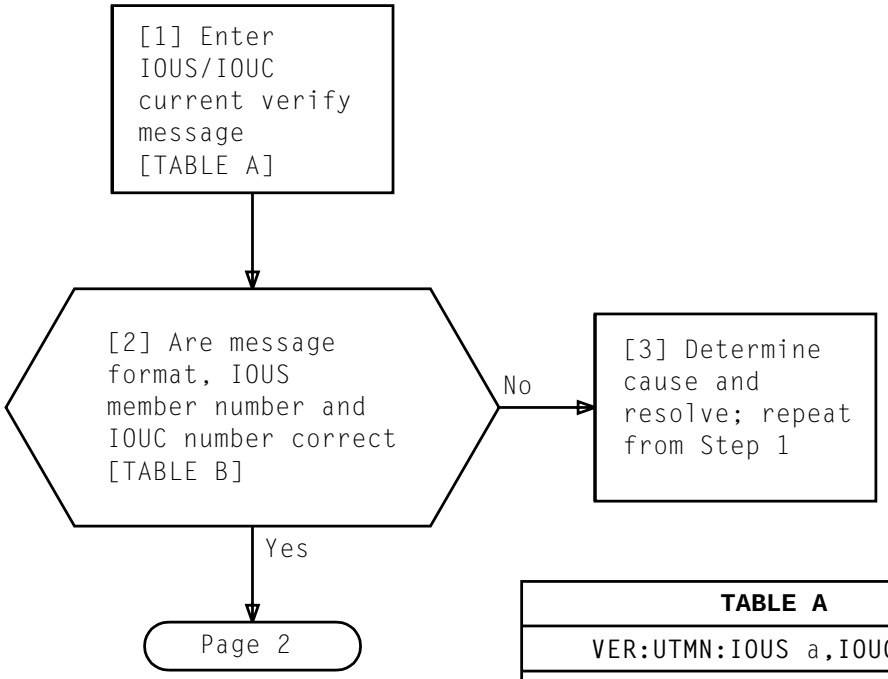


TABLE B

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: CE=c • • • • • • • • •	a = Member number b = Submember number c = Channel equipage

TABLE A

VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUS

DEGROW IOUC CHANNEL EQUIPAGE

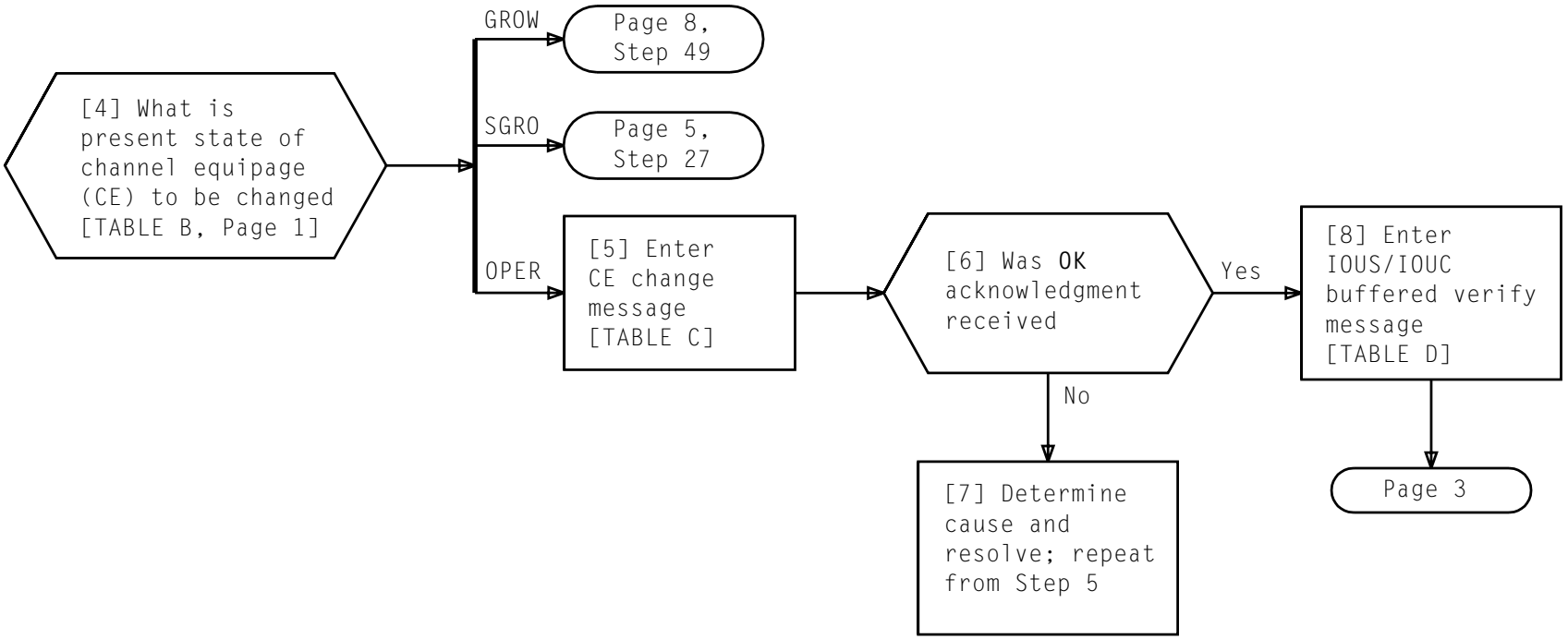


TABLE C
IN:XLBUF:IOUS a,IOUC b,CE (OPER,SGRO)!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE D
VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

DEGROW IOUC CHANNEL EQUIPAGE

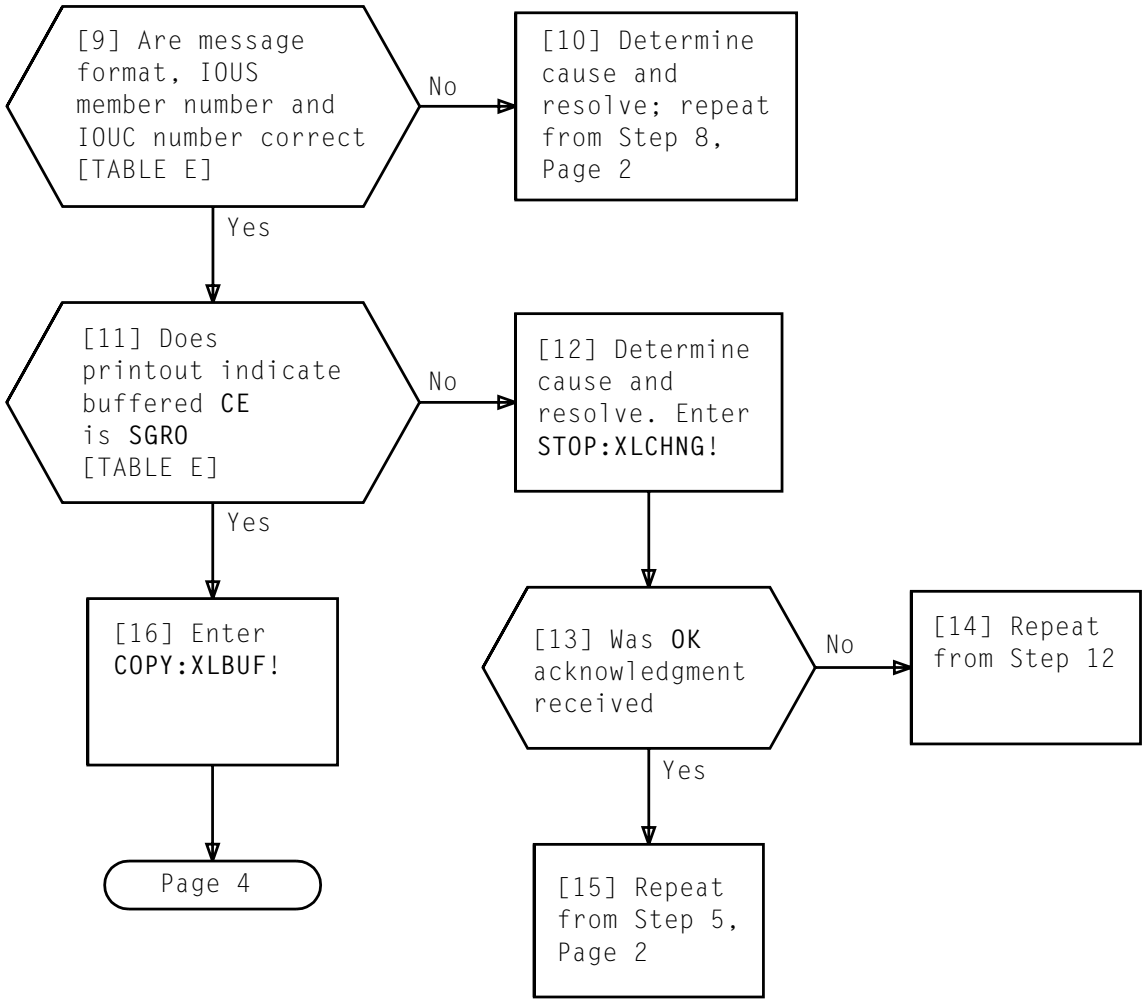


TABLE E

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 BUFFERED DATA: CE=SGRO	a = Member number b = Submember number

DEGROW IOUC CHANNEL EQUIPAGE

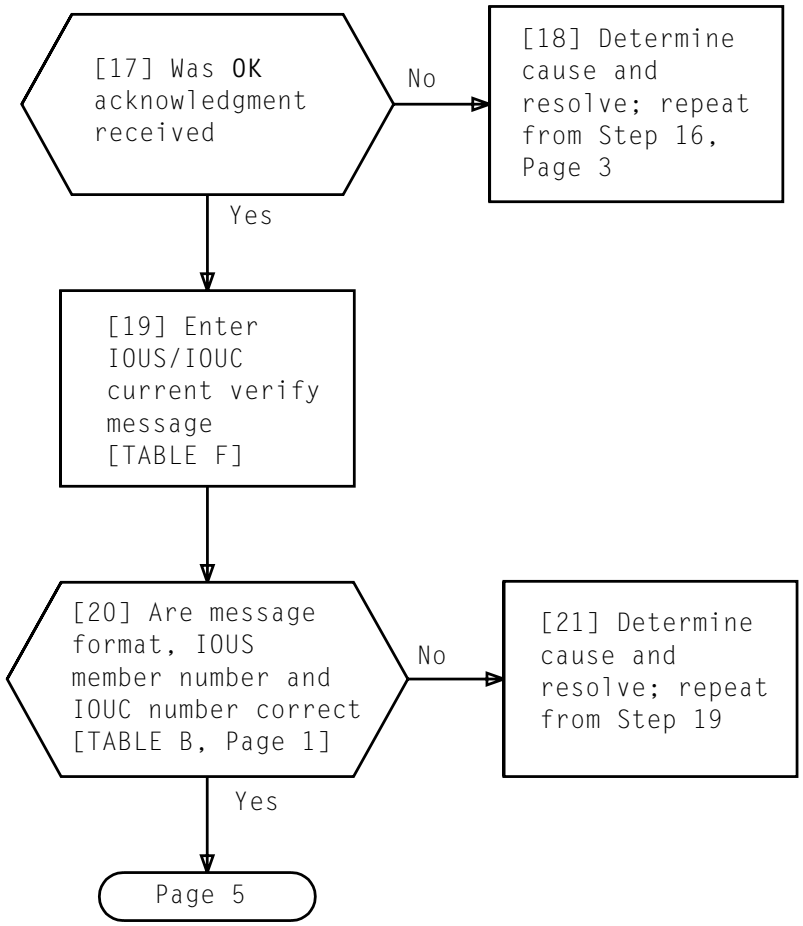


TABLE F
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

DEGROW IOUC CHANNEL EQUIPAGE

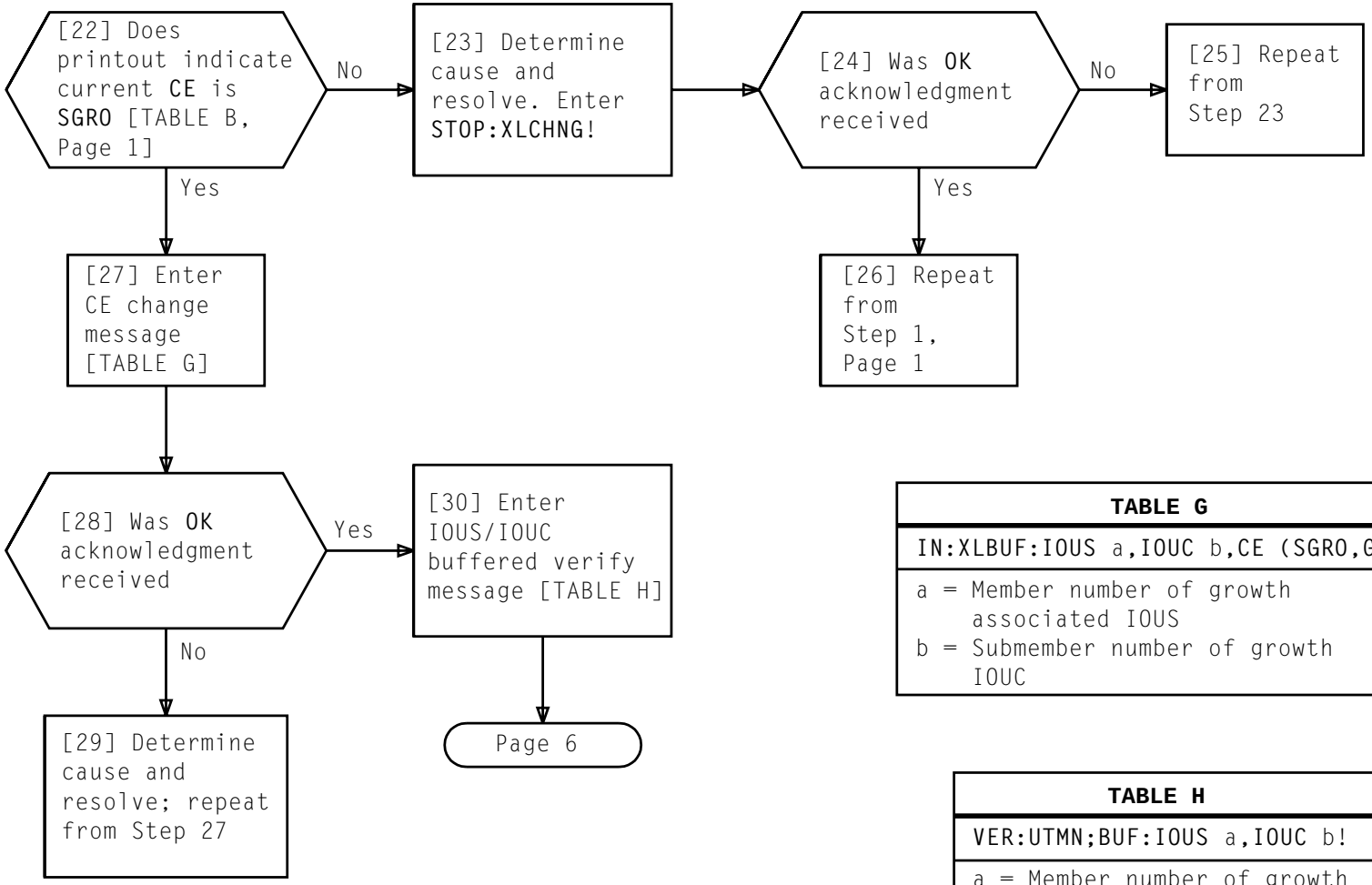


TABLE G
IN:XLBUF:IOUS a,IOUC b,CE (SGRO,GROW)!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE H
VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

DEGROW IOUC CHANNEL EQUIPAGE

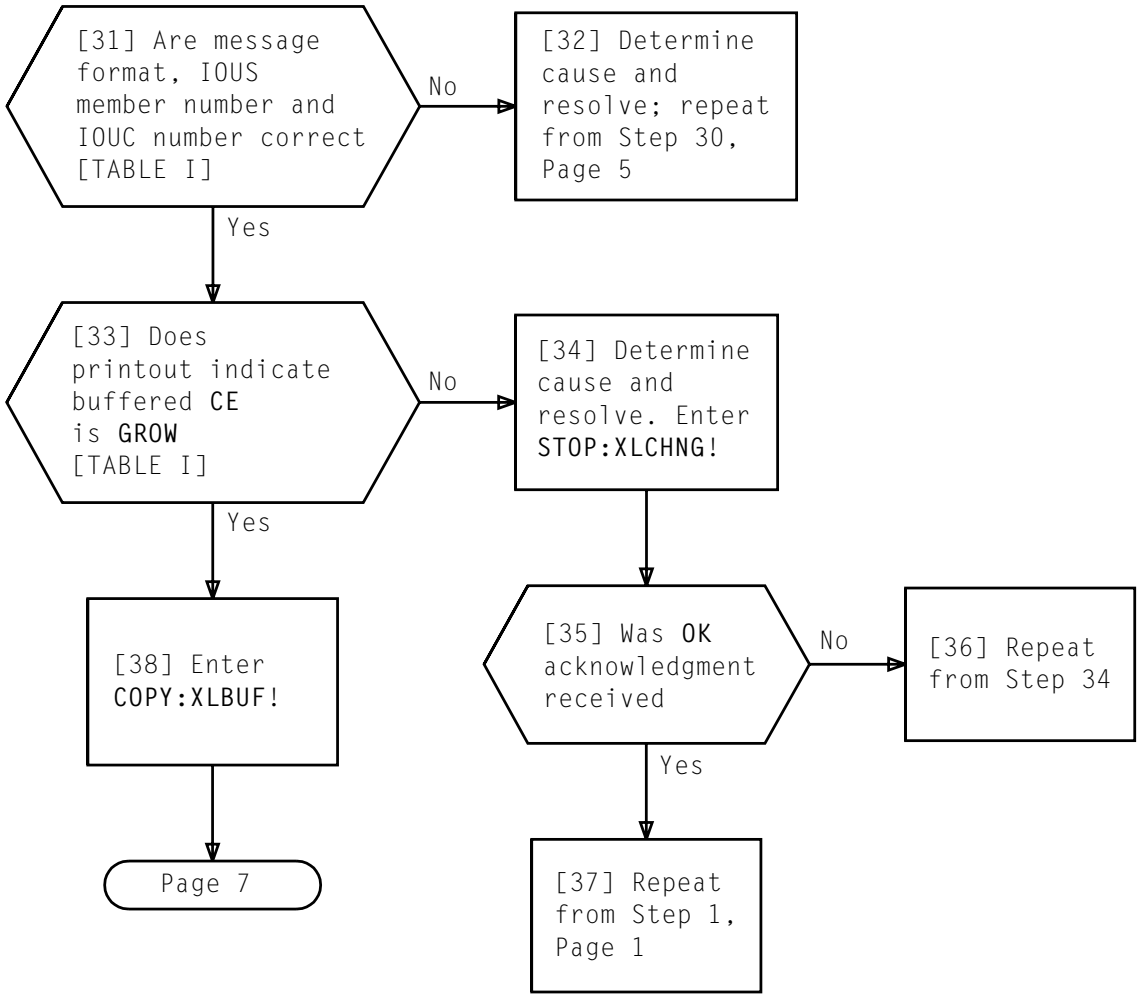


TABLE I

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 BUFFERED DATA: CE=GROW	a = Member number b = Submember number

DEGROW IOUC CHANNEL EQUIPAGE

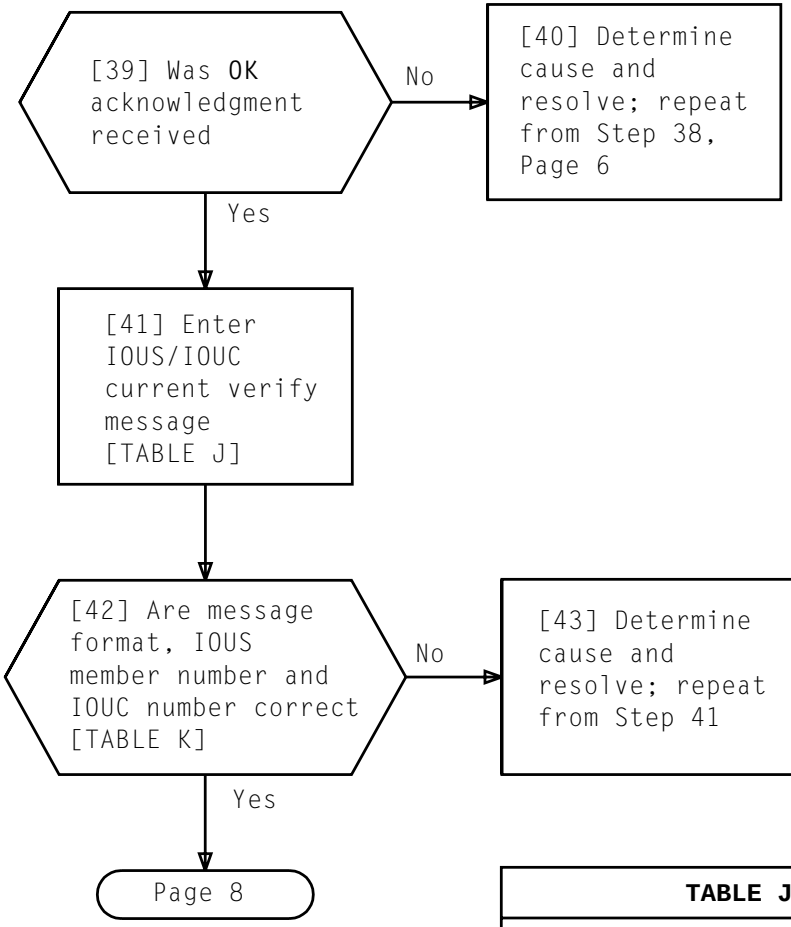


TABLE J

VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE K

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: CE=GROW	a = Member number b = Submember number

DEGROW IOUC CHANNEL EQUIPAGE

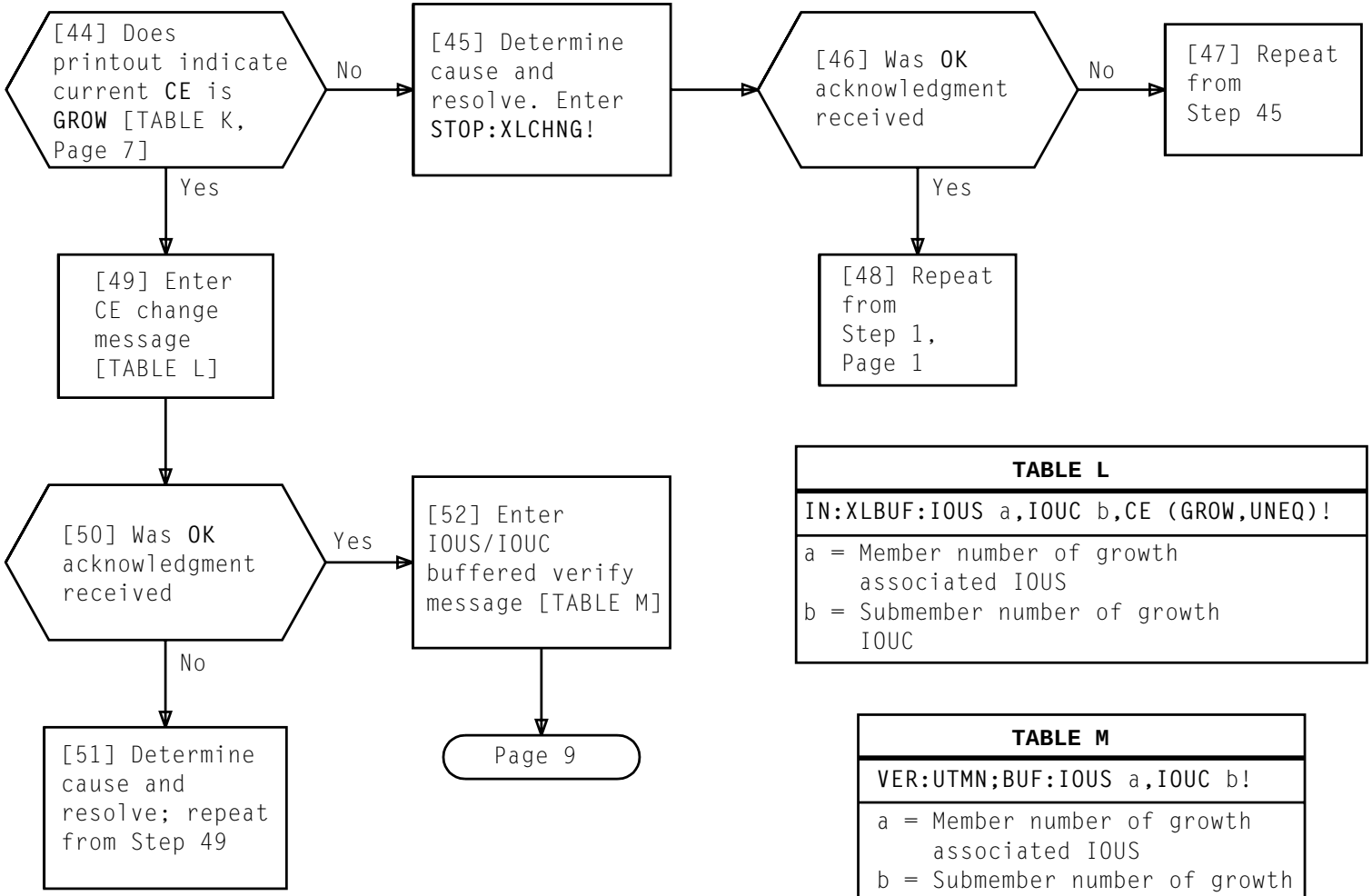


TABLE L
IN:XLBUF:IOUS a,IOUC b,CE (GROW,UNEQ)!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE M
VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

DEGROW IOUC CHANNEL EQUIPAGE

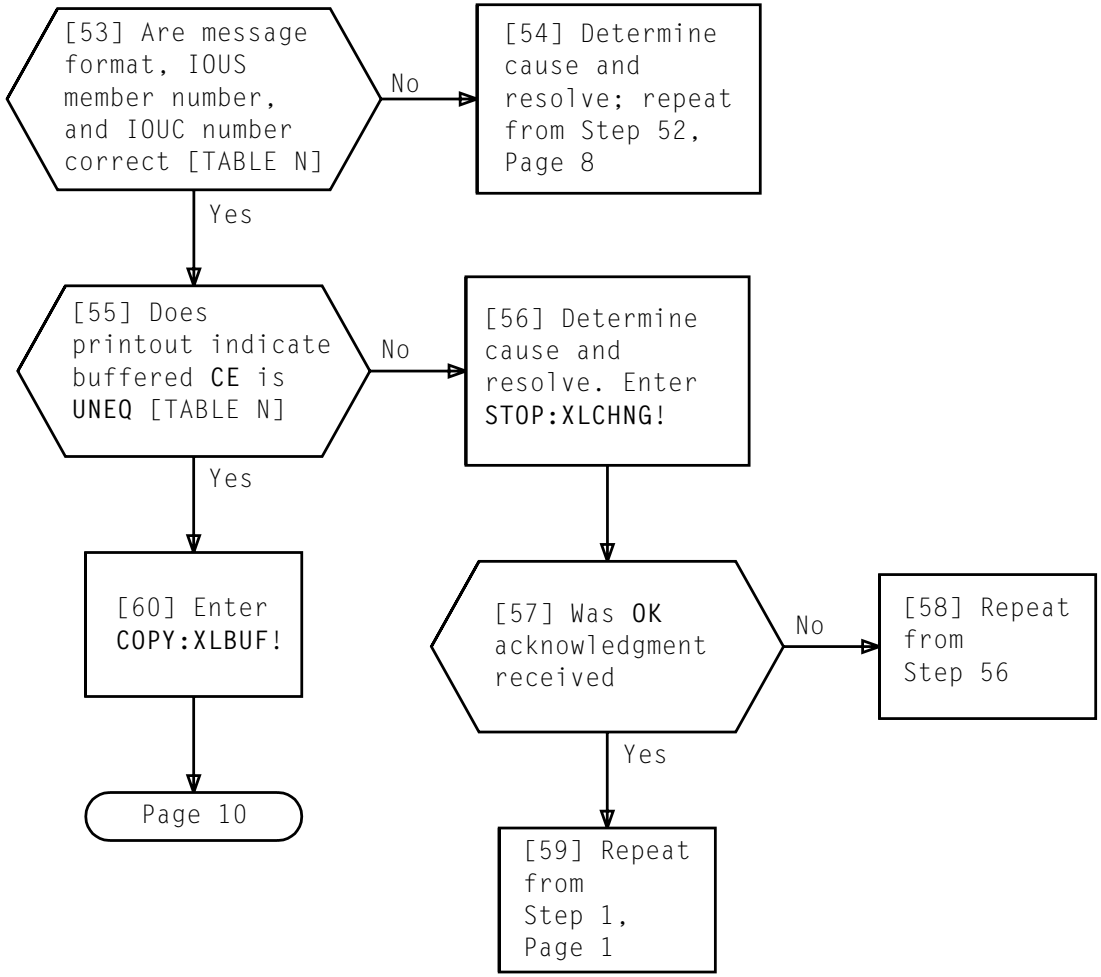


TABLE N

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 BUFFERED DATA: CE=UNEQ	a = Member number b = Submember number

DEGROW IOUC CHANNEL EQUIPAGE

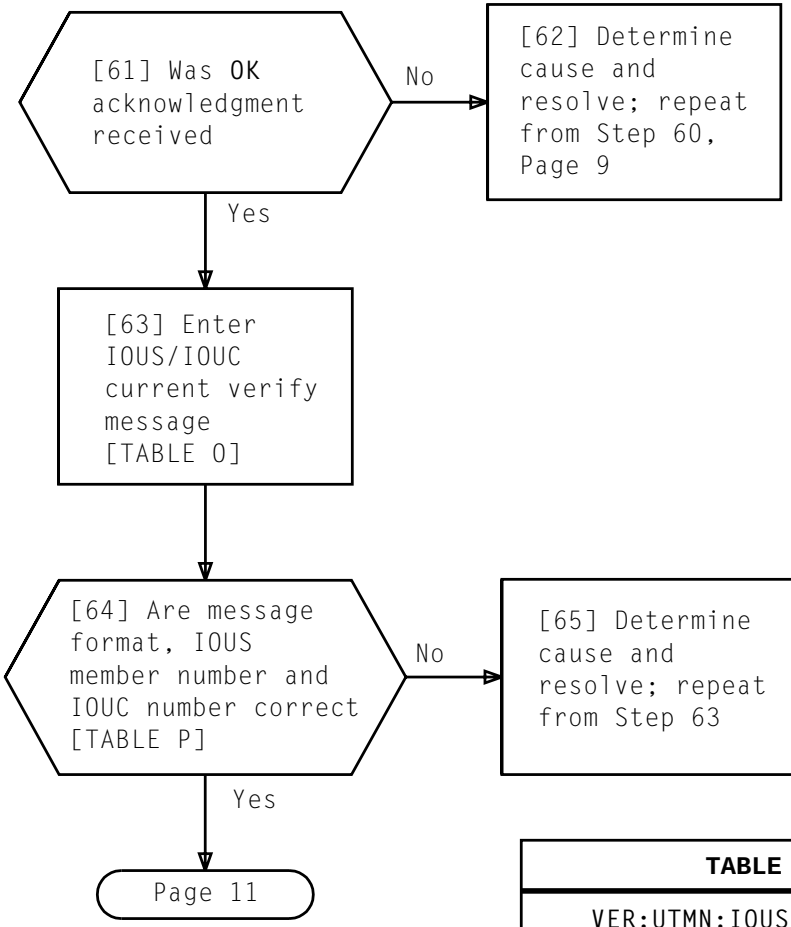


TABLE O

VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE P

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: CE=UNEQ	a = Member number b = Submember number

DEGROW IOUC CHANNEL EQUIPAGE

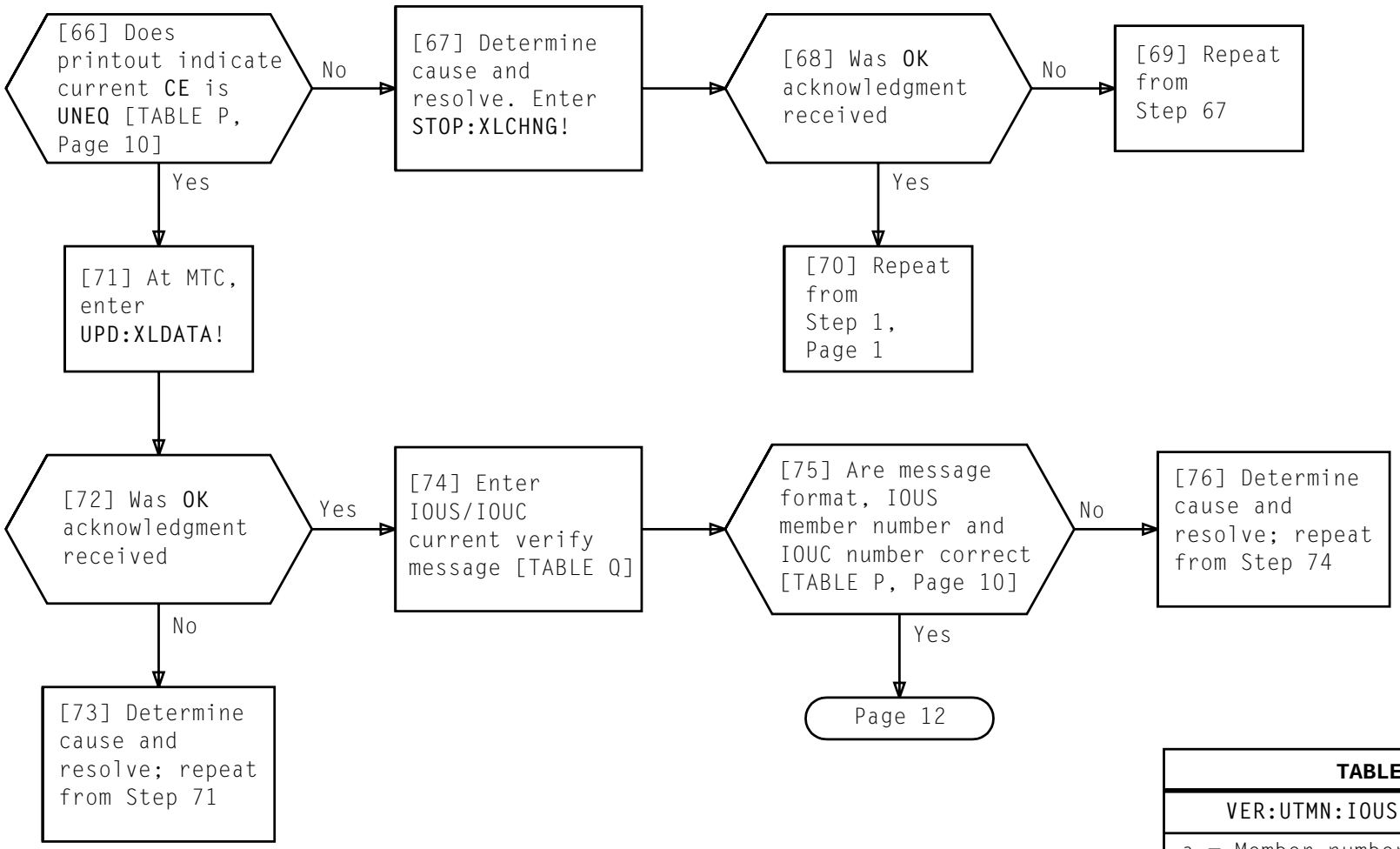
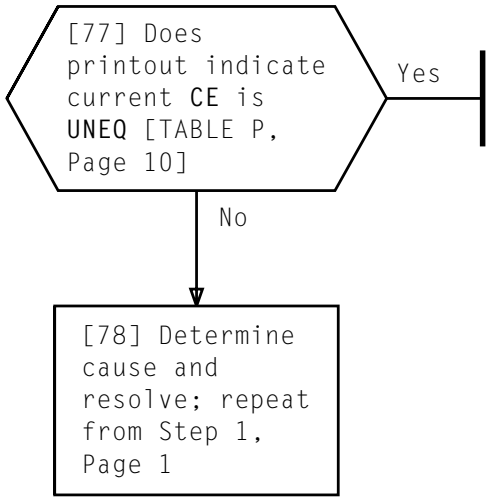


TABLE Q
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

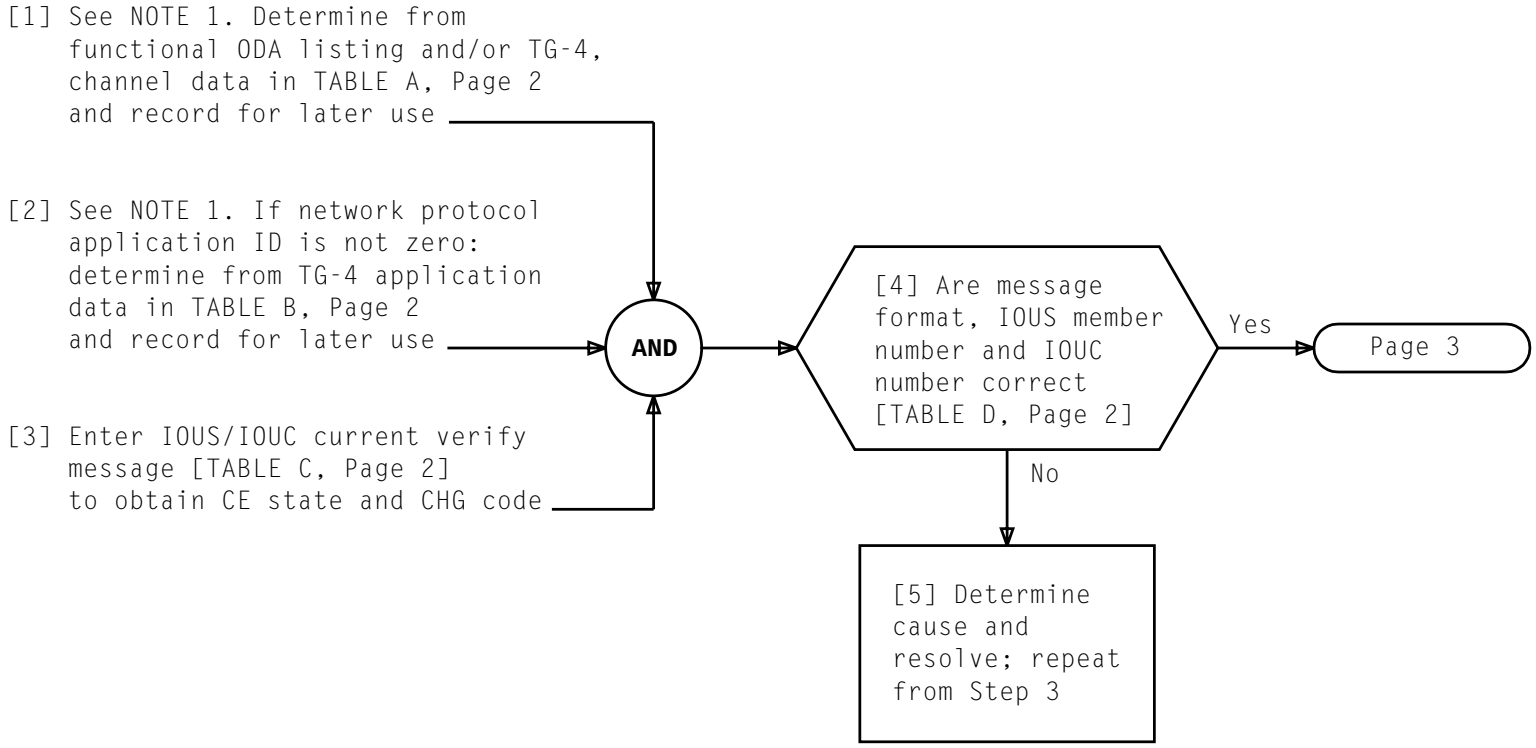
DEGROW IOUC CHANNEL EQUIPAGE



DEGROW IOUC CHANNEL EQUIPAGE

SUMMARY

Using appropriate office record drawings, determine IOUC data for CHG, CHNAME, BKUP, SPD, MODE, DIALUP, TRMTYP, TAPE, CHTYP, PHAPPLID, STATYP, and ACU. Enter change messages to change IOUC data. Verify buffered IOUC data, enter copy message, then verify current IOUC data. If after each verify, IOUC data is in error, enter stop message and start change from beginning. If IOUC data is correct after current verify, enter update message and verify that data is correct.



NOTE 1

If data cannot be determined from office record drawing, consult with office engineer

CHANGE AND VERIFY CHANNEL DATA

TABLE A

ITEM	CHANNEL DATA	ITEM	CHANNEL DATA
1	Hardware generation (CHG)	10	Network protocol application ID (PHAPPLID) — CHANNEL = VALUE CMSH1 & 2 = 1 EADASH1 = 2 EADASH2 = 3 Remaining Channels = 0
2	Name (CHNAME)		
3	Backup name (BKUP)		
4	Speed (SPD)		
5	Mode (MODE)		
6	Dialup security (DIALUP)		
7	Terminal type (TRMTYP)	11	Station type (STATYP) = DCE
8	Paper tape (TAPE)	12	Automatic calling unit (ACU) = Y (for DUP 1 through 6) N (for remaining channels)
9	Special handling (CHTYP)		

TABLE B

ITEM	APPLICATION DATA
1	Origin node address (ORIGNDA)
2	Origin AHP number (ORIGAHP)
3	Destination node address (DESTNDA)
4	Destination AHP number (DESTAHP)
5	Maximum data block size (MXBLKSZ)

TABLE C

VER:UTMN:IOUS a,IOUC b!

a = Member number of growth associated IOUS

b = Submember number of growth IOUC

TABLE D

VER:UTMN,IOUS a,IOUC b COMPLETED

TRANSLATOR ADR=

TRANSLATOR SIZE=43

CURRENT DATA:

CE=UNEQ

CHG=c

CHNAME=d

BKUP=e

SPD=f

MODE=g

DIALUP=h

TRMTYP=i

TAPE=j

CHTYP=k

PHAPPLID=l

STATYP=m

ACU=n

.

.

.

a = Member number
b = Submember number
c = Channel hardware generation
d = Channel name
e = Backup channel name
f = Channel speed
g = HLFDPX or FLLDPX
h = Y or N
i = KD KDT
P PT
KP KPT
KDP KDPT
T NONE
j = Y or N
k = Channel type
l = Protocol handler application ID
m = Station type
n = Automatic calling unit

CHANGE AND VERIFY CHANNEL DATA

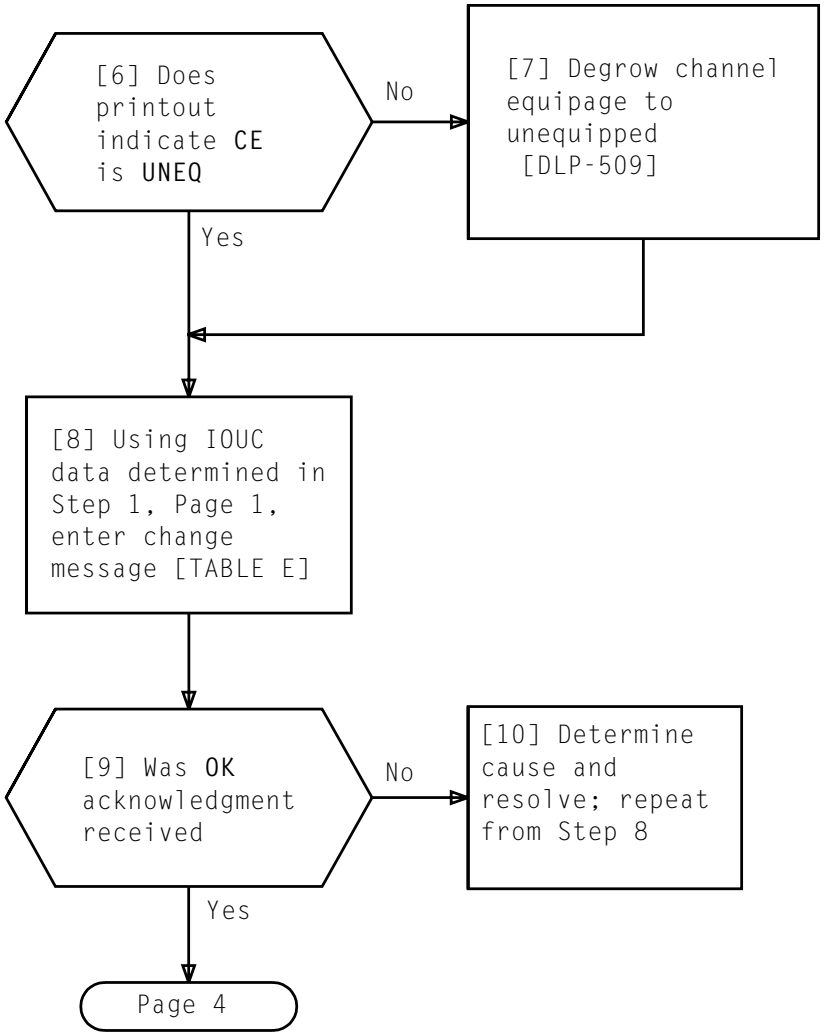


TABLE E

IN:XLBUF:IOUS a,IOUC b,CHNAME c!

a = Member number of growth associated IOUS
b = Submember number of growth IOUC
c = Channel name of growth channel —

CHANNEL NAME

BELT1	DUP4	NMNOC1	RMT1	TCA7
BELT2	DUP5	NMPR1	SCC1	TCA8
CMS1	DUP6	NMPR2	SREC1	TCA9
CMS2	EDASNM	NSCS	SREC2	TCA10
CMS3	EDASH1	RCDT1	SVOBS	TEC1
CMS4	EDASH2	RCDT2	TCA1	TEC2
CMSH1	ISCC	RCDT3	TCA2	TEC3
CMSH2	MTC	RCMOC	TCA3	TEC4
DUP1	NMDT1	RCREC	TCA4	TEC5
DUP2	NMDT2	RCRRT1	TCA5	TRF1
DUP3	NMDT3	RCRRT2	TCA6	TRF2

CHANGE AND VERIFY CHANNEL DATA

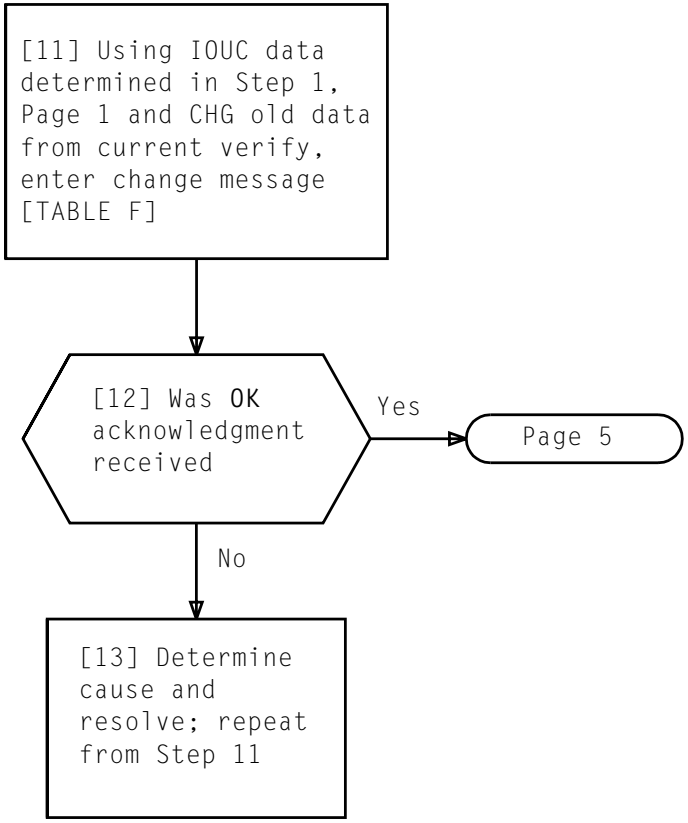


TABLE F

IN:XLBUF:IOUS a,IOUC b,CHG (c,d)!

a = Member number of growth associated IOUS

b = Submember number of growth IOUC

c = Old CHG data from current verify

d = New CHG data recorded from office record drawing

CHANGE AND VERIFY CHANNEL DATA

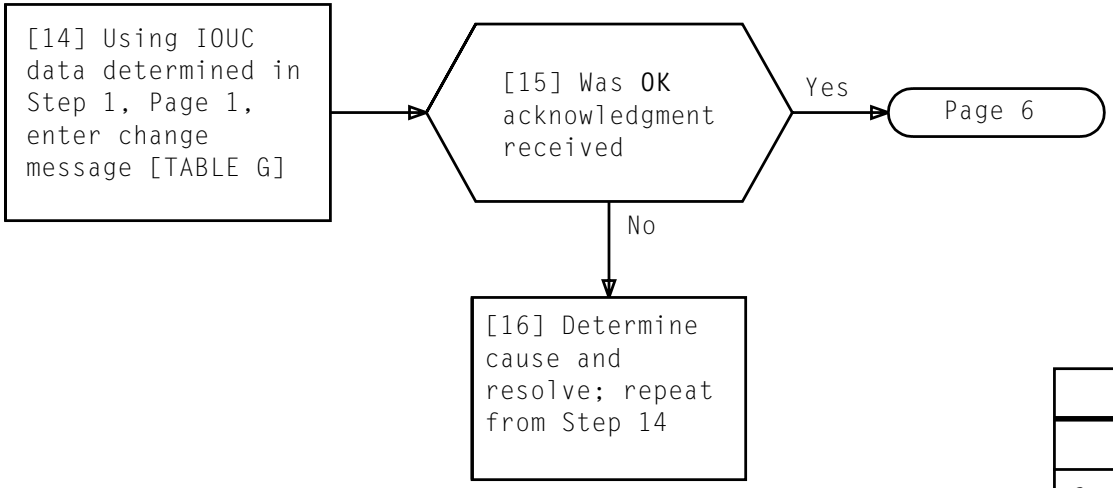


TABLE G

IN:XLBUF:IOUS a,IOUC b,BKUP c!

a = Member number of growth associated IOUS

b = Submember number of growth IOUC

c = Backup channel name of growth channel —

CHANNEL NAME			
BELT1	NMDT1	RMT1	TCA7
BELT2	NMDT2	SCC1	TCA8
CMS1	NMPR1	SREC1	TCA9
CMS2	NMPR2	SREC2	TCA10
CMS3	RCDT1	SVOBS	TEC1
CMS4	RCDT2	TCA1	TEC2
CMSH1	RCDT3	TCA2	TEC3
CMSH2	RCMOC	TCA3	TEC4
EADASNM	RCREC	TCA4	TEC5
ISCC	RCRRT1	TCA5	TRF1
MTC	RCRRT2	TCA6	TRF2

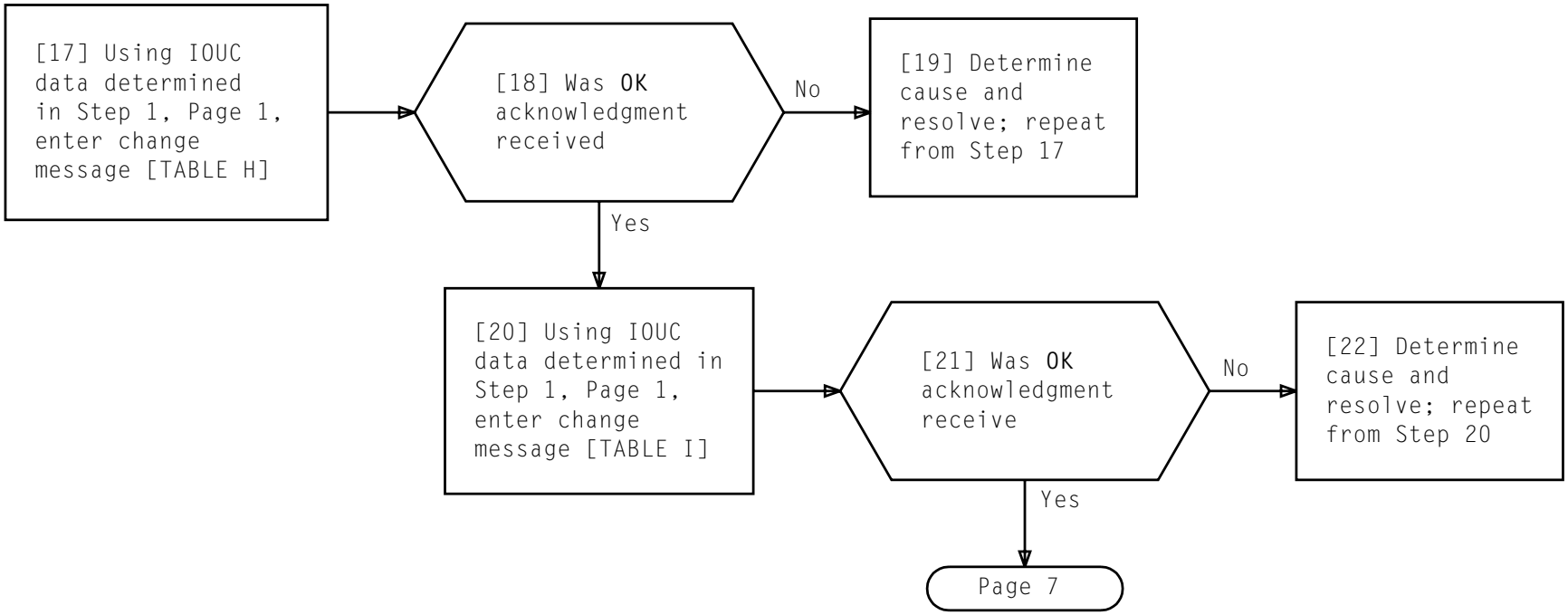


TABLE H
IN:XLBUF:IOUS a,IOUC b,SPD c!
a = Member number of growth associated IOUS b = Submember number of growth IOUC c = Channel speed — 110, 1200, 1800, 2400, 4800, or 9600

TABLE I
IN:XLBUF:IOUS a,IOUC b,MODE c!
a = Member number of growth associated IOUS b = Submember number of growth IOUC c = Channel mode = HLFDPX or FLLDPX

CHANGE AND VERIFY CHANNEL DATA

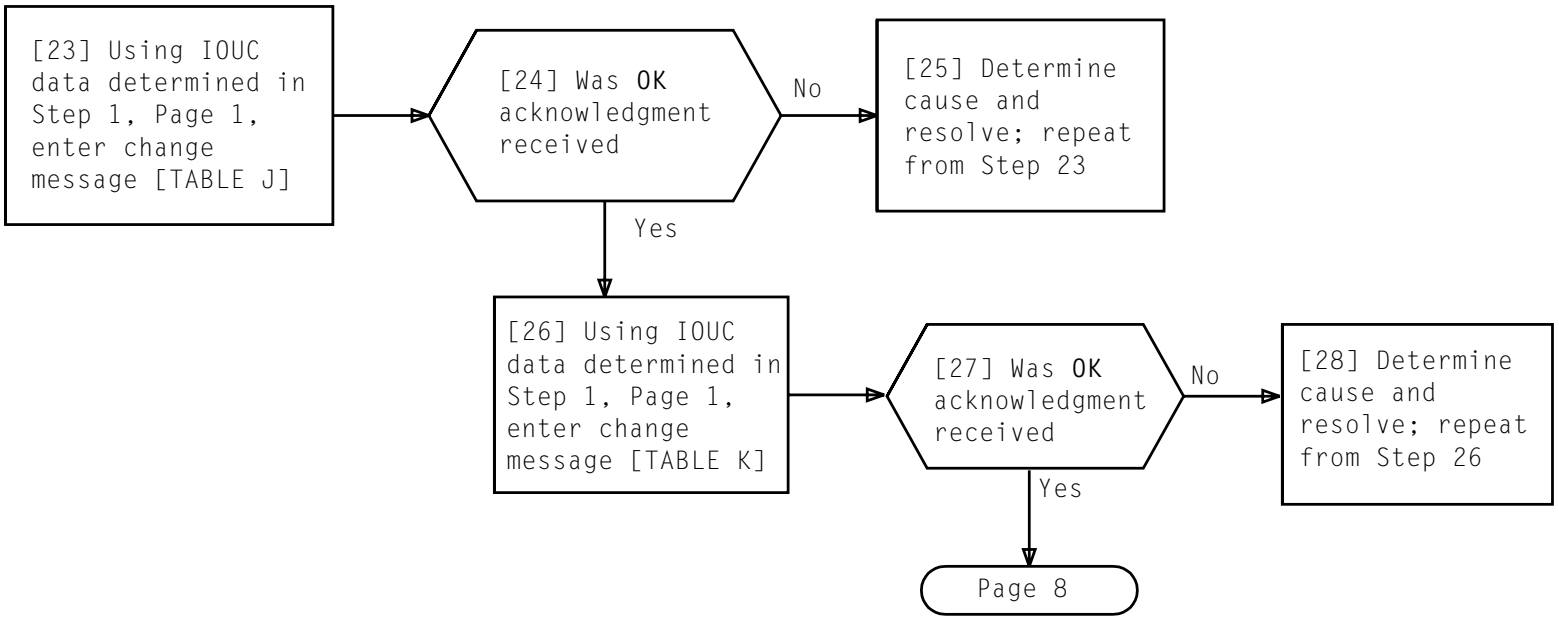


TABLE J
IN:XLBUF:IOUS a,IOUC b,DIALUP c!
a = Member number of growth associated IOUS b = Submember number of growth IOUC c = Dial up data set port connection — Y if dialup port is connected N if dialup port is not connected

TABLE K
IN:XLBUF:IOUS a,IOUC b,TRMTYP c!
a = Member number of growth associated IOUS b = Submember number of growth IOUC c = Terminal type — KD P KP KDP T KDT PT KPT KDPT NONE

CHANGE AND VERIFY CHANNEL DATA

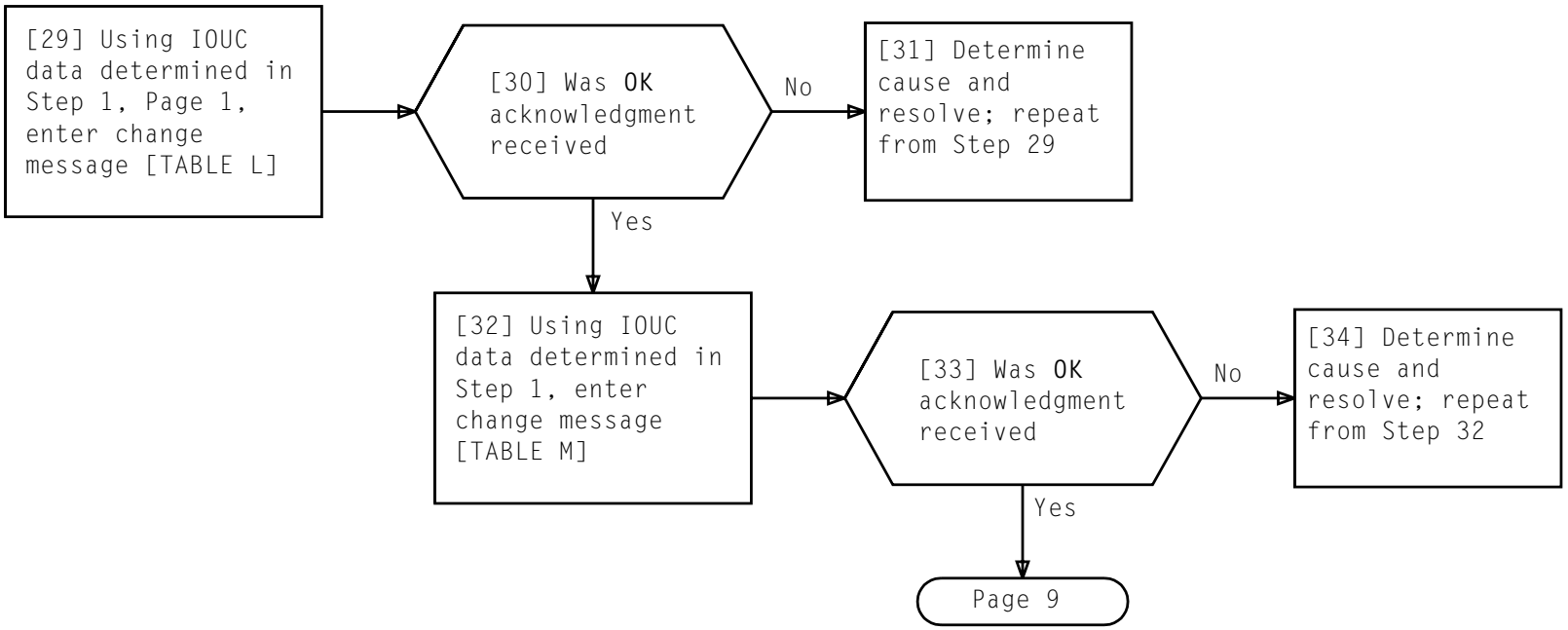


TABLE L

IN:XLBUF:IOUS a,IOUC b,TAPE c!

a = Member number of growth associated IOUS
b = Submember number of growth IOUC
c = Tape — Y if channel equipped with paper tape or
N if channel not equipped with paper tape

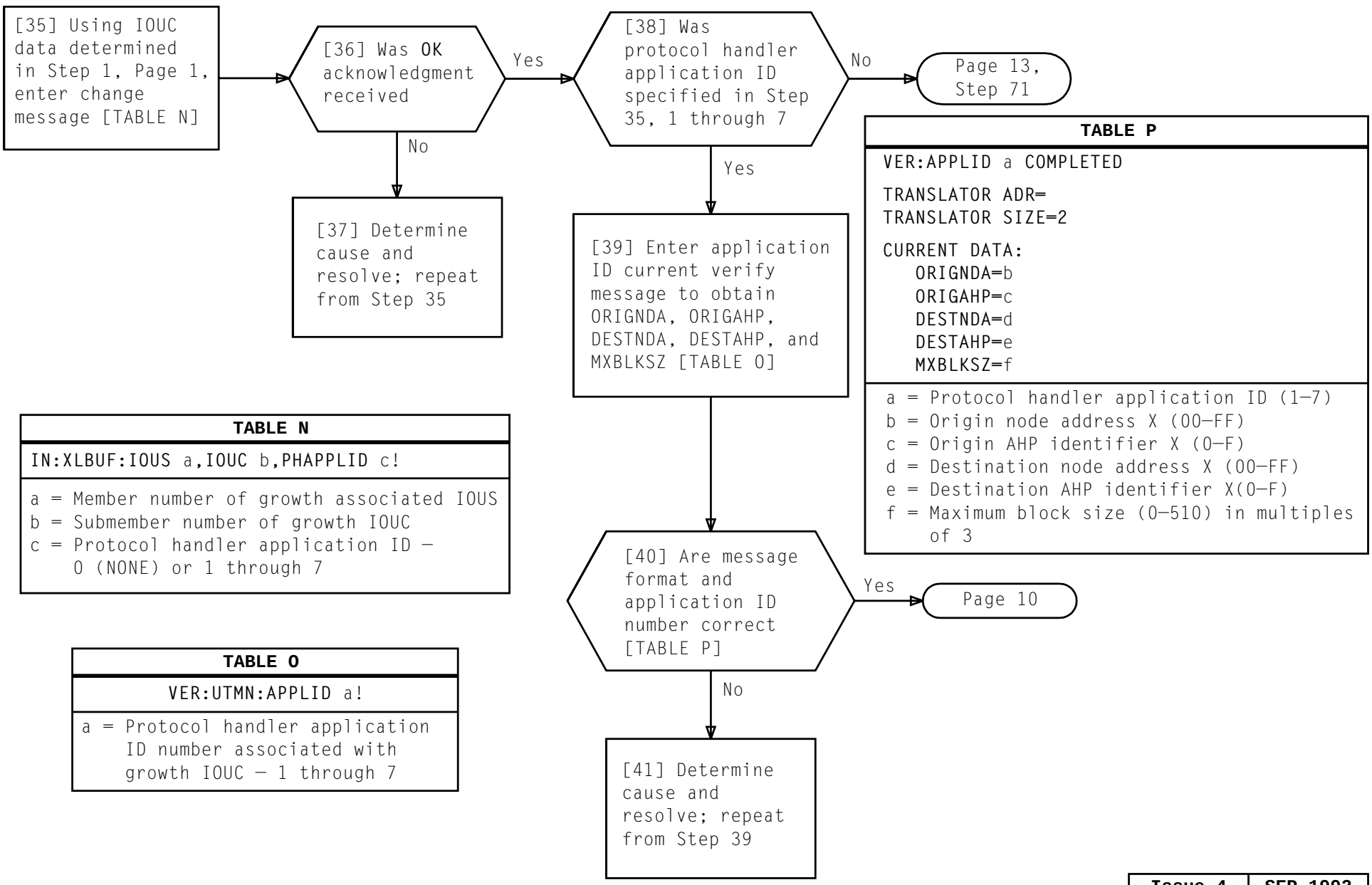
TABLE M

IN:XLBUF:IOUS a,IOUC b,CHTYP c!

a = Member number of growth associated IOUS
b = Submember number of growth IOUC
c = Channel type —

2 (for NMDT1)	10 (for DUP2)
3 (for NMDT2)	10 (for DUP3)
4 (for NMDT3)	10 (for DUP4)
6 (for SVOBS)	10 (for DUP5)
7 (for EDASNM)	10 (for DUP6)
10 (for DUP1)	11 (for EDASH1)
	11 (for EDASH2)
	0 (for all other channels)

CHANGE AND VERIFY CHANNEL DATA



CHANGE AND VERIFY CHANNEL DATA

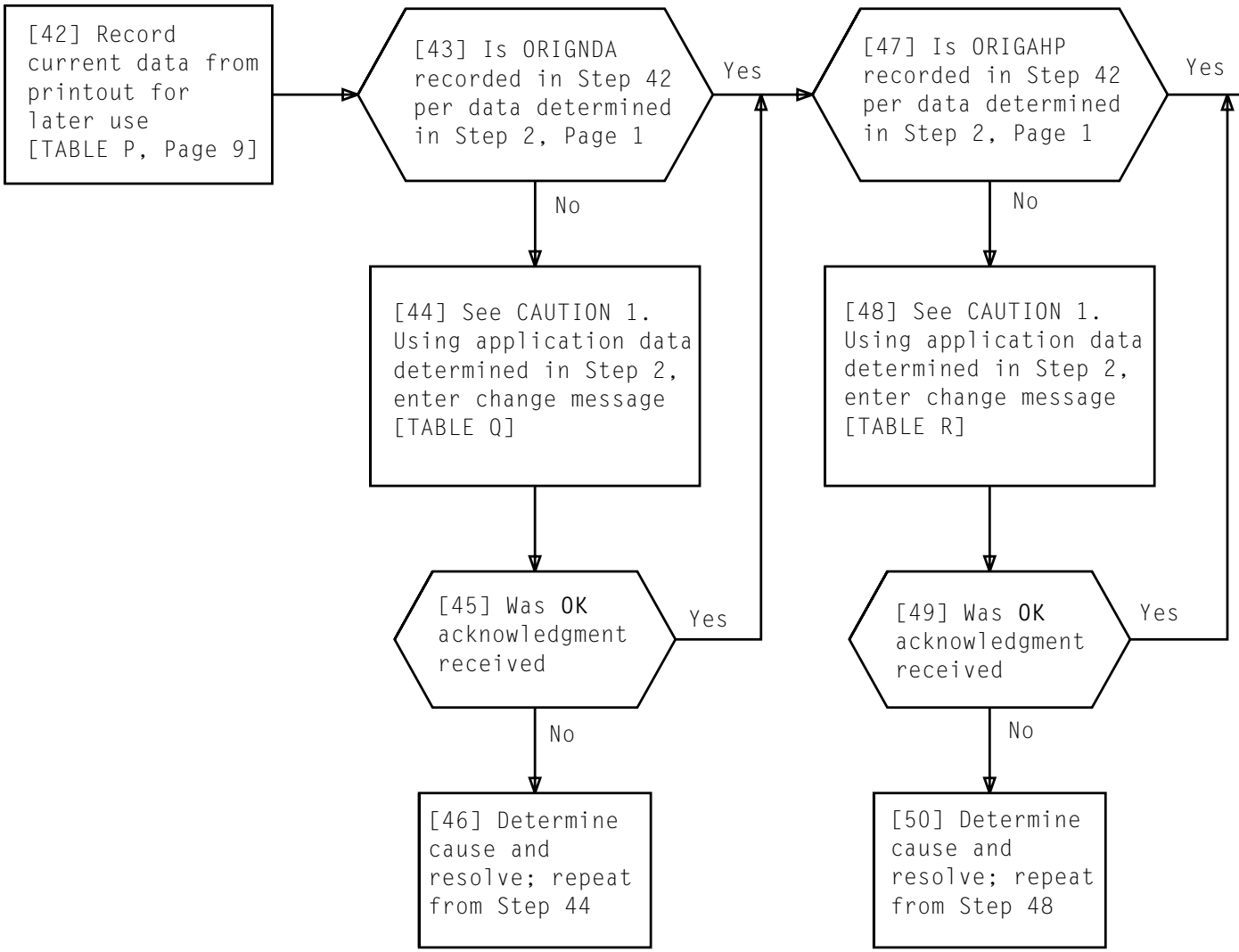


TABLE Q
IN:XLBUF:APPLID a,ORIGNDA b!
a = Protocol handler application ID number (1–7) b = Origin node address X (00–FF)

TABLE R
IN:XLBUF:APPLID a,ORIGAHP b!
a = Protocol handler application ID number (1–7) b = Origin AHP identifier X (0–F)

CAUTION 1
If this is not first channel associated with this protocol handler ID, then approval must be obtained prior to performing any changes

CHANGE AND VERIFY CHANNEL DATA

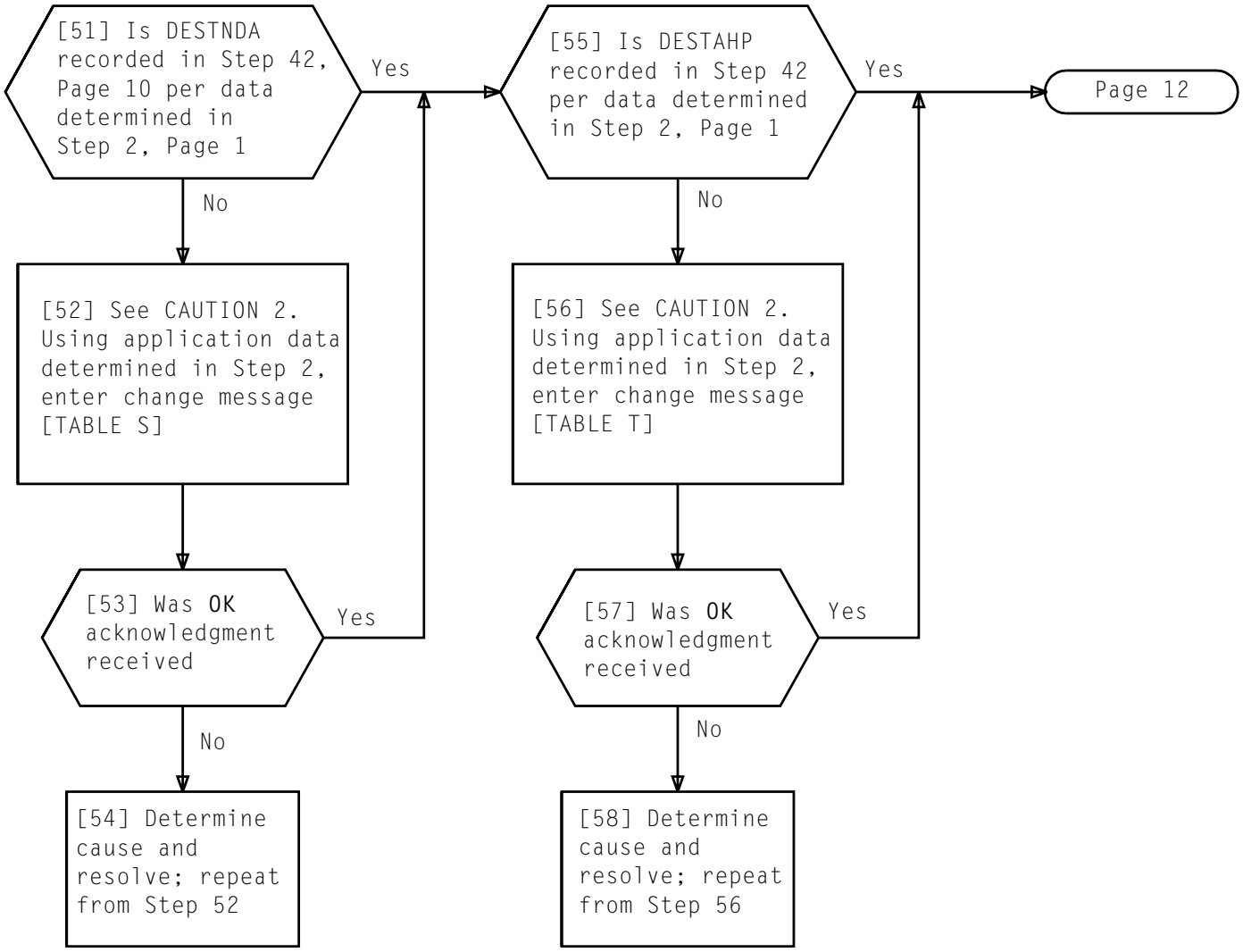


TABLE S
IN:XLBUF:APPLID a,DESTNDA b!
a = Protocol handler application ID (1–7) b = Destination node address X (00–FF)

TABLE T
IN:XLBUF:APPLID a,DESTAHP b!
a = Protocol handler application ID (1–7) b = Destination AHP identifier X (0–F)

CAUTION 2
If this is not first channel associated with this protocol handler ID, then approval must be obtained prior to performing any changes

CHANGE AND VERIFY CHANNEL DATA

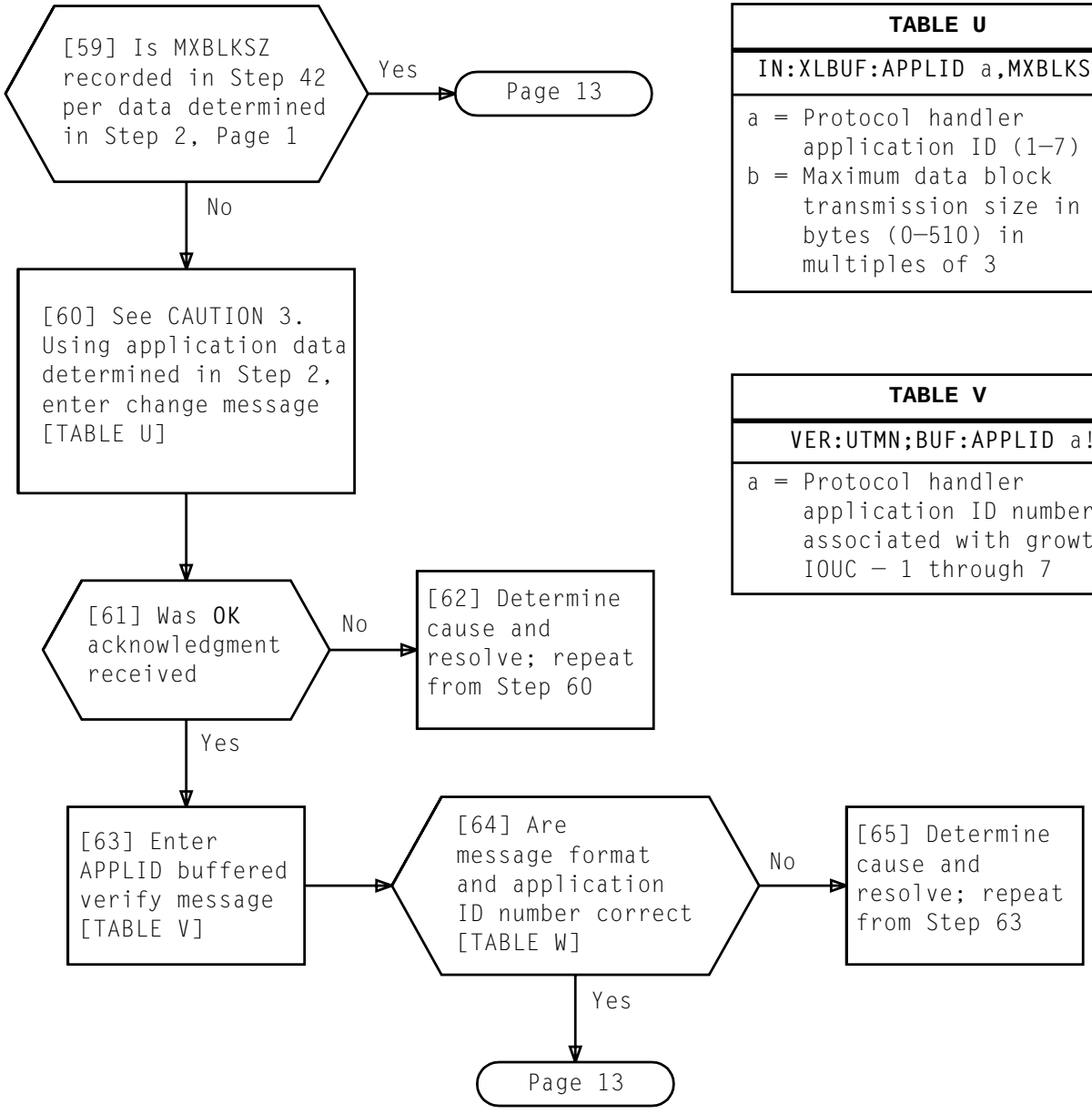


TABLE U

IN:XLBUF:APPLID a,MXBLKSZ b!

a = Protocol handler application ID (1–7)
b = Maximum data block transmission size in bytes (0–510) in multiples of 3

TABLE V

VER:UTMN;BUF:APPLID a!

a = Protocol handler application ID number associated with growth IOUC – 1 through 7

TABLE W

VER:APPLID a COMPLETED

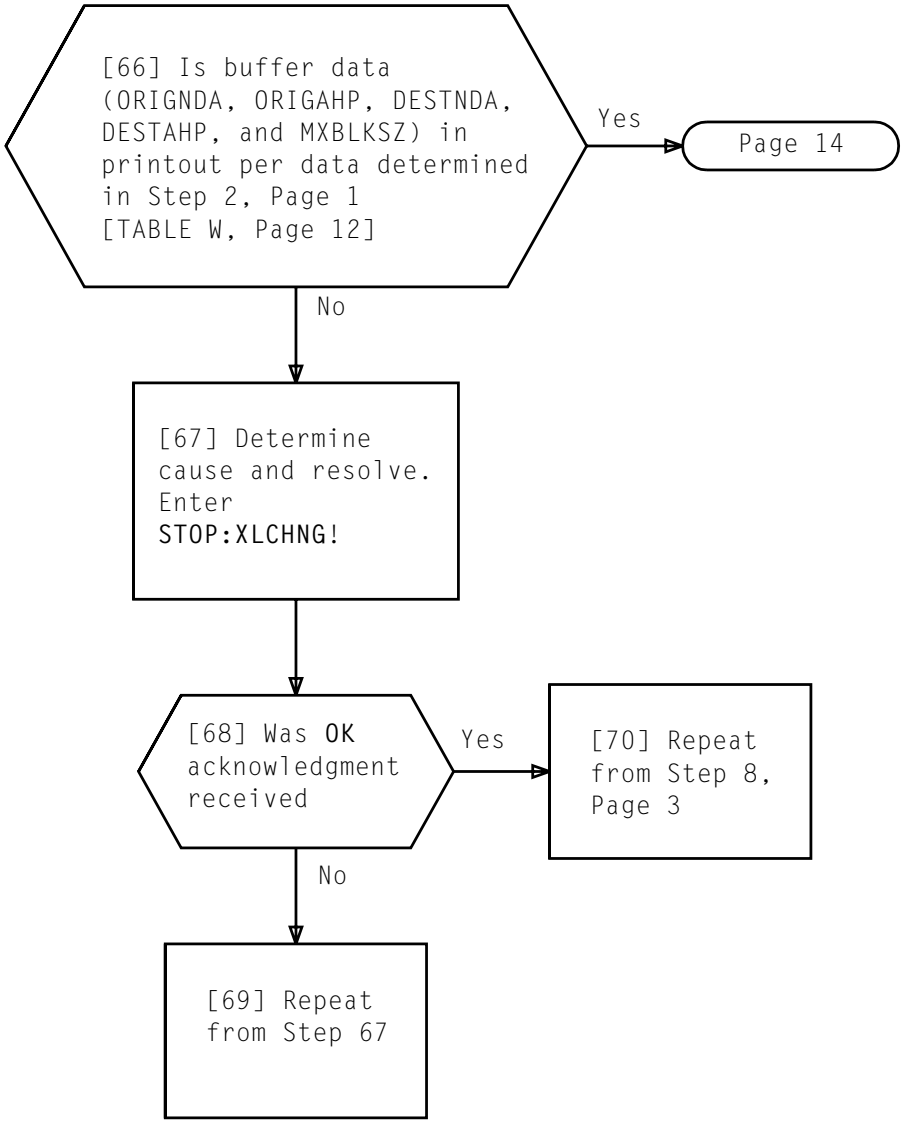
TRANSLATOR ADR=
TRANSLATOR SIZE=2

BUFFERED DATA:
ORIGNDA=b
ORIGAHP=c
DESTNDA=d
DESTAHP=e
MXBLKSZ=f

a = Protocol handler application ID (1–7)
b = Origin node address X (00–FF)
c = Origin AHP identifier X (0–F)
d = Destination node address X (00–FF)
e = Destination AHP identifier X (0–F)
f = Maximum block size (0–510) in multiples of 3

CAUTION 3
If this is not first channel associated with this protocol handler ID, then approval must be obtained prior to performing any changes

CHANGE AND VERIFY CHANNEL DATA



CHANGE AND VERIFY CHANNEL DATA

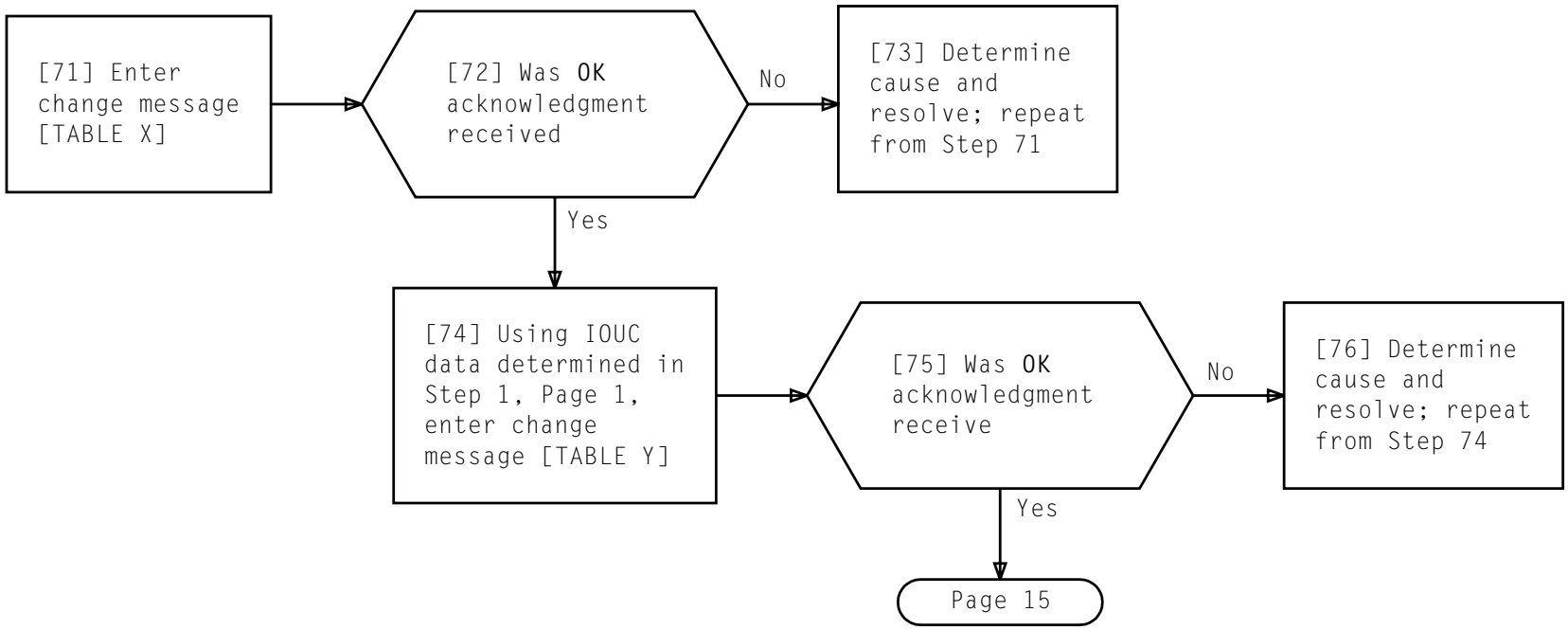


TABLE X
IN:XLBUF:IOUS a,IOUC b,STATYP DCE!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE Y
IN:XLBUF:IOUS a,IOUC b,ACU c!
a = Member number of growth associated IOUS b = Submember number of growth IOUC c = Y (for DUP 1 through 6) N (for remaining channels)

CHANGE AND VERIFY CHANNEL DATA

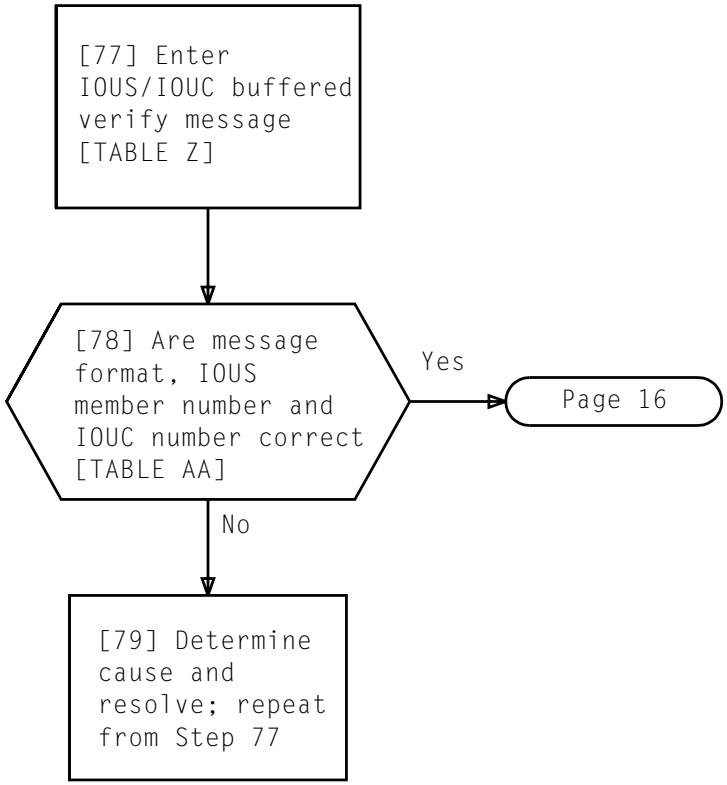


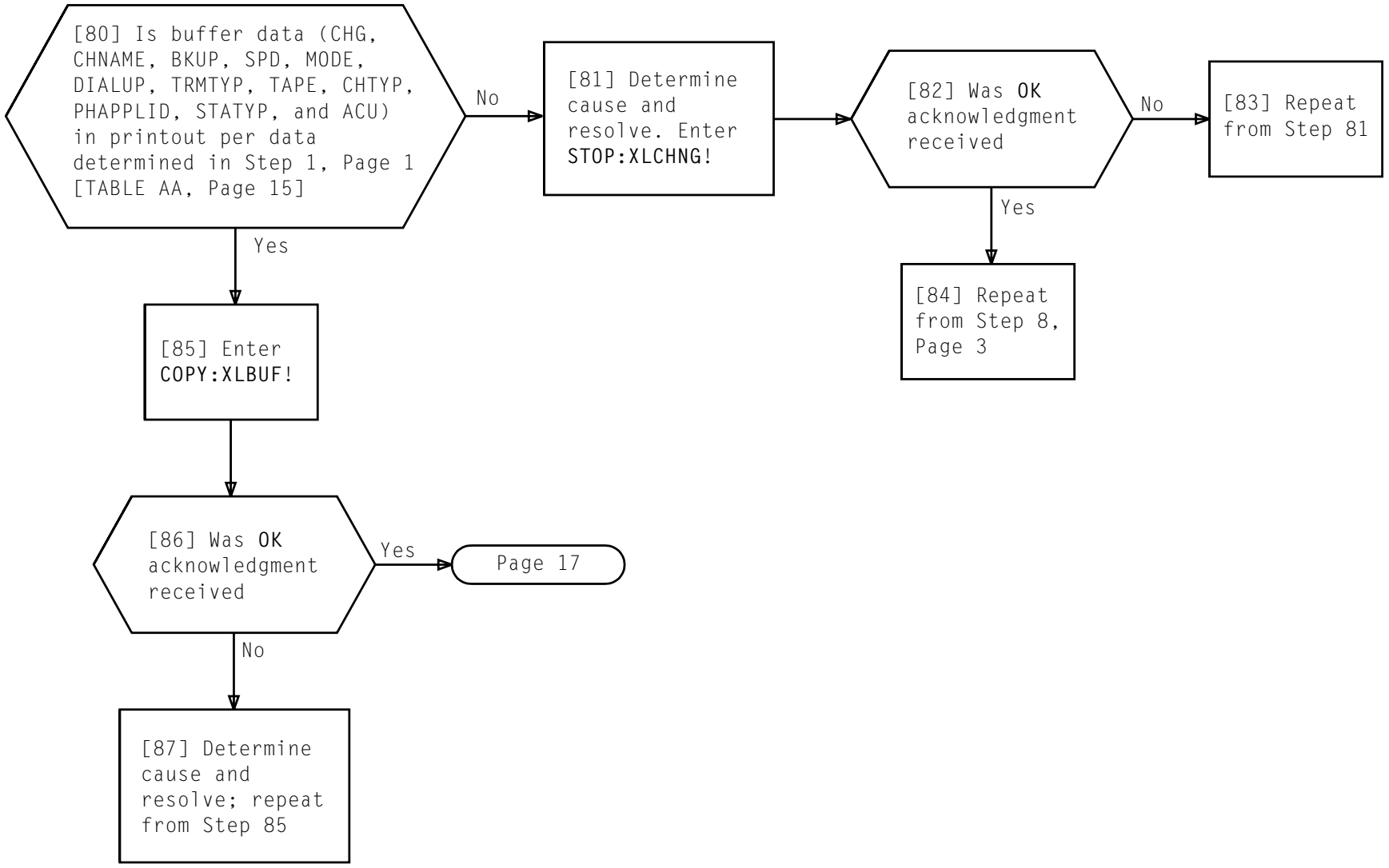
TABLE Z

VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE AA

VER:UTMN,IOUS a,IOUC b COMPLETED	a = Member number
TRANSLATOR ADR=	b = Submember number
TRANSLATOR SIZE=43	c = Channel hardware generation
BUFFERED DATA:	d = Channel name
CE=UNEQ	e = Backup channel name
CHG=c	f = Channel speed
CHNAME=d	g = HLFDPX or FLLDPX
BKUP=e	h = Y or N
SPD=f	i = KD KDT P PT KP KPT KDP KDPT T NONE
MODE=g	
DIALUP=h	
TRMTYP=i	
TAPE=j	j = Y or N
CHTYP=k	k = Channel type
PHAPPLID=l	l = Protocol handler application ID
STATYP=m	m = Station type
ACU=n . . .	n = Automatic calling unit

CHANGE AND VERIFY CHANNEL DATA



CHANGE AND VERIFY CHANNEL DATA

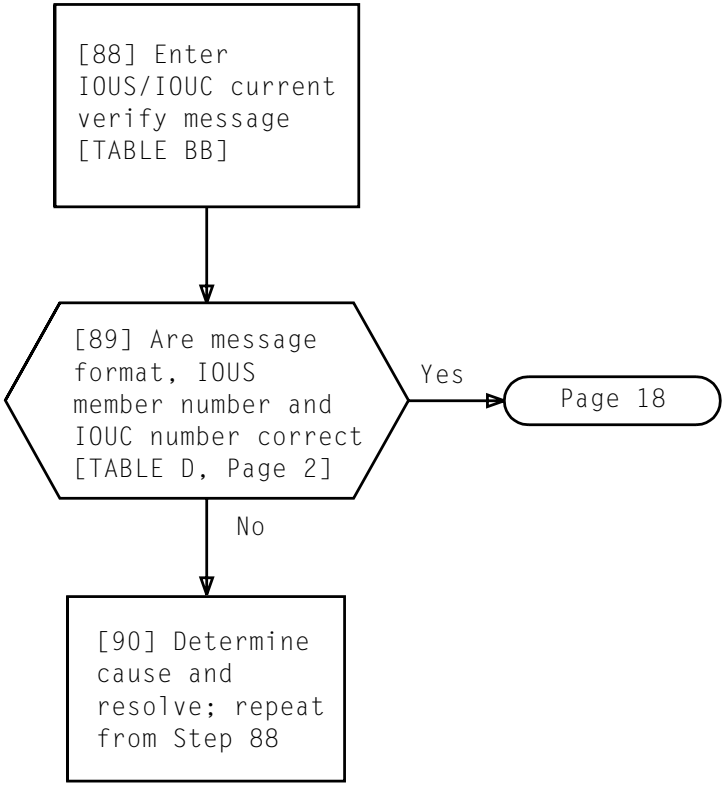


TABLE BB
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

CHANGE AND VERIFY CHANNEL DATA

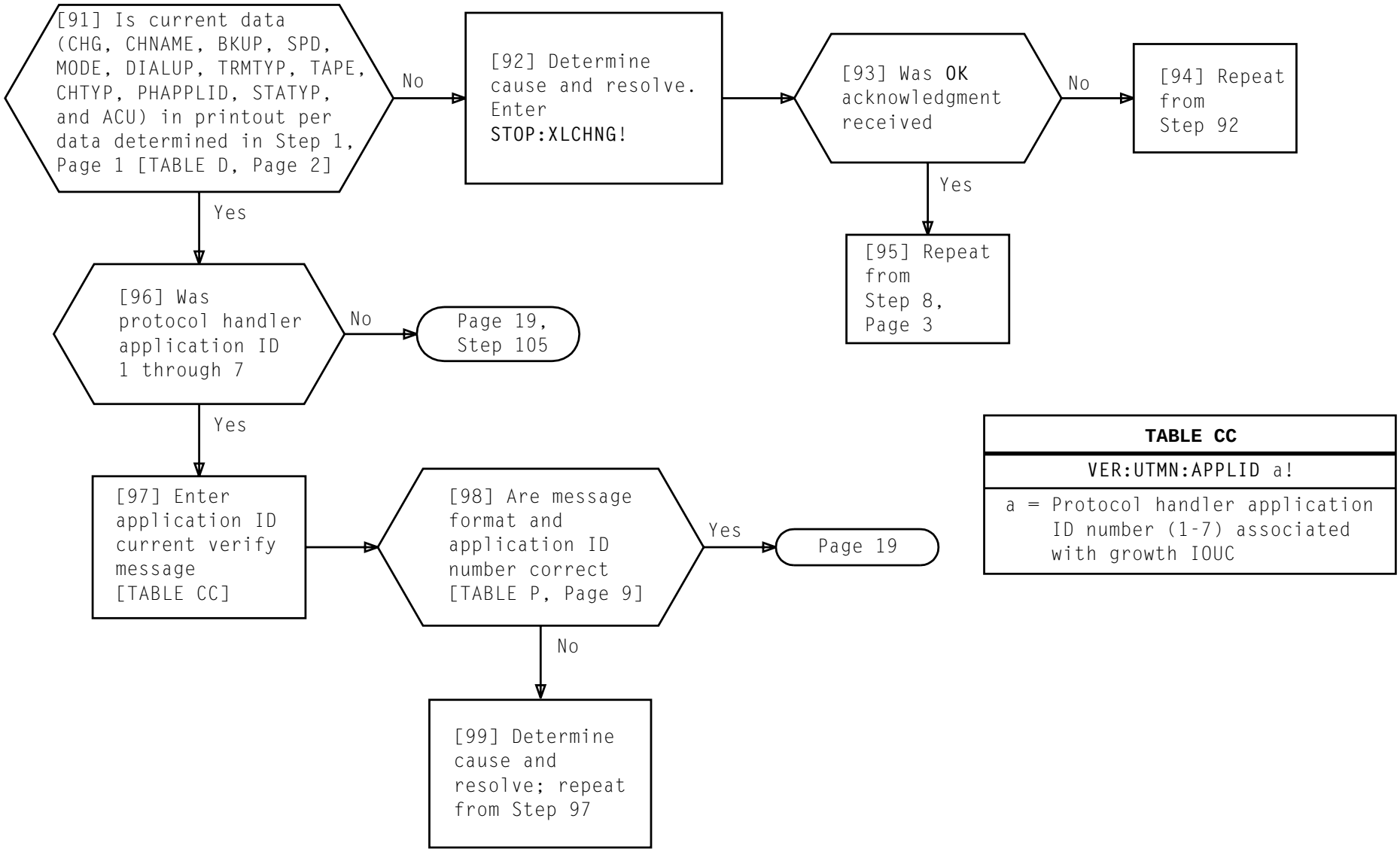
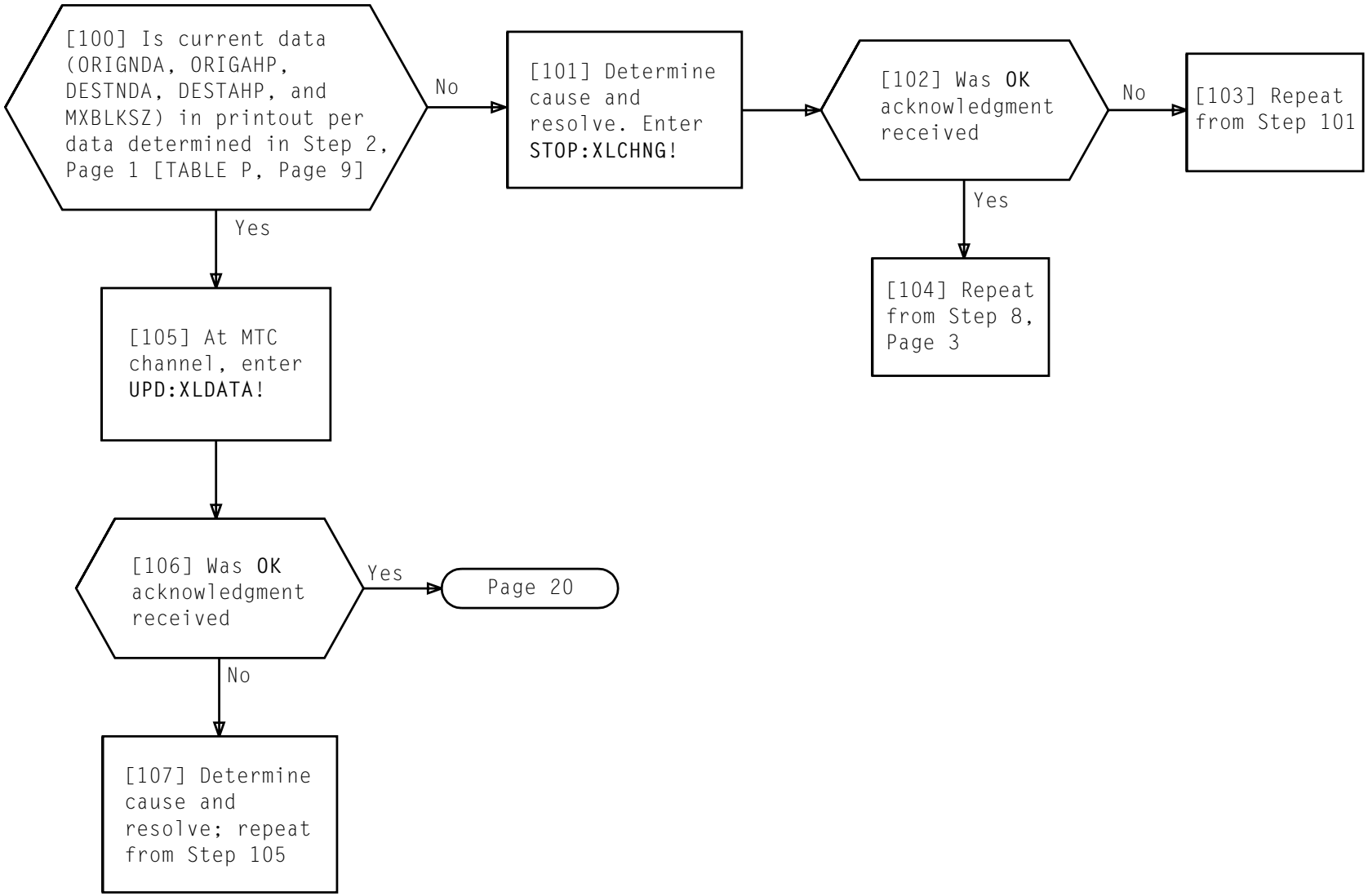


TABLE CC
VER:UTMN:APPLID a!
a = Protocol handler application ID number (1-7) associated with growth IOUC

CHANGE AND VERIFY CHANNEL DATA



CHANGE AND VERIFY CHANNEL DATA

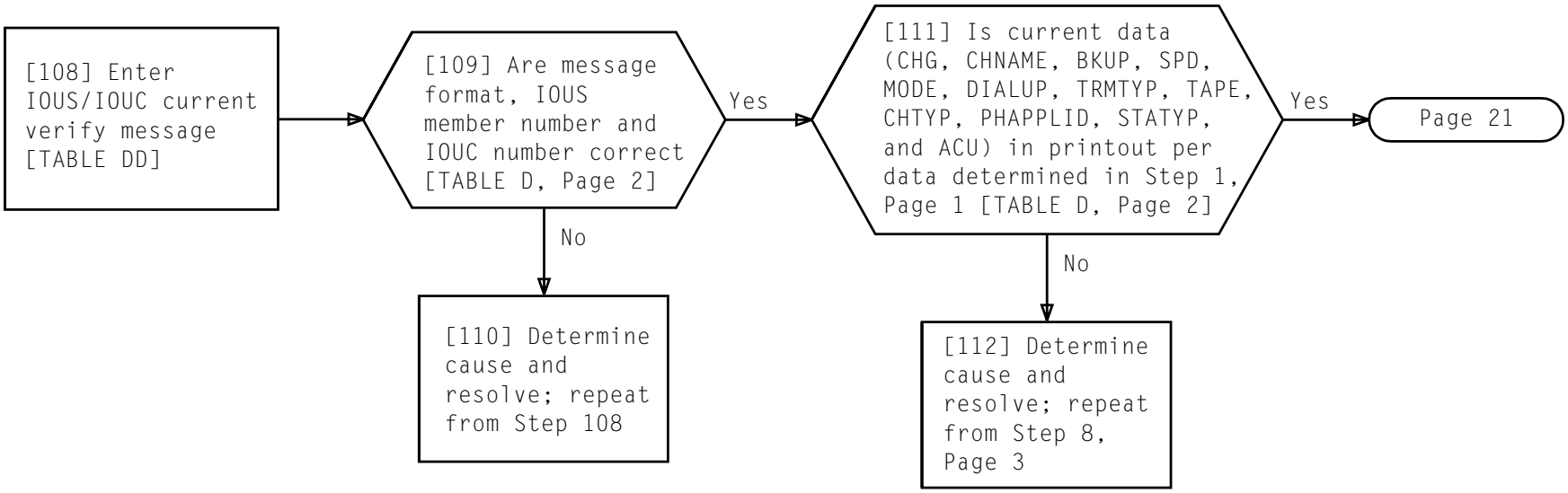


TABLE DD
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

CHANGE AND VERIFY CHANNEL DATA

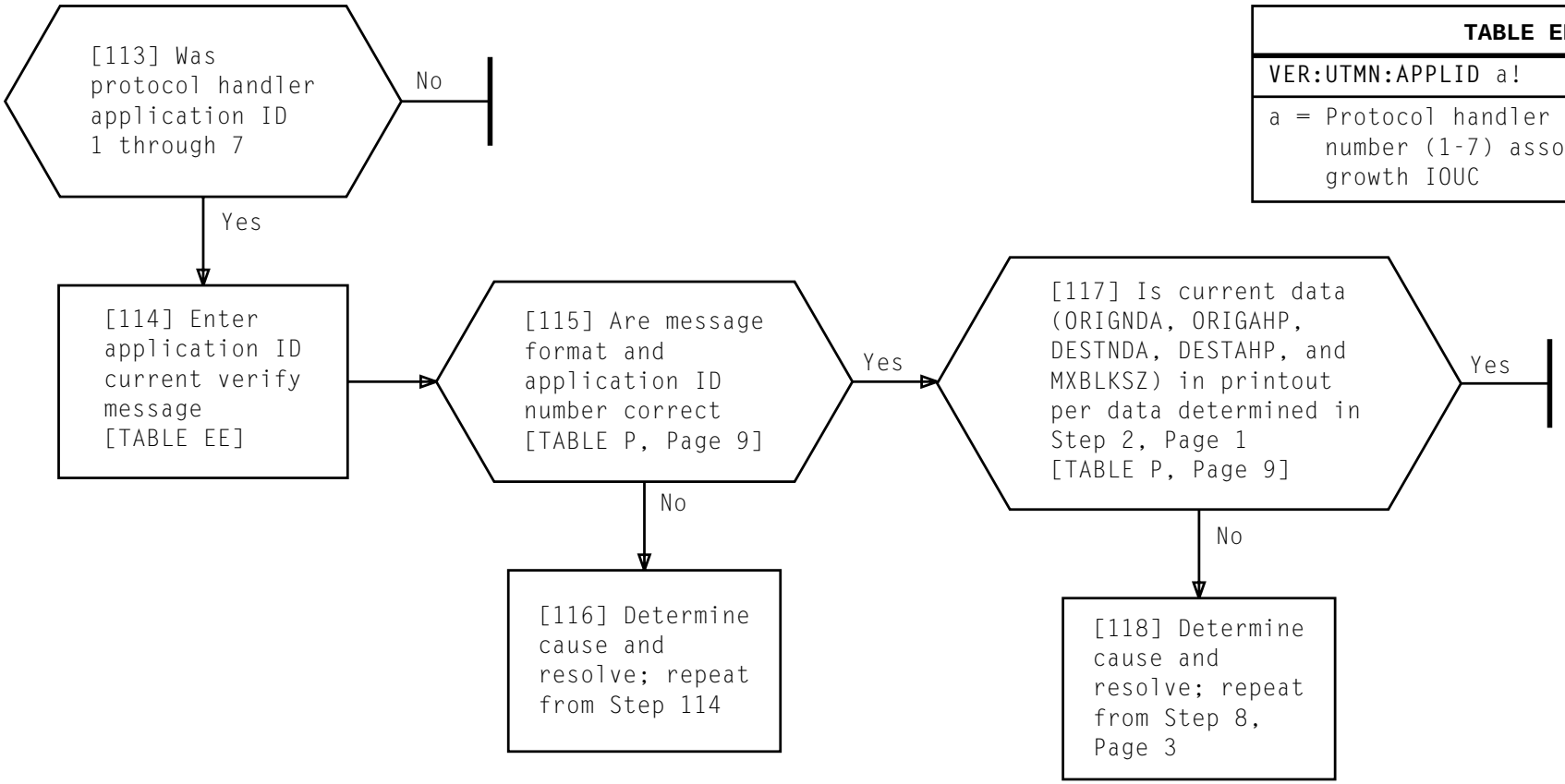


TABLE EE
VER:UTMN:APPLID a!
a = Protocol handler application ID number (1-7) associated with growth IOUC

CHANGE AND VERIFY CHANNEL DATA

SUMMARY

Enter change message to grow channel equipage (CE) from UNEQ to GROW. Verify buffered CE, enter copy message, then verify current CE. If after each verify CE is in error, enter stop message and start change from beginning. If CE is correct after current verify, enter update message and verify that data is correct in translator

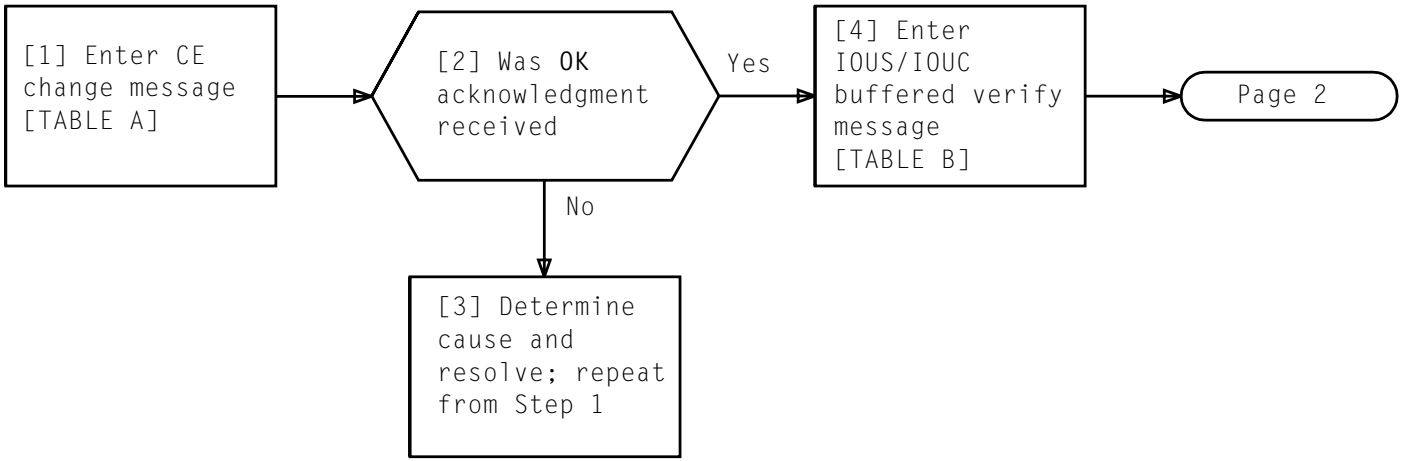


TABLE A

IN:XLBUF:IOUS a,IOUC b,CE (UNEQ,GROW)!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE B

VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

CHANGE AND VERIFY CHANNEL EQUIPAGE UNEQUIPPED TO GROW

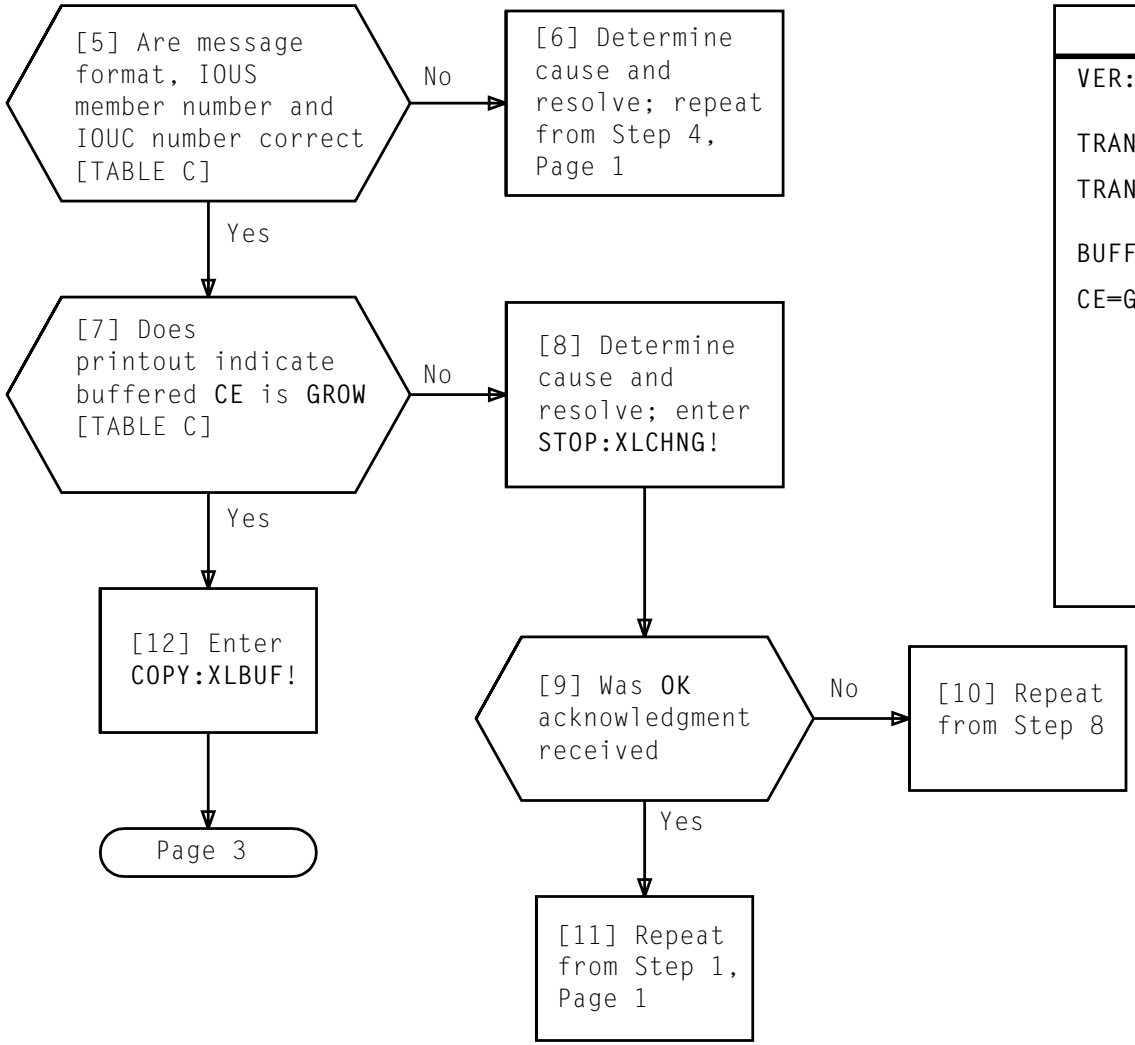


TABLE C

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 BUFFERED DATA: CE=GROW	a = Member number b = Submember number

CHANGE AND VERIFY CHANNEL EQUIPAGE UNEQUIPPED TO GROW

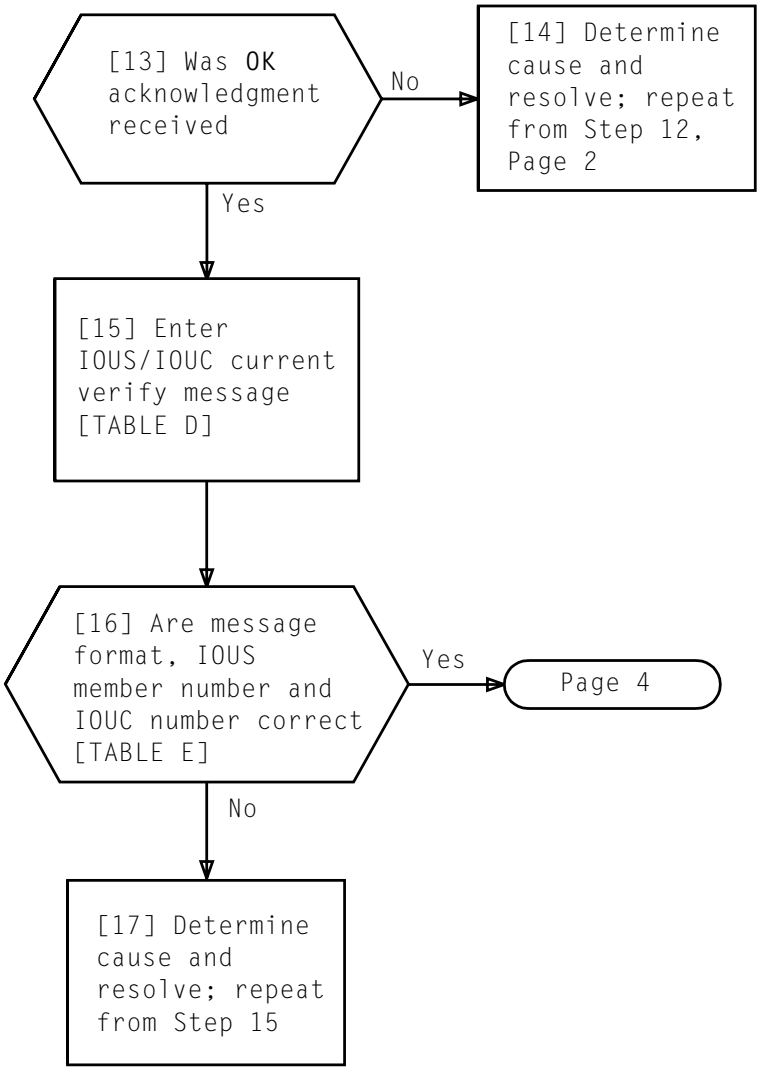


TABLE D
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE E	
VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: CE=GROW	a = Member number b = Submember number

CHANGE AND VERIFY CHANNEL EQUIPAGE UNEQUIPPED TO GROW

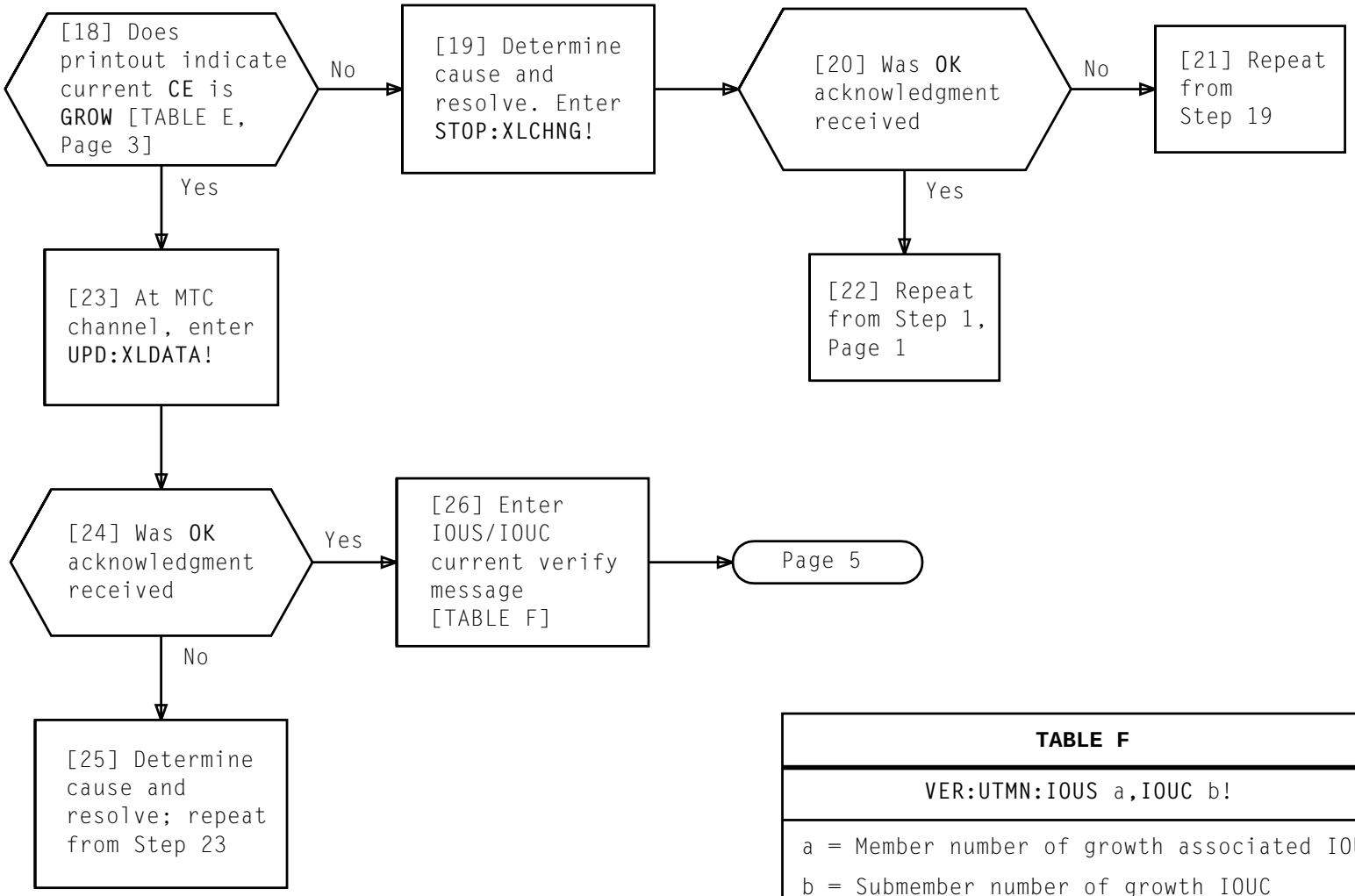
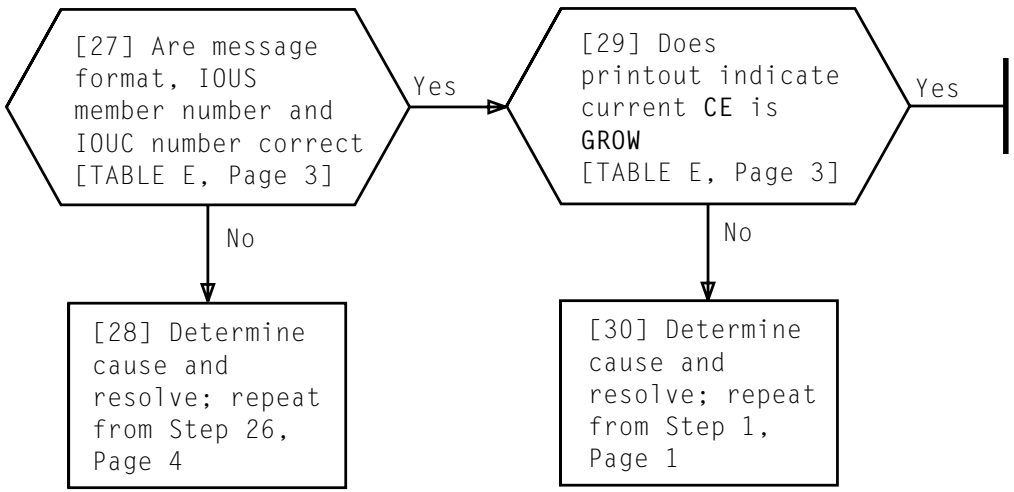


TABLE F
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

CHANGE AND VERIFY CHANNEL EQUIPAGE UNEQUIPPED TO GROW



CHANGE AND VERIFY CHANNEL EQUIPAGE UNEQUIPPED TO GROW

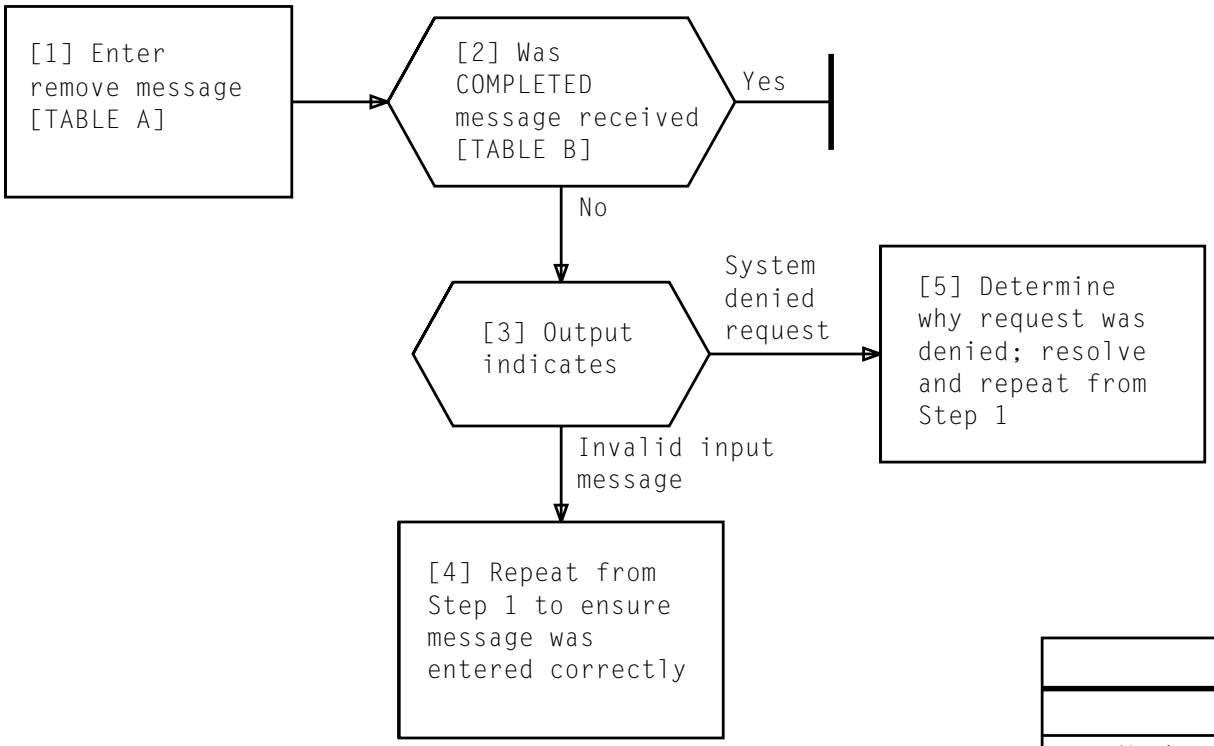


TABLE A
RMV:IOUS a,IOMP b!
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

TABLE B
RMV:IOUS a,IOMP b COMPLETED
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

REMOVE INPUT/OUTPUT MICROPROCESSOR FROM SERVICE

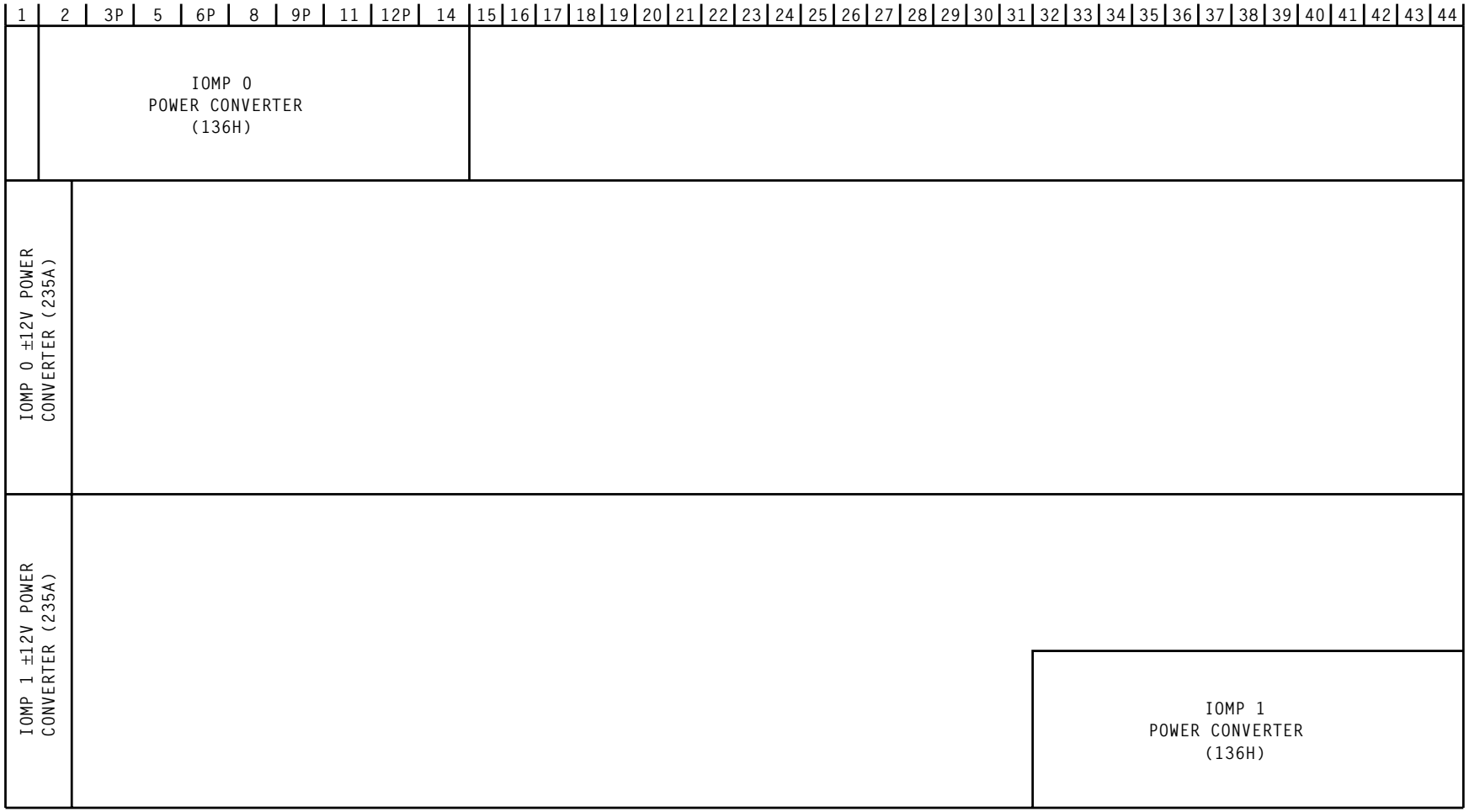
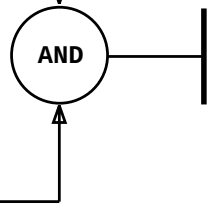


FIG. 1

POWER DOWN INPUT/OUTPUT MICROPROCESSOR COMMUNITY (SD-5A049 OR 5A052)

[1] Turn 136H power supply switch to **OFF** for growth associated IOMP [FIG. 1]



[2] Turn 235A power supply switch to **OFF** for growth associated IOMP [FIG. 1]

POWER DOWN INPUT/OUTPUT MICROPROCESSOR COMMUNITY (SD-5A049 OR 5A052)

[1] Turn power supply switch to **OFF** on 136H or 136N converter(s) in growth associated IOMP [FIG. 1]

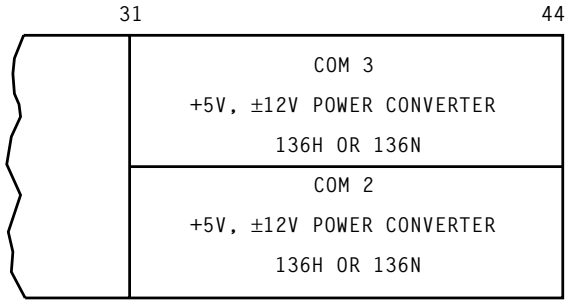


FIG. 1

POWER DOWN INPUT/OUTPUT MICROPROCESSOR COMMUNITY (SD-4C049)

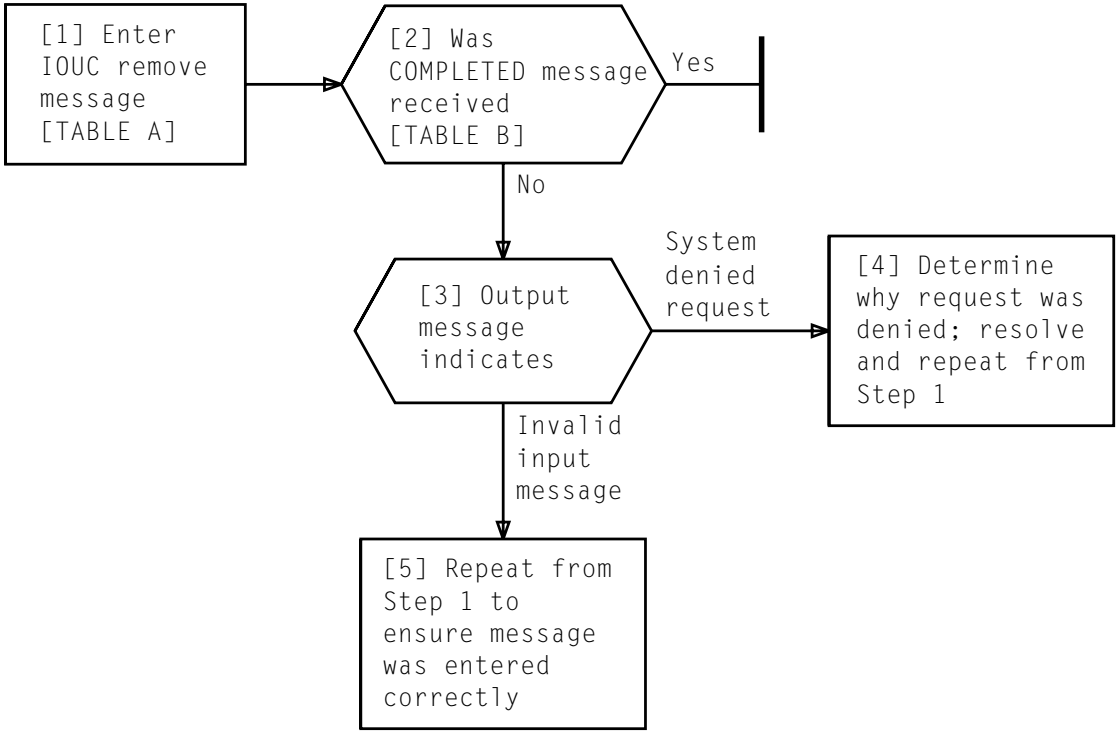


TABLE A
RMV:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE B
RMV:IOUS a,IOUC b COMPLETED
a = Member number b = Submember number

REMOVE IOUC FROM SERVICE

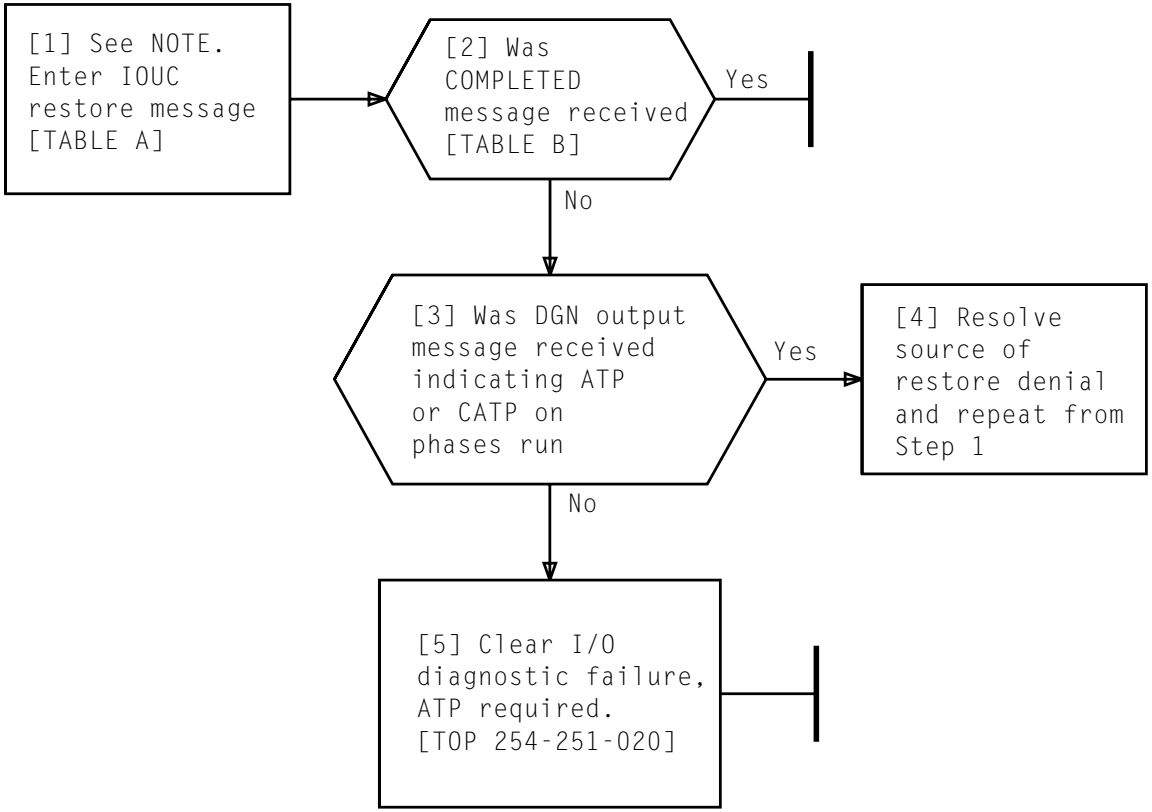


TABLE A
RST:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE B
RST:IOUS a,IOUC b COMPLETED
a = Member number b = Submember number

NOTE
Restore message will cause I/O diagnostic to be run

RESTORE IOUC TO SERVICE

[1] At terminal device, ensure that cable from port being activated is connected and firmly seated

[2] Connect cable from terminal device to terminal strip (level 72) of I/O frame for IOUC and port being activated [FIG. 1]

[3] Apply power to terminal device according to installation instructions for that terminal

AND

[4] Are there any more ports to be connected on this IOUC

No

Yes

[5] Repeat from Step 1 for next port

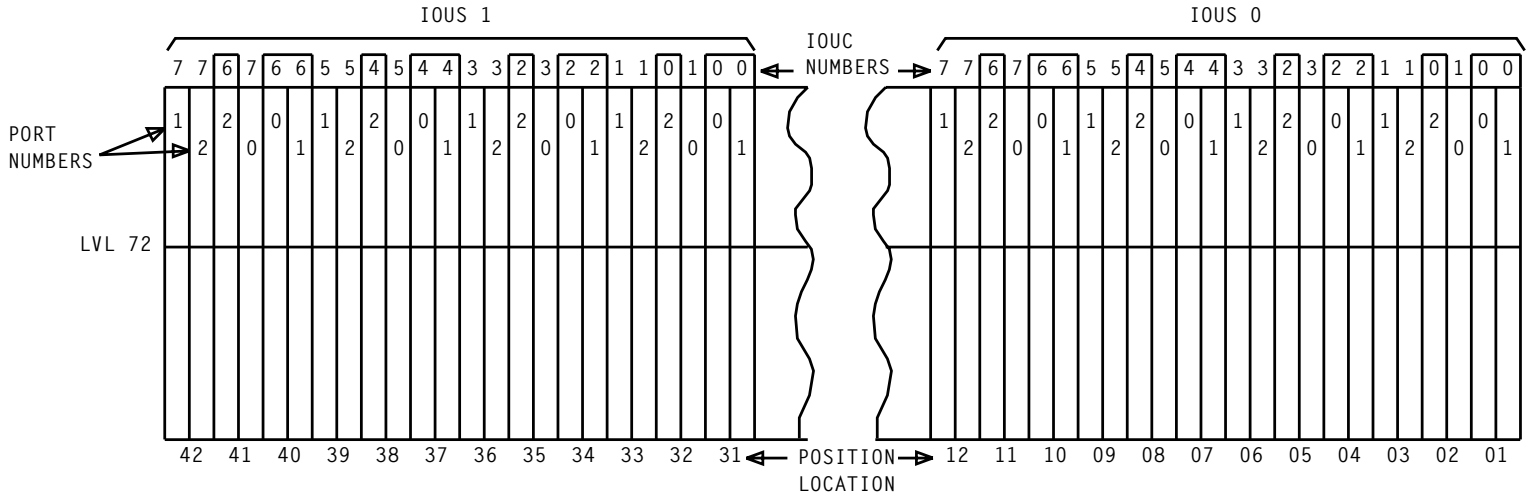


FIG. 1

CONNECT PORT CABLE(S) AT I/O FRAME

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[1] At terminating end, ensure that cable from port being activated is connected and firmly seated

[2] Using TABLE A, determine location of backplane area associated with IOUC being activated

[3] Connect cable from terminating end, to backplane area located in Step 2 of I/O frame for port being activated [FIG. 1]

[4] Apply power to terminating end according to installation instructions

AND

[5] Are there any more ports to be connected on this IOUC

No

Yes

[6] Repeat from Step 1 for next port

TABLE A

CHANNEL	LOCATION	CHANNEL	LOCATION
A00	062-14	B00	038-14
A01	062-12P	B01	038-12P
A02	062-11	B02	038-11
A03	062-09P	B03	038-09P
A04	062-08	B04	038-08
A05	062-06P	B05	038-06P
A06	062-05	B06	038-05
A07	062-03P	B07	038-03P
A10	054-14	B10	030-14
A11	054-12P	B11	030-12P
A12	054-11	B12	030-11
A13	054-09P	B13	030-09P
A14	054-08	B14	030-08
A15	054-06P	B15	030-06P
A16	054-05	B16	030-05
A17	054-03P	B17	030-03P

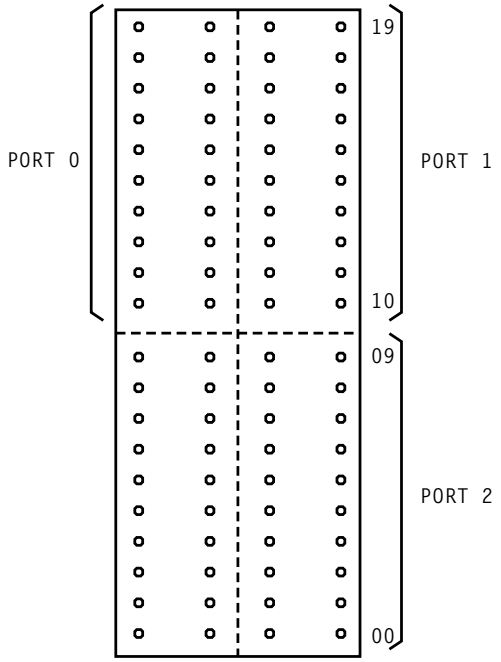


FIG. 1

CONNECT PORT CABLE(S) AT IOP FRAME

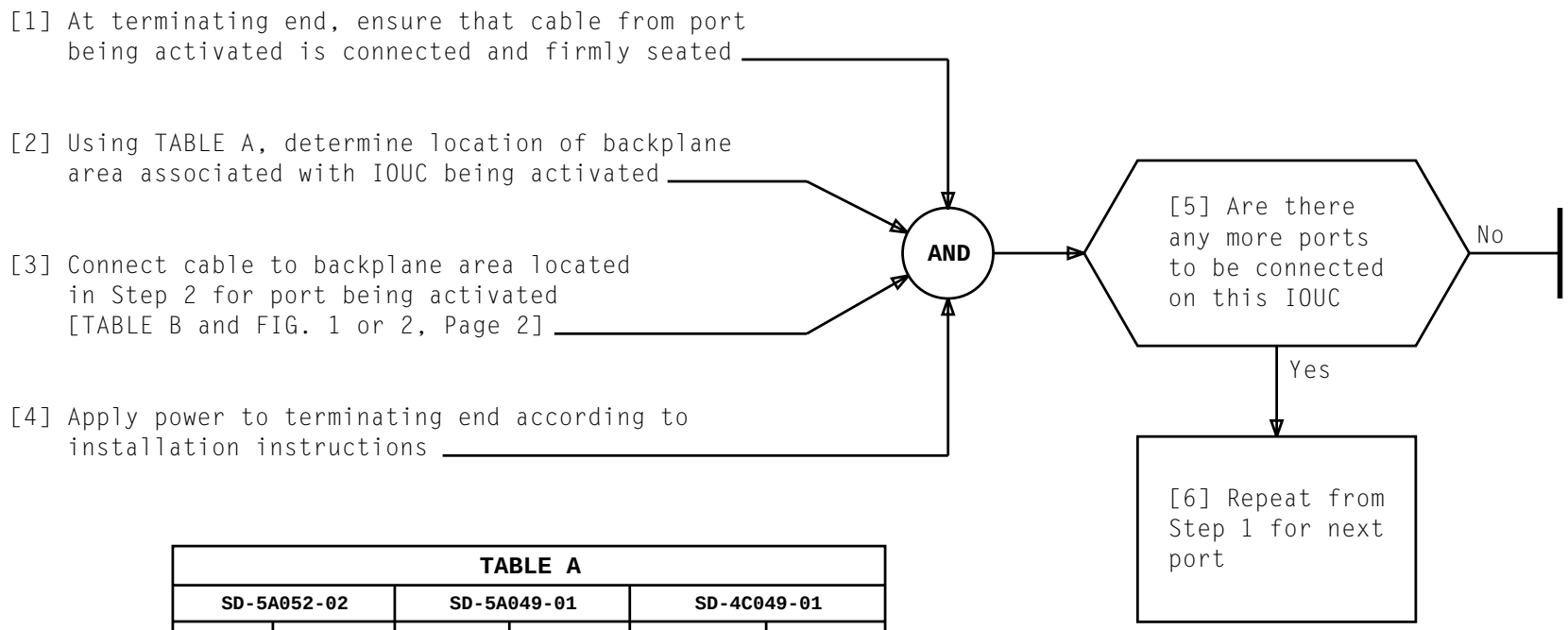


TABLE A

SD-5A052-02		SD-5A049-01		SD-4C049-01	
CHANNEL	LOCATION	CHANNEL	LOCATION	CHANNEL	LOCATION
A00	62-14	A10	54-14	PC-20A	50-108
A01	62-12P	A11	54-12P	PC-21A	50-100
A02	62-11	A12	54-11	PC-22A	50-092
A03	62-09P	A13	54-09P	PC-23A	50-084
A04	62-08	A14	54-08	PC-30A	50-048
A05	62-06P	A15	54-06P	PC-31A	50-040
A06	62-05	A16	54-05	PC-32A	50-032
A07	62-03P	A17	54-03P	PC-33A	50-024
B00	32-14	B10	24-14	PC-20B	20-108
B01	32-12P	B11	24-12P	PC-21B	20-100
B02	32-11	B12	24-11	PC-22B	20-092
B03	32-09P	B13	24-09P	PC-23B	20-084
B04	32-08	B14	24-08	PC-30B	20-048
B05	32-06P	B15	24-06P	PC-31B	20-040
B06	32-05	B16	24-05	PC-32B	20-032
B07	32-03P	B17	24-03P	PC-33B	20-024

TABLE B

PORT	FG19	FG26	FG27	TN75
0	310	310	310	145
1	110		110	
2	100			

CONNECT PORT CABLES AT IOP FRAME (J5A006D)

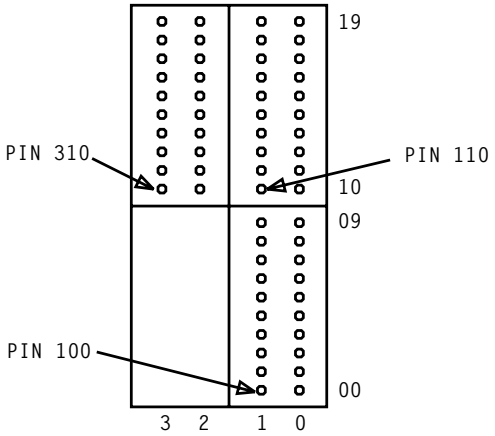


FIG. 1

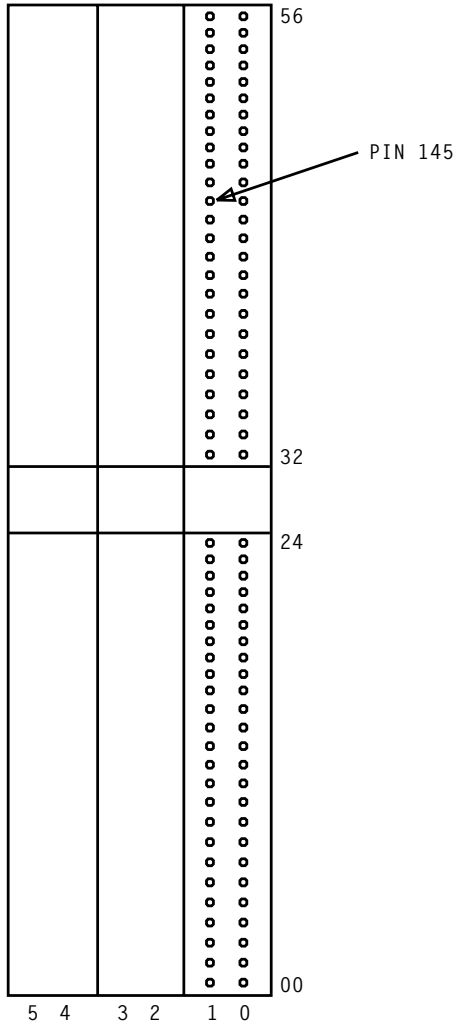


FIG. 2

CONNECT PORT CABLES AT IOP FRAME (J5A006D)

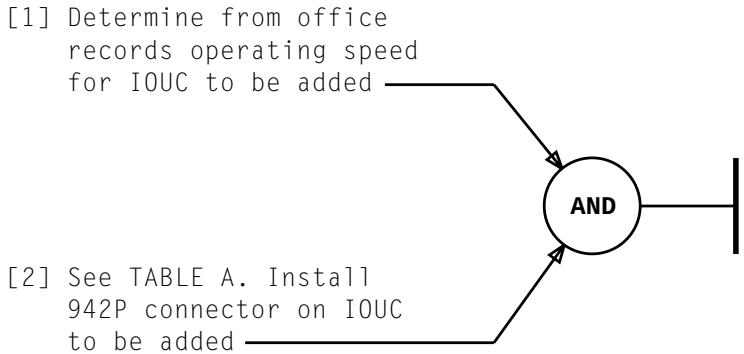


TABLE A

IOUS	IOUC	EQUIPMENT LOCATION	BITS PER SECOND	
			110	1200
			QUADRANT	QUADRANT
Upper	0	056-09	J3	J4
	1	052-06	J3	J4
	2	048-09	J3	J4
	3	056-22	J3	J4
	4	048-22	J3	J4
	5	056-36	J3	J4
	6	052-39	J3	J4
	7	048-36	J3	J4
Lower	0	028-09	J3	J4
	1	024-06	J3	J4
	2	020-09	J3	J4
	3	028-22	J3	J4
	4	020-22	J3	J4
	5	028-36	J3	J4
	6	024-39	J3	J4
	7	020-36	J3	J4

SELECT IOUC OPERATING SPEED

[1] See NOTES 1 and 2. Place current mode signaling converters into I/O frame according to TABLE A

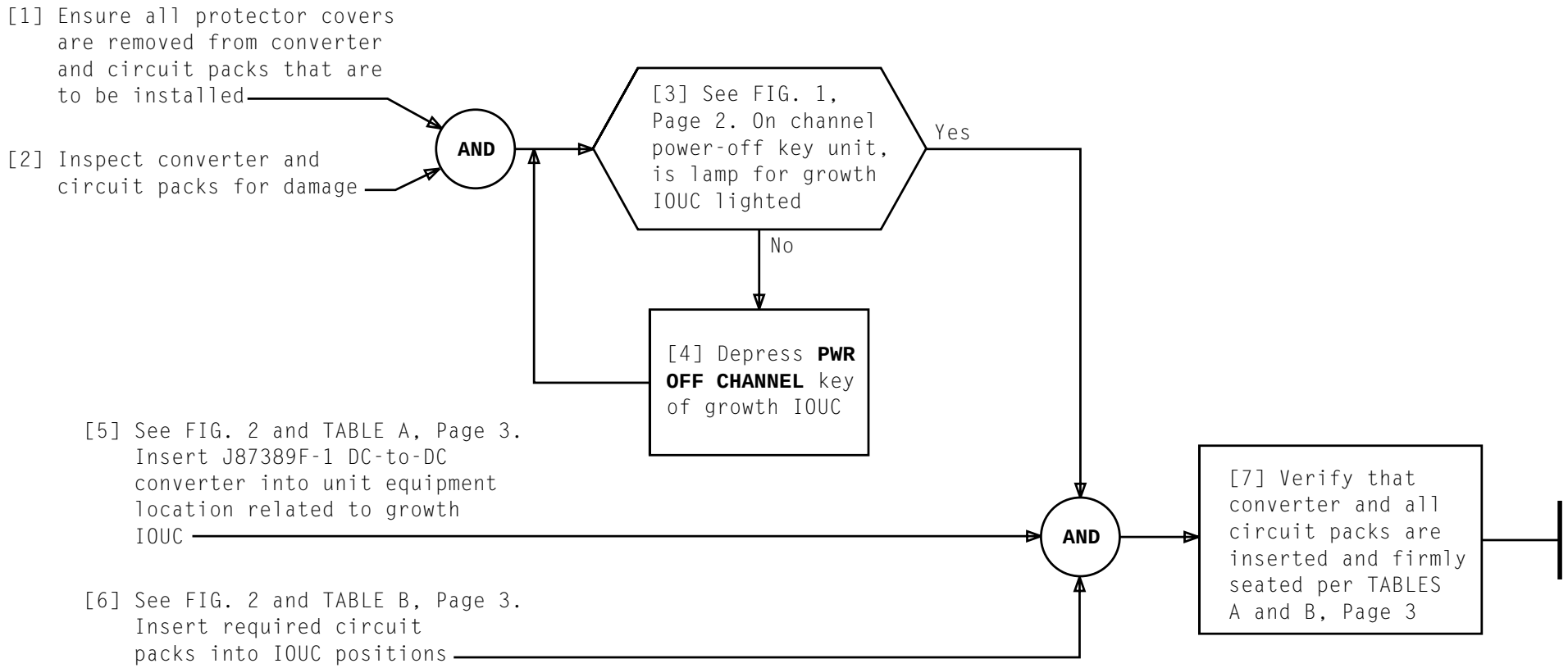
TABLE A

IOUC	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
FRAME LEVEL	**I/O FRAME LEVEL 72-CENTER HOUSING**							
Upper IOUS **FC126** pack position	X	16	17	18	19	20	21	22
Lower IOUS **FC126** pack position	X	23	24	25	26	27	28	29

NOTES

1. Signaling converters cannot be used on IOUC 0
2. **FC126** signaling converters supply current mode signaling for ports 0 and 1. Current mode signaling is not available for port 2 of any IOUC

ADD SIGNALING CONVERTERS TO I/O FRAME



INSTALL DC-TO-DC CONVERTER AND CIRCUIT PACKS FOR GROWTH IOUC

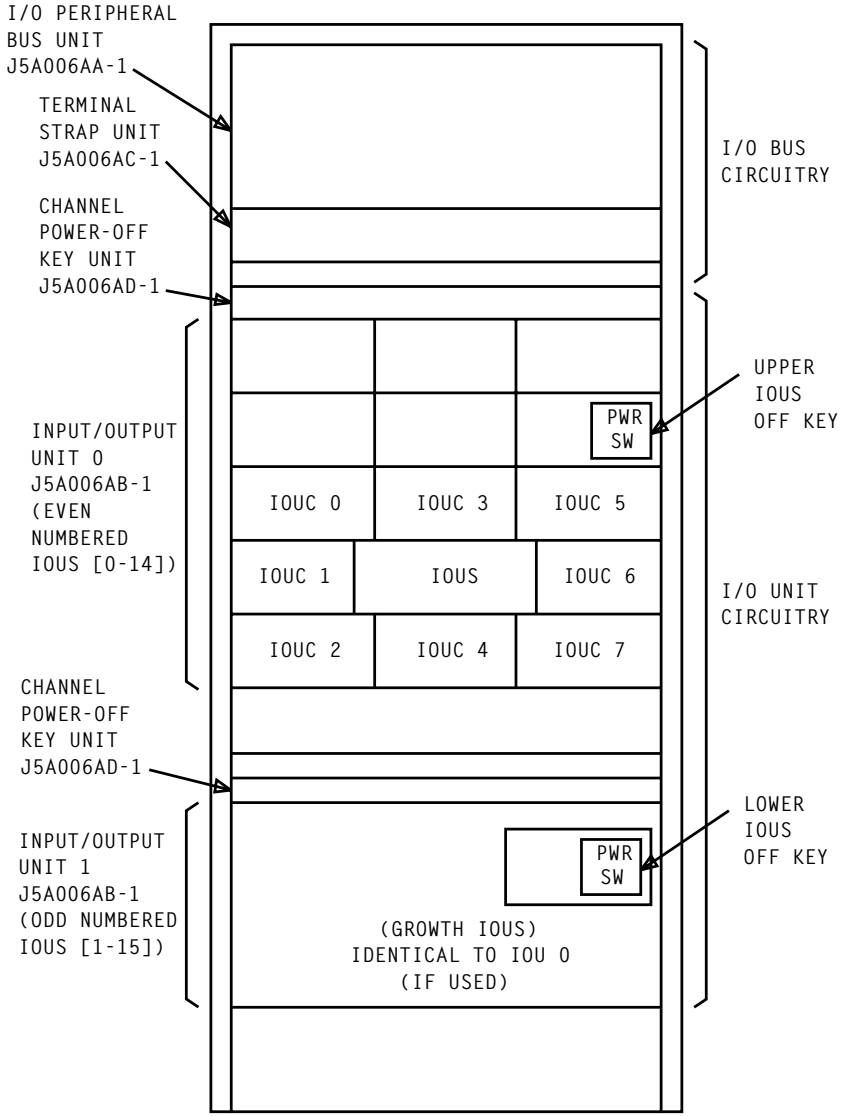


FIG. 1 — Input/Output Frame Front View (Equipment Side)

INSTALL DC-TO-DC CONVERTER AND CIRCUIT PACKS FOR GROWTH IOUC

TABLE A								
IOUC	0	1	2	3	4	5	6	7
CONVERTER TYPE	J87389F-1 +3 VOLT DC-DC CONVERTER							
UNIT EQUIPMENT LOCATION	18-5	18-9	18-13	18-20	18-24	18-28	18-35	18-39

TABLE B								
IOUC	0	1	2	3	4	5	6	7
UNIT LEVEL	10	06	02	10	02	10	06	02
CIRCUIT PACKS	POS	POS	POS	POS	POS	POS	POS	POS
FC125	1&2	1&2	1&2	25&26	25&26	43&44	43&44	43&44
FA455	8	5	8	23	23	37	40	37
FA452	9	6	9	22	22	36	39	36
FA453	10	7	10	21	21	35	38	35
FA454	11	8	11	20	20	34	37	34
FA450	12&14	9&11	12&14	17&19	17&19	31&33	34&36	31&33
FA451	13	10	13	18	18	32	35	32
FC22						38		38

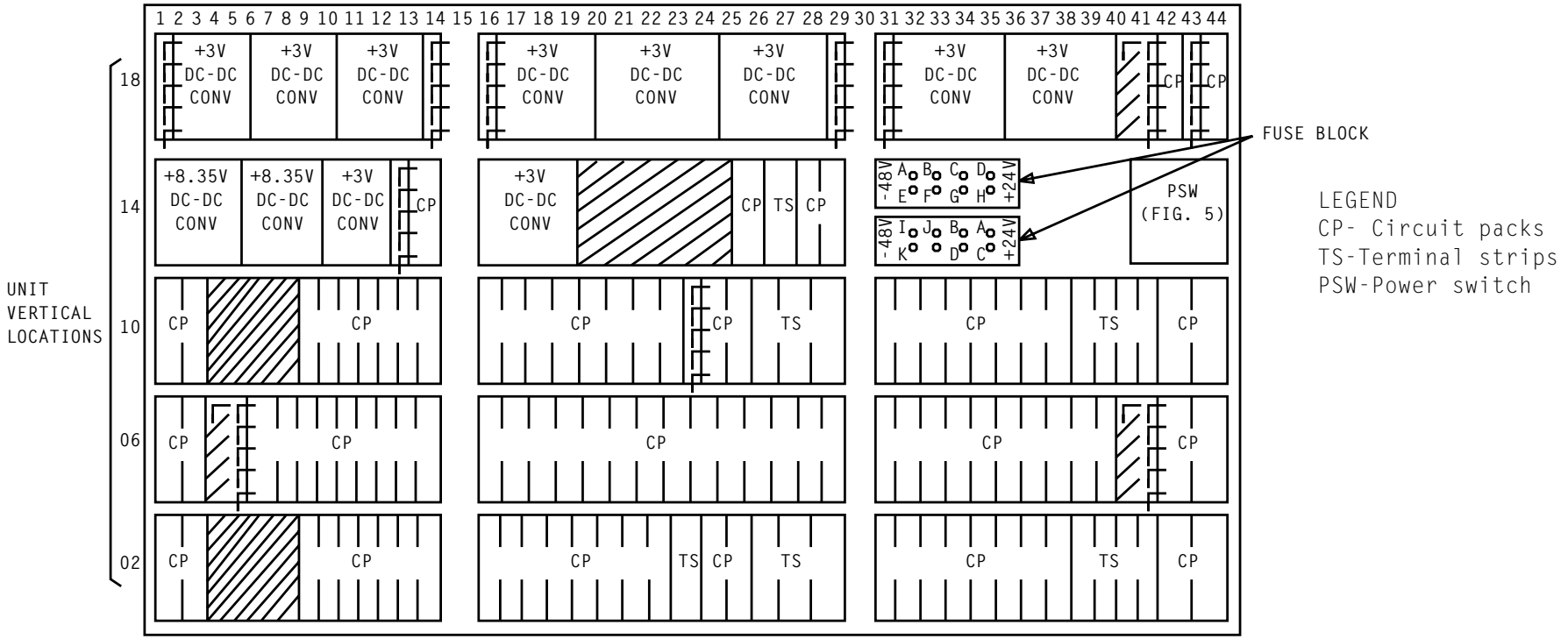


FIG. 2 — Input/Output Unit J5A006AB-1 — Front View

INSTALL DC-TO-DC CONVERTER AND CIRCUIT PACKS FOR GROWTH IOUC

[1] Determine circuit pack type (FG19, FG26 or FG27) to be installed

[2] Ensure protector cover is removed from circuit pack to be installed

[3] Inspect circuit pack for damage

AND

[4] See FIG. 1. Insert required circuit pack into required position

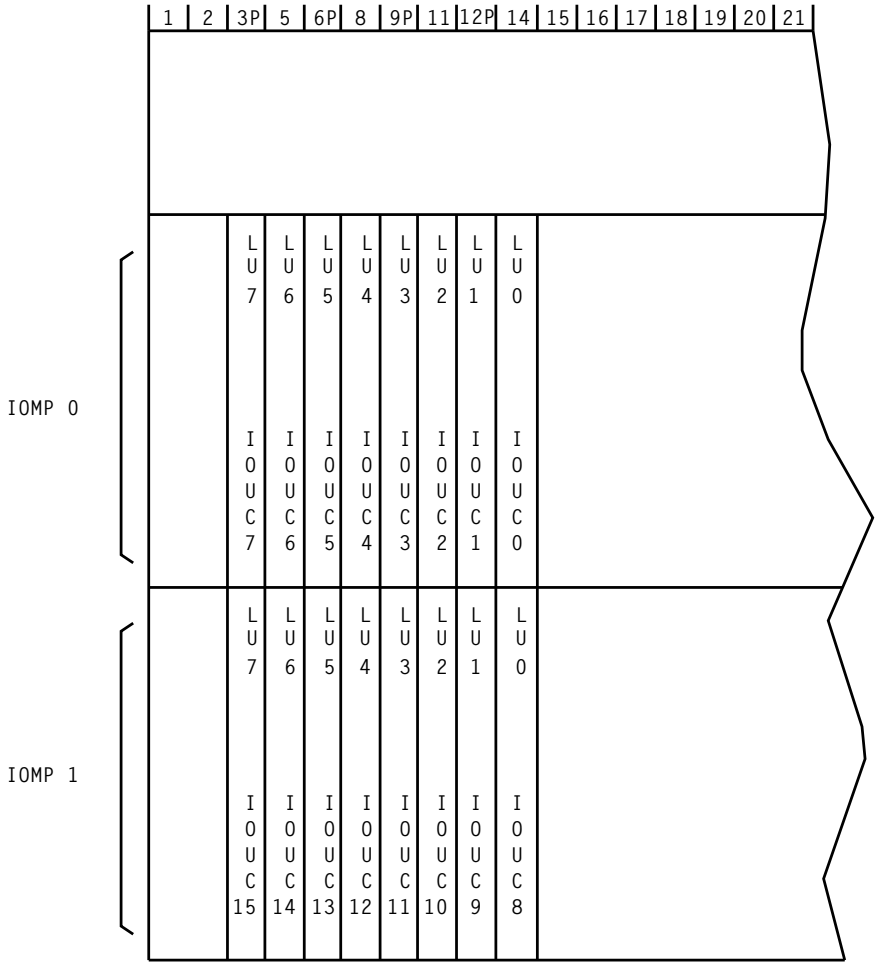


FIG. 1

INSTALL CIRCUIT PACK FOR GROWTH IOUC IN IOUS

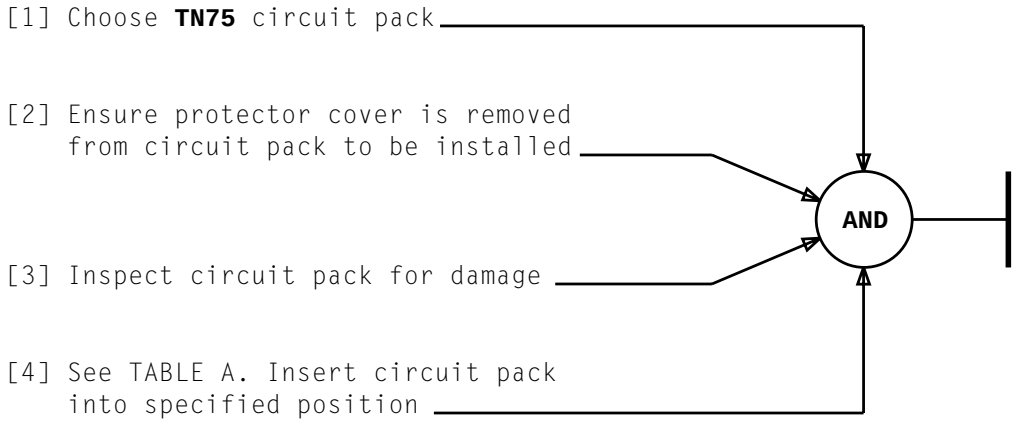


TABLE A	
CHANNEL	**LOCATION**
PC-20A	50-108
PC-21A	50-100
PC-22A	50-092
PC-23A	50-084
PC-30A	50-048
PC-31A	50-040
PC-32A	50-032
PC-33A	50-024
PC-20B	20-108
PC-21B	20-100
PC-22B	20-092
PC-23B	20-084
PC-30B	20-048
PC-31B	20-040
PC-32B	20-032
PC-33B	20-024

INSTALL CIRCUIT PACK FOR GROWTH IOUC (SD-4C049)

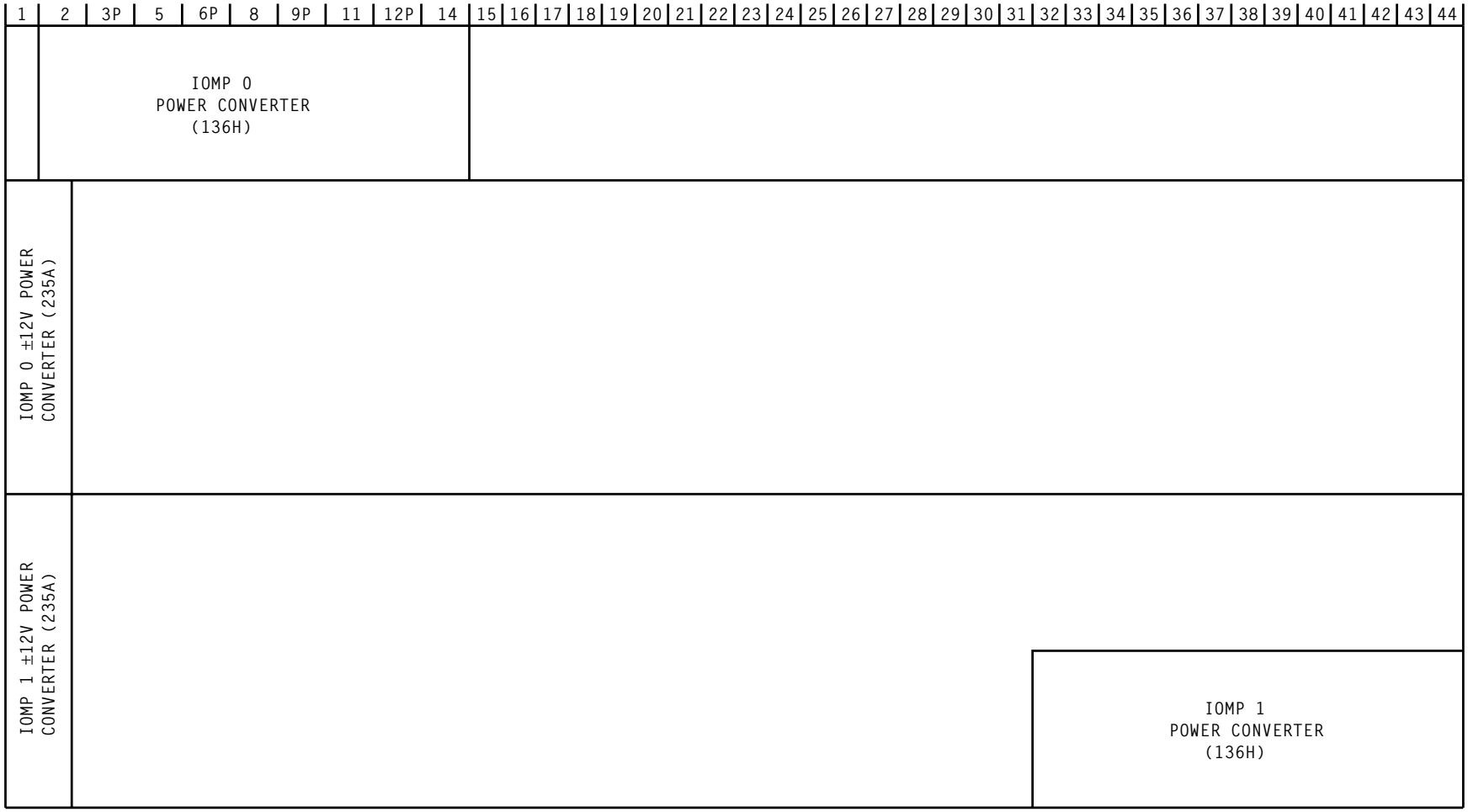
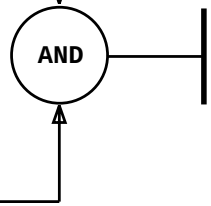


FIG. 1

RESTORE POWER TO INPUT/OUTPUT MICROPROCESSOR COMMUNITY (SD-5A049 OR 5A052)

[1] Turn 136H power supply switch to **ON** for growth associated IOMP [FIG. 1]



[2] Turn 235A power supply switch to **ON** for growth associated IOMP [FIG. 1]

RESTORE POWER TO INPUT/OUTPUT MICROPROCESSOR COMMUNITY (SD-5A049 OR 5A052)

[1] Turn power supply switch to **ON** on 136H or 136N converter(s) in growth associated IOMP [FIG. 1]

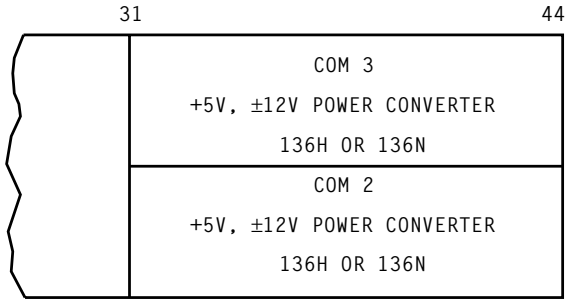


FIG. 1

RESTORE POWER TO INPUT/OUTPUT MICROPROCESSOR COMMUNITY (SD-4C049)

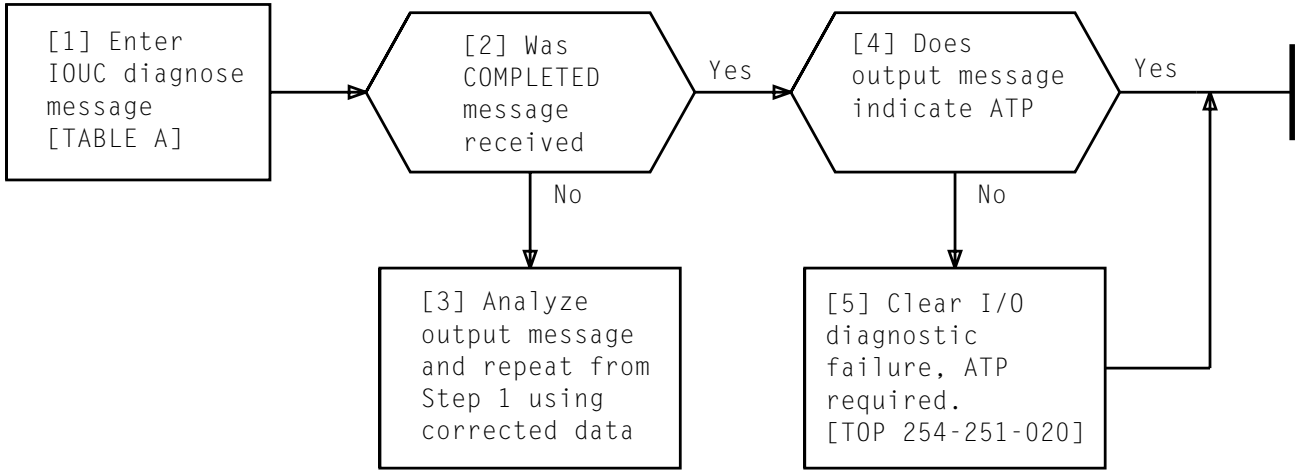


TABLE A
DGN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

DIAGNOSE GROWTH IOUC

SUMMARY

Enter change message to grow channel equipage (CE) from GROW to SGRO. Verify buffered CE, enter copy message, then verify current CE. If after each verify, CE is in error, enter stop message and start change from beginning. If CE is correct after current verify, enter update message and verify that data is correct in translator

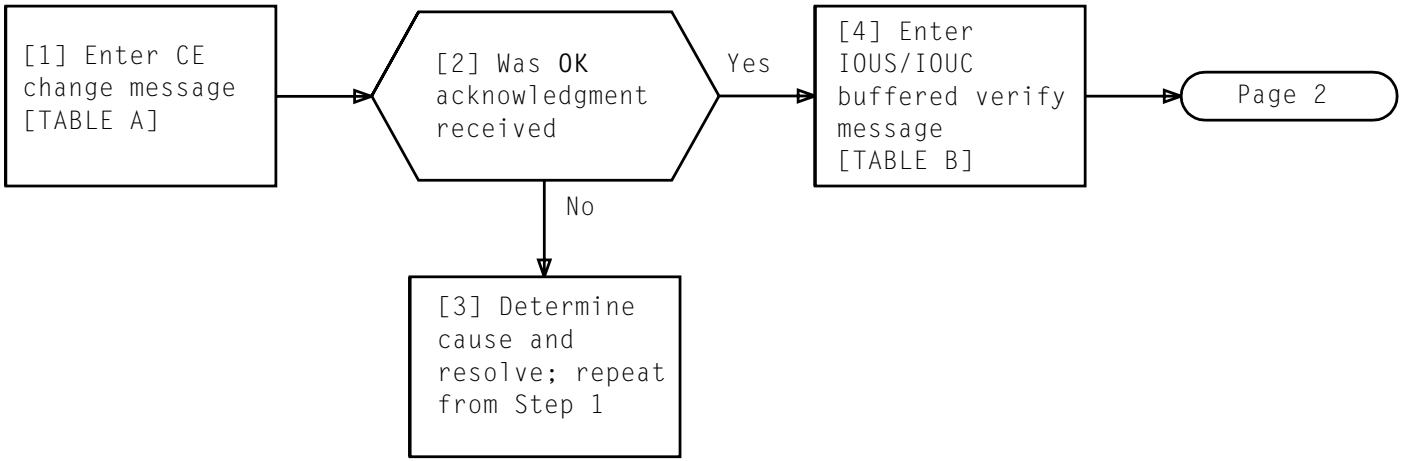


TABLE A

IN:XLBUF:IOUS a,IOUC b,CE (GROW,SGRO)!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE B

VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

CHANGE AND VERIFY CHANNEL EQUIPAGE GROW TO SPECIAL GROWTH

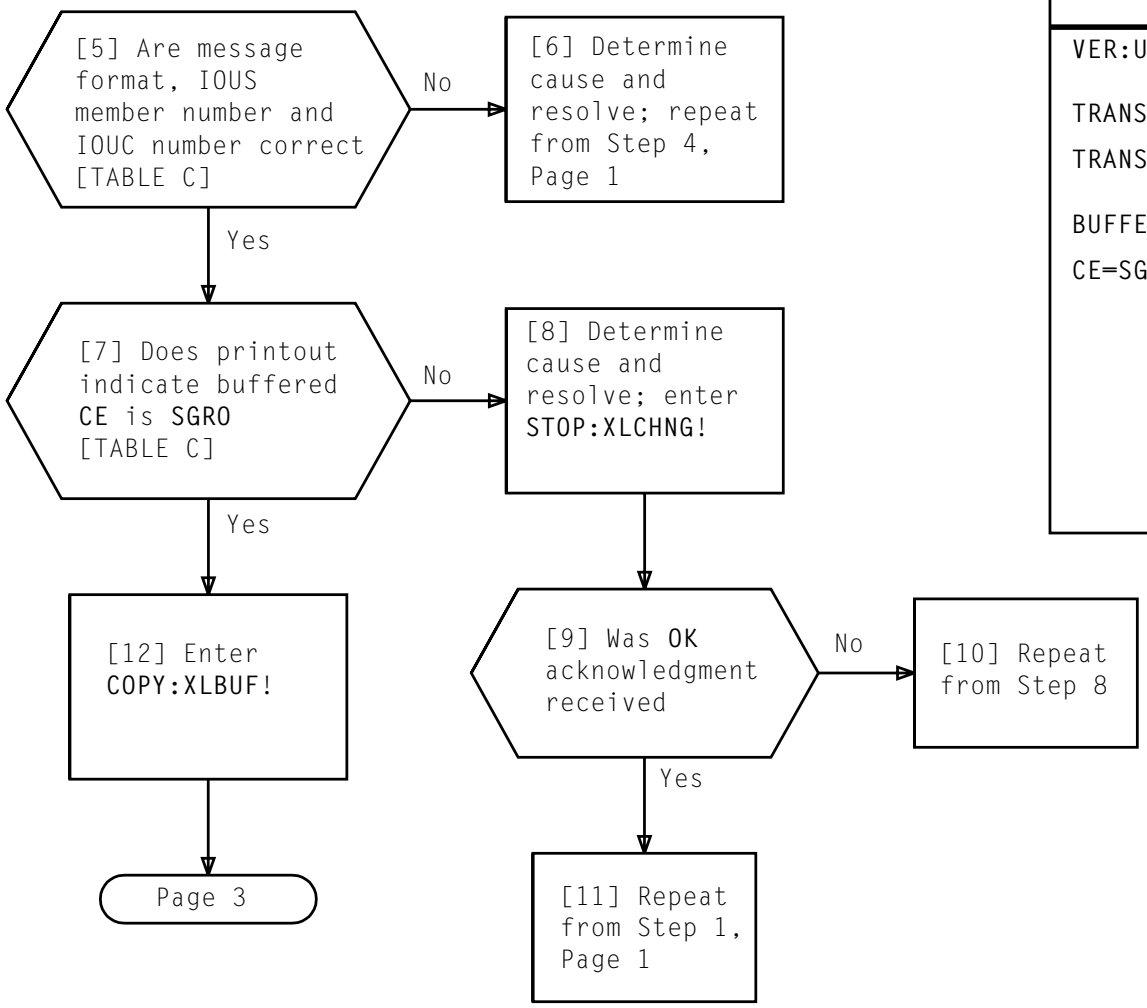


TABLE C

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 BUFFERED DATA: CE=SGRO	a = Member number b = Submember number

CHANGE AND VERIFY CHANNEL EQUIPAGE GROW TO SPECIAL GROWTH

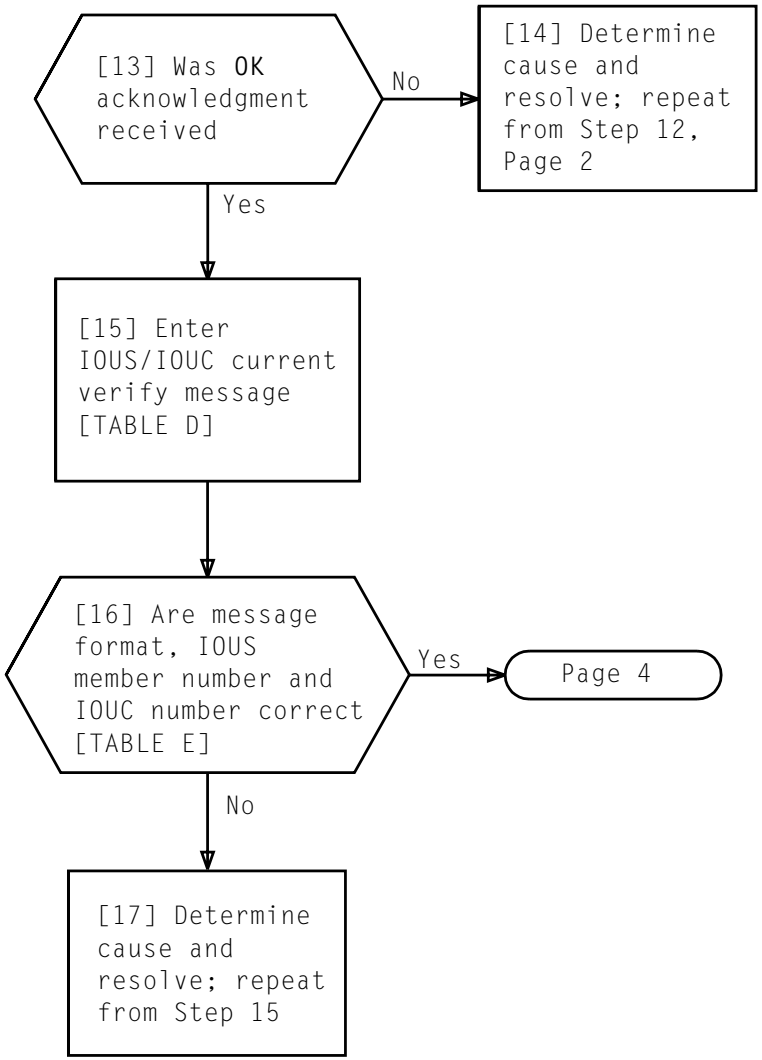


TABLE D
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE E	
VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: CE=SGRO	a = Member number b = Submember number

CHANGE AND VERIFY CHANNEL EQUIPAGE GROW TO SPECIAL GROWTH

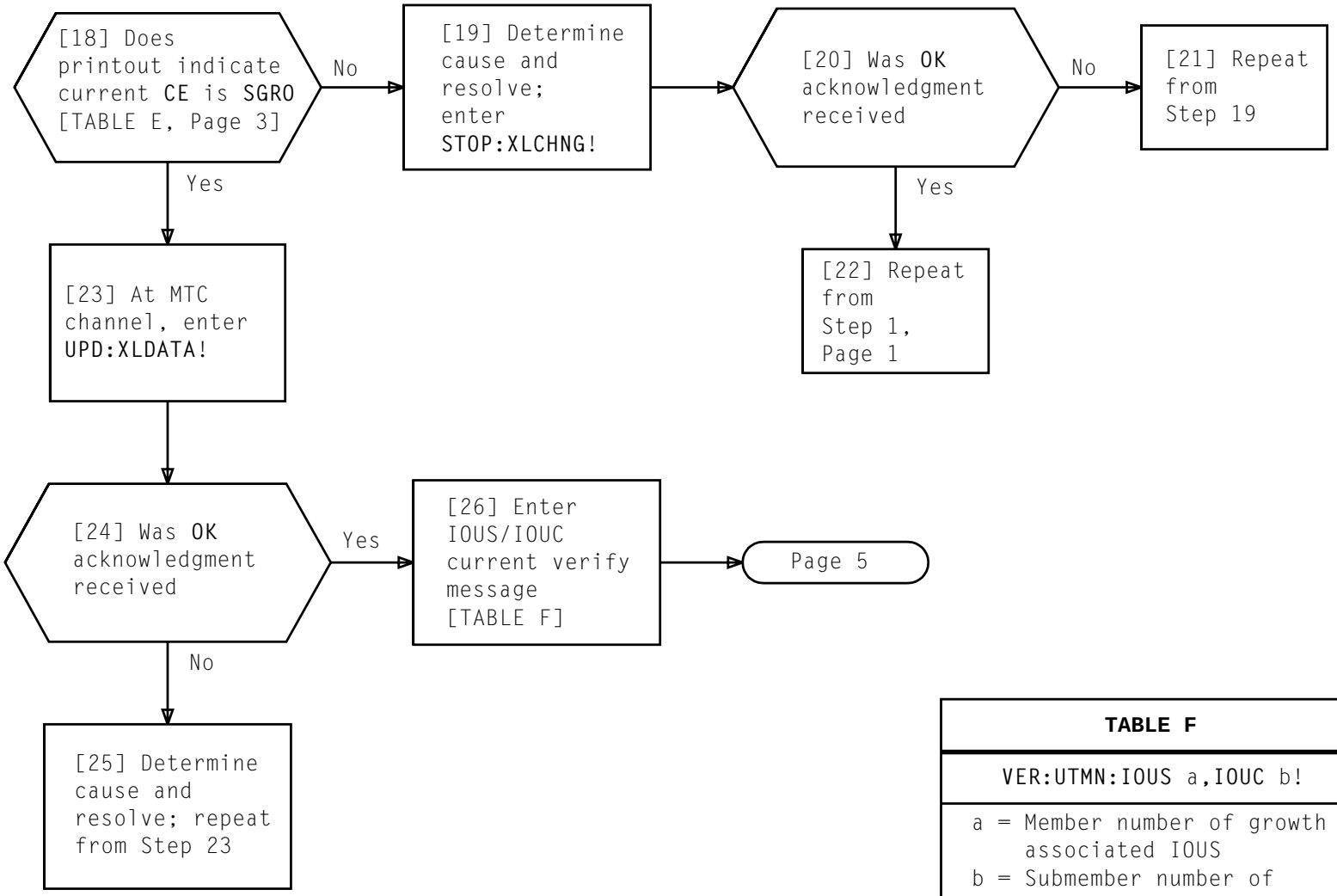
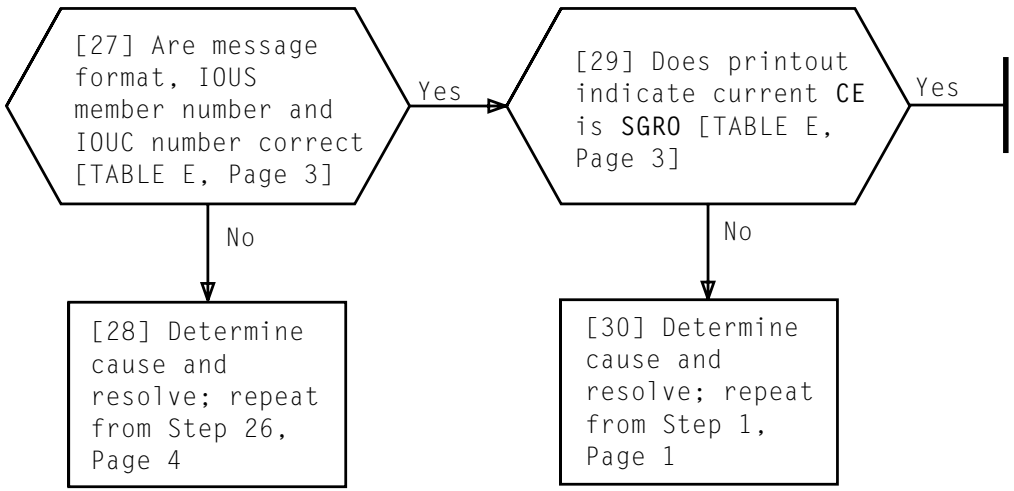


TABLE F
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

CHANGE AND VERIFY CHANNEL EQUIPAGE
GROW TO SPECIAL GROWTH



CHANGE AND VERIFY CHANNEL EQUIPAGE
GROW TO SPECIAL GROWTH

SUMMARY

Enter change message to grow channel equipage (CE) from SGRO to OPER. Verify buffered CE, enter copy message, then verify current CE. If after each verify CE is in error, enter stop message and start change from beginning. If CE is correct after current verify, enter update message and verify that data is correct in translator

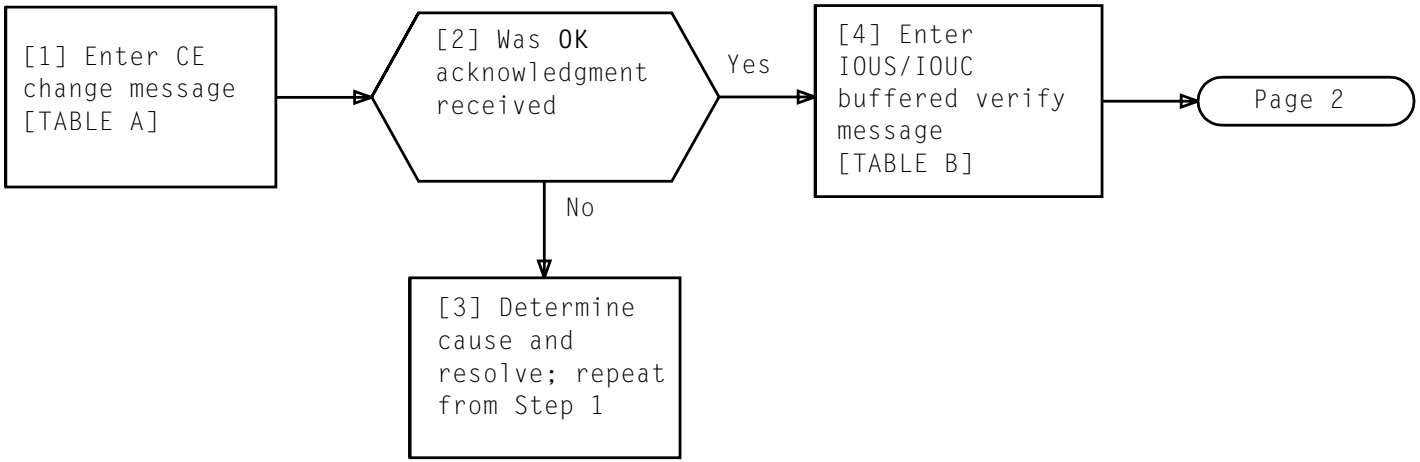


TABLE A
IN:XLBUF:IOUS a,IOUC b,CE (SGRO,OPER)!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE B
VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

CHANGE AND VERIFY CHANNEL EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

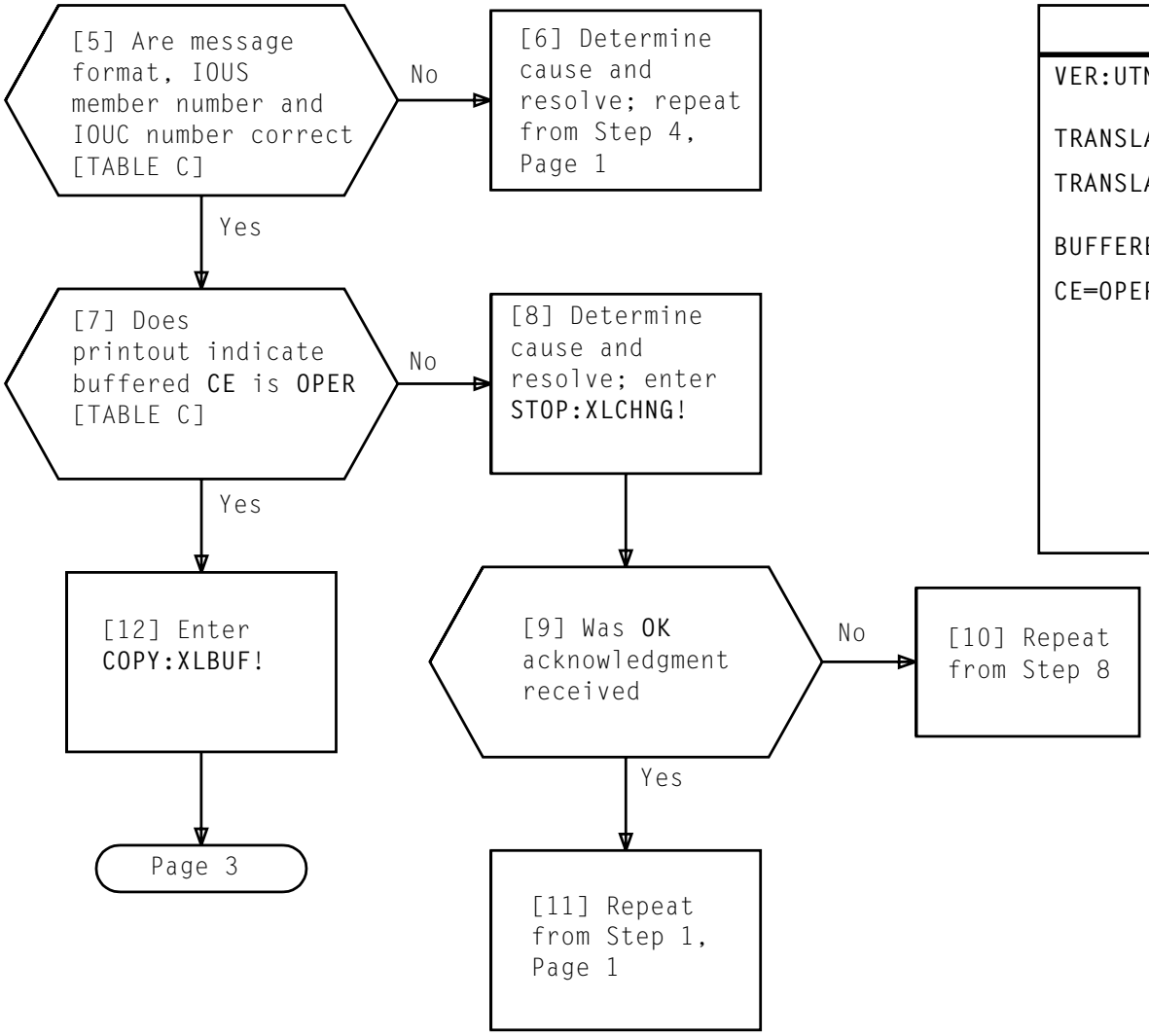


TABLE C

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 BUFFERED DATA: CE=OPER	a = Member number b = Submember number

CHANGE AND VERIFY CHANNEL EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

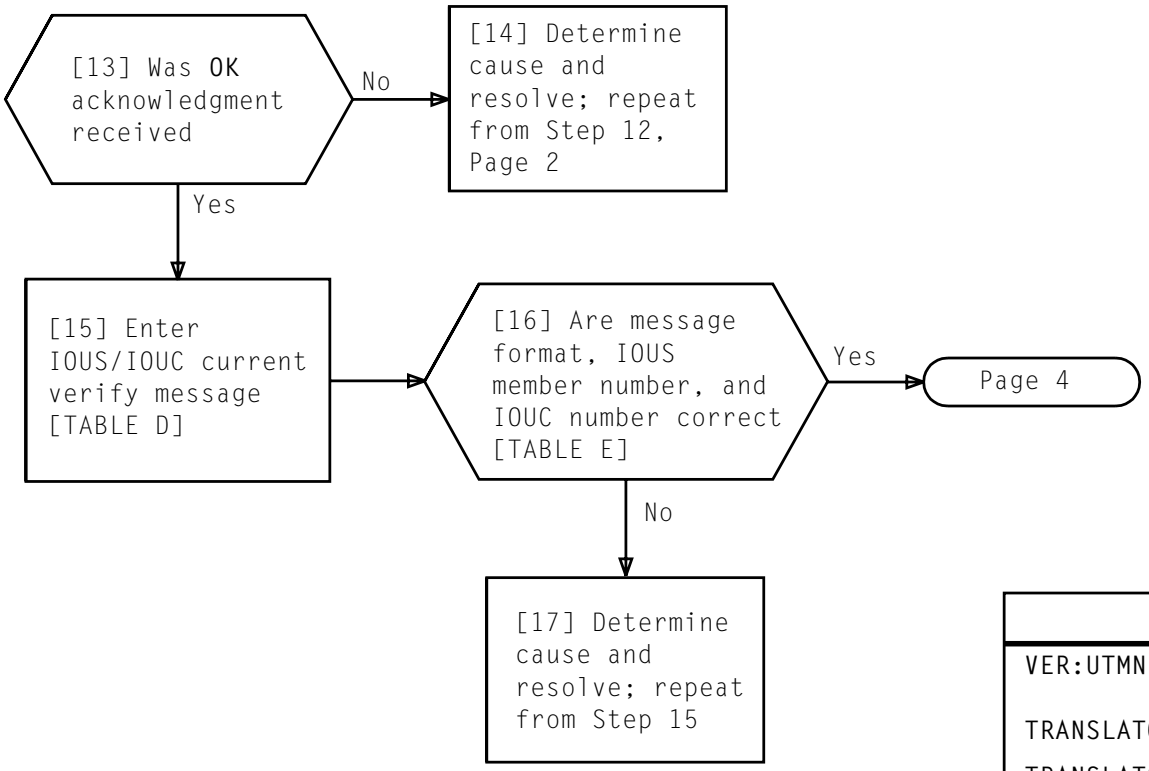


TABLE D
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE E	
VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: CE=OPER	a = Member number b = Submember number

CHANGE AND VERIFY CHANNEL EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

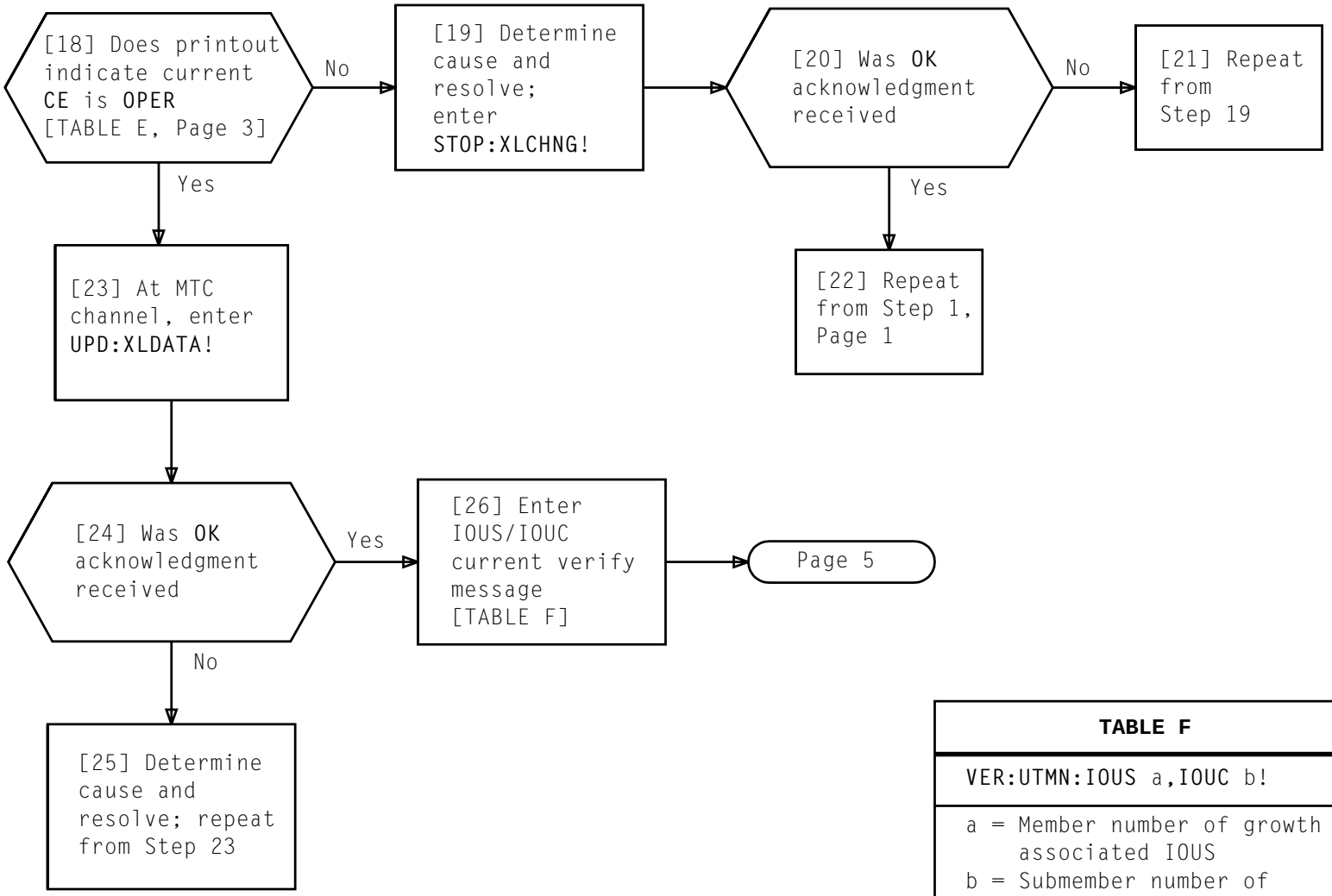
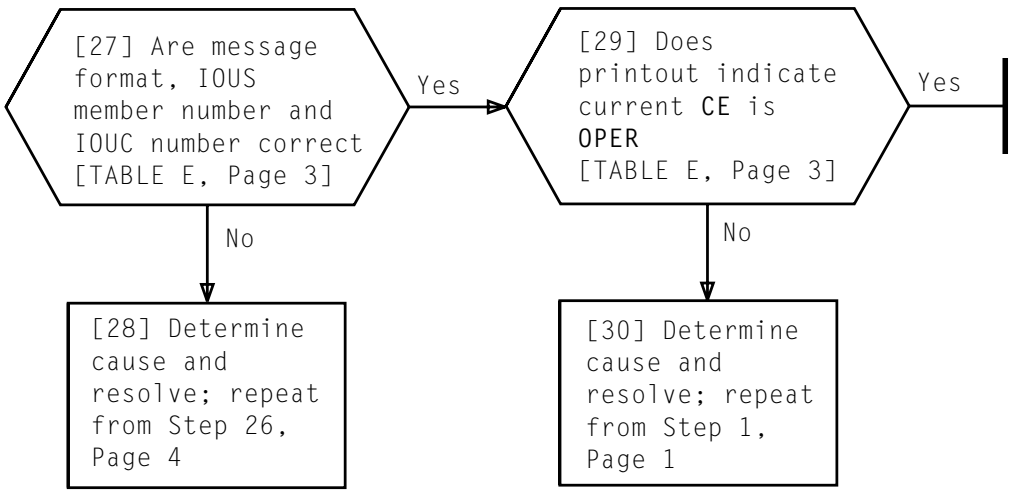


TABLE F
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

CHANGE AND VERIFY CHANNEL EQUIPAGE SPECIAL GROWTH TO OPERATIONAL



CHANGE AND VERIFY CHANNEL EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

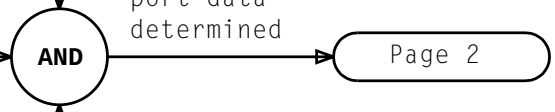
SUMMARY

Using appropriate office record drawings, determine change port data for PTC, DSTYPE and SWC (if required), and AB. Enter change message to change port data. Verify buffered port data, enter copy message, then verify current port data. If after each verify, port data is in error, enter stop message and start change from beginning. If port data is correct after current verify, enter update message and verify that data is correct in translator

[1] See NOTE 1. If port 0 is being grown and CHG greater than 3, determine from appropriate office record drawing, data set type and carrier type. Record for later use

[2] See NOTE 1. Determine from office record drawing T-nnnn-Hn-3800 or equivalent port type connection on growth port [NOTE 2]. Record for later use

[3] See NOTE 1. Determine from office record drawing T-nnnn-Hn-3100 or equivalent if I/O terminal connected to growth port is equipped with answer-back feature [NOTE 2]. Record for later use



NOTES

1. If data cannot be determined from office record drawings, consult with office engineer
2. n = Office unique drawing number

CHANGE AND VERIFY PORT DATA

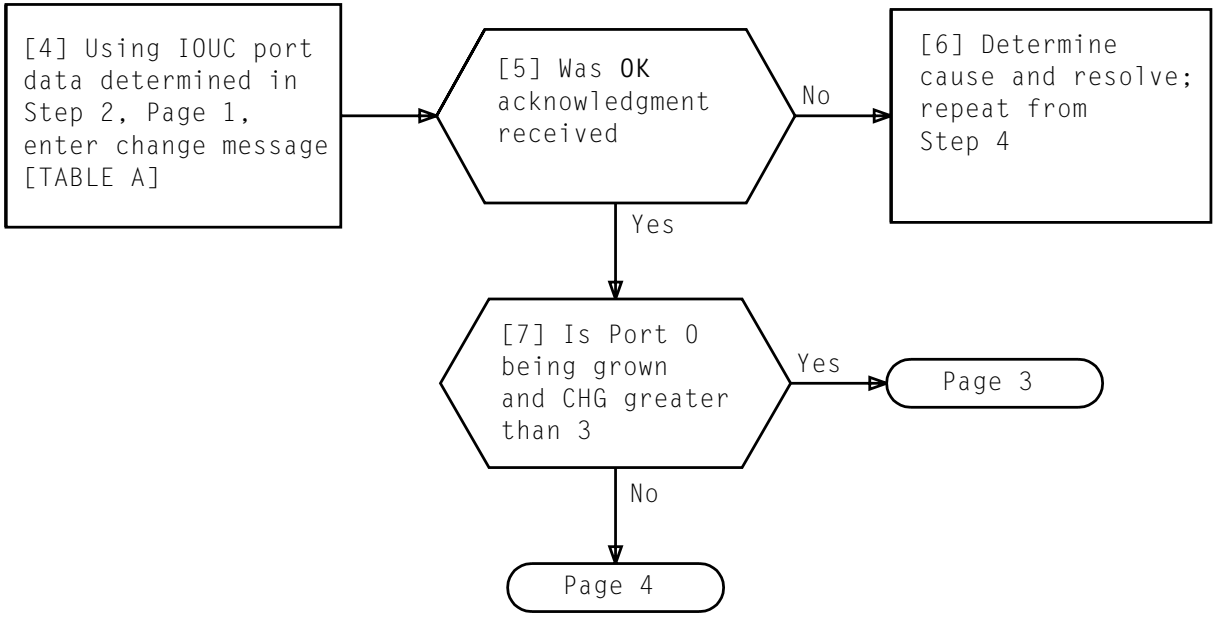


TABLE A
IN:XLBUF:IOUS a,IOUC b,PORT c,PTC d!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC
c = Growth port number
d = Port type connection — DC if direct connection PLDS if private line data set connected DUDS if dial up data set connected

CHANGE AND VERIFY PORT DATA

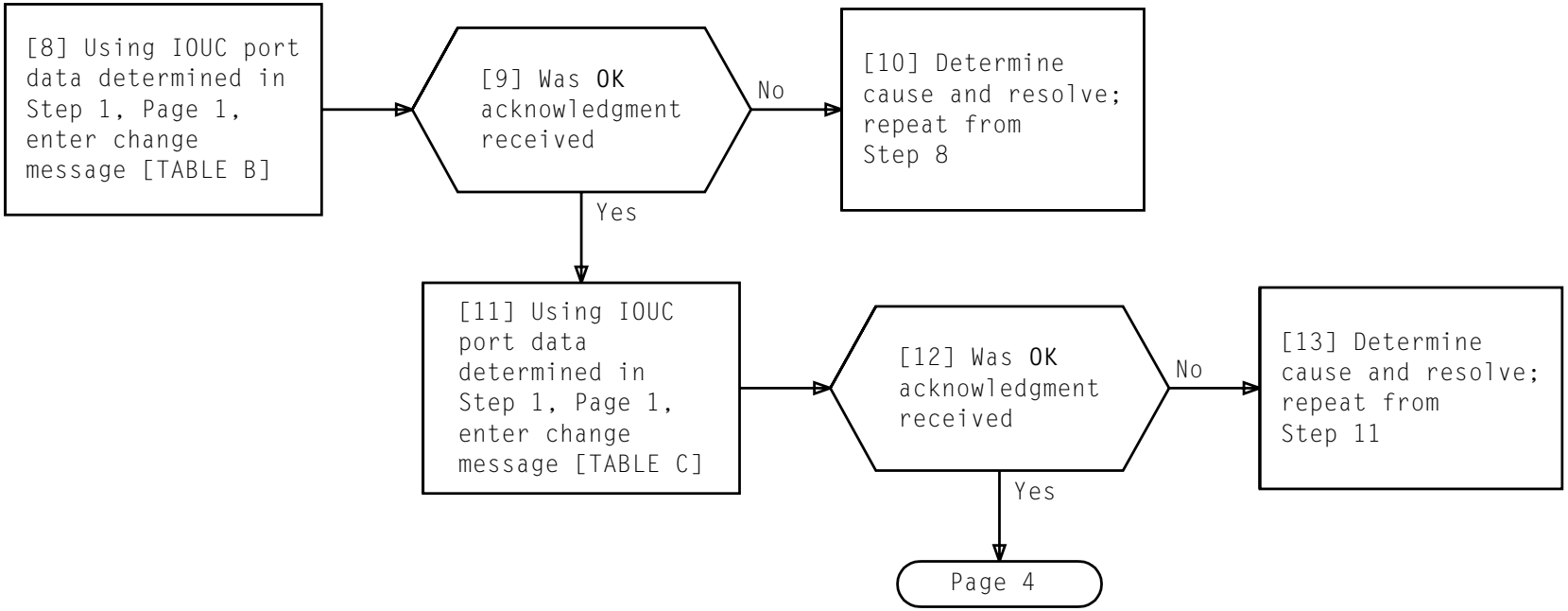


TABLE B

IN:XLBUF:IOUS a,IOUC b,PORT c,DSTYPE d!

a = Member number of growth associated IOUS

b = Submember number of growth IOUC

c = Growth port number

d = Data set type —
NODS
212A
208A
202108 (for 202T)
2096A

TABLE C

IN:XLBUF:IOUS a,IOUC b,PORT c,SWC d!

a = Member number of growth associated IOUS

b = Submember number of growth IOUC

c = Growth port number

d = Switched carrier —
Y if carrier is switched or
N if carrier is continuous

CHANGE AND VERIFY PORT DATA

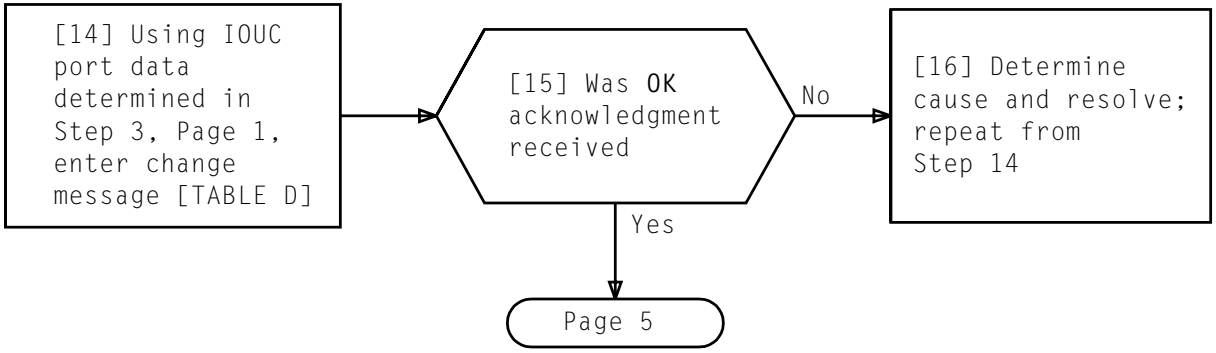


TABLE D
IN:XLBUF:IOUS a,IOUC b,PORT c,AB d!
a = Member number of growth associated IOUS b = Submember number of growth IOUC c = Growth port number d = Answer back feature – Y if I/O terminal connected to growth port is equipped with answer back feature or N if I/O terminal connected to growth port is not equipped with answer back feature

CHANGE AND VERIFY PORT DATA

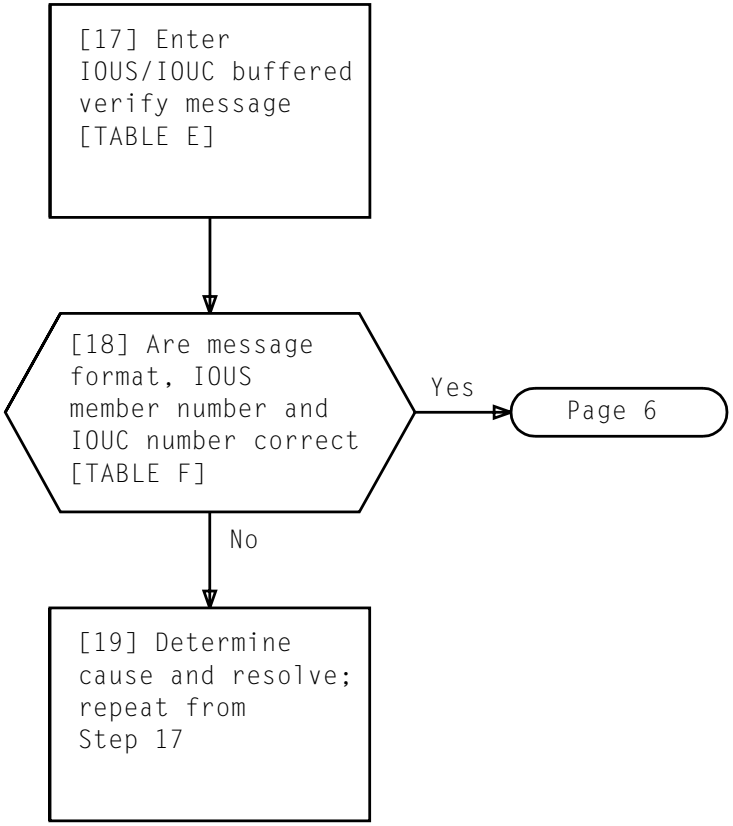
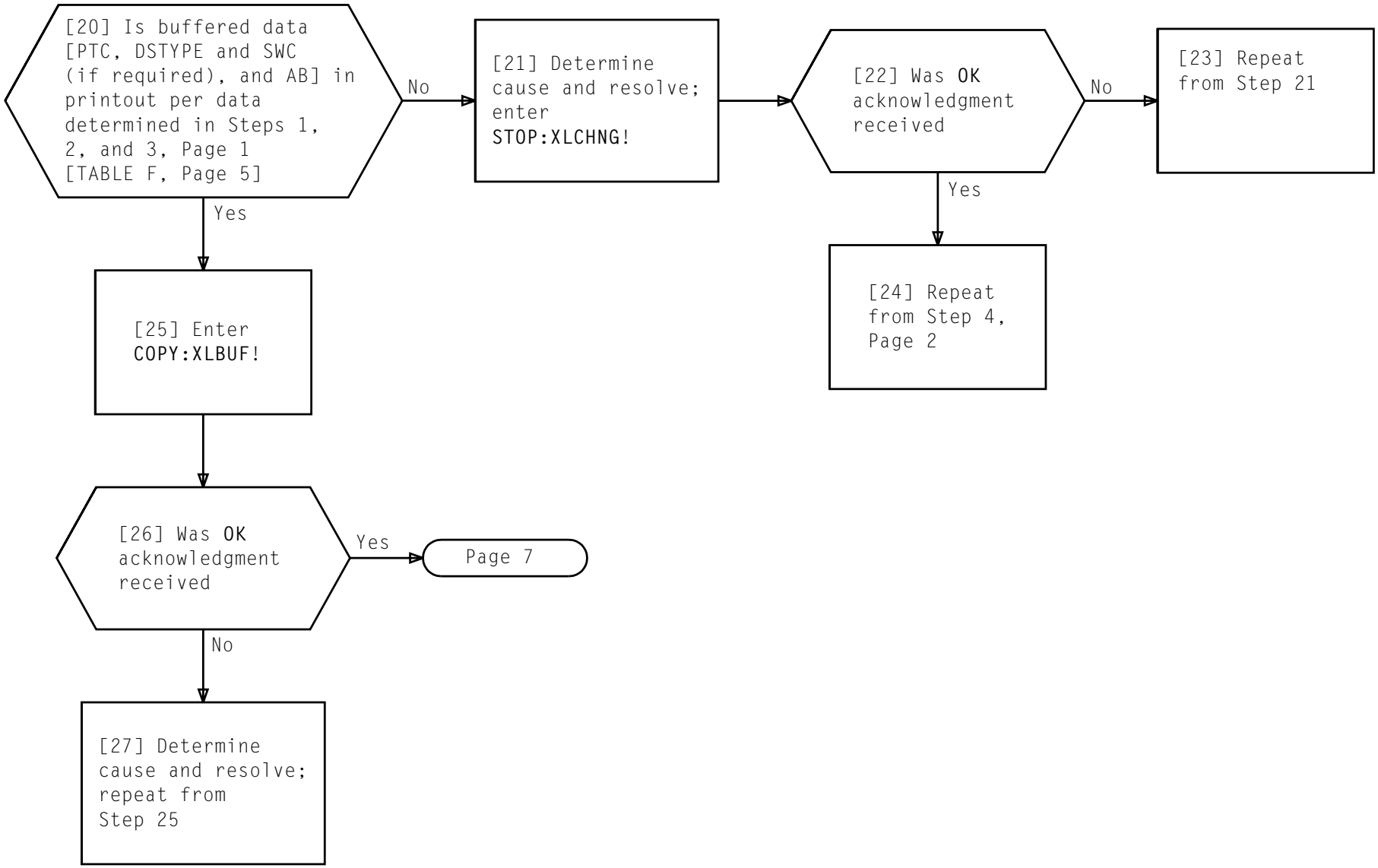


TABLE E
VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE F	
VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 BUFFERED DATA: . . . . PORT 0,PRTE= PTC=c DSTYPE=d SWC=e AB=f PORT 1,PRTE= PTC=c AB=f PORT 2,PRTE= PTC=c AB=f	a = Member number b = Submember number c = Port connection arrangement — DC or PLDS or DUDS d = Data set type e = Switched carrier — Y or N f = Answer back feature — Y or N

CHANGE AND VERIFY PORT DATA



CHANGE AND VERIFY PORT DATA

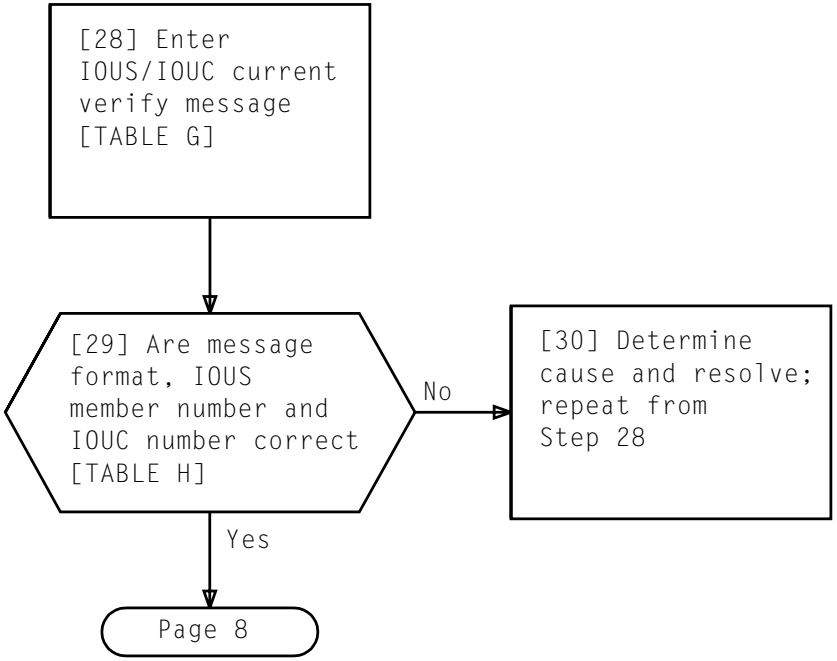
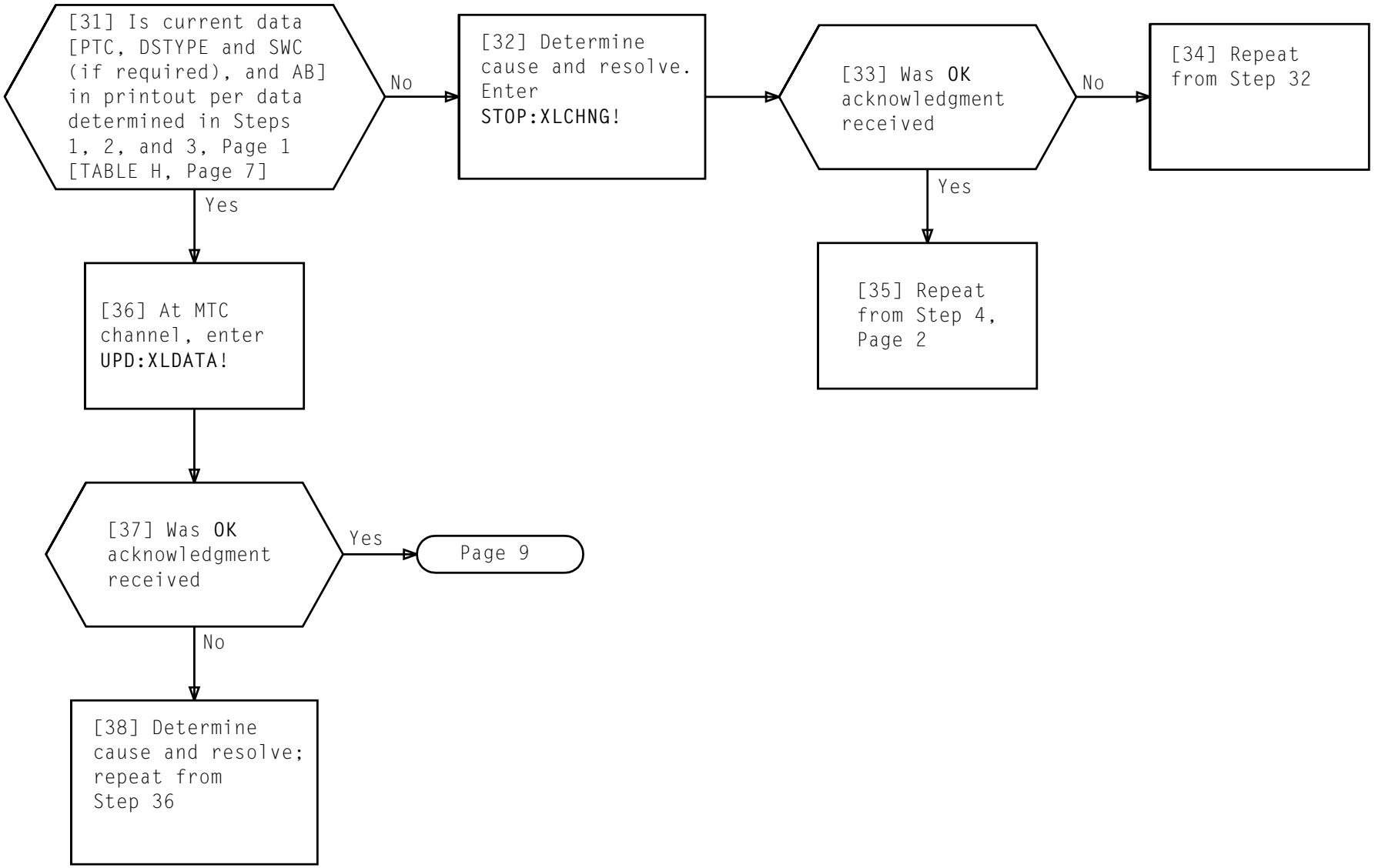


TABLE G
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

TABLE H	
VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: . . . . . PORT 0,PRTE= PTC=c DSTYPE=d SWC=e AB=f PORT 1,PRTE= PTC=c AB=f PORT 2,PRTE= PTC=c AB=f	a = Member number b = Submember number c = Port connection arrangement — DC or PLDS or DUDS d = Data set type e = Switched carrier — Y or N f = Answer back feature — Y or N

CHANGE AND VERIFY PORT DATA



CHANGE AND VERIFY PORT DATA

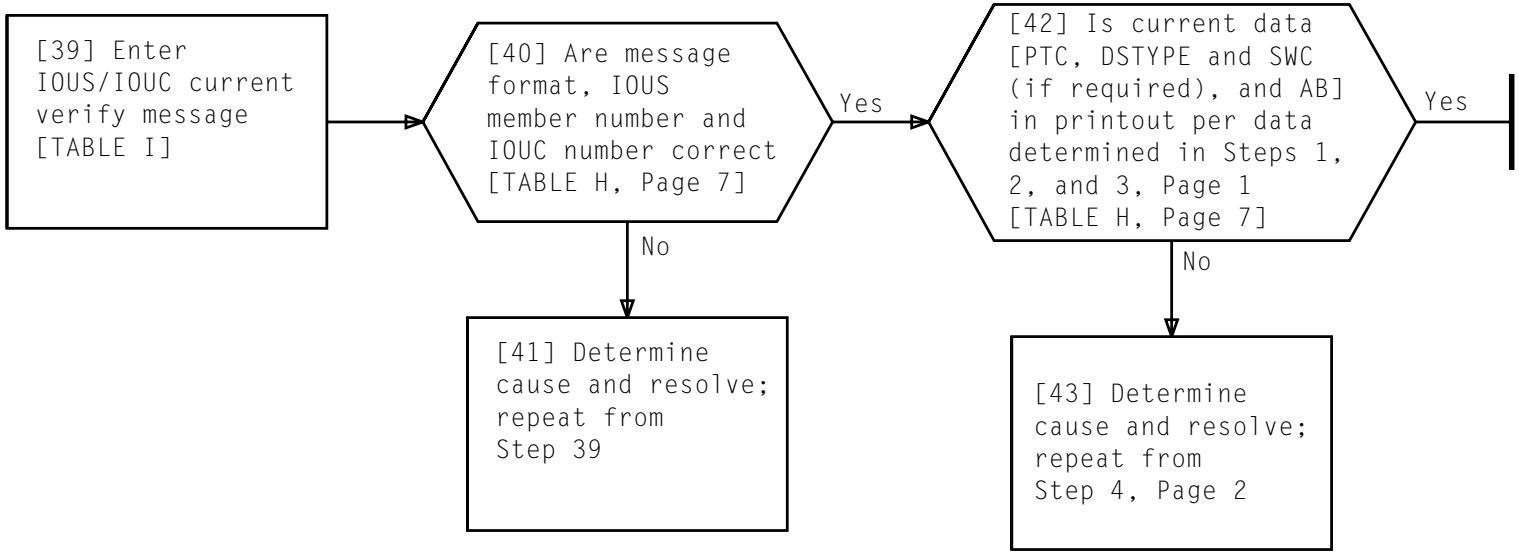


TABLE I
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS b = Submember number of growth IOUC

CHANGE AND VERIFY PORT DATA

SUMMARY

Enter change message to grow port equipage (PRTE) from UNEQ to GROW. Verify buffered PRTE, enter copy message, then verify current PRTE. If after each verify the PRTE is in error, enter stop message and start change from beginning. If PRTE is correct after current verify, enter update message and verify that data is correct in translator

TABLE A
IN:XLBUF:IOUS a,IOUC b,PORT c,PRTE (UNEQ,GROW)!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC
c = Growth port number

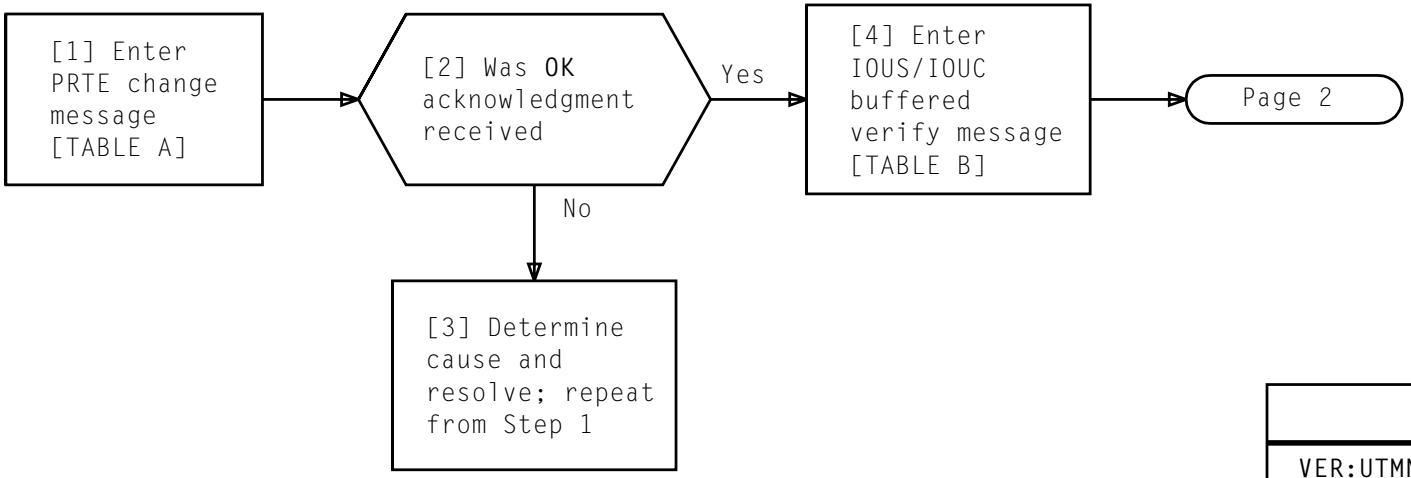


TABLE B
VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

CHANGE AND VERIFY PORT EQUIPAGE UNEQUIPPED TO GROW

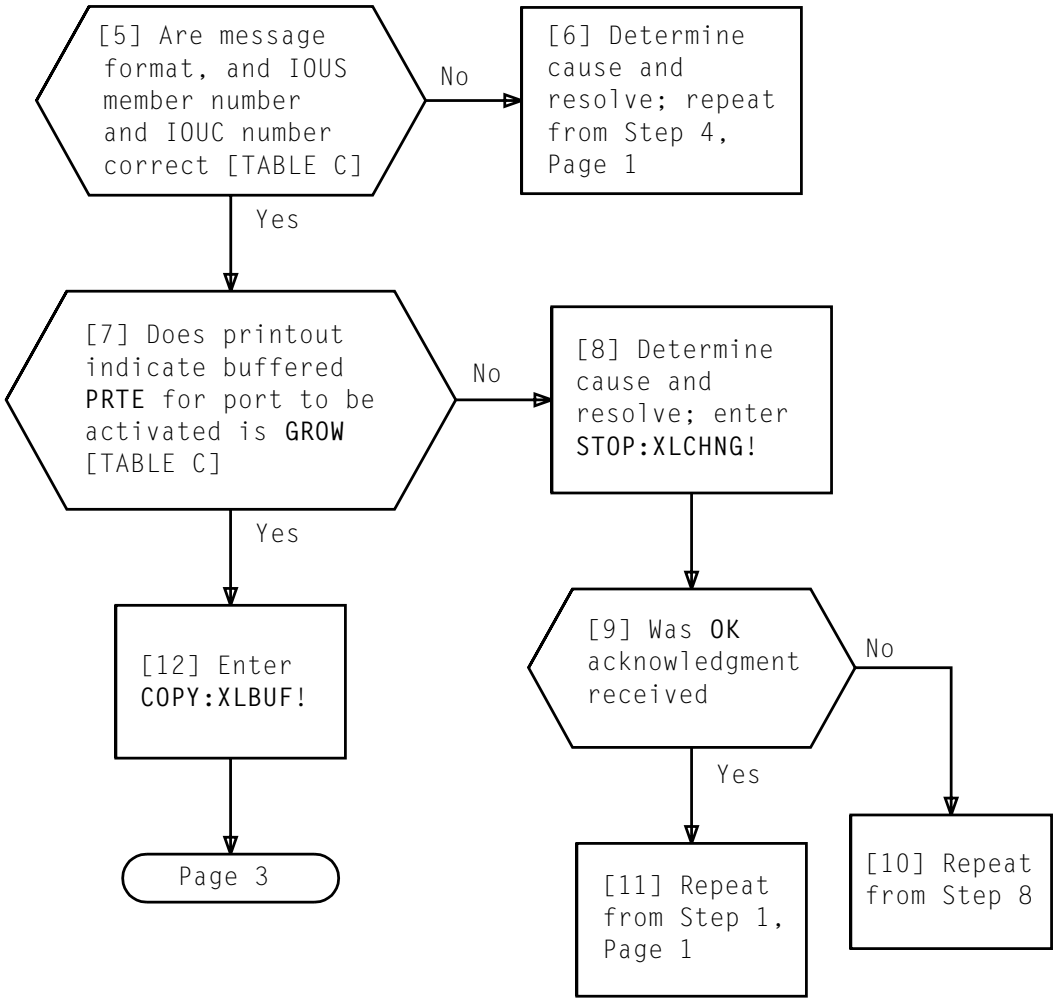


TABLE C

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 BUFFERED DATA: . . . . . . PORT 0,PRTE=c . . . PORT 1,PRTE=d . . PORT 2,PRTE=e . .	a = Member number b = Submember number c = Port 0 equipage d = Port 1 equipage e = Port 2 equipage

CHANGE AND VERIFY PORT EQUIPAGE UNEQUIPPED TO GROW

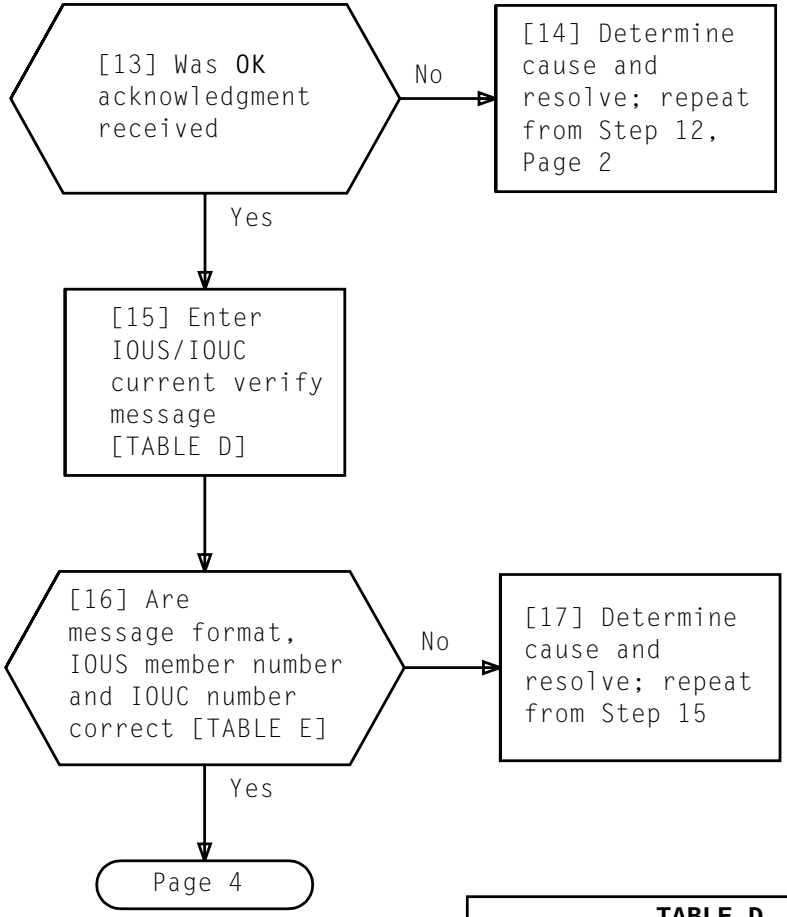


TABLE D

VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

TABLE E

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: . . . . PORT 0,PRTE=c . . . PORT 1,PRTE=d . . PORT 2,PRTE=e . .	a = Member number b = Submember number c = Port 0 equipage d = Port 1 equipage e = Port 2 equipage

CHANGE AND VERIFY PORT EQUIPAGE UNEQUIPPED TO GROW

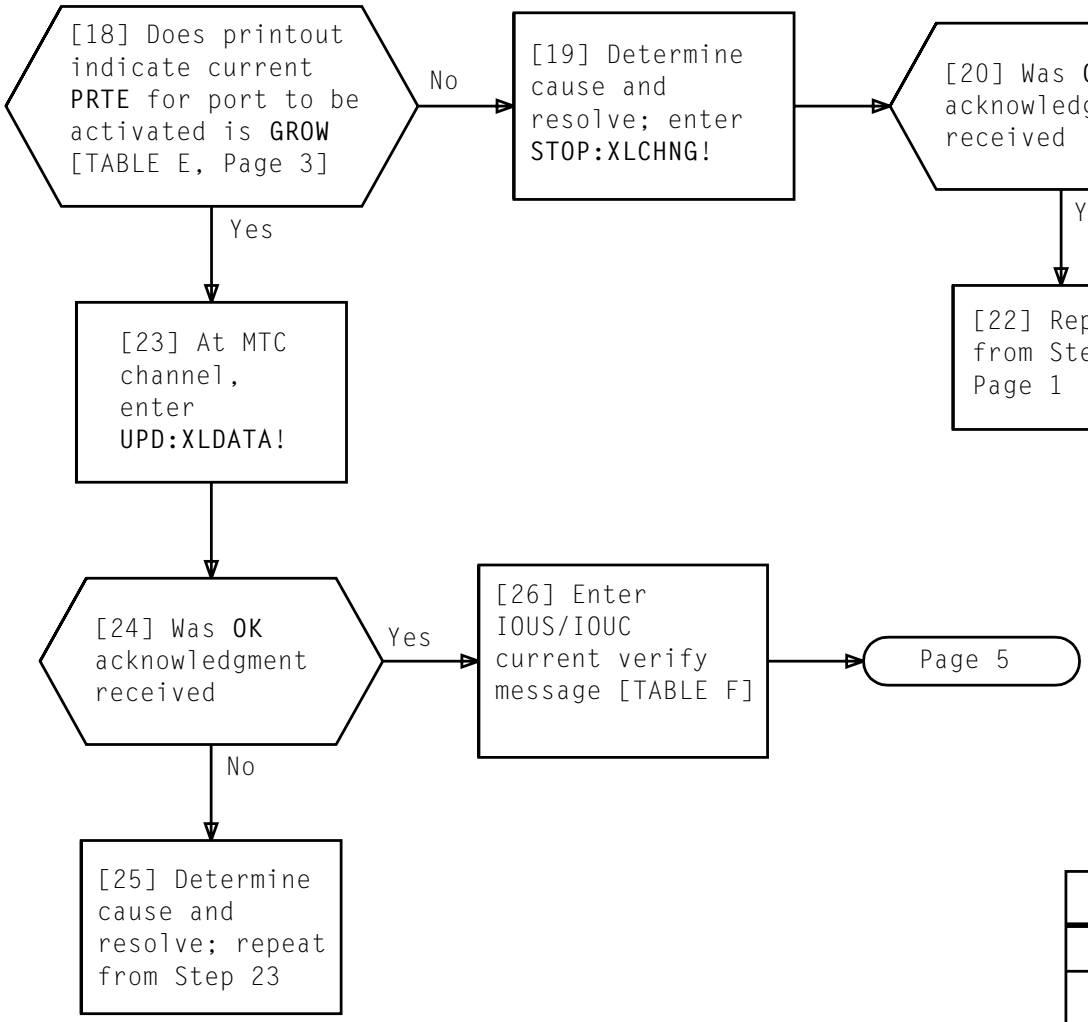
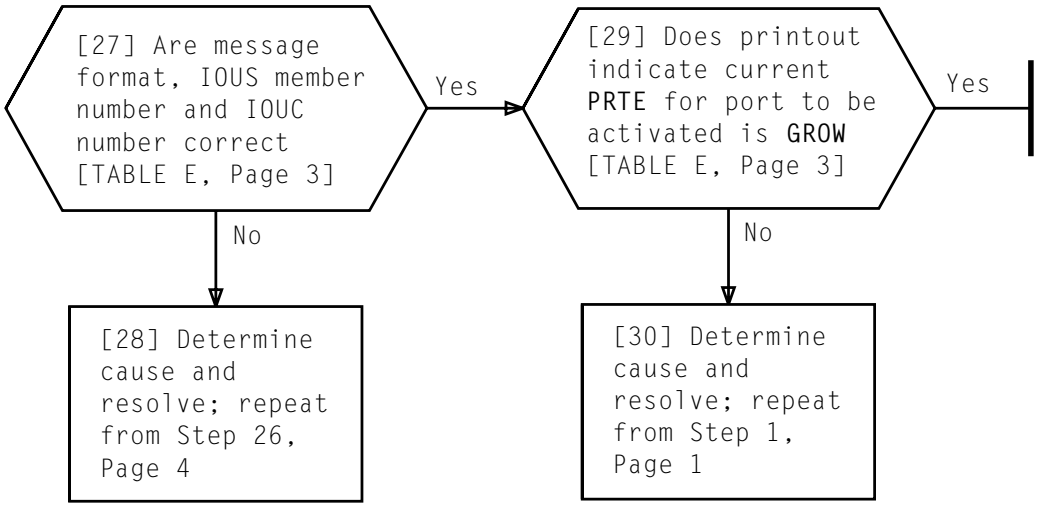


TABLE F
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth assoicated IOUS
b = Submember number of growth IOUC

CHANGE AND VERIFY PORT EQUIPAGE UNEQUIPPED TO GROW



CHANGE AND VERIFY PORT EQUIPAGE UNEQUIPPED TO GROW

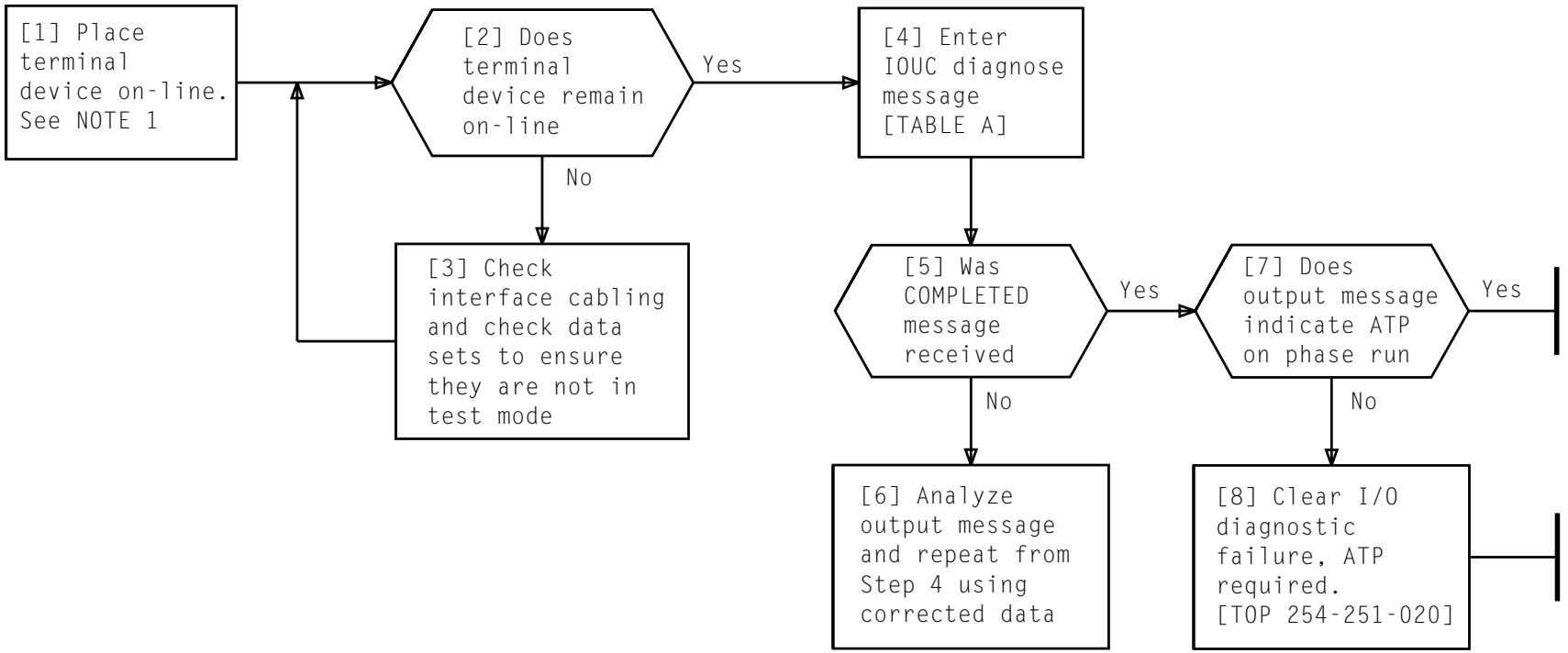


TABLE A
DGN:IOUS a,IOUC b:PORT c!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC
c = Port number 0 to 2

NOTE 1
Model 40 devices are put on-line with the **REC** key and model 35 devices are put on-line with the **ON** key

PERFORM ANSWER-BACK TEST

SUMMARY

Enter change message to grow port equipage (PRTE) from GROW to SGRO. Verify buffered PRTE, enter copy message, then verify current PRTE. If after each verify the PRTE is in error, enter stop message and start change from beginning. If PRTE is correct after current verify, enter update message and verify that data is correct in translator.

TABLE A
IN:XLBUF:IOUS a,IOUC b,PORT c,PRTE (GROW,SGRO)!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC
c = Growth port number

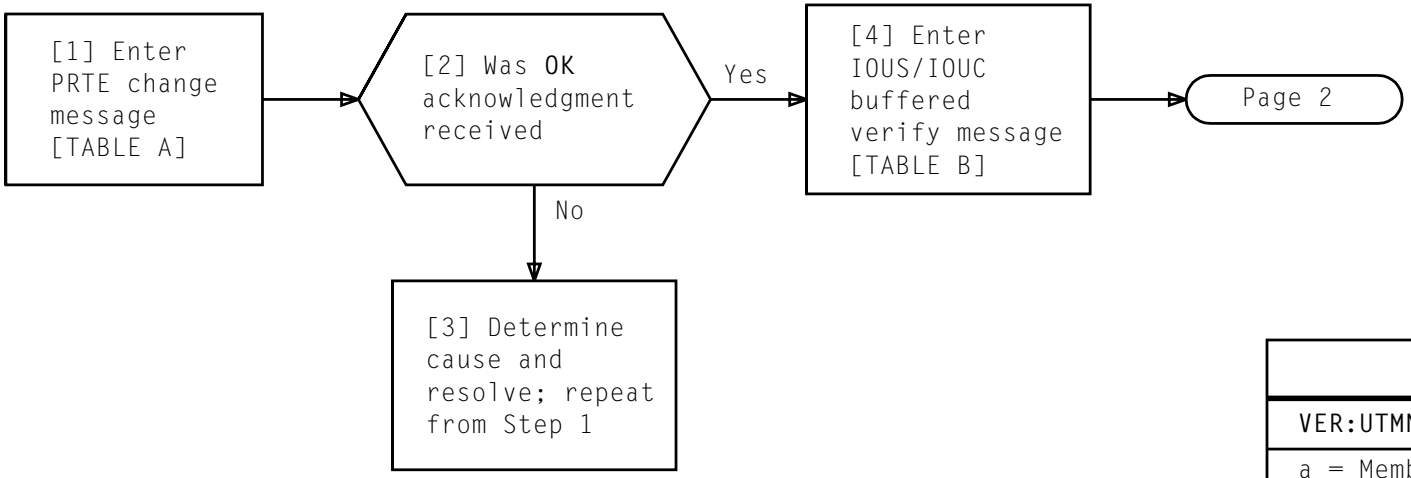


TABLE B
VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

CHANGE AND VERIFY PORT EQUIPAGE GROW TO SPECIAL GROWTH

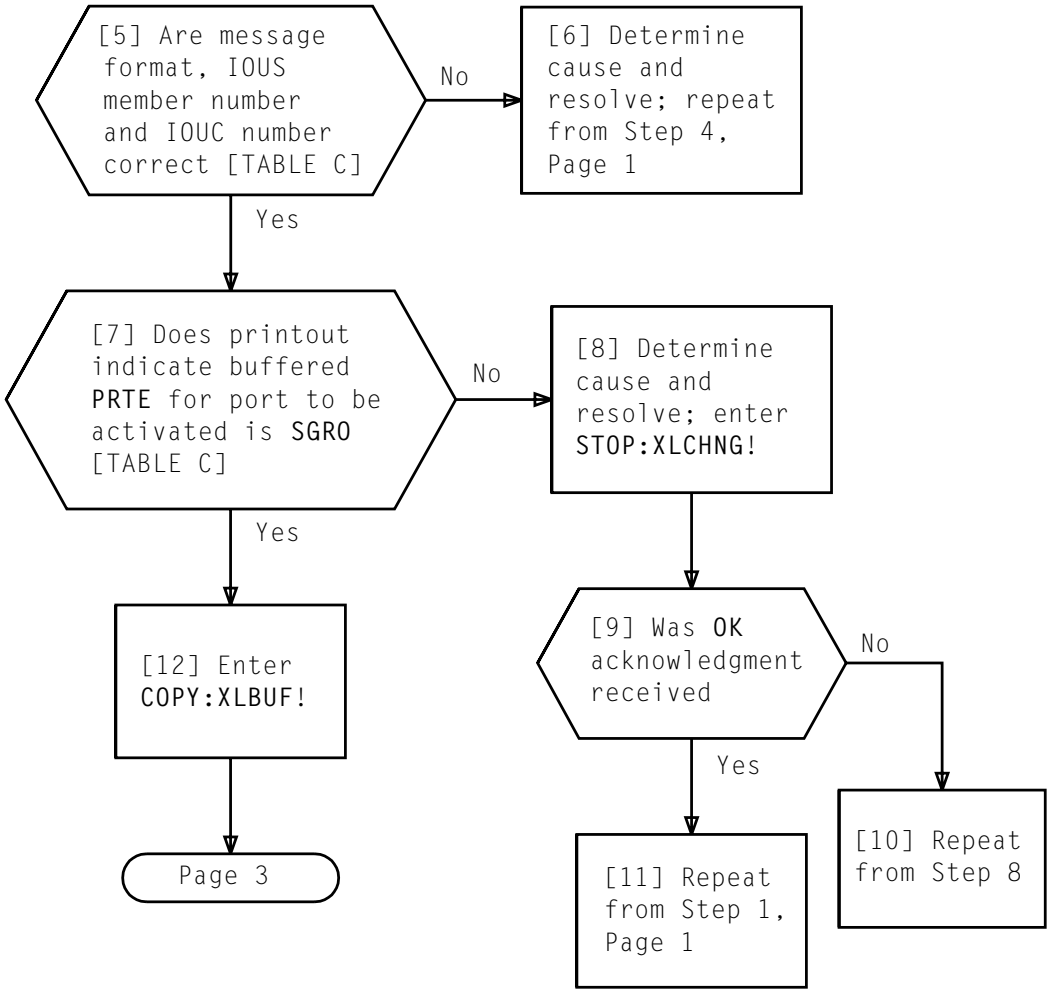


TABLE C

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 BUFFERED DATA: . . . . PORT 0,PRTE=c . . . PORT 1,PRTE=d . . PORT 2,PRTE=e . .	a = Member number b = Submember number c = Port 0 equipage d = Port 1 equipage e = Port 2 equipage

CHANGE AND VERIFY PORT EQUIPAGE GROW TO SPECIAL GROWTH

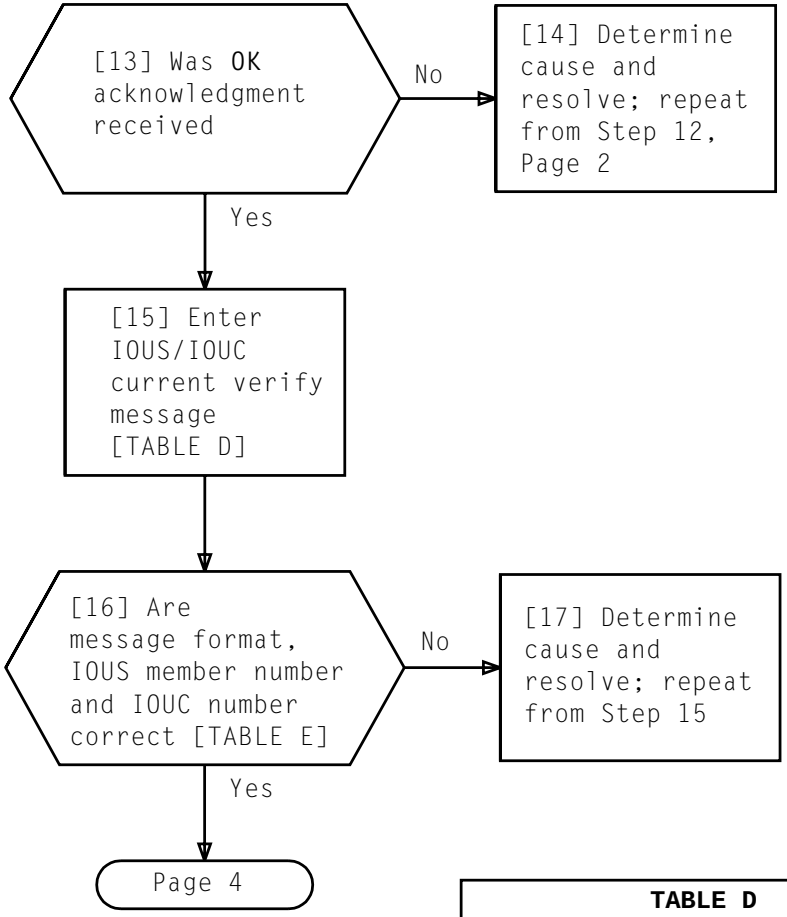


TABLE D

VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

TABLE E

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: . . . . PORT 0,PRTE=c . . . PORT 1,PRTE=d . . PORT 2,PRTE=e . .	a = Member number b = Submember number c = Port 0 equipage d = Port 1 equipage e = Port 2 equipage

CHANGE AND VERIFY PORT EQUIPAGE GROW TO SPECIAL GROWTH

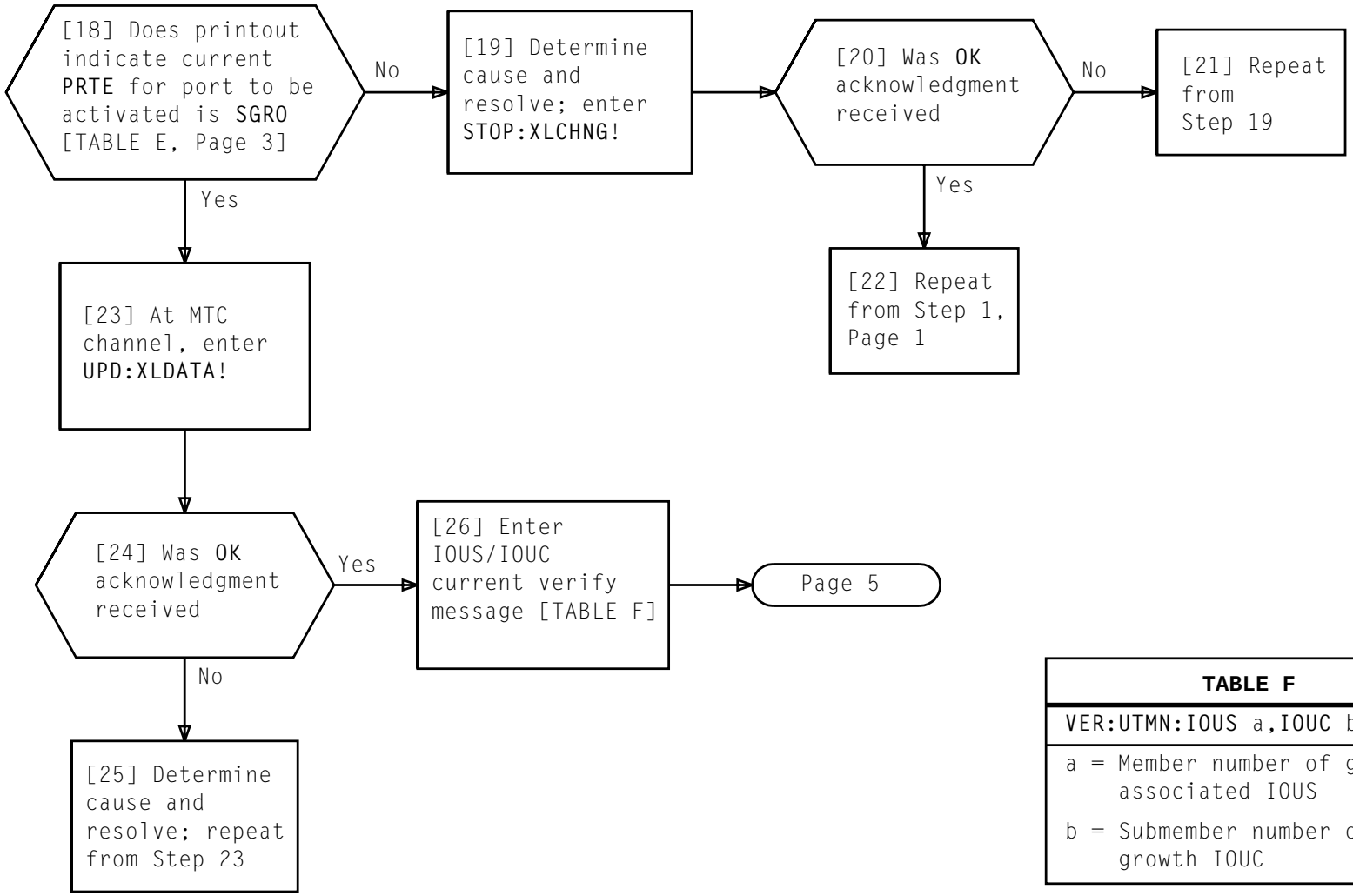
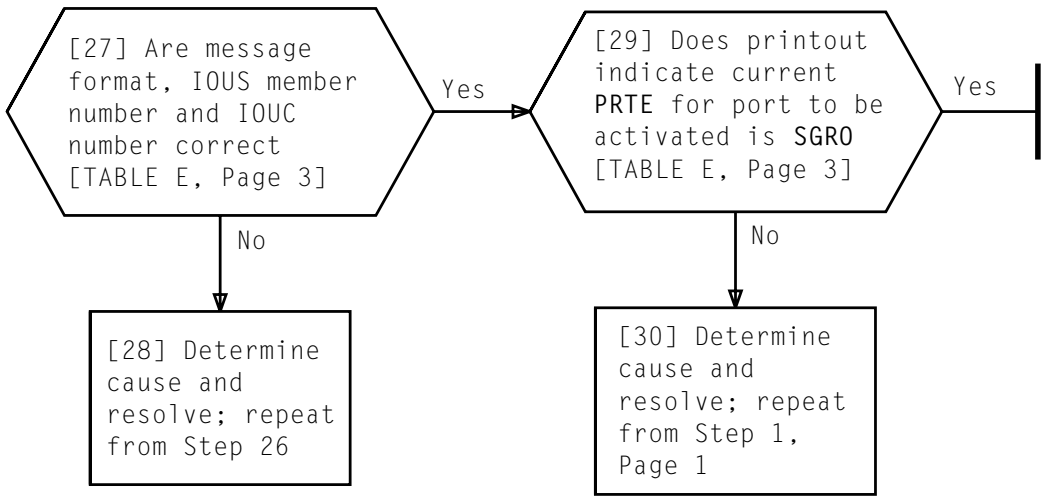


TABLE F
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

CHANGE AND VERIFY PORT EQUIPAGE GROW TO SPECIAL GROWTH



CHANGE AND VERIFY PORT EQUIPAGE GROW TO SPECIAL GROWTH

SUMMARY

Enter change message to grow port equipage (PRTE) from SGRO to OPER. Verify buffered PRTE, enter copy message, then verify current PRTE. If after each verify PRTE is in error, enter stop message and start change from beginning. If PRTE is correct after current verify, enter update message and verify that data is correct in translator

TABLE A
IN:XLBUF:IOUS a,IOUC b,PORT c,PRTE (SGRO,OPER)!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC
c = Growth port number

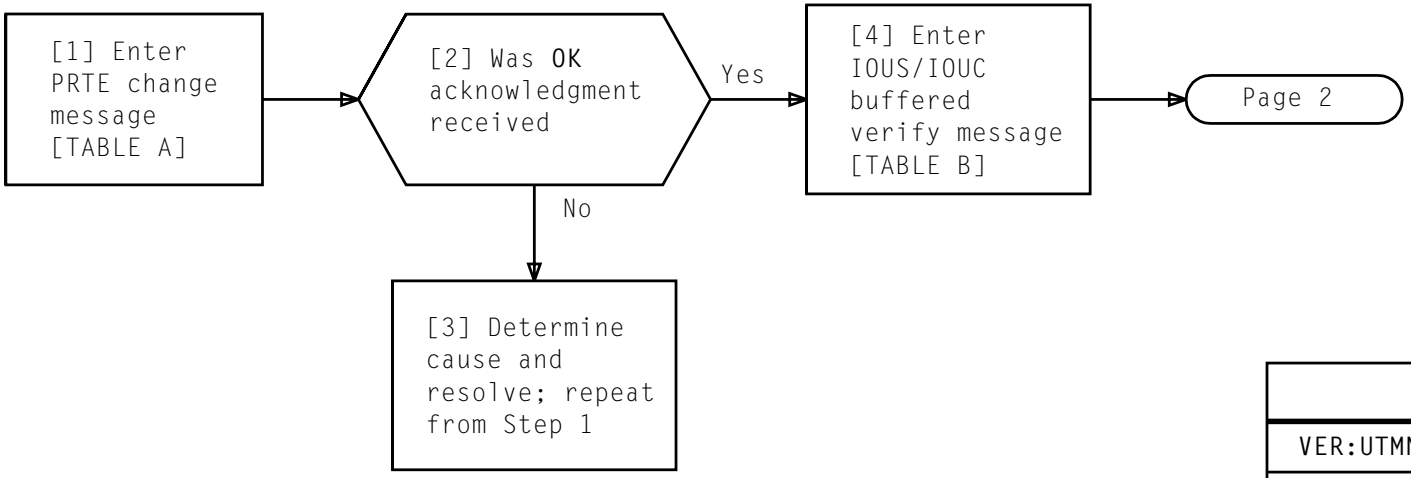


TABLE B
VER:UTMN;BUF:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

CHANGE AND VERIFY PORT EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

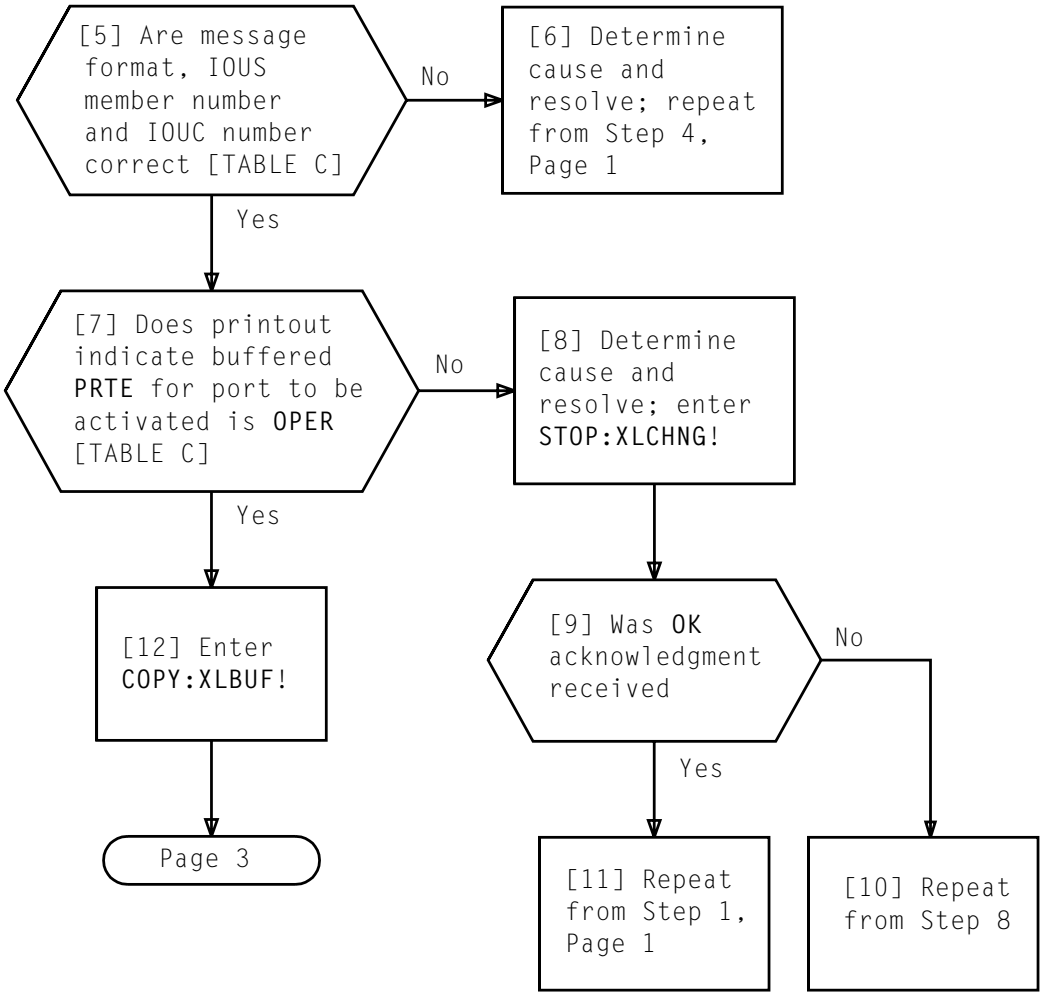


TABLE C

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 BUFFERED DATA: . . . . . PORT 0,PRTE=c . . . PORT 1,PRTE=d . . PORT 2,PRTE=e . .	a = Member number b = Submember number c = Port 0 equipage d = Port 1 equipage e = Port 2 equipage

CHANGE AND VERIFY PORT EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

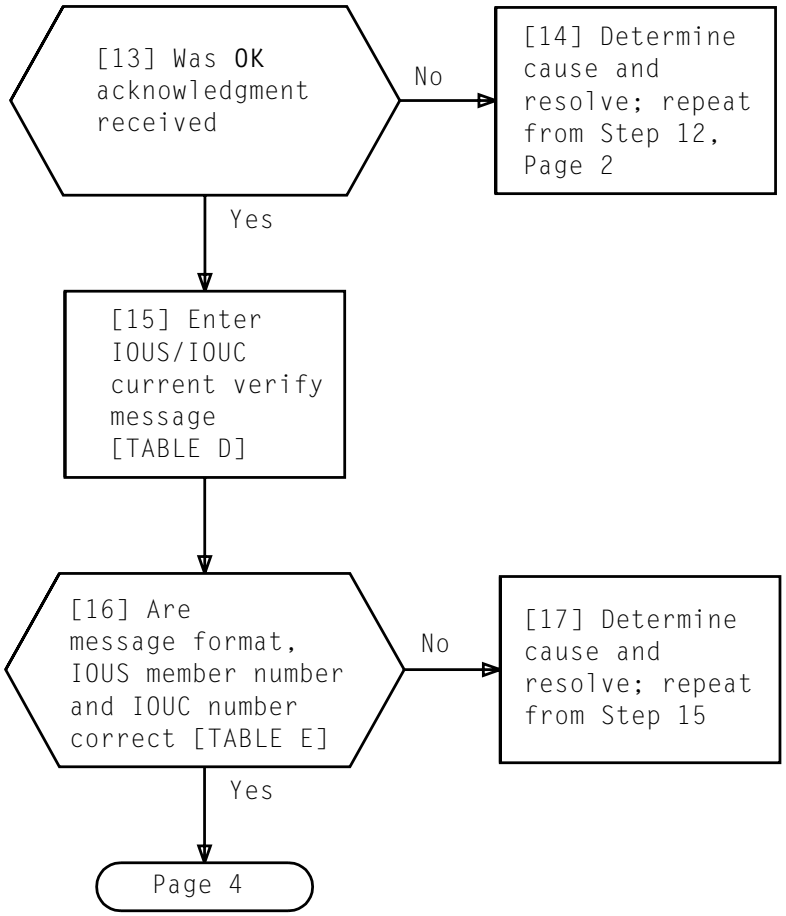


TABLE D

VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

TABLE E

VER:UTMN,IOUS a,IOUC b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE=43 CURRENT DATA: . . . . . . PORT 0,PRTE=c . . . PORT 1,PRTE=d . . PORT 2,PRTE=e . .	a = Member number b = Submember number c = Port 0 equipage d = Port 1 equipage e = Port 2 equipage

CHANGE AND VERIFY PORT EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

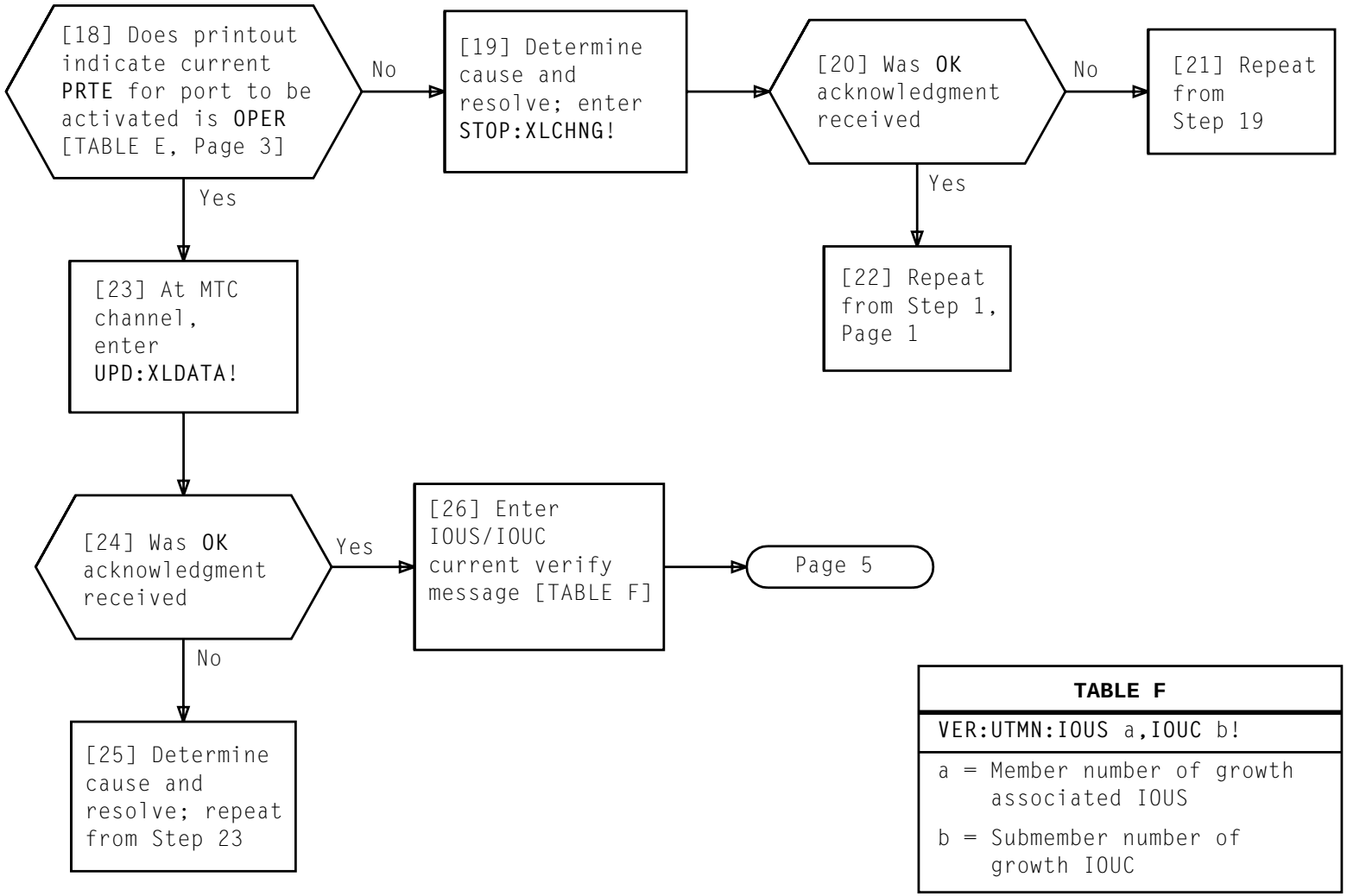
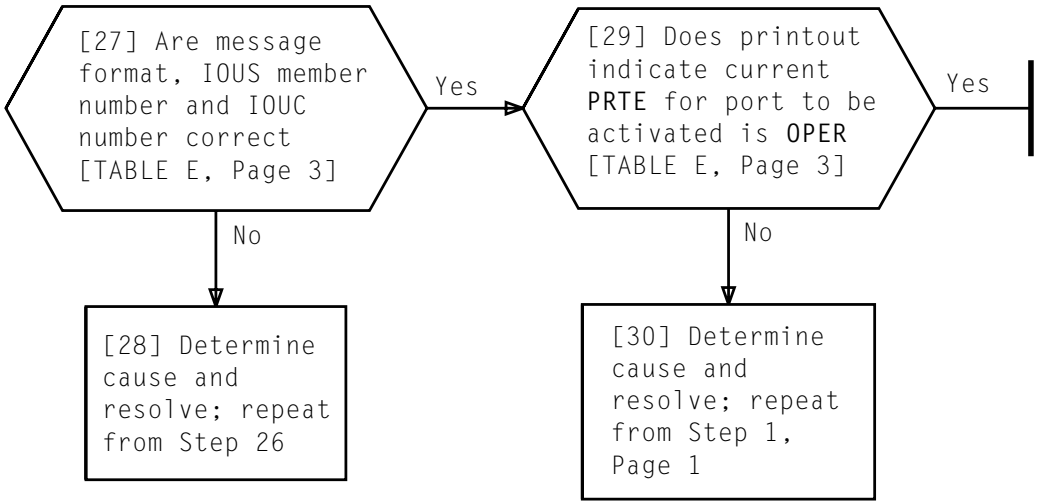


TABLE F
VER:UTMN:IOUS a,IOUC b!
a = Member number of growth associated IOUS
b = Submember number of growth IOUC

CHANGE AND VERIFY PORT EQUIPAGE SPECIAL GROWTH TO OPERATIONAL



CHANGE AND VERIFY PORT EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

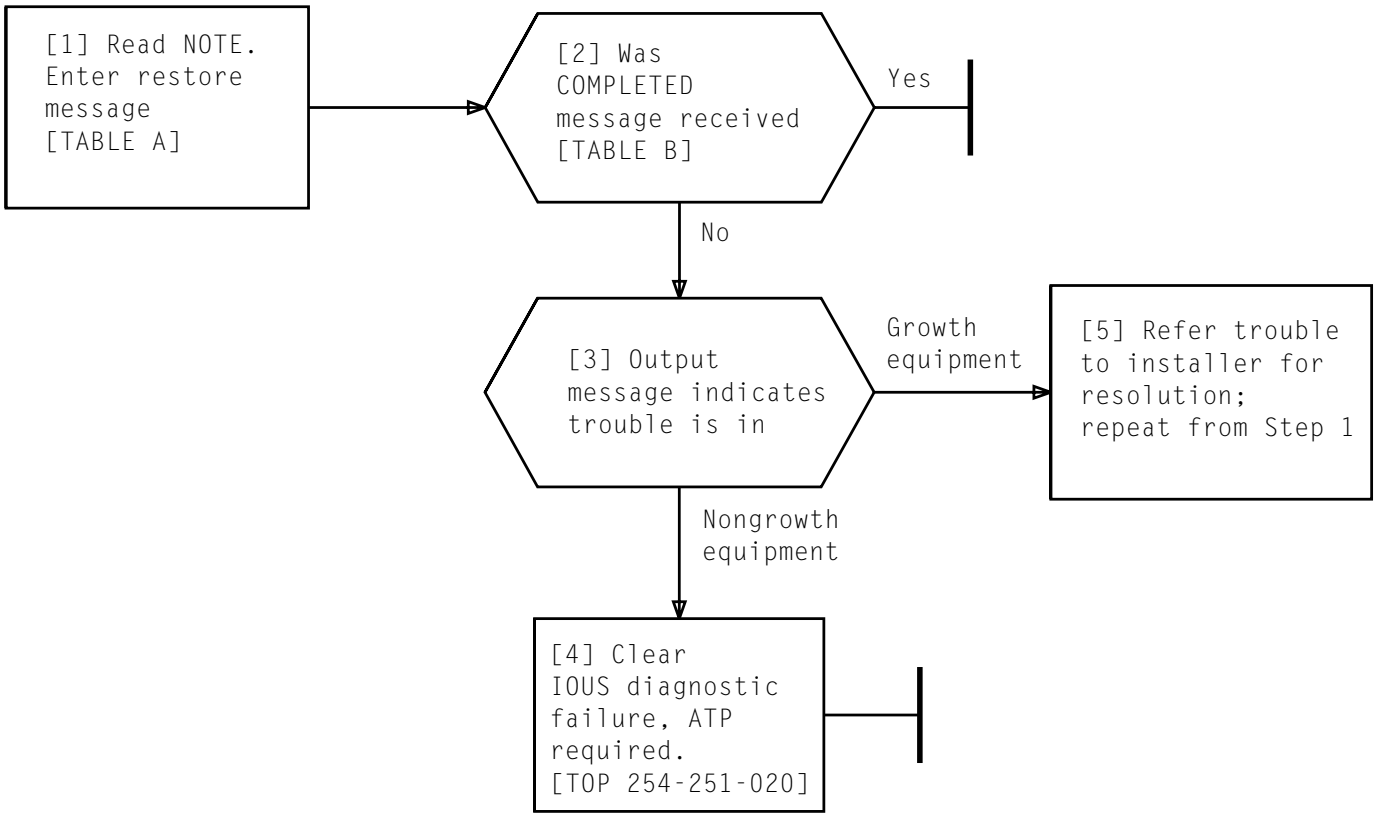
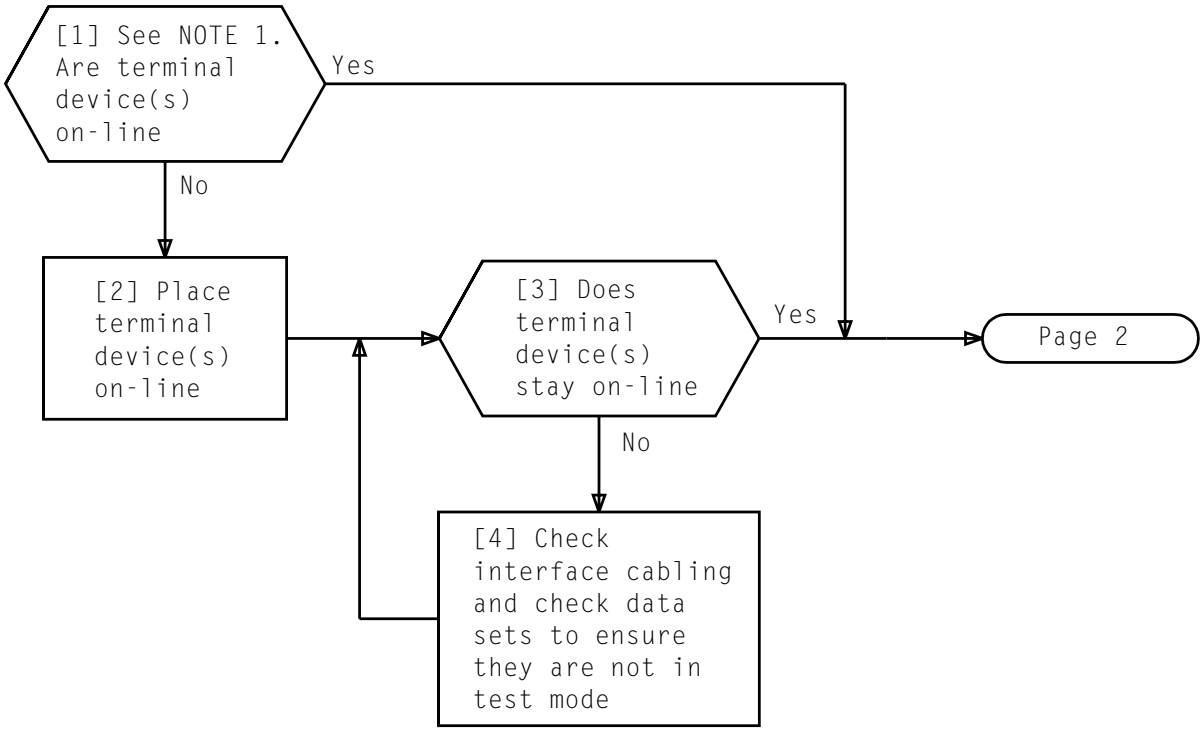


TABLE A
RST:IOUS a,IOMP b!
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

TABLE B
RST:IOUS a,IOMP b COMPLETED
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

NOTE
Restore message will cause IOUS diagnostic to be run. IOMP will be restored, if ATP

RESTORE INPUT/OUTPUT MICROPROCESSOR TO SERVICE



TEST TERMINAL DEVICE

NOTE 1

Model 40 devices are put on-line with **REC** key and model 35 devices are put on-line with **ON** key

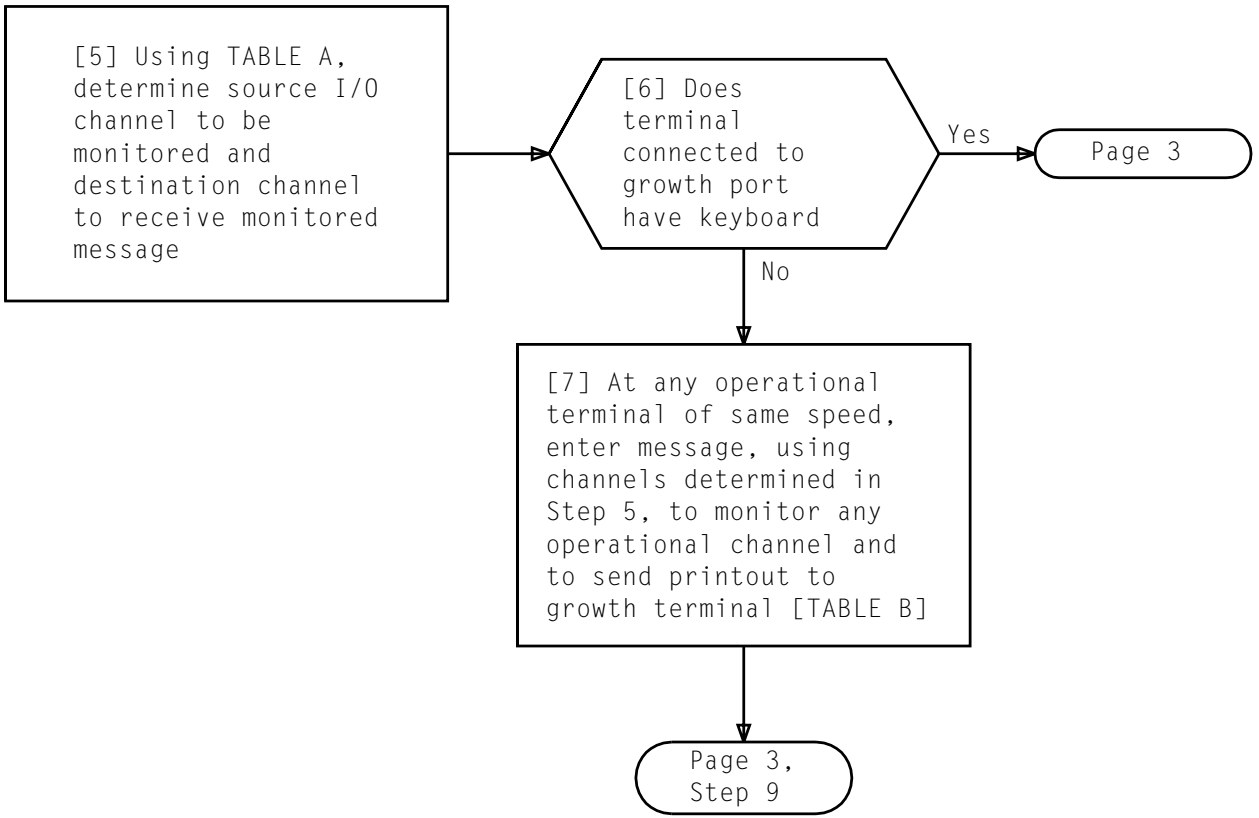


TABLE A

CHANNEL NAME			
BELT1	RCDT1	SREC2	TCA9
BELT2	RCDT2	TCA1	TCA10
ISCC	RCDT3	TCA2	TEC1
MTC	RCMOC	TCA3	TEC2
NMDT1	RCREC	TCA4	TEC3
NMDT2	RCRRT1	TCA5	TEC4
NMDT3	RCRRT2	TCA6	TEC5
NMPR1	SCC1	TCA7	TRF1
NMPR2	SREC1	TCA8	TRF2

TABLE B

MON:CHAN a;CHAN b!

a = Source I/O channel to be monitored

b = Destination I/O channel to receive monitored message

TEST TERMINAL DEVICE

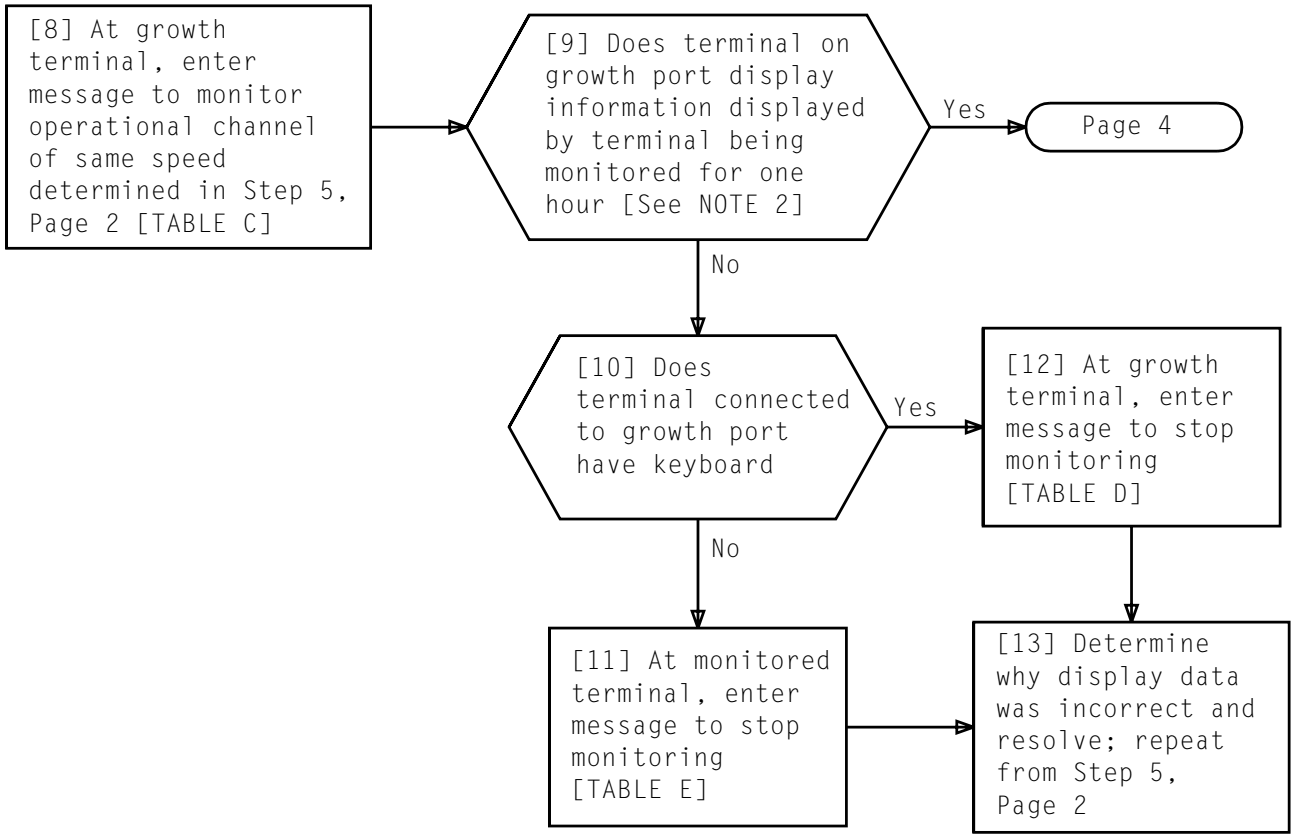


TABLE C
MON:CHAN a!
a = Source I/O channel to be monitored

TABLE D
STOP:MON;CHAN a!
a = Source I/O channel being monitored

TABLE E
STOP:MON;CHAN a;CHAN b!
a = Source I/O channel being monitored
b = Destination I/O channel receiving monitored message

NOTE 2
If terminal on growth port is different class from terminal being monitored, additional information may be displayed

TEST TERMINAL DEVICE

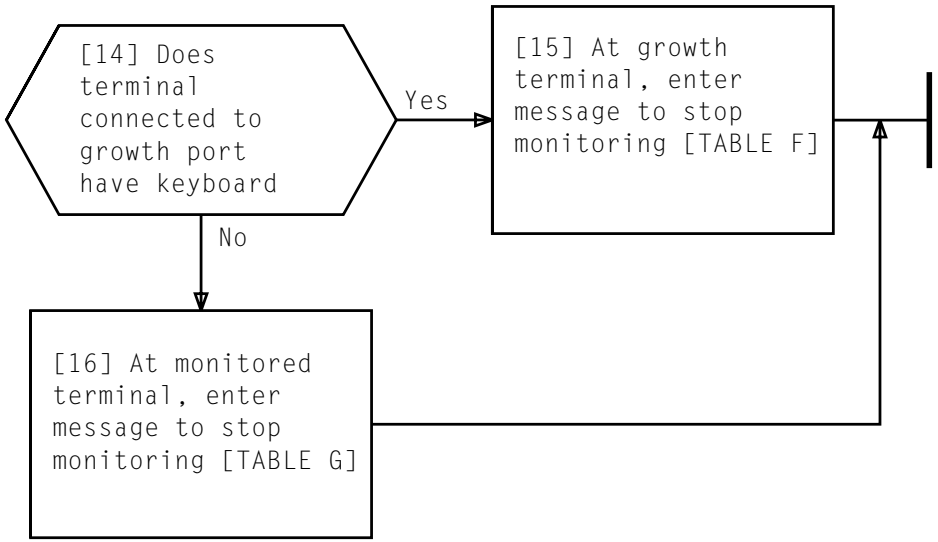


TABLE F
STOP:MON;CHAN a!
a = Source I/O channel being monitored

TABLE G
STOP:MON;CHAN a;CHAN b!
a = Source I/O channel being monitored
b = Destination I/O channel receiving monitored message

TEST TERMINAL DEVICE

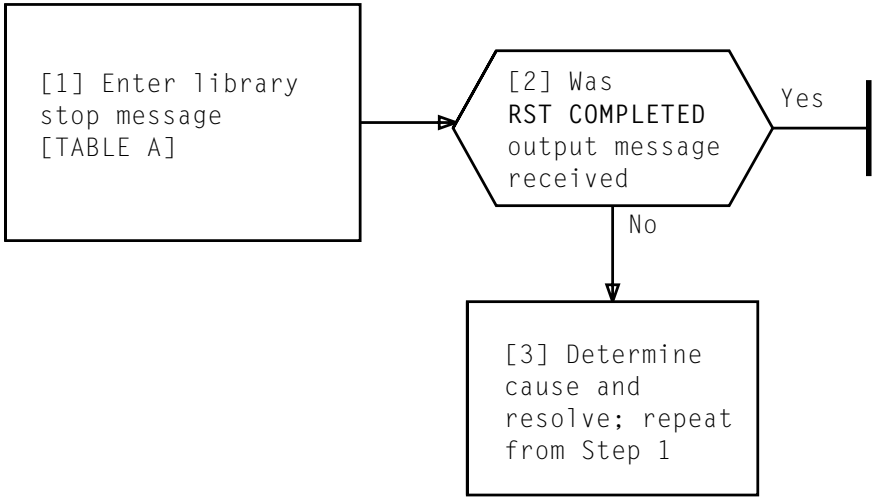
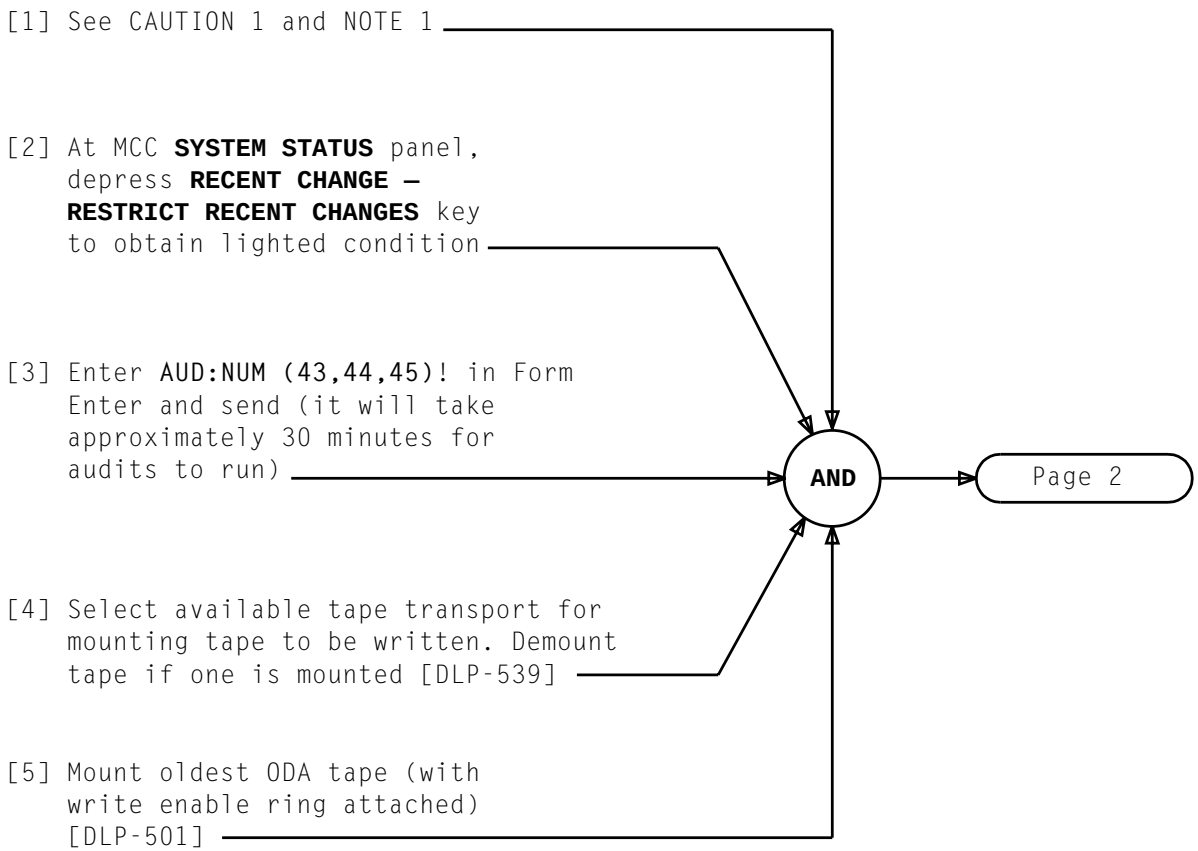


TABLE A
STOP:LIBSYS:PKG LGaPGRO,PGM XAPP,TASK 0,CLIENT 0!
a = Office generic (for example, 17 for 4E17)

TERMINATE EXECUTION OF LIBRARY PROGRAM

COPY RESIDENT ODA DATA TO TAPE (TWRP WRITE)

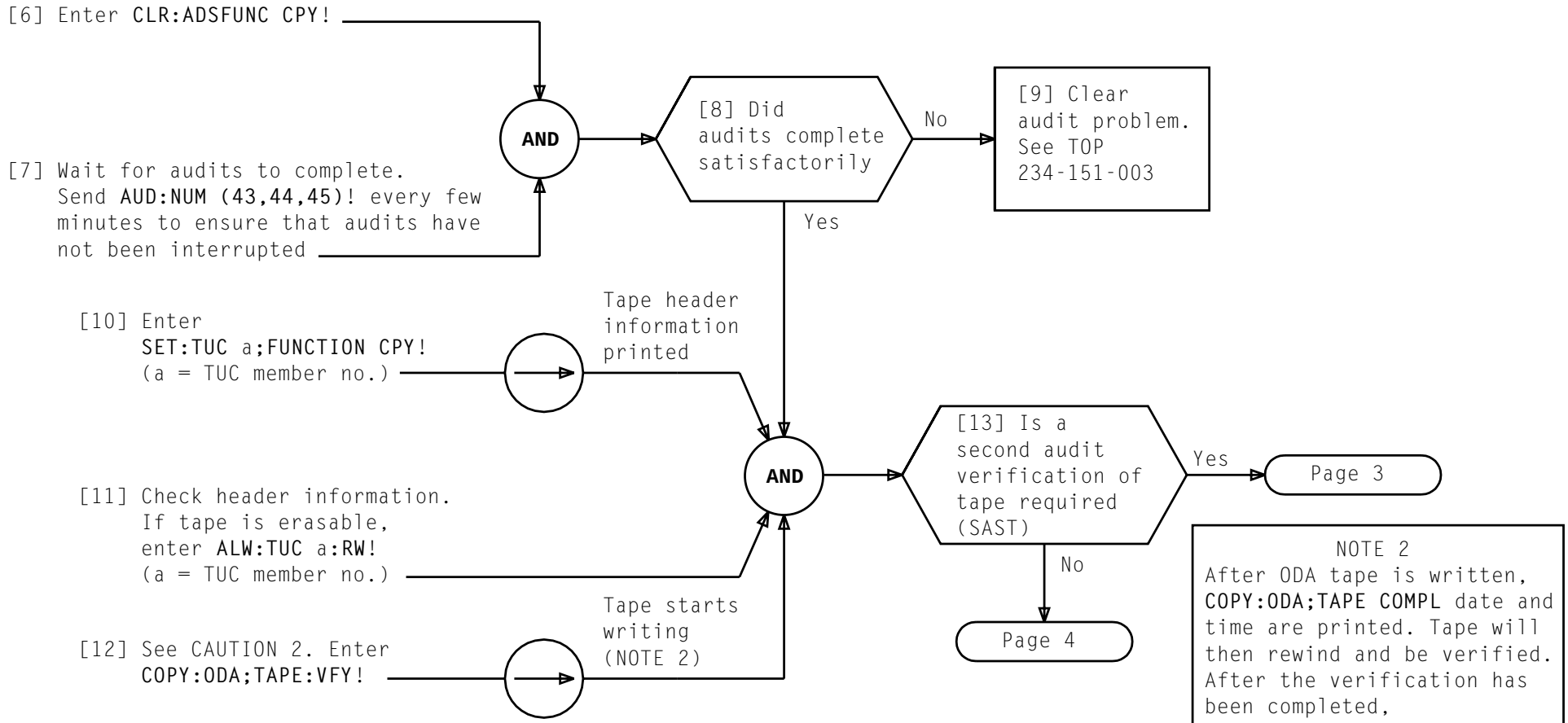


NOTE 1

Three pairs of backup ODA tapes, containing last three RC updates, are kept in office. These tapes are rotated with oldest tapes being rewritten when RC update is done

CAUTION 1

Certain system audits are inhibited during tape writing; therefore, tape writing should be done during light traffic periods



NOTE 2

After ODA tape is written, COPY:ODA;TAPE COMPL date and time are printed. Tape will then rewind and be verified. After the verification has been completed, COPY:VFY;TAPE COMPL is printed followed by REPT:DEMOUNT TAPE FROM TUC a

CAUTION 2

If ADS procedural error or tape abort occurs during this step, CLR:ADSFUNC CPY! must be entered. Repeat from Step 10

COPY RESIDENT ODA DATA TO TAPE (TWRP WRITE)

[14] After tape has been written and verified and **REPT:DEMOUNT TAPE FROM TUC** a is printed, demount tape just written [DLP-539] remove write enable ring and mount it on another tape transport [DLP-501]

[15] Enter **SET:TUC** a**;FUNCTION AUT!** (a = TUC member no.)

Tape header information printed

[16] Enter **ALW:TUC** a**:RO!** (a = TUC member no.)

[17] Enter **AUD:ODA;NCG!**

Audit begins

AND

SAST in progress

[18] See NOTE 3. Does printout indicate any map errors

Yes

[19] Call for technical assistance before correcting

No

Page 4

NOTE 3

As audit is being run, the following messages will be printed if no errors are encountered:

AUD:ODA;NCG IN PROGRESS
0/ ERROR(S) IN CS2FS MAP DETECTED

AUD:ODA;NCG IN PROGRESS
0/ ERROR(S) IN ID2FS MAP DETECTED

AUD:ODA;NCG IN PROGRESS
0/ ERROR(S) IN HASH TABLES DETECTED

AUD:ODA;NCG IN PROGRESS TAPE DONE
AWAITING INSTRUCTIONS

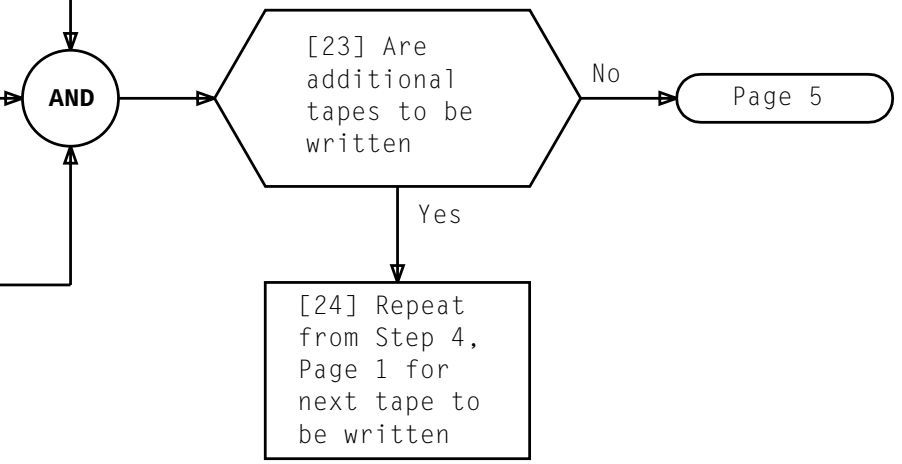
REPT: DEMOUNT TAPE FROM TUC a

COPY RESIDENT ODA DATA TO TAPE (TWRP WRITE)

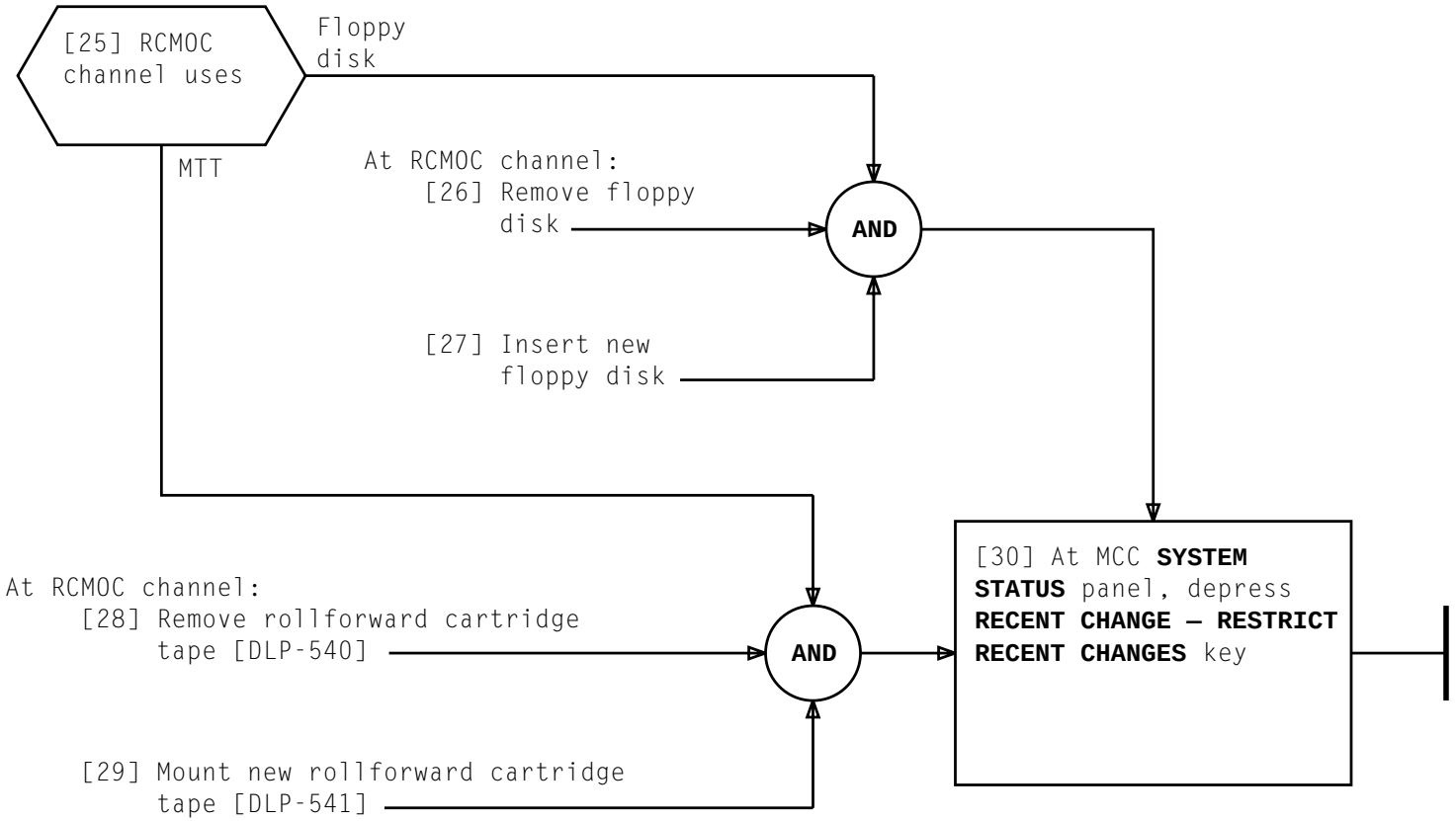
[20] If SAST was performed, enter **STOP:AUD:ODA!**

[21] Demount tape [DLP-539], remove write enable ring, (if equipped) and attach tape retainer strap

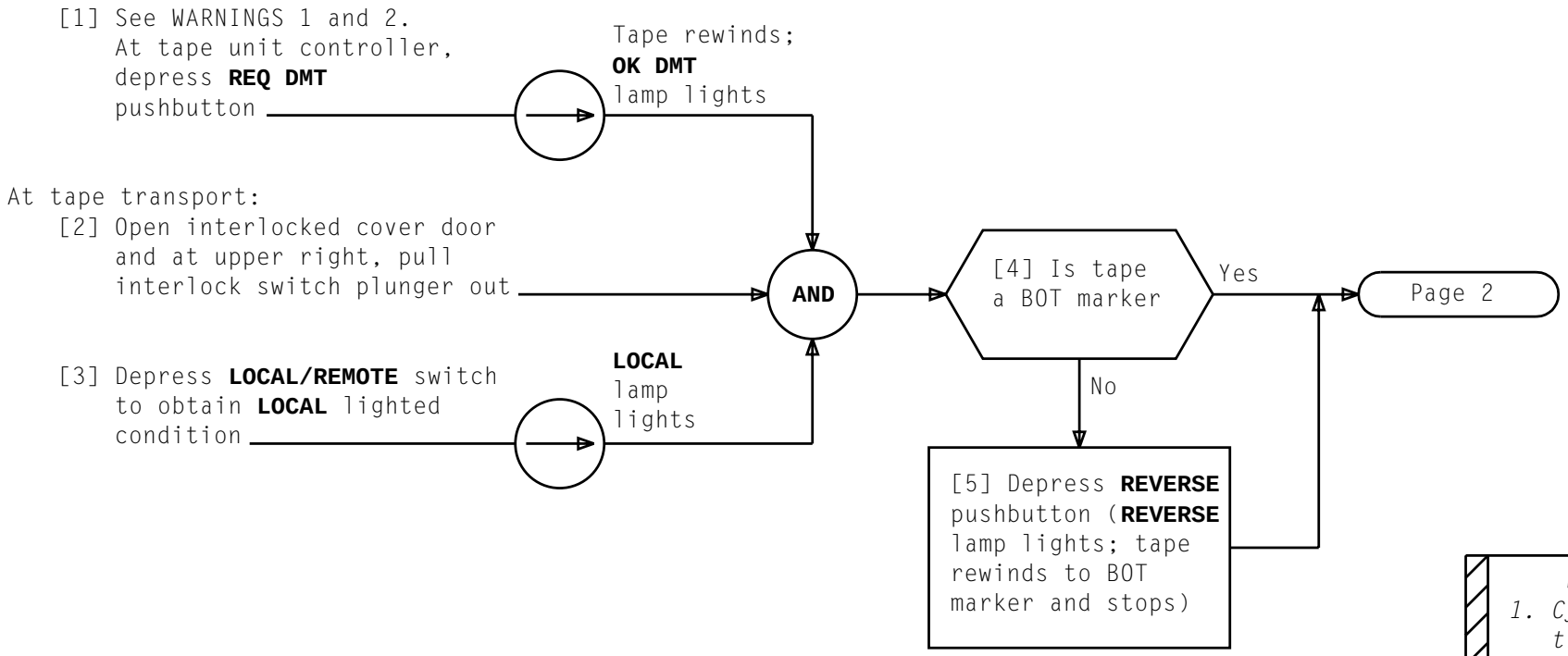
[22] Complete FORM E-5854, SPC — Magnetic Tape Control Record, and attach to tape reel. Store tape per local instructions



COPY RESIDENT ODA DATA TO TAPE (TWRP WRITE)



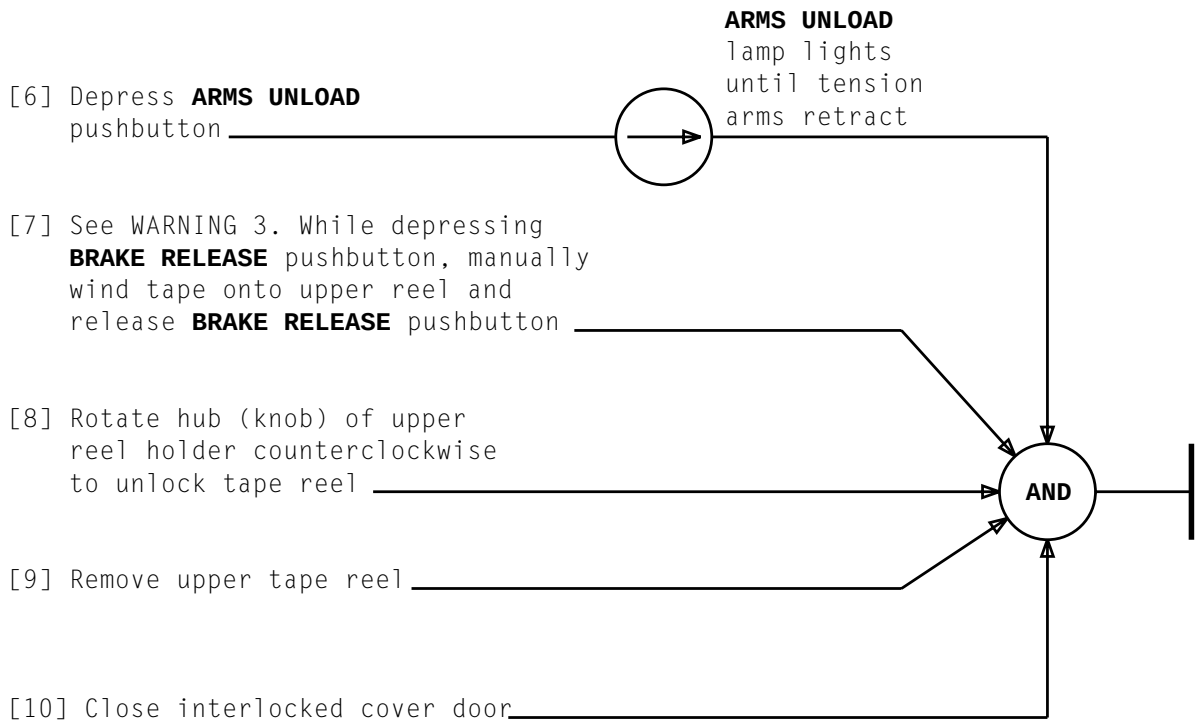
COPY RESIDENT ODA DATA TO TAPE (TWRP WRITE)



WARNINGS

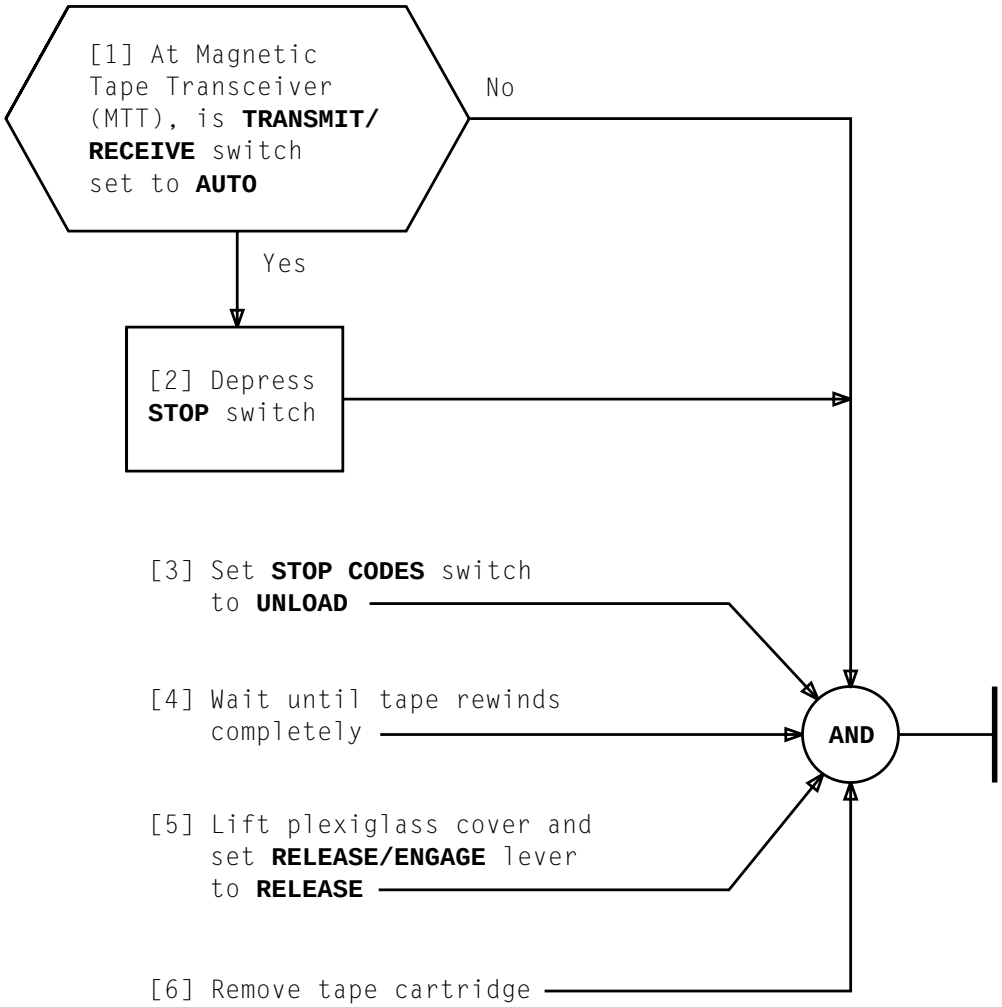
1. *Cycling tape transport or tape unit controller with tape over read/write heads may garbage tape*
2. *If tape is being demounted due to a faulty tape unit, proper tape unit maintenance documentation should be used*

DEMOUNT TAPE ON TAPE TRANSPORT



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

DEMOUNT TAPE ON TAPE TRANSPORT



REMOVE CARTRIDGE TAPE FROM MTT

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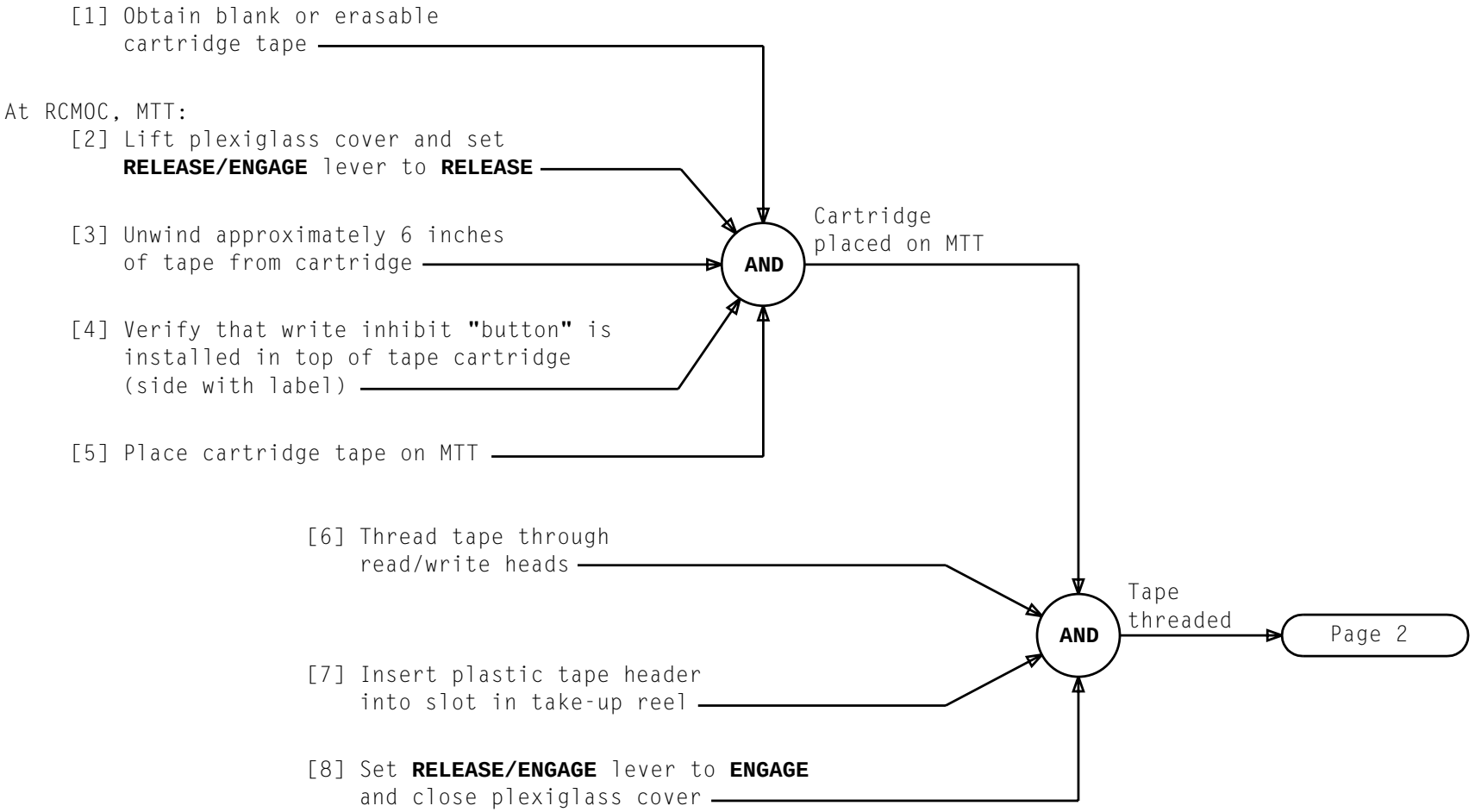

MOUNT NEW ROLLFORWARD TAPE ON RCMOC MTT

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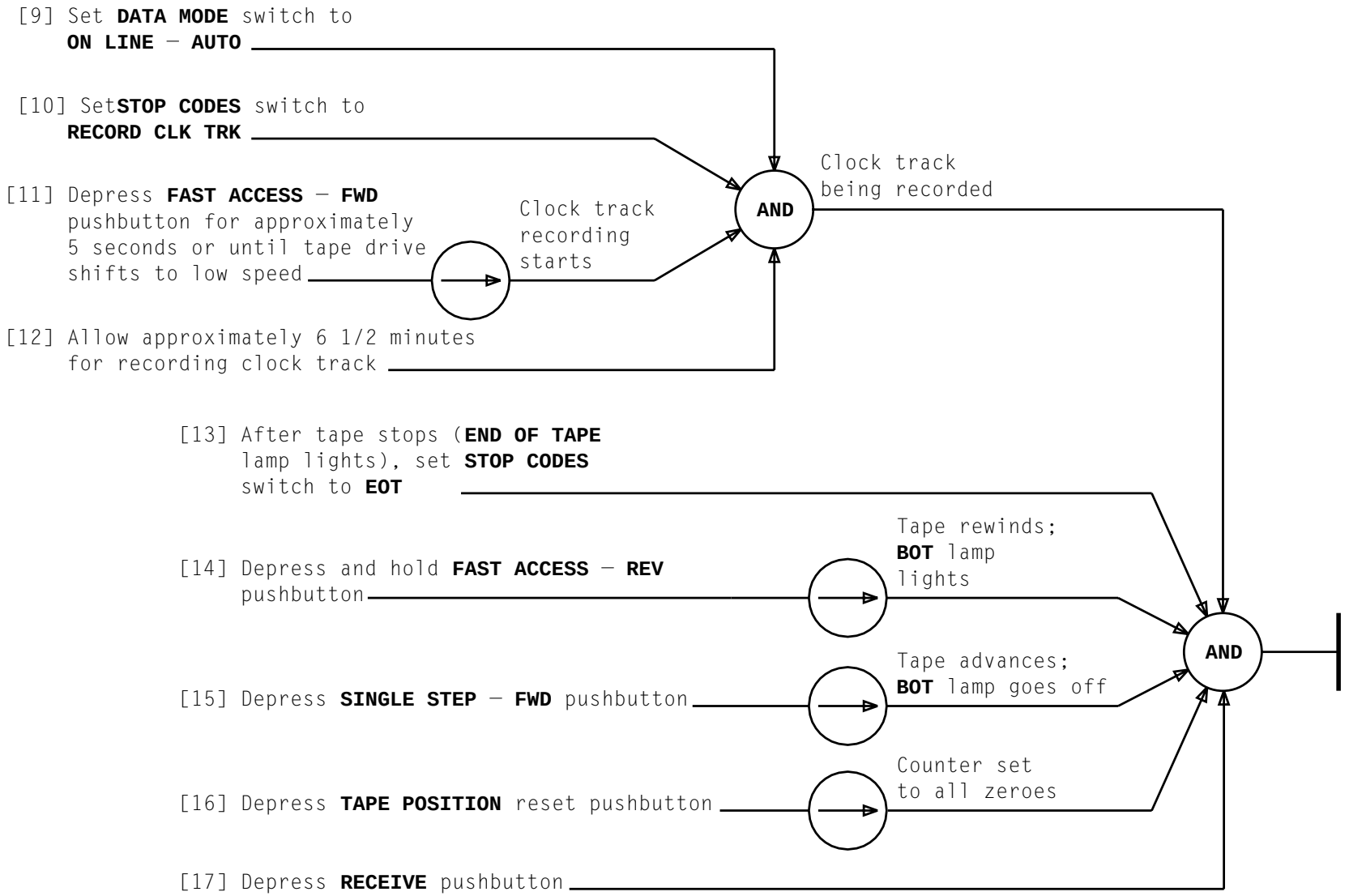


MOUNT NEW ROLLFORWARD TAPE ON RCMOC MTT

SUMMARY

Using verify input message, verify that member equipage (ME) for growth unit type is UNEQ. If equipage is in error, change ME to UNEQ

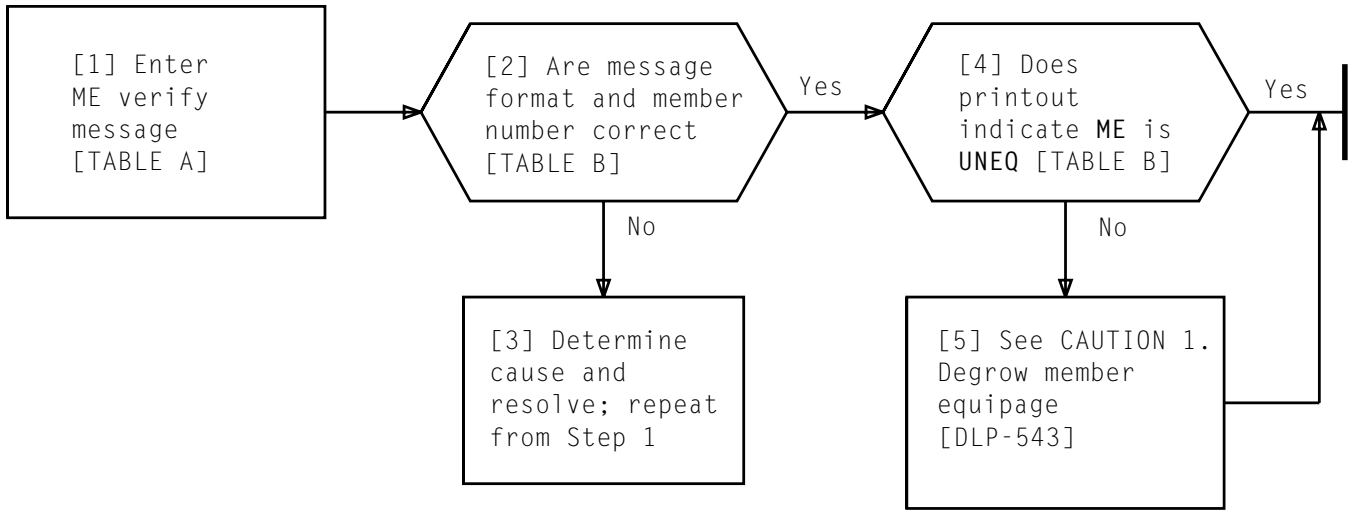


TABLE A
VER:UTMN:a b,ME!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

TABLE B
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME UNEQ
a = Growth unit type
b = Member number of growth unit

CAUTION 1
Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data changes

VERIFY MEMBER EQUIPAGE UNEQ FOR GROWTH UNIT TYPE

SUMMARY

Enter change message to degrow member equipage (ME) from OPER to SGRO and/or from SGRO to GROW and/or from GROW to UNEQ. Verify buffered ME, enter copy message, and verify current ME for each required change in state. If after each verify, ME is not in right state, enter stop message and start change from beginning. After all required changes in equipage are in copy state, enter update message and verify current ME

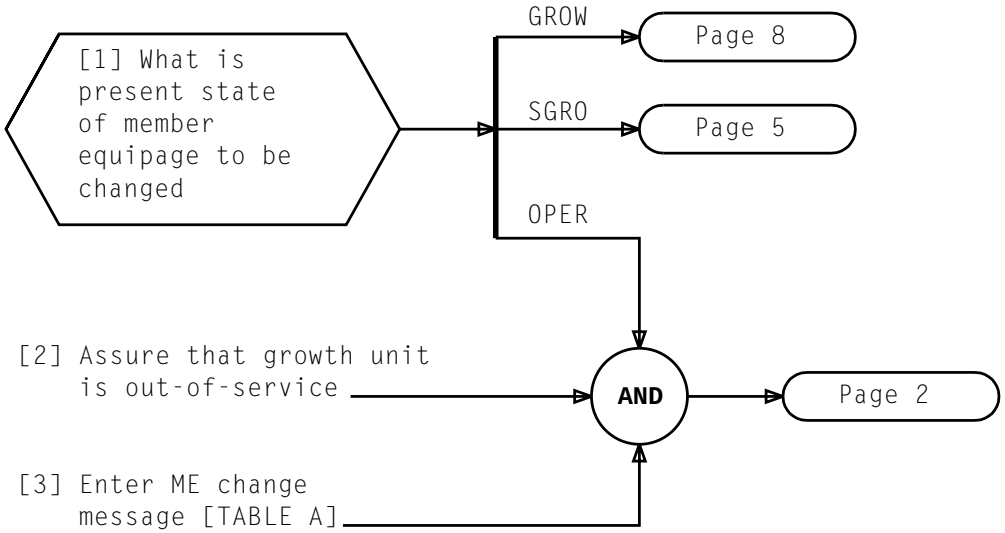


TABLE A
IN:XLBUF:a b,ME (OPER,SGRO)!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

DEGROW MEMBER EQUIPAGE

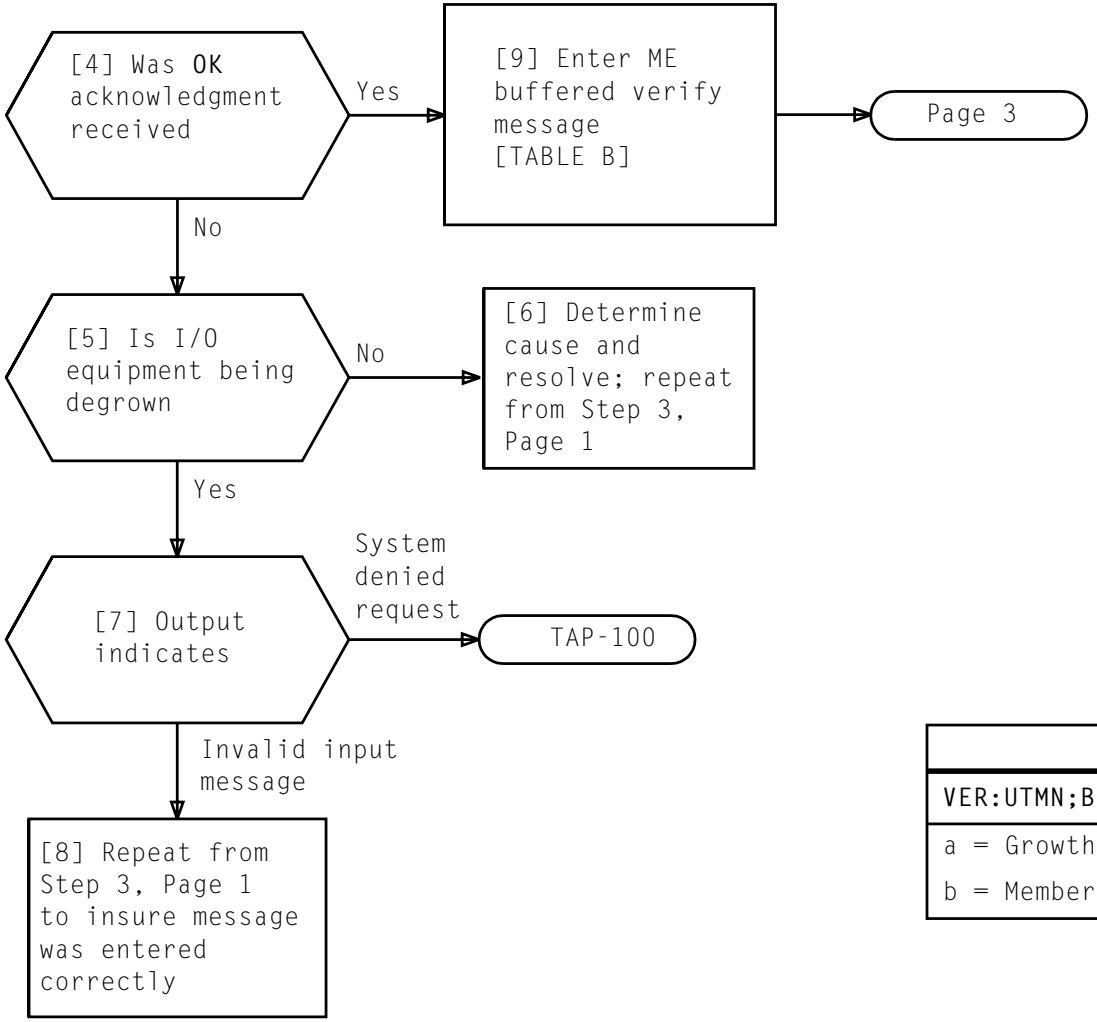


TABLE B
VER:UTMN;BUF:a b,ME!
a = Growth unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

DEGROW MEMBER EQUIPAGE

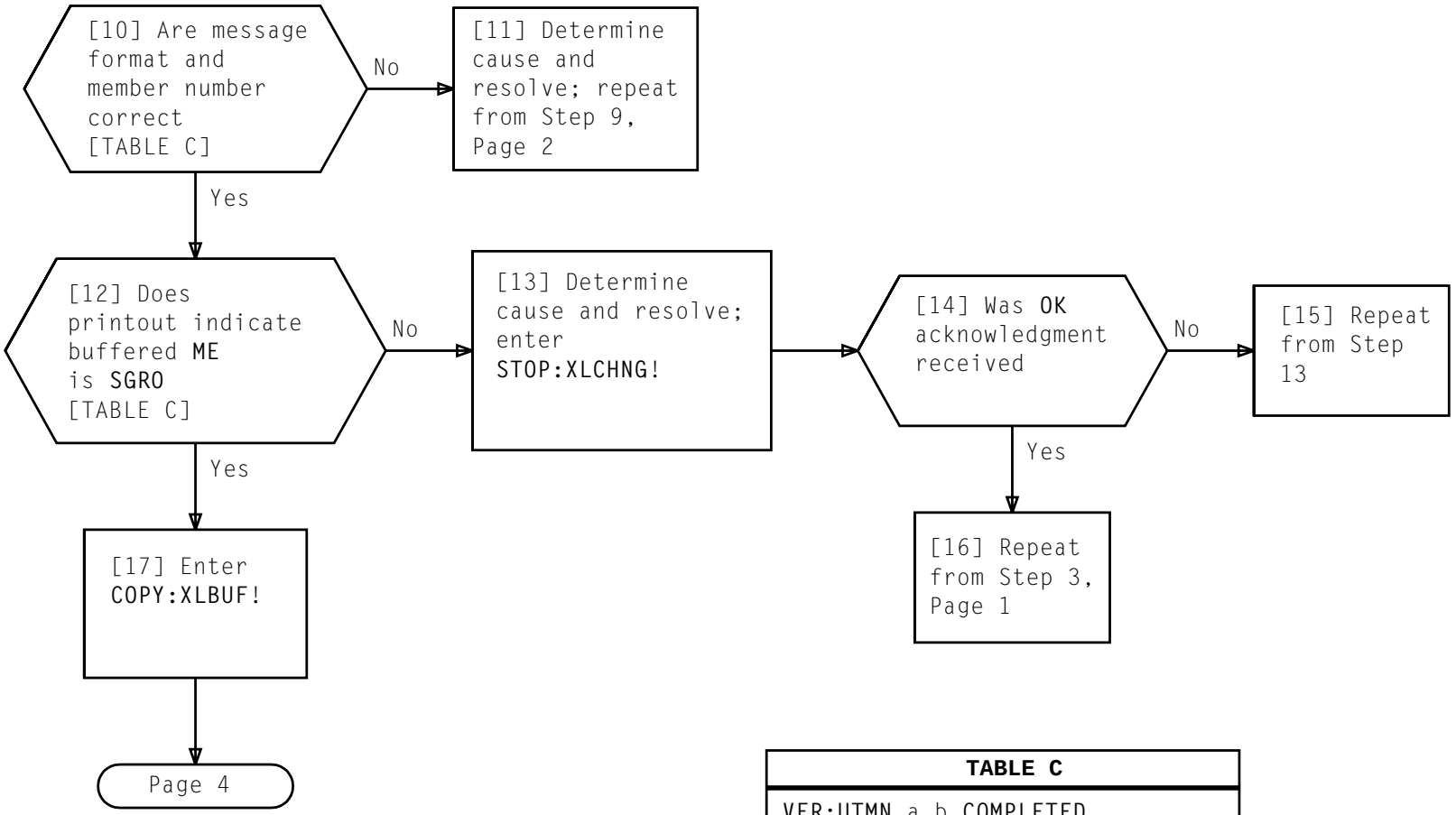


TABLE C
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA ME SGRO
a = Growth unit type b = Member number of growth unit

DEGROW MEMBER EQUIPAGE

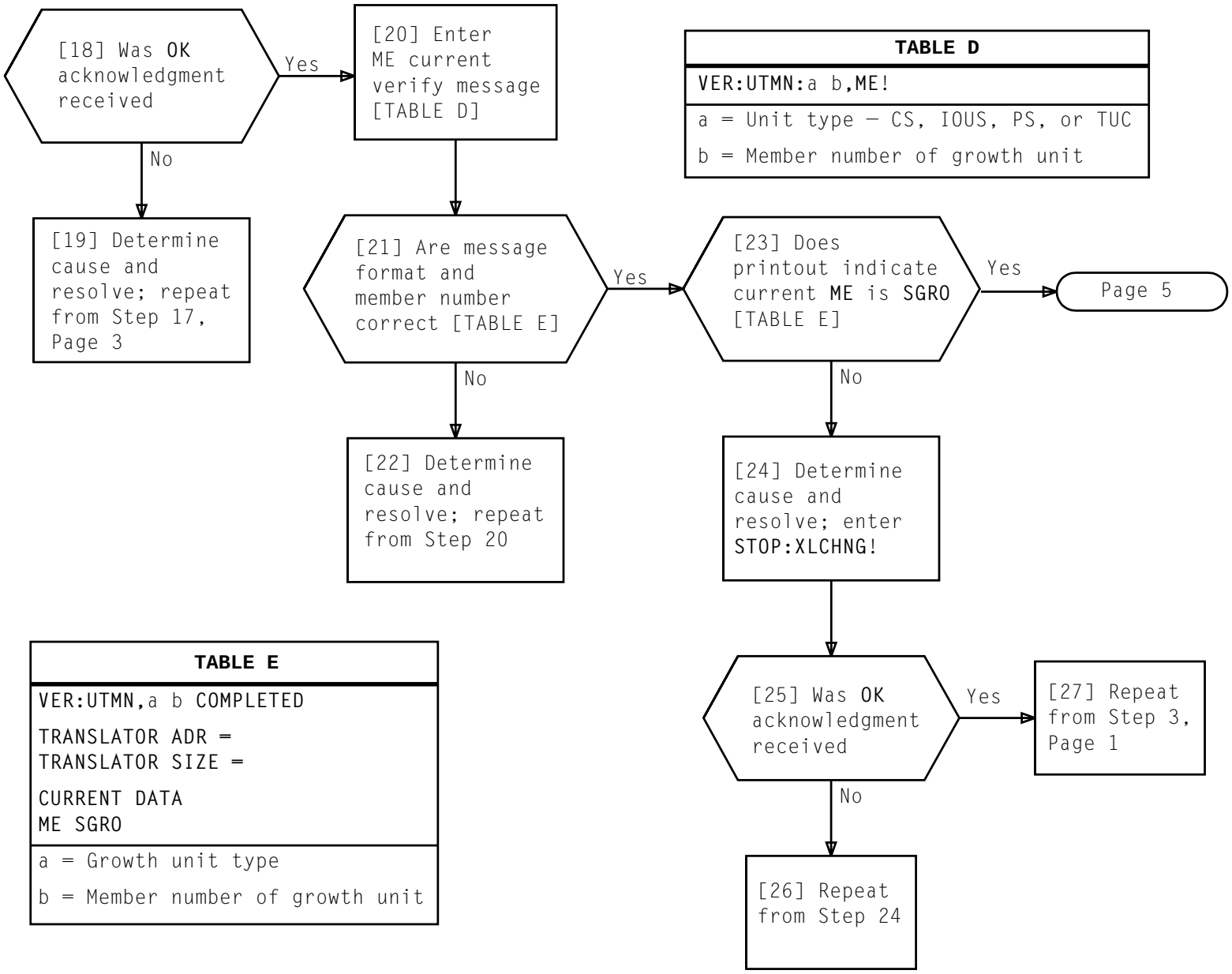


TABLE D

VER:UTMN:a b,ME!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

TABLE E

VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME SGRO
a = Growth unit type
b = Member number of growth unit

DEGROW MEMBER EQUIPAGE

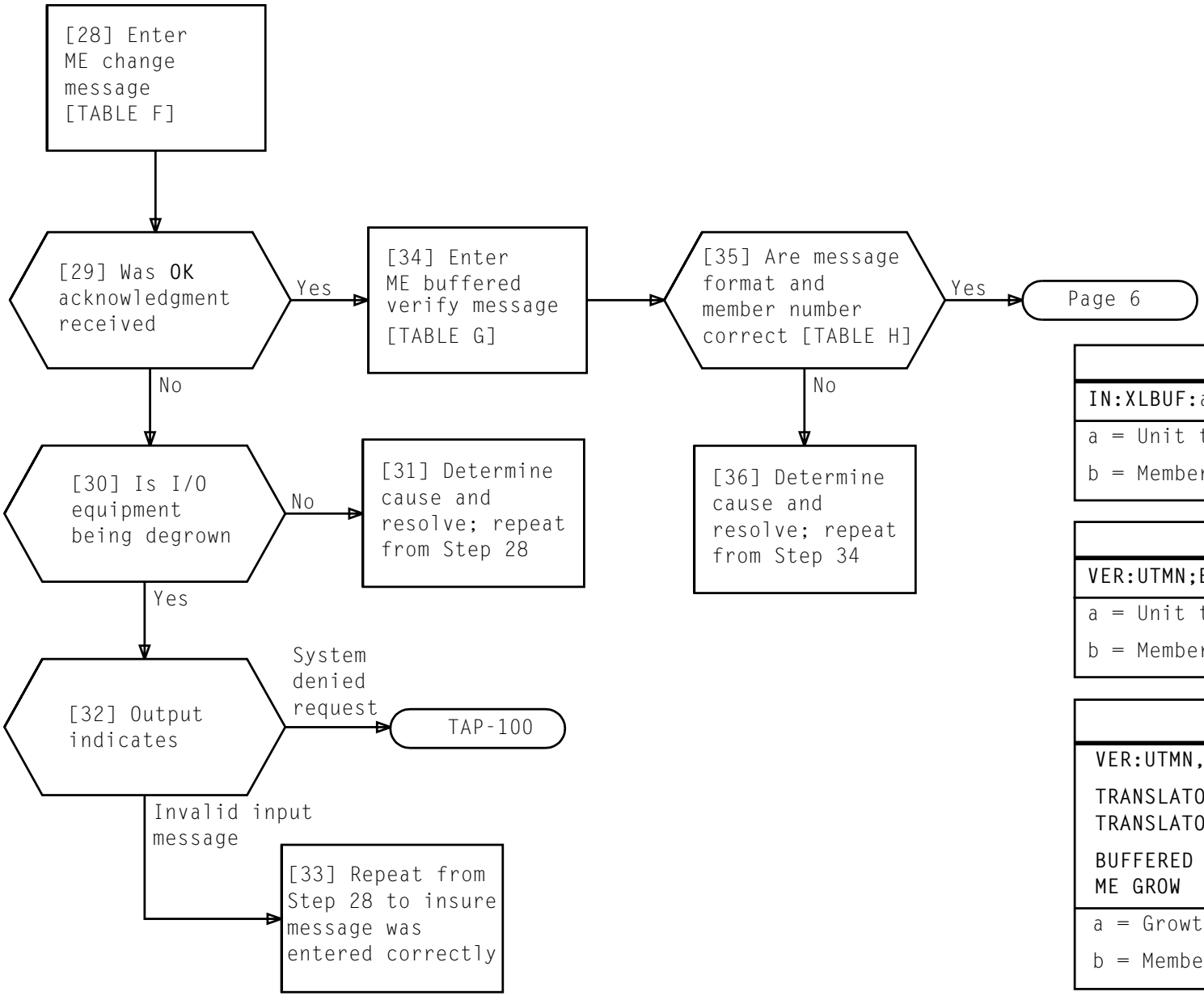


TABLE F
IN:XLBUF:a b,ME (SGRO,GROW)!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

TABLE G
VER:UTMN;BUF:a b,ME!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

TABLE H
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA ME GROW
a = Growth unit type
b = Member number of growth unit

DEGROW MEMBER EQUIPAGE

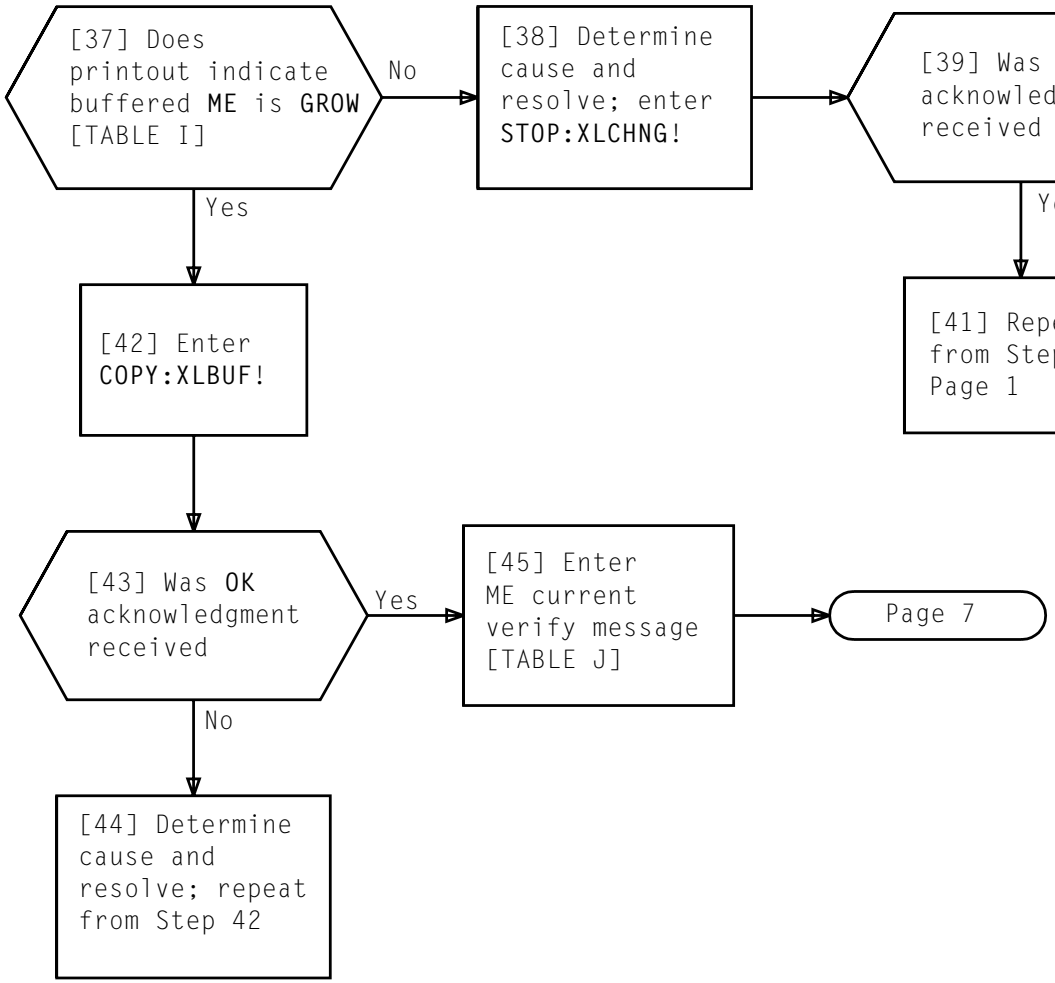


TABLE I
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA ME GROW
a = Growth unit type b = Member number of growth unit

TABLE J
VER:UTMN:a b,ME!
a = Unit type — CS, IOUS, PS, or TUC b = Member number of growth unit

DEGROW MEMBER EQUIPAGE

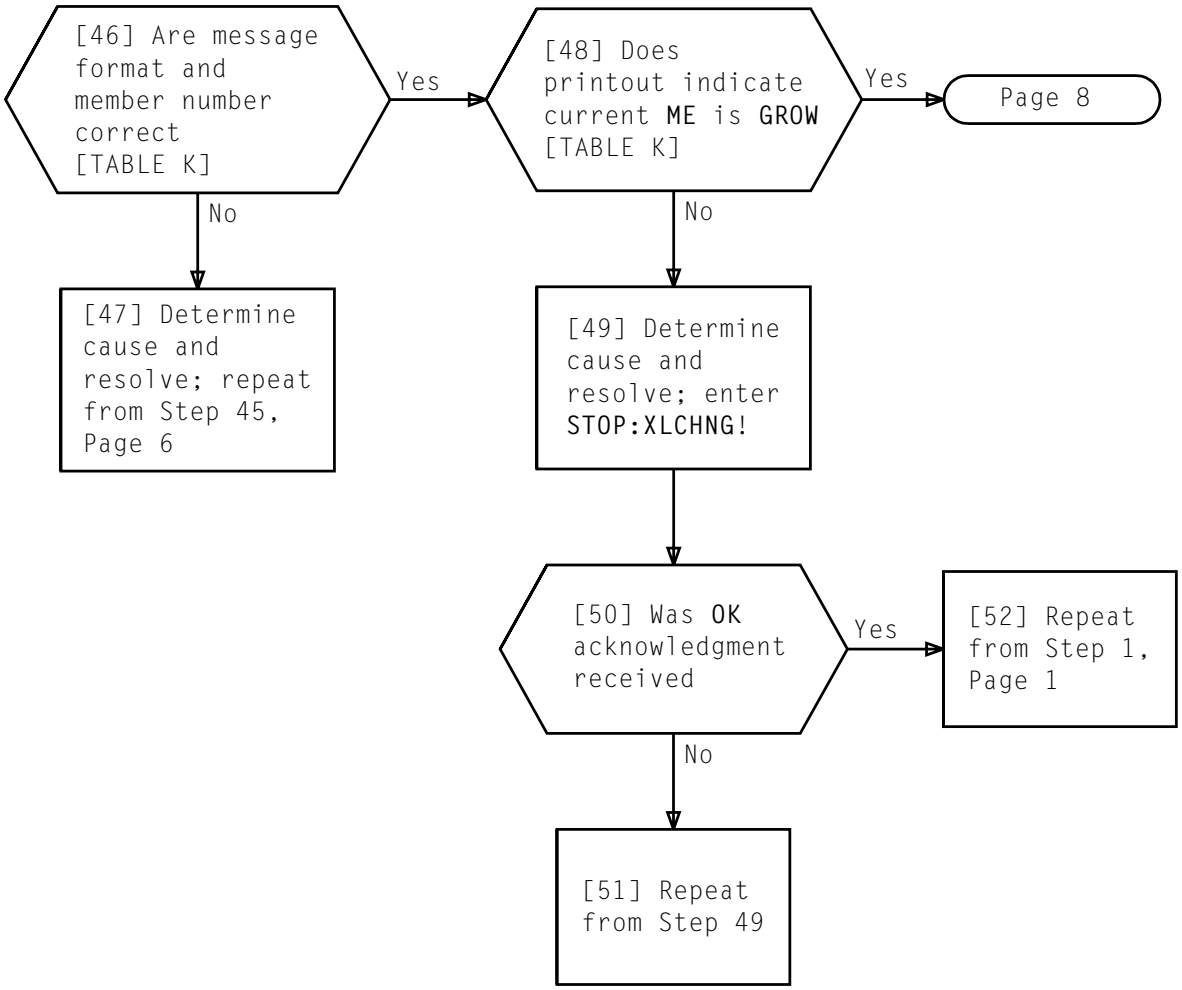


TABLE K
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME GROW
a = Growth unit type b = Member number of growth unit

DEGROW MEMBER EQUIPAGE

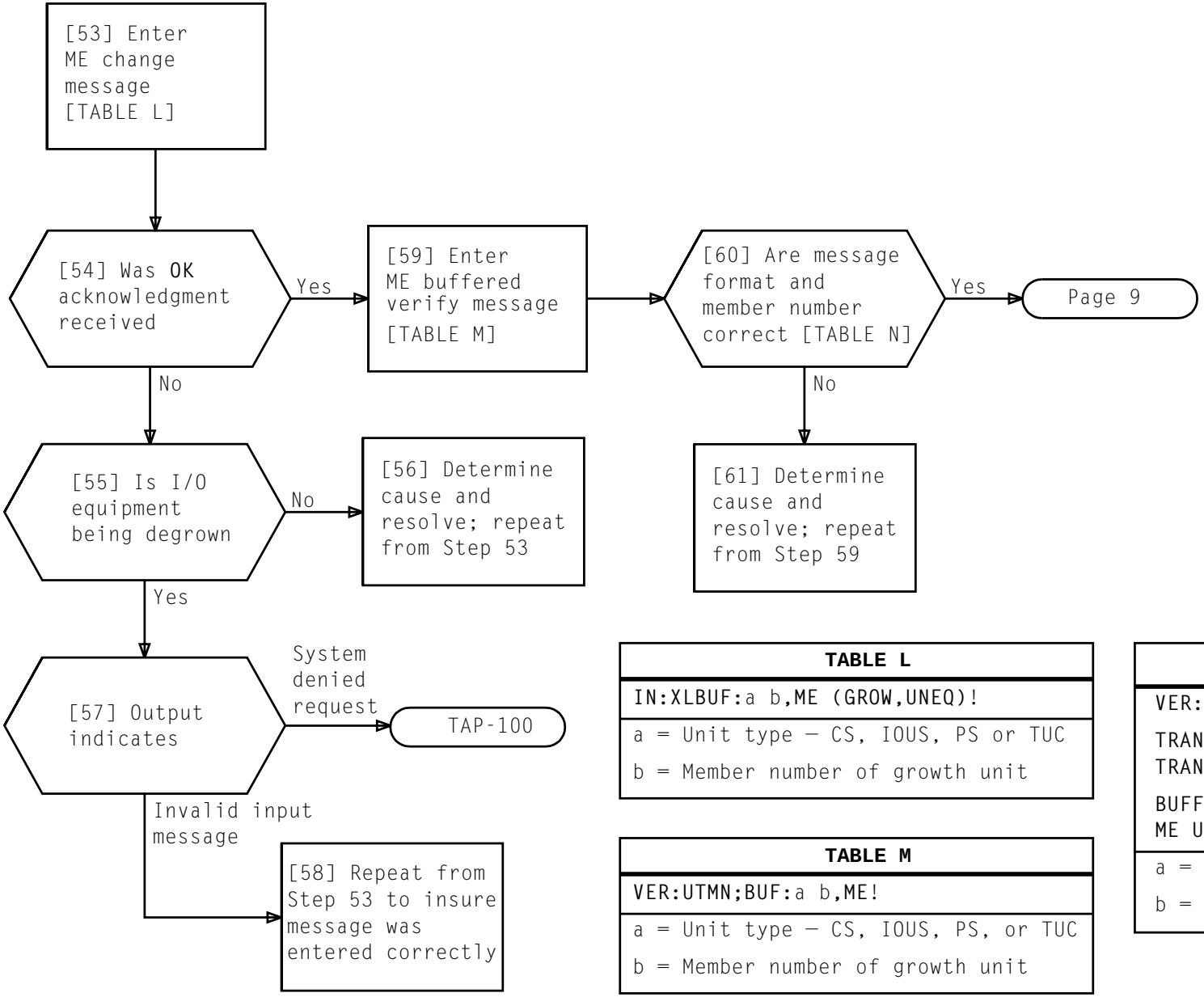


TABLE L
IN:XLBUF:a b,ME (GROW,UNEQ)!
a = Unit type — CS, IOUS, PS or TUC
b = Member number of growth unit

TABLE M
VER:UTMN;BUF:a b,ME!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

TABLE N
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA ME UNEQ
a = Growth unit type
b = Member number of growth unit

DEGROW MEMBER EQUIPAGE

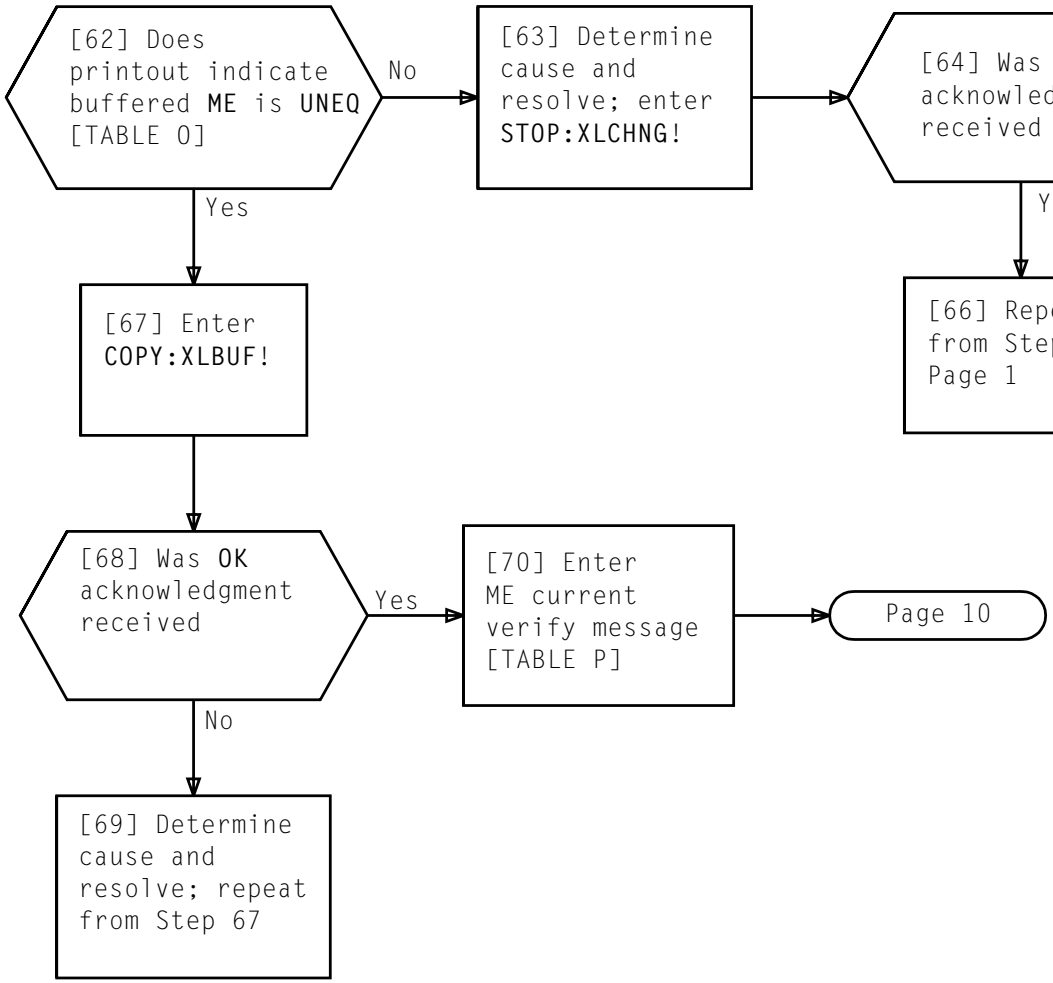


TABLE O
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA ME UNEQ
a = Growth unit type b = Member number of growth unit

TABLE P
VER:UTMN;CUR:a b,ME!
a = Unit type — CS, IOUS, PS or TUC b = Member number of growth unit

DEGROW MEMBER EQUIPAGE

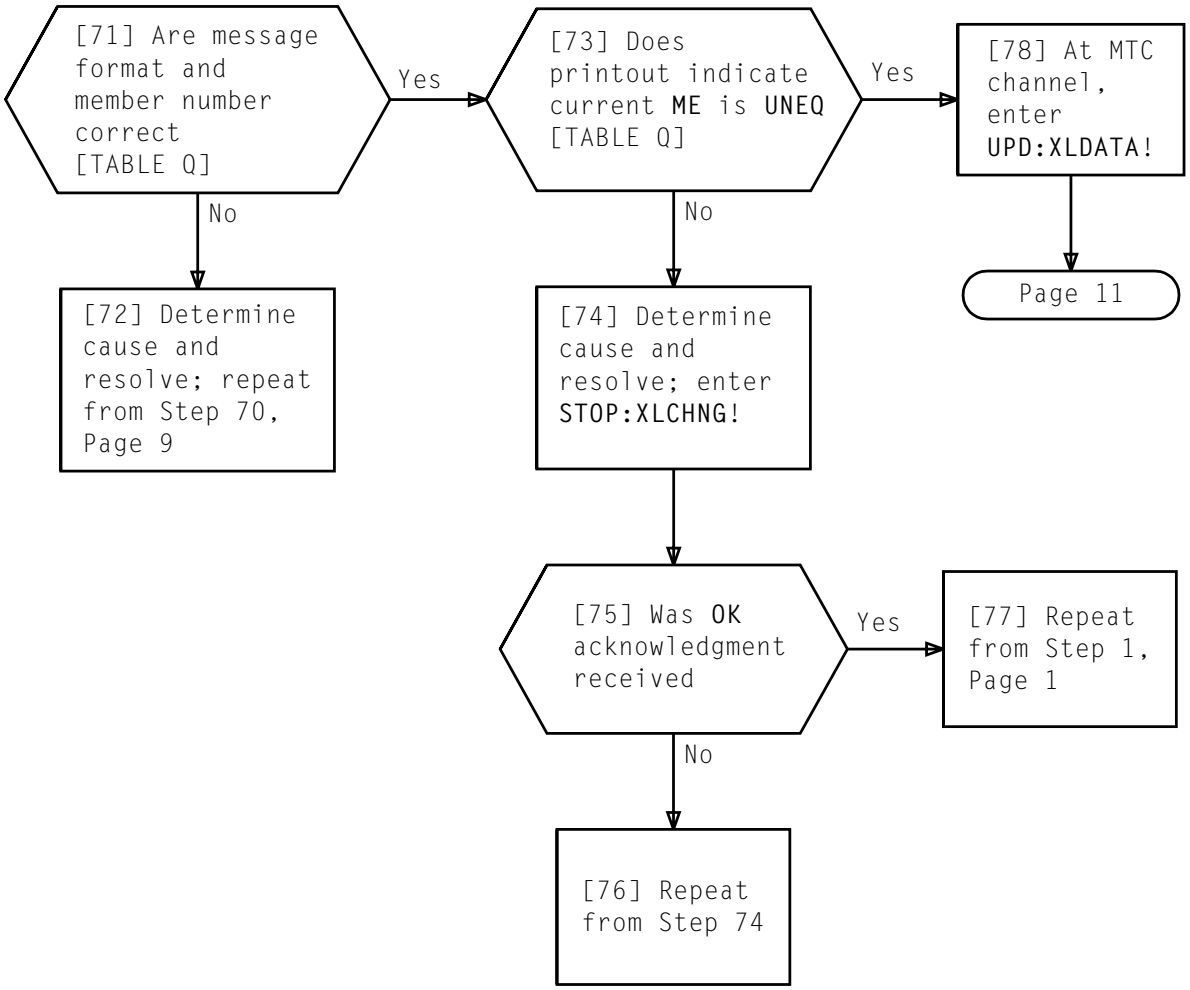


TABLE Q
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME UNEQ
a = Growth unit type b = Member number of growth unit

DEGROW MEMBER EQUIPAGE

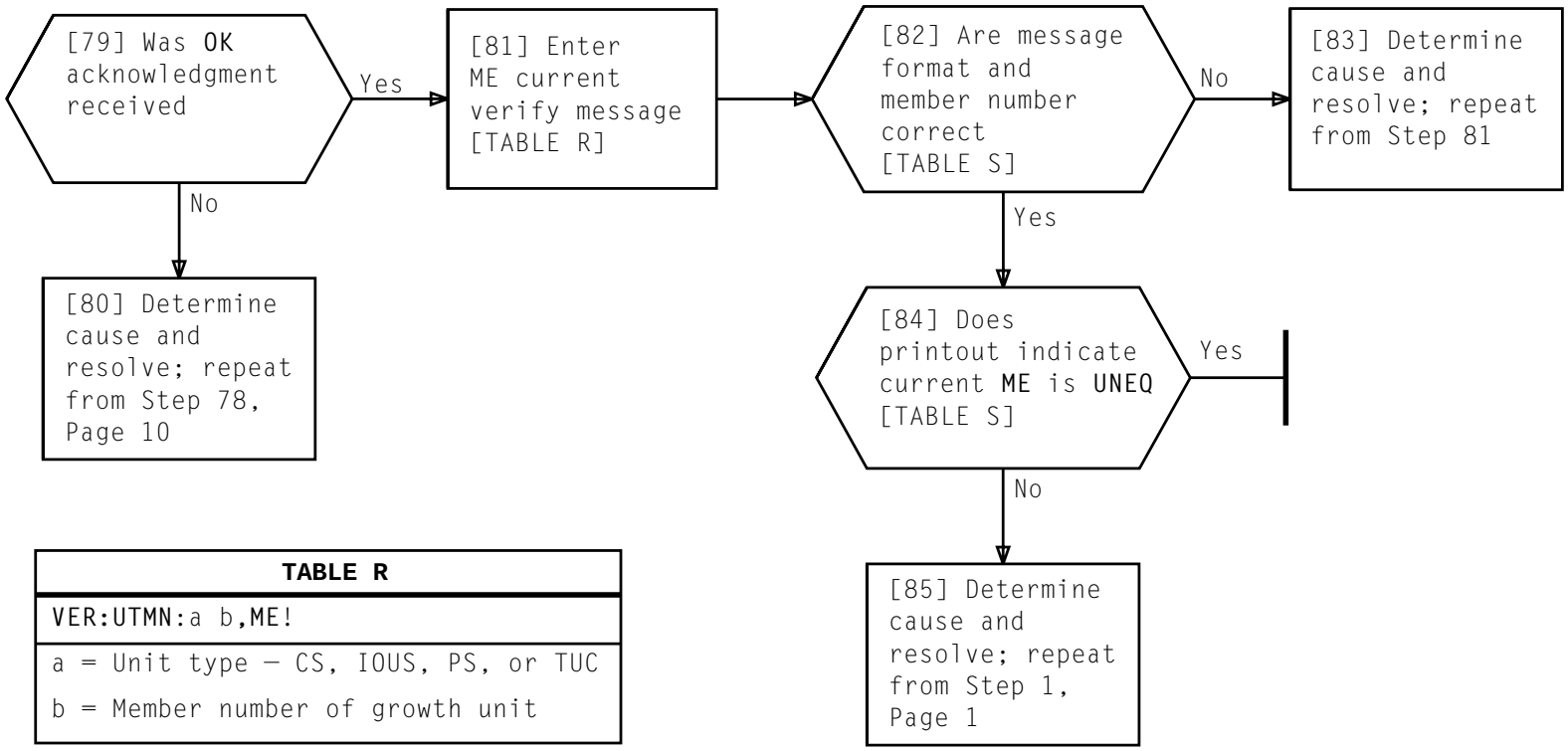


TABLE R
VER:UTMN:a b,ME!
a = Unit type — CS, IOUS, PS, or TUC b = Member number of growth unit

TABLE S
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME UNEQ
a = Growth unit type b = Member number of growth unit

DEGROW MEMBER EQUIPAGE

SUMMARY

Using verify unit type entry message, call up growth IOUS translator. Compare octal output data for words 1 through 3, 6, and 8 with octal data of TABLE C, Page 3. Using octal output data and appropriate office record drawing, verify octal data of word 7. If installer determines that translator data is in error, word change(s) may be required

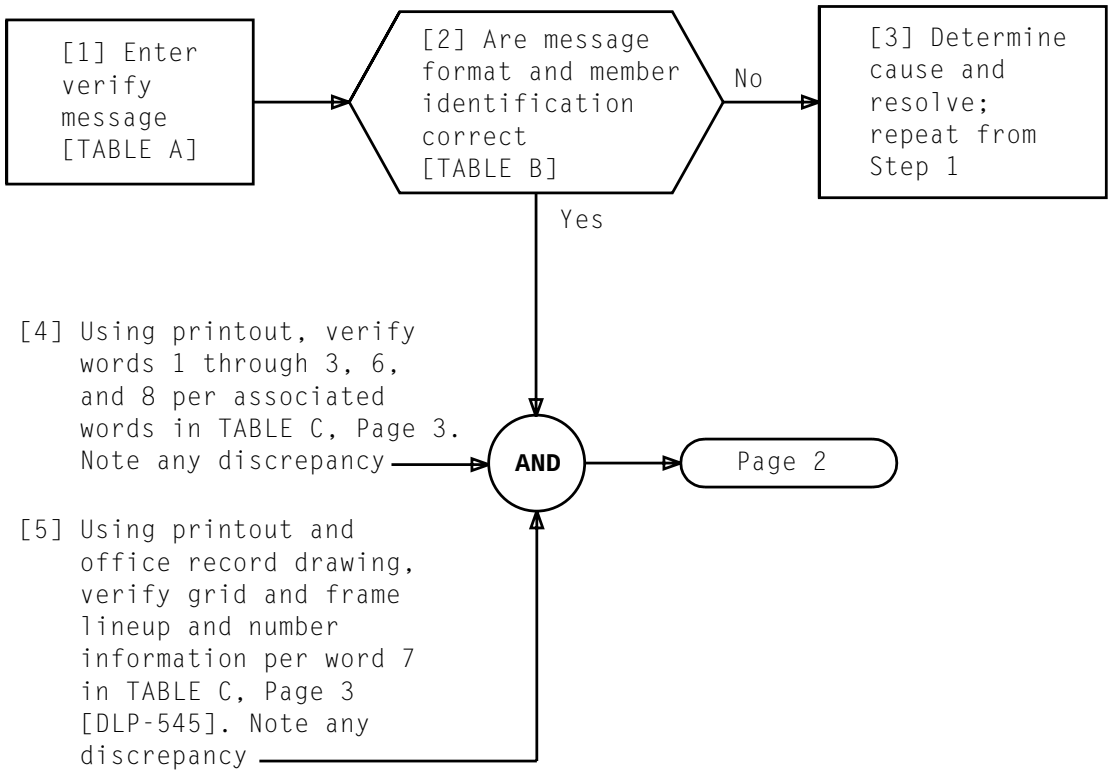


TABLE A

VER:UTMN:IOUS a,ENTRY!
a = Member number of growth IOUS

TABLE B

VER:UTMN,IOUS a COMPLETED

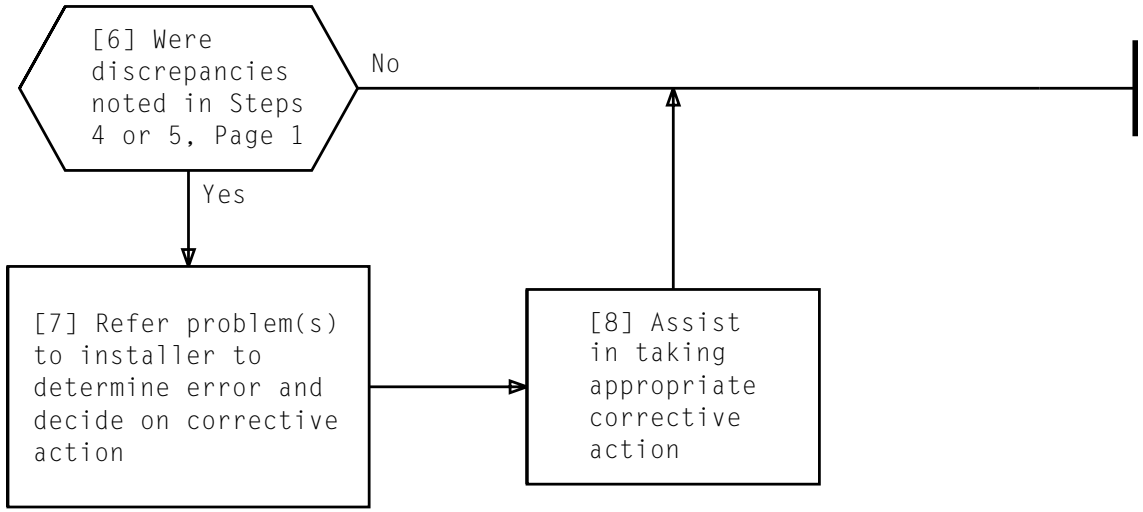
TRANSLATOR ADR =
TRANSLATOR SIZE =

CURRENT DATA

(WORD 0)	_____	_____	_____
_____	_____	_____	(WORD 7)
(WORD 8)	_____	_____	_____
	•		
	•		
	•		
	•		
_____	_____	_____	_____
_____	_____	(WORD 42)	

a = Member number of growth IOUS

VERIFY WORDS 1 THROUGH 3 AND 6 THROUGH 8 IN UNIT TYPE TRANSLATOR FOR IOUS 1, 2, OR 3



VERIFY WORDS 1 THROUGH 3 AND 6 THROUGH 8 IN UNIT TYPE TRANSLATOR FOR IOUS 1, 2, OR 3

TABLE C

ENTRY WORD	UT ENTRY DATA AND WORD CONFIGURATION

1

translator data octal output → 4 0 4 0 0 Y Y Y

bit position →

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

binary values →

	CC PULSE POINT

YYY = 120 for IOUS 1 or
201 for IOUS 2 or
204 for IOUS 3

2

translator data octal output → 4 0 0 0 Y Y Y Y

bit position →

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

binary values →

MCCI	MEMBER BASE MASTER CONTROL CONSOLE SCAN POINT

Master control console indicator →

YYY = 7616 for IOUS 1 or
7752 for IOUS 2 or
7756 for IOUS 3

VERIFY WORDS 1 THROUGH 3 AND 6 THROUGH 8 IN UNIT TYPE TRANSLATOR FOR IOUS 1, 2, OR 3

TABLE C (Contd)

ENTRY WORD	UT ENTRY DATA AND WORD CONFIGURATION

3

translator data octal output → 4 0 0 0 Y Y Y Y

bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
binary values →	1	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	X	X	0	1	0	0	0
													BUS BASE MASTER CONTROL CONSOLE SCAN POINT												

YY = 7610 for IOUS 1 or
7750 for IOUS 2 or 3

6

translator data octal output → 0 0 0 0 0 Y Y Y

bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
binary values →	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	0	0	0	0	0	X	X
											FRAME NUMBER							NEXT MEMBER NUMBER						

YYY = 000 for IOUS 1 or
203 for IOUS 2 or
202 for IOUS 3

VERIFY WORDS 1 THROUGH 3 AND 6 THROUGH 8 IN UNIT TYPE TRANSLATOR FOR IOUS 1, 2, OR 3

TABLE C (Contd)

ENTRY WORD	UT ENTRY DATA AND WORD CONFIGURATION

7

translator data octal output → Y Y Y Y Y Y Y Y

bit position → 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

binary values → Z Z Z Z X X X X X X X X X X X X X X X X X X X X

ASSIGNED ALARM GRID NUMBER	FRAME LINEUP NUMBER	FRAME NUMBER

X...X = Converts to decimal frame info as relected in office floor plan drawing

ZZZ = Converts to decimal alarm grid number as reflected in office record drawings T-nnnn-Hn-400, 401, or 402

Y = Varible octal numbers

8

translator data octal output → 4 0 4 0 0 Y Y Y

bit position → 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

binary values → 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 X X X 0 X 0 X 0

	CC PULSE POINT

YYY = 140 for IOUS 1 or
202 for IOUS 2 or
210 for IOUS 3

VERIFY WORDS 1 THROUGH 3 AND 6 THROUGH 8 IN UNIT TYPE TRANSLATOR FOR IOUS 1, 2, OR 3

SUMMARY	FIG. 1. Compare calculated data with office record drawing and floor plan drawing as required. If UT data does not agree with office records, record descrepancies for later reference.
Convert octal digits of entry output data word to binary. Determine decimal number of grid, lineup and frame using	

[1] See word in entry output message containing grid and frame lineup and number information to be verified

[2] See FIG. 1 for word layout

[3] Convert all octal digits of word in entry output to binary digits and record

[4] Convert bits 20 through 23 to decimal alarm grid number and record [FIG. 1]

[5] Convert bits 10 through 19 to decimal frame lineup number and record [FIG. 1]

[6] Convert bits 0 through 9 to decimal frame number and record [FIG. 1]

AND

Binary and decimal conversions completed

[7] Get office floor plan drawing for floor containing growth frame

AND

Page 2

[8] Compare growth frame and lineup information on floor plan drawing with decimal data determined in Steps 5 and 6

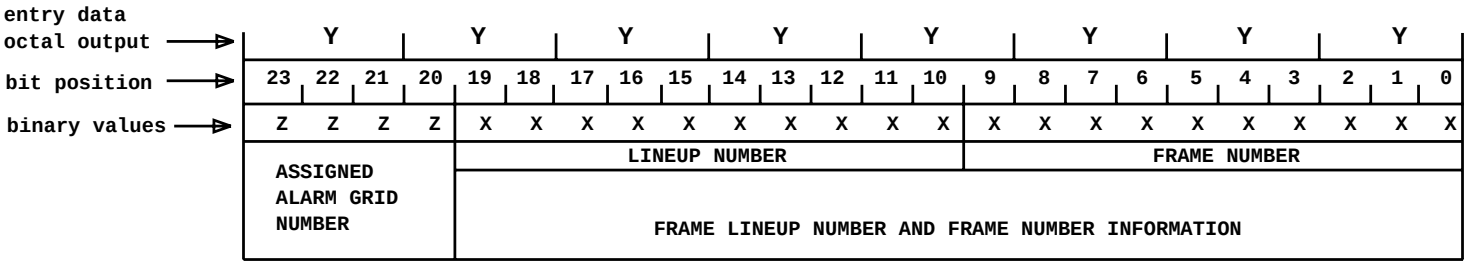


FIG. 1 — Entry Data Word Layout

VERIFY ALARM GRID, LINEUP AND FRAME ASSIGNMENT

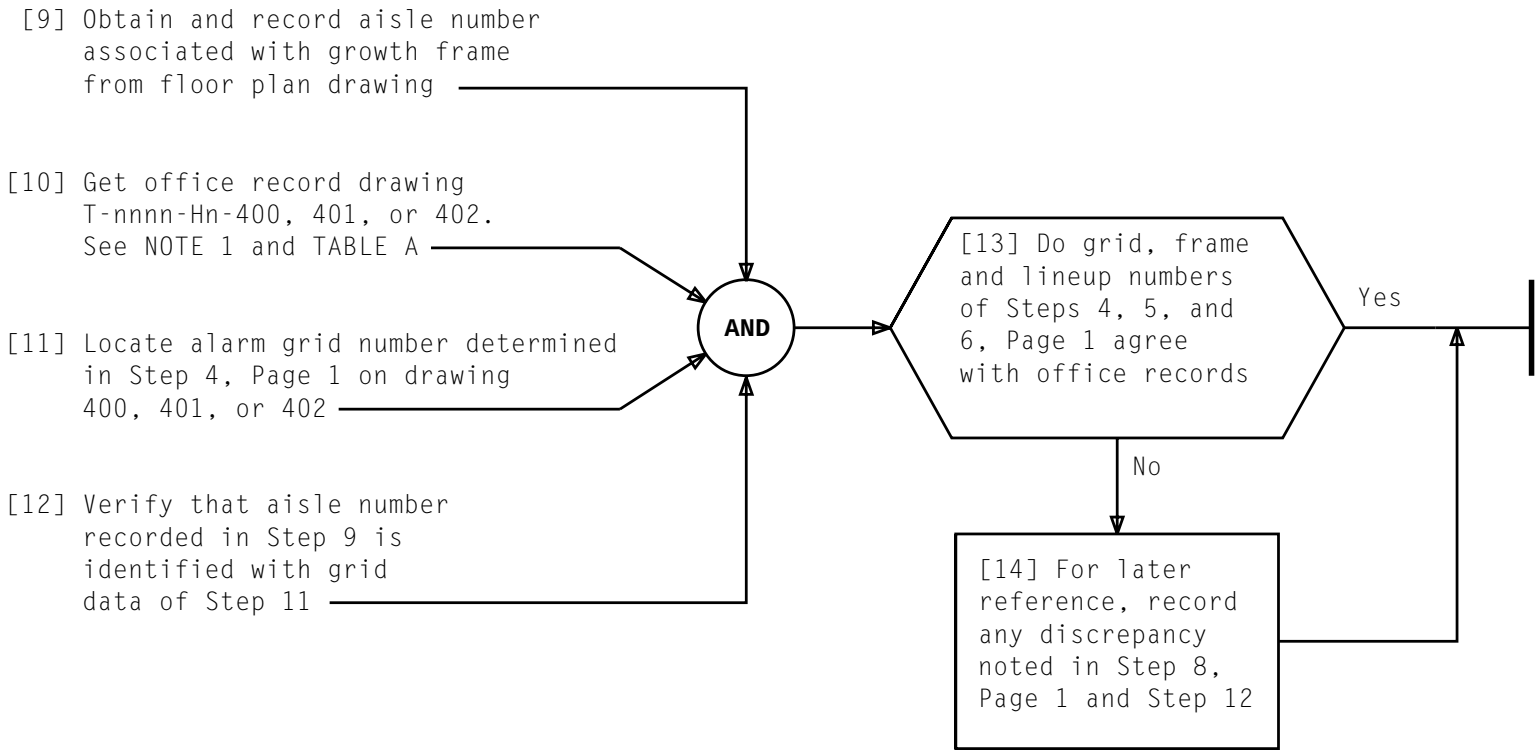


TABLE A	
ALARM GRIDS	**DRAWING NUMBER**
1 through 5	T-nnnn-Hn-400
6 through 10	T-nnnn-Hn-401
11 through 15	T-nnnn-Hn-402

NOTE 1
n = Office unique drawing identification number

VERIFY ALARM GRID, LINEUP AND FRAME ASSIGNMENT

SUMMARY

Using verify unit type entry message, call up growth IOUS translator. Compare octal output data for words 1, 6, and 8 with octal data of TABLE C, Page 3. Using octal output data and appropriate office record drawing, verify octal data of words 2 through 5 and 7. If installer determines that translator data is in error, word change(s) may be required

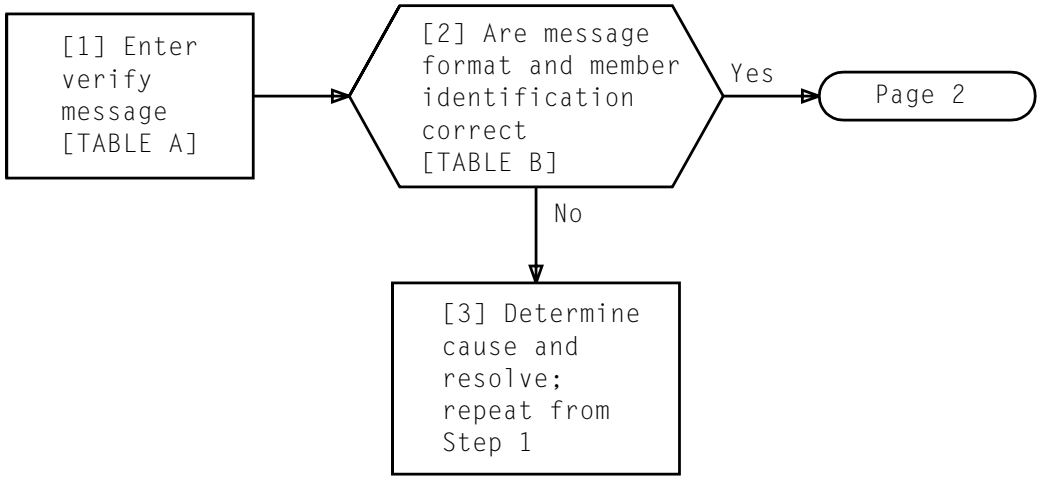


TABLE A

VER:UTMN:IOUS a,ENTRY!
a = Member number of growth IOUS

TABLE B

VER:UTMN,IOUS a COMPLETED

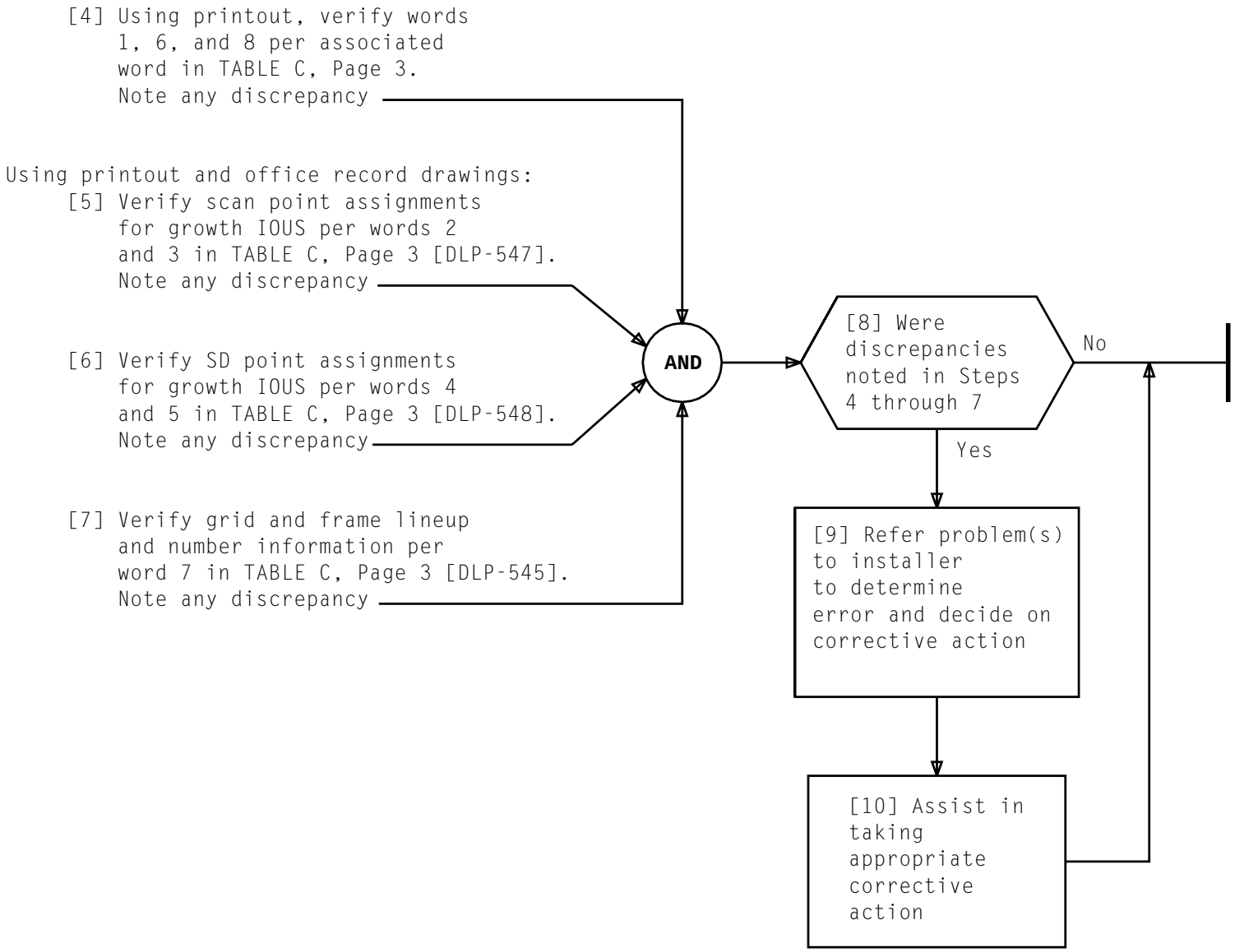
TRANSLATOR ADR =
TRANSLATOR SIZE =

CURRENT DATA

(WORD 0)			
			(WORD 7)
(WORD 8)			
		(WORD 42)	

a = Member number of growth IOUS

VERIFY WORDS 1 THROUGH 8 IN UNIT TYPE TRANSLATOR FOR IOUS 4 TO 7



VERIFY WORDS 1 THROUGH 8 IN UNIT TYPE TRANSLATOR FOR IOUS 4 TO 7

TABLE C

ENTRY WORD	UT ENTRY DATA AND WORD CONFIGURATION

1

translator data octal output → 4 0 4 0 0 Y Y Y

bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
binary values →	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	X	X	0	0	X	0	X	0	X
			CC PULSE POINT																					

IOUS NO.	YYY
4	220
5	401
6	404
7	420

2

translator data octal output → 0 0 Y Y Y Y Y Y

bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
binary values →	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X
								SP MEMBER NUMBER					L OR R MATRIX		SP ROW NUMBER						SP COLUMN NUMBER			
								MEMBER BASE MISCELLANEOUS SCAN NUMBER																

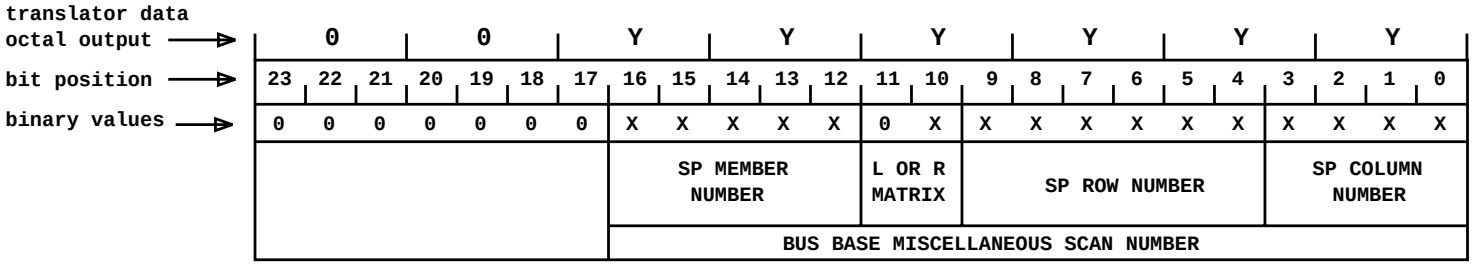
X...X = Converts to decimal SP info as reflected in office drawing T-nnnn-Hn-461 or equivalent

Y = Variable octal numbers

TABLE C (Contd)

ENTRY WORD	UT ENTRY DATA AND WORD CONFIGURATION

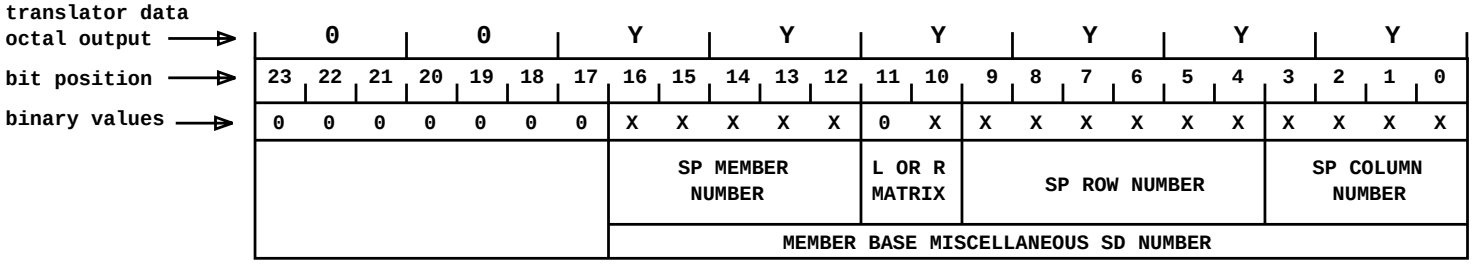
3



X...X = Converts to decimal SP info as reflected in office drawing T-nnnn-Hn-461 or equivalent

Y = Variable octal numbers

4



X...X = Converts to decimal SP info as reflected in office drawing T-nnnn-Hn-462 or equivalent

Y = Variable octal numbers

TABLE C (Contd)

ENTRY WORD	UT ENTRY DATA AND WORD CONFIGURATION

5

translator data octal output → 0 0 Y Y Y Y Y Y

bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
binary values →	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X
								SP MEMBER NUMBER					L OR R MATRIX		SP ROW NUMBER						SP COLUMN NUMBER			
								BUS BASE MISCELLANEOUS SD NUMBER																

X...X = Converts to decimal SP info as reflected in office drawing T-nnnn-Hn-462 or equivalent

Y = Variable octal numbers

6

translator data octal output → 0 0 0 0 0 Y Y Y

bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
binary values →	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	0	0	0	0	X	X	X
											FRAME NUMBER							NEXT MEMBER NUMBER						

IOUS NO.	YYY
4	405
5	404
6	607
7	606

TABLE C (Contd)

ENTRY WORD	UT ENTRY DATA AND WORD CONFIGURATION

7

translator data octal output → Y Y Y Y Y Y Y Y

bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
binary values →	Z	Z	Z	Z	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	ASSIGNED ALARM GRID NUMBER				FRAME LINEUP NUMBER										FRAME NUMBER									

X...X = Converts to decimal frame info as reflected in office floor plan drawing

Y = Variable octal numbers

ZZZZ = Converts to decimal alarm grid number as reflected in office record drawings T-nnnn-Hn-400, 401, or 402 or equivalent

8

translator data octal output → 4 0 4 0 0 Y Y Y

bit position →	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
binary values →	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	X	X	0	X	0	X	0	X	0
			CC PULSE POINT																					

IOUS NO.	YYY
4	240
5	402
6	410
7	440

[1] Note word in output message containing scan point to be verified

[2] Convert 6 rightmost digits of word to be verified to decimal SP member, row, and column numbers using FIG. 1. Record results

[3] Get office record drawing T-nnnn-Hn-461-xx
xx = SP member number determined in Step 2

AND

[4] Fourth rightmost octal digit of word to be verified is

0 or 1 → Page 2

2 or 3

[5] Add 64 decimal to SP row number determined in Step 2. Record new result

[6] Find pages in 461 drawing listing scan point assignments for SP BAY 5

AND → Page 2, Step 10

[7] Search ROW and COL listing in BAY 5 pages and locate row and column previously recorded

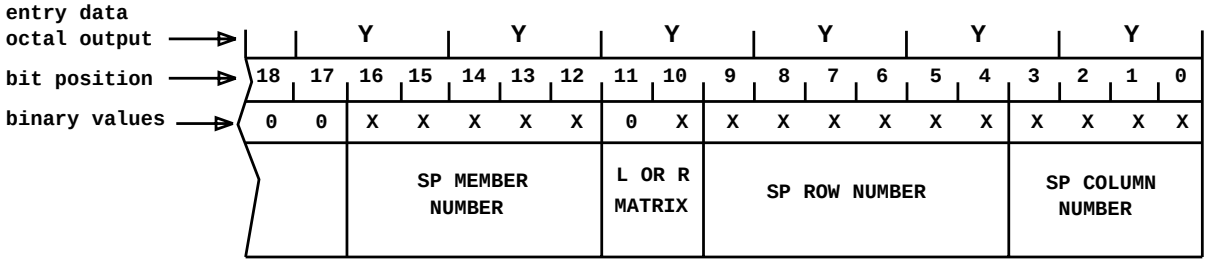
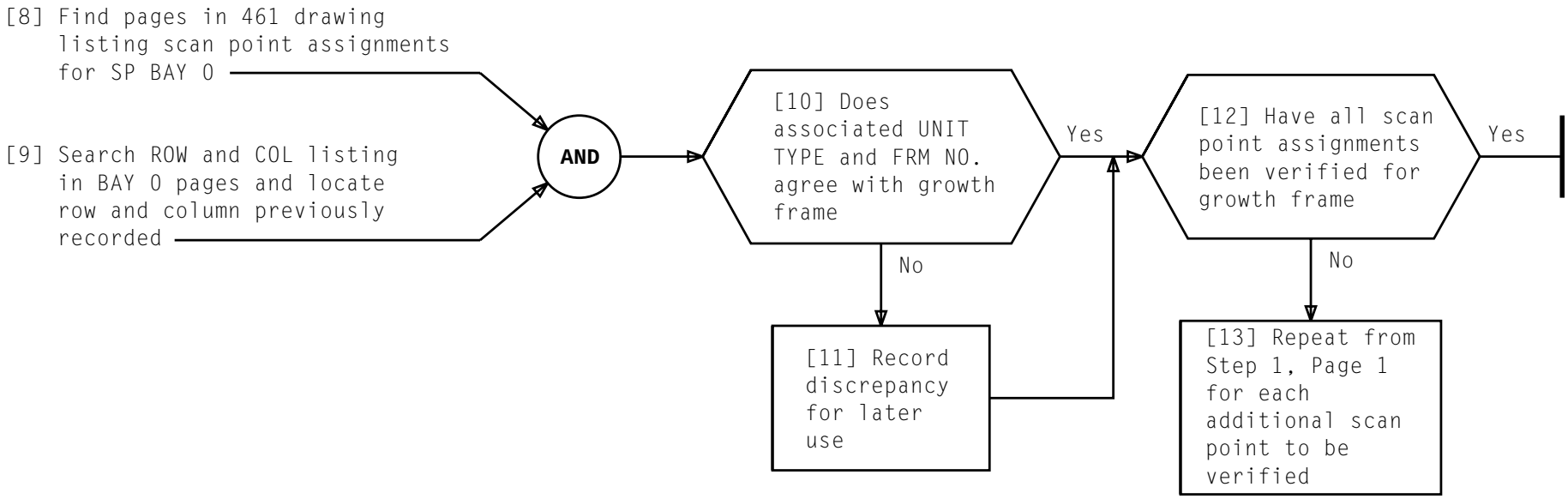


FIG. 1 — Entry Data Word Layout

VERIFY SCAN POINT ASSIGNMENTS FOR GROWTH IOUS



VERIFY SCAN POINT ASSIGNMENTS FOR GROWTH IOUS

[1] Note word in output message containing SD or pulse point to be verified

[2] Convert 6 rightmost digits of word to be verified to decimal SP member, row, and column numbers using FIG. 1. Record results

[3] Get office record drawing T-nnnn-Hn-462-xx.
xx = SP member number determined in Step 2

AND

[4] Fourth rightmost octal digit of word to be verified is

0 or 1 → Page 2

2 or 3

[5] Add 64 decimal to SP row number determined in Step 2. Record new result

[6] Find pages in 462 drawing listing SD or PP assignments for SP BAY 5

[7] Search ROW and COL listing in BAY 5 pages and locate row and column previously recorded

AND → Page 2, Step 10

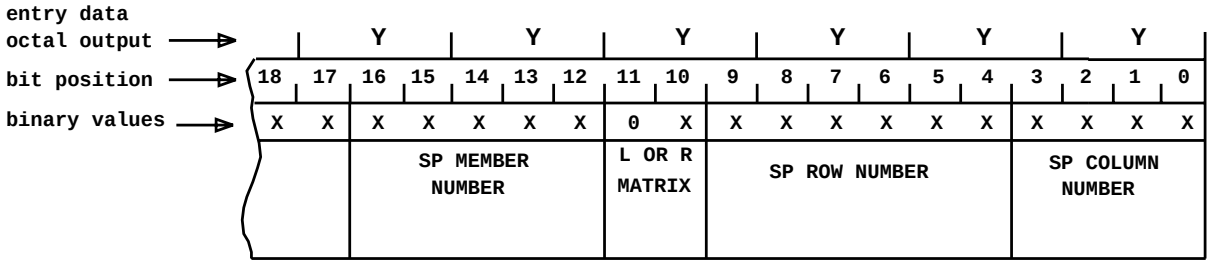
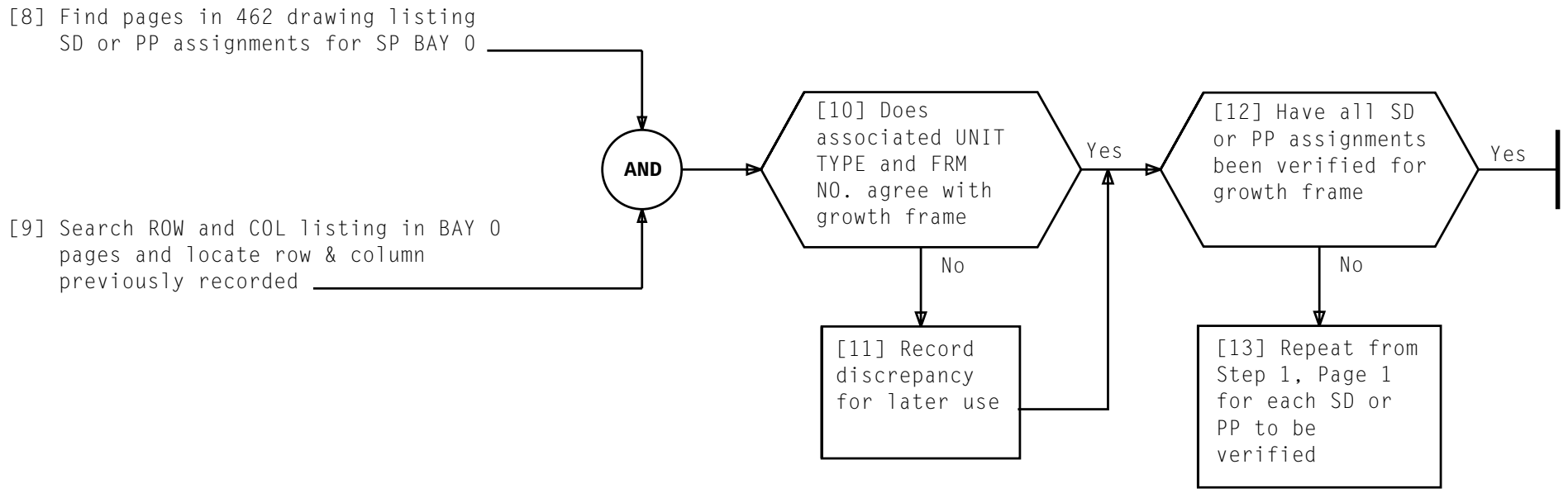


FIG. 1 — Entry Data Word Layout

VERIFY SD POINT ASSIGNMENTS FOR GROWTH IOUS



VERIFY SD POINT ASSIGNMENTS FOR GROWTH IOUS

SUMMARY

Enter hardware generation (HG) current verify and verify for proper value. If HG is in error, enter HG change message for growth unit type. Verify buffered data, enter copy message, verify current data, and then enter update message. If after each verify, HG value is not per appropriate drawing, enter stop message and start change from beginning

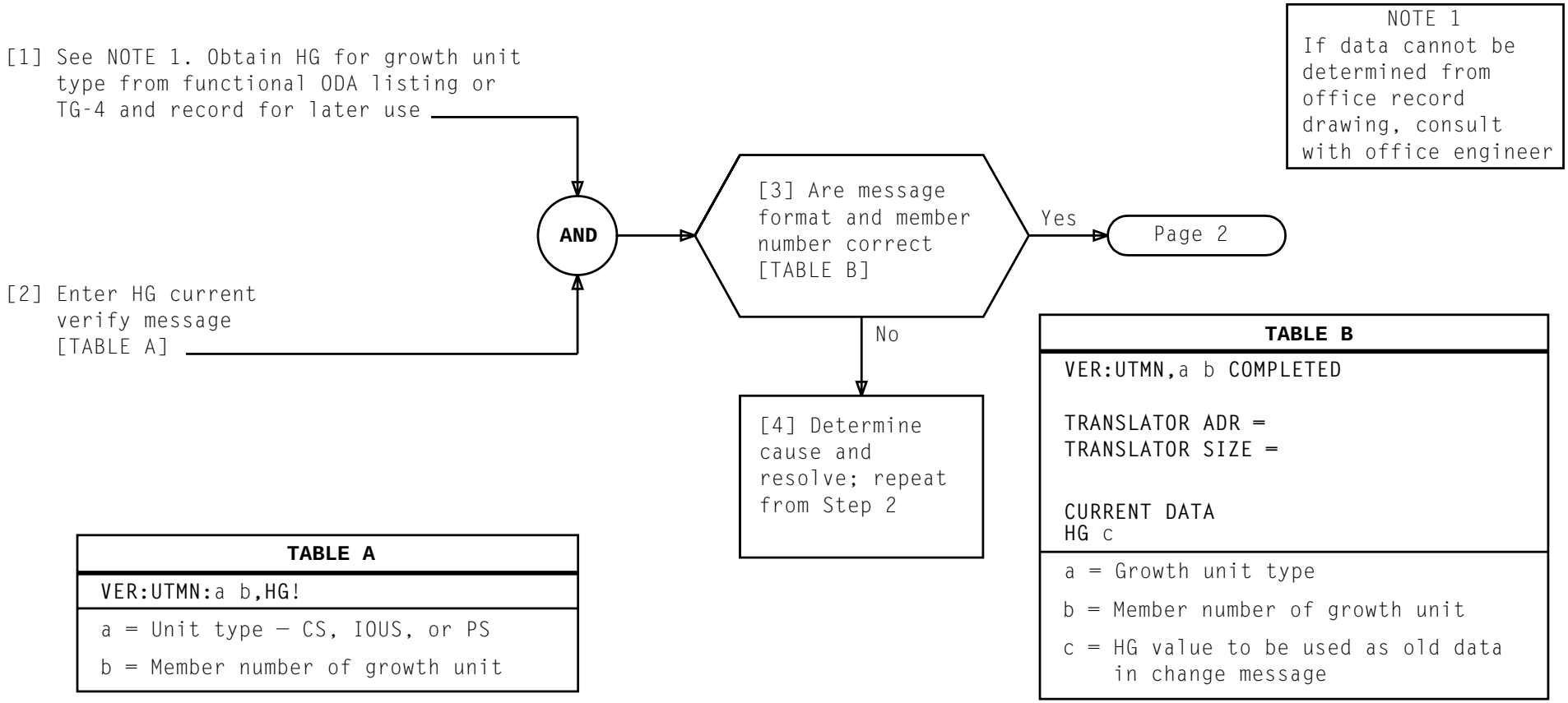


TABLE A

VER:UTMN:a b,HG!
a = Unit type — CS, IOUS, or PS
b = Member number of growth unit

TABLE B

VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA HG c
a = Growth unit type
b = Member number of growth unit
c = HG value to be used as old data in change message

CHANGE AND VERIFY HARDWARE GENERATION FOR GROWTH UNIT TYPE

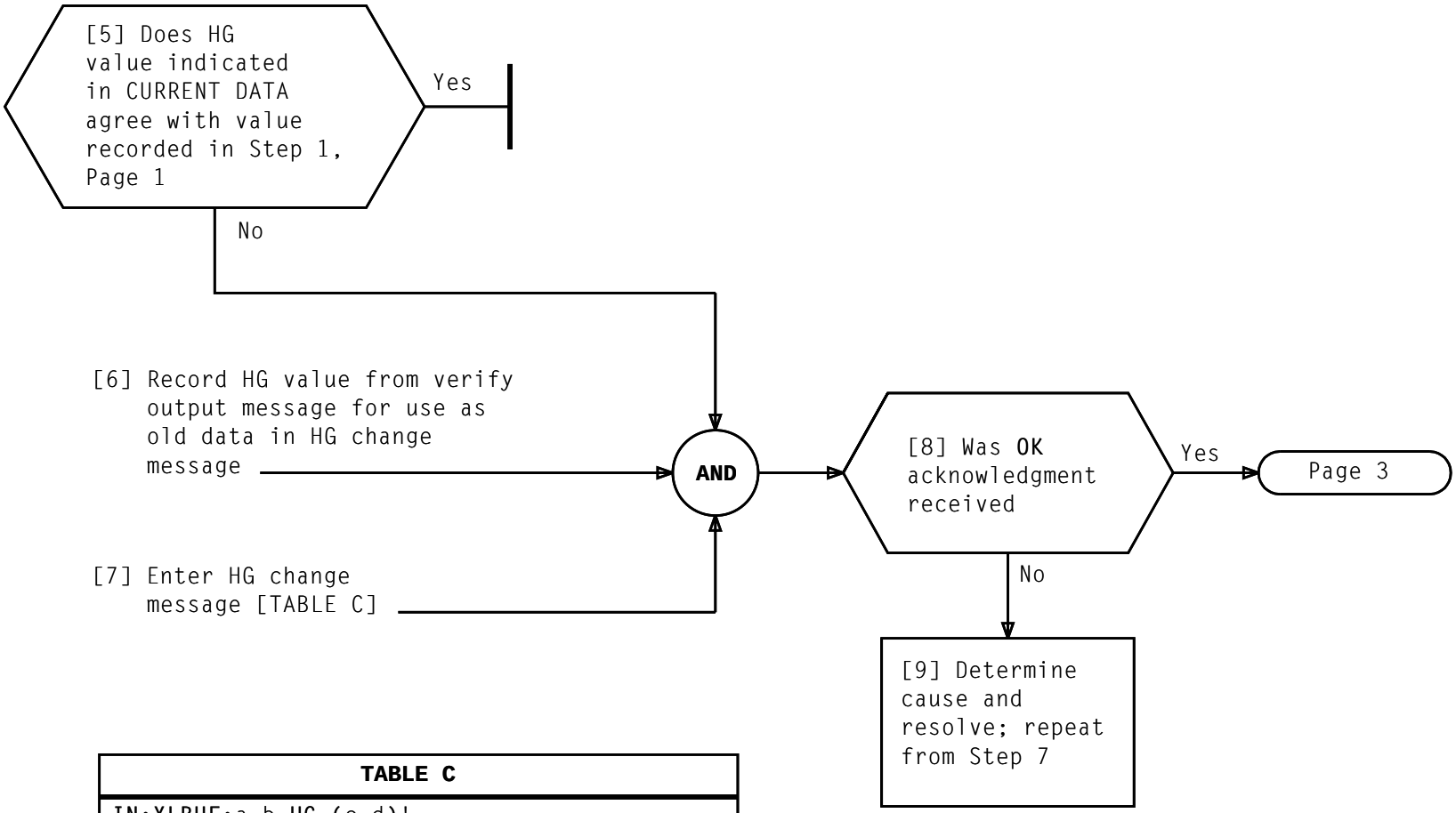


TABLE C
IN:XLBUF:a b,HG (c,d)!
a = Unit type — CS, IOUS, or PS
b = Member number of growth unit
c = Old data recorded from HG current verify
d = New data recorded from office record drawing

CHANGE AND VERIFY HARDWARE GENERATION FOR GROWTH UNIT TYPE

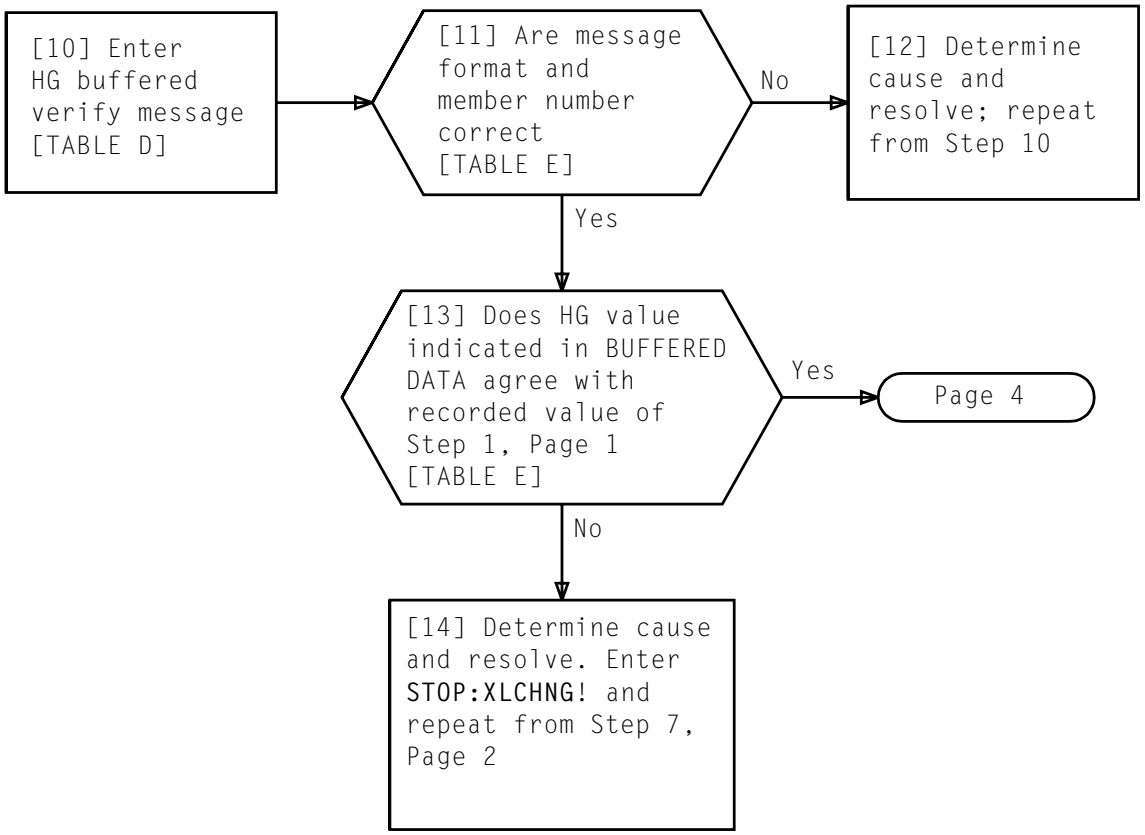


TABLE D
VER:UTMN;BUF:a b,HG!
a = Unit type — CS, IOUS, or PS
b = Member number of growth unit

TABLE E
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA HG c
a = Growth unit type b = Member number of growth unit c = HG value of growth unit

CHANGE AND VERIFY HARDWARE GENERATION FOR GROWTH UNIT TYPE

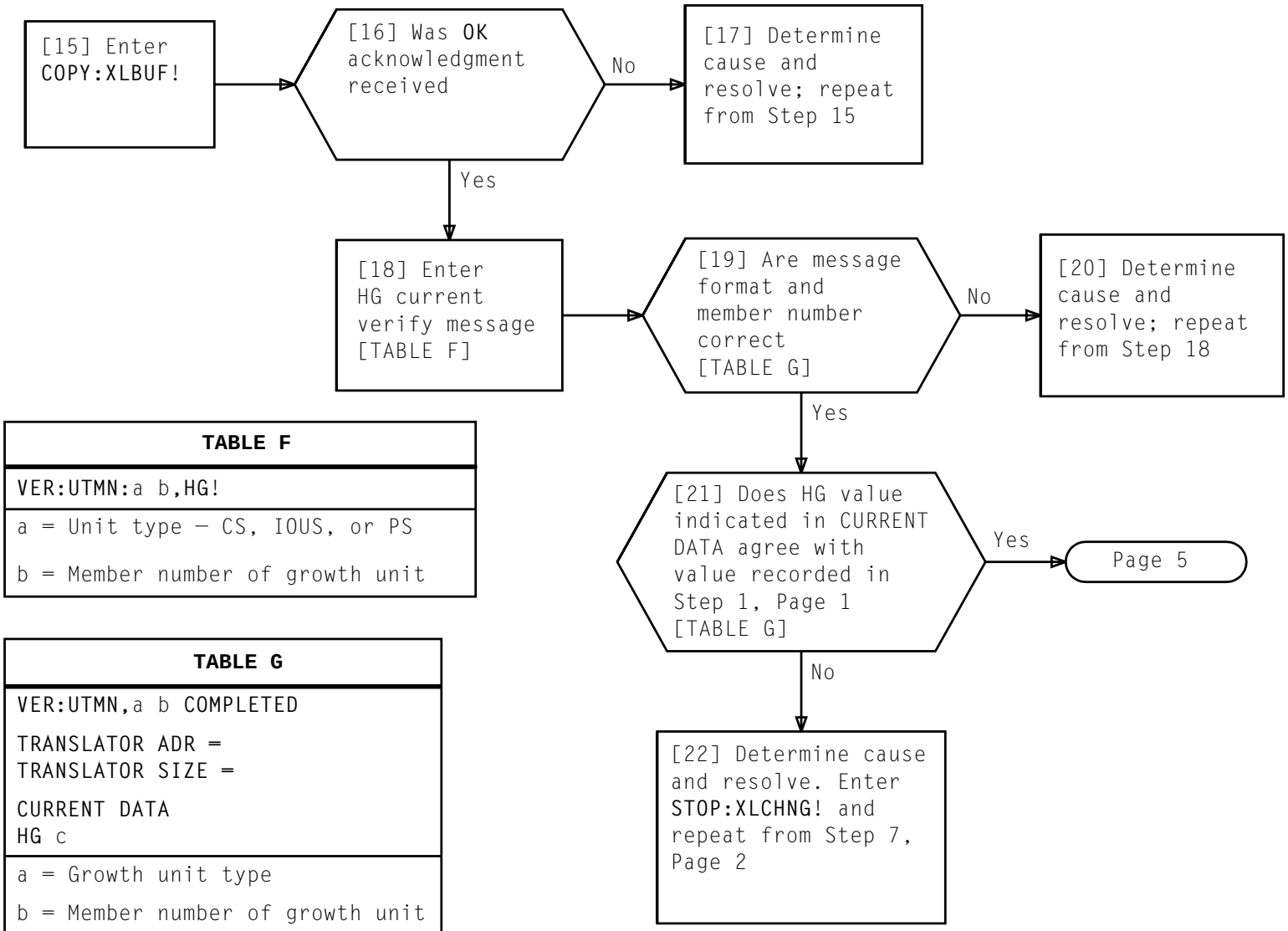


TABLE F

VER:UTMN:a b,HG!
a = Unit type — CS, IOUS, or PS
b = Member number of growth unit

TABLE G

VER:UTMN,a b COMPLETED
TRANSLATOR ADR = TRANSLATOR SIZE =
CURRENT DATA HG c
a = Growth unit type
b = Member number of growth unit
c = HG value of growth unit

CHANGE AND VERIFY HARDWARE GENERATION FOR GROWTH UNIT TYPE

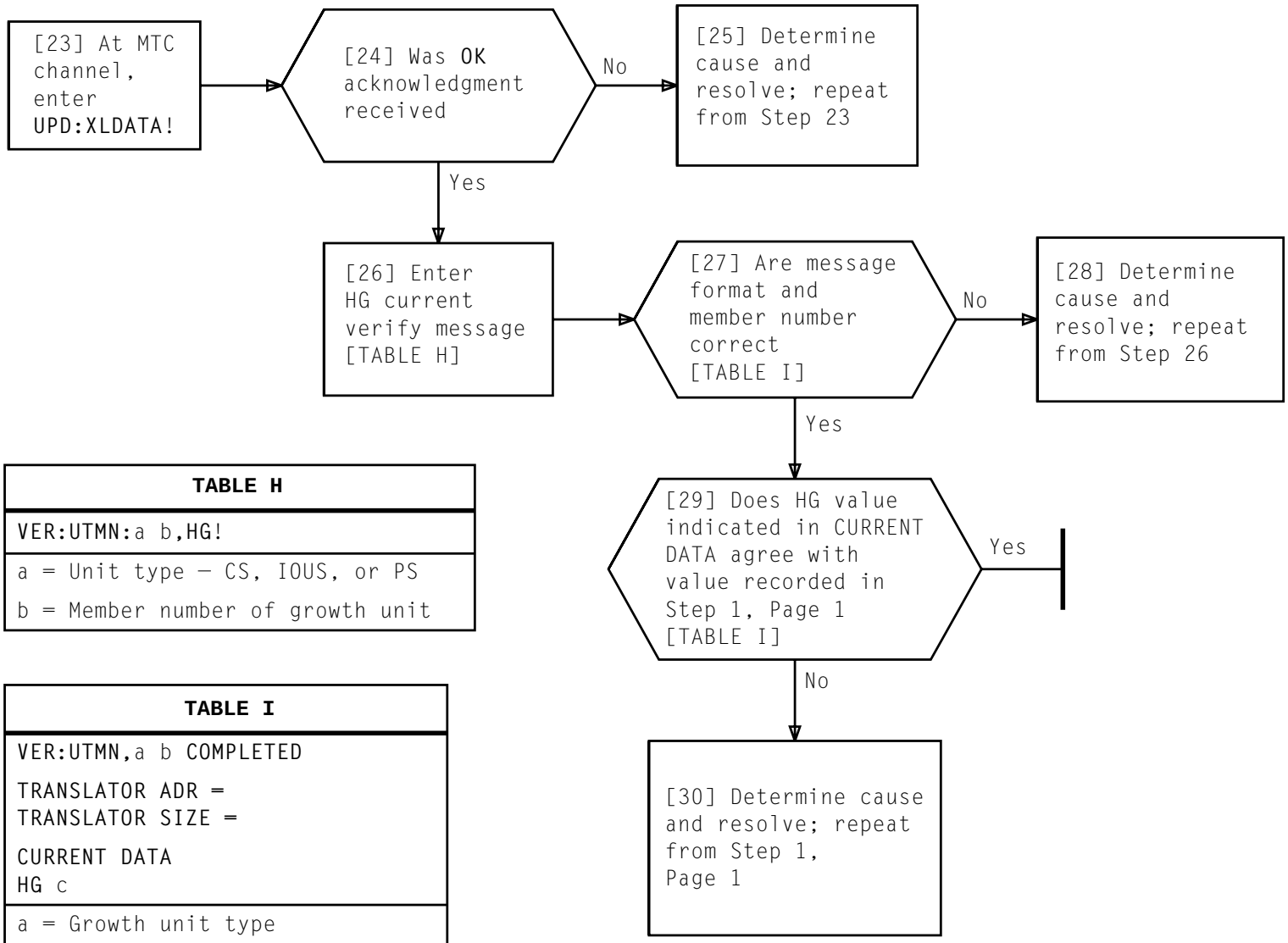


TABLE H
VER:UTMN:a b,HG!
a = Unit type — CS, IOUS, or PS
b = Member number of growth unit

TABLE I
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA HG c
a = Growth unit type
b = Member number of growth unit
c = HG value of growth unit

CHANGE AND VERIFY HARDWARE GENERATION FOR GROWTH UNIT TYPE

SUMMARY

Enter member type (MT) current verify and verify for proper value. If MT is in error, enter MT change message for growth unit type. Verify buffered data, enter copy message, verify current data, and then enter update message. If after each verify, MT value is not per appropriate drawing, enter stop message and start change from beginning

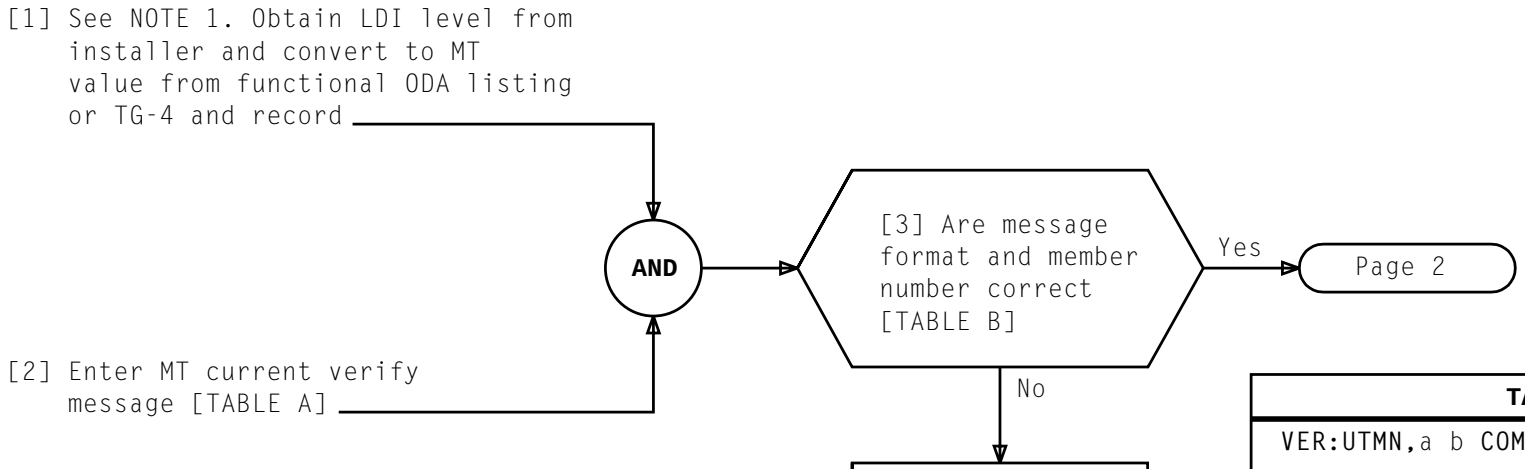


TABLE A
VER:UTMN:a b,MT!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

TABLE B
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA MT c
a = Growth unit type
b = Member number of growth unit
c = MT value to be used as old data in change message

NOTE 1

If data cannot be determined from office record drawing, consult with office engineer

CHANGE AND VERIFY MEMBER TYPE FOR GROWTH UNIT TYPE

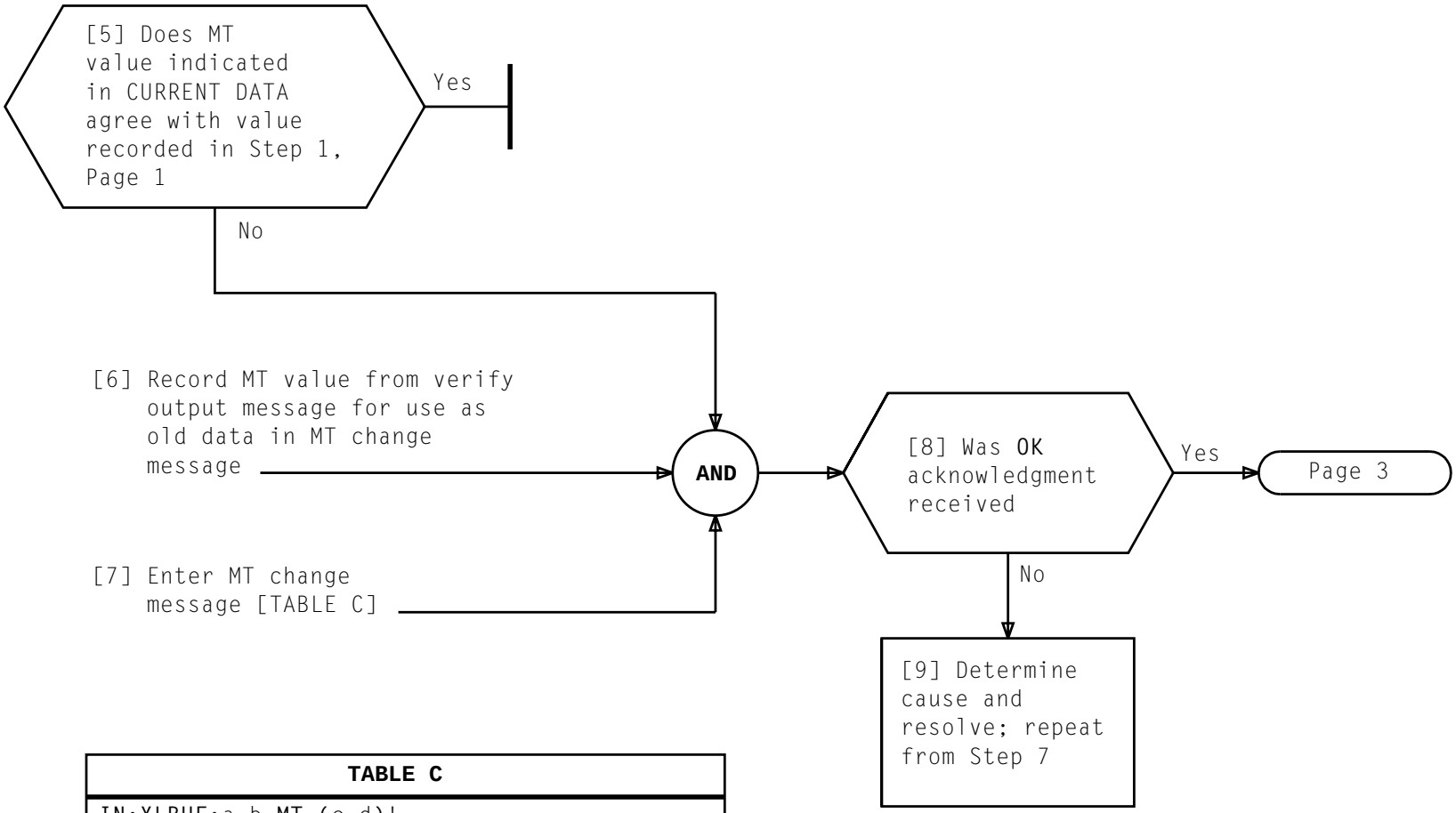


TABLE C
IN:XLBUF:a b,MT (c,d)!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit
c = Old data recorded from MT current verify
d = New data recorded from office record drawing

CHANGE AND VERIFY MEMBER TYPE FOR GROWTH UNIT TYPE

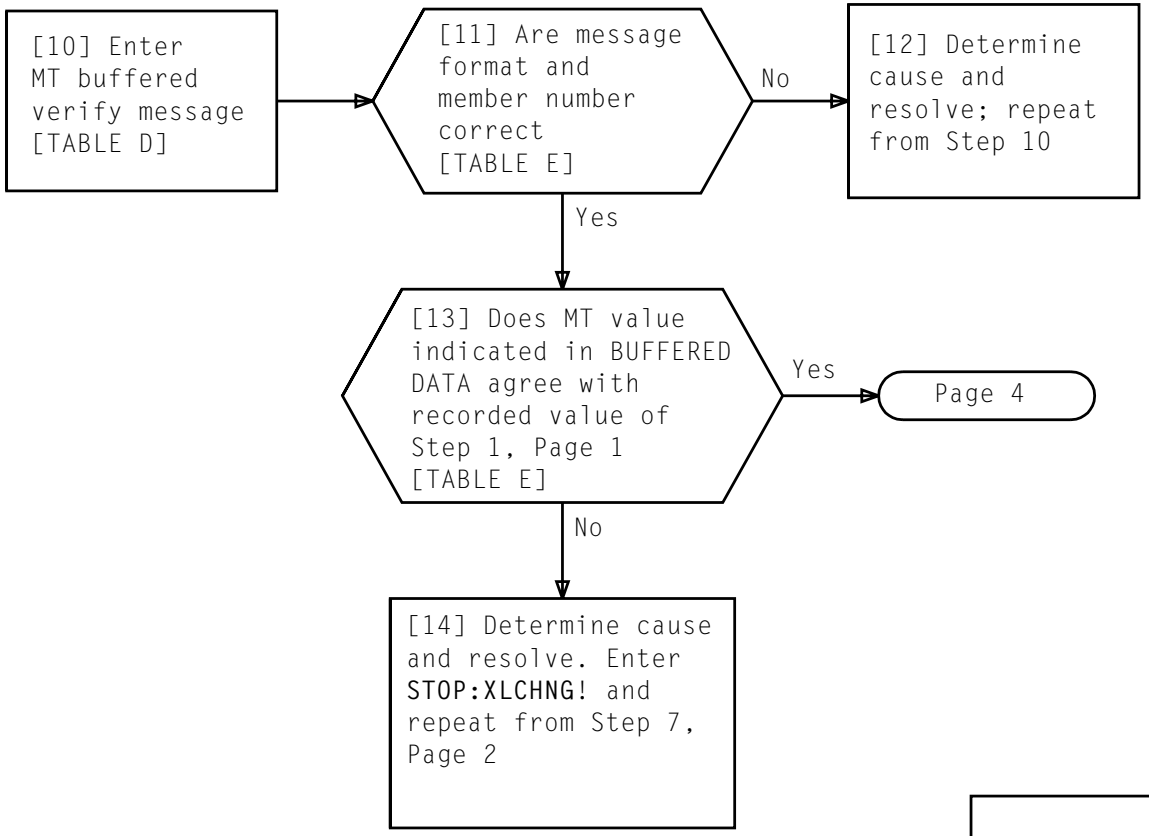


TABLE D
VER:UTMN;BUF:a b,MT!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

TABLE E
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA MT c
a = Growth unit type
b = Member number of growth unit
c = MT value of growth unit

CHANGE AND VERIFY MEMBER TYPE FOR GROWTH UNIT TYPE

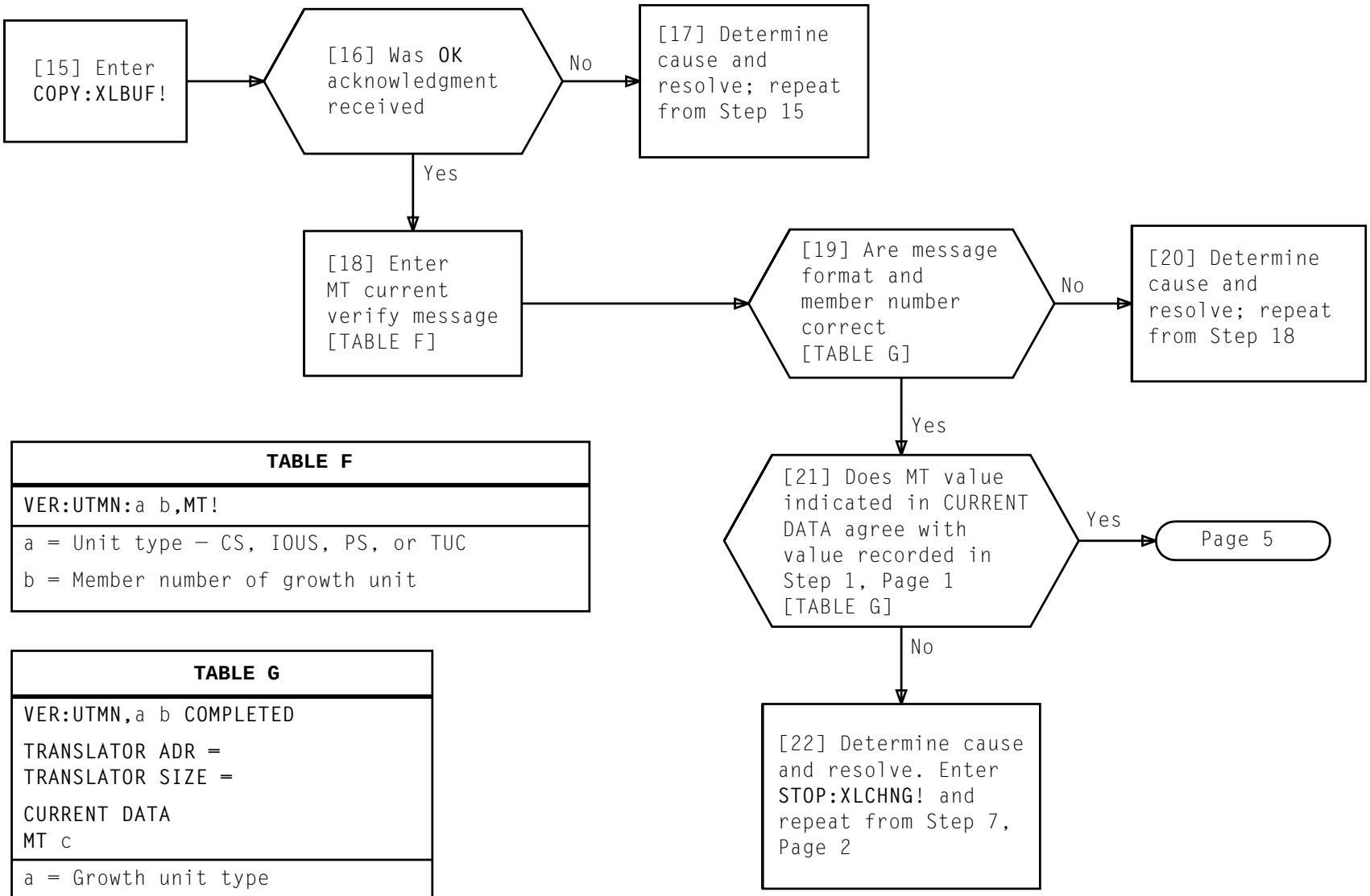


TABLE F
VER:UTMN:a b,MT!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

TABLE G
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA MT c
a = Growth unit type
b = Member number of growth unit
c = MT value of growth unit

CHANGE AND VERIFY MEMBER TYPE FOR GROWTH UNIT TYPE

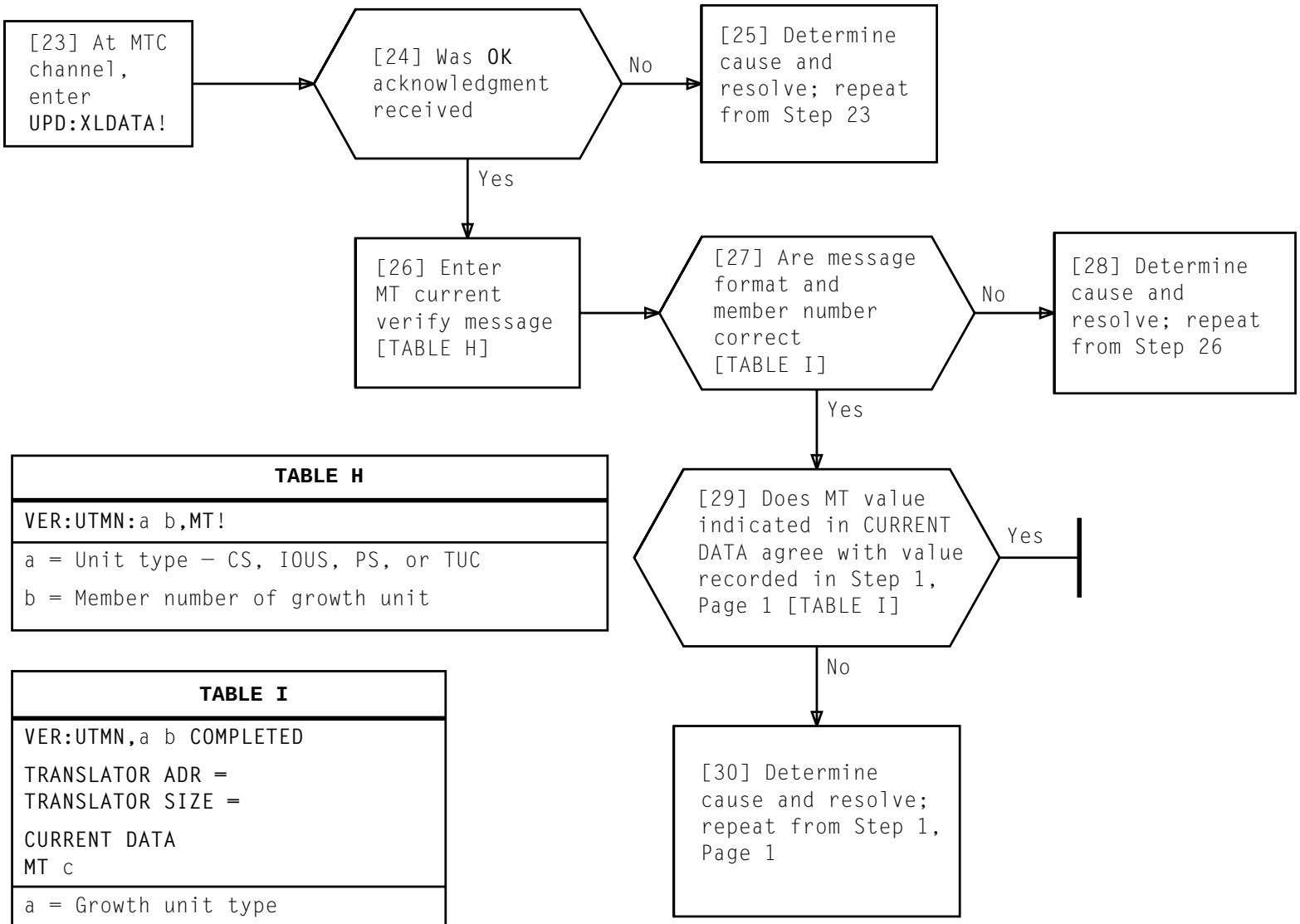


TABLE H

VER:UTMN:a b,MT!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

TABLE I

VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA MT c
a = Growth unit type
b = Member number of growth unit
c = MT value of growth unit

CHANGE AND VERIFY MEMBER TYPE FOR GROWTH UNIT TYPE

CHANGE AND VERIFY MEMBER EQUIPAGE UNEQUIPPED TO GROW

SUMMARY

Enter change message to grow member equipage (ME) from UNEQ to GROW. Verify buffered ME, enter copy message, verify current ME, then enter update message. If after each verify, ME is not in right state, enter stop message and start change from beginning

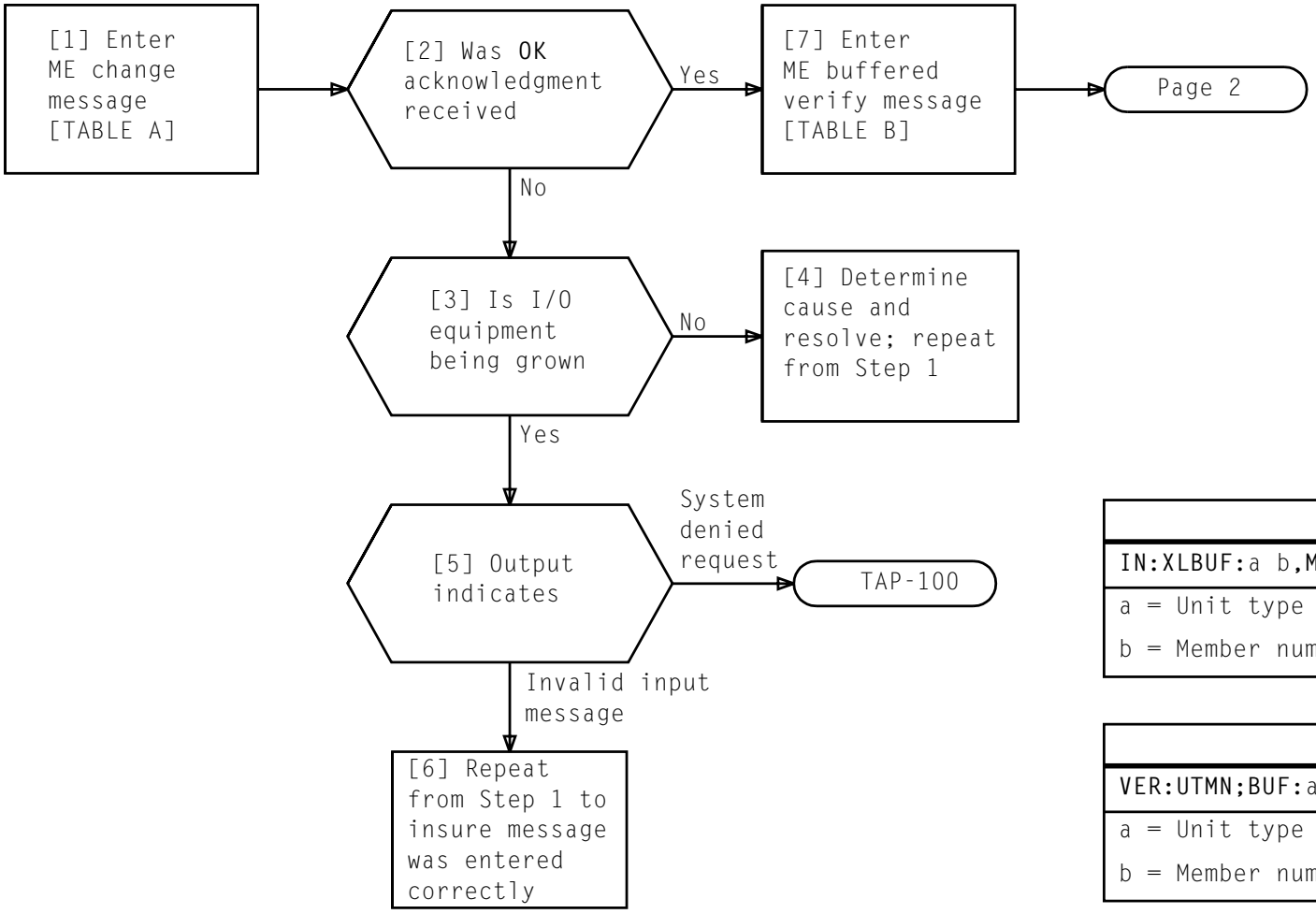


TABLE A
IN:XLBUF:a b,ME (UNEQ,GROW)!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

TABLE B
VER:UTMN;BUF:a b,ME!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

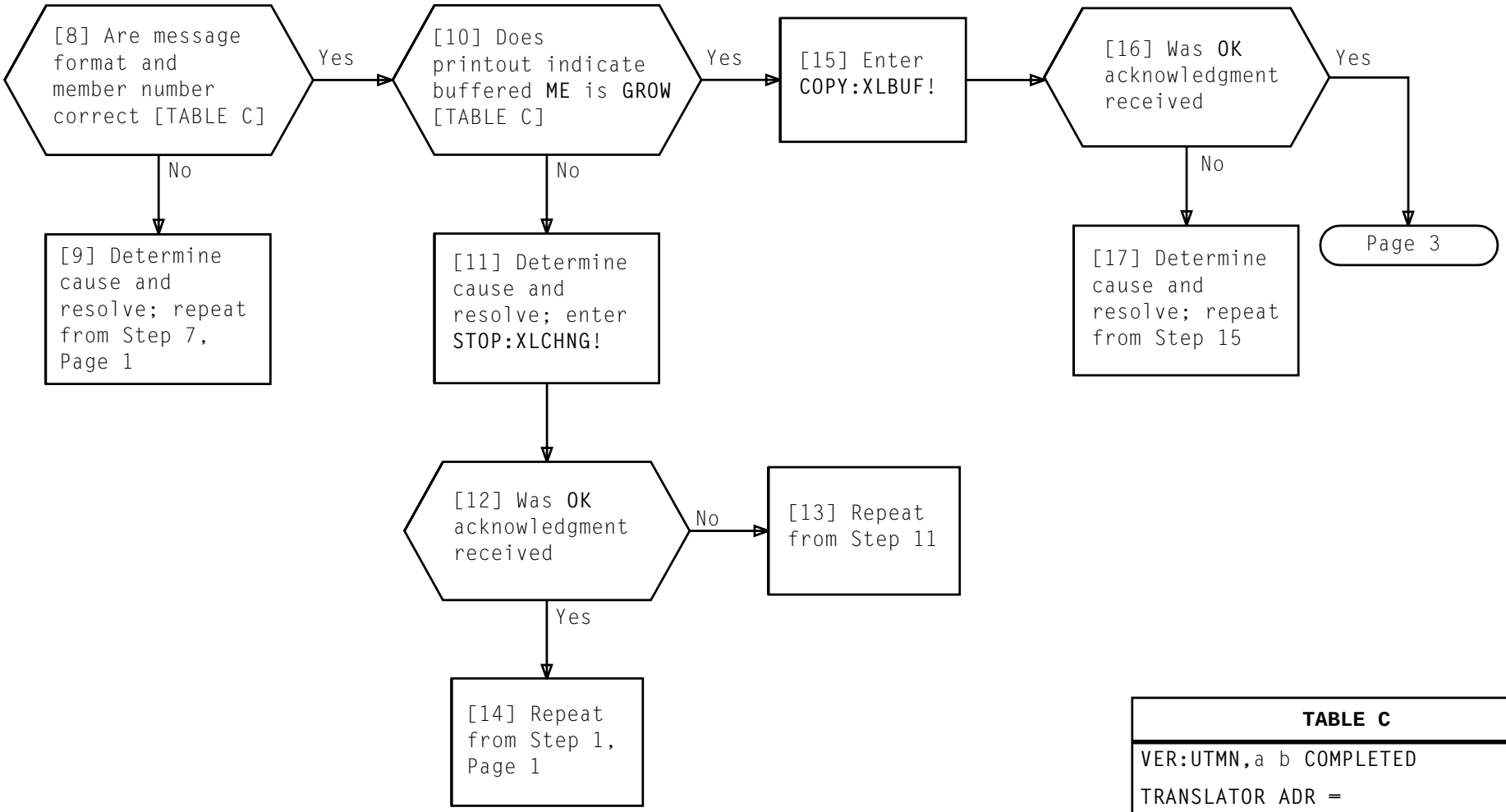


TABLE C
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA ME GROW
a = Growth unit type b = Member number of growth unit

CHANGE AND VERIFY MEMBER EQUIPAGE UNEQUIPPED TO GROW

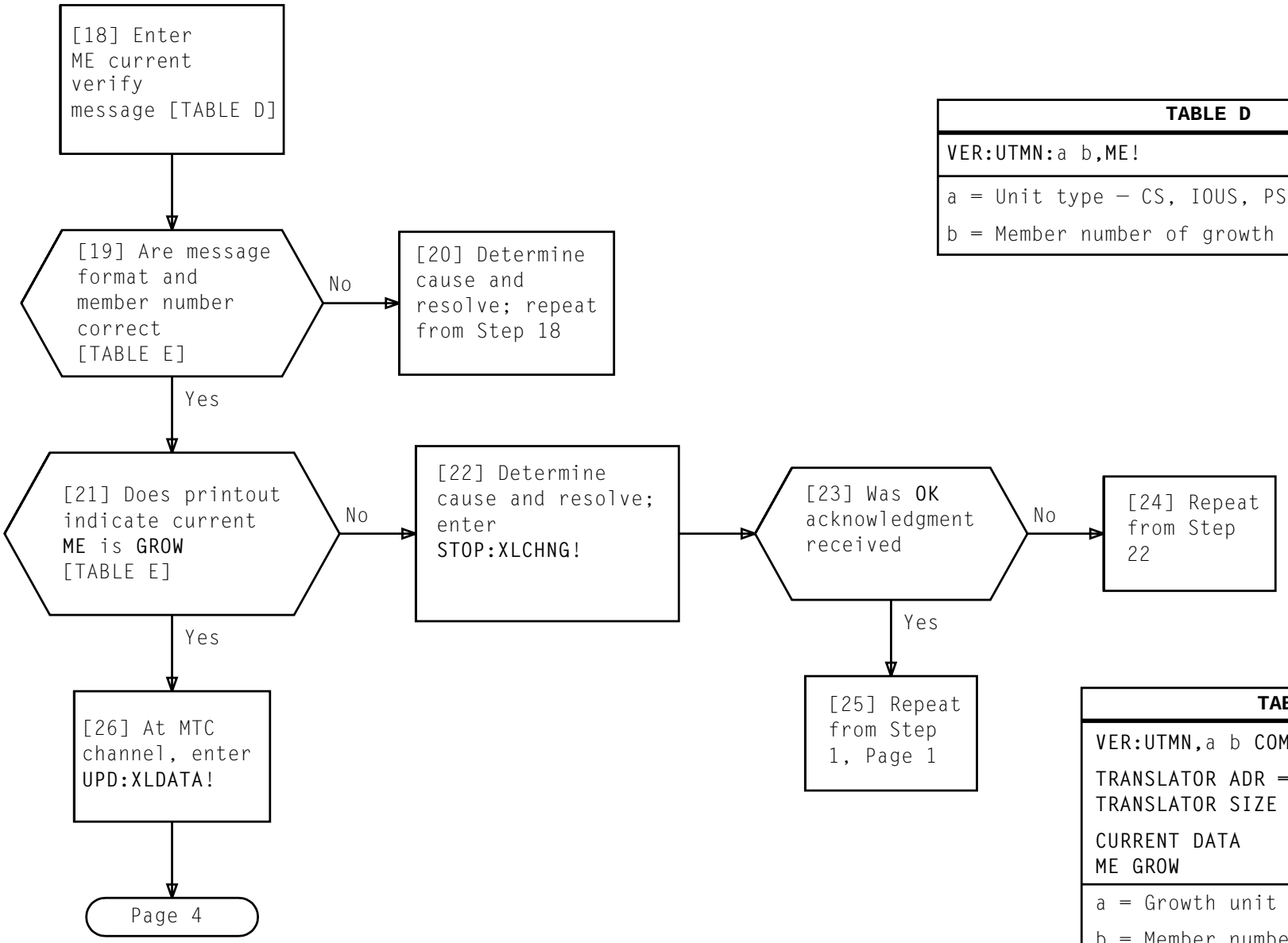


TABLE D
VER:UTMN:a b,ME!
a = Unit type — CS, IOUS, PS, or TUC b = Member number of growth unit

TABLE E
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME GROW
a = Growth unit type b = Member number of growth unit

CHANGE AND VERIFY MEMBER EQUIPAGE UNEQUIPPED TO GROW

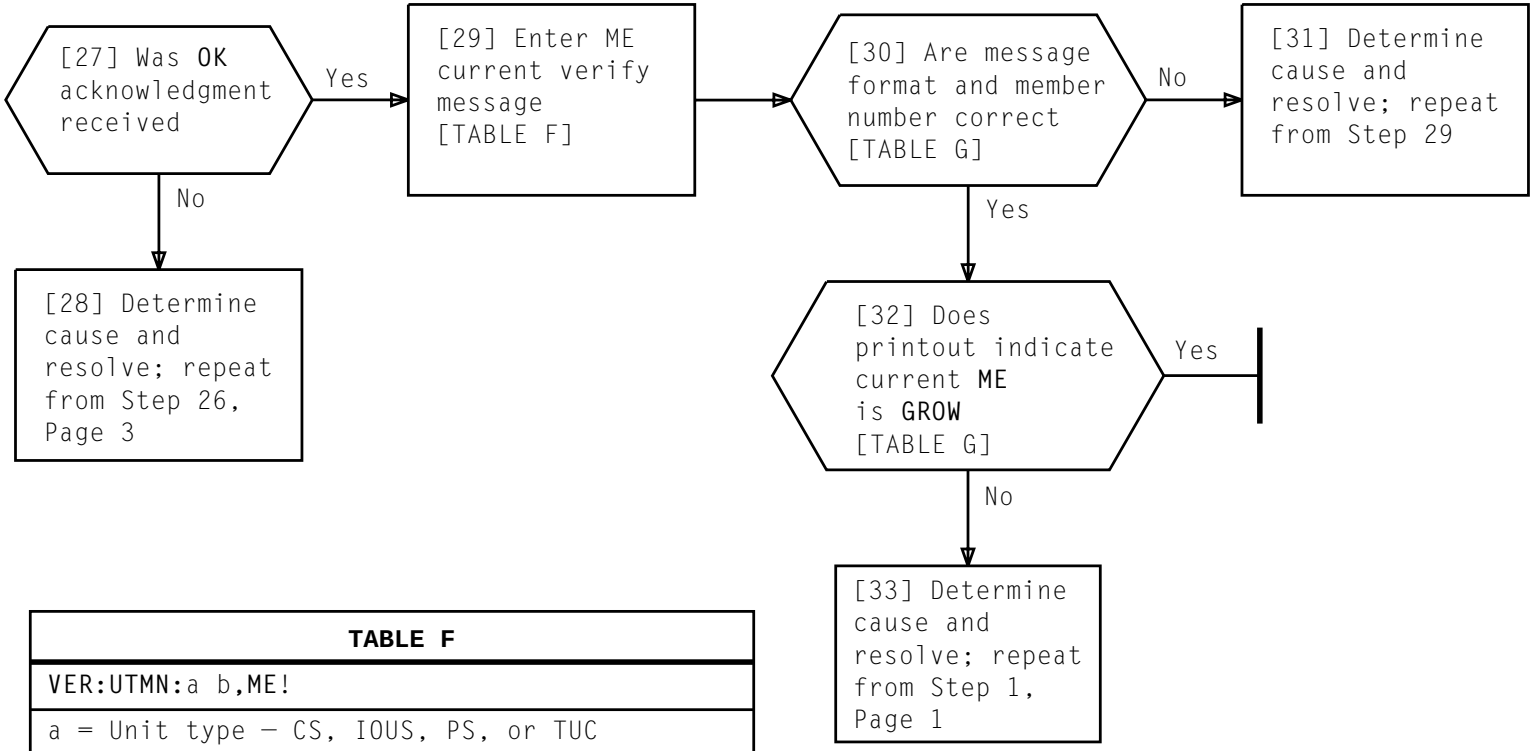
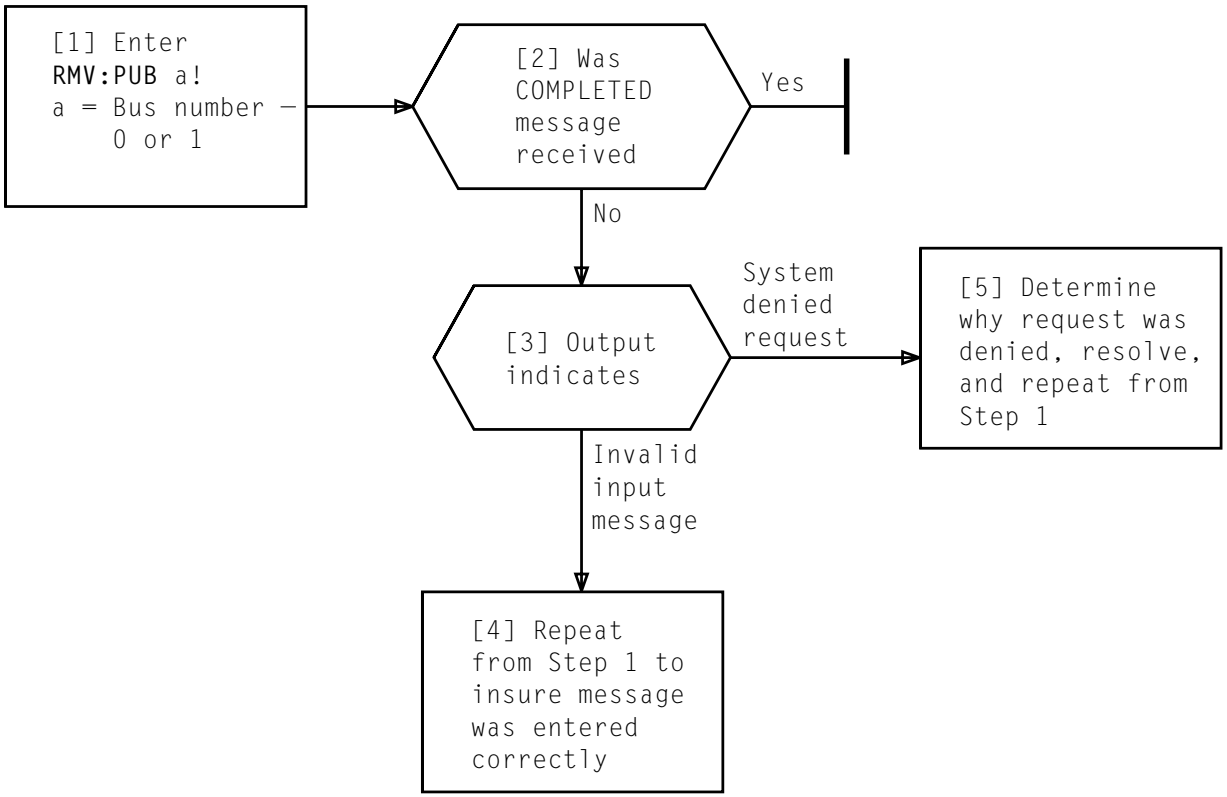


TABLE F
VER:UTMN:a b,ME!
a = Unit type — CS, IOUS, PS, or TUC b = Member number of growth unit

TABLE G
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME GROW
a = Growth unit type b = Member number of growth unit

CHANGE AND VERIFY MEMBER EQUIPAGE UNEQUIPPED TO GROW



REMOVE PERIPHERAL UNIT BUS FROM SERVICE

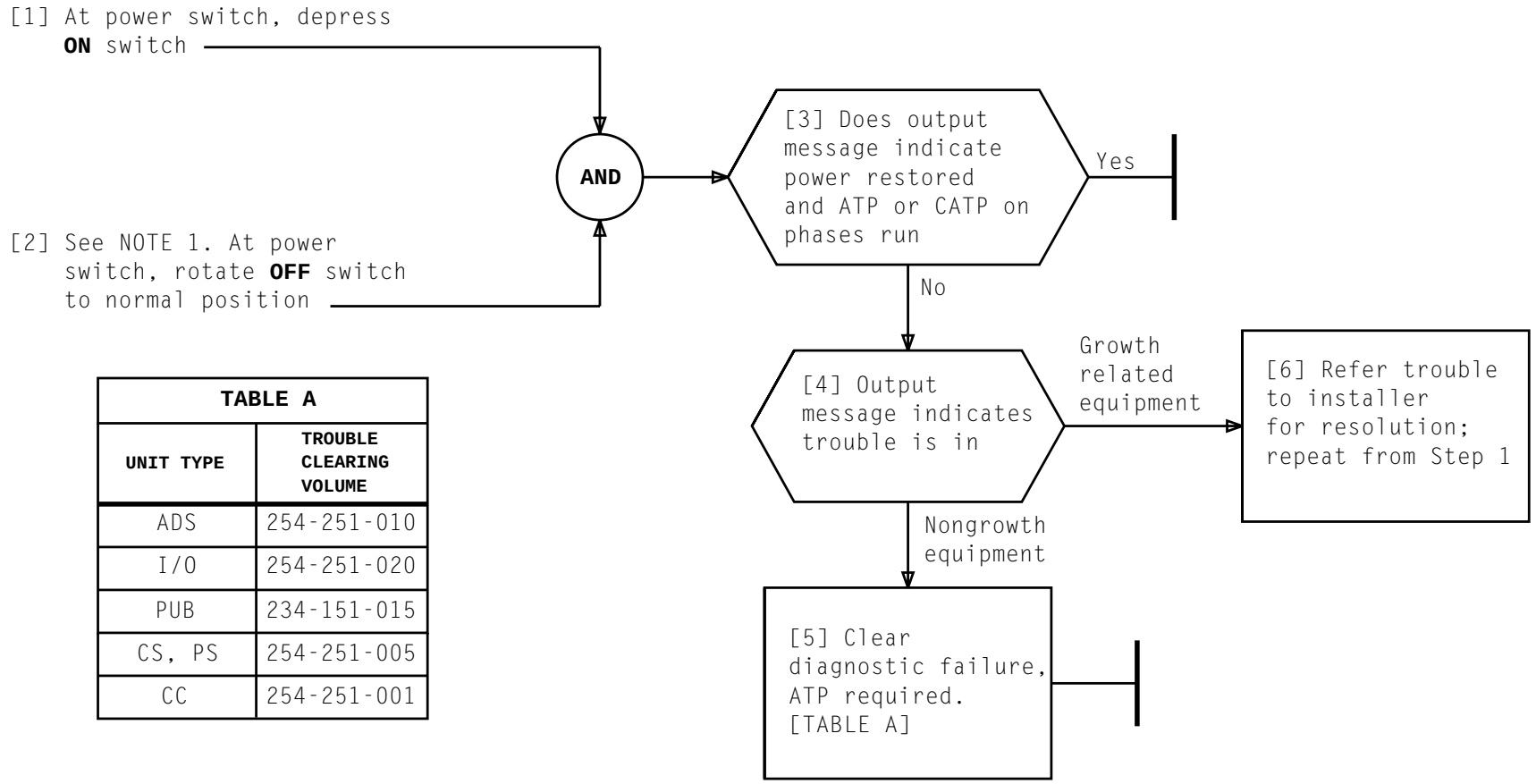
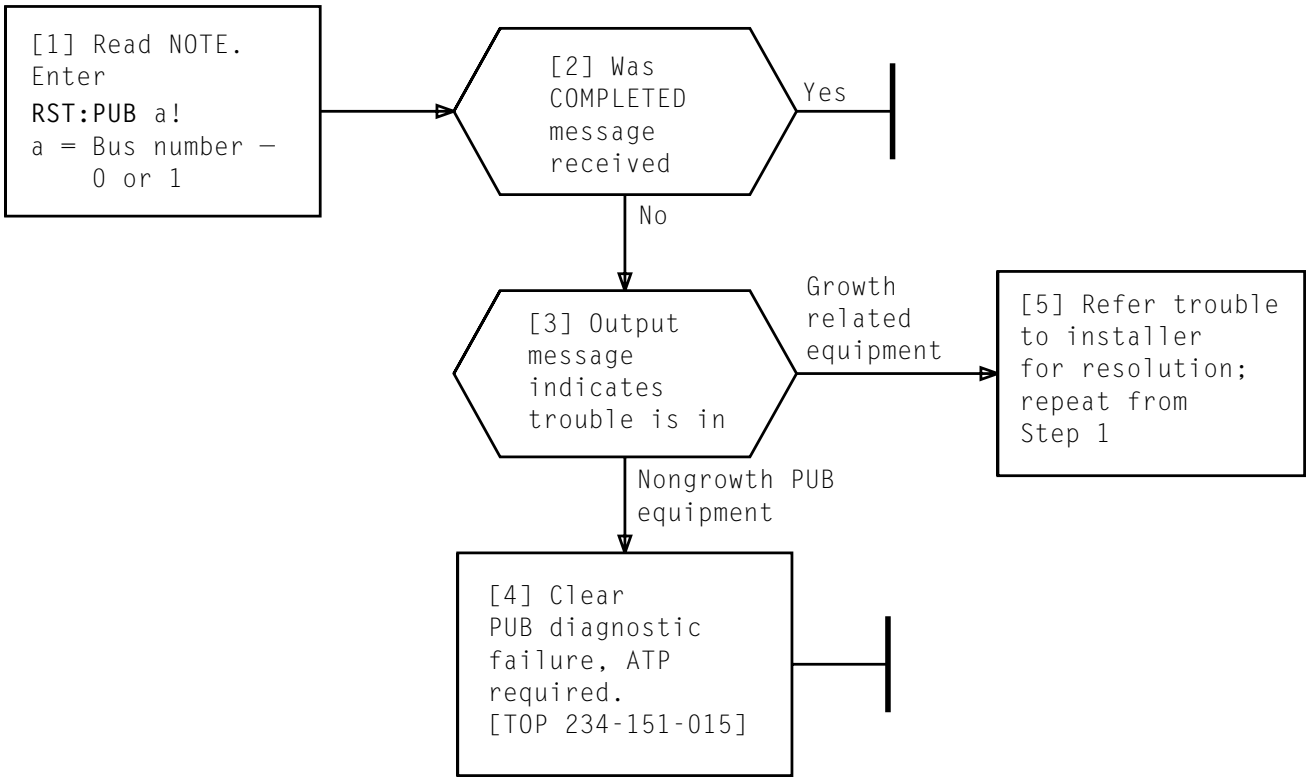


TABLE A

UNIT TYPE	TROUBLE CLEARING VOLUME
ADS	254-251-010
I/O	254-251-020
PUB	234-151-015
CS, PS	254-251-005
CC	254-251-001

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

RESTORE POWER WITH POWER SWITCH



RESTORE PERIPHERAL UNIT BUS TO SERVICE

NOTE
Restore message will cause a PUB diagnostic to be run. PUB will be restored if ATP

SUMMARY

Enter change message to grow member equipage (ME) from GROW to SGRO. Verify buffered ME, enter copy message, verify current ME, then enter update message. If after each verify, ME is not in right state, enter stop message and start change from beginning

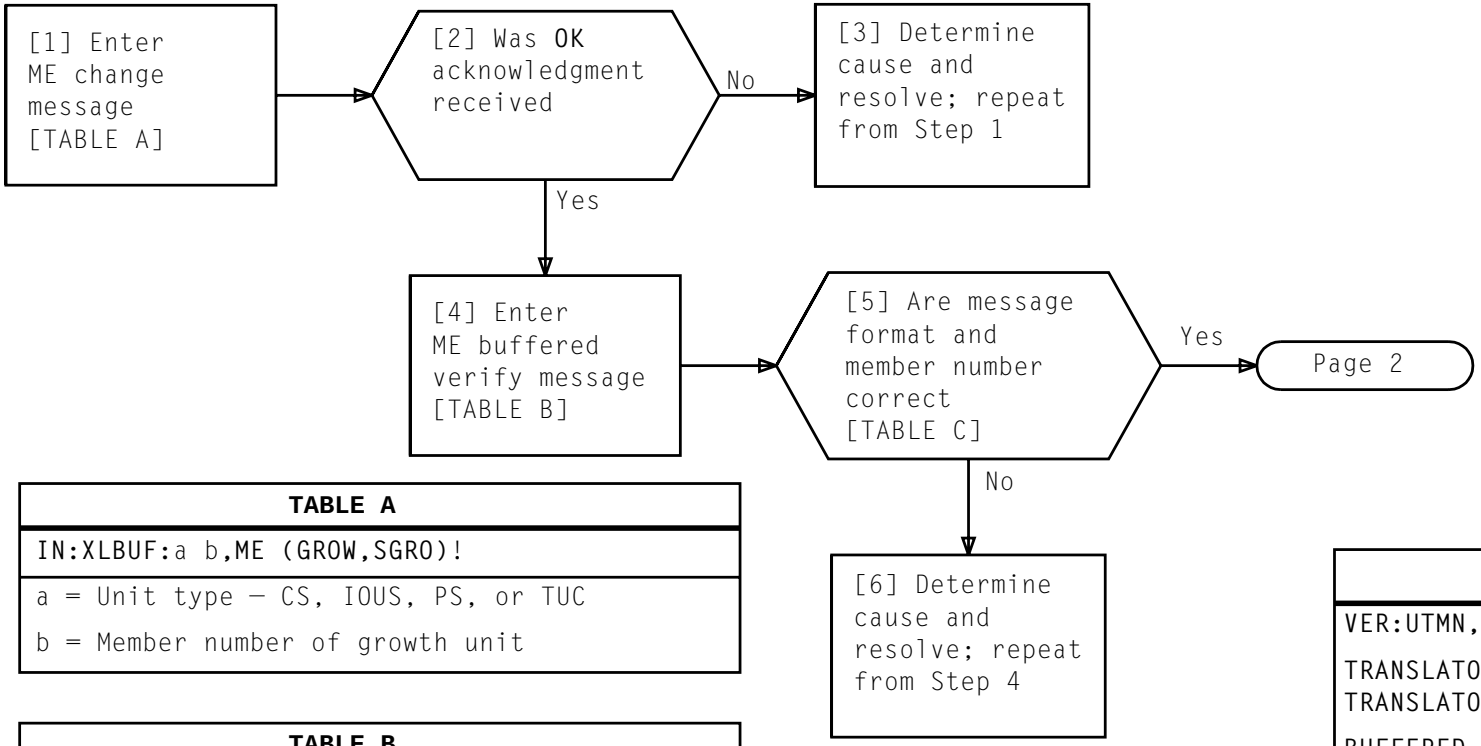


TABLE A
IN:XLBUF:a b,ME (GROW,SGRO)!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

TABLE B
VER:UTMN;BUF:a b,ME!
a = Unit type — CS, IOUS, PS, or TUC
b = Member number of growth unit

TABLE C
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA ME SGRO
a = Growth unit type
b = Member number of growth unit

CHANGE AND VERIFY MEMBER EQUIPAGE GROW TO SPECIAL GROWTH

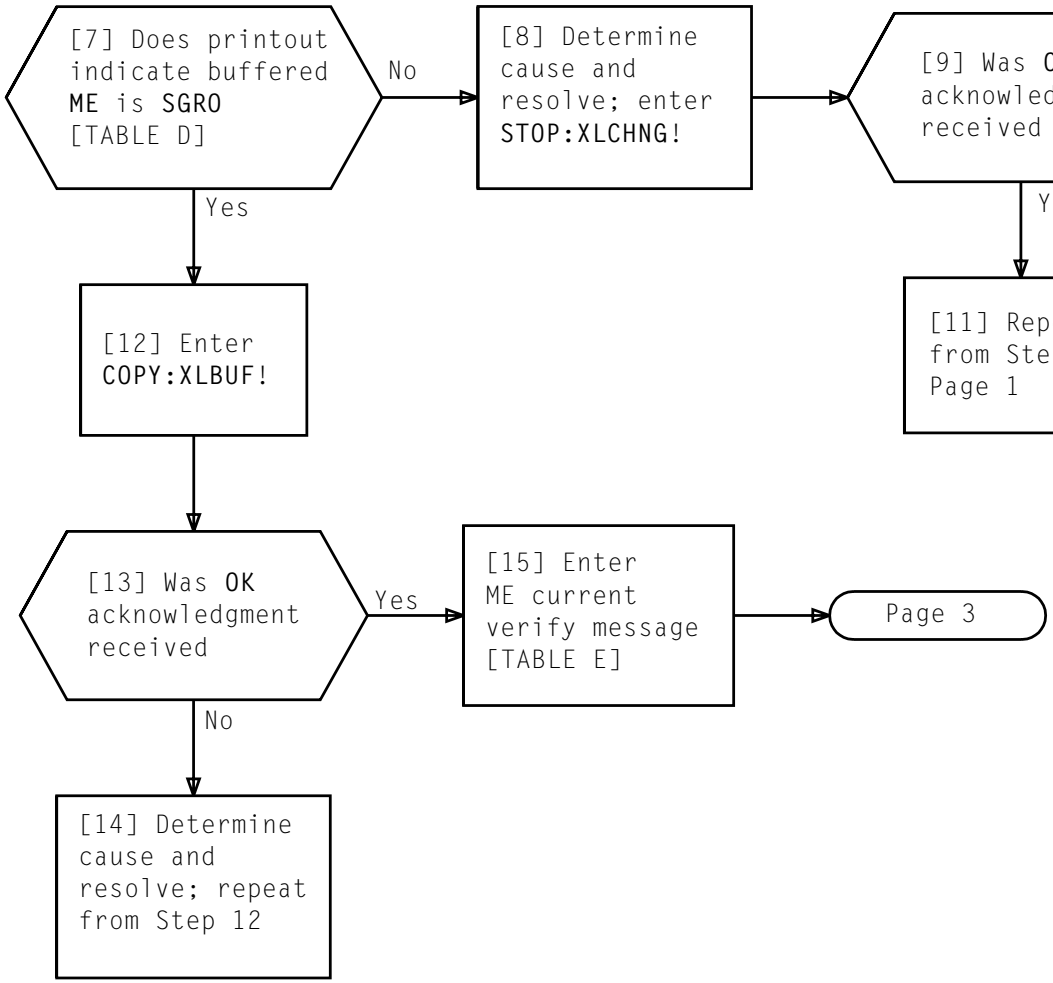


TABLE D
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA ME SGRO
a = Growth unit type b = Member number of growth unit

TABLE E
VER:UTMN:a b,ME!
a = Unit type — CS, IOUS, PS, or TUC b = Member number of growth unit

CHANGE AND VERIFY MEMBER EQUIPAGE GROW TO SPECIAL GROWTH

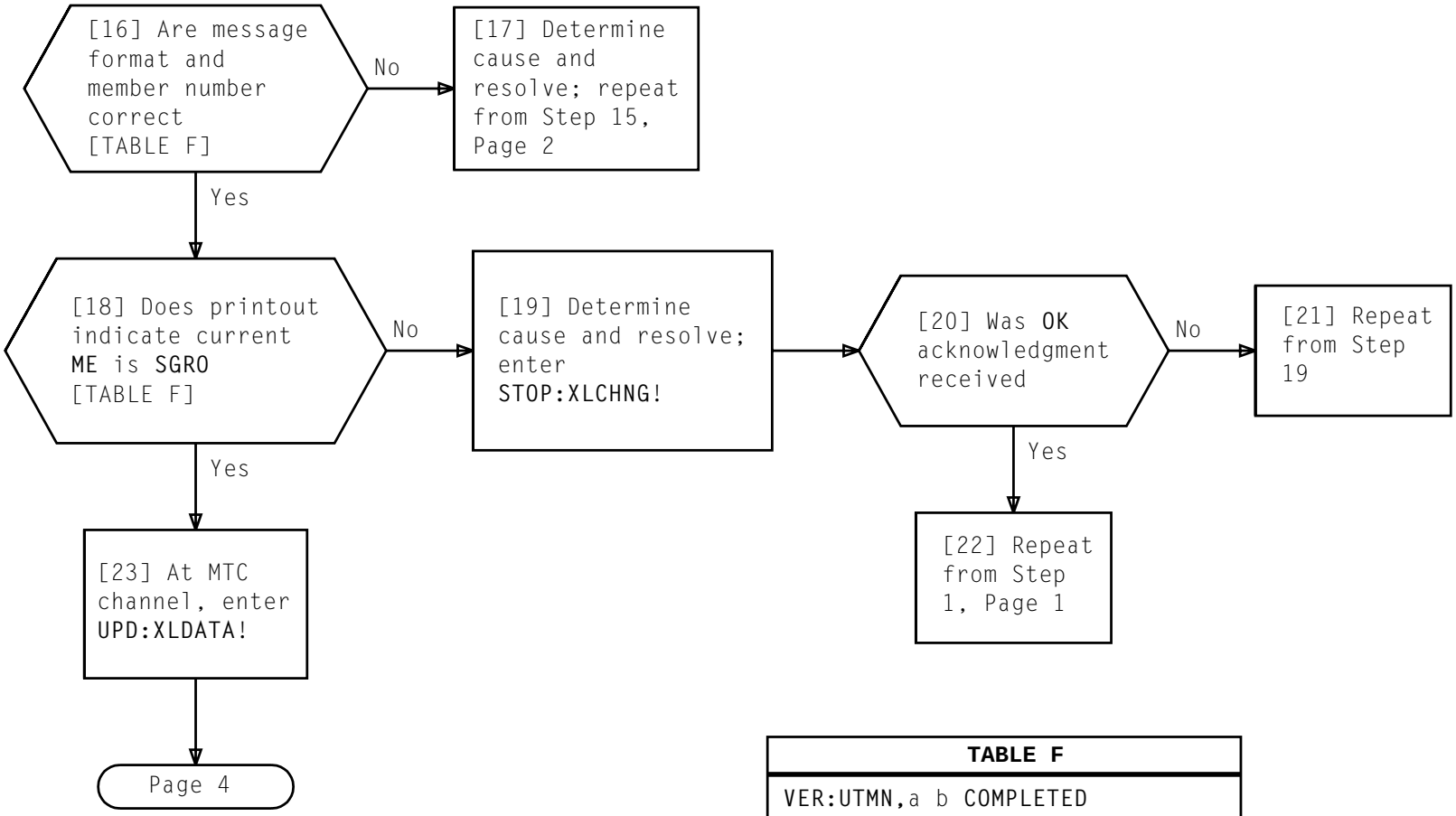


TABLE F
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME SGRO
a = Growth unit type b = Member number of growth unit

CHANGE AND VERIFY MEMBER EQUIPAGE GROW TO SPECIAL GROWTH

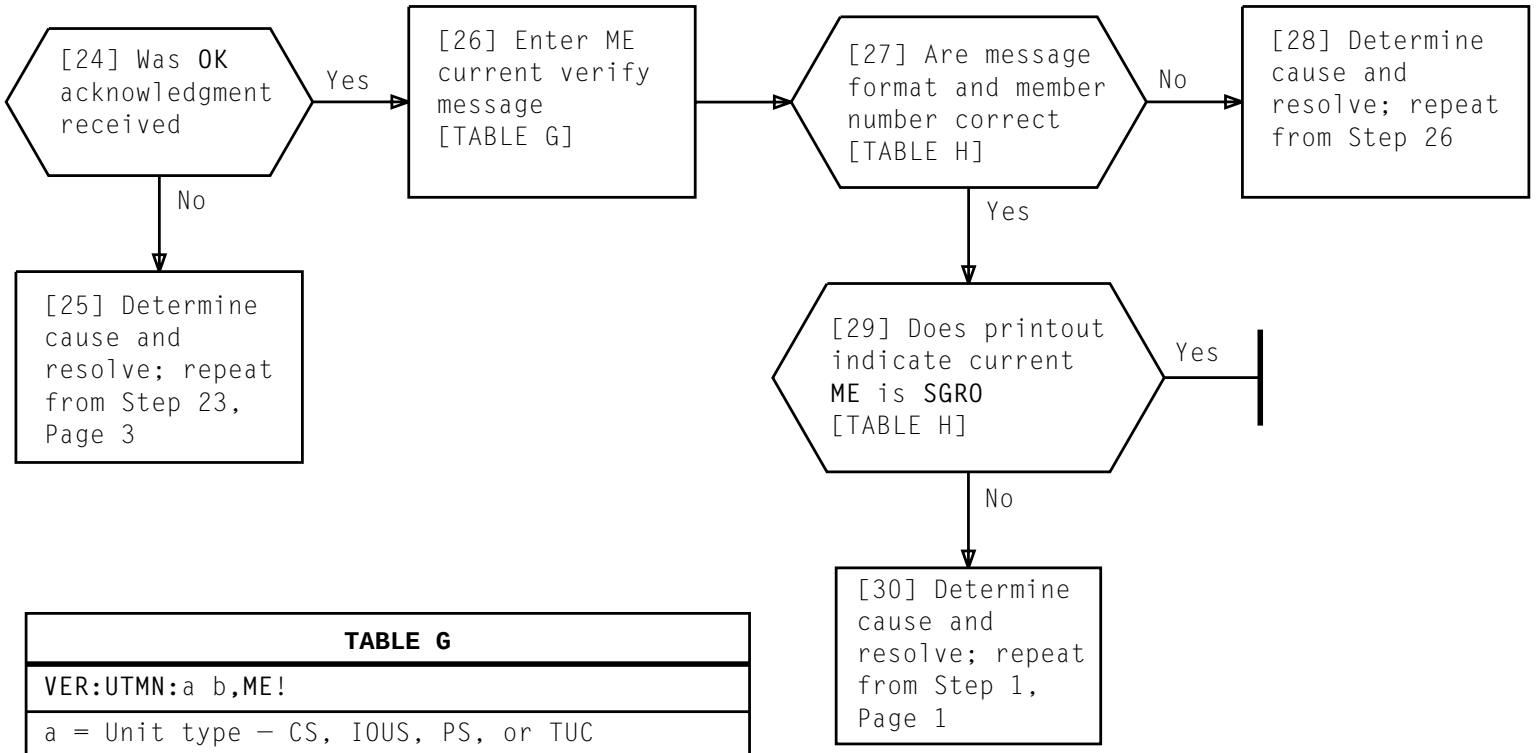


TABLE G
VER:UTMN:a b,ME!
a = Unit type — CS, IOUS, PS, or TUC b = Member number of growth unit

TABLE H
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME SGRO
a = Growth unit type b = Member number of growth unit

CHANGE AND VERIFY MEMBER EQUIPAGE GROW TO SPECIAL GROWTH

SUMMARY

Enter change message to grow member equipage (ME) from SGRO to OPER. Verify buffered ME, enter copy message, verify current ME, then enter update message. If after each verify, ME is not in right state, enter stop message and start change from beginning

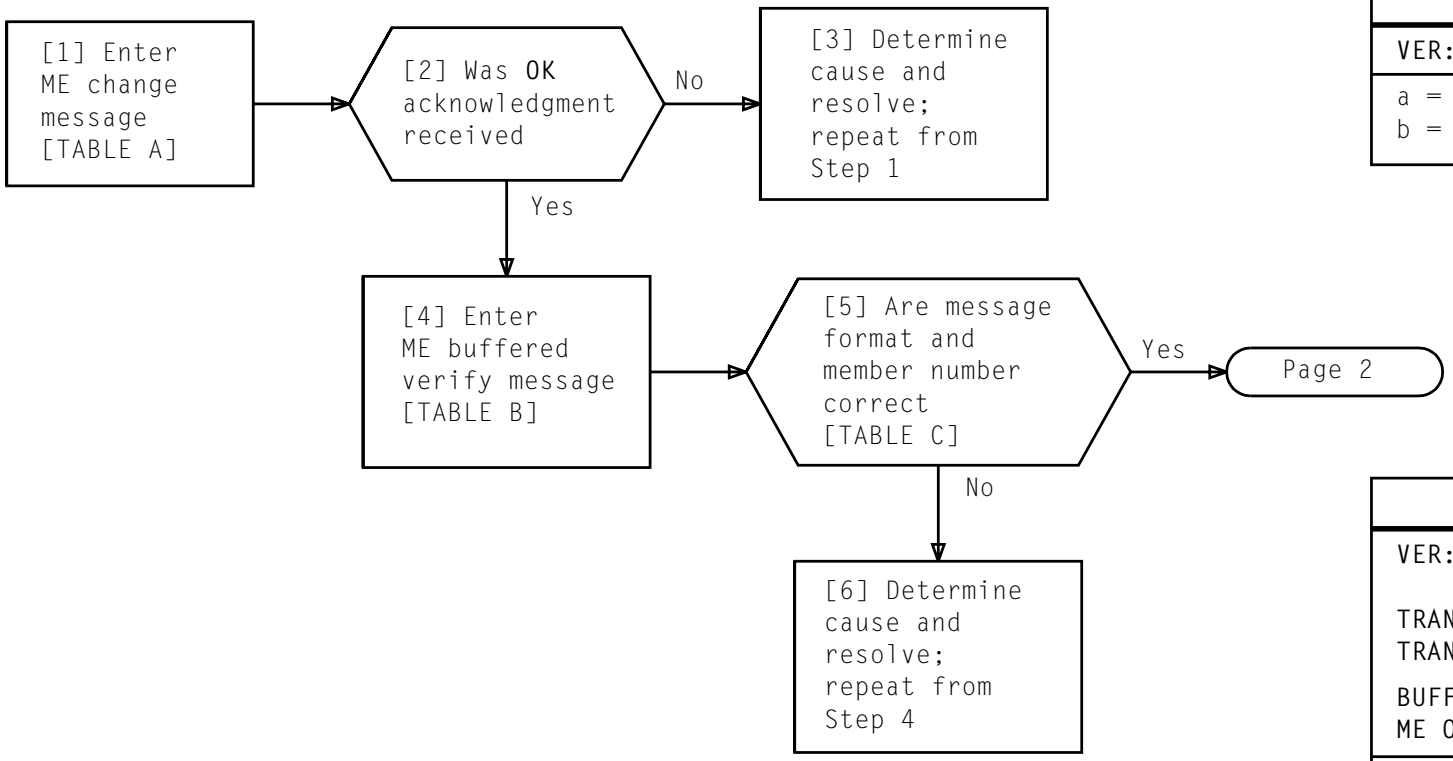


TABLE A

IN:XLBUF:a b,ME (SGRO,OPER)!

a = Unit type — IOUS or TUC
b = Member number of growth unit

TABLE B

VER:UTMN;BUF:a b,ME!

a = Unit type — IOUS or TUC
b = Member number of growth unit

TABLE C

VER:UTMN,a b COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

BUFFERED DATA
ME OPER

a = Growth unit type
b = Member number of growth unit

CHANGE AND VERIFY MEMBER EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

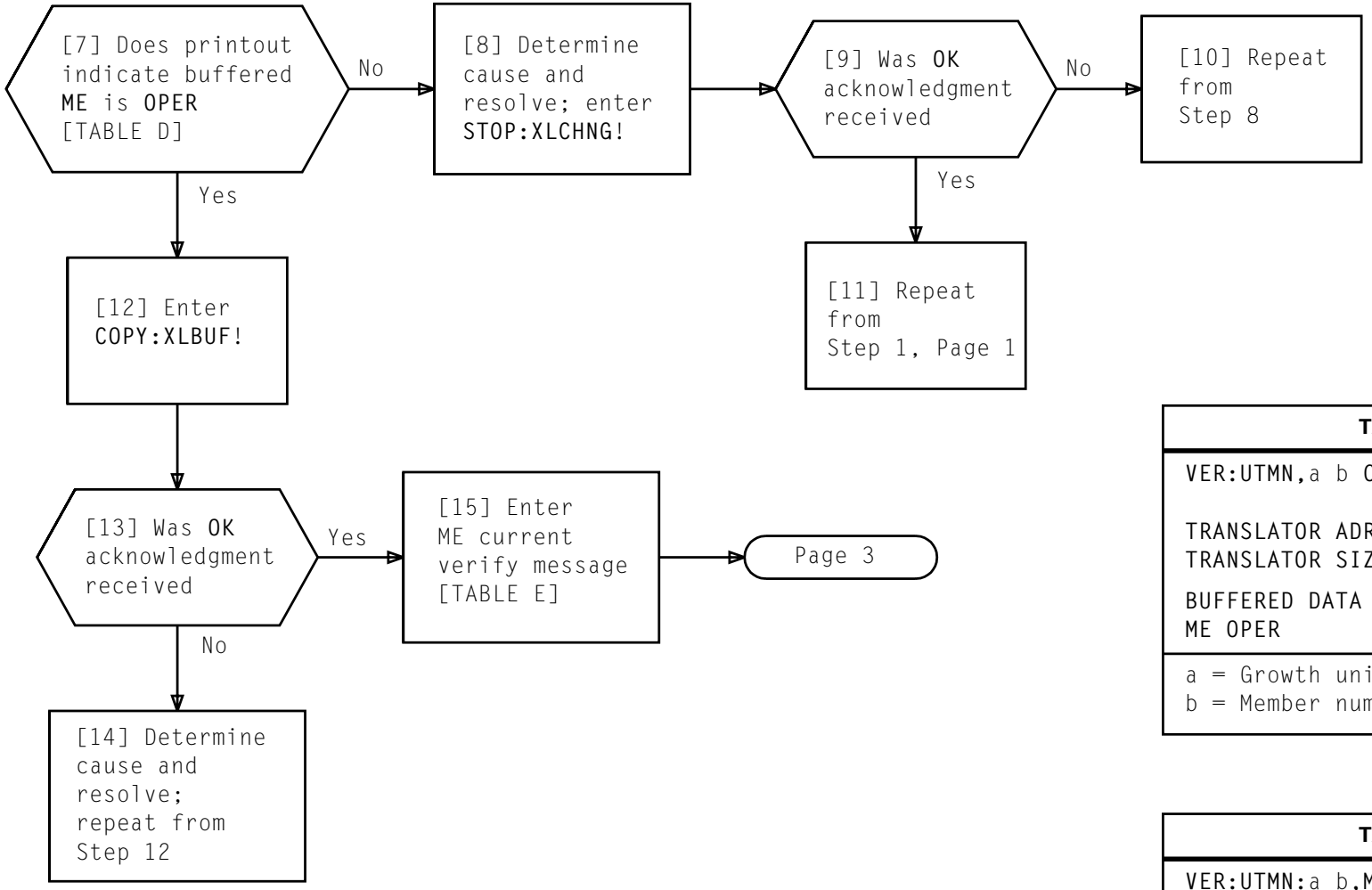


TABLE D
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA ME OPER
a = Growth unit type b = Member number of growth unit

TABLE E
VER:UTMN:a b,ME!
a = Unit type — IOUS or TUC b = Member number of growth unit

CHANGE AND VERIFY MEMBER EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

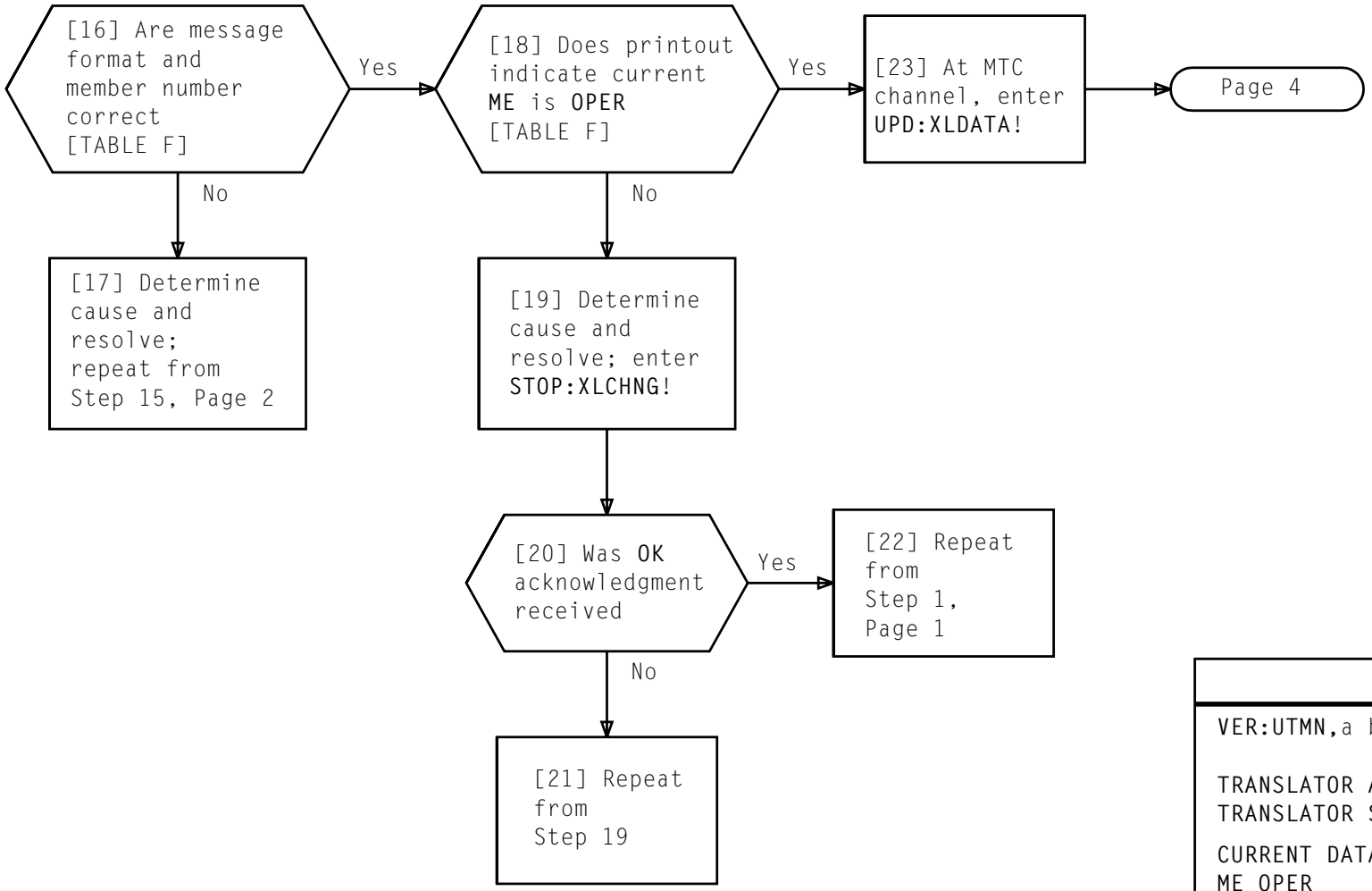


TABLE F
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME OPER
a = Growth unit type b = Member number of growth unit

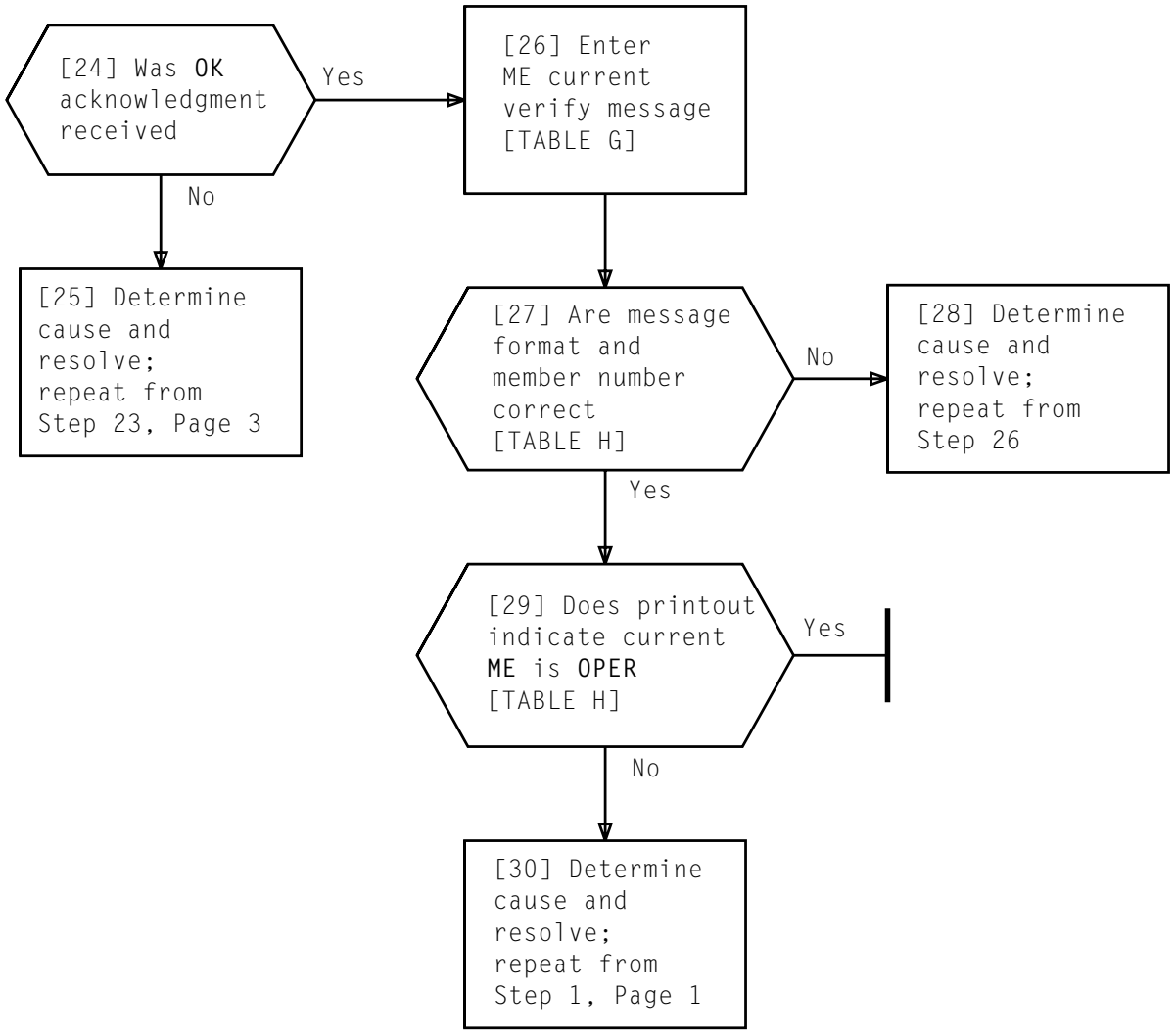
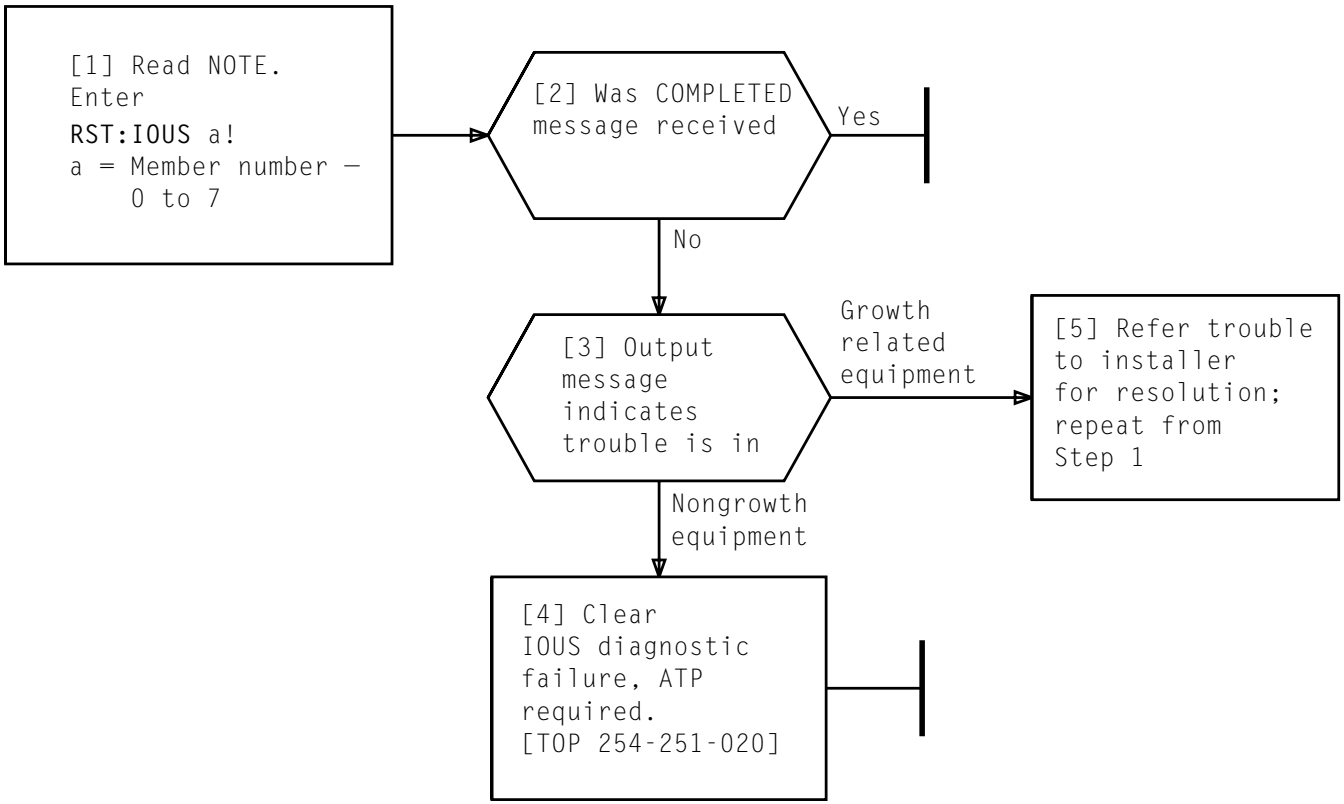


TABLE G
VER:UTMN:a b,ME!
a = Unit type — IOUS or TUC b = Member number of growth unit

TABLE H
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME OPER
a = Growth unit type b = Member number of growth unit

CHANGE AND VERIFY MEMBER EQUIPAGE SPECIAL GROWTH TO OPERATIONAL



RESTORE INPUT/OUTPUT UNIT SELECTOR TO SERVICE

NOTE
Restore message will cause IOUS diagnostic to be run. IOUS will be restored, if ATP or CATP

SUMMARY

Enter SMHG current verify and verify for proper value. If SMHG is in error, enter SMHG change message for growth unit type. Verify buffered data, enter copy message, verify current data, and then enter update message. If after each verify, SMHG value is not per appropriate drawing, enter stop message and start change from beginning

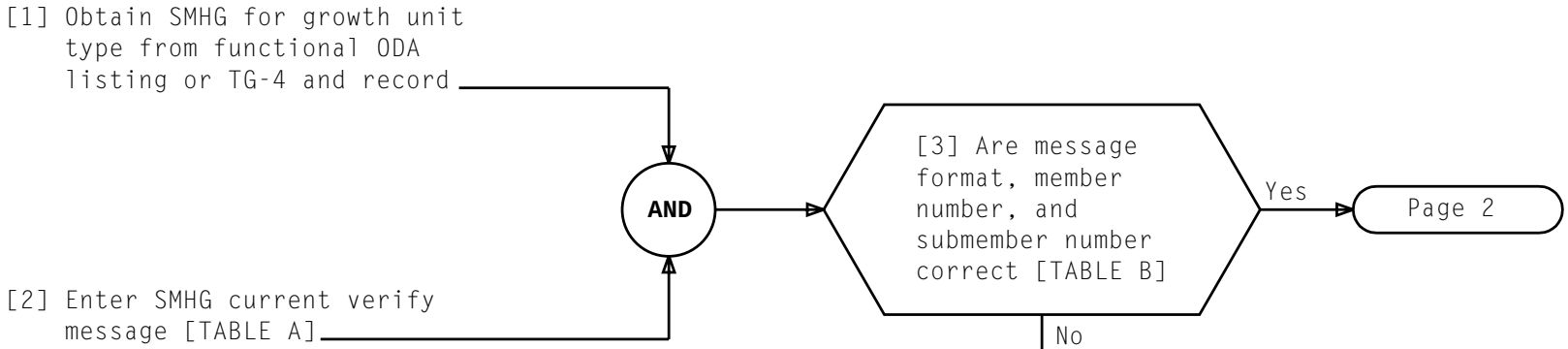


TABLE A
VER:UTMN:IOUS a,SUBMEM b,SMHG!
a = Member number of growth associated IOUS b = Submember number of growth IOMP

TABLE B
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE= CURRENT DATA SMHG c
a = Member number of growth associated IOUS b = Submember number of growth IOMP — 0 or 1 c = SMHG value to be used as old data in change message

CHANGE AND VERIFY SUBMEMBER HARDWARE GENERATION FOR GROWTH IOMP

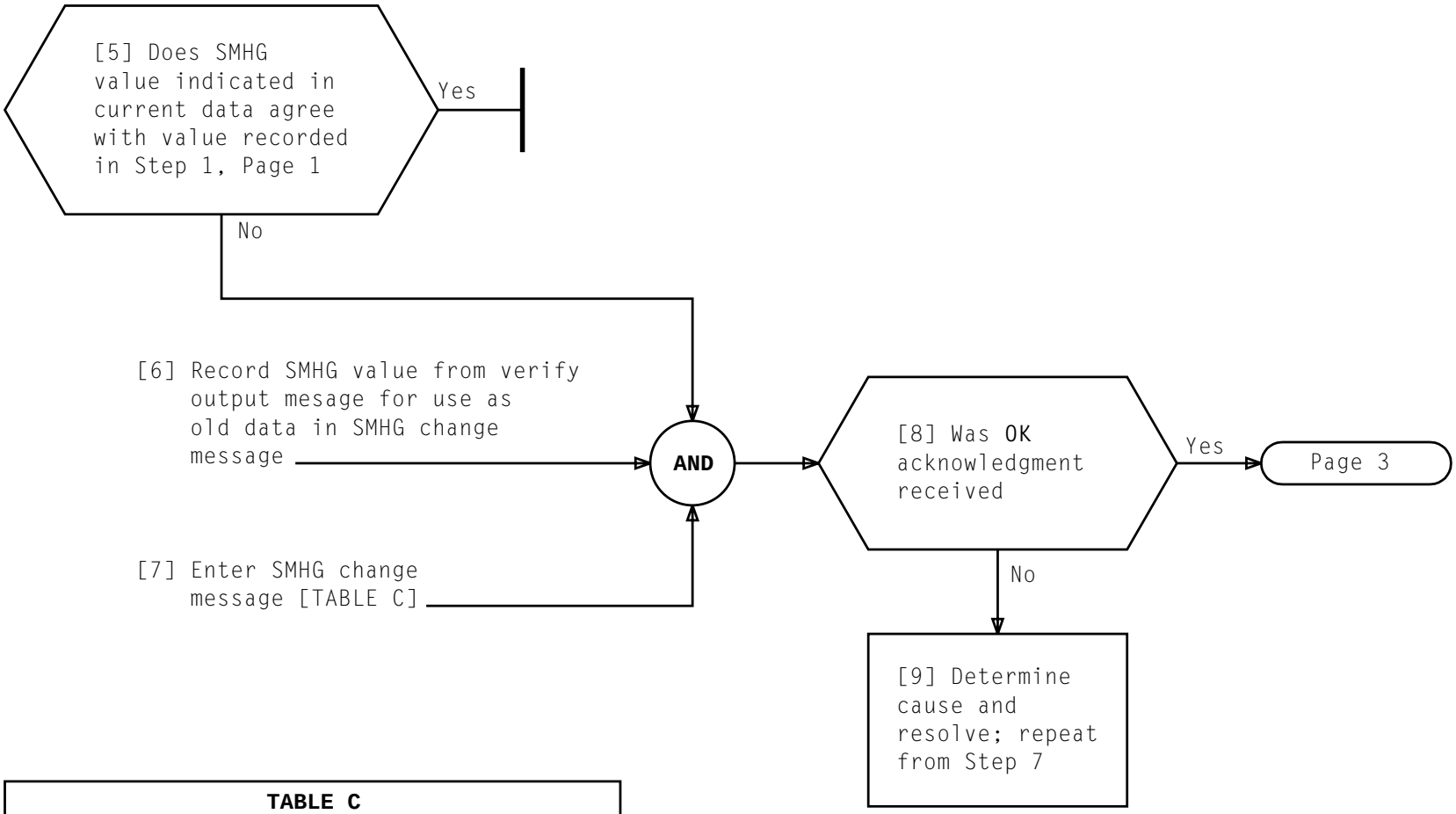


TABLE C
IN:XLBUF:IOUS a,SUBMEM b,SMHG (c,d)!
a = Member number of growth associated IOUS b = Submember number of growth IOMP — 0 or 1 c = Old data recorded from SMHG current verify d = New data recorded from office record drawing

CHANGE AND VERIFY SUBMEMBER HARDWARE GENERATION FOR GROWTH IOMP

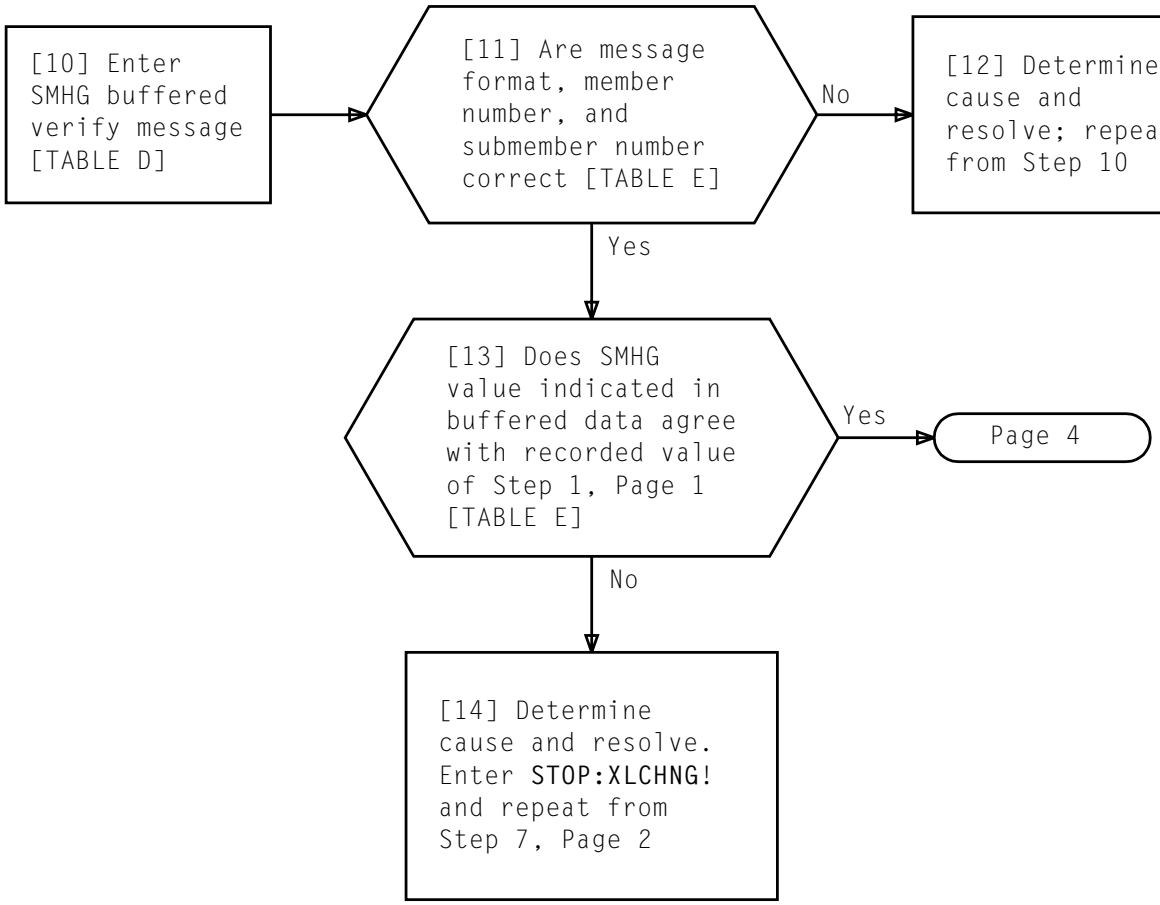


TABLE D
VER:UTMN;BUF:IOUS a,SUBMEM b,SMHG!
a = Member number of growth associated IOUS b = Submember number of growth IOMP — 0 or 1

TABLE E
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE= BUFFERED DATA SMHG c
a = Member number of growth associated IOUS b = Submember number of growth IOMP — 0 or 1 c = SMHG value of growth IOMP

CHANGE AND VERIFY SUBMEMBER HARDWARE GENERATION FOR GROWTH IOMP

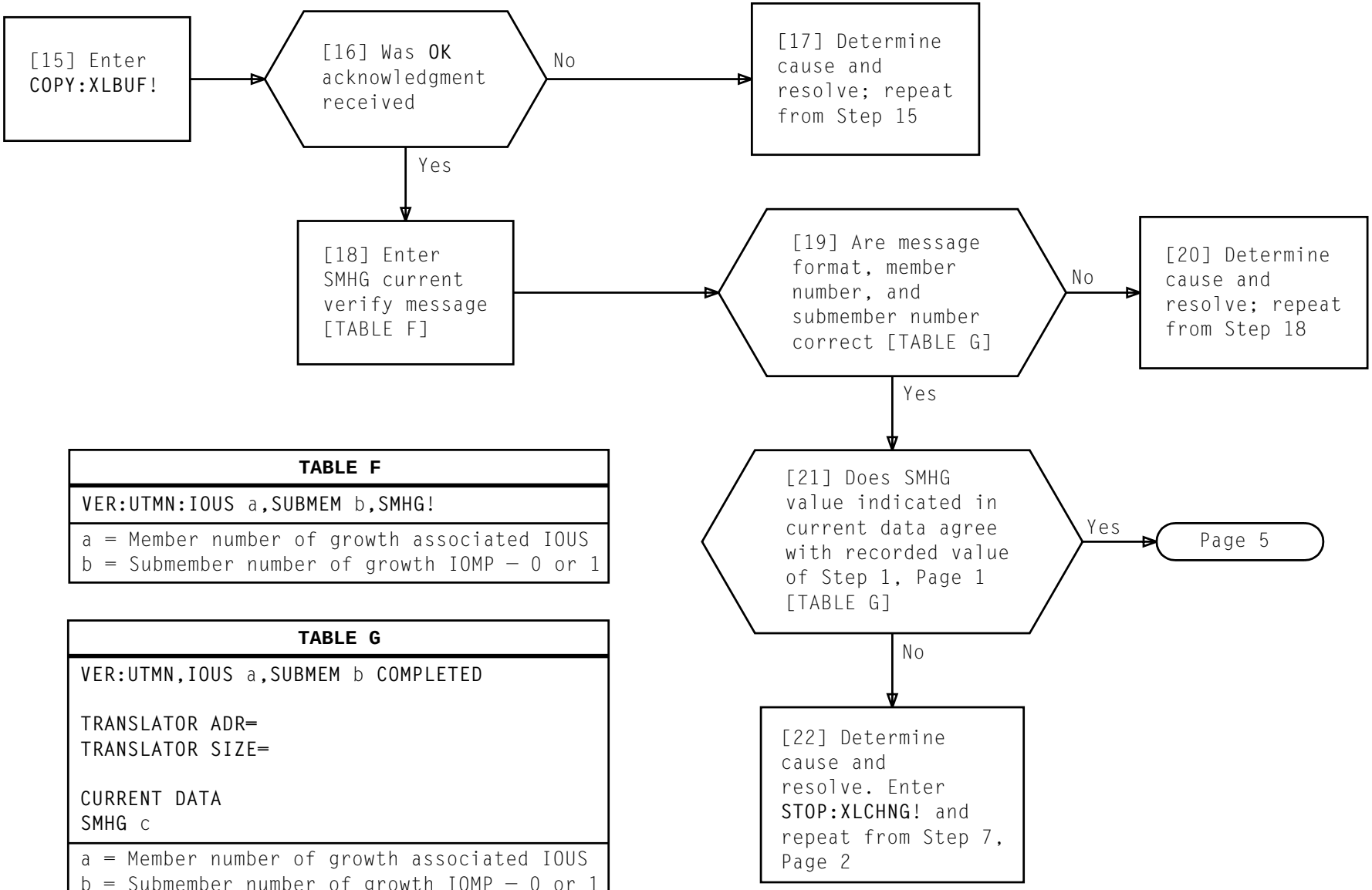


TABLE F
VER:UTMN:IOUS a,SUBMEM b,SMHG!
a = Member number of growth associated IOUS b = Submember number of growth IOMP — 0 or 1

TABLE G
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE= CURRENT DATA SMHG c
a = Member number of growth associated IOUS b = Submember number of growth IOMP — 0 or 1 c = SMHG value of growth IOMP

CHANGE AND VERIFY SUBMEMBER HARDWARE GENERATION FOR GROWTH IOMP

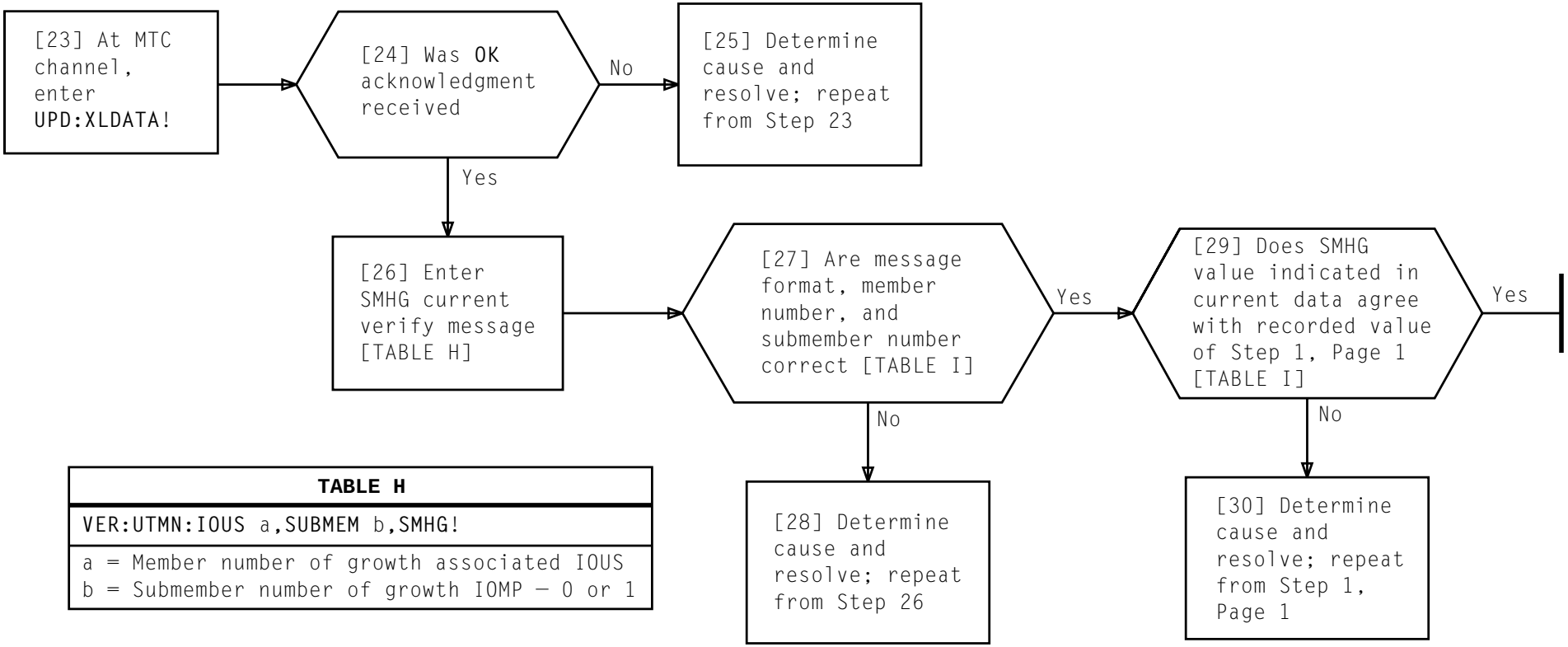


TABLE H
VER:UTMN:IOUS a,SUBMEM b,SMHG!
a = Member number of growth associated IOUS b = Submember number of growth IOMP — 0 or 1

TABLE I
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR= TRANSLATOR SIZE= CURRENT DATA SMHG c
a = Member number of growth associated IOUS b = Submember number of growth IOMP — 0 or 1 c = SMHG value of growth IOMP

CHANGE AND VERIFY SUBMEMBER HARDWARE GENERATION FOR GROWTH IOMP

SUMMARY

Enter change message to grow submember equipage (SME) from UNEQ to GROW. Verify buffered SME, enter copy message, verify current SME, then enter update message. If after each verify, SME is not in right state, enter stop message and start change from beginning

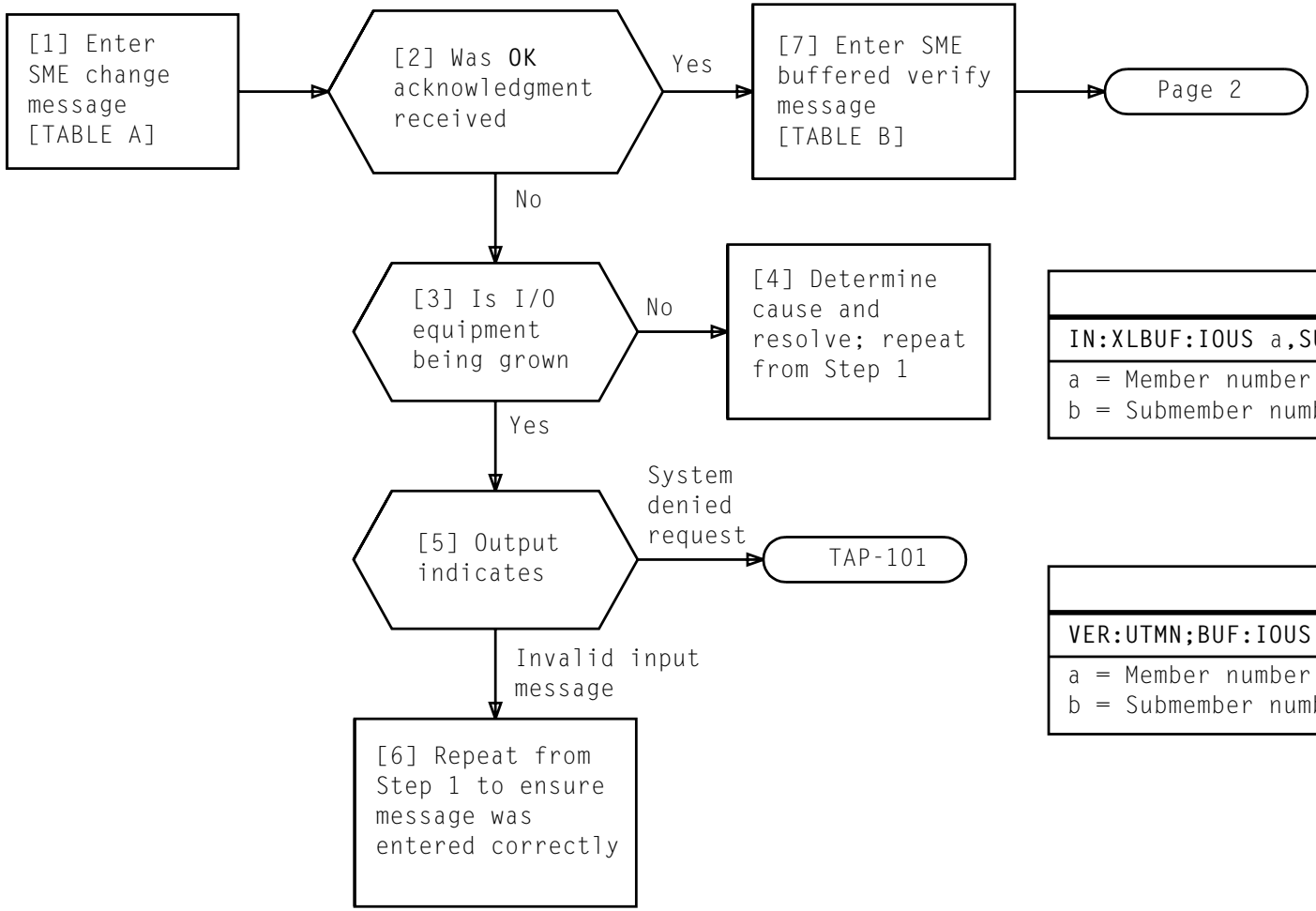


TABLE A
IN:XLBUF:IOUS a,SUBMEM b,SME (UNEQ,GROW)!
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

TABLE B
VER:UTMN;BUF:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

CHANGE AND VERIFY SUBMEMBER EQUIPAGE UNEQUIPPED TO GROW

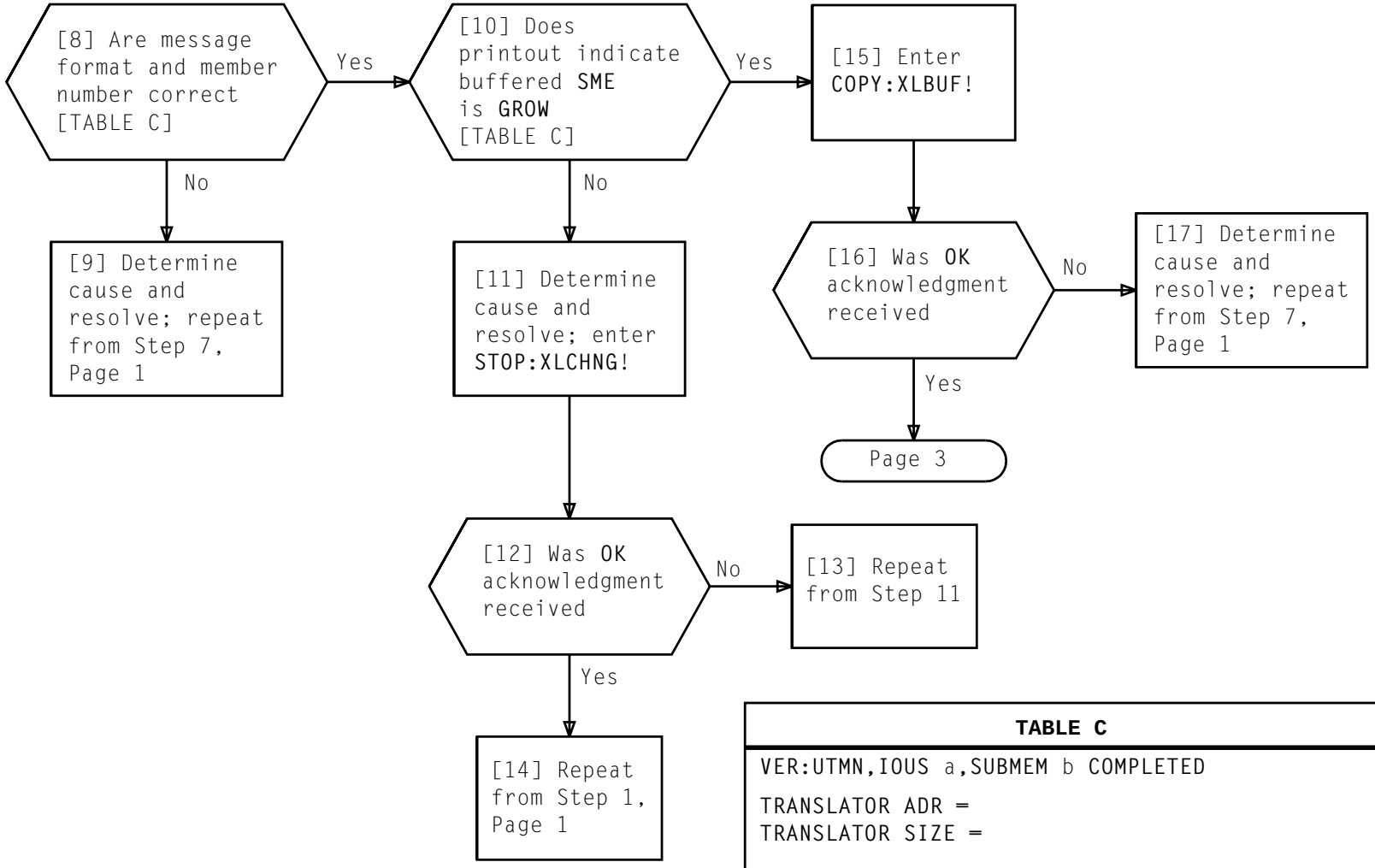


TABLE C

VER:UTMN,IOUS a,SUBMEM b COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

BUFFERED DATA
SME GROW

a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

CHANGE AND VERIFY SUBMEMBER EQUIPAGE UNEQUIPPED TO GROW

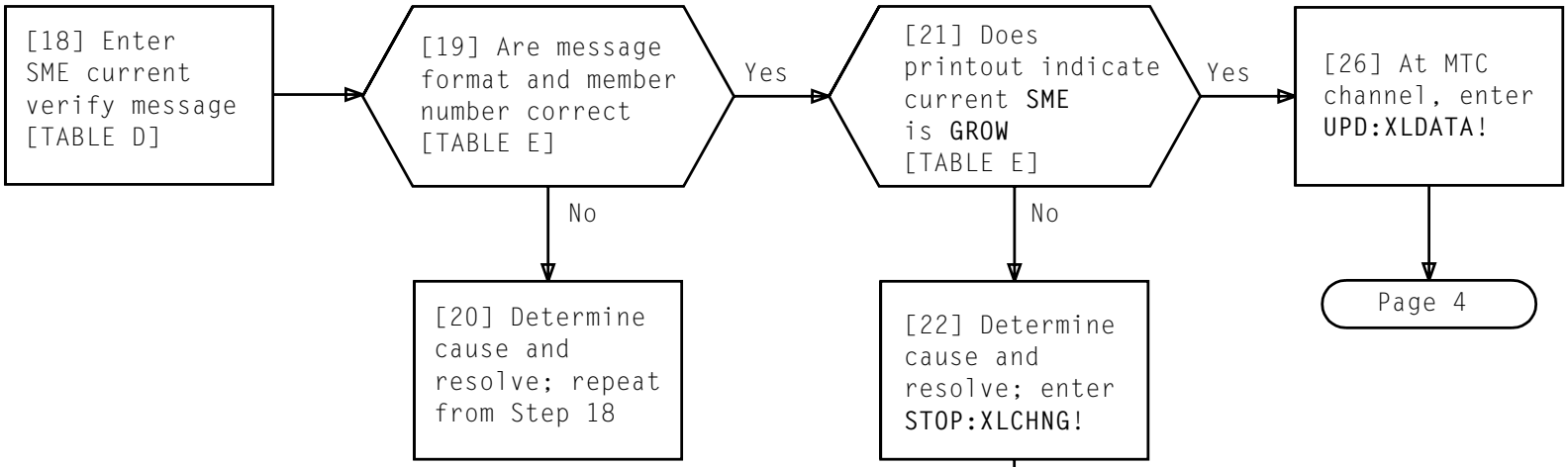


TABLE D
VER:UTMN:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

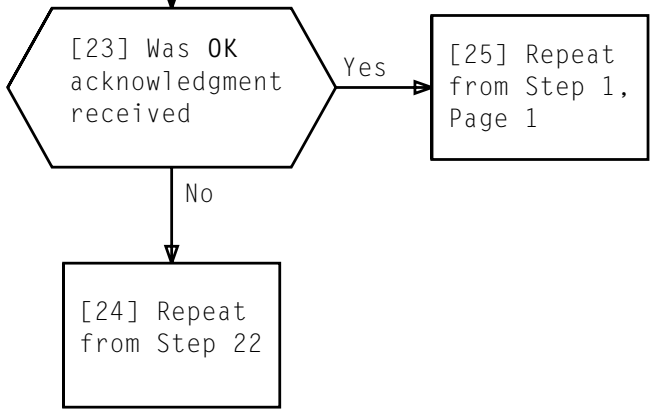


TABLE E
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA SME GROW
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

CHANGE AND VERIFY SUBMEMBER EQUIPAGE UNEQUIPPED TO GROW

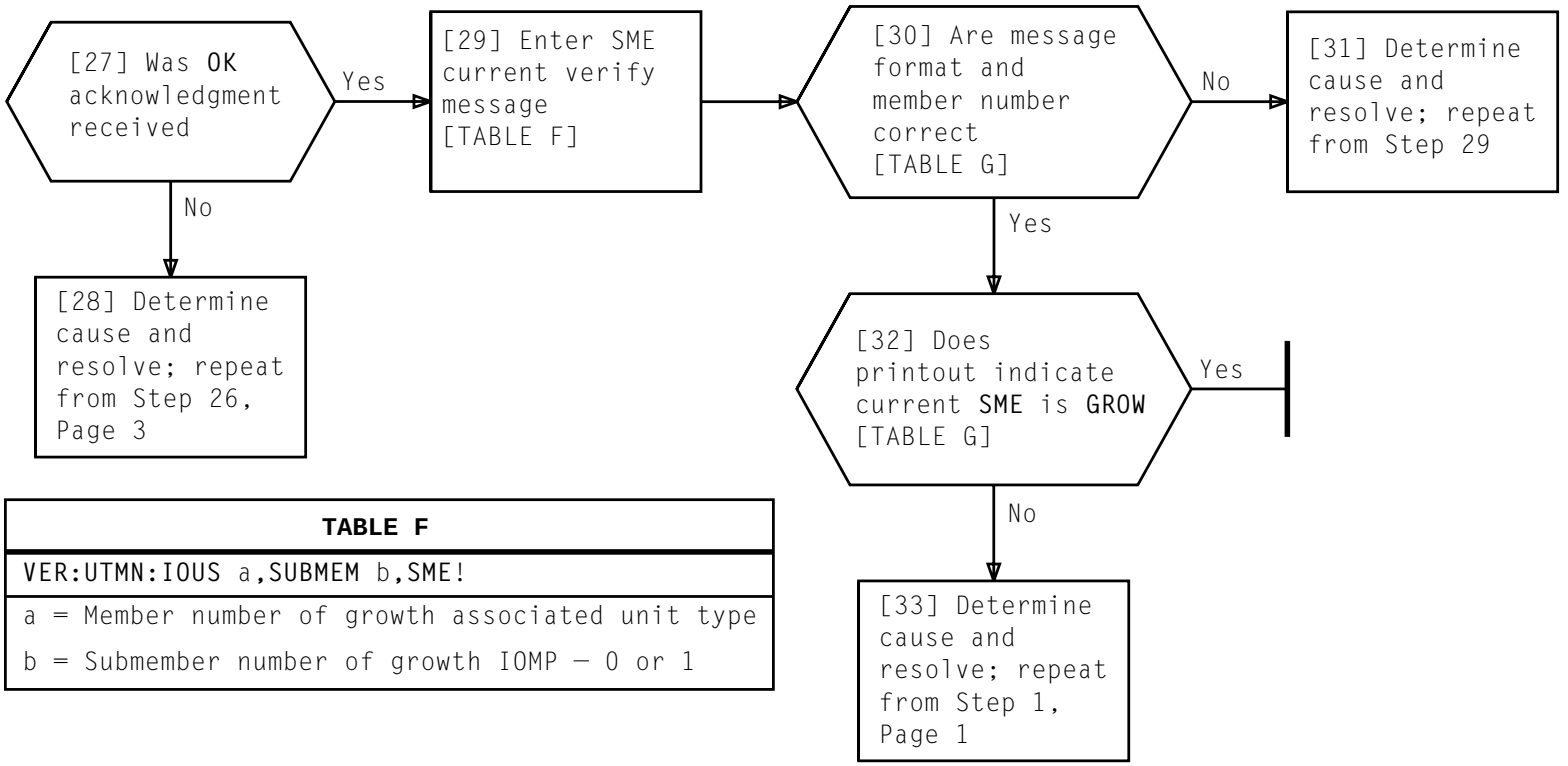


TABLE F
VER:UTMN:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

TABLE G
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA SME GROW
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

CHANGE AND VERIFY SUBMEMBER EQUIPAGE UNEQUIPPED TO GROW

SUMMARY

Enter change message to grow submember equipage (SME) from GROW to SGRO. Verify buffered SME, enter copy message, verify current SME, then enter update message. If after each verify, SME is not in right state, enter stop message and start from beginning

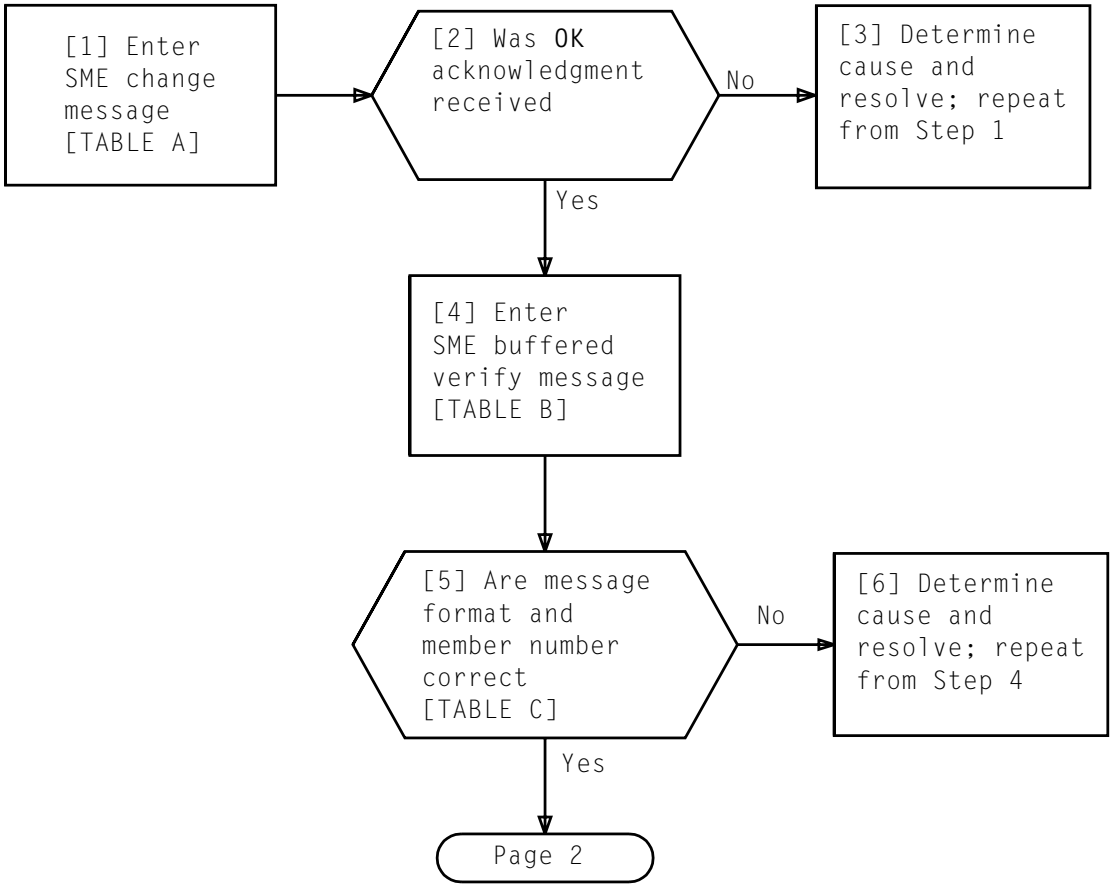


TABLE A
IN:XLBUF:IOUS a,SUBMEM b,SME (GROW,SGRO)!
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

TABLE B
VER:UTMN;BUF:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

TABLE C
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA SME SGRO
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

CHANGE AND VERIFY SUBMEMBER EQUIPAGE GROW TO SPECIAL GROWTH

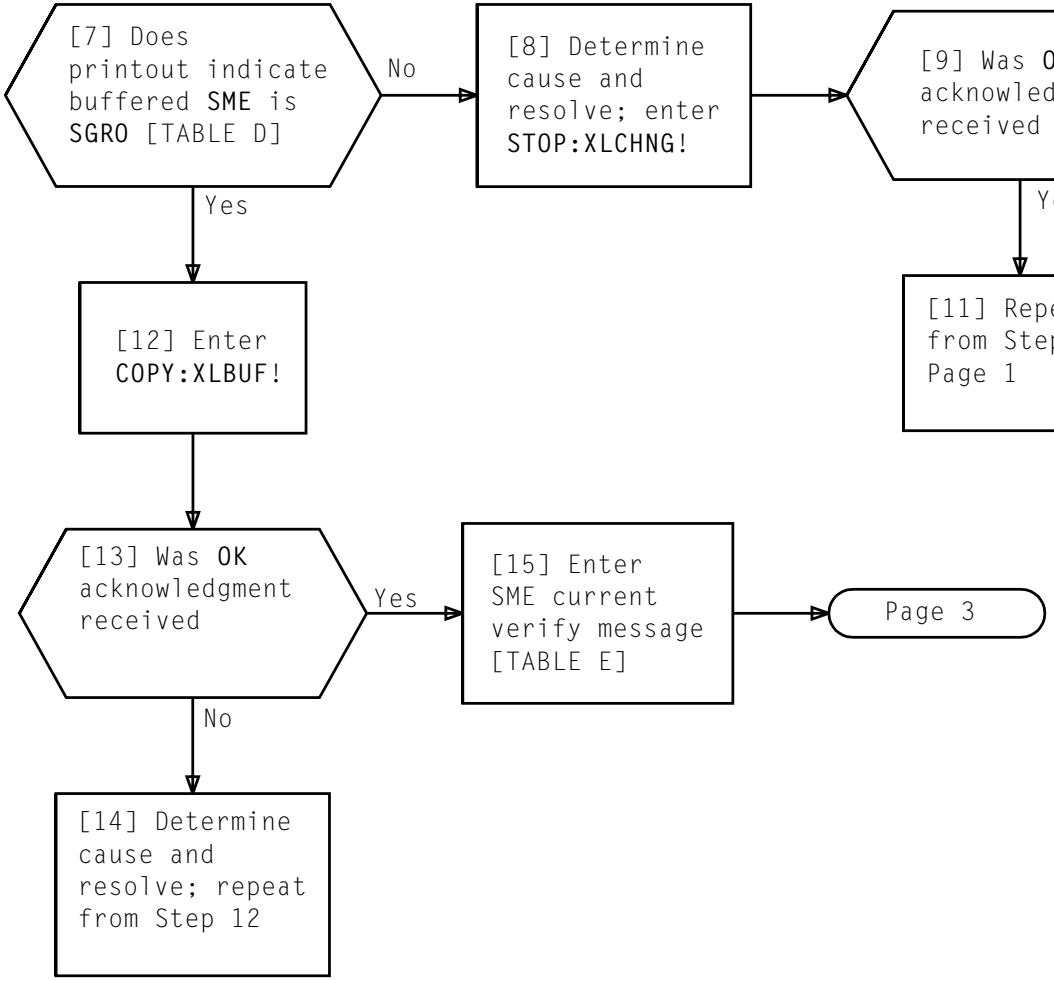


TABLE D
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA SME SGRO
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

TABLE E
VER:UTMN:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

CHANGE AND VERIFY SUBMEMBER EQUIPAGE GROW TO SPECIAL GROWTH

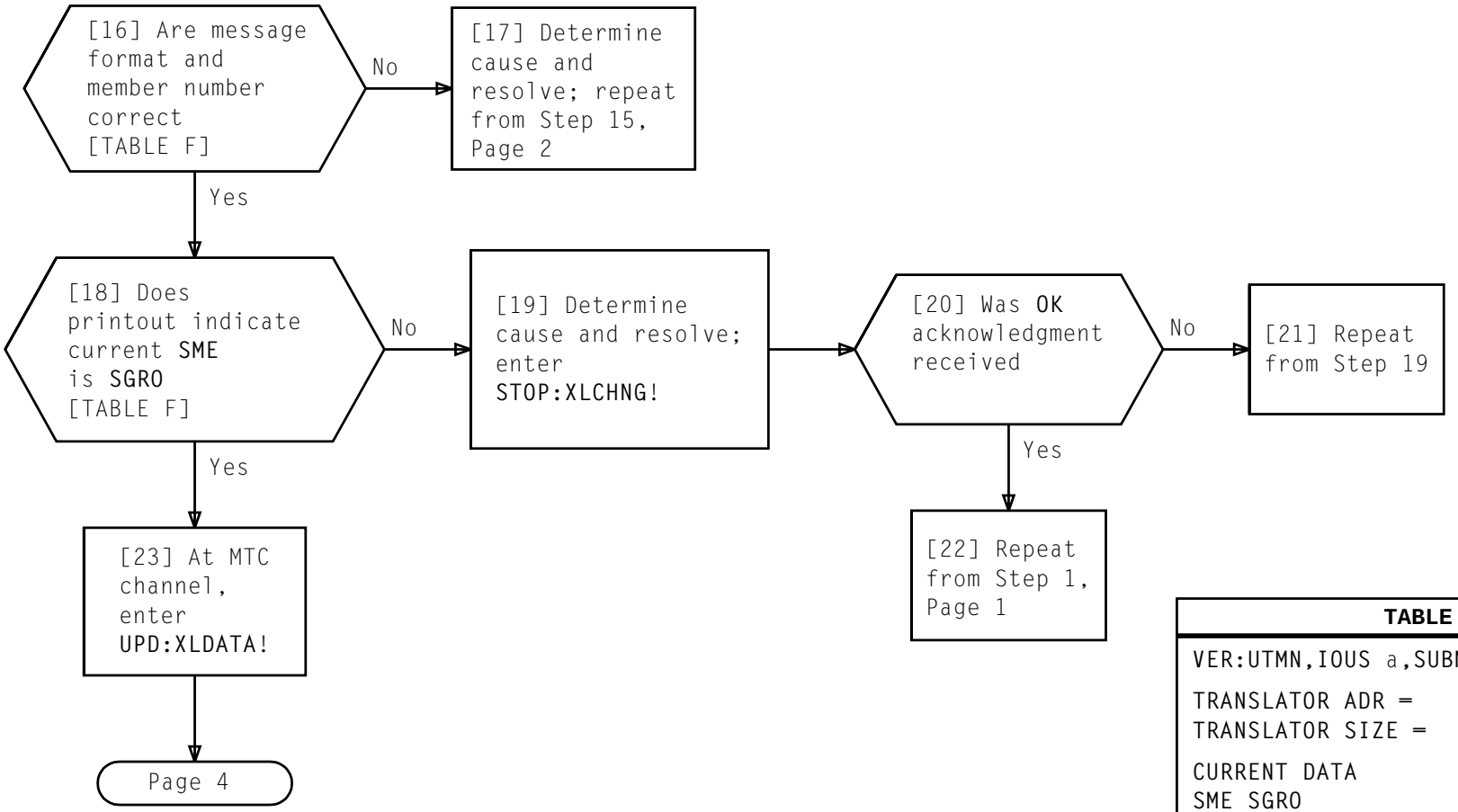


TABLE F
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA SME SGRO
a = Member number of associated growth unit type b = Submember number of growth IOMP — 0 or 1

CHANGE AND VERIFY SUBMEMBER EQUIPAGE GROW TO SPECIAL GROWTH

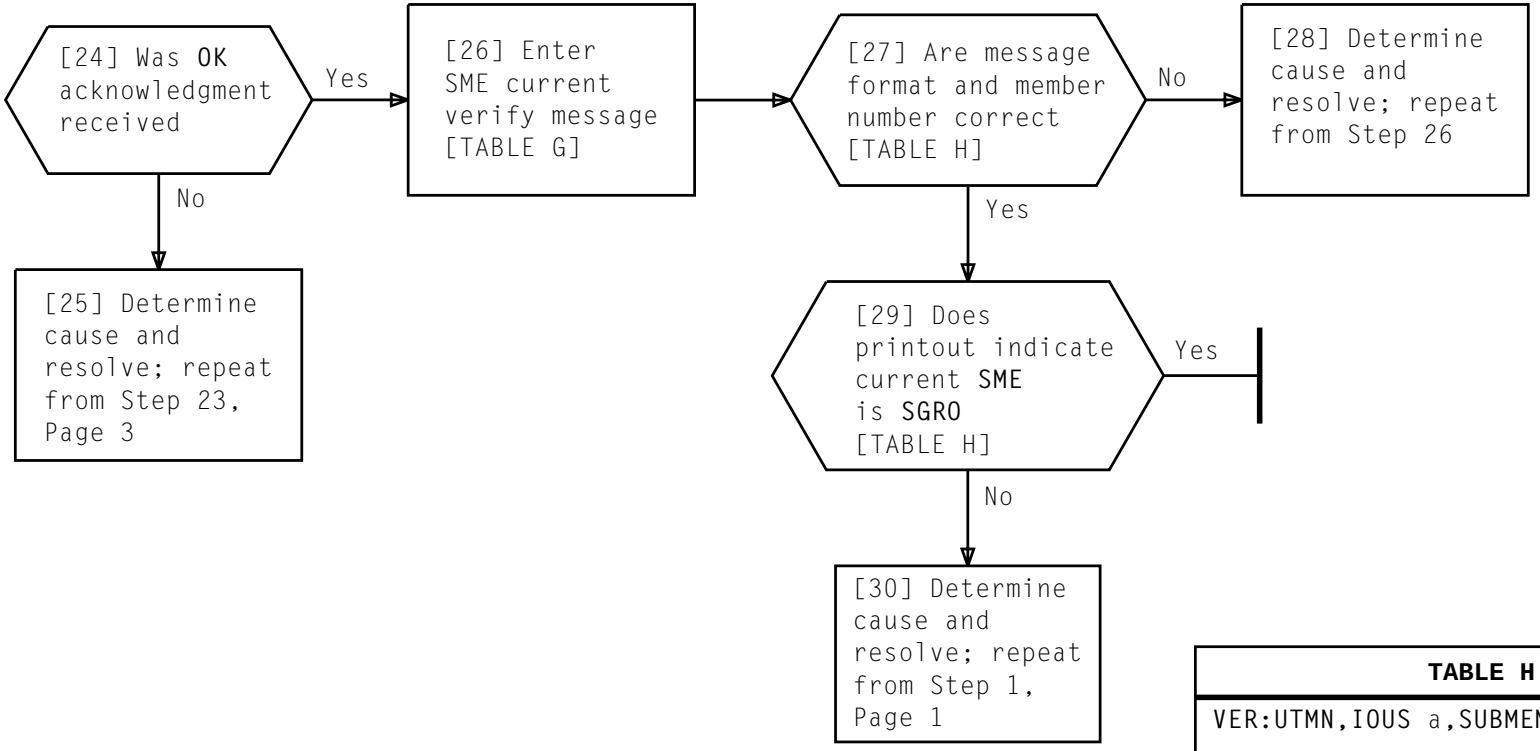


TABLE G
VER:UTMN:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

TABLE H
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME SGRO
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

CHANGE AND VERIFY SUBMEMBER EQUIPAGE GROW TO SPECIAL GROWTH

SUMMARY

Enter change message to grow submember equipage (SME) from SGRO to OPER. Verify buffered SME, enter copy message, verify current SME, then enter update message. If after each verify, the SME is not in the right state, enter stop message and start change from beginning

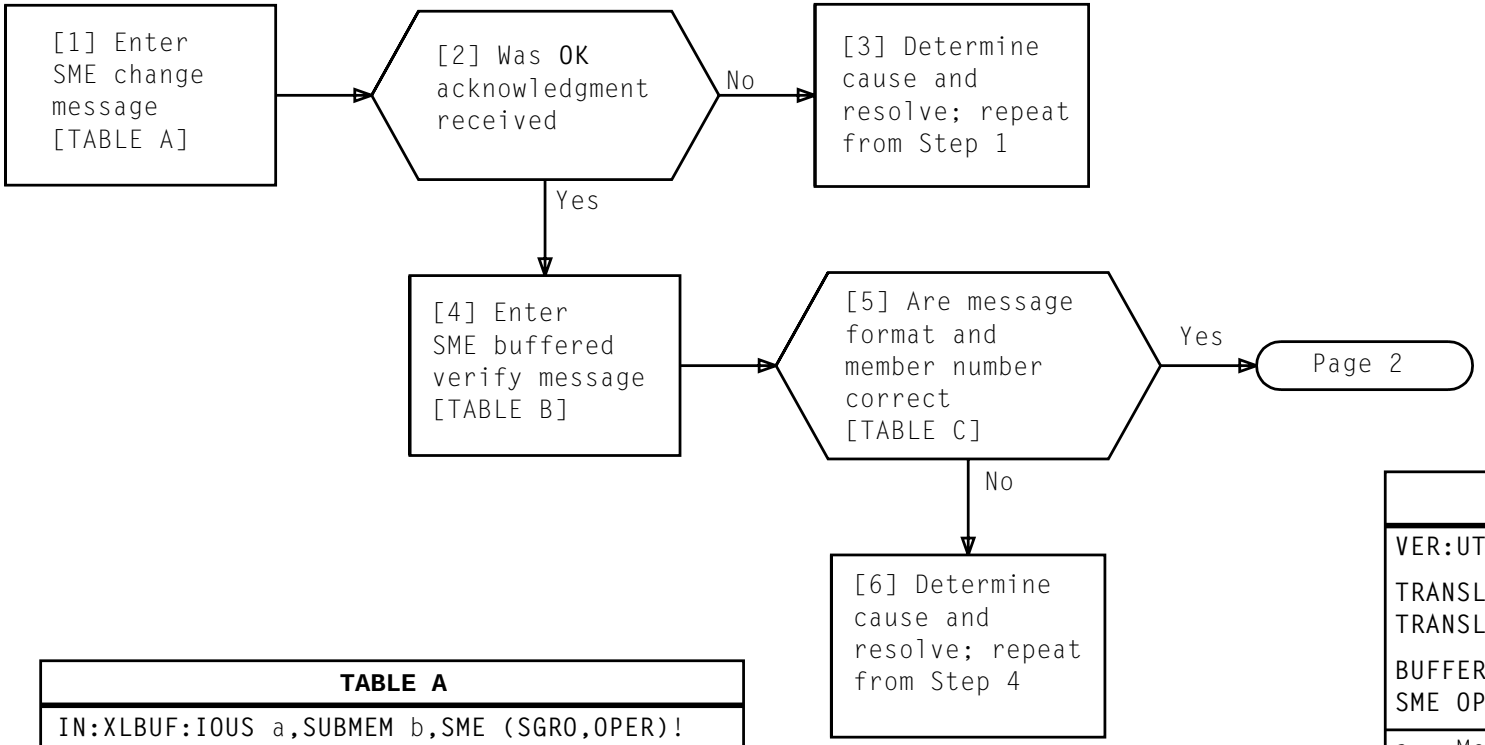


TABLE B
VER:UTMN;BUF:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

TABLE A
IN:XLBUF:IOUS a,SUBMEM b,SME (SGRO,OPER)!
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

TABLE C
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA SME OPER
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

CHANGE AND VERIFY SUBMEMBER EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

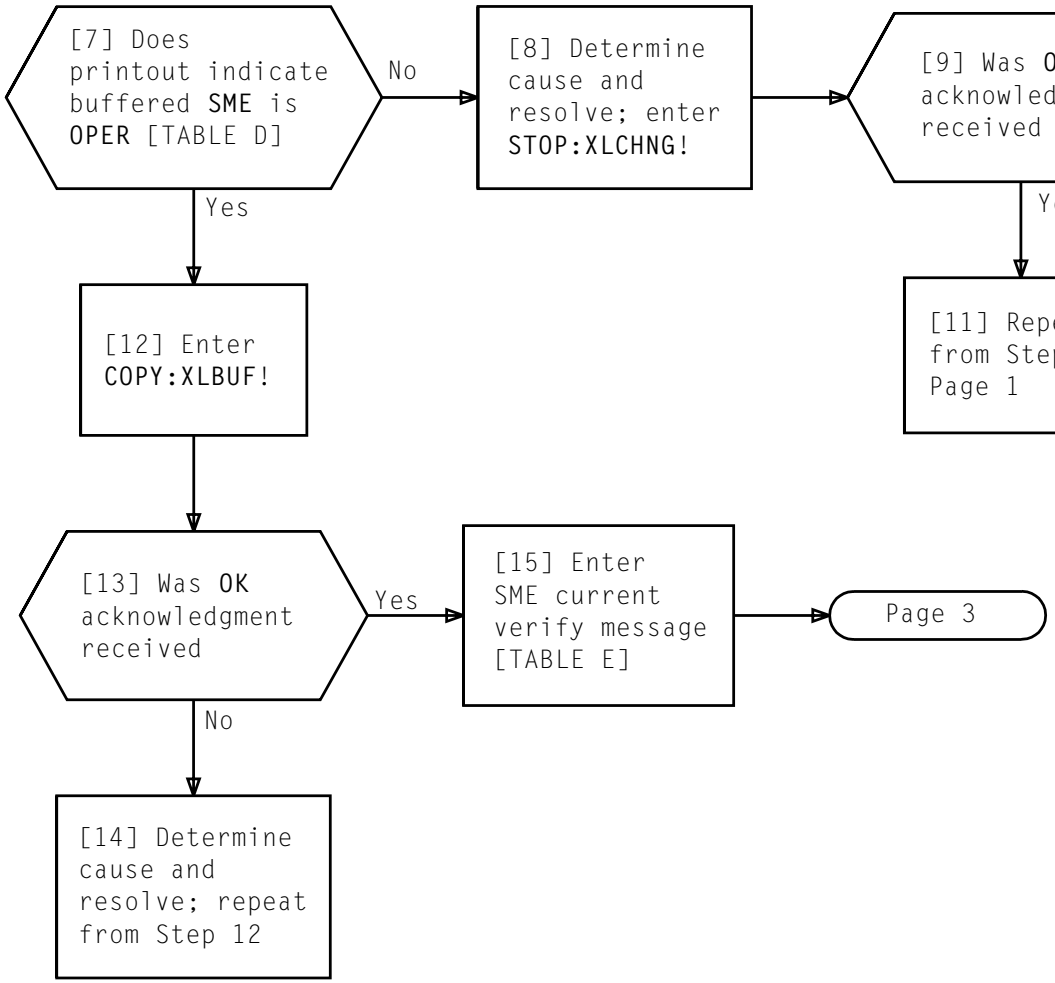


TABLE D
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA SME OPER
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

TABLE E
VER:UTMN:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

CHANGE AND VERIFY SUBMEMBER EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

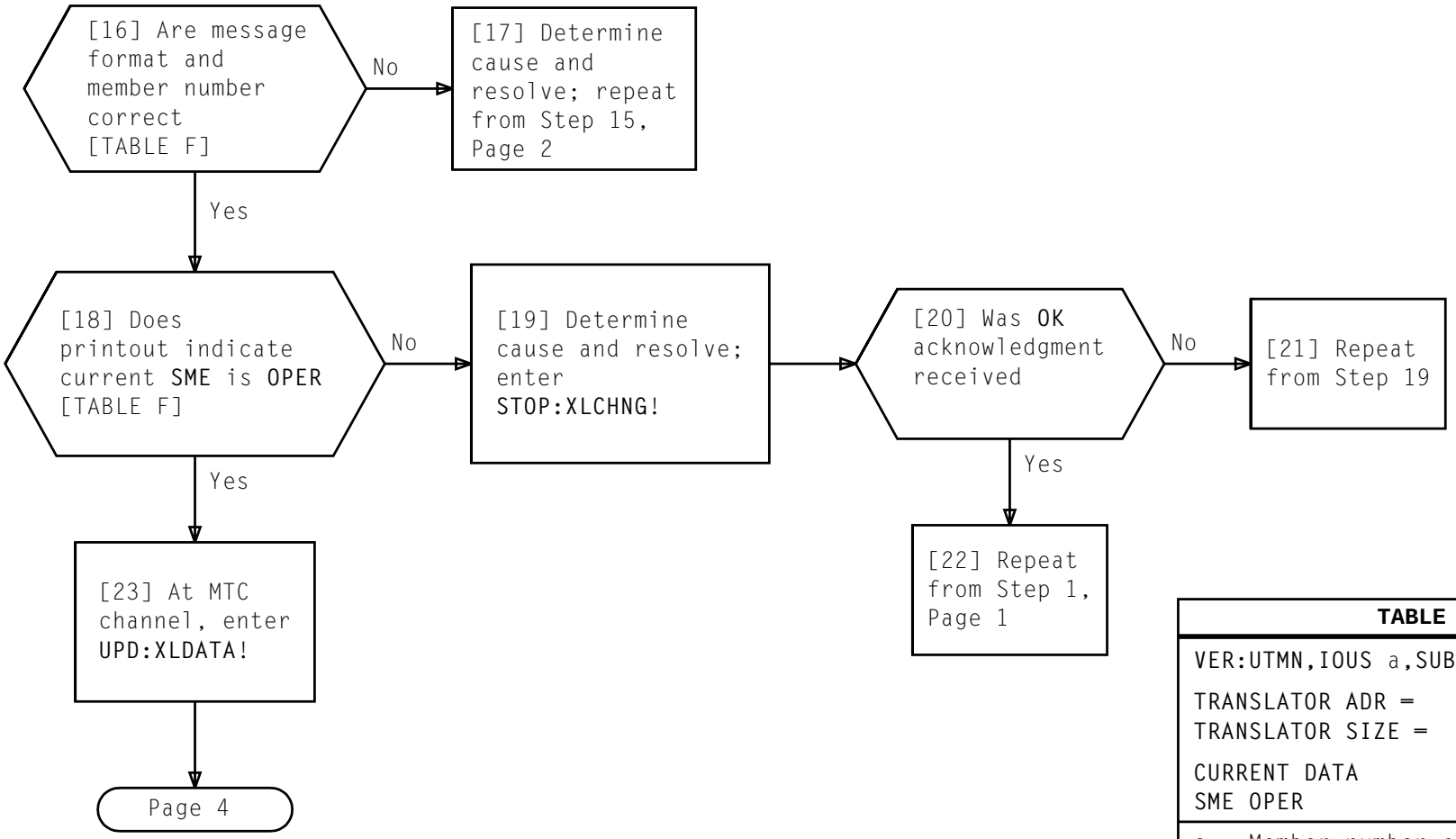


TABLE F
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA SME OPER
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

CHANGE AND VERIFY SUBMEMBER EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

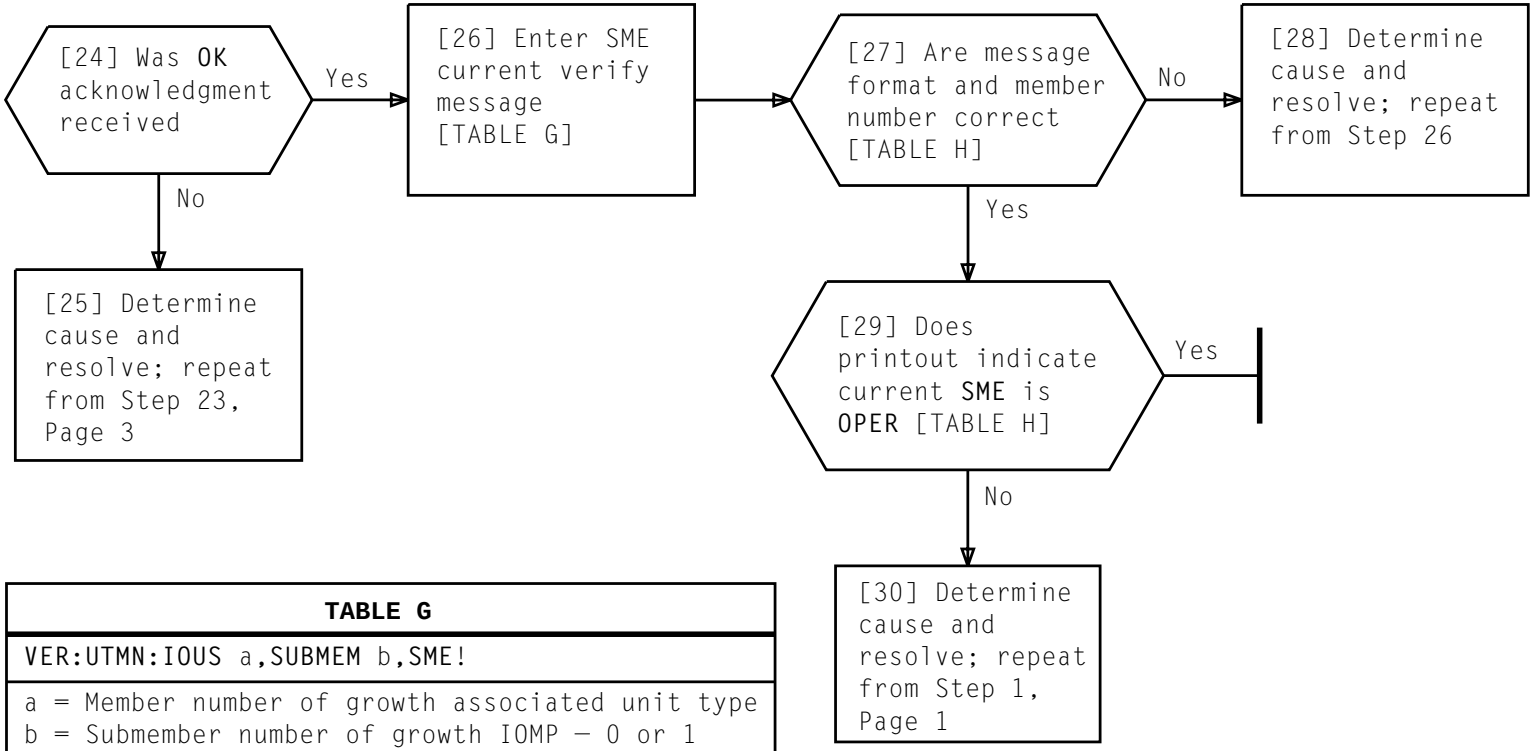


TABLE G
VER:UTMN:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

TABLE H
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA SME OPER
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

CHANGE AND VERIFY SUBMEMBER EQUIPAGE SPECIAL GROWTH TO OPERATIONAL

VERIFY SUBMEMBER EQUIPAGE UNEQ

SUMMARY

Using verify input message, verify that submember equipage (SME) for growth unit type is UNEQ. If equipage is in error, change SME to UNEQ

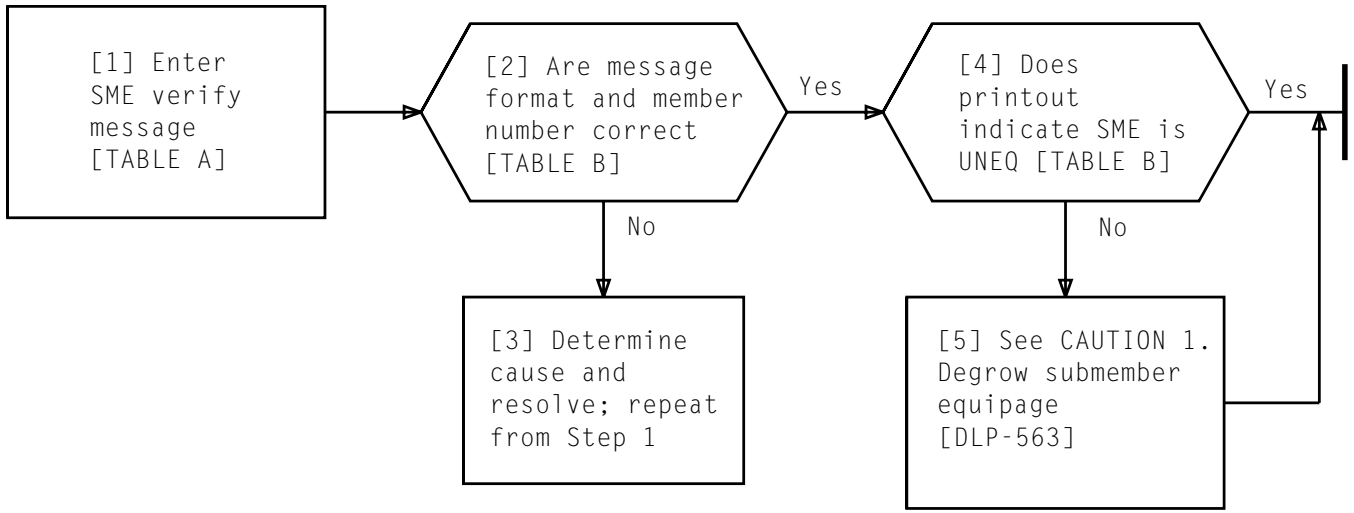


TABLE A

VER:UTMN:IOUS a,SUBMEM b,SME!

a = Member number of growth associated unit type

b = Submember number of growth unit

TABLE B

VER:UTMN,IOUS a,SUBMEM b COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

CURRENT DATA
SME UNEQ

a = Member number of growth associated unit type

b = Submember number of growth unit

CAUTION 1
Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data changes

SUMMARY

Enter change message to degrow SME from OPER to SGRO and/or from SGRO to GROW and/or from GROW to UNEQ. Verify buffered SME, enter copy message, and verify current SME for each change in state. If after each verify, SME is not in right state, enter stop message and start change from beginning. After all required changes in equipage are in copy state, enter update message and verify current SME

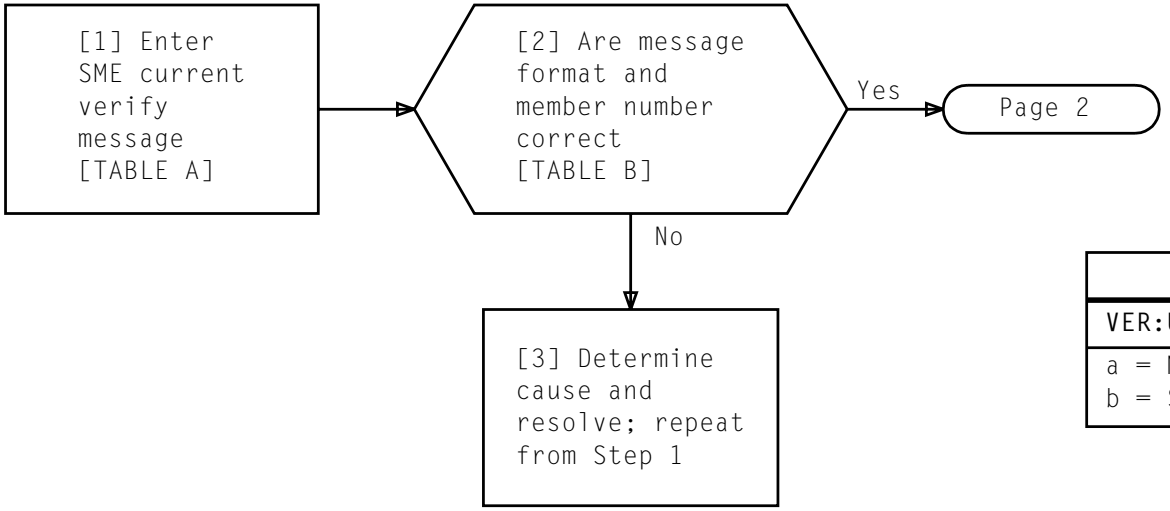


TABLE A
VER:UTMN:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

TABLE B
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA SME c
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1 c = Submember equipage

DEGROW SUBMEMBER EQUIPAGE

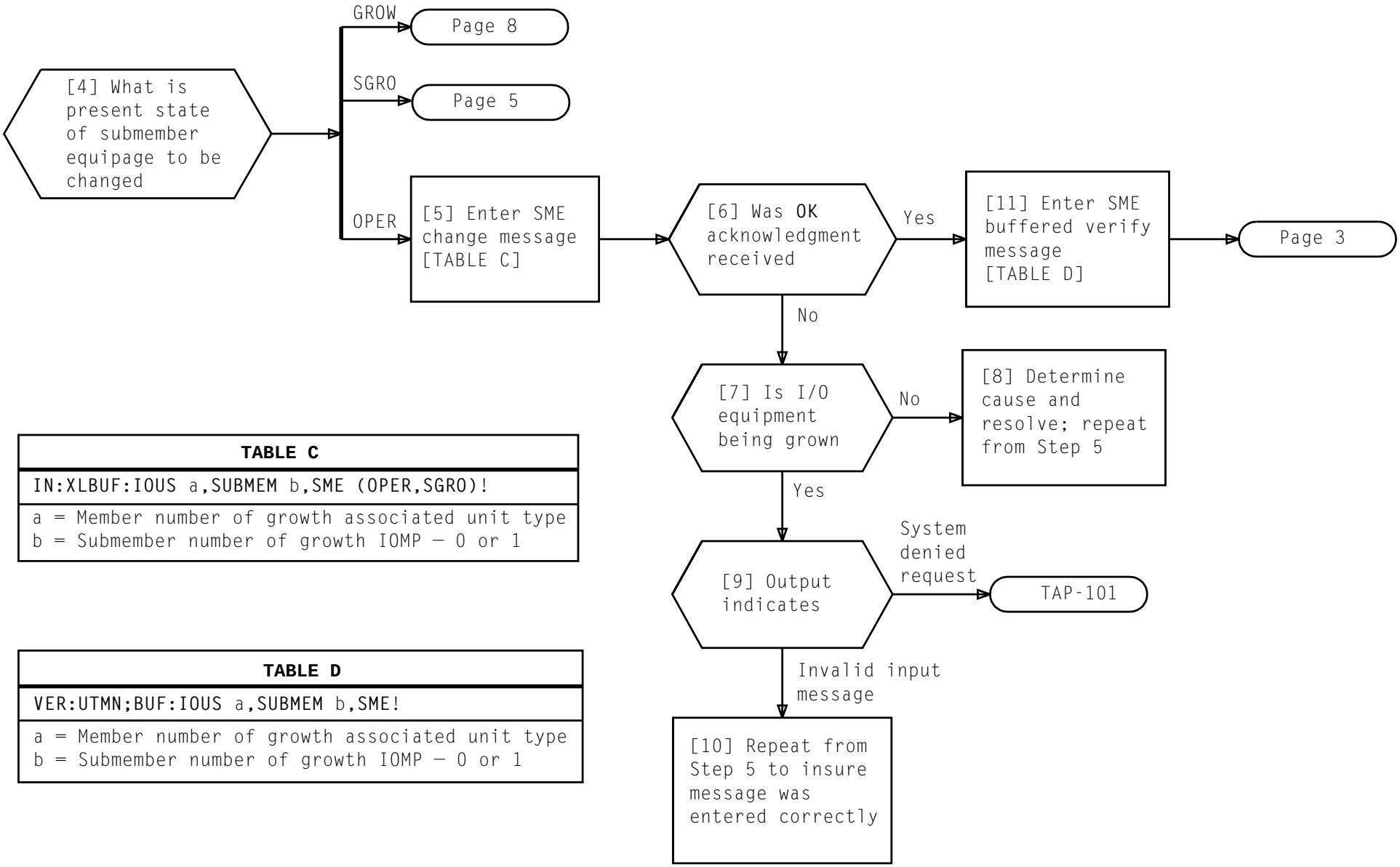


TABLE C
IN:XLBUF:IOUS a,SUBMEM b,SME (OPER,SGRO)!
a = Member number of growth associated unit type b = Submember number of growth IOMP – 0 or 1

TABLE D
VER:UTMN;BUF:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type b = Submember number of growth IOMP – 0 or 1

DEGROW SUBMEMBER EQUIPAGE

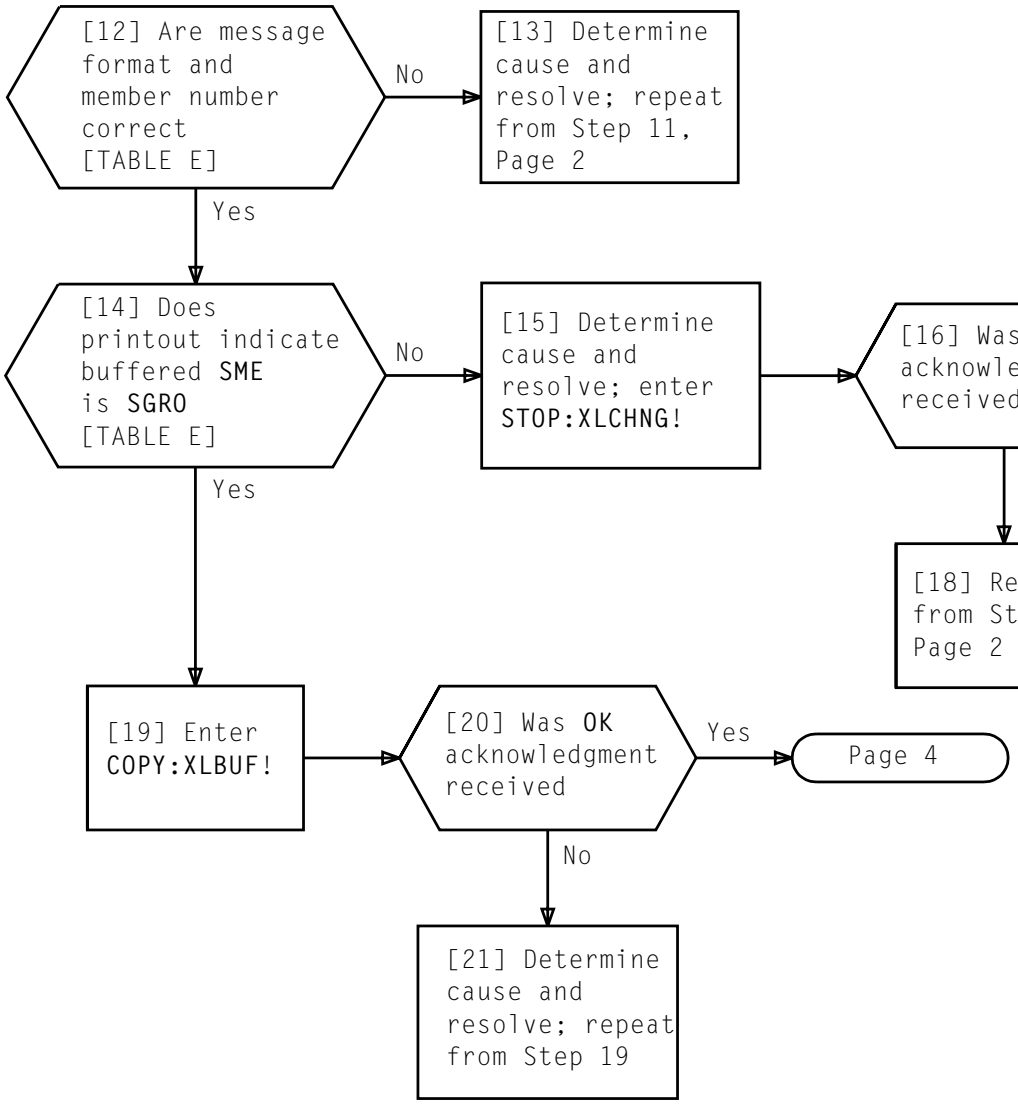


TABLE E

VER:UTMN,IOUS a,SUBMEM b COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

BUFFERED DATA
SME SGRO

a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

DEGROW SUBMEMBER EQUIPAGE

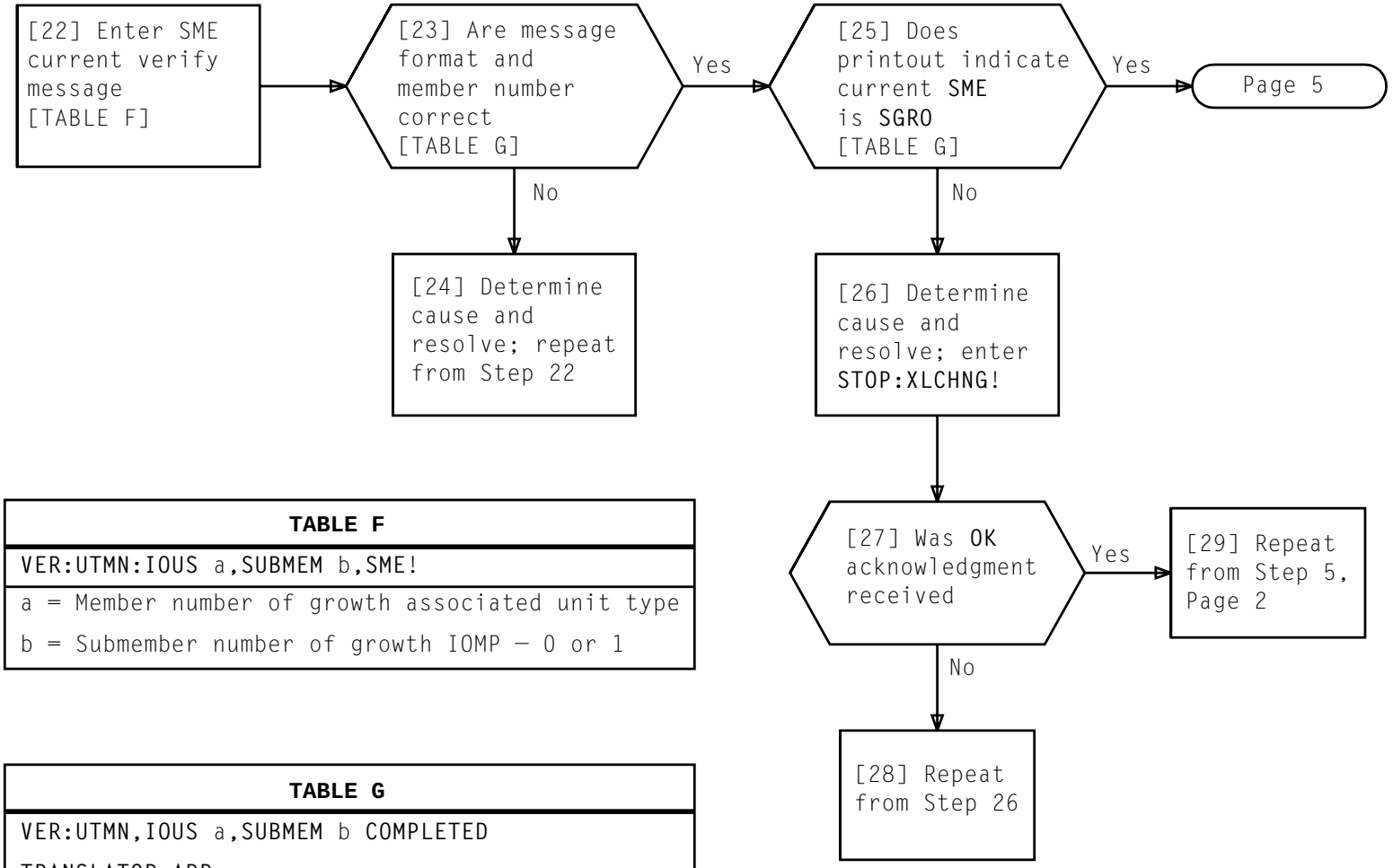


TABLE F
VER:UTMN:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

TABLE G
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA SME SGRO
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

DEGROW SUBMEMBER EQUIPAGE

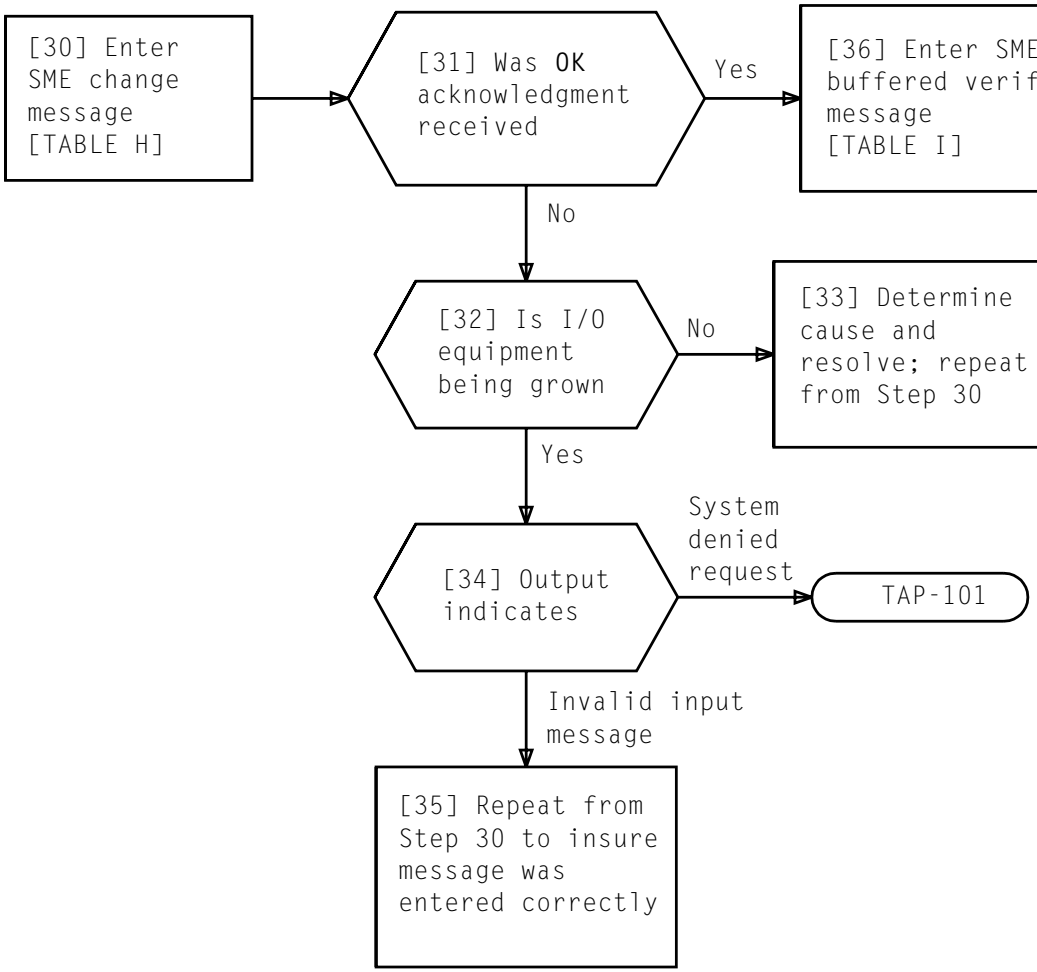


TABLE H
IN:XLBUF:IOUS a,SUBMEM b,SME (SGRO,GROW)!
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

TABLE I
VER:UTMN;BUF:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

DEGROW SUBMEMBER EQUIPAGE

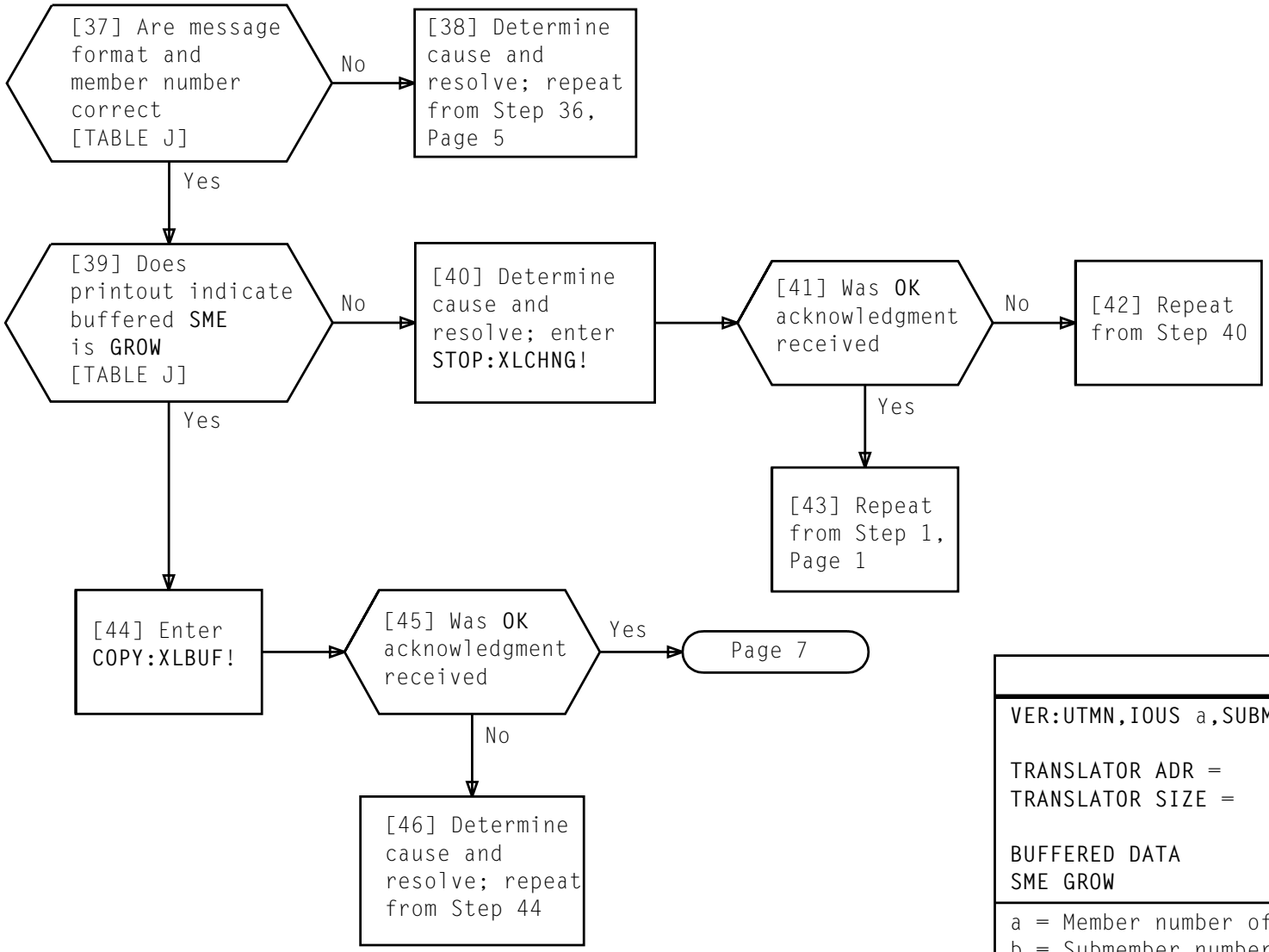


TABLE J
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA SME GROW
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

DEGROW SUBMEMBER EQUIPAGE

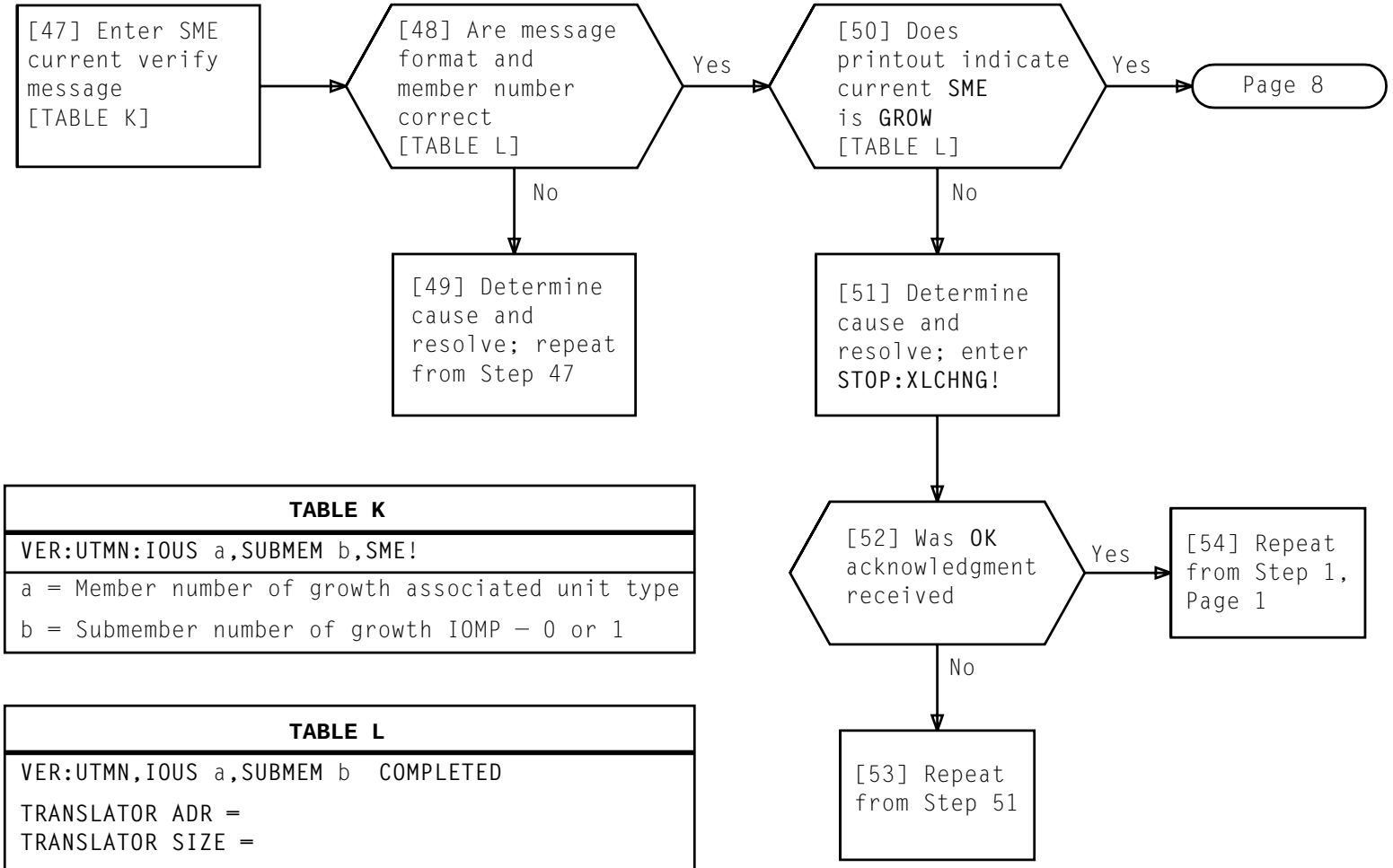


TABLE K
VER:UTMN:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

TABLE L
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA SME GROW
a = Member number of growth associated unit type
b = Submember number of growth IOMP — 0 or 1

DEGROW SUBMEMBER EQUIPAGE

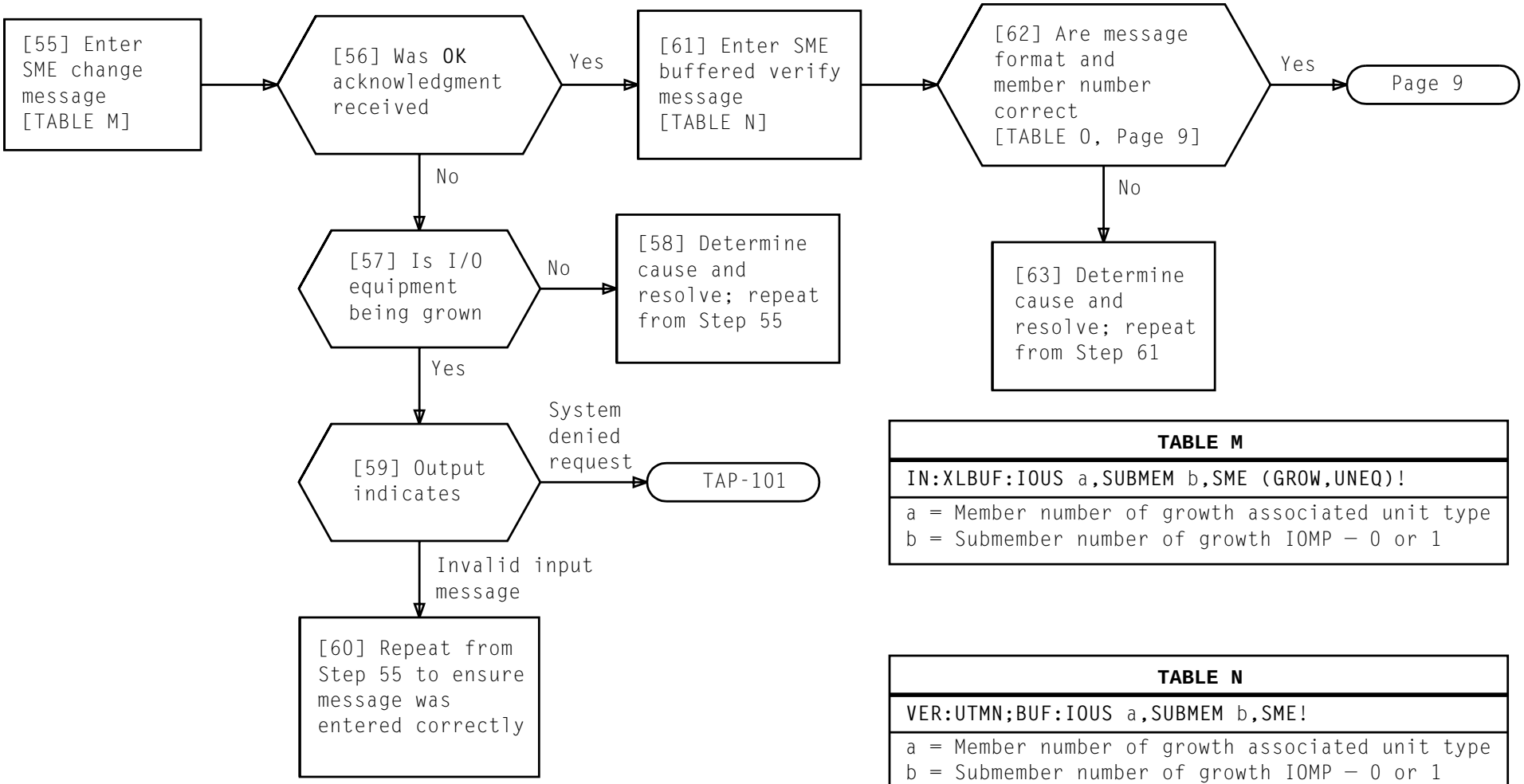


TABLE M
IN:XLBUF:IOUS a,SUBMEM b,SME (GROW,UNEQ)!
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

TABLE N
VER:UTMN;BUF:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

DEGROW SUBMEMBER EQUIPAGE

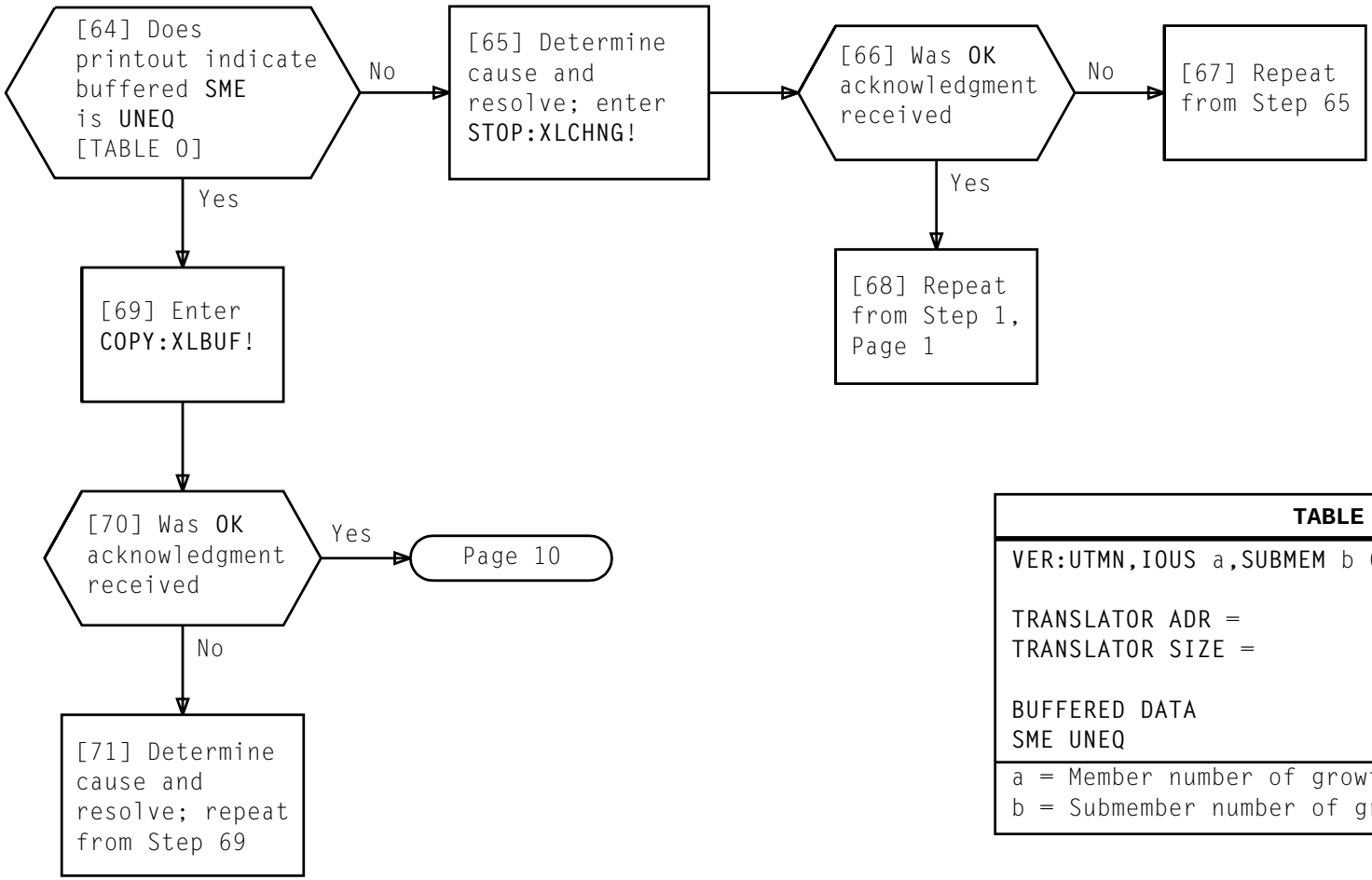


TABLE O
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA SME UNEQ
a = Member number of growth associated unit type b = Submember number of growth IOMP — 0 or 1

DEGROW SUBMEMBER EQUIPAGE

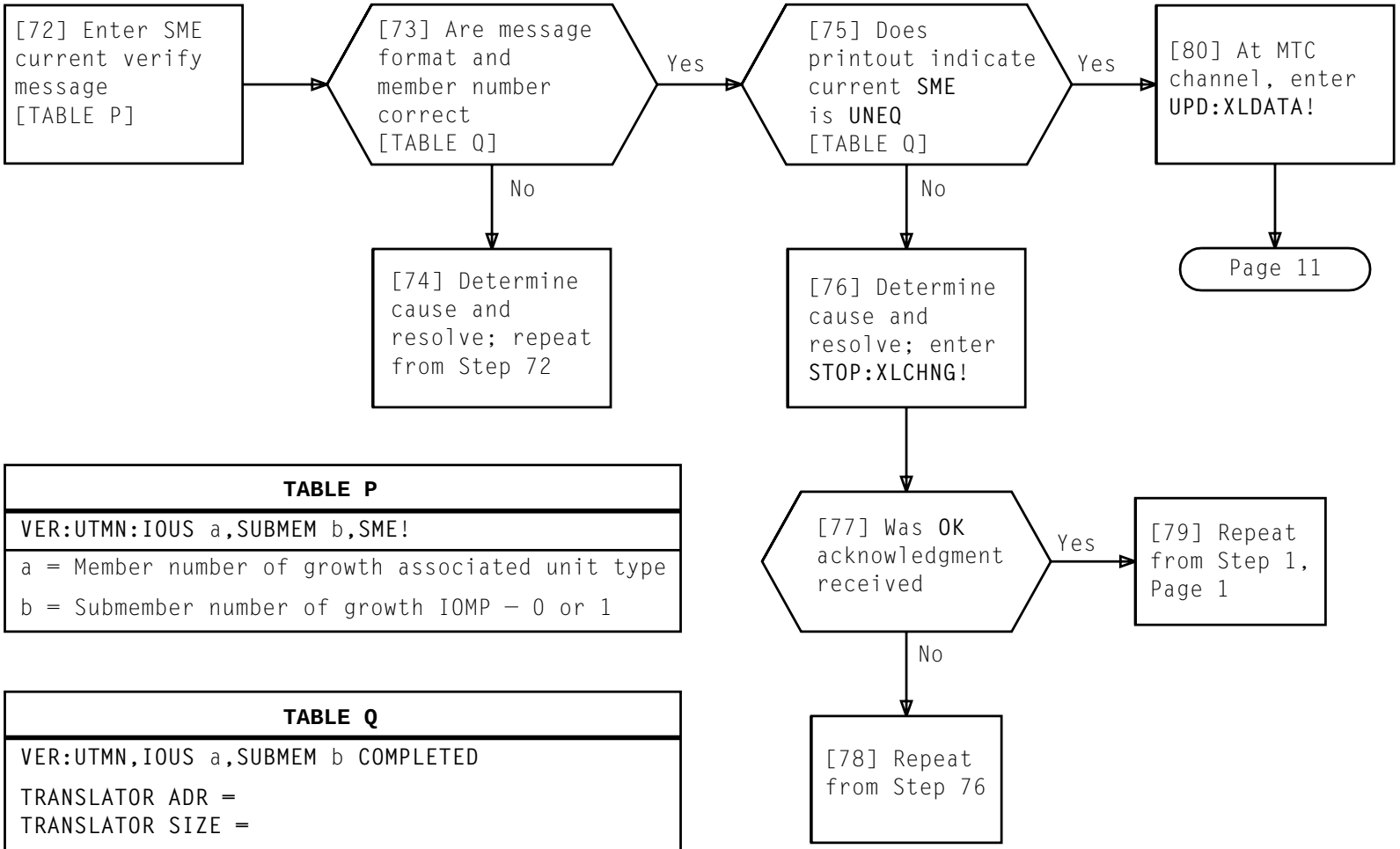


TABLE P
VER:UTMN:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type
b = Submember number of growth IOMP – 0 or 1

TABLE Q
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA SME UNEQ
a = Member number of growth associated unit type
b = Submember number of growth IOMP – 0 or 1

DEGROW SUBMEMBER EQUIPAGE

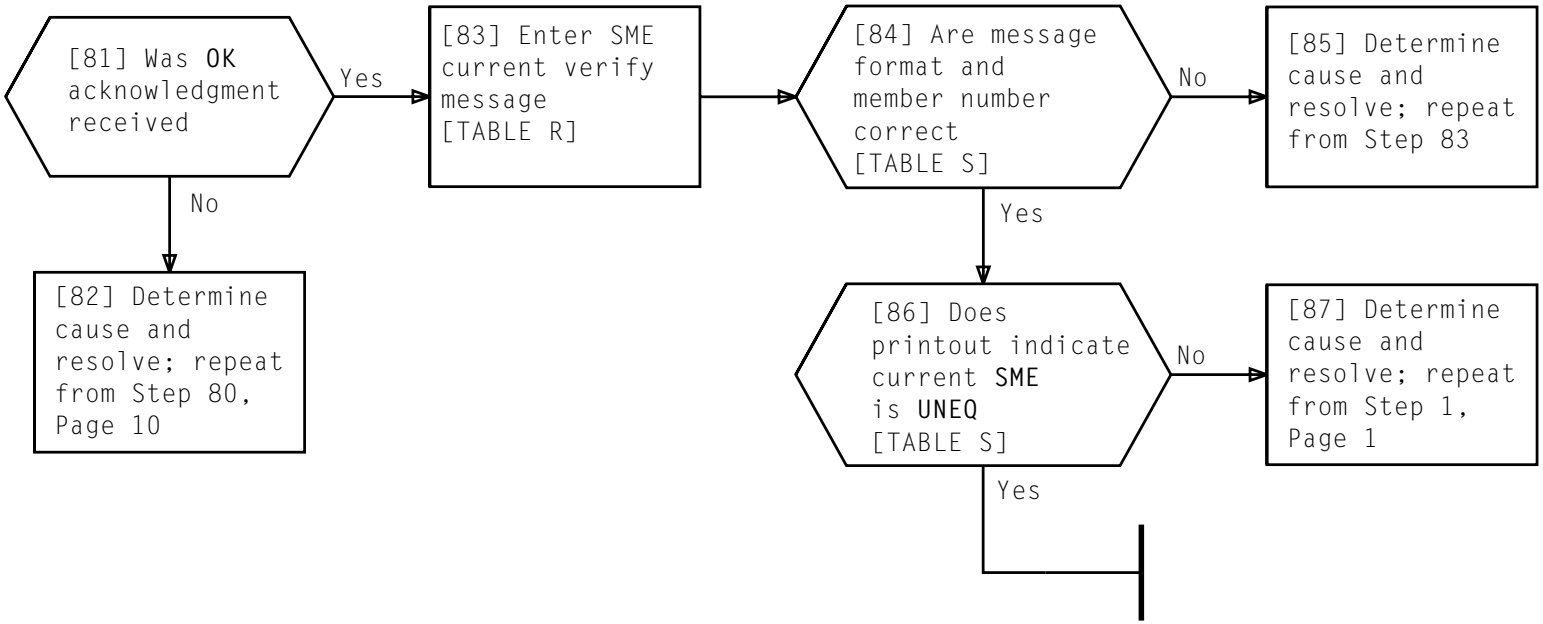
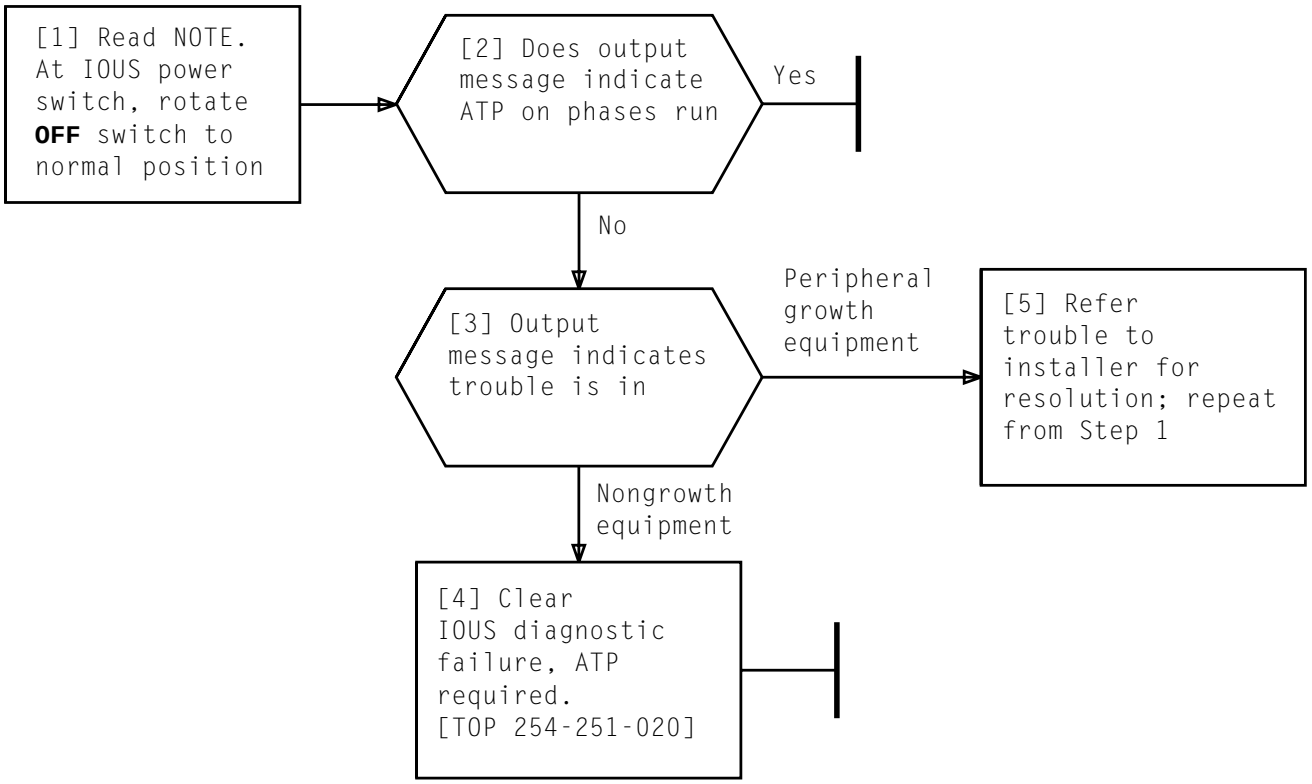


TABLE R
VER:UTMN:IOUS a,SUBMEM b,SME!
a = Member number of growth associated unit type
b = Submember number of growth IOMP – 0 or 1

TABLE S
VER:UTMN,IOUS a,SUBMEM b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA SME UNEQ
a = Member number of growth associated unit type
b = Submember number of growth IOMP – 0 or 1

DEGROW SUBMEMBER EQUIPAGE



RESTORE IOUS POWER SWITCH TO NORMAL

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

[1] See FIG. 1, 2, and TABLE A, Page 2.
Remove J87389F-1 DC-to-DC converter from equipment location related to IOUC

AND

[2] See FIG. 1, 2, and TABLE B, Page 2.
Remove circuit packs from associated IOUC positions

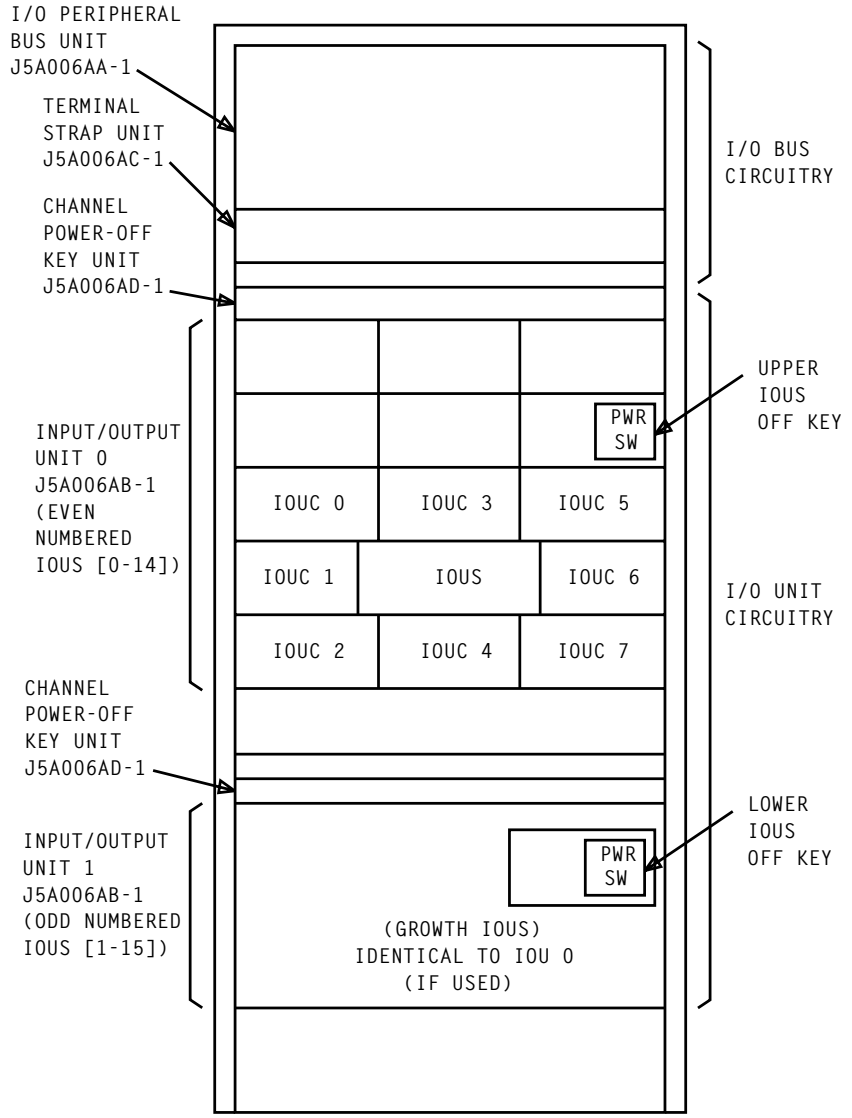


FIG. 1 — Input/Output Frame Front View (Equipment Side)

REMOVE DC-TO-DC CONVERTER AND CIRCUIT PACKS FOR REMOVED IOUC

TABLE A								
IOUC	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
CONVERTER TYPE	J87389F-1 +3 VOLT DC-DC CONVERTER							
UNIT EQUIPMENT LOCATION	18-5	18-9	18-13	18-20	18-24	18-28	18-35	18-39

TABLE B								
IOUC	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
UNIT LEVEL	**10**	**06**	**02**	**10**	**02**	**10**	**06**	**02**
Circuit Packs	**POS**	**POS**	**POS**	**POS**	**POS**	**POS**	**POS**	**POS**
FC125	1&2	1&2	1&2	25&26	25&26	43&44	43&44	43&44
FA455	8	5	8	23	23	37	40	37
FA452	9	6	9	22	22	36	39	36
FA453	10	7	10	21	21	35	38	35
FA454	11	8	11	20	20	34	37	34
FA450	12&14	9&11	12&14	17&19	17&19	31&33	34&36	31&33
FA451	13	10	13	18	18	32	35	32
FC22						38		38

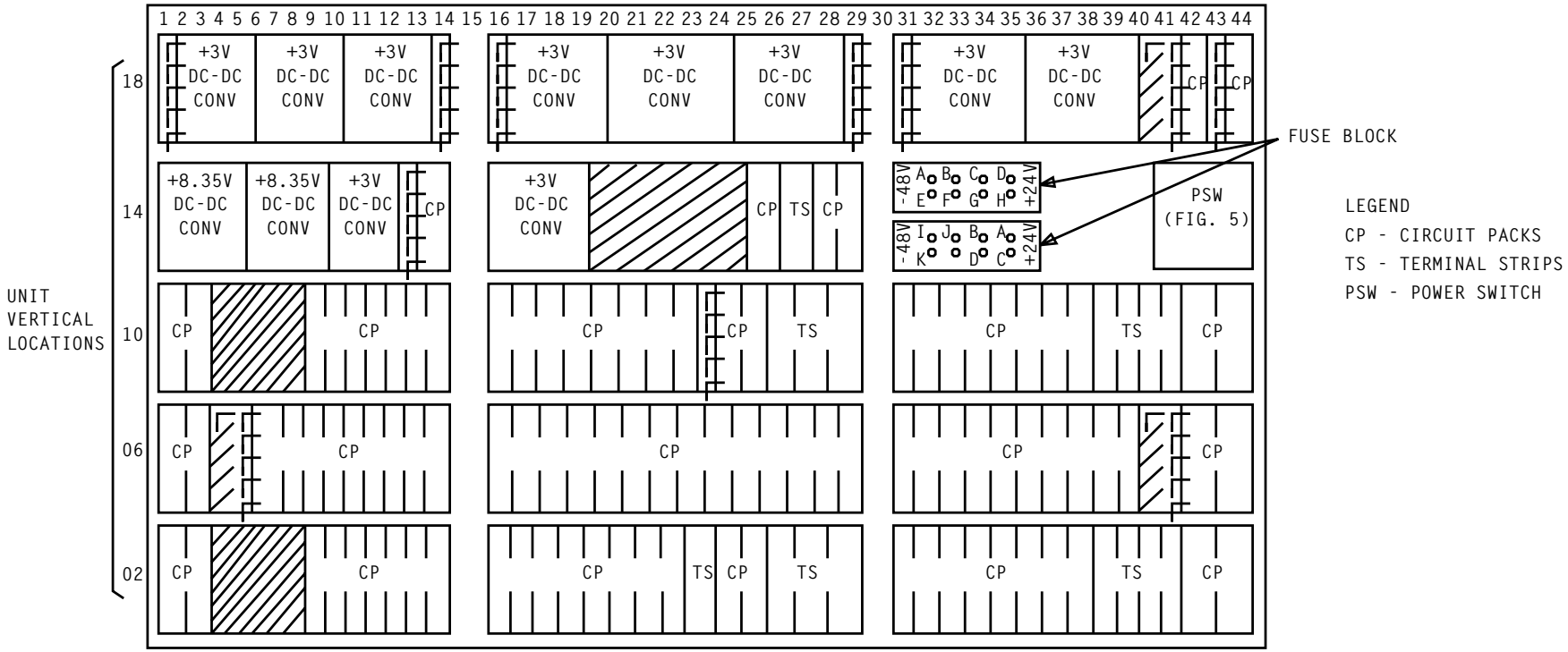


FIG. 2 — Input/Output Unit J5A006AB-1 — Front View

REMOVE DC-TO-DC CONVERTER AND CIRCUIT PACKS FOR REMOVED IOUC

[1] See FIG. 1. Remove circuit pack for removed IOUC

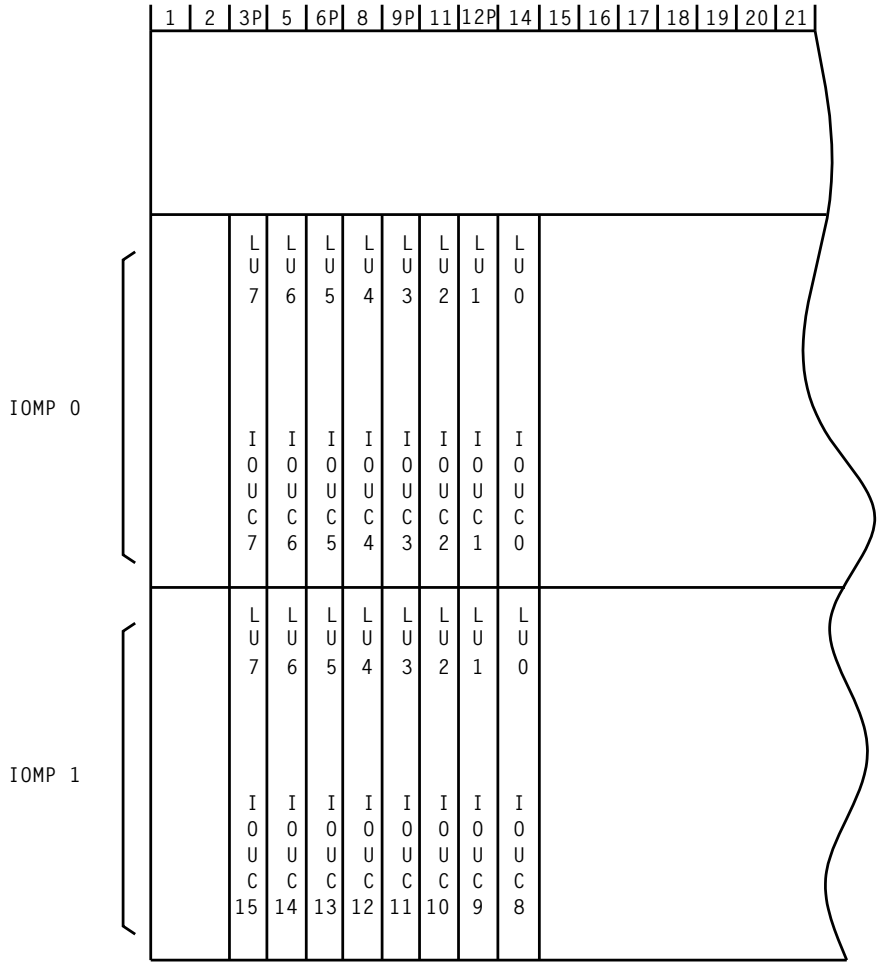


FIG. 1

REMOVE CIRCUIT PACKS FOR REMOVED IOUC (SD-5A049 OR 5A052)

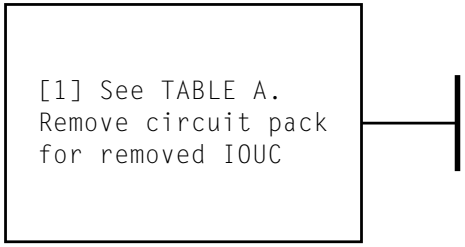
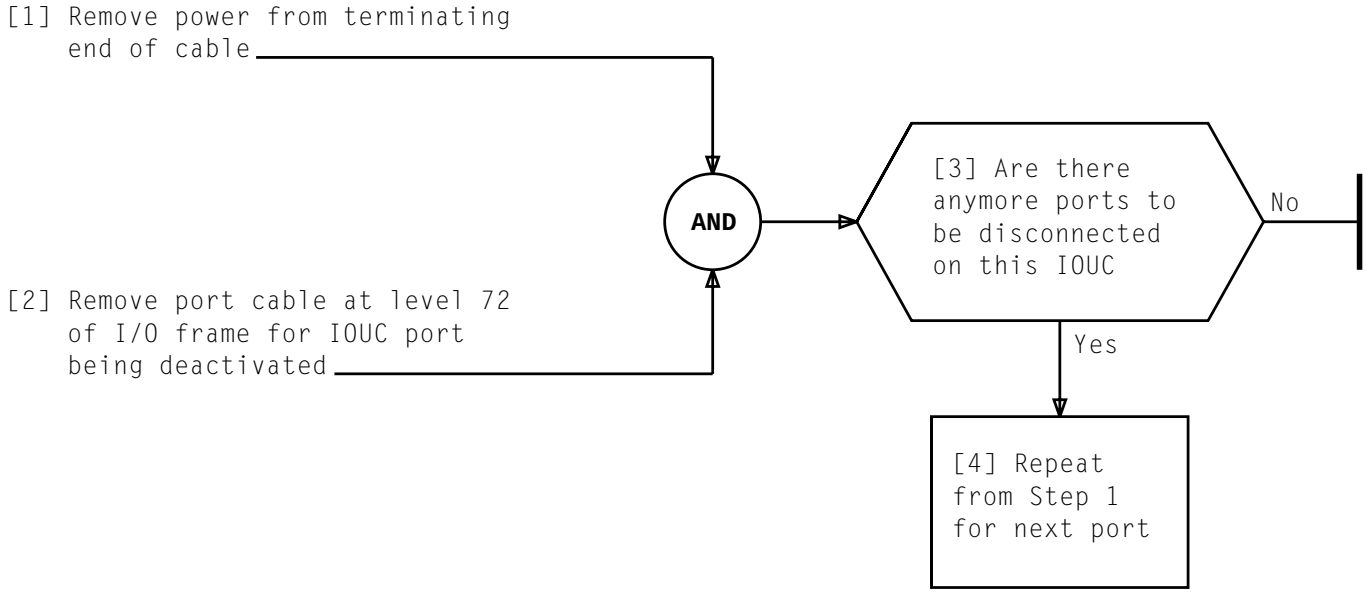


TABLE A

CHANNEL	LOCATION
PC-20A	50-108
PC-21A	50-100
PC-22A	50-092
PC-23A	50-084
PC-30A	50-048
PC-31A	50-040
PC-32A	50-032
PC-33A	50-024
PC-20B	20-108
PC-21B	20-100
PC-22B	20-092
PC-23B	20-084
PC-30B	20-048
PC-31B	20-040
PC-32B	20-032
PC-33B	20-024

REMOVE CIRCUIT PACK FOR REMOVED IOUC (SD-4C049)



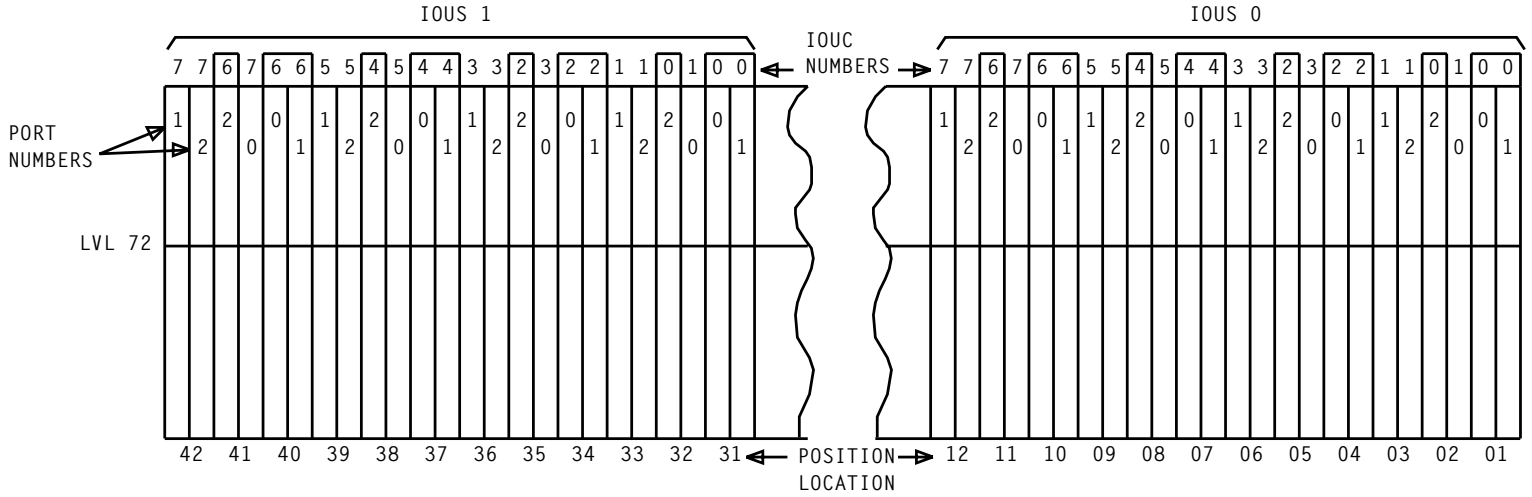


FIG. 1

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REMOVE PORT CABLES AT I/O FRMAE (J5A006A)

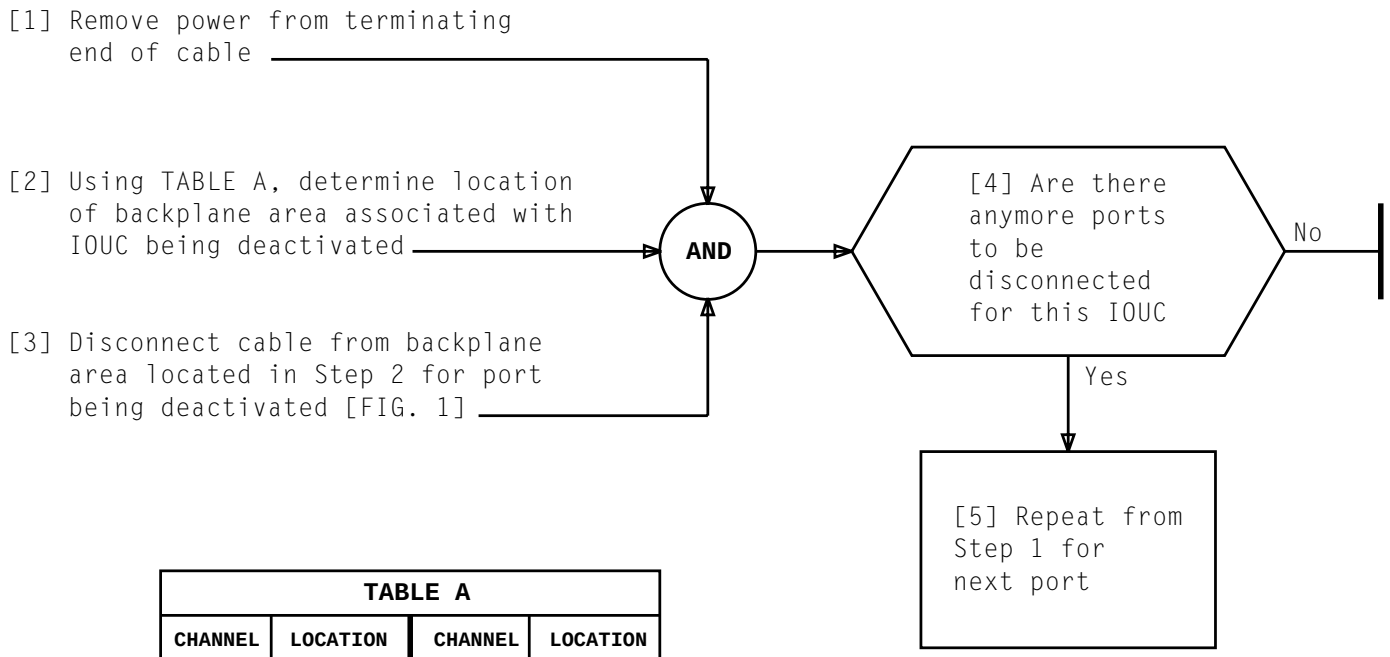

TABLE A

CHANNEL	LOCATION	CHANNEL	LOCATION
A00	062-14	B00	038-14
A01	062-12P	B01	038-12P
A02	062-11	B02	038-11
A03	062-09P	B03	038-09P
A04	062-08	B04	038-08
A05	062-06P	B05	038-06P
A06	062-05	B06	038-05
A07	062-03P	B07	038-03P
A10	054-14	B10	030-14
A11	054-12P	B11	030-12P
A12	054-11	B12	030-11
A13	054-09P	B13	030-09P
A14	054-08	B14	030-08
A15	054-06P	B15	030-06P
A16	054-05	B16	030-05
A17	054-03P	B17	030-03P

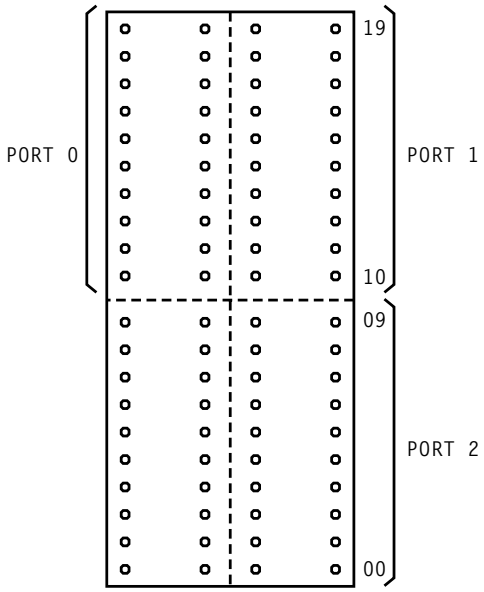

FIG. 1

REMOVE PORT CABLES AT I/O FRAME (J5A006C)

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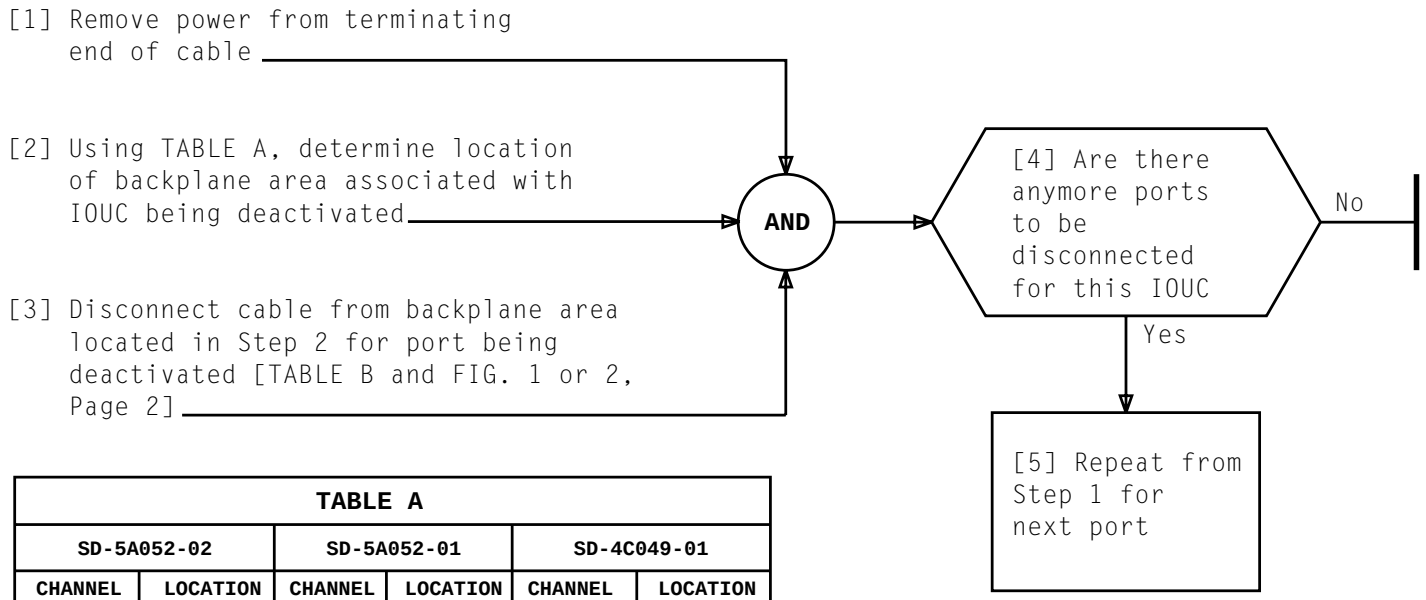


TABLE A

SD-5A052-02		SD-5A052-01		SD-4C049-01	
CHANNEL	LOCATION	CHANNEL	LOCATION	CHANNEL	LOCATION
A00	62-14	A10	54-14	PC-20A	50-108
A01	62-12P	A11	54-12P	PC-21A	50-100
A02	62-11	A12	54-11	PC-22A	50-092
A03	62-09P	A13	54-09P	PC-23A	50-084
A04	62-08	A14	54-08	PC-30A	50-048
A05	62-06P	A15	54-06P	PC-31A	50-040
A06	62-05	A16	54-05	PC-32A	50-032
A07	62-03P	A17	54-03P	PC-33A	20-024
B00	32-14	B10	24-14	PC-20B	20-108
B01	32-12P	B11	24-12P	PC-21B	20-100
B02	32-11	B12	24-11	PC-22B	20-092
B03	32-09P	B13	24-09P	PC-23B	20-084
B04	32-08	B14	24-08	PC-30B	20-048
B05	32-06P	B15	24-06P	PC-31B	20-040
B06	32-05	B16	24-05	PC-32B	22-032
B07	32-03P	B17	24-03P	PC-33B	20-024

TABLE B

PORT	FG19	FG26	FG27	TN75
0	310	310	310	145
1	110		110	
2	100			

REMOVE PORT CABLES AT I/O FRAME (J5A006D)

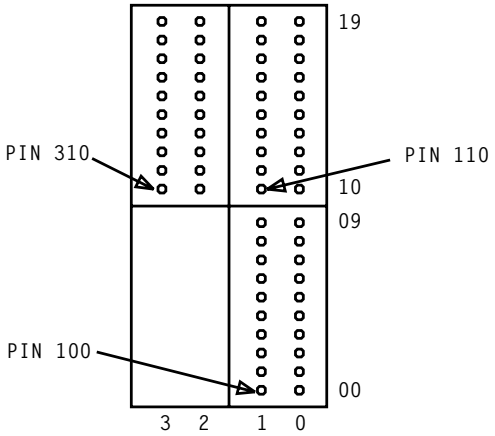


FIG. 1

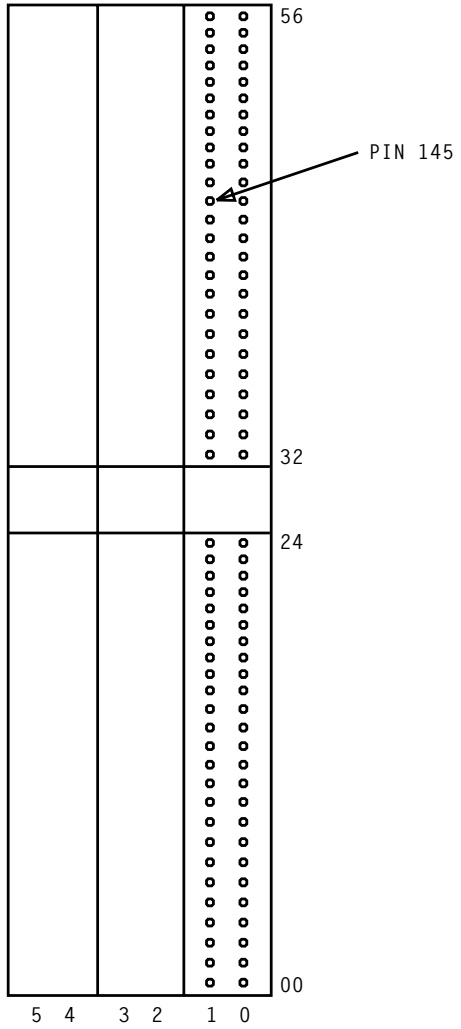


FIG. 2

REMOVE PORT CABLES AT IOP FRAME (J5A006D)

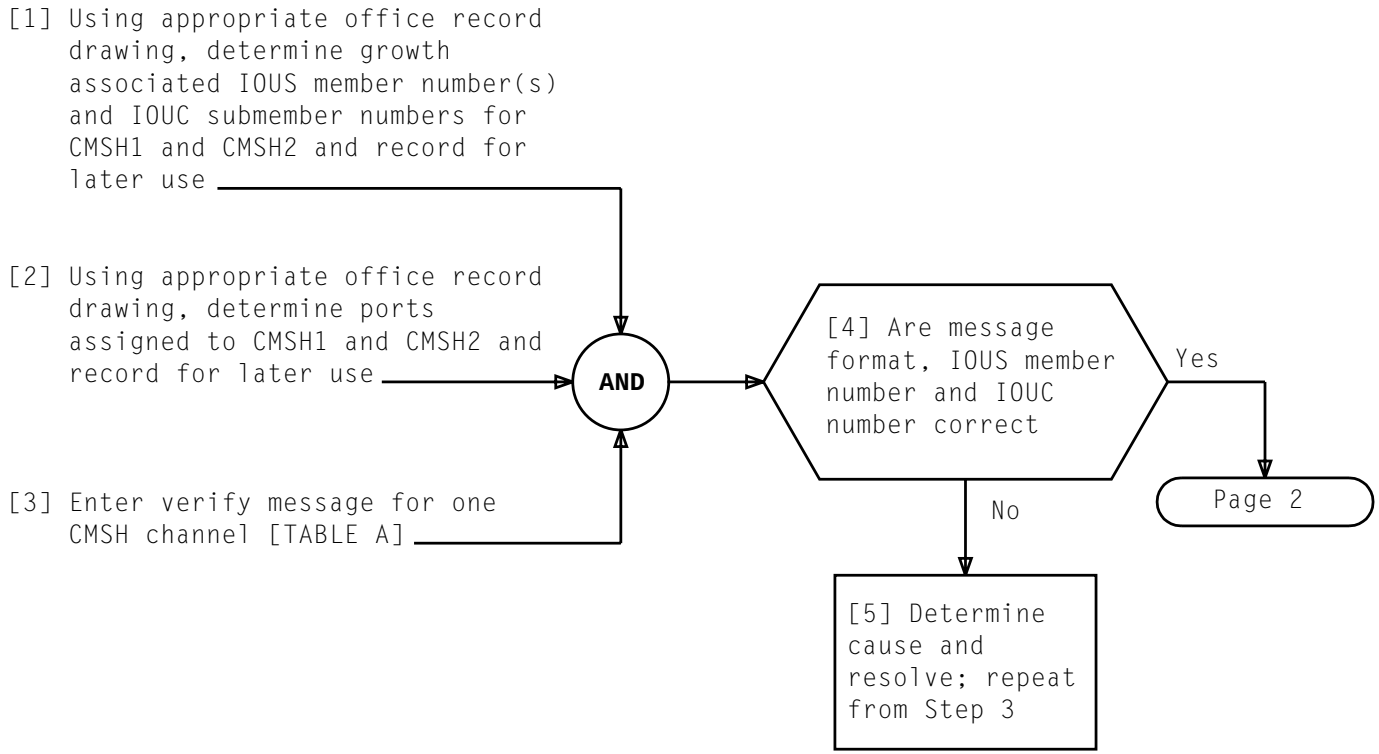
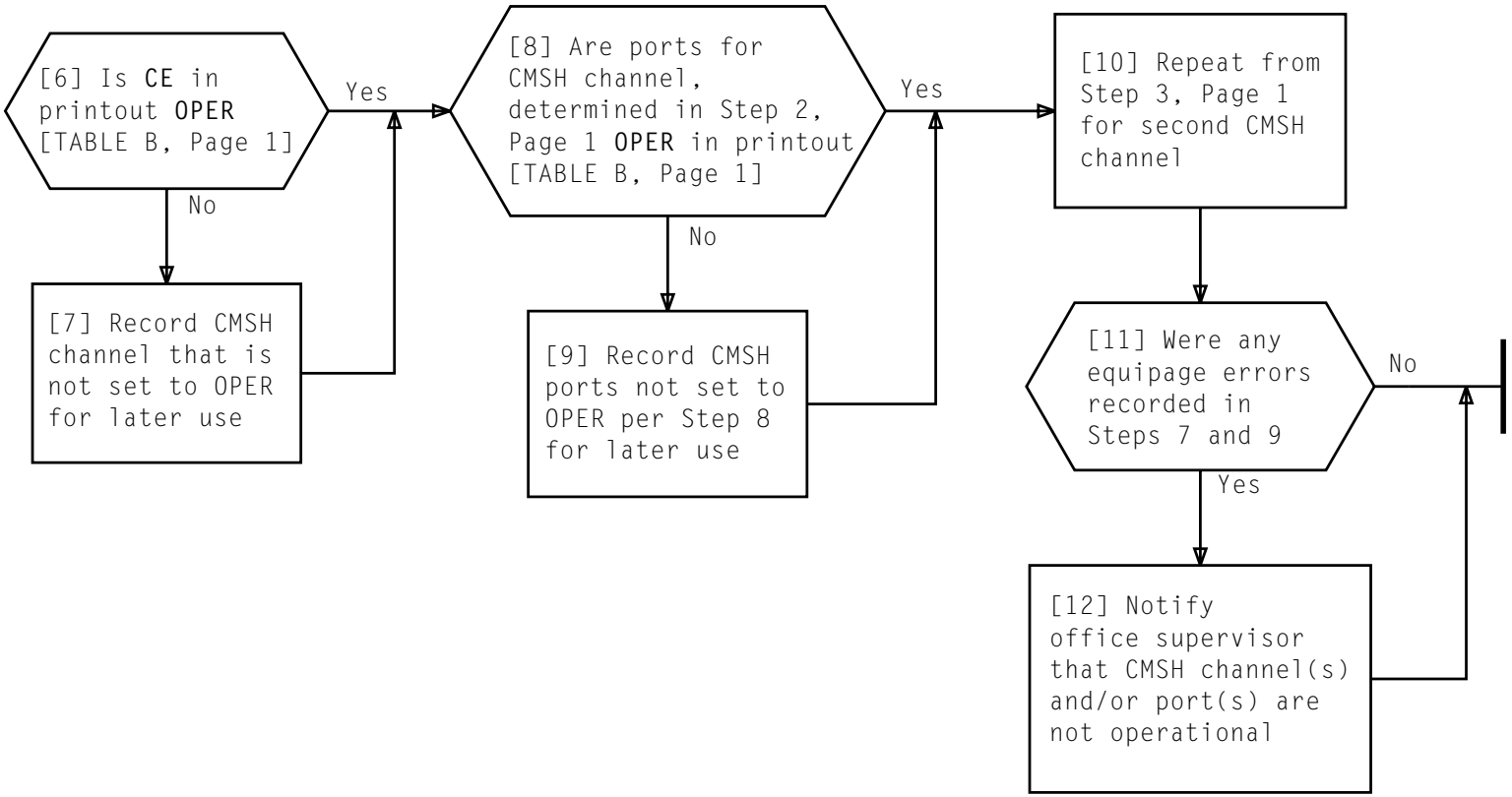


TABLE A
VER:UTMN:IOUS a,IOUC b!
a = Member number of IOUS associated with CMSH1 or CMSH2 as recorded in Step 1
b = Submember number of CMSH1 or CMSH2 as recorded in Step 1

TABLE B
VER:UTMN,IOUS a,IOUC b COMPLETED
TRANSLATOR ADR= TRANSLATOR SIZE=43
CURRENT DATA: CE=OPER . . . . . PORT 0,PRTE=c . . . PORT 1,PRTE=c . . . PORT 2,PRTE=c . . .
a = Member number for associated IOUS
b = Submember number for CMSH1 or CMSH2
c = Port equipage

VERIFY OPERATIONAL STATUS FOR CMSH1 AND CMSH2 AND REQUIRED ASSOCIATED PORTS



VERIFY OPERATIONAL STATUS FOR CMSH1 AND CMSH2 AND REQUIRED ASSOCIATED PORTS

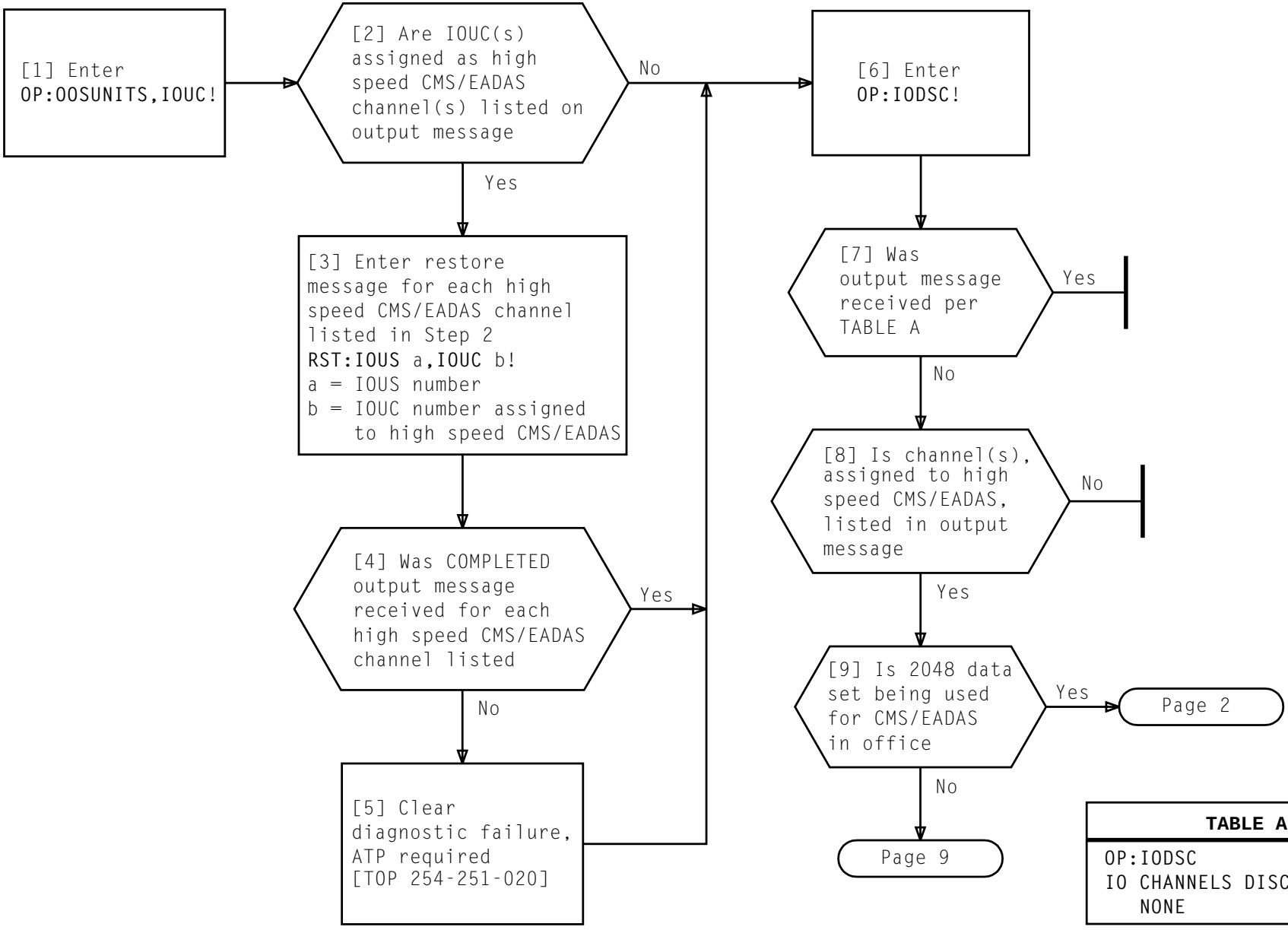
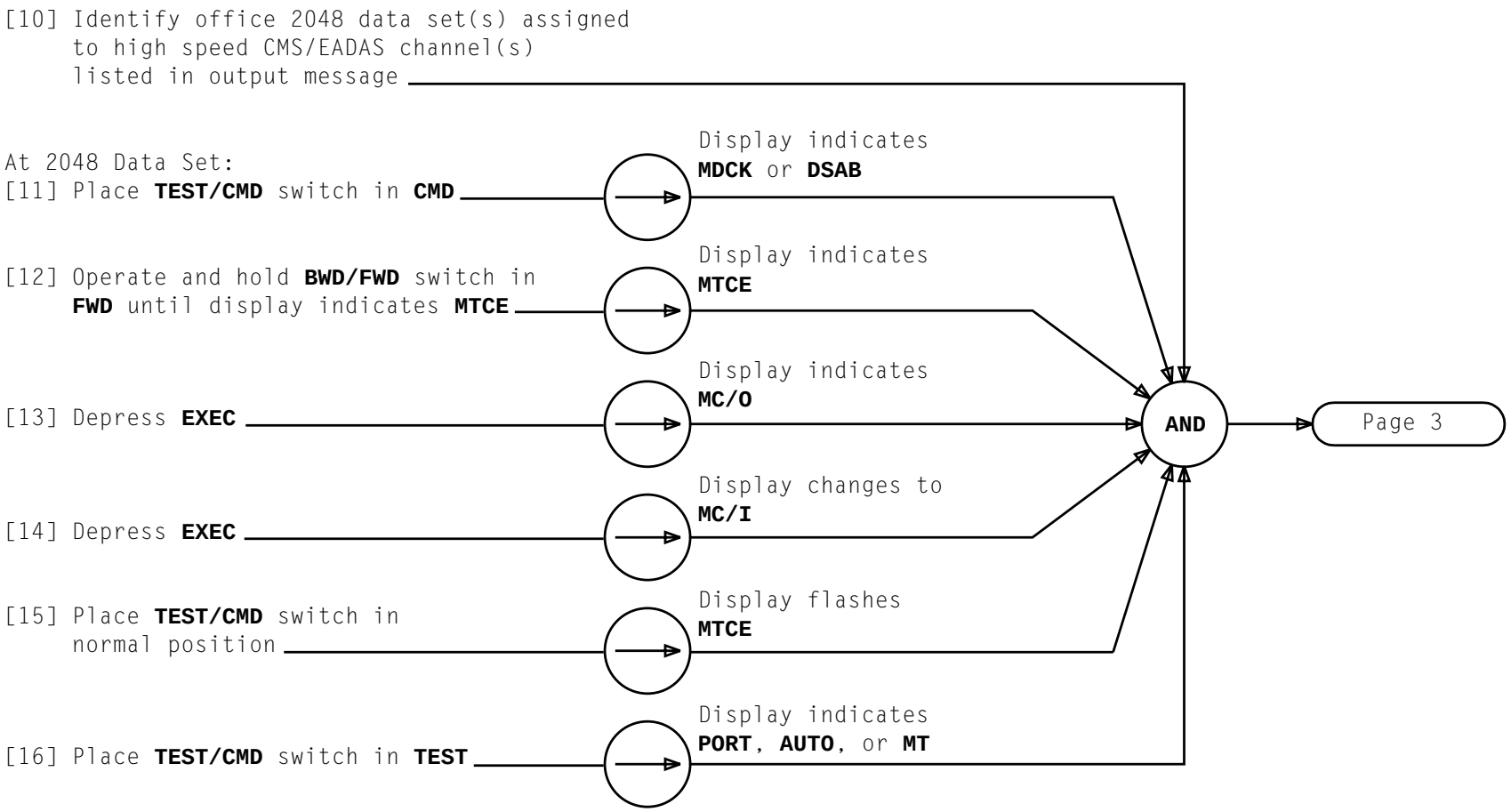
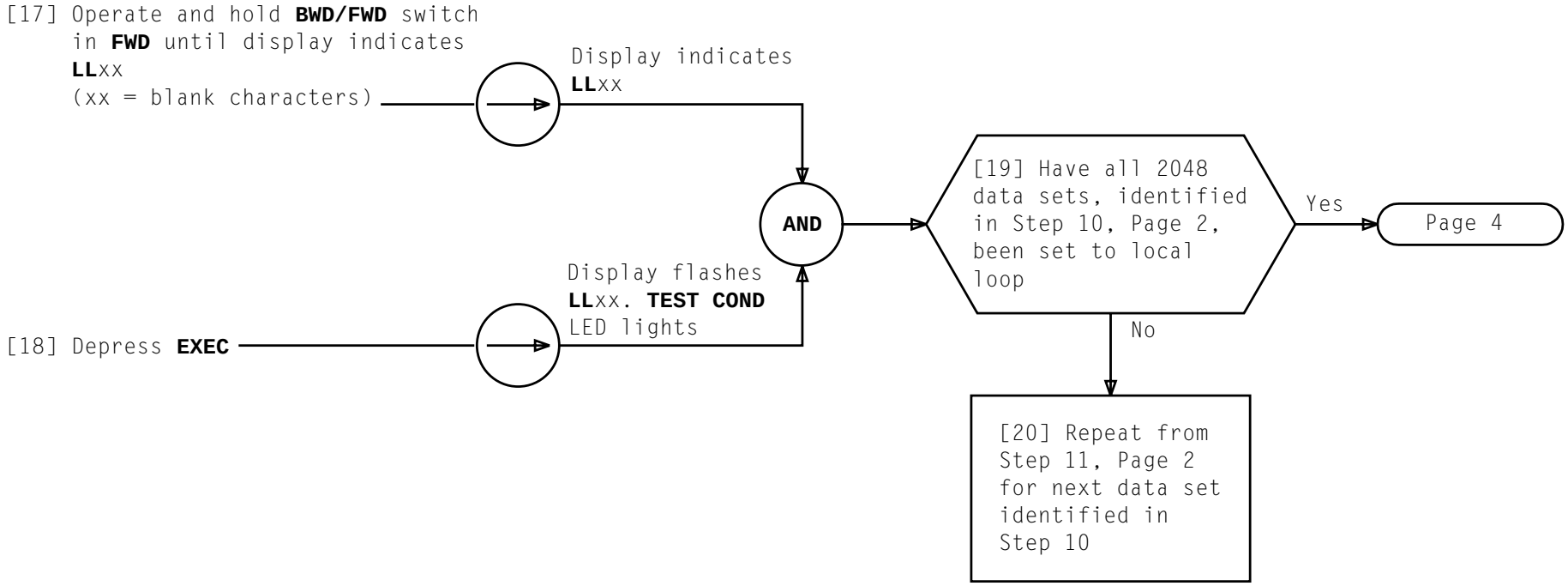


TABLE A
OP:IODSC IO CHANNELS DISCONNECTED: NONE

VERIFY LINK LEVEL PROTOCOL FOR HIGH SPEED CHANNELS (CMS OR EADAS)



VERIFY LINK LEVEL PROTOCOL FOR HIGH SPEED CHANNELS (CMS OR EADAS)



VERIFY LINK LEVEL PROTOCOL FOR HIGH SPEED CHANNELS (CMS OR EADAS)

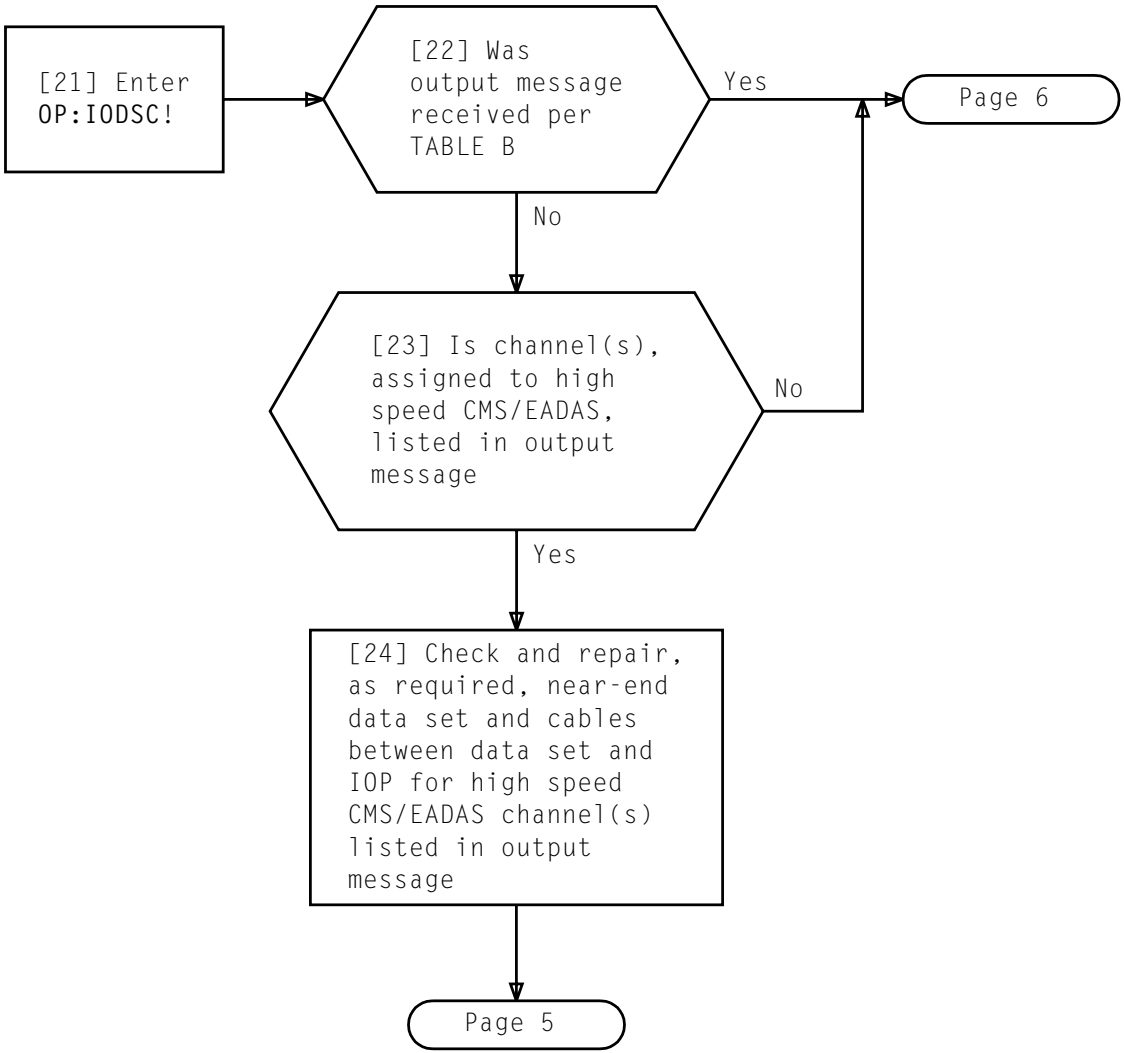
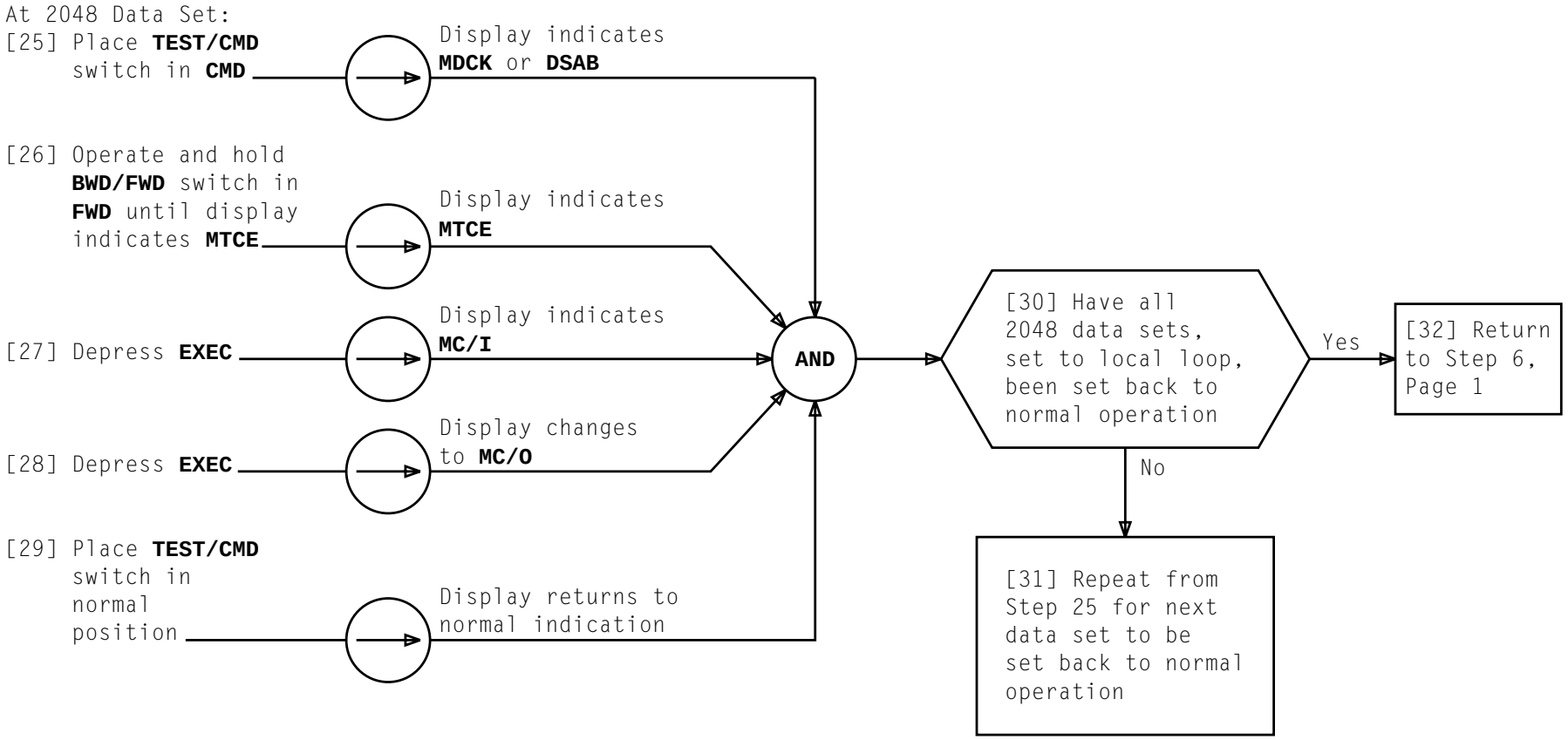


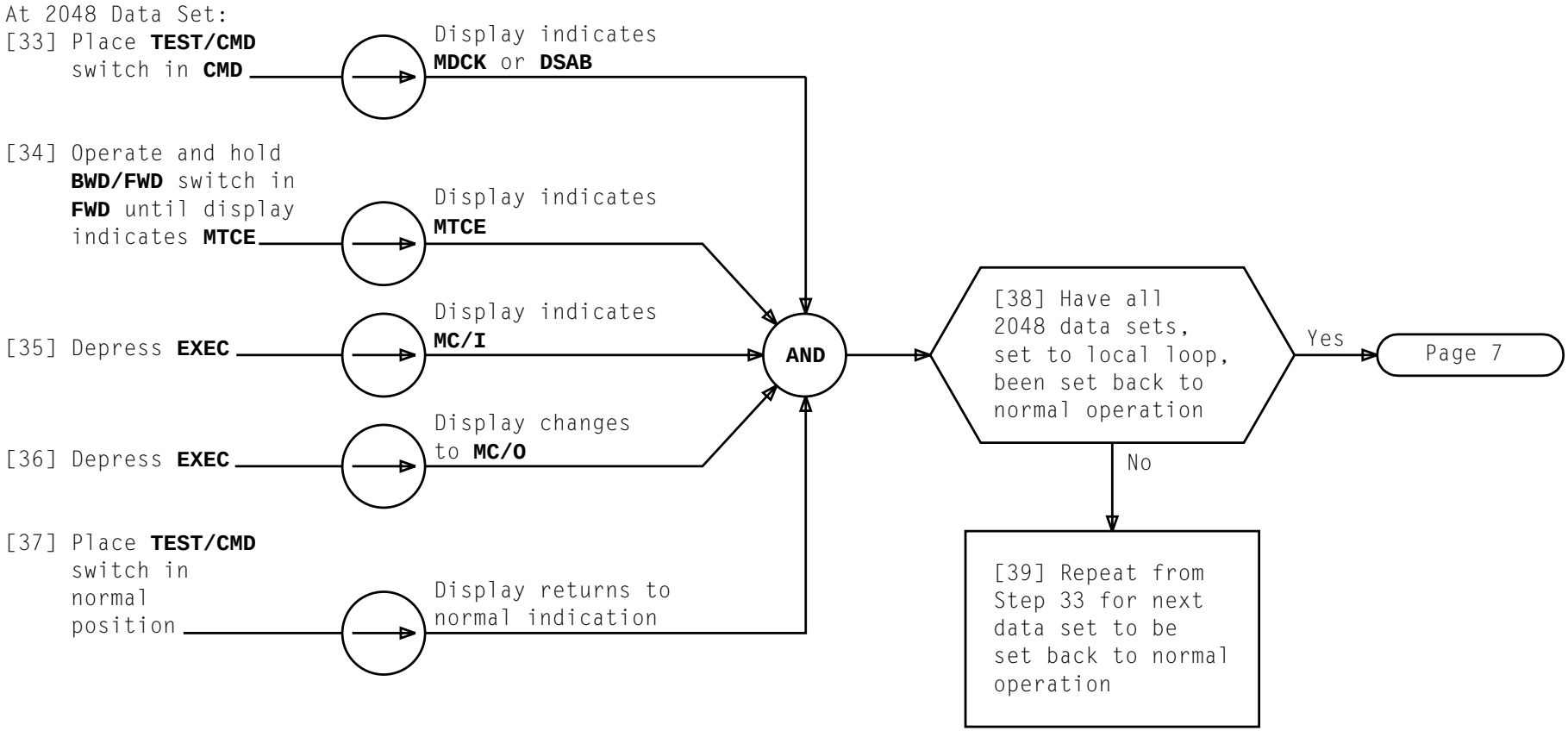
TABLE B

```
OP:IODSC
IO CHANNELS DISCONNECTED:
  NONE
```

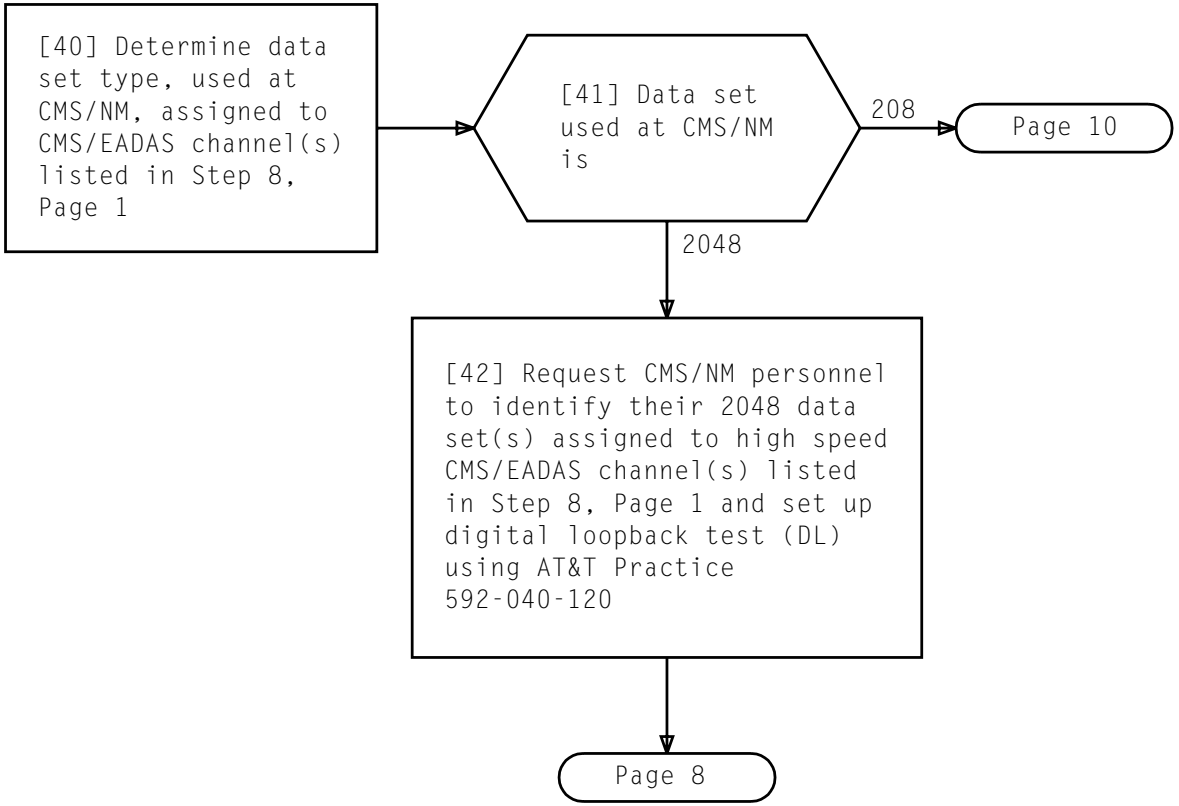
VERIFY LINK LEVEL PROTOCOL FOR HIGH SPEED CHANNELS (CMS OR EADAS)



VERIFY LINK LEVEL PROTOCOL FOR HIGH SPEED CHANNELS (CMS OR EADAS)



VERIFY LINK LEVEL PROTOCOL FOR HIGH SPEED CHANNELS (CMS OR EADAS)



VERIFY LINK LEVEL PROTOCOL FOR HIGH SPEED CHANNELS (CMS OR EADAS)

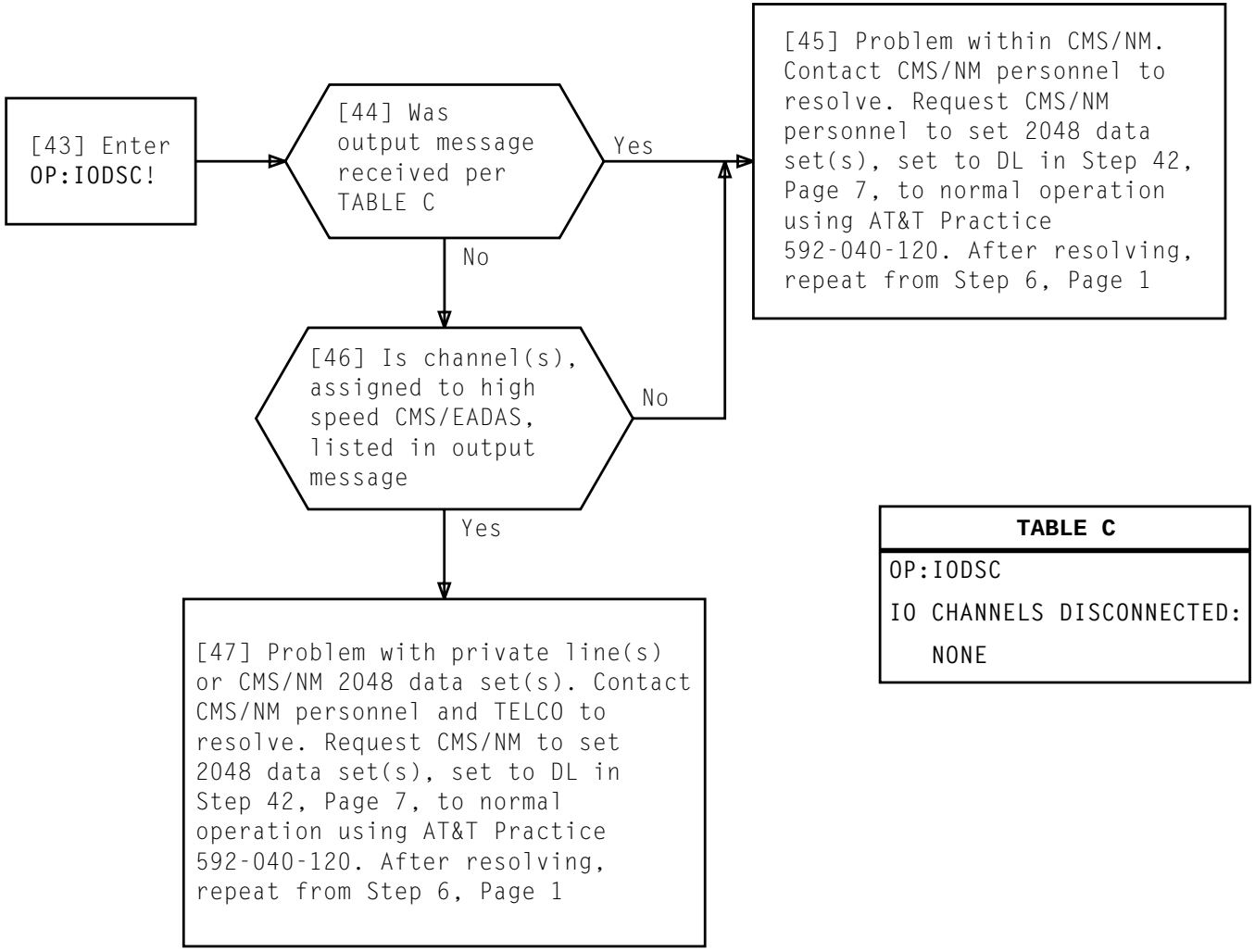


TABLE C
OP:IODSC
IO CHANNELS DISCONNECTED:
NONE

VERIFY LINK LEVEL PROTOCOL FOR HIGH SPEED CHANNELS (CMS OR EADAS)

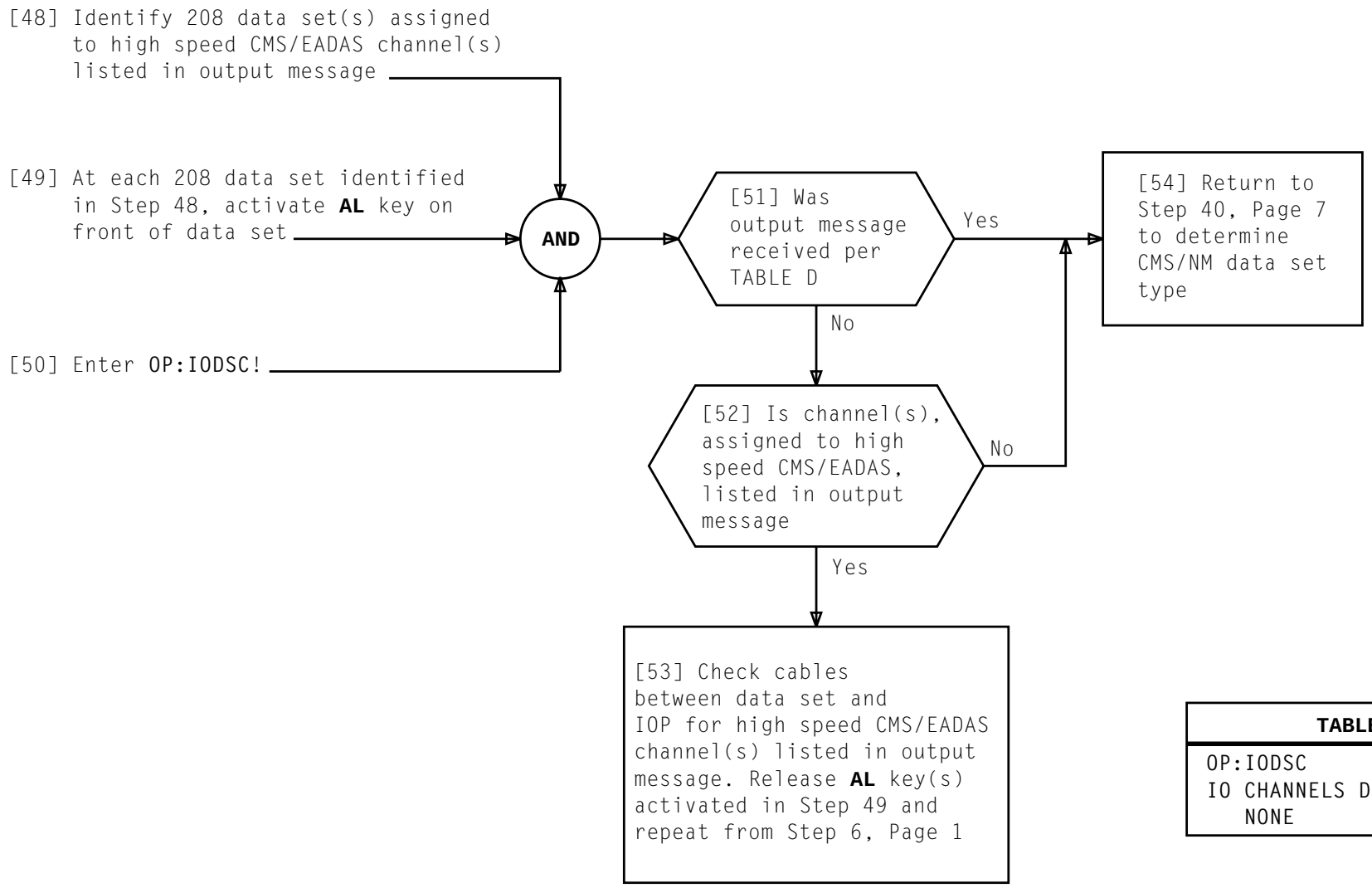


TABLE D
OP:IODSC IO CHANNELS DISCONNECTED: NONE

VERIFY LINK LEVEL PROTOCOL FOR HIGH SPEED CHANNELS (CMS OR EADAS)

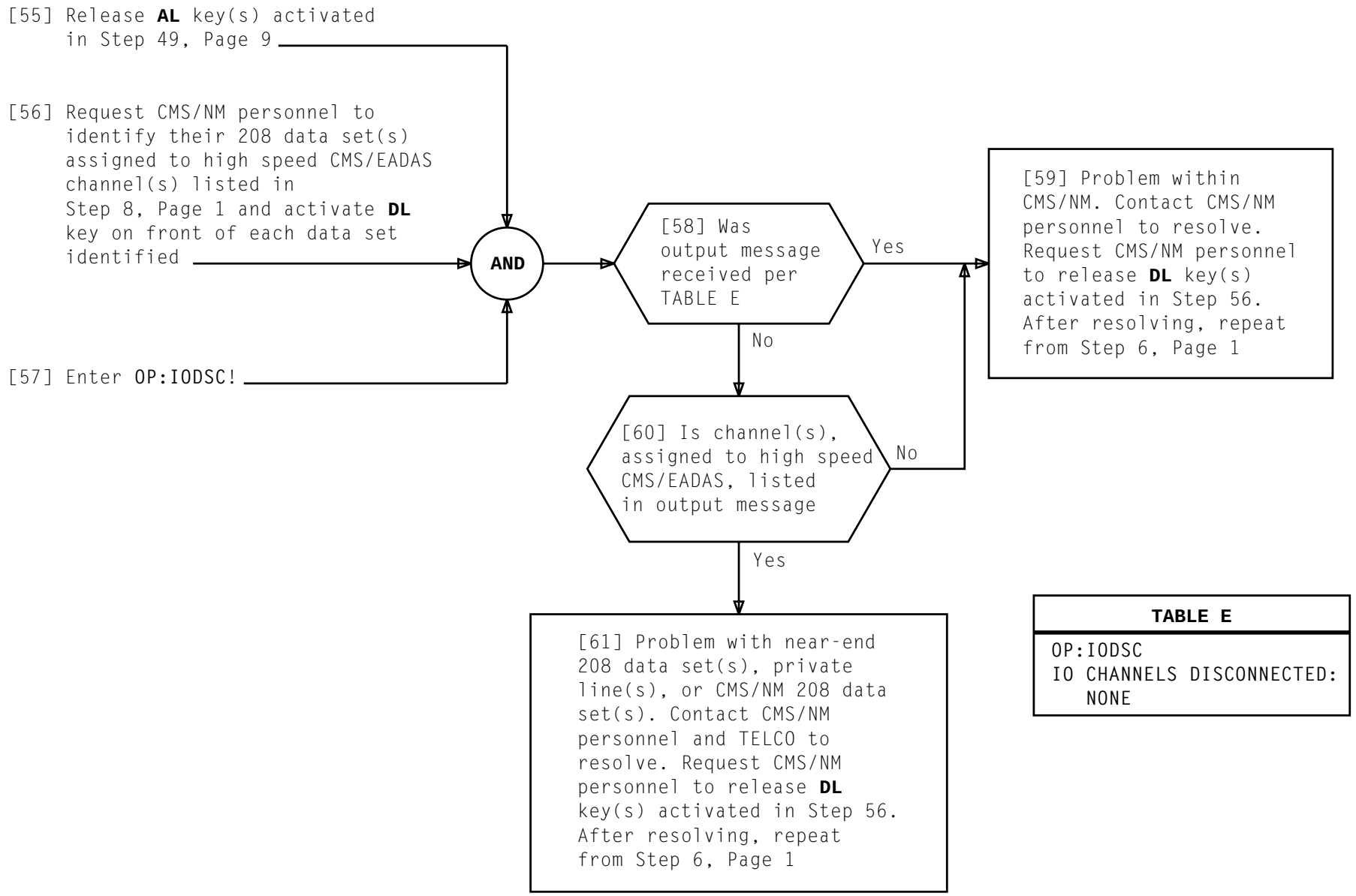


TABLE E
OP:IODSC IO CHANNELS DISCONNECTED: NONE

VERIFY LINK LEVEL PROTOCOL FOR HIGH SPEED CHANNELS (CMS OR EADAS)

SUMMARY

Using verify unit type entry message, call up growth TUC translator. Compare octal output data for word 2 with octal data of TABLE C, Page 3. Using octal output data and appropriate office record drawing, verify octal data of word 4. If installer determines that translator data is in error, word change(s) may be required

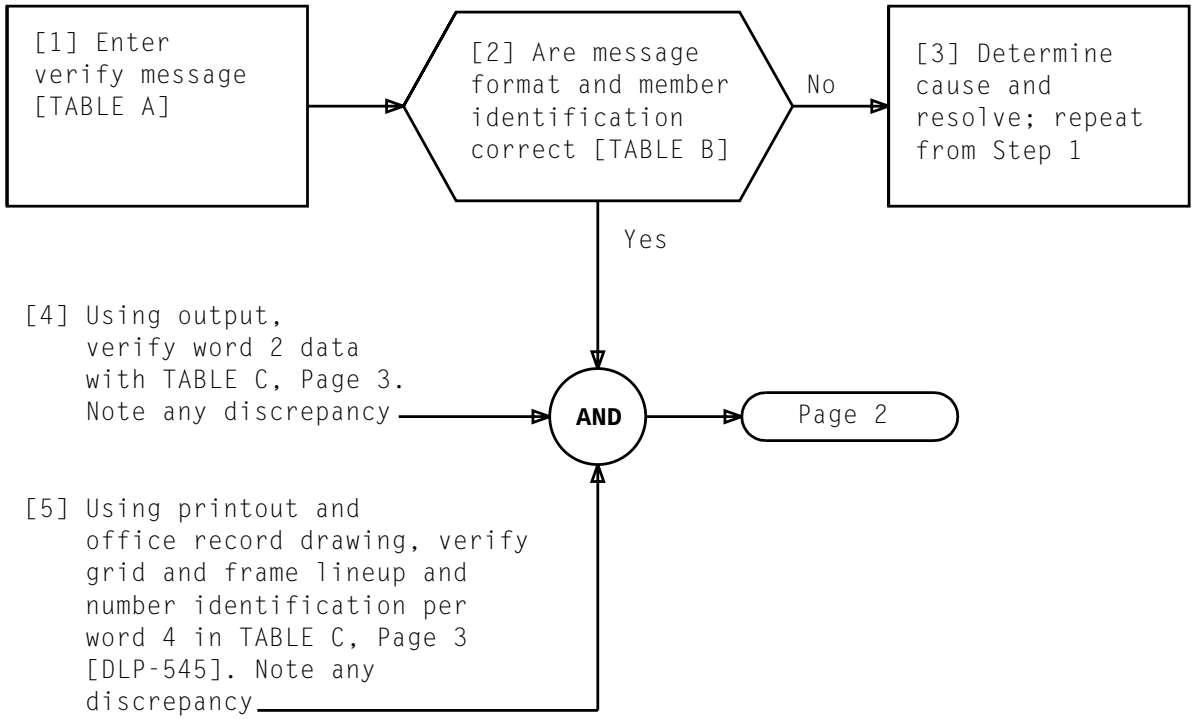


TABLE A

VER:UTMN:TUC a,ENTRY
a = Member number of growth TUC

TABLE B

VER:UTMN,TUC a COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

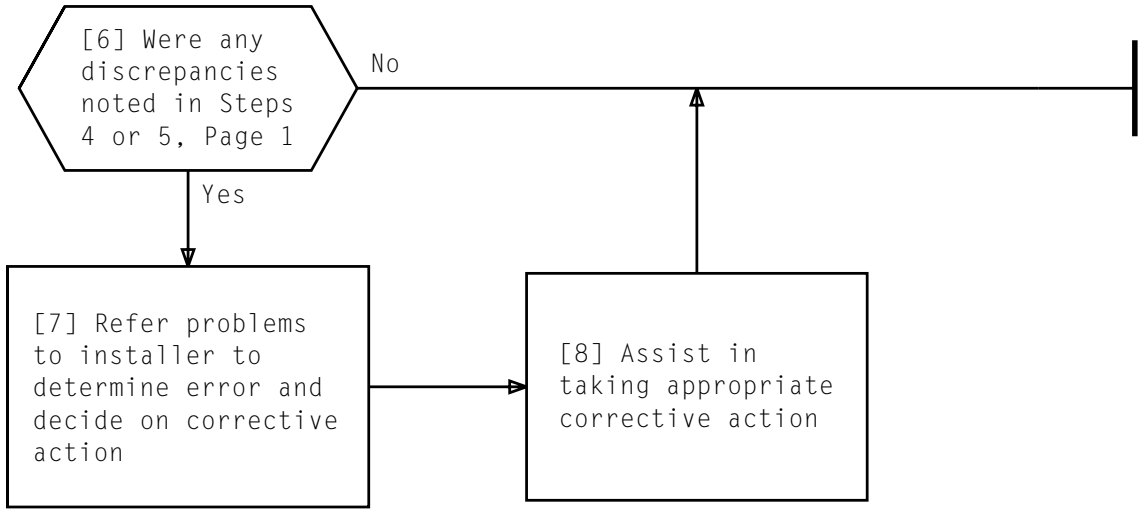
CURRENT DATA

(WORD 0) _____ _____ _____

(WORD 4)

a = Member number of growth unit TUC

VERIFY WORDS 2 AND 4 IN TAPE UNIT CONTROLLER UNIT TYPE TRANSLATOR



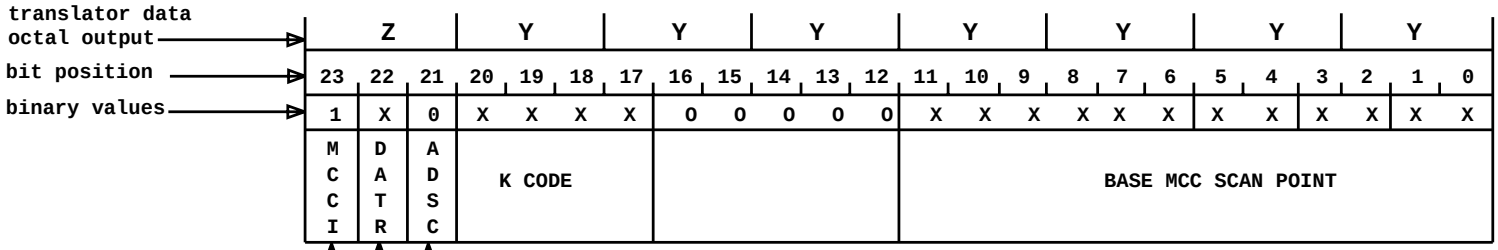
VERIFY WORDS 2 AND 4 IN TAPE UNIT CONTROLLER UNIT TYPE TRANSLATOR

TABLE C

ENTRY WORD

UT ENTRY DATA AND WORD CONFIGURATION

2

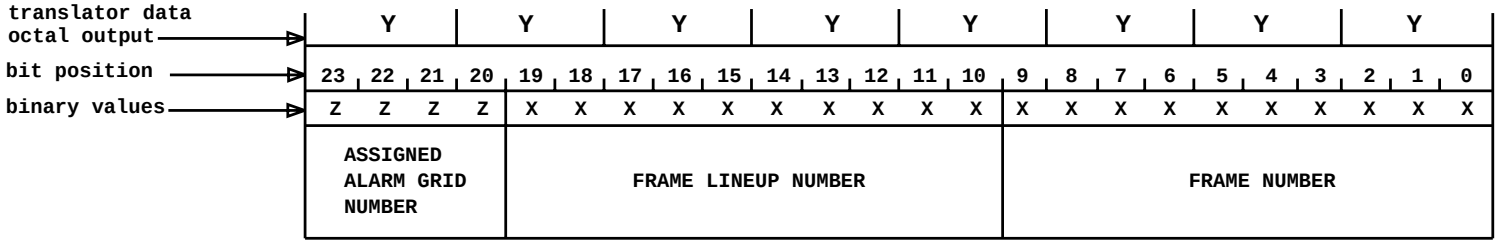


Z = 4 if data rate is less than 4800 bits/sec or
= 6 if data rate is greater than 4800 bits/sec

Y...Y = 0007600 (DUC 0)
0407602 (DUC 1)
1007604 (DUC 2)
1407606 (DUC 3)
2007740 (DUC 4)
2407742 (DUC 5)
3007744 (DUC 6)
3407746 (DUC 7)
4006660 (DUC 8)

Y...Y = 4406662 (DUC 9)
5006664 (DUC 10)
5406666 (DUC 11)
6006720 (DUC 12)
6406722 (DUC 13)
7006724 (DUC 14)
7406726 (DUC 15)

4

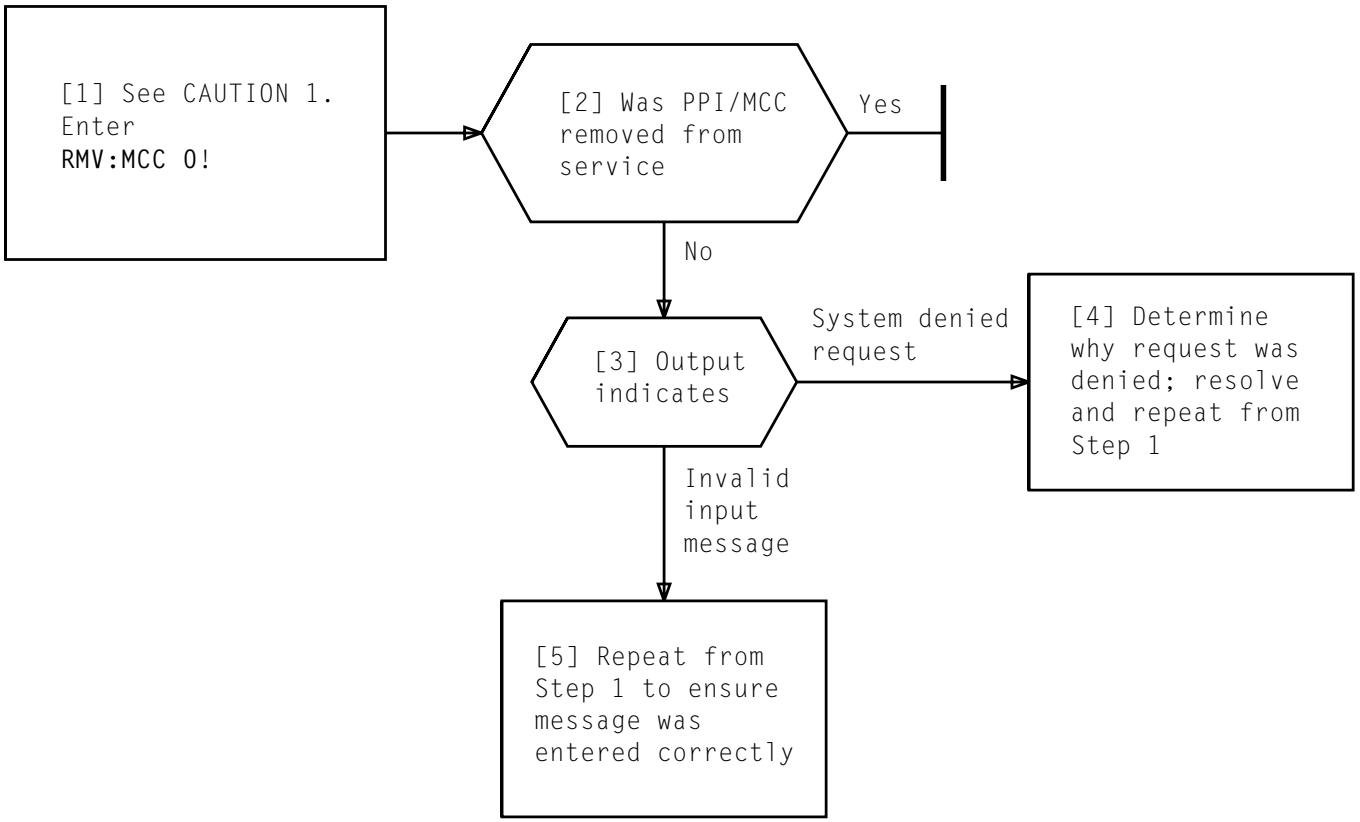


X...X = Converts to decimal frame info as reflected in office floor plan drawing

ZZZZ = Converts to decimal alarm grid number as reflected in appropriate office record drawings

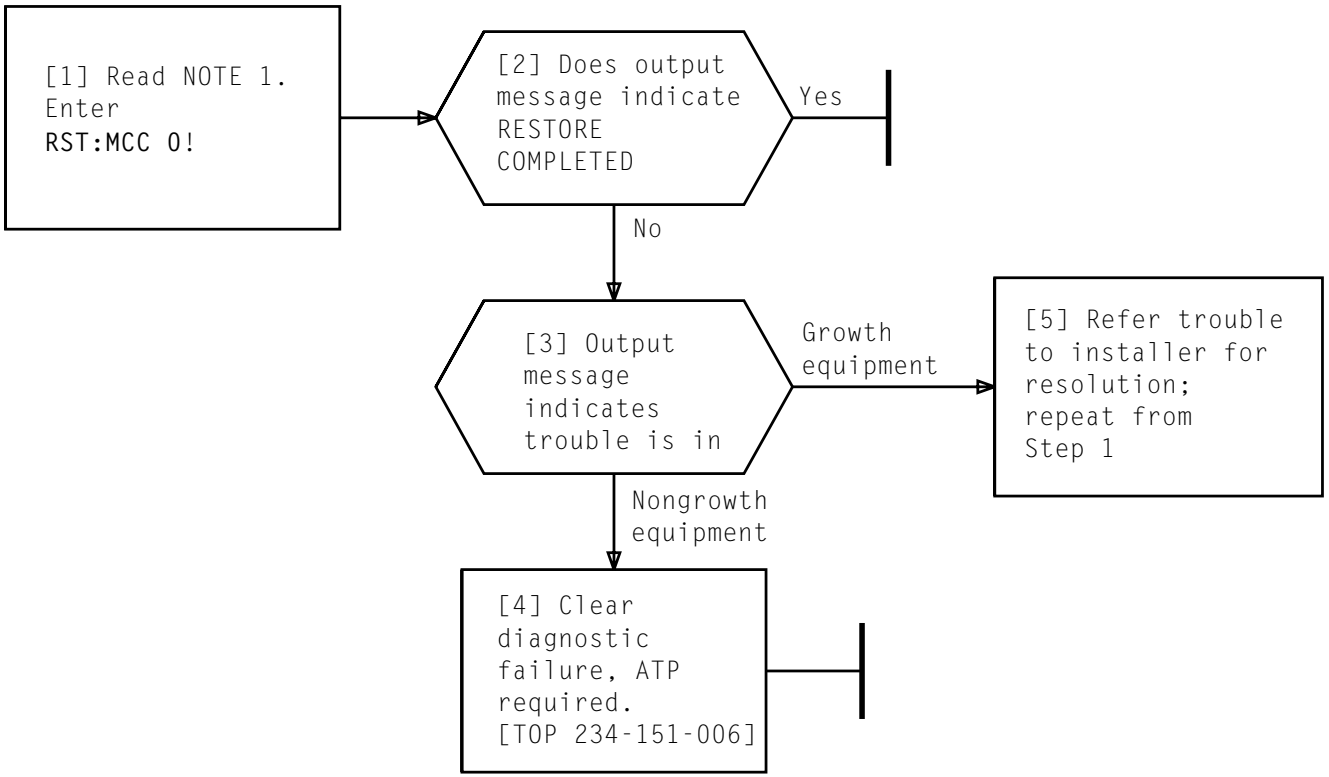
Y = Variable octal numbers

VERIFY WORDS 2 AND 4 IN TAPE UNIT CONTROLLER UNIT TYPE TRANSLATOR



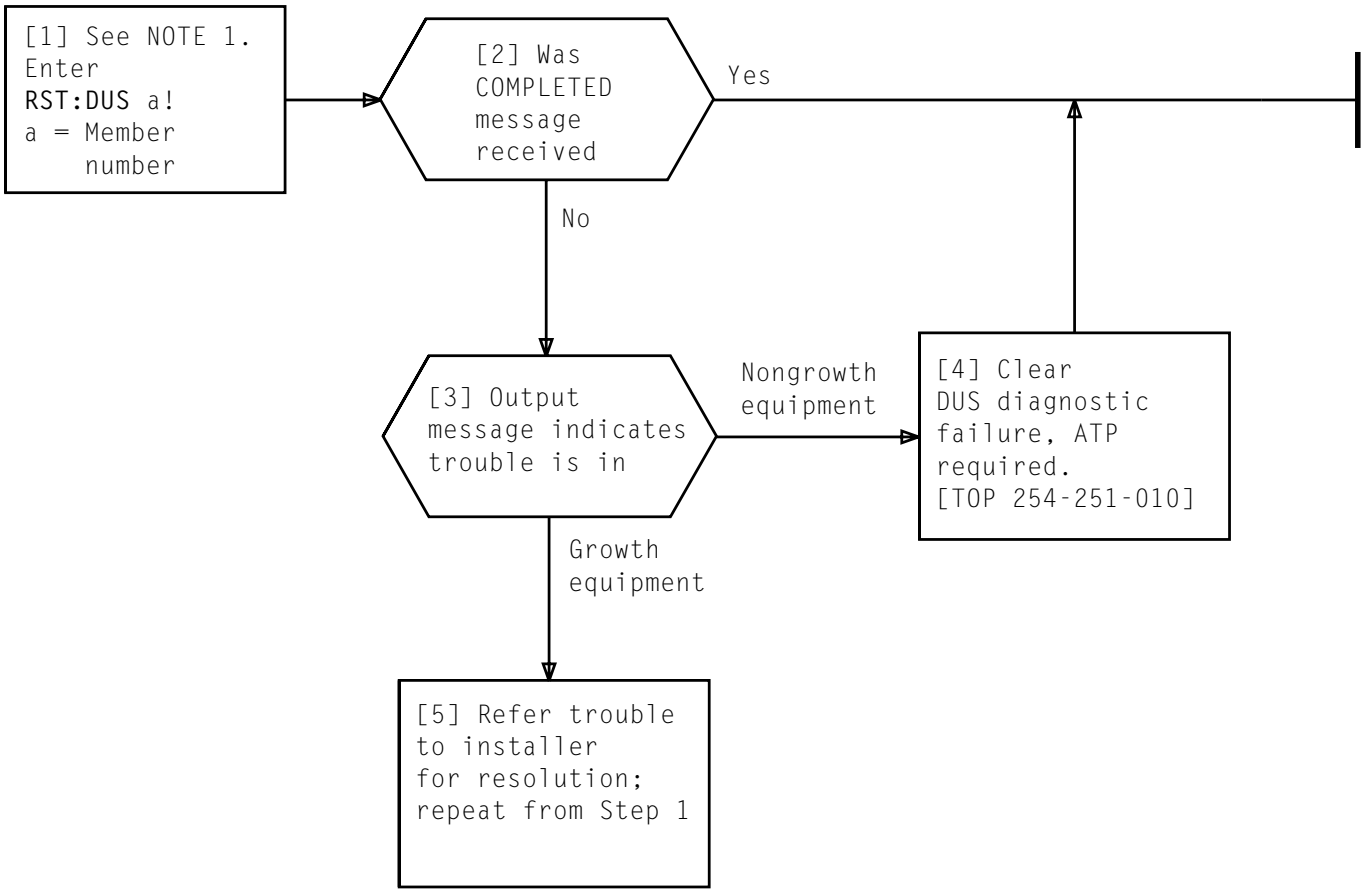
CAUTION 1
Supervisory approval must be obtained prior to removing PPI/MCC from service

REMOVE PPI/MCC FRAME FROM SERVICE



RESTORE PPI/MCC TO SERVICE

NOTE 1
Restore message will cause PPI/MCC diagnostic to be run. PPI/MCC will be restored, if ATP or CATP



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

RESTORE DUS TO SERVICE

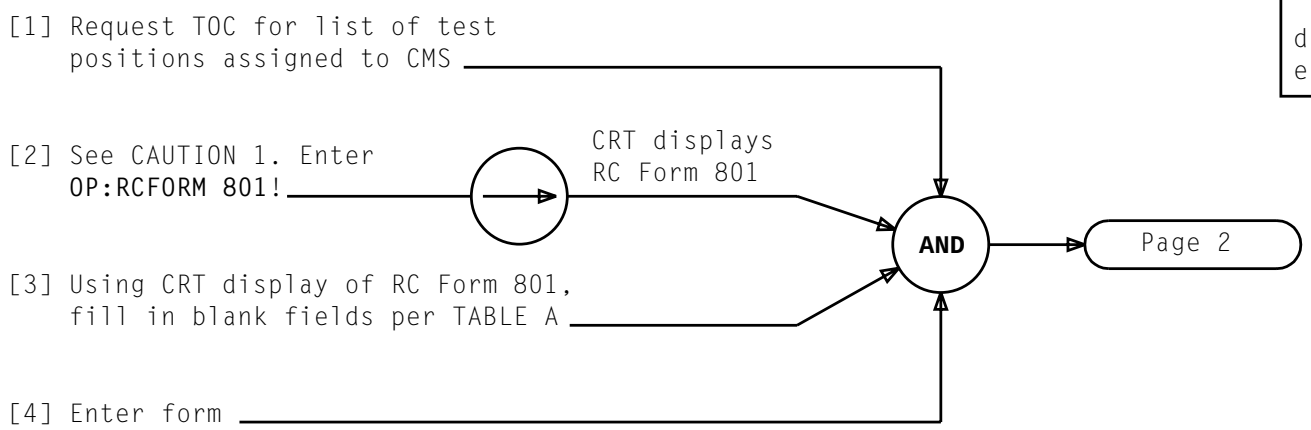
SUMMARY

Request TOC for list of test positions assigned to CMS. Call up RC Form 801 on CRT and fill in blank fields on form. Enter message, then verify. Using assigned order number, activate recent change then verify current translations. Repeat procedure for each test position assigned to CMS.

TABLE A

```
RC:FUNC;CHG;OPT(TRANS),a        TRANSID b,
ORNU c,
ENTRY d,        WORDNO e,
SIZE f,           DISP g,
BINOCT h,
NEWDATA i,
OLDDATA j,
REMARKS ------------- !
```

a = TST	f = 7
b = UTTPOS	g = 7
c = Order number assigned to this word change	h = B i = 1000000
d = Member number	j = 0001110
e = 4	



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

UPDATE UT TRANSLATOR OF TEST POSITION WITH CMSH1 CHANNEL NUMBER

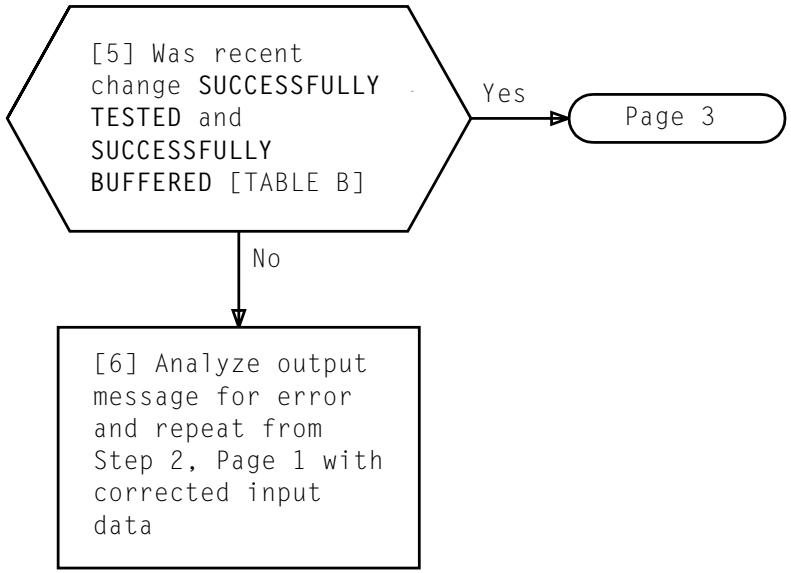


TABLE B

RC ORNU a SUCCESSFULLY TESTED

RC ORNU a SUCCESSFULLY BUFFERED

RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID UTTPOS,
ORNU a,
ENTRY b, WORDNO 4,
SIZE 7, DISP 7,
BINOCT B,
NEWDATA 1000000
OLDDATA 0001110
REMARKS _!

REPT:RC DUMP OF UNIT TYPE ENTRY AS IT WILL APPEAR AFTER THE MESSAGE IS ACTIVATED

WORD 0 _____ _____ _____ _____
_____ _____ _____

a = RC order number
b = Member number

UPDATE UT TRANSLATOR OF TEST POSITION WITH CMSH1 CHANNEL NUMBER

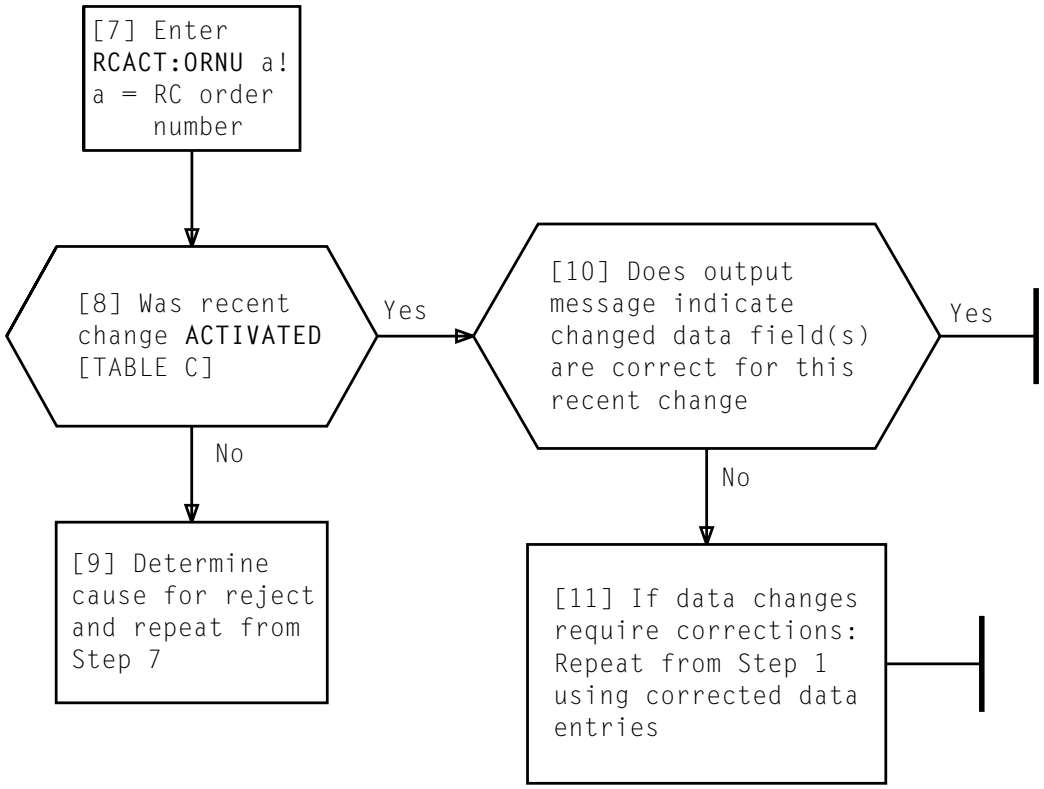


TABLE C

```
RC ORNU a ACTIVATED

RC:FUNC;CHG;OPT(TRANS),BUF:   TRANSID UTTPOS,
ORNU  a,

ENTRY b,     WORDNO 4,

SIZE  7,    DISP 7,

BINOCT B,

NEWDATA   1000000

OLDDATA   0001110

REMARKS---------------------- !
```

a = RC order number
b = Member number

UPDATE UT TRANSLATOR OF TEST POSITION WITH CMSH1 CHANNEL NUMBER

At TTY:

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

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

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

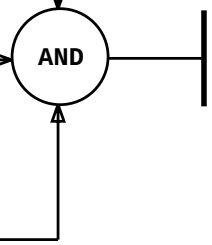


TABLE A

NUMBER	INPUT MESSAGES
1	EX:DUS a;START:TUC b! a = DUS member number — 0 or 1 b = Available in-service, unassigned TUC where BTRs are located
2	EX:DUS a:PH 99,ADR 44-115,SYNC b! a = DUS member number — 0 or 1 b = 56 (for bus 0) or 73 (for bus 1)
3	EX:DUS a:PH 99,ADR 166-263,SYNC b! a = DUS member number — 0 or 1 b = 200 (for bus 0) or 227 (for bus 1)
4	EX:DUS a:PH 99,ADR 115-166,SYNC b! a = DUS member number — 0 or 1 b = 127 (for bus 0) or 144 (for bus 1)
5	EX:DUS a! a = DUS member number
6	OP:MACLI,CLASS MTCE!
7	STOP:MACLI,CLASS MTCE,SUBCLASS a! a = CLASS MTCE SUBCLASS number from OP:MACLI output message assigned to PHASE 99 diagnostics

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

STORE DU BUS PHASE 99 INPUT MESSAGES

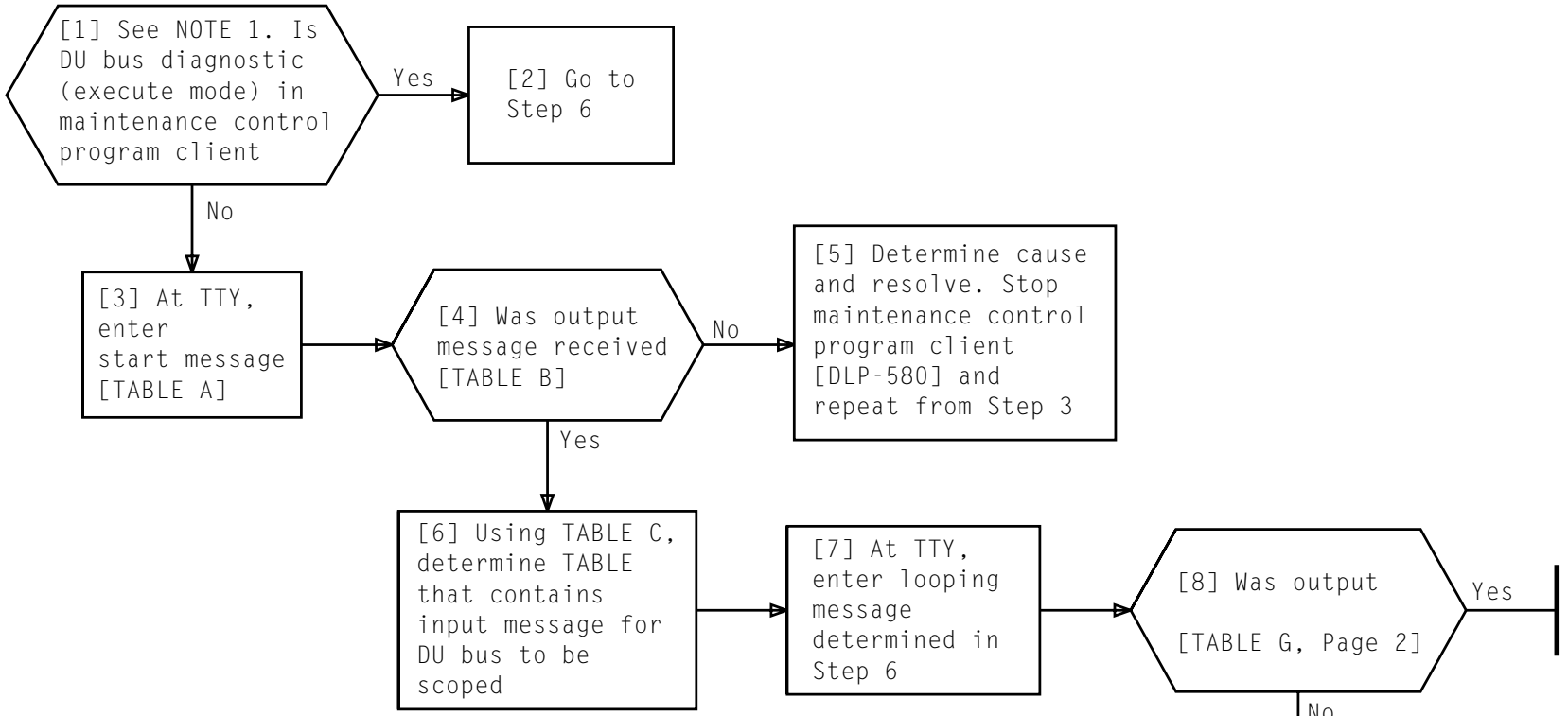


TABLE A
EX:DUS a;START:TUC b!
a = DUS member number — 0 or 1
b = Available in-service, unassigned TUC where BTRs are located

TABLE B
EX:DUS a:TUC b SUSPENDED MSG COMPL
a = DUS member number being used
b = TUC member number being used

TABLE C	
DU BUS	TABLE
Write	D
Address	E
Reply	F

NOTE 1
If problem occurs when setting up loop, use program listing ADDG99 (PR-5A738)

ENTER EXECUTE MESSAGES FOR LOOPING ON SPECIFIED DU BUS

TABLE D — DU WRITE BUS
EX:DUS a:PH 99,ADR 44-115,SYNC b!
a = DUS member number — 0 or 1 b = 56 (for bus 0) or 73 (for bus 1)

TABLE E — DU ADDRESS BUS
EX:DUS a:PH 99,ADR 166-263,SYNC b!
a = DUS member number — 0 or 1 b = 200 (for bus 0) or 227 (for bus 1)

TABLE F — DU REPLY BUS
EX:DUS a:PH 99,ADR 115-166,SYNC b!
a = DUS member number — 0 or 1 b = 127 (for bus 0) or 144 (for bus 1)

TABLE G
EX:DUS a:TUC b LOOPING STARTED MSG STARTED
a = DUS member number being used b = TUC member number being used

ENTER EXECUTE MESSAGES FOR LOOPING ON SPECIFIED DU BUS

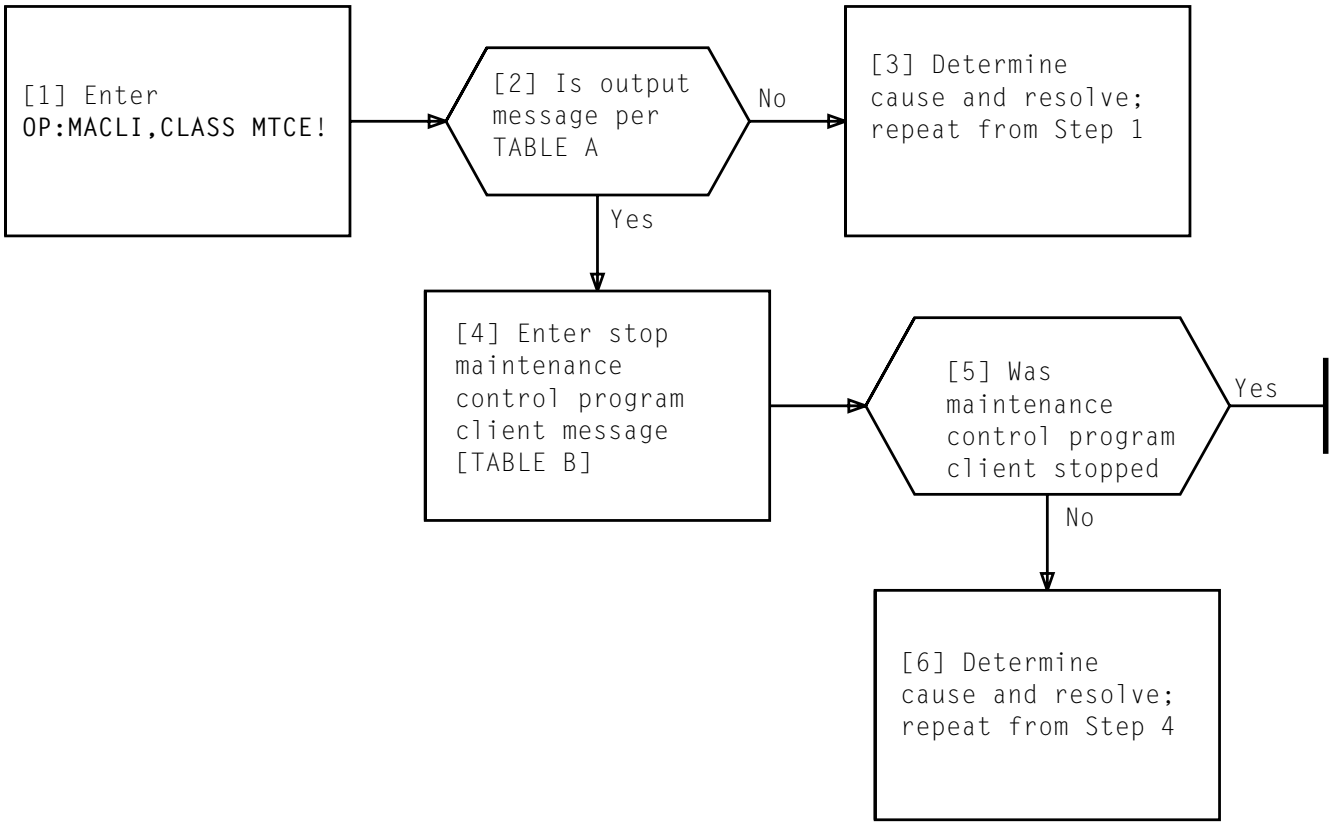


TABLE A
OP:MACLI CLASS MTCE SUBCLASS 0 a - d e f CLASS MTCE SUBCLASS 1 a - d e f CLASS MTCE SUBCLASS 2 a - d e f a – d = NONE or variable data e = Unit type f = Member number

TABLE B
STOP:MACLI,CLASS MTCE,SUBCLASS a!
a = CLASS MTCE SUBCLASS number from output message assigned to diagnostics being used

STOP MAINTENANCE CONTROL PROGRAM CLIENT

[1] Get oscilloscope (TEKTRONIX) model 475 or equivalent and two oscilloscope X10 probes (TEKTRONIX) model P6106 or equivalent

[2] Get 30-foot coax cable with male BNC connectors

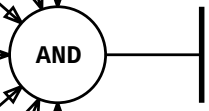
[3] See NOTE 1. Connect coax cable between **GCPSYN** on back side of active CC and **A TRIGGER 1M 20 pF** on 475 oscilloscope (connect to oscilloscope first)

[4] Locate line on FIG. 1, Page 2 that contains last frame where write bus is terminated

[5] Connect one X10 probe to channel 1 (POS) and the other X10 probe to channel 2 (NEG)

[6] Wrap scope probes around each other and attach ground leads together

[7] Probe POS and NEG pins in dashed line box in FIG. 1, Page 2 at connector location on line located in Step 4; adjust to measure bit pattern in FIG. 1 per TABLE A



NOTE 1
Coax cable must be connected to oscilloscope before connecting to active CC

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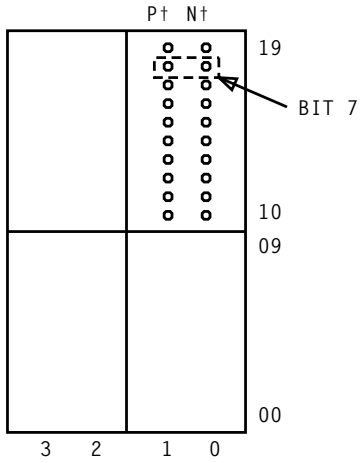
SET UP OSCILLOSCOPE



TERMINATION FRAME	CONNECTOR LOCATION	BIT PATTERN
TUC BUS 0	080-26	01000111
TUC BUS 1	080-27	00001111

† P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD

FIG. 1

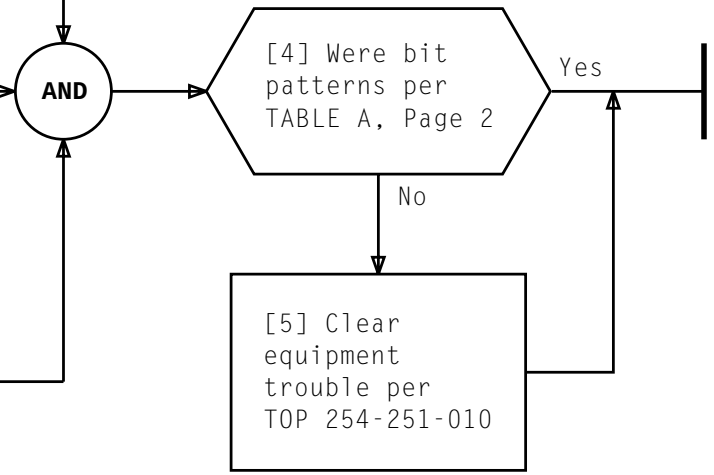
SET UP OSCILLOSCOPE

TABLE A — OSCILLOSCOPE CONTROL SETTINGS FOR MODEL 475	
CONTROLS	**POSITION**
POWER	PULL ON for power on
CH 1 POSITION	Adjust to observe entire pulse
CH 1 VOLTS/DIV	2 VOLTS
CH 1 VAR	CALIB
CH 1 COUPLING	DC
CH 2 POSITION	Adjust to observe entire pulse
CH 2 VOLTS/DIV	2 VOLTS
CH 2 VAR - VOLTS/DIV	Calibrated
CH 2 COUPLING	DC
BAND WIDTH LIMITING SWITCH	NORMAL
VERT MODE	ADD
INVERT	Depress (in)
BEAM FIND	Normal (out)
INTENSITY	Adjust for optimum brightness
FOCUS	Adjust for sharp clear trace
SCALE ILLUM.	Adjust for optimum
X10 MAG	X1 (out)
FINE POSITION	Adjust to start pulse train from 0 graticule line
A TRIG HOLDOFF	NORM
HORIZ DISPLAY	A
TRIG MODE	NORM
A TRIGGER - COUPLING	AC
A TRIGGER - SOURCE	EXT
A TRIGGER - SLOPE	+ (Positive)
A TRIGGER - LEVEL	Adjust for steady pulse
A AND B TIME/DIV	2 usec
A AND B TIME/DIV - VAR	Variable — set pulses to graticule lines
A AND B DELAY TIME	(not used)
DELAY TIME POSITION	(not used)
B (DLY'D) TRIGGER - COUPLING	(not used)
B (DLY'D) TRIGGER - SOURCE	(not used)
B TRIGGER LEVEL	(not used)
B TRIGGER SLOPE	(not used)

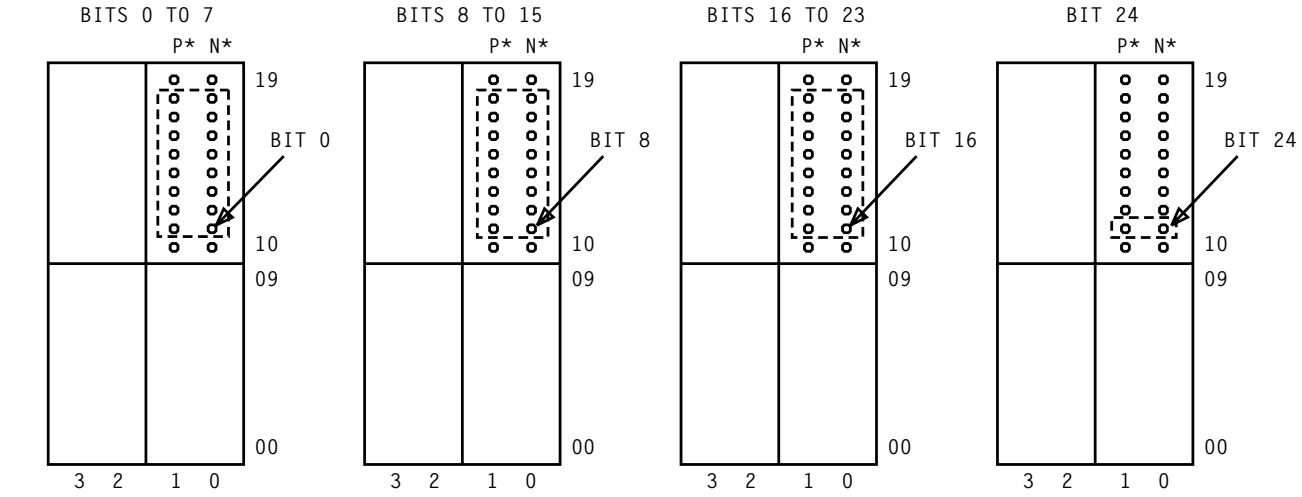
[1] Locate line on FIG. 1, Page 2 that contains bus to be scoped

[2] Assure 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

[3] Scope P- and N-pins in each dashed line box [FIG. 1, Page 2] at connector locations on line located in Step 1. Observe oscilloscope for proper bit pattern [TABLE A, Page 2] for each associated bus bit being scoped. Note any discrepancies



SCOPE DU WRITE BUS BITS 0 TO 24



* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD

FIG. 1

TABLE A

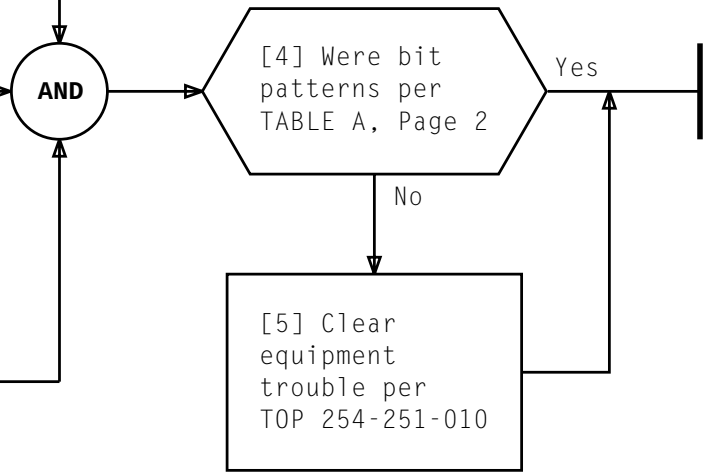
BIT	BIT PATTERN	
	BUS 0	BUS 1
0	01000000	00000001
1	01000001	00000011
2	01000010	00000101
3	01000011	00000111
4	01000100	00001001
5	01000101	00001011
6	01000110	00001101
7	01000111	00001111
8	01001000	00010001
9	01001001	00010011
10	01001010	00010101
11	01001011	00010111
12	01001100	00011001
13	01001101	00011011
14	01001110	00011101
15	01001111	00011111
16	01010000	00100001
17	01010001	00100011
18	01010010	00100101
19	01010011	00100111
20	01010100	00101001
21	01010101	00101011
22	01010110	00101101
23	01010111	00101111
24	11111111	11111111

SCOPE DU WRITE BUS BITS 0 TO 24

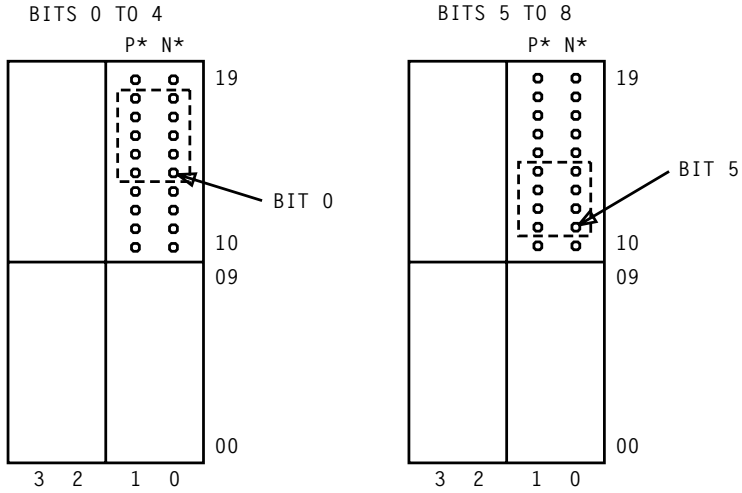
[1] Locate line on FIG. 1, Page 2 that contains bus to be scoped

[2] Assure 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

[3] Scope P- and N-pins in each dashed line box [FIG. 1, Page 2] at connector locations on line located in Step 1. Observe oscilloscope for proper bit pattern [TABLE A, Page 2] for each associated bus bit being scoped. Note any discrepancies



SCOPE DU ADDRESS BUS BITS 0 TO 8



TUC		
BUS 0	080-33	080-35
BUS 1	080-34	080-36

* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD

FIG. 1

TABLE A

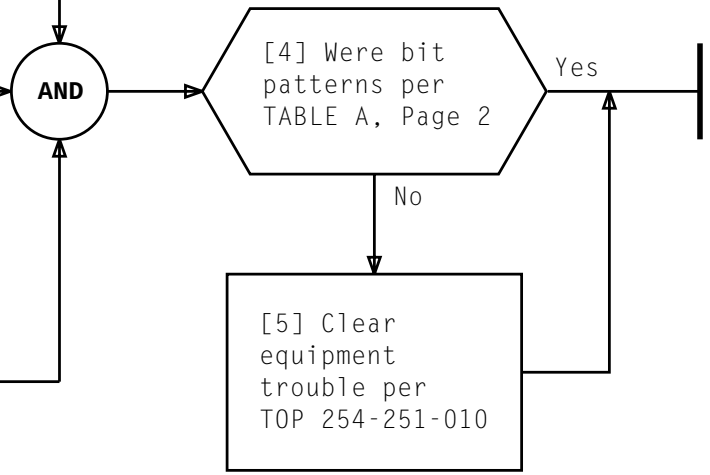
BIT	BIT PATTERN	
	BUS 0	BUS 1
0	01000000	00000001
1	01000001	00000011
2	01000010	00000101
3	01000011	00000111
4	01000100	00001001
5	01000101	00001011
6	11111111	11111111
7	01000110	00001101
8	01000111	00001111

SCOPE DU ADDRESS BUS BITS 0 TO 8

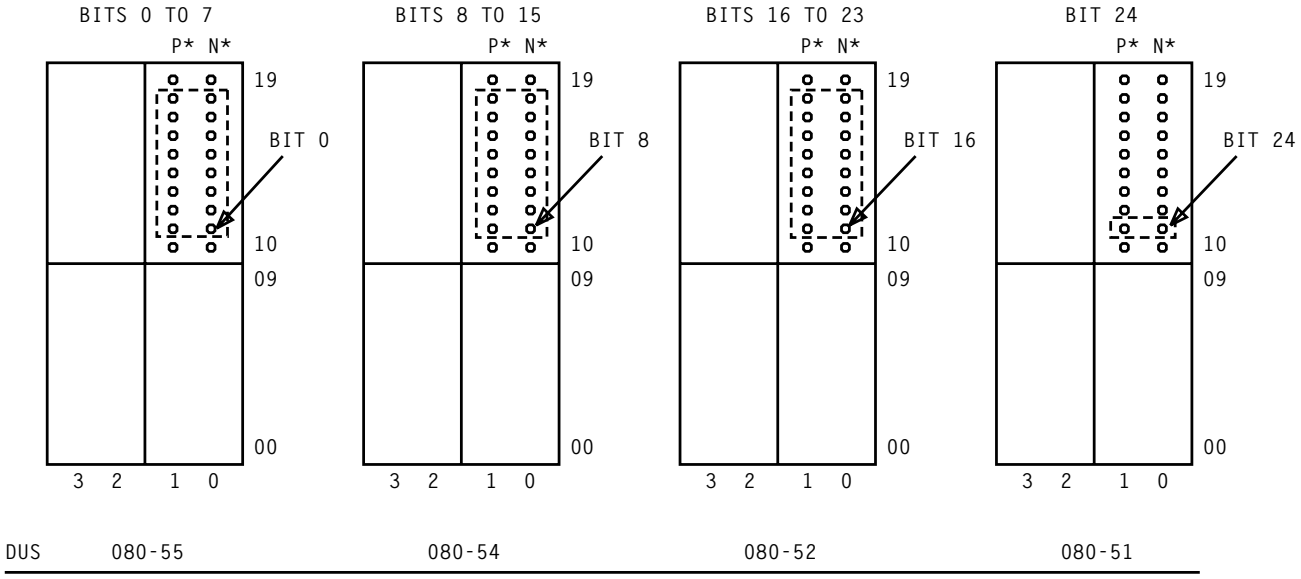
[1] Locate line on FIG. 1, Page 2 that contains bus to be scoped

[2] Assure 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

[3] Scope P- and N-pins in each dashed line box [FIG. 1, Page 2] at connector locations on line located in Step 1. Observe oscilloscope for proper bit pattern [TABLE A, Page 2] for each associated bus bit being scoped. Note any discrepancies



SCOPE DU REPLY BUS BITS 0 TO 24



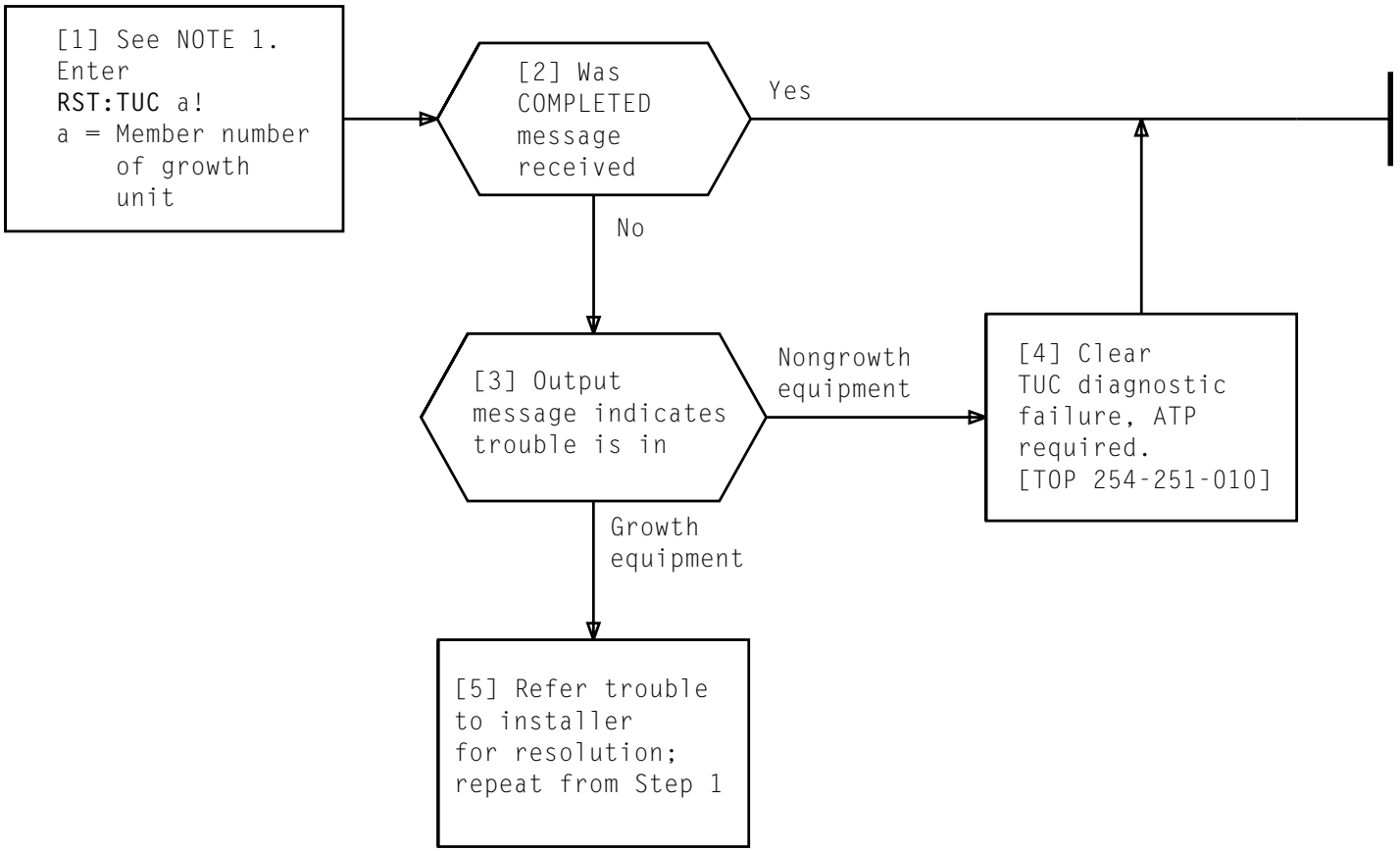
* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD

FIG. 1

TABLE A

BIT	BIT PATTERN	
	BUS 0	BUS 1
0	01000000	00000001
1	01000001	00000011
2	01000010	00000101
3	01000011	00000111
4	01000100	00001001
5	01000101	00001011
6	01000110	00001101
7	01000111	00001111
8	01001000	00010001
9	01001001	00010011
10	01001010	00010101
11	01001011	00010111
12	01001100	00011001
13	01001101	00011011
14	01001110	00011101
15	01001111	00011111
16	01010000	00100001
17	01010001	00100011
18	01010010	00100101
19	01010011	00100111
20	01010100	00101001
21	01010101	00101011
22	01010110	00101101
23	01010111	00101111
24	11111111	11111111

SCOPE DU REPLY BUS BITS 0 TO 24



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

RESTORE TUC TO SERVICE

SUMMARY

Determine from appropriate office record drawing, frame number of growth associated frame. Enter in frame verify message and verify for proper frame number assignment. If frame number is incorrect, change to proper value

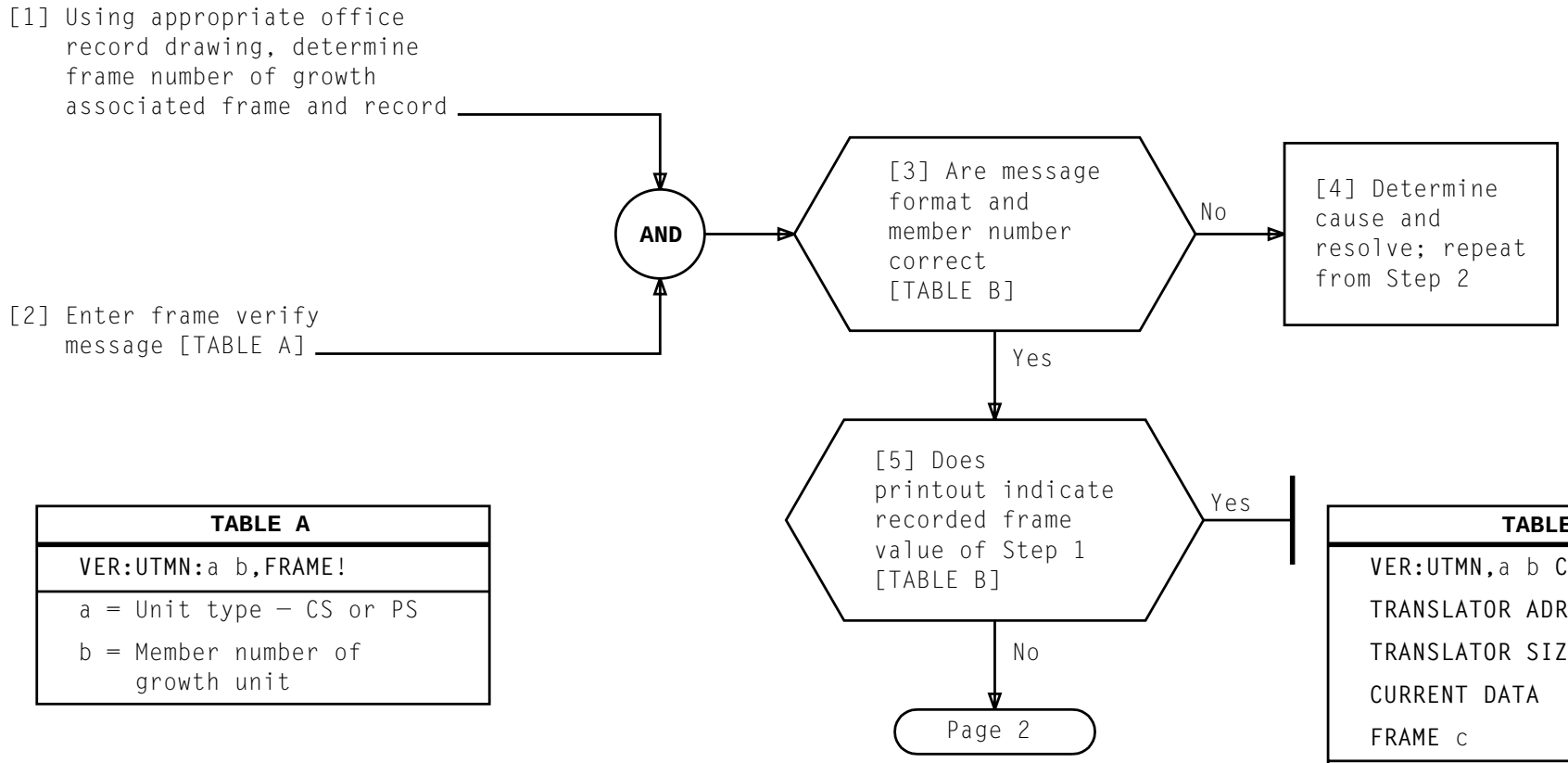


TABLE A
VER:UTMN:a b,FRAME!
a = Unit type — CS or PS b = Member number of growth unit

TABLE B
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA FRAME c
a = Unit type b = Member number c = Recorded frame value

CHANGE AND VERIFY FRAME NUMBER

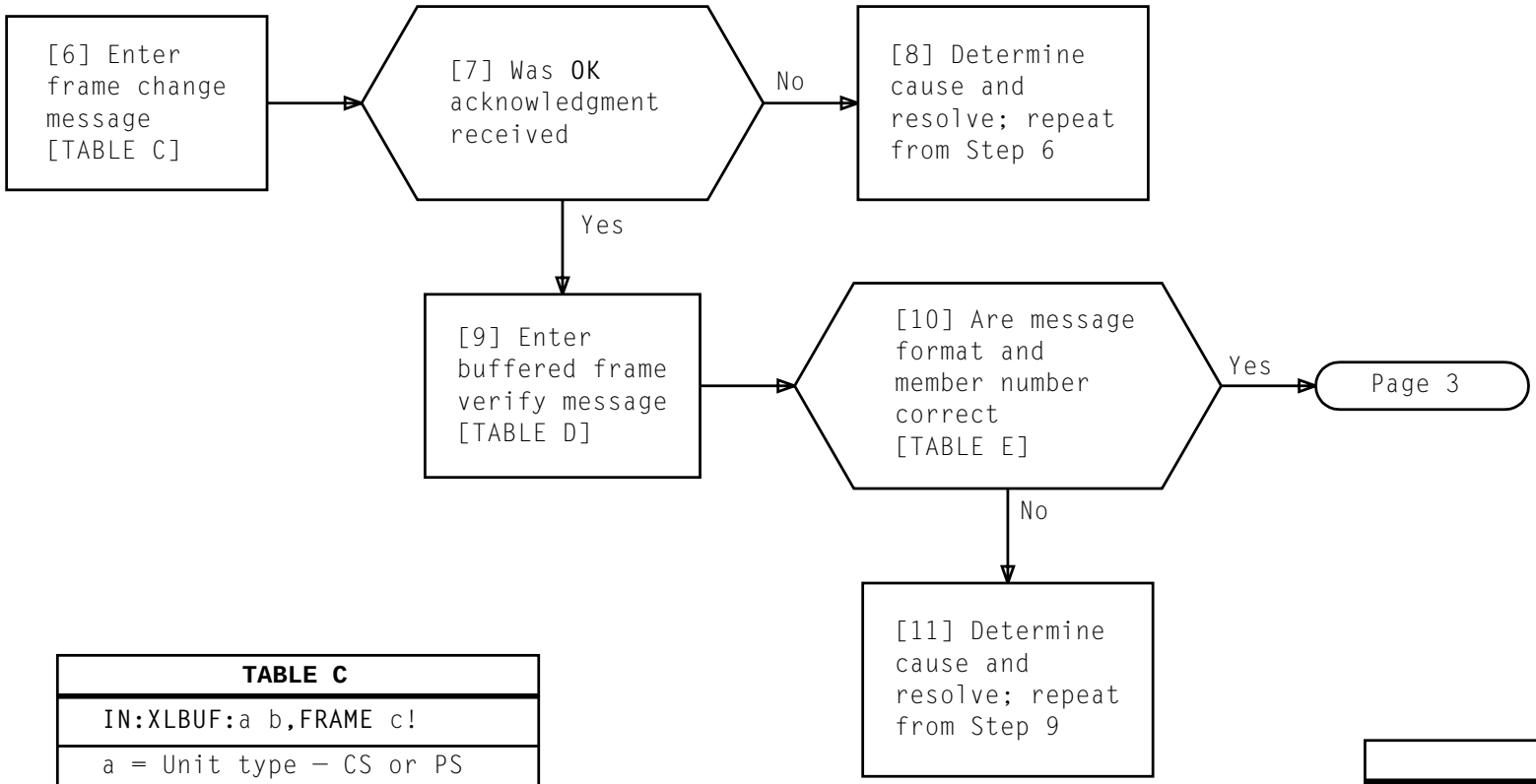


TABLE C
IN:XLBUF:a b,FRAME c!
a = Unit type — CS or PS
b = Member number of growth unit
c = Recorded frame value

TABLE D
VER:UTMN;BUF:a b,FRAME!
a = Unit type — CS or PS
b = Member number of growth unit

TABLE E
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA FRAME c
a = Unit type
b = Member number
c = Recorded frame value

CHANGE AND VERIFY FRAME NUMBER

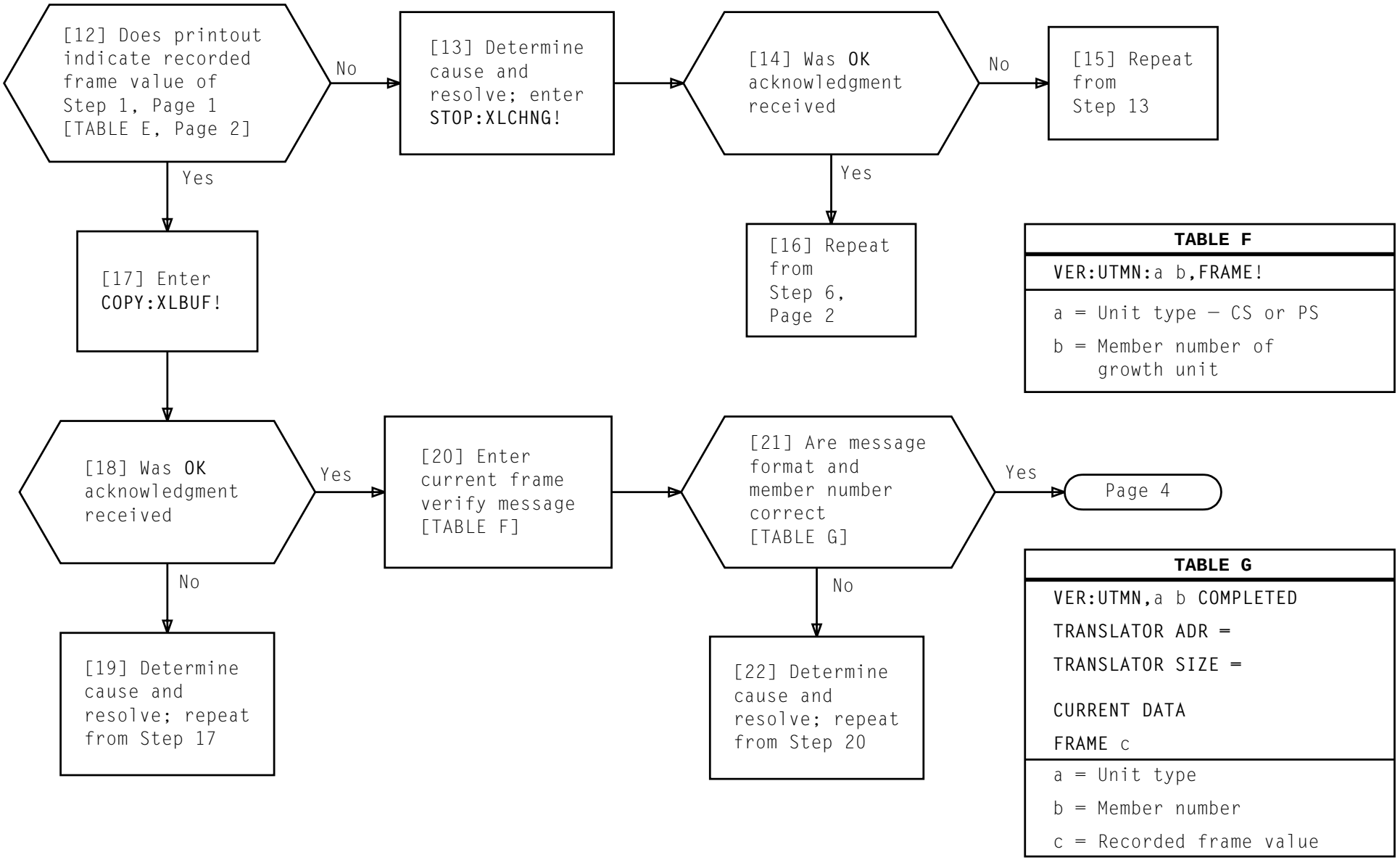


TABLE F

VER:UTMN:a b,FRAME!

a = Unit type — CS or PS

b = Member number of growth unit

TABLE G

VER:UTMN,a b COMPLETED

TRANSLATOR ADR =

TRANSLATOR SIZE =

CURRENT DATA

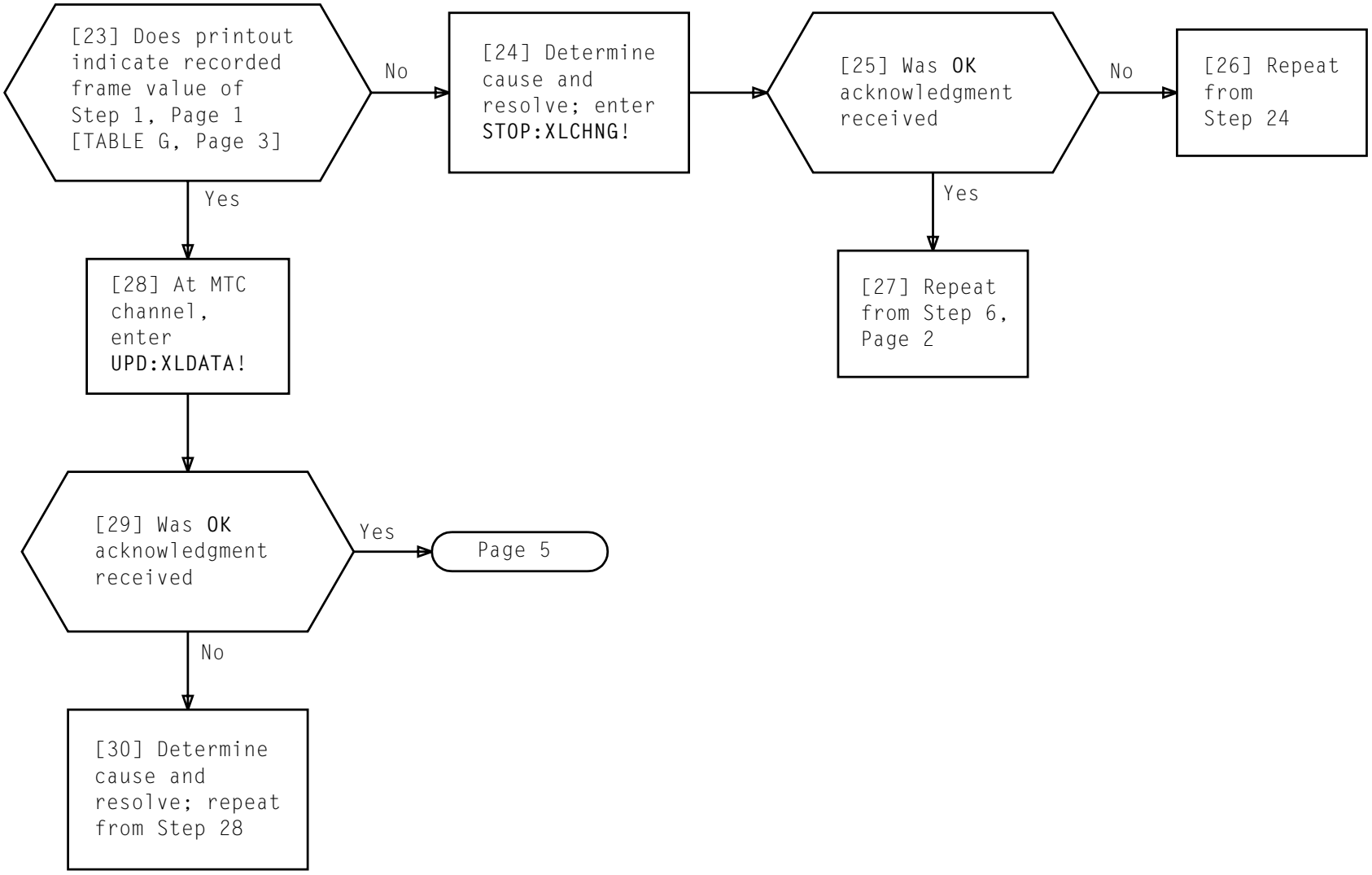
FRAME c

a = Unit type

b = Member number

c = Recorded frame value

CHANGE AND VERIFY FRAME NUMBER



CHANGE AND VERIFY FRAME NUMBER

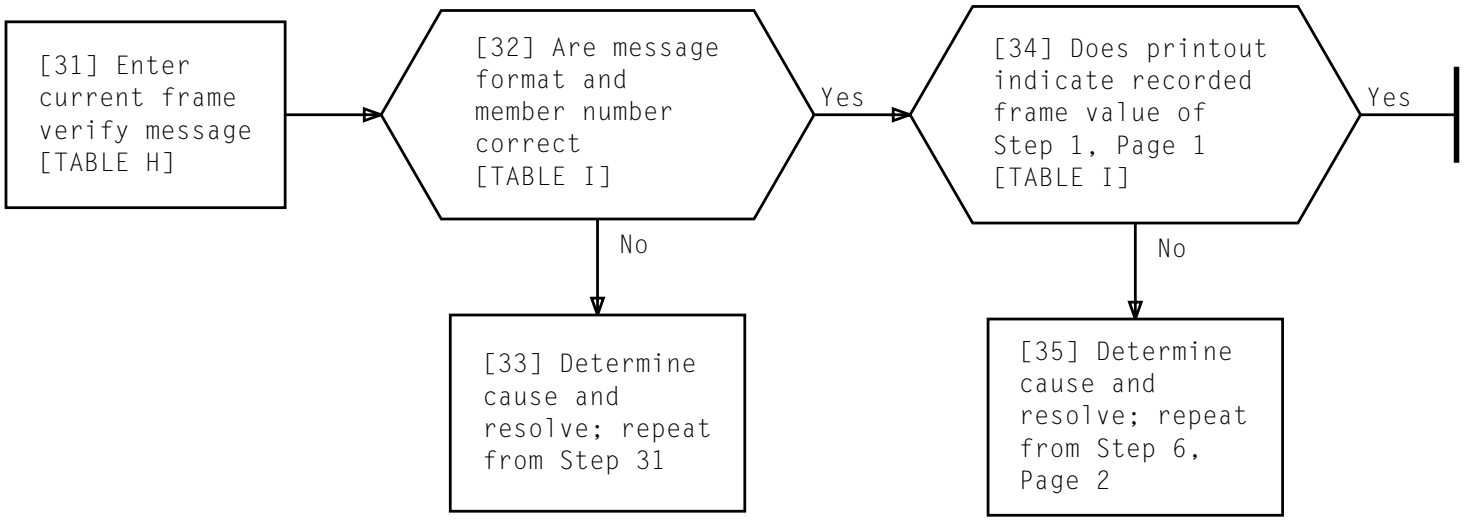


TABLE H
VER:UTMN:a b,FRAME!
a = Unit type — CS or PS b = Member number of growth unit

TABLE I
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA FRAME c
a = Unit type b = Member number c = Recorded frame value

CHANGE AND VERIFY FRAME NUMBER

SUMMARY

Using current verify, verify that scan point assignment is per TABLE C, Page 2. If assignment is in error, record assignment from verify output message for use as old data. Using TABLE C, obtain scan point assignment associated with growth store for use as new data. Using this old and new data, enter in scan point change message for growth store. Verify buffered data, enter copy message, verify current data, and then enter update message. If after each verify, scan point assignment is not per TABLE C, enter stop message and start change from beginning

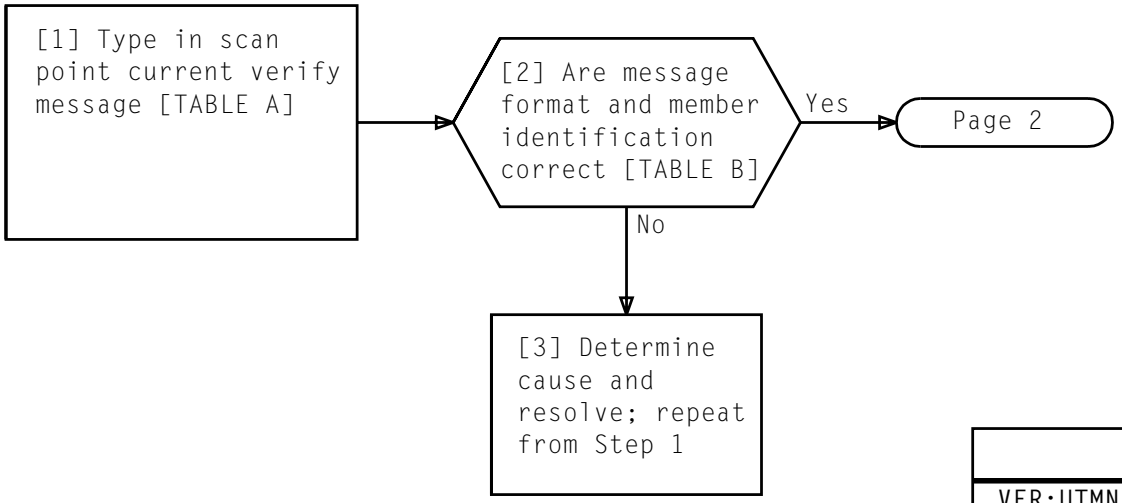


TABLE A

VER:UTMN:a b,SCPT!
a = Unit type — CS or PS
b = Member number of growth unit type

TABLE B

VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA SCPT c
a = Growth unit type b = Member number of growth unit type c = Scan point assignment

CHANGE AND VERIFY SCAN POINT ASSIGNMENT

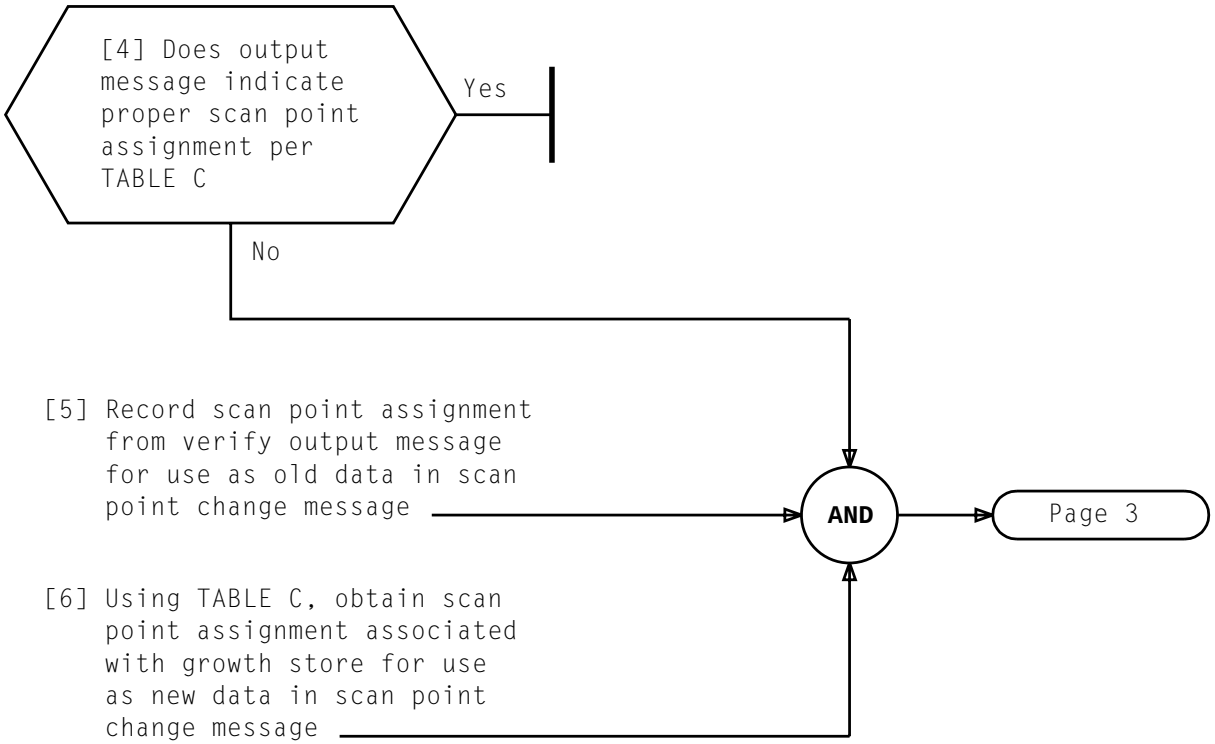


TABLE C

MEMBER NO.	ECS/CS	PS	MEMBER NO.	ECS/CS	PS
0	7000	7240	23	7166	6552
1	7002	7242	24	6200	
2	7140	7300	25	6202	
3	7142	7302	26	6340	
4	7004	7244	27	6342	
5	7006	7246	28	6204	
6	7144	7304	29	6206	
7	7146	7306	30	6344	
8	7010	7250	31	6346	
9	7012	7252	32	6210	
10	7150	7310	33	6212	
11	7152	7312	34	6350	
12	7014	6400	35	6352	
13	7016	6402	36	6214	
14	7154	6540	37	6216	
15	7156	6542	38	6354	
16	7020	6404	39	6356	
17	7022	6406	40	6220	
18	7160	6544	41	6222	
19	7162	6546	42	6360	
20	7024	6410	43	6362	
21	7026	6412	44	6224	
22	7164	6550	45	6226	

CHANGE AND VERIFY SCAN POINT ASSIGNMENT

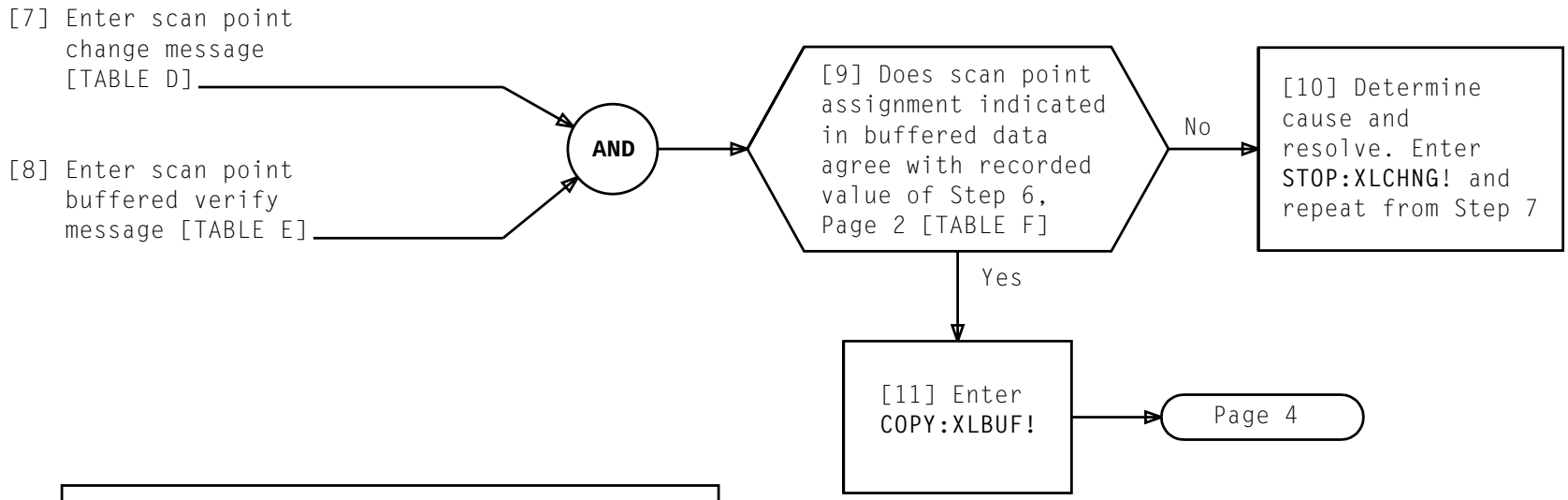


TABLE D
IN:XLBUF:a b,SCPT (c,d)!
a = Unit type — CS or PS
b = Member number of growth unit type
c = Old data from scan point current verify
d = New data recorded from TABLE C, Page 2

TABLE E
VER:UTMN;BUF:a b,SCPT!
a = Unit type — CS or PS
b = Member number of growth unit type

TABLE F
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA SCPT c
a = Growth unit type
b = Member number of growth unit type
c = Scan point assignment of growth unit type

CHANGE AND VERIFY SCAN POINT ASSIGNMENT

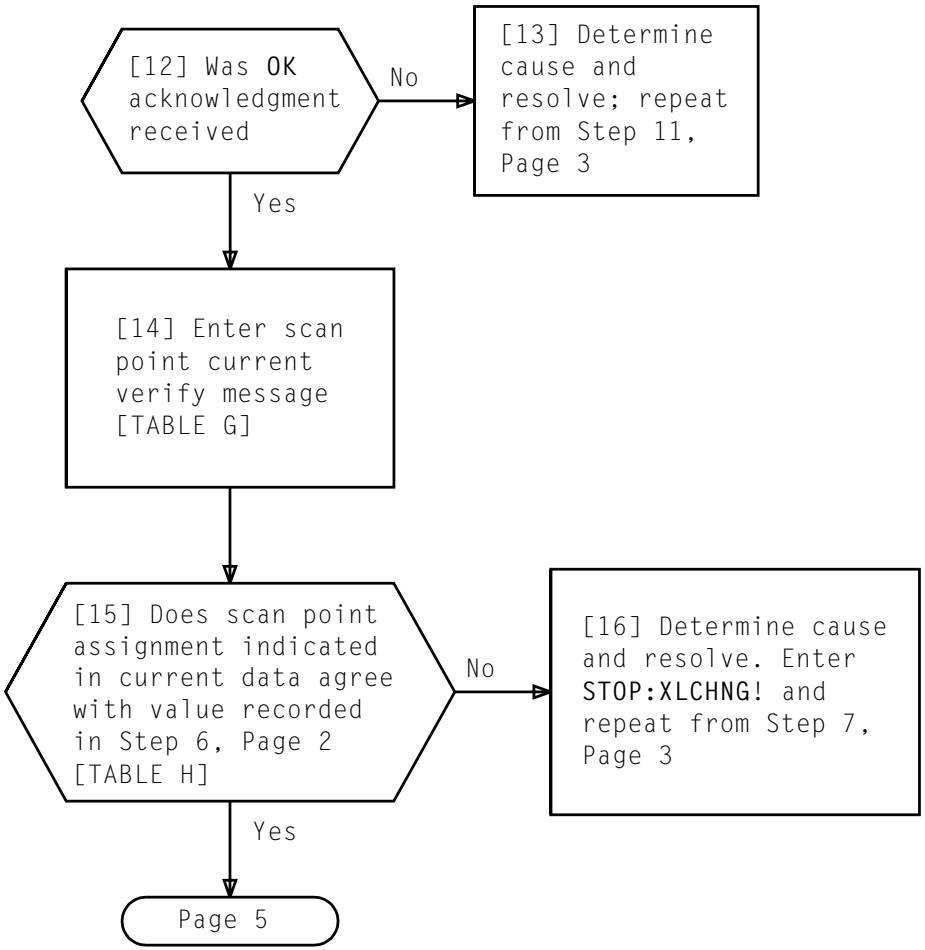


TABLE G

VER:UTMN:a b,SCPT!

a = Unit type — CS or PS

b = Member number of growth unit type

TABLE H

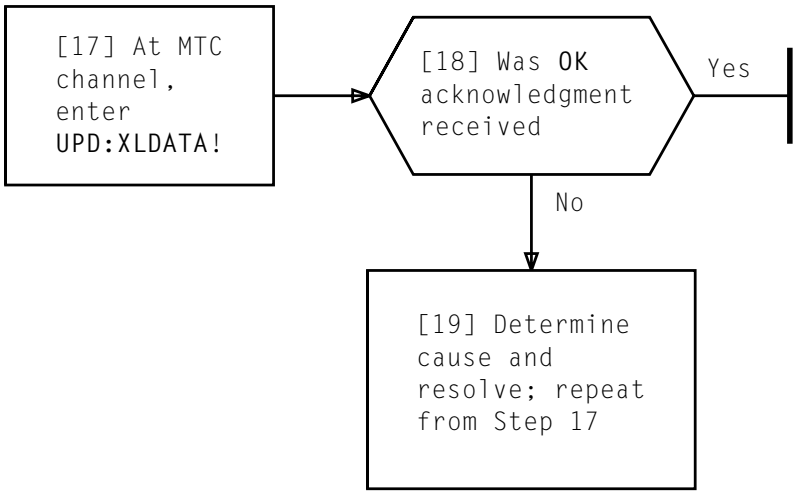
```
VER:UTMN,a b COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

CURRENT DATA
SCPT c
```

a = Growth unit type

b = Member number of growth unit type

c = Scan point assignment of growth unit type

CHANGE AND VERIFY SCAN POINT ASSIGNMENT



CHANGE AND VERIFY SCAN POINT ASSIGNMENT

SUMMARY

Using verify unit type entry message, call up growth store translator. Compare octal output data for word 1 with octal data of TABLE C, Page 3. If installer determines that translator data is in error, word change may be required.

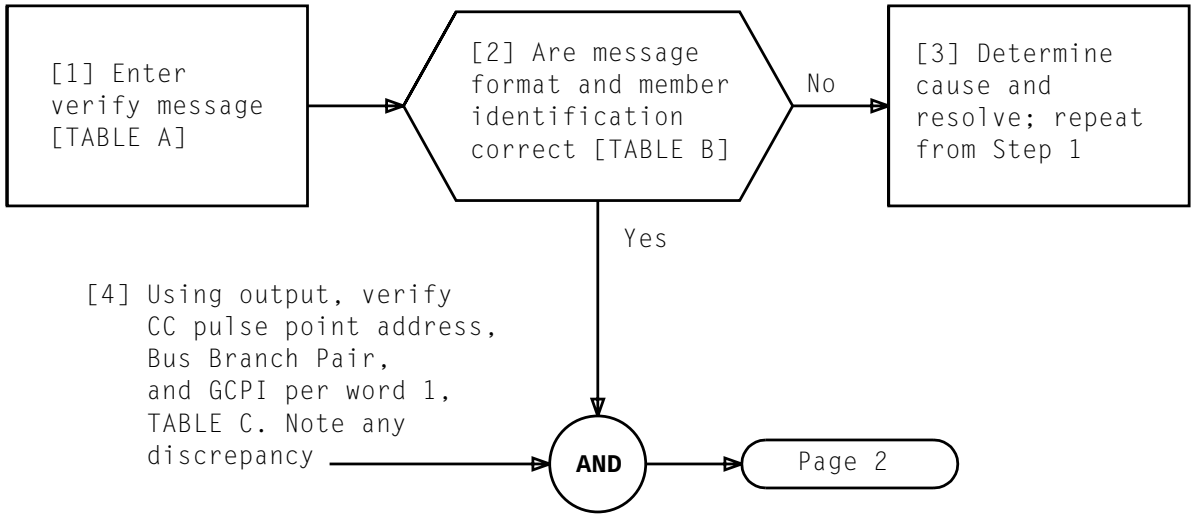


TABLE A

VER:UTMN:a b,ENTRY!

a = Unit type — CS or PS
b = Member number of growth unit type

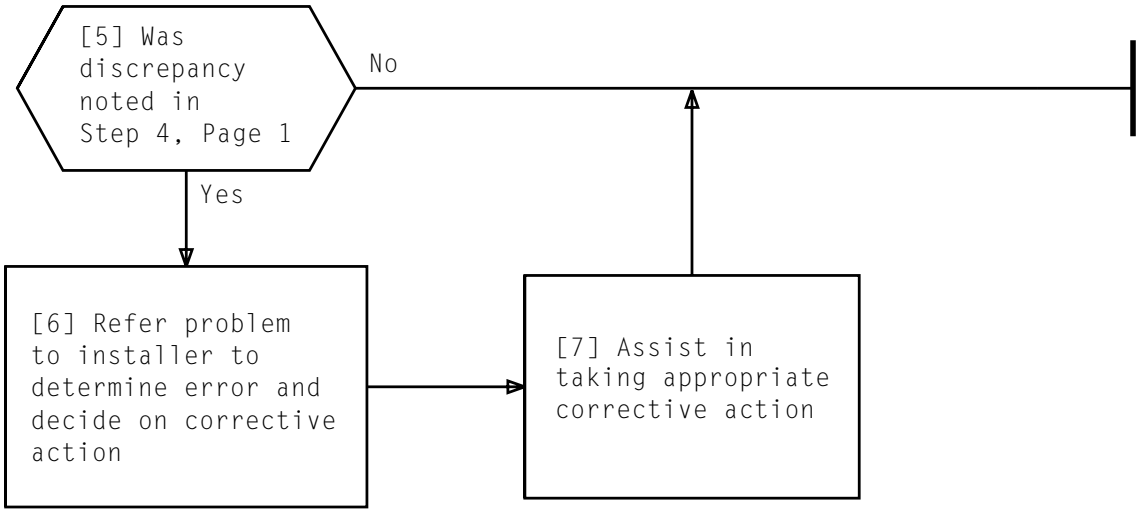
TABLE B

VER:UTMN,a b COMPLETED
TRANSLATOR ADR =
TRANSLATOR SIZE =

CURRENT DATA
_____ (WORD 1) _____

a = Unit type — CS or PS
b = Member number of growth unit type

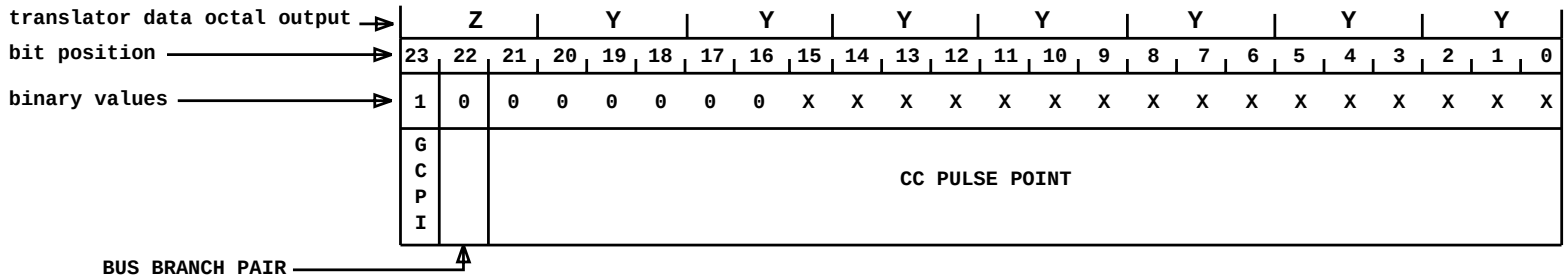
VERIFY WORD 1 IN SEMICONDUCTOR STORE UNIT TYPE TRANSLATOR



VERIFY WORD 1 IN SEMICONDUCTOR STORE UNIT TYPE TRANSLATOR

TABLE C

ENTRY WORD (OCTAL)	UNIT TYPE MEMBER TRANSLATOR DATA AND WORD LAYOUT



1

Y...Y =

MEMBER NUMBER	ECS/CS	PS	MEMBER NUMBER	ECS/CS	PS	MEMBER NUMBER	ECS/CS	PS	MEMBER NUMBER	ECS/CS
0	0010101	0100101	11	0010240	0100240	22	0011020	0101020	34	0014020
1	0010102	0100102	12	0010401	0100401	23	0011040	0101040	35	0014040
2	0010104	0100104	13	0010402	0100402	24	0012001		36	0020101
3	0010110	0100110	14	0010404	0100404	25	0012002		37	0020102
4	0010120	0100120	15	0010410	0100410	26	0012004		38	0020104
5	0010140	0100140	16	0010420	0100420	27	0012010		39	0020110
6	0010201	0100201	17	0010440	0100440	28	0012020		40	0020120
7	0010202	0100202	18	0011001	0101001	29	0012040		41	0020140
8	0010204	0100204	19	0011002	0101002	30	0014001		42	0020201
9	0010210	0100210	20	0011004	0101004	31	0014002		43	0020202
10	0010220	0100220	21	0011010	0101010	32	0014004		44	0020204
						33	0014010		45	0020210

Z = 4 (for CSPS Frame Type)
6 (for ECS Type)

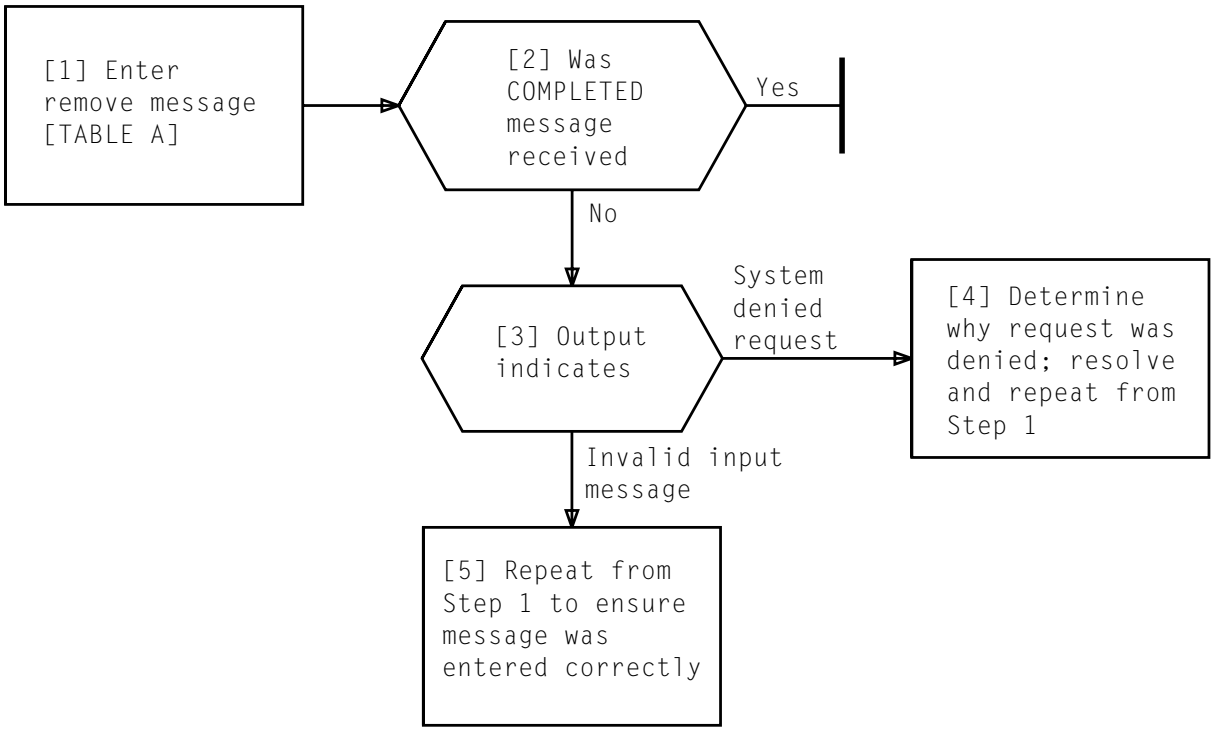


TABLE A
RMV:a b!
a = Unit type CSB or PSB
b = Member number 0 or 1

REMOVE CSB (OR PSB) FROM SERVICE

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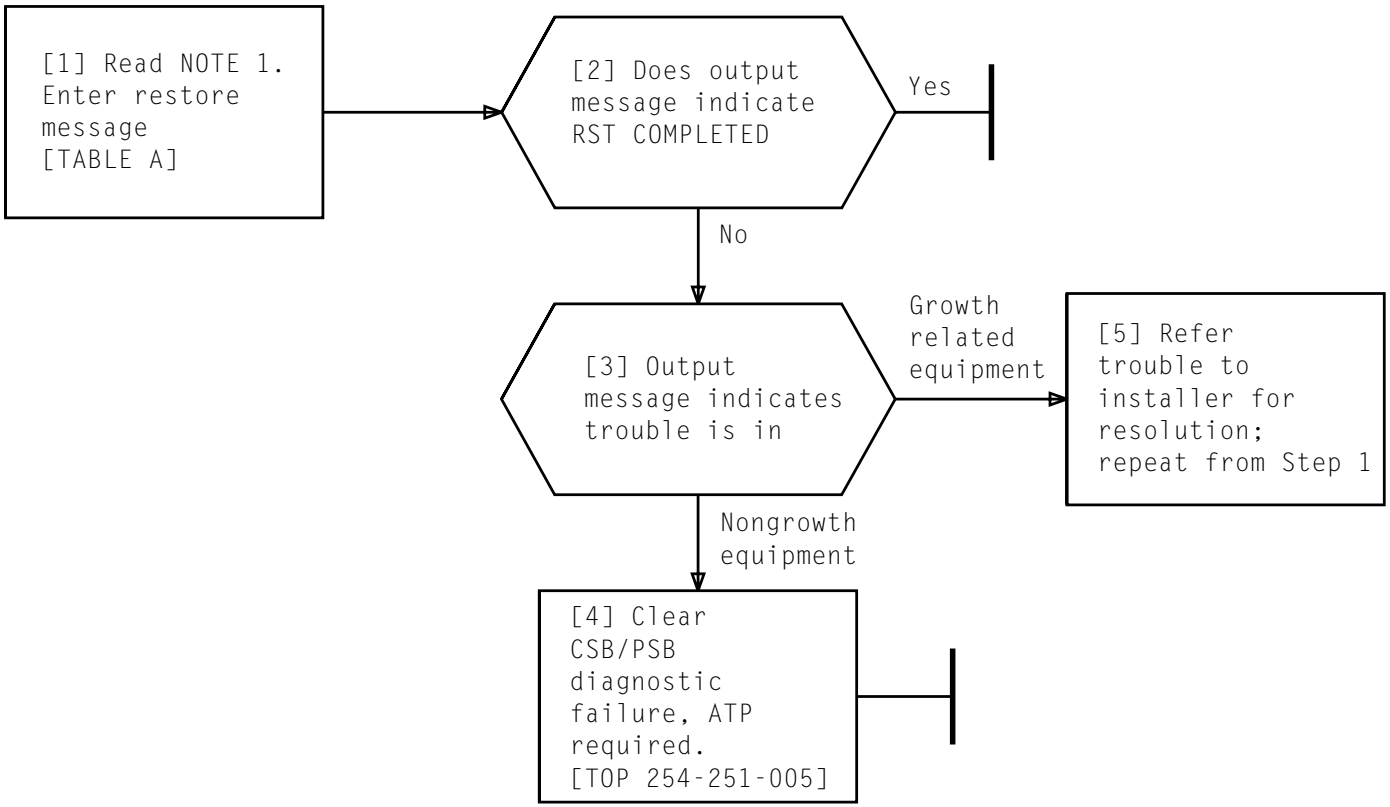

TABLE A
RST:a b!
a = Unit type CSB or PSB
b = Member number 0 or 1

NOTE 1
Restore message will cause CSB (or PSB) diagnostic to be run. CSB (or PSB) will be restored, if ATP or CATP

RESTORE CSB (OR PSB) TO SERVICE

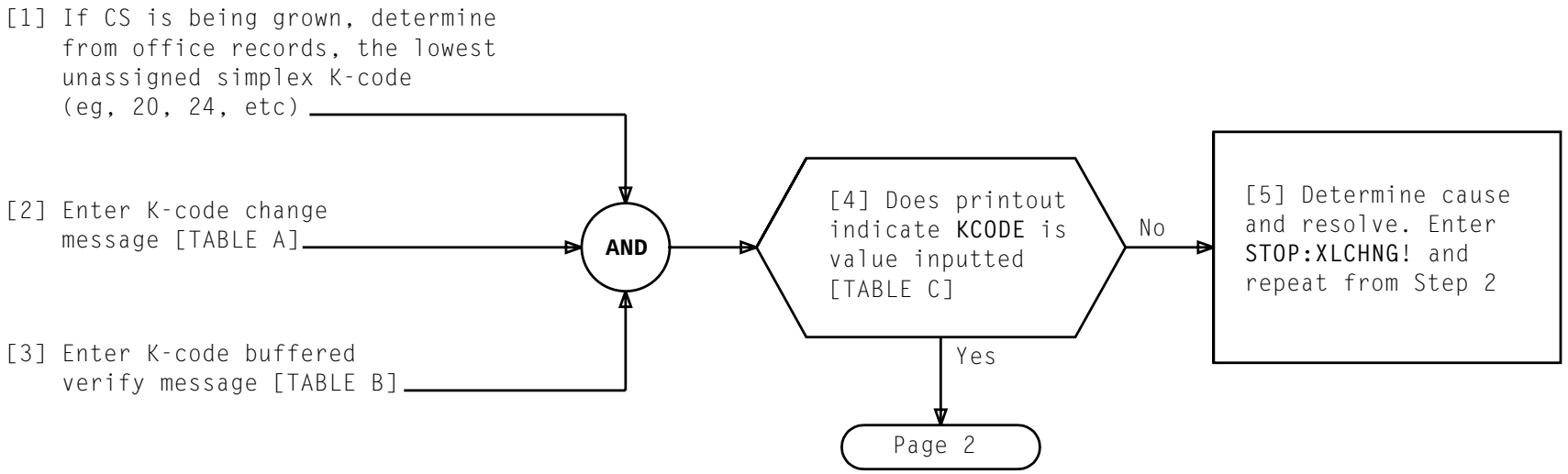

TABLE A
IN:XLBUF1:KCODE a,KE (b,c),d!
a = 0 - 134 b = Current KCODE equipage (UNEQ or OPER) c = New KCODE equipage (UNEQ or OPER) d = DUP or UNDUP for duplicated or unduplicated

TABLE B
VER:UTMN;BUF:a b,KCODE!
a = Unit type — CS or PS b = Member number of growth unit type

TABLE C
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA KCODE c
a = Unit type — CS or PS b = Member number of growth unit type c = Inputted value

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CHANGE AND VERIFY K-CODE FOR GROWTH STORE FOR SOAK MODE

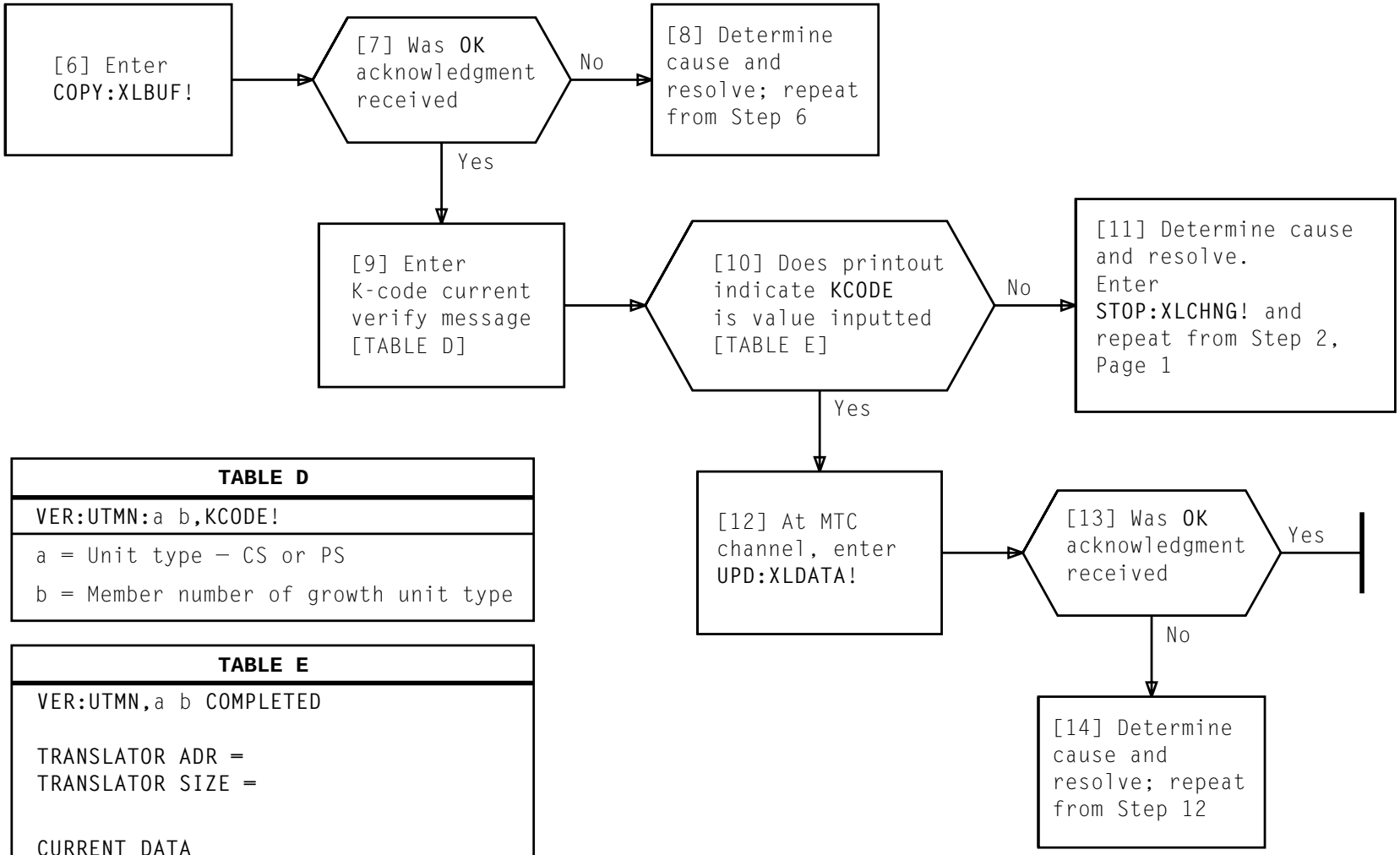


TABLE D
VER:UTMN:a b,KCODE!
a = Unit type — CS or PS
b = Member number of growth unit type

TABLE E
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA KCODE c
a = Unit type — CS or PS
b = Member number of growth unit type
c = Inputted value

CHANGE AND VERIFY K-CODE FOR GROWTH STORE FOR SOAK MODE

SUMMARY

Enter change message to grow member equipage (ME) from SGRO to OPER. Verify buffered ME, enter copy message, verify current ME, then enter update message. If after each verify, ME is not in right state, enter stop message and start change from beginning

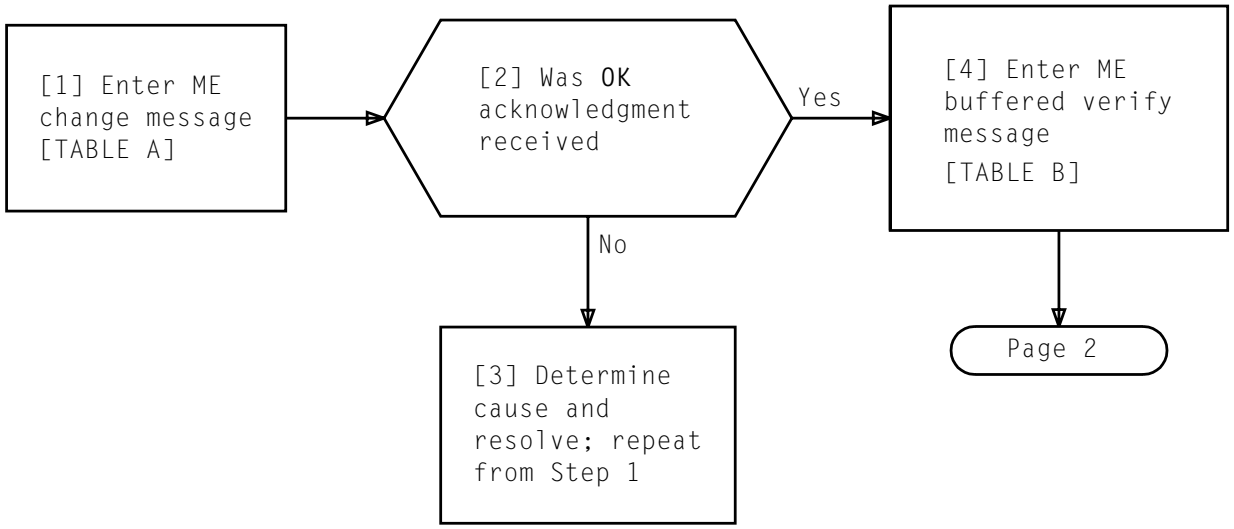


TABLE A
IN:XLBUF:a b,ME (SGRO,OPER),NONE!
a = Unit type — CS or PS b = Member number of growth unit

TABLE B
VER:UTMN;BUF:a b,ME!
a = Unit type — CS or PS b = Member number of growth unit

CHANGE AND VERIFY MEMBER EQUIPAGE FOR GROWTH STORE SPECIAL GROWTH TO OPERATIONAL

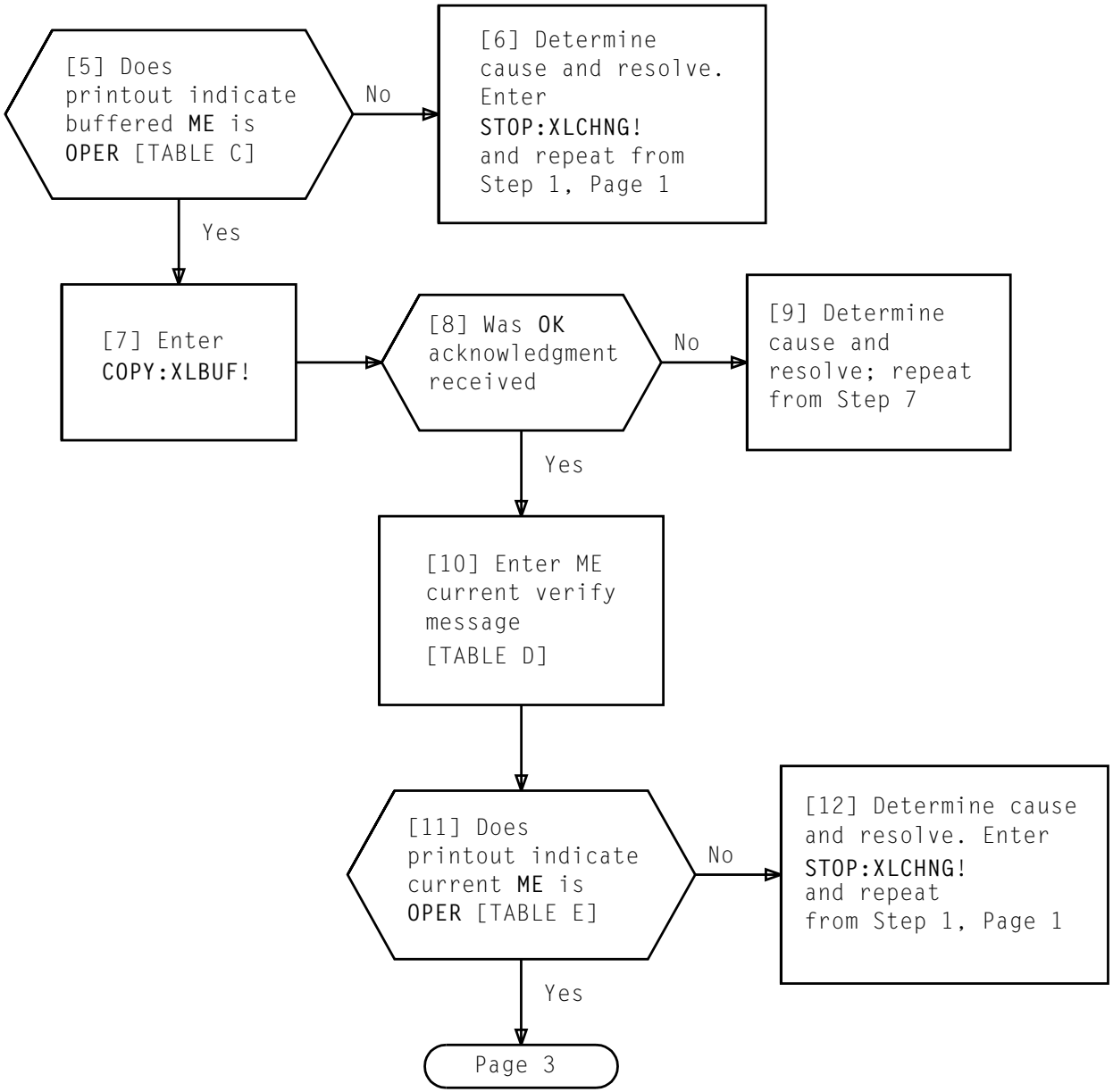


TABLE C

VER:UTMN,a b COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

BUFFERED DATA
ME OPER

a = Unit type — CS or PS
b = Member number of growth unit

TABLE D

VER:UTMN:a b,ME!

a = Unit type — CS or PS
b = Member number of growth unit

TABLE E

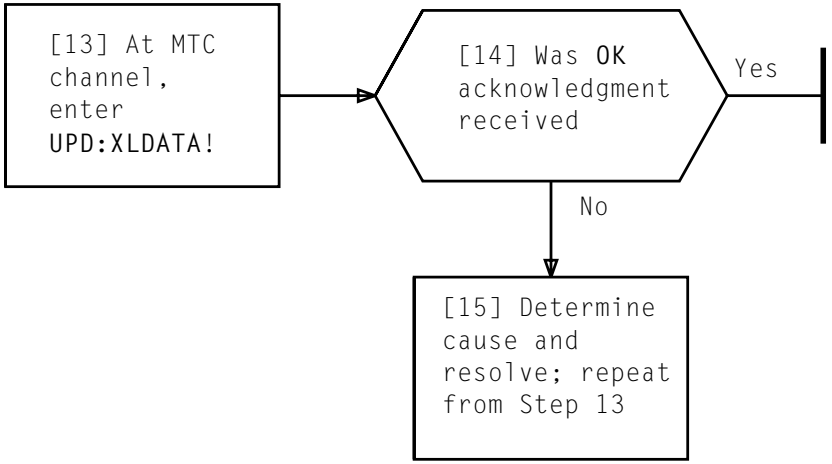
VER:UTMN,a b COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

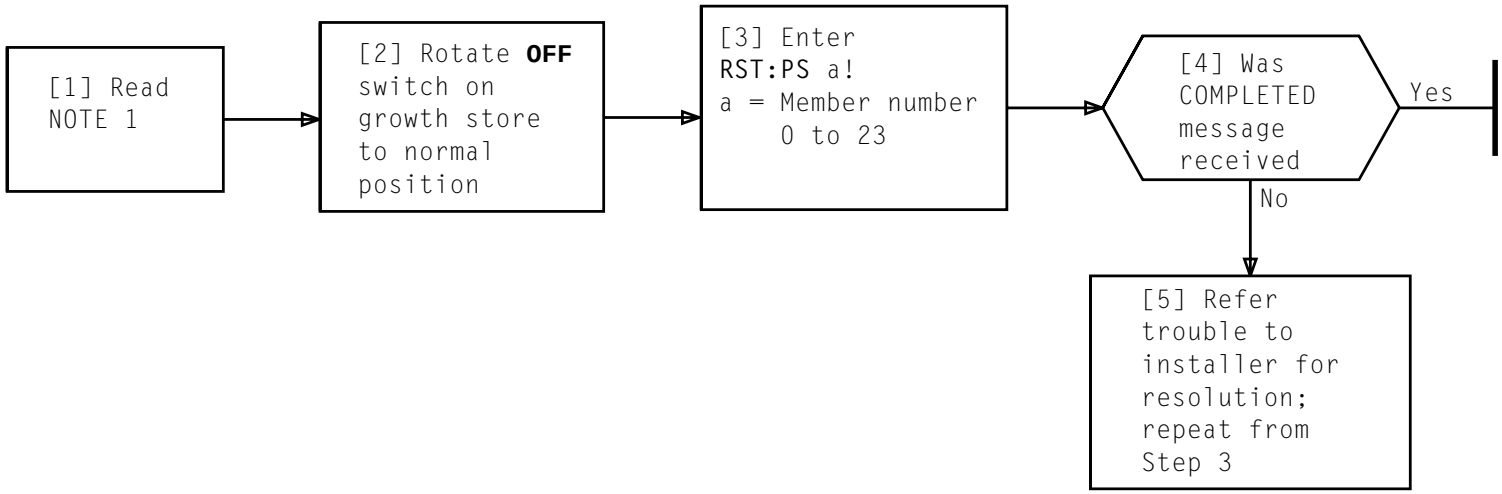
CURRENT DATA
ME OPER

a = Unit type — CS or PS
b = Member number of growth unit

CHANGE AND VERIFY MEMBER EQUIPAGE FOR GROWTH STORE SPECIAL GROWTH TO OPERATIONAL



CHANGE AND VERIFY MEMBER EQUIPAGE FOR GROWTH STORE SPECIAL GROWTH TO OPERATIONAL



CONFIGURE GROWTH PROGRAM STORE TO SOAK MODE

NOTE

When growth store is restored to service, it automatically goes into "soak mode" (operating as duplicate to an active nonduplicated store). It should remain in this mode for minimum of 24 hours

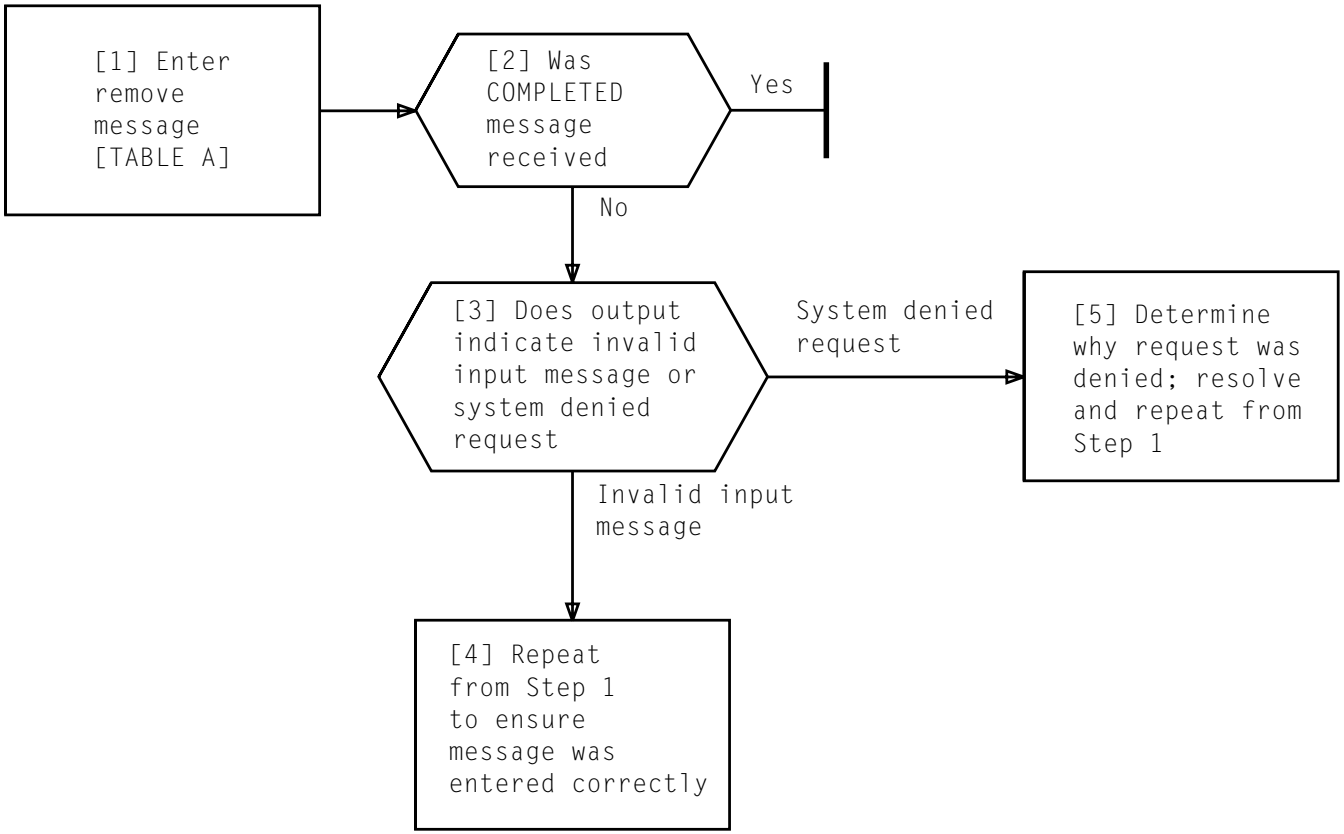
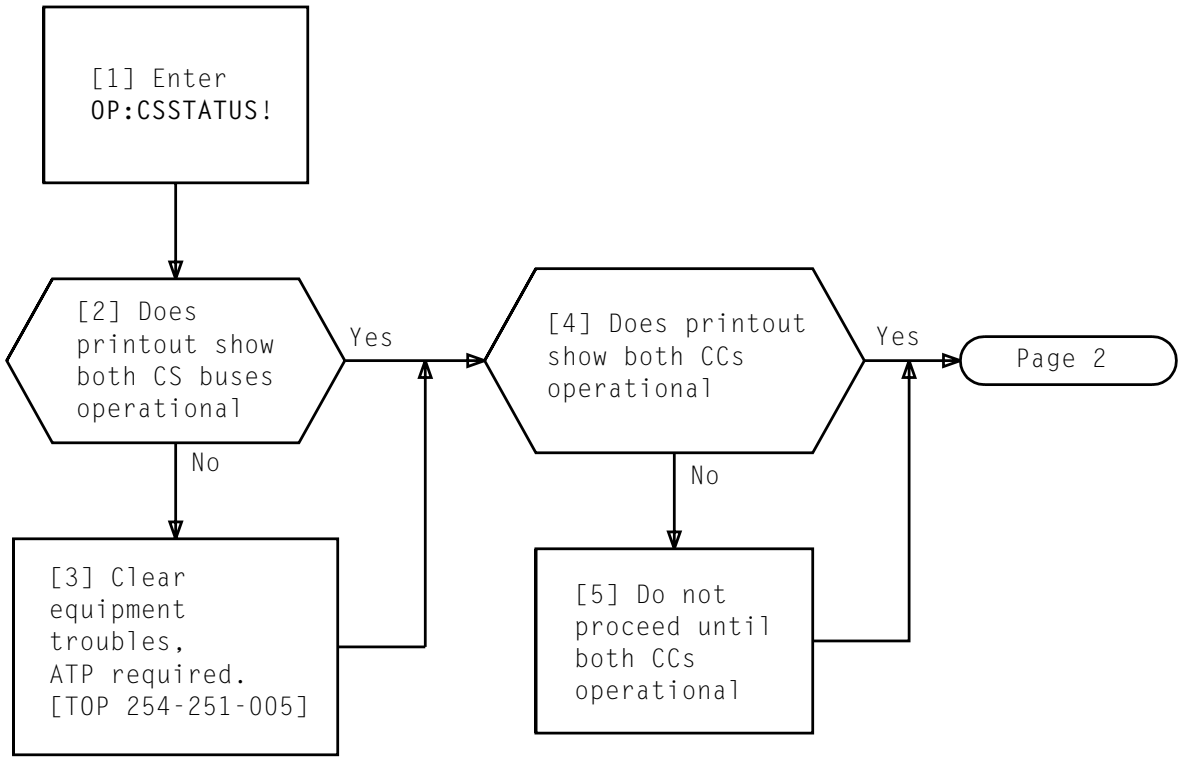


TABLE A
RMV:a b!
a = Unit type — CS or PS b = Member number of growth unit type

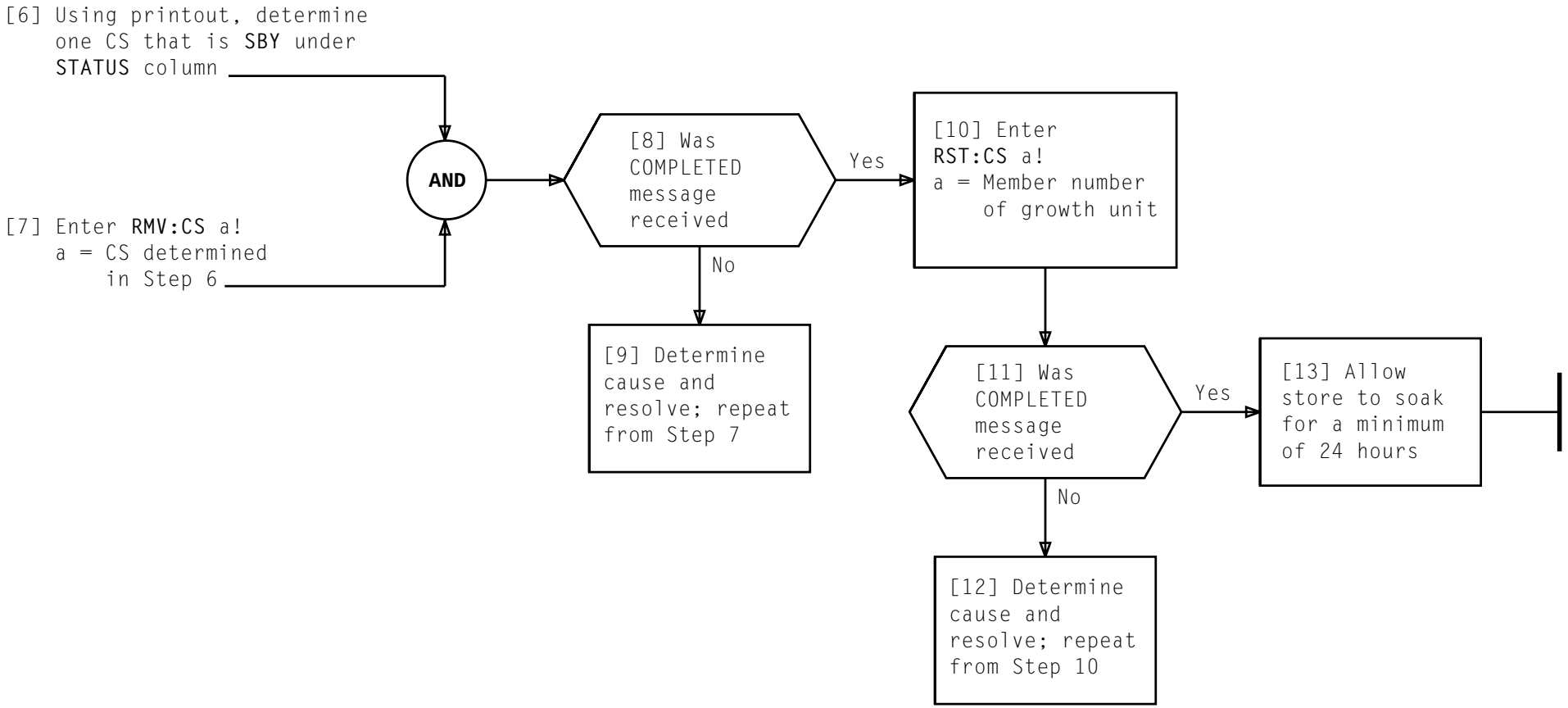
REMOVE CS/PS FROM SERVICE

SUMMARY

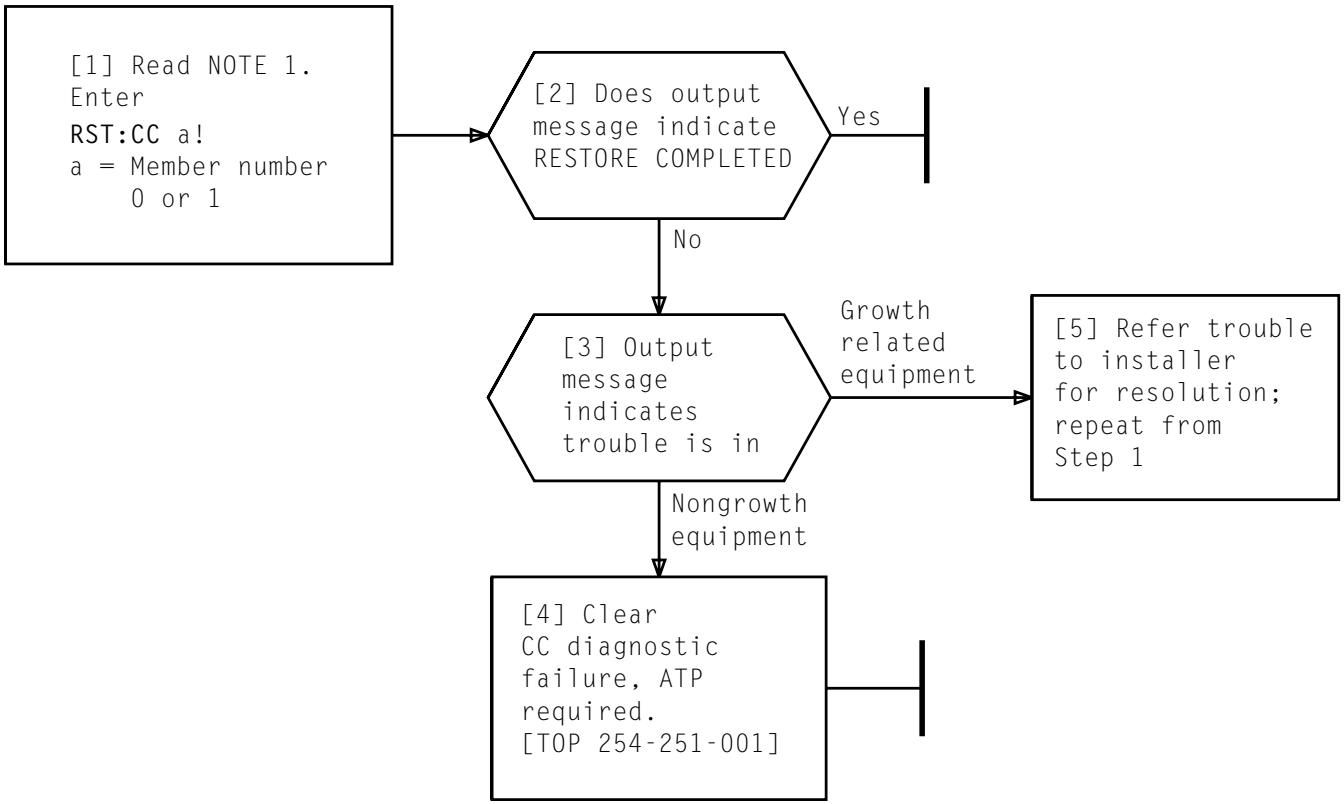
Assure that both CS buses are operational. Select proper K-code. Configure growth store as a duplicate store using restore message. Soak minimum of 24 hours in this mode.



CONFIGURE GROWTH CALL STORE AS DUPLICATE TO A NORMALLY DUPLICATED STORE

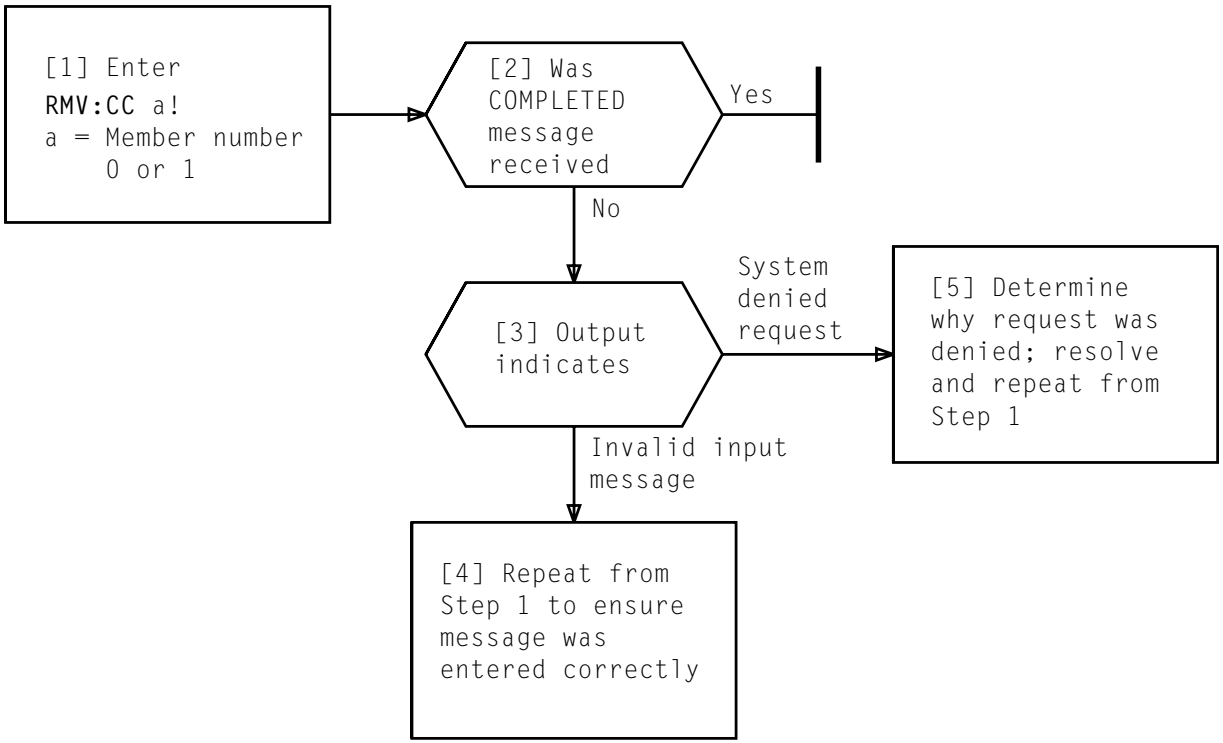


CONFIGURE GROWTH CALL STORE AS DUPLICATE TO A NORMALLY DUPLICATED STORE

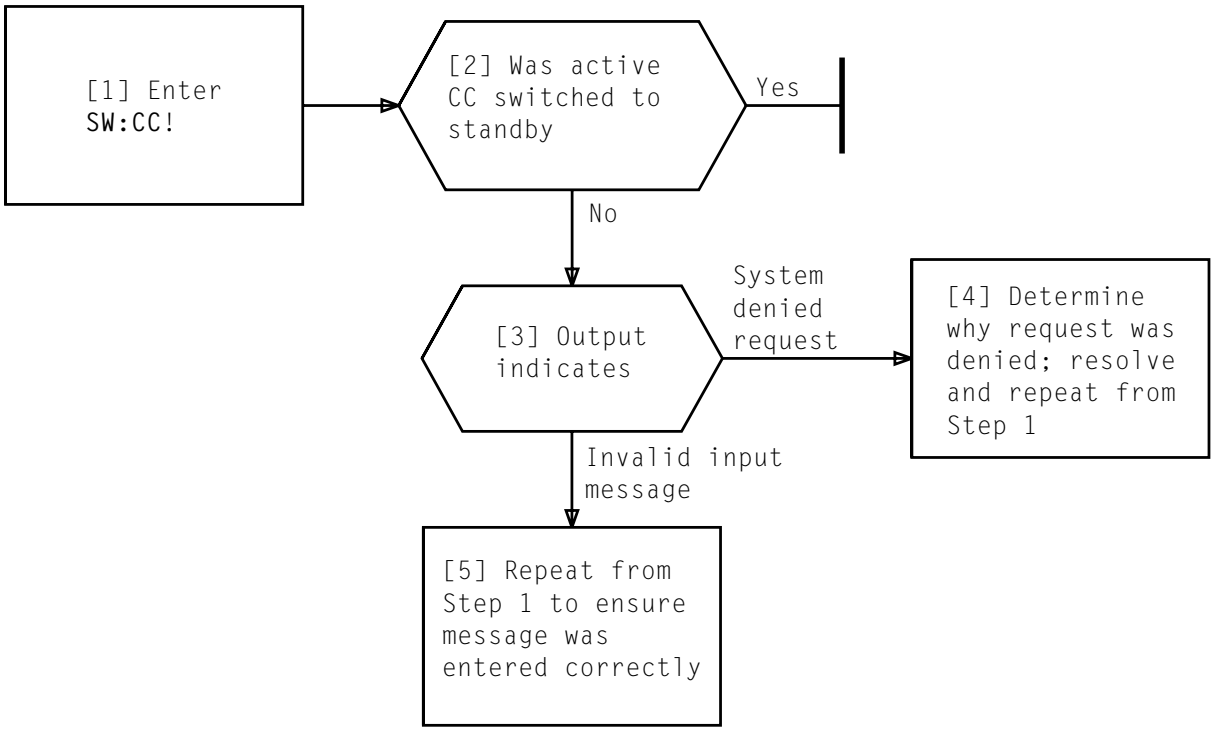


RESTORE STANDBY CC TO SERVICE

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



REMOVE STANDBY CC FROM SERVICE



SWITCH CENTRAL CONTROLS

TABLE A	
ERROR CODE	**EXPLANATION**
200	CANNOT CHANGE ACTIVE ENTRY IN STORE KTRANS
201	UPD:XLDATA MESSAGE INPUT ON ILLEGAL CHANNEL The UPD:XLDATA message may be input only from the maintenance channel. If it is out-of-service, then the message will be accepted from the maintenance backup channel. This restriction is to assist user to avoid making permanent translations changes if those changes are causing interrupts and/or audits (which will be reported on the maintenance channel)
202	ATTEMPT MADE TO CHANGE EQUIPAGE STATE MORE THAN ONE STEP To avoid masking problems by skipping equipage states, only the following equipage state changes are allowed: UNEQ to GROW GROW to SGRO SGRO to OPER OPER to SGRO SGRO to GROW GROW to UNEQ
203	EQUIPAGE STATE INPUT AS CURRENT SYSTEM VALUE DOES NOT MATCH CURRENT SYSTEM VALUE Use VER:UTMN to determine current system value
204	INVALID EQUIPAGE MNEMONIC INPUT Valid mnemonics for equipage are: UNEQ GROW SGRO OPER
205	INVALID MESSAGE SEQUENCE No COPY:XLBUF message has been received. This must precede the UPD:XLDATA message
206	Unused
207	Unused
208	VALUE INPUT FOR GIVEN MNEMONIC EXCEEDS MAXIMUM VALUE ALLOWED FOR THAT FIELD Recheck input message section for limit on item size

TABLE A (Contd)	
ERROR CODE	**EXPLANATION**
209	CS 0 NOT ASSIGNED KCODE 0 (ACT) For CS fault recovery, CS 0 (if it exists) must be assigned to be the active KCODE 0
210	PS 0 NOT ASSIGNED KCODE 20 (ACT) For PS fault recovery, PS 0 (if it exists) must be assigned to be the active KCODE 20
211	MEMBER NUMBER INPUT IS GREATER THAN MAXIMUM ALLOWED FOR GIVEN UNIT TYPE Designated unit does not exist. Recheck message
212	ILLEGAL KCODE ASSIGNMENT Cannot assign a standby (SBY) unit when no unit has been assigned to be the active (ACT) unit
213	MAIN MEMORY ADDRESS HAS NO FILE STORE BACKUP NOTE: Internal error. May indicate memory mutilation. Run SAWS audit. Seek aid
214	NO ARGUMENT DETECTED FOR KEYWORD 'KCODE' Recheck message and reenter
215	KCODE NOT PREVIOUSLY INPUT FOR THIS UNIT Before store may be moved to OPER equipage state, the KCODE must be input. XAPP must build an entry in the store KTRANS table when the store is made OPER and the KCODE is used to determine the correct entry
216	NO NEW EQUIPAGE DETECTED IN INPUT MESSAGE Recheck message and reenter
217	NO NEW VALUE DETECTED IN INPUT MESSAGE Recheck message and reenter
218	NO CURRENT EQUIPAGE DETECTED IN INPUT MESSAGE Recheck message and reenter
219	NO CURRENT VALUE DETECTED IN INPUT MESSAGE Recheck message and reenter
220	TRANSLATION CHANGE PROCEDURE NOT IN PROGRESS
221	DESIGNATED UNIT IS NOT OUT-OF-SERVICE OR IN NONOPERATIONAL EQUIPAGE STATE If translations must be changed for designated unit, use standard message to remove unit from service

TABLE A (Contd)	
ERROR CODE	**EXPLANATION**
222	NO UNIT TYPE, MEMBER NUMBER DETECTED IN INPUT MESSAGE Recheck message and reenter
223	VALUE INPUT AS CURRENT SYSTEM DATA DOES NOT MATCH CURRENT SYSTEM VALUE To determine current system value, use VER:UTMN
224	ATTEMPT MADE TO CHANGE KCODE OF OPERATIONAL STORE Before KCODE may be changed, store must be moved to a nonoperational equipage state. Doing so causes the existing entry in KTRANS to be removed
225	ILLEGAL KEYWORD COMBINATION DETECTED Recheck message and reenter
226	DESIGNATED UNIT TYPE NOT SUPPORTED BY XAPP Check unit type mnemonic for typographical error. Recheck GENERAL INFORMATION for list of unit types supported by XAPP
227	EXTRA ARGUMENTS DETECTED IN INPUT MESSAGE Recheck message and reenter
228	SYSTEM HASH SUM UPDATE FAILURE DETECTED This failure MAY cause unrecoverable SAWS errors. If so, the system backup tape covering translation data must be mounted and SAST must be run to detect and correct the hash problem
	NOTE: If SAST correct mode is invoked, all XAPP changes made since tape was written will be removed. Such an action may not be consistent with current hardware configuration. If in doubt, seek aid
229	MERGE LOCKOUT INPUT FAILURE DETECTED NOTE: Internal error. May indicate memory mutilation. Run SAWS audit. Seek aid
230	MERGE LOCKOUT Another merge data changing client is in progress. This may be the tape writing program (TWRP), recent change (RC), or any client which changes merge data or requires a stable copy of merge data. Wait until client completes, then reenter message
231	PREVIOUS COPY:XLBUF DID NOT COMPLETE Enter STOP:XLCHNG! This will require that all changes since last UPD:XLDATA to be reentered
232	PREVIOUS UPD:XLDATA DID NOT COMPLETE Enter STOP:XLCHNG! This will require all changes entered since last UPD:XLDATA to be reentered

TABLE A (Contd)	
ERROR CODE	**EXPLANATION**
233	NO ARGUMENT DETECTED FOR KEYWORD ‘IOUC’ Recheck message and reenter
234	DISK FILE EQUIPAGE IS GREATER THAN FILE STORE EQUIPAGE A subordinate unit cannot be in an equipage state higher than the controlling unit. If growing, grow the controlling unit first. If degrowing, degrow the subordinate unit first
235	IOUS EQUIPAGE IS LESS THAN ATTACHED IOUC EQUIPAGE A subordinate unit cannot be in an equipage state higher than the controlling unit. If growing, grow the controlling unit first. If degrowing, degrow the subordinate unit first
236	IOUC EQUIPAGE IS LESS THAN ATTACHED PORT EQUIPAGE A subordinate unit cannot be in an equipage state higher than the controlling unit. If growing, grow the controlling unit first. If degrowing, degrow the subordinate unit first
237	ONE OR MORE REQUIRED IOUC PARAMETERS HAVE NOT BEEN INPUT In order to build related IO tables, all channel parameters must be input before channel is moved from UNEQ equipage state
238	ATTEMPT TO CHANGE CHANNEL PARAMETER WHEN CHANNEL IS OPERATIONAL In order to build related IO tables, most channel parameters may be changed only if channel is not in the OPER equipage state. Degrow channel to SGRO, make change, and grow to OPER
239	INVALID ARGUMENT MNEMONIC DETECTED Acceptable arguments for this keyword are Y (indicates YES or EQUIPPED) N (indicates NO or NOT EQUIPPED)
240	NO ARGUMENT DETECTED FOR KEYWORD ‘SPD’ Recheck message and reenter
241	INVALID CHANNEL SPEED INPUT Recheck message and reenter
242	NO ARGUMENT DETECTED FOR KEYWORD ‘TRMTYP’ Recheck message and reenter

TABLE A (Contd)	
ERROR CODE	**EXPLANATION**
243	INVALID TERMINAL TYPE INPUT Valid mnemonics are: NONE — no terminal equipment P — printer T — tape KD — keyboard, display KP — keyboard, printer PT — printer, tape KDP — keyboard, display, printer KPT — keyboard, printer, tape KDPT — keyboard, display, printer, tape KDT — keyboard, display, tape
244	DUPLICATE CHANNEL ASSIGNMENT DETECTED Given channel name (or number) is already assigned to a channel. Select another name
245	ATTEMPT DETECTED TO CHANGE CHANNEL ASSIGNMENT ILLEGALLY Channel name may be changed only when channel is in the UNEQ equipage state. Several related IO tables are indexed with channel name (number) and these tables have to be rebuilt when channel name (number) changes
246	PORT EQUIPAGE IS GREATER THAN PARENT IOUC EQUIPAGE A subordinate unit cannot be in an equipage state higher than the controlling unit. If growing, grow the controlling unit first. If degrowing, degrow the subordinate unit first
247	NO ARGUMENT DETECTED FOR KEYWORD ‘PORT’ Recheck message and reenter
248	INPUT PORT NUMBER IS INVALID Recheck message and reenter
249	UNABLE TO FIND IDLE CHANNEL MEMORY BLOCK NOTE: Seek aid
250	ONE OR MORE REQUIRED PORT PARAMETERS HAVE NOT BEEN INPUT All port parameters must be input before port equipage may be moved from UNEQ equipage state

TABLE A (Contd)	
ERROR CODE	**EXPLANATION**
251	IOUS HARDWARE GENERATION IS INVALID Recheck message and reenter
252	IOUC EQUIPAGE IS GREATER THAN PARENT IOP EQUIPAGE A subordinate unit cannot be in an equipage state higher than the controlling unit. If growing, grow the controlling unit first. If degrowing, degrow the subordinate unit first
253	SPEED CAPABILITY OF IO MICRO PROCESSOR HAS BEEN EXCEEDED Current IOP capability is 19,200 baud. Total of all attached channels may not exceed this number
254	NO ARGUMENT FOR KEYWORD 'SUBMEM' DETECTED Recheck message and reenter
255	ARGUMENT FOR 'SUBMEM' IS INVALID Recheck message and reenter
256	IOMP EQUIPAGE IS LESS THAN ATTACHED IOUC EQUIPAGE A subordinate unit cannot be in an equipage state higher than the controlling unit. If growing, grow the controlling unit first. If degrowing, degrow the subordinate unit first
257	IOMP EQUIPAGE IS GREATER THAN IOUS EQUIPAGE A subordinage unit cannot be in an equipage state higher than the controlling unit. If growing, grow the controlling unit first. If degrowing, degrow the subordinate unit first
258	ATTEMPT TO ASSIGN CHANNEL 0 TO IOUS 0, IOUC X Channel 0 must be assigned to IOUS 0, IOUC 0
259	ATTEMPT TO ASSIGN CHANNEL 0 TO IOUS X Channel 0 must be assigned to IOUS 0, IOUC 0
260	ATTEMPT TO ASSIGN CHANNEL X TO IOUS 0, IOUC 0 Channel 0 must be assigned to IOUS 0, IOUC 0
261	INVALID IOUC NUMBER DETECTED Recheck message and reenter
262	NON ZERO BUS SCAN POINT DETECTED New bus scan point must be zero (growth of semiconductor stores)
263	ILLEGAL CS SCAN POINT DETECTED New CS scan point can replace only an unequipped CS or a CSB frame

TABLE A (Contd)	
ERROR CODE	**EXPLANATION**
264	ILLEGAL PS SCAN POINT DETECTED New PS scan point can replace only an unequipped PS or a PSB frame
265	INVALID SCAN POINT ROW DETECTED Scan point row must be greater than or equal to 48
266	INVALID SCAN POINT COLUMN DETECTED Scan point column must be less than or equal to D(22)
267	PARITY OVER SCAN POINT ROW IS INCORRECT Parity must be odd
268	SCAN POINT COLUMN IS ODD Scan point column must be even
269	ATTEMPT TO REASSIGN SCAN POINT OF EQUIPPED UNIT When reassigning scan points, only those of unequipped units may be used. Recheck message and reenter
270	MNEMONIC FOR 'CHNAME' NOT RECOGNIZED Recheck message and reenter
271	CHANNEL NUMBER IS GREATER THAN MAXIMUM (CURRENTLY 95) Recheck message and reenter
272	ATTEMPT TO CHANGE PARAMETER OF OPERATIONAL PORT Port must be in nonoperational equipage state to change parameters. Degrow port to SGRO, make parameter change, grow port to OPER
273	Unused
274	Unused
275	Unused
276	Unused
277	Unused
278	Unused
279	Unused
280	Unused
281	FILE STORE OPERATIONAL FAILURE DETECTED Retry message. If repeated failure, seek aid

TABLE A (Contd)	
ERROR CODE	**EXPLANATION**
282	Unused
283	HOLDING TIME EXCEEDED MACP will wait for 3 minutes for a file store operation to complete. If no indication is received in 3 minutes, XAPP is aborted. Seek aid
284	PAGING SUPERVISOR ABORT See associated audit message
285	Unused
286	INTERRUPT DURING XAPP EXECUTION See associated interrupt printout. If not autonomous, reenter message. Otherwise, save printout and seek aid
287	TERMINATION REQUESTED BY XAPP This may be caused by several events: (1) Interrupt handling by LIBRARY control programs. This may indicate an interrupt during XAPP execution. If so, see code 286 (2) A STOP:MACLI message (3) A STOP:LIBSYS message
288	Unused
289	Unused
290	Unused
291	ERROR IN MESSAGE VECTOR DETECTED NOTE: Internal error. Seek aid
292	TIMEOUT. NO MESSAGE RECEIVED FOR TWO HOURS Any XAPP message (correct syntax or not) will reset timer. XAPP must be restarted
293	Unused
294	Unused
295	Unused
296	Unused
297	Unused
298	Unused
299	Unused

TABLE A (Contd)	
ERROR CODE	**EXPLANATION**
300	FILE STORE QUEUE FULL Reenter message
301	DKAD REJECT. CORE ADDRESS OUT-OF-RANGE OF GIVEN IDTAG NOTE: Internal error. Seek aid
302	DKAD REJECT. FILE STORE ADDRESS MISMATCHES IDTAG NOTE: Internal error. Seek aid
303	DKAD REJECT. WRITE REQUEST NOT MULTIPLE OF 32 OR NOT ON SECTOR BOUNDARY NOTE: Internal error. Seek aid
304	DKAD REJECT. SIZE TOO BIG NOTE: Internal error. Seek aid
305	DKAD REJECT. FILE SPECIFIED IS OUT-OF-SERVICE NOTE: Internal error. Seek aid
306	DKAD REJECT. BLOCKED NOTE: Internal error. Seek aid
307	DKAD REJECT. WRITE TROUBLE TO IN-SERVICE FILE REQUESTED NOTE: Internal error. Seek aid
308	DKAD REJECT. QUEUE INVALID FOR XAPP NOTE: Internal error. Seek aid
309	DKAD REJECT. MUTILATED QUEUE NOTE: Internal error. Seek aid
310	DKAD REJECT. NO QUEUE SPECIFIED NOTE: Internal error. Seek aid
311	THE CCs ARE NOT IN A FAST STATE Either the CCs are not wired for fast operation or the required packs for fast operation are not in the CCs
312	THE COMMUNITY IS NOT CAPABLE OF RUNNING FAST All stores in the community must be 256K stores with MTHG value set to fast
313	NO NEW SPEED MNEMONIC WAS ENTERED

TABLE A (Contd)	
ERROR CODE	**EXPLANATION**
314	NO OLD SPEED MNEMONIC WAS ENTERED
315	OLD SPEED ARGUMENT DOES NOT MATCH CURRENT SYSTEM SPEED
316	THE SPEED ITEM IS CHANGED BY MORE THAN ONE STEP
317	THE SPEED MNEMONIC IS INVALID
318	A UNIT TYPE – MEMBER NUMBER IS NOT ALLOWED BY THE KEYWORD 'SPEED' CSCOMM and PSCOMM are the only items allowed with SPEED
319	NO ARGUMENT FOR THE KEYWORD FRAME WAS ENTERED
320	NO KEYWORD INDICATING THE TYPE OF KTRANS ENTRY WAS INPUT A default is no longer allowed. The allowable keywords are ACT, SBY, and NONE. NONE will cause no entry to be made in KTRANS
321	THE KCODE ENTERED WAS NOT A MULTIPLE OF OCTAL 4 The only allowable KCODES for 256K stores are (0, 4, 10, 14, 20, 24, 30, 34)
322	THE FRAME NUMBER IS INVALID The allowable frame numbers are 0-31
323	THE STANDBY STORE FOR THE BASE KCODE CANNOT BE DEGROWN
324	THE FAST SPEED BIT FOR A STORE IN THIS COMMUNITY IS NOT SET Use the set message to set all stores in the community to FAST
325	NO HARDWARE VERSION TRANSLATOR ADR WAS FOUND. AN INVALID UNIT NUMBER OR UNIT TYPE WAS ENTERED
326	NO HVTRANS MNEMNONIC TERM WAS ENTERED
327	NO 2ND ARGUMENT WAS ENTERED FOR KEYWORD 'HVTRANS'
328	AN INVALID HVTRANS ITEM WAS ENTERED
329	HARDWARE VERSION TRANSLATOR NOT DEFINED FOR UNIT TYPE SPECIFIED
330	THE CHG VALUE MUST BE 3 TO EQUIP THE CHANNEL WITH DIALUP
331	THE ARGUMENT ENTERED FOR THE KEYWORD PTC IS MISSING OR INVALID
332	THE KEYWORDS BUF AND BOTH ARE NOT ALLOWED FOR A KTRANS DUMP

TABLE A (Contd)	
ERROR CODE	**EXPLANATION**
333	THE ‘CHNAME’ KEYWORD HAS ALREADY BEEN ENTERED. TO CHANGE THE CHNAME AT THIS POINT, ENTER STOP:XLCHNG OR CHANGE THE REST OF THE CHANNEL PARAMETERS AND GROW THE CHANNEL
334	THE KEYWORD ‘CHNAME’ HAS TO BE ENTERED BEFORE ANY OTHER CHANNEL (IOUC) KEYWORDS CAN BE PROCESSED
335	NO MODE MNEMONIC ITEM WAS INPUT
336	AN INVALID MODE MNEMONIC WAS INPUT. VALID MNEMONICS ARE: FLLDPX — FULL DUPLEX HLFDPX — HALF DUPLEX
337	AN INVALID APPLICATION ID WAS INPUT VALID APPLICATION ID’S ARE (0 THROUGH 7) 0 MEANING ‘NONE’
338	INVALID DATASET TYPE INPUT. VALID DATASET TYPES ARE: 212A,201CDD,201CPL,208A,208B,209A,201CPD,208APD,202108
339	NO ARGUMENT FOR DATASET TYPE WAS ENTERED
340	ITEM ENTERED IS VALID ONLY FOR A CHANNEL WITH A CHG VALUE OF 4 OR GREATER AND PORT 0
341	NO ARGUMENT FOR ‘ORIGNDA’ INPUT
342	NO ARGUMENT FOR ‘ORIGAHP’ INPUT
343	NO ARGUMENT FOR ‘DESTNDA’ INPUT
344	NO ARGUMENT FOR ‘DESTAHP’ INPUT
345	NO ARGUMENT FOR ‘MXBLKSZ’ INPUT
346	MAXIMUM DATA BLOCK SIZE INVALID. THE ARGUMENT FOR ‘MXBLKSZ! MUST BE A MULTIPLE OF 3 AND LESS THAN OR EQUAL TO DECIMAL 510
347	INVALID ARGUMENT FOR ORIGIN NODE ADDRESS. VALID ARGUMENTS ARE HEXADECIMAL (00 THROUGH FF)
348	INVALID ARGUMENT FOR ORIGIN APPLICATION HOST PROCESSOR IDENTIFIER. VALID ARGUMENTS ARE HEXADECIMAL (0 THROUGH F)
349	INVALID ARGUMENT FOR DESTINATION APPLICATION HOST PROCESSOR IDENTIFIER. VALID ARGUMENTS ARE HEXADECIMAL (0 THROUGH F)
350	INVALID ARGUMENT FOR DESTINATION NODE ADDRESS. VALID ARGUMENTS ARE HEXADECIMAL (00 THROUGH FF)

TABLE A (Contd)	
ERROR CODE	**EXPLANATION**
351	INVALID KEYWORD WAS ENTERED FOR VER:UTMN; MESSAGE
352	DISK FILE IS MARKED ESSENTIAL AND THEREFORE CANNOT BE DEGROWN
353	ATTACHED PROCESSOR IS MARKED ESSENTIAL AND THEREFORE CANNOT BE DEGROWN
354	ATTACHED PROCESSOR UNIT CANNOT BE GROWN TO THE OPERATIONAL STATE IN THIS GENERIC
355	FILE STORE UNIT CANNOT BE GROWN TO THE OPERATIONAL STATE WHEN IN AN APS VERSION OF THE GENERIC
356	ATTACHED PROCESSOR UNIT CANNOT BE GROWN TO THE OPERATIONAL STATE WHEN IN A FILE STORE VERSION OF THE GENERIC
357	Unused
358	Unused
359	Unused
360	THE IOP UNIT IS EQUIPPED WITH A **TN82** CIRCUIT PACK, WHICH IS A FULL DUPLEX BOARD IO cannot operate in the half duplex mode
361	THE IOP IS EQUIPPED WITH A **TN82** CIRCUIT PACK, WHICH ALLOWS ONLY PORT 0 TO BE EQUIPPED
362	THE IOP IS EQUIPPED WITH A **TN82** CIRCUIT PACK Port 0 Data Set Indicator can only be Private Line
363	THE IOP IS EQUIPPED WITH A **TN82** CIRCUIT PACK, WHICH DOES NOT SUPPORT THE ANSWER BACK EQUIPAGE
364	THE IO UNIT MUST BE EQUIPPED WITH A **TN82** CIRCUIT PACK TO HANDLE 56K BPS SPEED CAPABILITY
365	NO ARGUMENT WAS ENTERED FOR STATION TYPE
366	INVALID STATION TYPE WAS ENTERED Valid Station Types are DCE or DTE
367	Unused
368	Unused
369	Unused
370	ITEM ‘STATYP’ OR ‘ACU’ ARE ONLY VALID FOR GENERICS CPR7 AND LATER
371	INVALID CHANNEL NUMBER

TABLE A (Contd)	
ERROR CODE	**EXPLANATION**
372	CHANNEL IS HARDWARE EQUIPPED
373	CHTYP ARGUMENT IS OUT OF RANGE
374	CHANNEL IS NOT LOGICALLY DEFINED
375	CHANNEL IS IN USE
376	MISSING ARGUMENT FOR CHANNEL PARAMETER
377	INDETERMINATE LOGICAL CHANNEL TROUBLE
378	MISSING ARGUMENT FOR CHTYP PARAMETER
379	NO ITEMS ARE CURRENTLY DEFINED FOR API UNIT TYPE IN HVTRANS TABLE
380	MINIMUM CS MEMBERS AVAILABLE Only minimum number of non-soaking call store members are available. Additional growth is prevented until call store comes off soak list
381	SOAK LIST IS FULL
382	NO ARGUMENT FOR FRAME TYPE
383	UNUSED
384	INVALID FRAME TYPE MNEMONIC INPUT
385	INVALID KCODE EQUIPAGE Valid entries are: UNEQ OPER
386	NO KEYWORD INDICATING DUP OR UNDUP
387	NO ACTIVE MEMBER ASSIGNED TO KCODE
388	NO OPERATIONAL MEMBER AVAILABLE
389	STORE NOT 256K

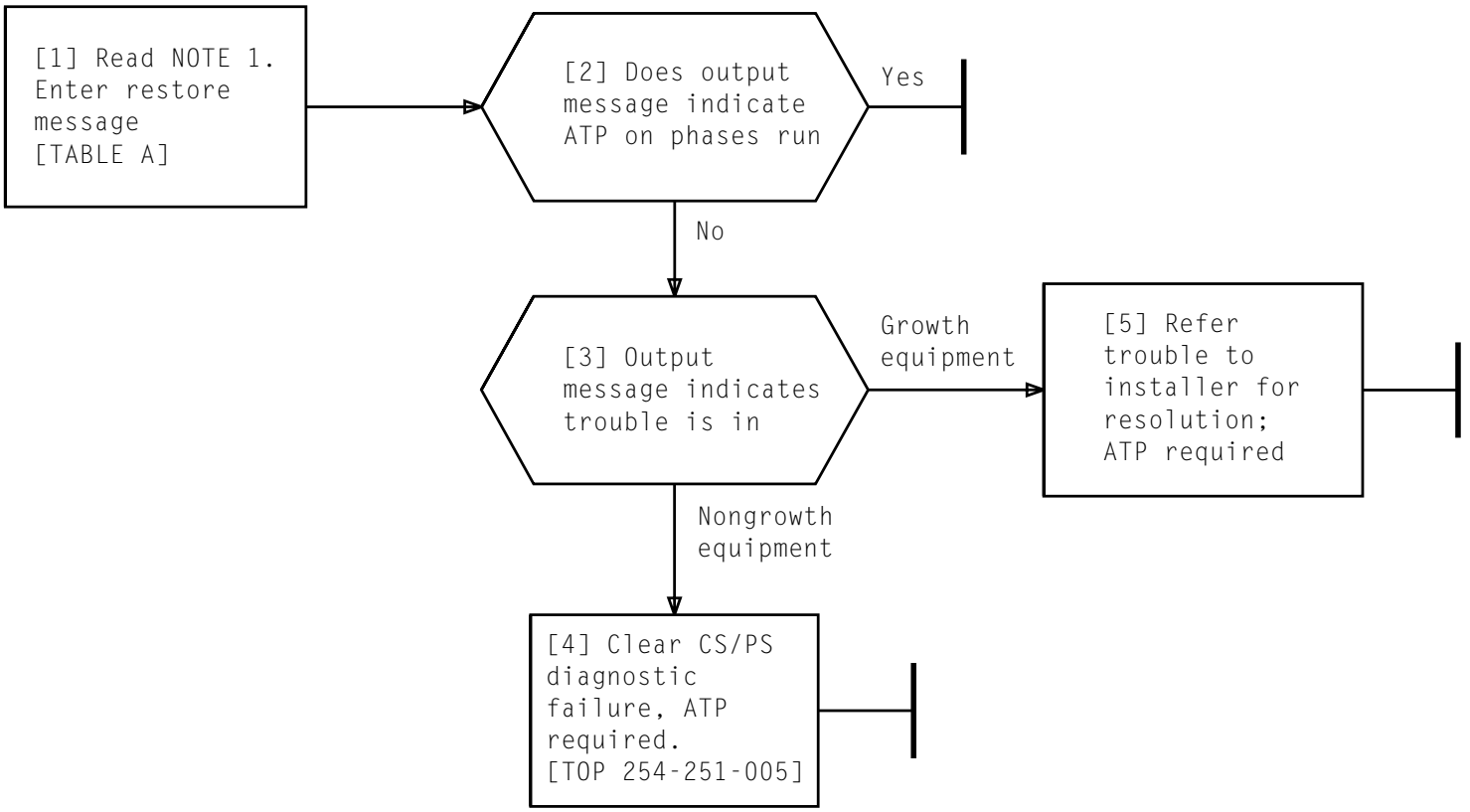
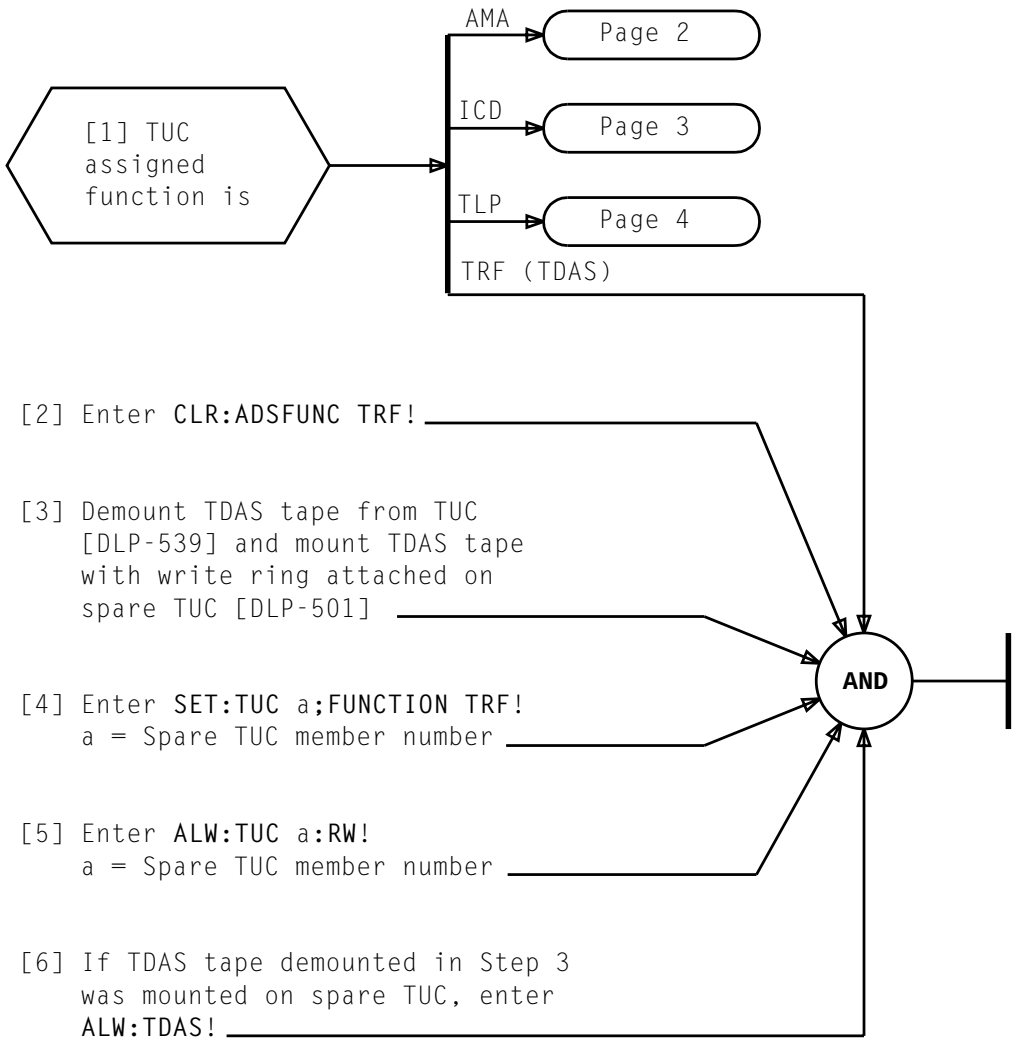


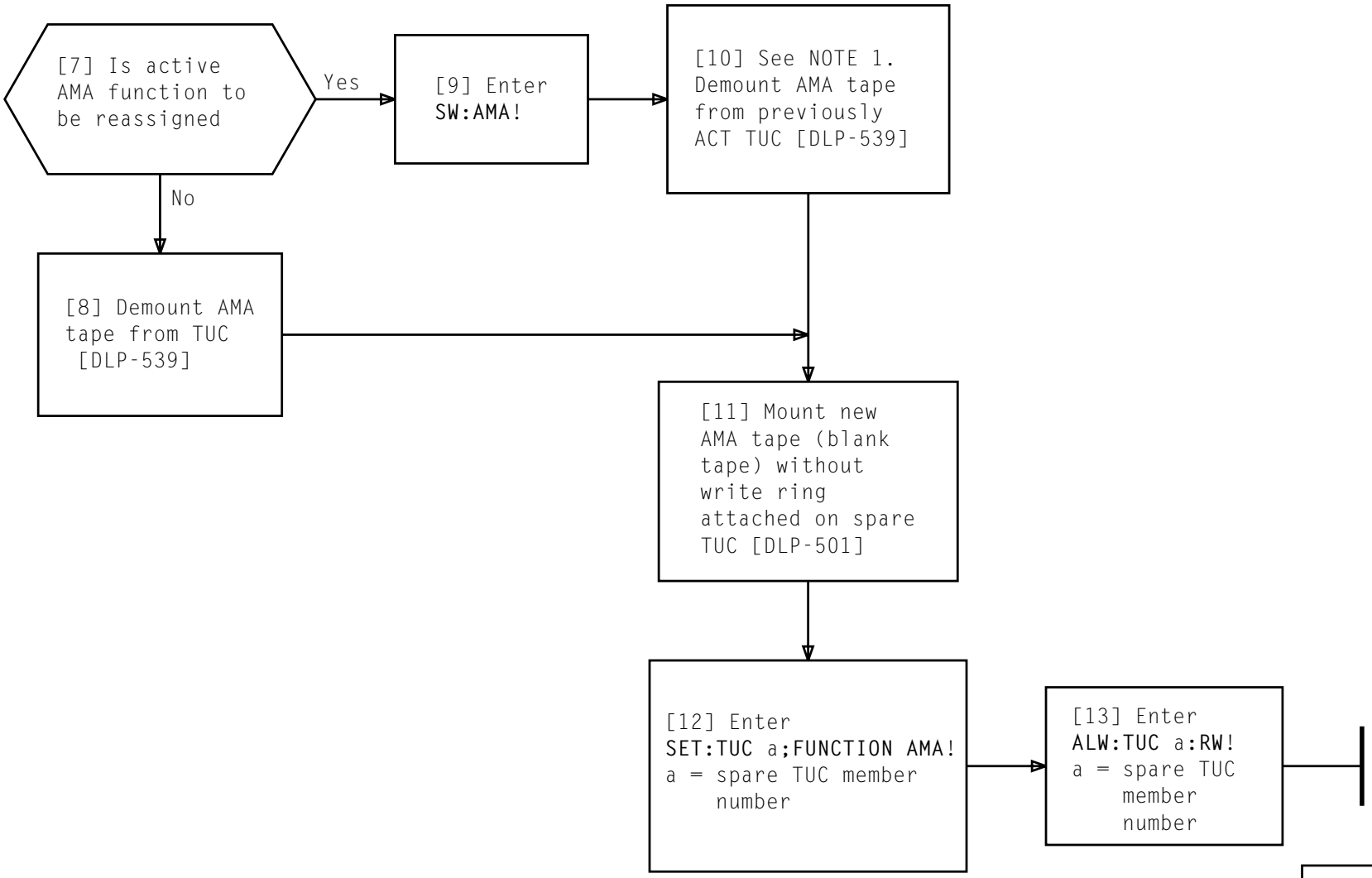
TABLE A
RST:a b!
a = Unit type — CS or PS b = Member number of growth unit type

NOTE 1
Restore message will cause PS diagnostic to be run. PS will be restored, if ATP. If CS is being restored and there are not enough K codes available, CS will not restore to service. OS lamp will remain on at power switch, but MCC EQUIPMENT STATUS CALL STORE Lamp stays off.

RESTORE CS/PS TO SERVICE



REASSIGN TUC FUNCTION TO SPARE TUC



NOTE 1
The AMA tape from the previously ACT TUC must be sent to central accounting

REASSIGN TUC FUNCTION TO SPARE TUC

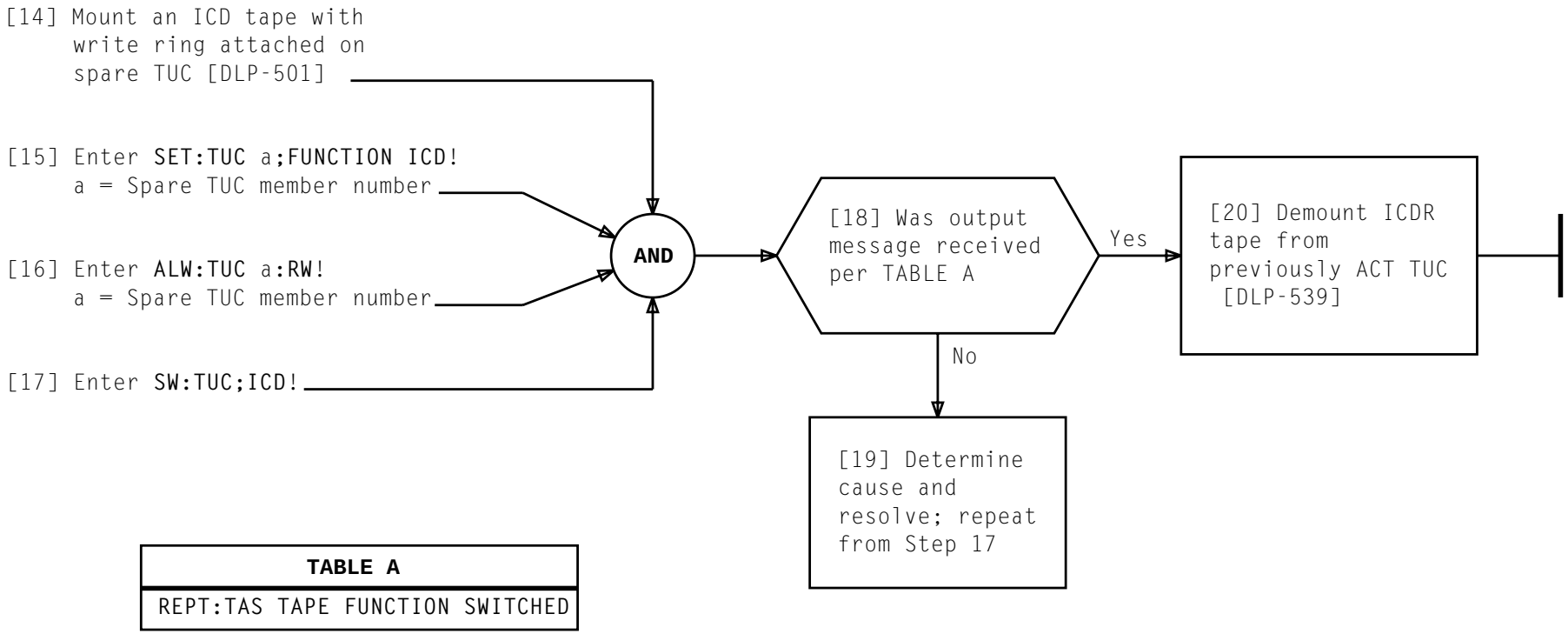


TABLE A
REPT:TAS TAPE FUNCTION SWITCHED

REASSIGN TUC FUNCTION TO SPARE TUC

[21] See NOTE 2. Enter
CLR:ADSFUNC TLP!

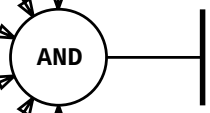
[22] Demount TLP tape from previously
ACT TUC [DLP-539]

[23] Mount TLP tape without
write ring attached on
spare TUC [DLP-501]

[24] Enter **SET:TUC** a**;FUNCTION TLP!**
a = Spare TUC member number

[25] Enter **ALW:TUC** a**:RO!**
a = Spare TUC member number

[26] Enter **ALW:TLP:SRCH,ALL!**



NOTE 2
Office personnel must judge when TLP function can be cleared and new TUC assigned for this function

REASSIGN TUC FUNCTION TO SPARE TUC

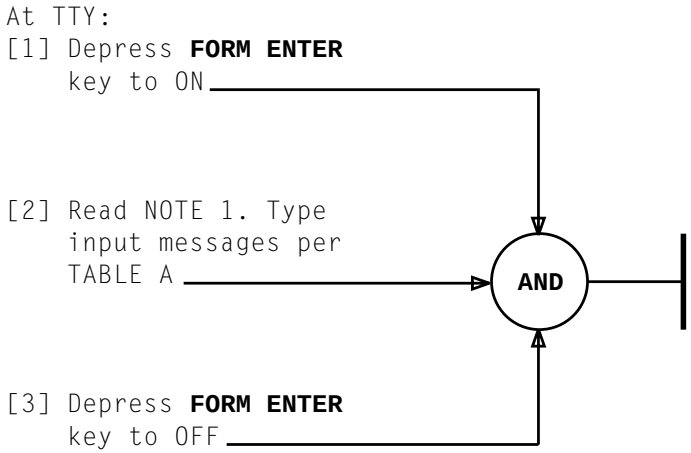


TABLE A

NUMBER	INPUT MESSAGES	NUMBER	INPUT MESSAGES
1A	If Scoping New Bus Branch: EX:CSB a;START! a = 0 or 1	3	EX:CSB a:PH 99,ADR b! a = 0 or 1 b = 11-24 (for bus 0) or 43-56 (for bus 1)
1B	If Scoping Extended Bus Branch: EX:CSB a;START:CS b! a = 0 or 1 b = Member number of CS to be scoped	4	OP:MACLI,CLASS MTCE!
2	EX:CSB a:PH 99,ADR b! a = 0 or 1 b = 24-37 (for bus 0) or 56-71 (for bus 1)	5	STOP:MACLI,CLASS MTCE,SUBCLASS a! a = CLASS MTCE SUBCLASS number from OP:MACLI output message assigned to phase 99 diagnostics

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

STORE CSB PHASE 99 INPUT MESSAGES

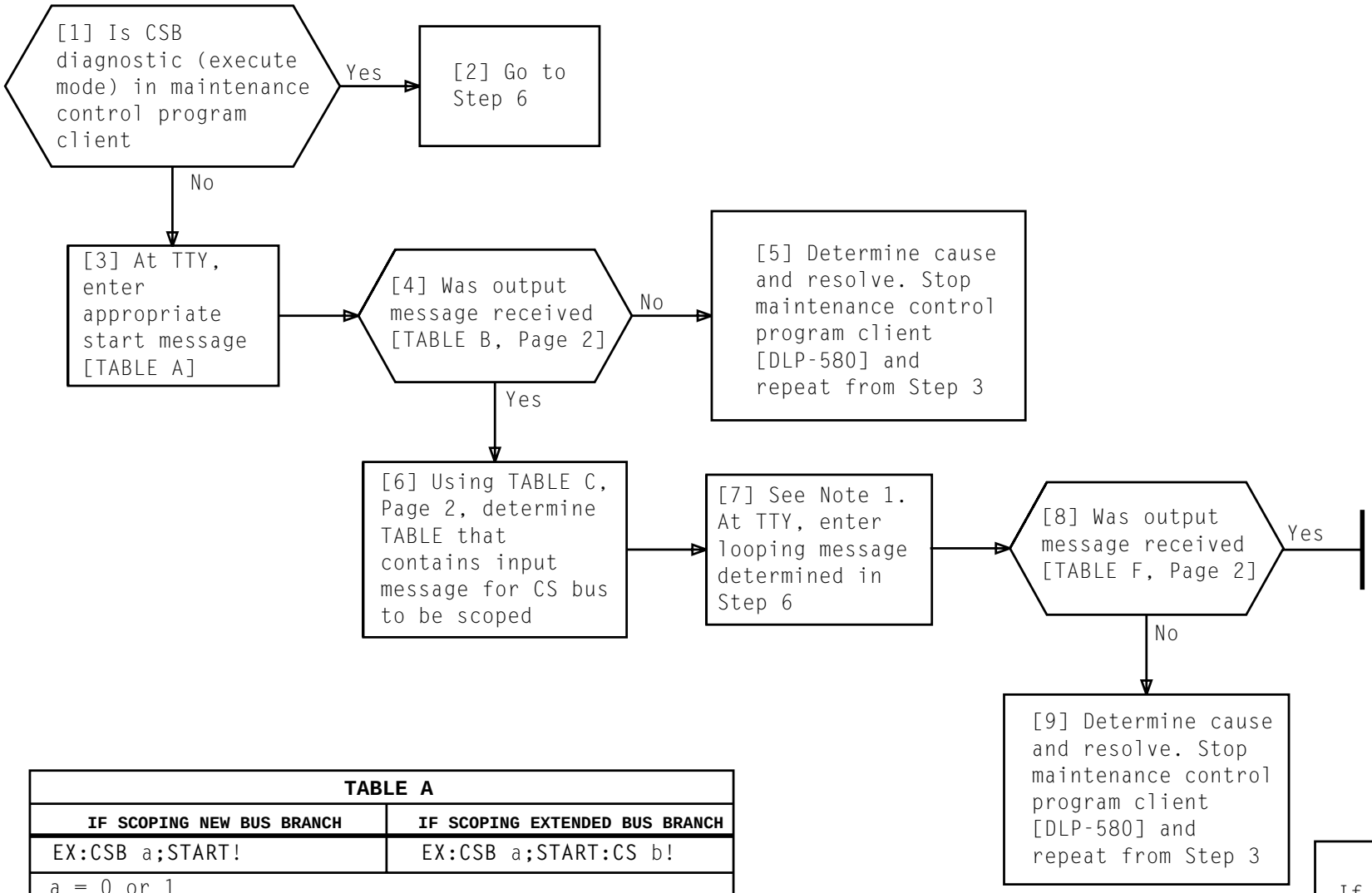


TABLE A

IF SCOPING NEW BUS BRANCH	IF SCOPING EXTENDED BUS BRANCH
EX:CSB a;START!	EX:CSB a;START:CS b!

a = 0 or 1

b = Member number of CS to be scoped

NOTE 1
If problem occurs when setting up loop, use program listing MBDG99 (PR-5A736)

ENTER EXECUTE MESSAGES FOR LOOPING ON SPECIFIED CS BUS

TABLE B
EX:CSB a:[CS b] SUSPENDED MSG COMPL
a = 0 or 1 b = Member number of CS being used

TABLE E
EX:CSB a:PH 99,ADR b!
a = 0 or 1 b = 11-24 (for bus 0) or 43-56 (for bus 1)

TABLE C	
CS BUS	TABLE
WRITE/REPLY	D
ADDRESS	E

TABLE F
EX:CSB a:[CS b] LOOPING STARTED MSG STARTED
a = 0 or 1 b = Member number of CS being used

TABLE D
EX:CSB a:PH 99,ADR b!
a = 0 or 1 b = 24-37 (for bus 0) or 56-71 (for bus 1)

ENTER EXECUTE MESSAGES FOR LOOPING ON SPECIFIED CS BUS

[1] Get TEKTRONIX* oscilloscope model 475 or equivalent and two TEKTRONIX* oscilloscope X10 probes model P6106 or equivalent

[2] Get 30-foot coax cable with male BNC connectors

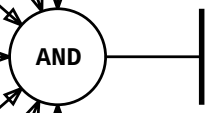
[3] See NOTE 1. Connect coax cable between **GCPSYN** on back side of active CC and **A TRIGGER 1M 20 pF** on 475 oscilloscope (connect to oscilloscope first)

[4] Locate line on FIG. 1, Page 2 or FIG. 2, Page 2 that contains last frame where write bus is terminated

[5] Connect one X10 probe to channel 1 (POS) and the other X10 probe to channel 2 (NEG)

[6] Wrap scope probes around each other and attach ground leads together

[7] Probe POS and NEG pins in dashed line box in FIG. 1 or 2 at connector location on line located in Step 4; adjust to measure bit pattern in FIG. 1 or 2 per TABLE A, Page 3



* Registered trademark of Tektronix Corporation

SET UP OSCILLOSCOPE

NOTE 1 Coax cable must be connected to oscilloscope before connecting to active CC	
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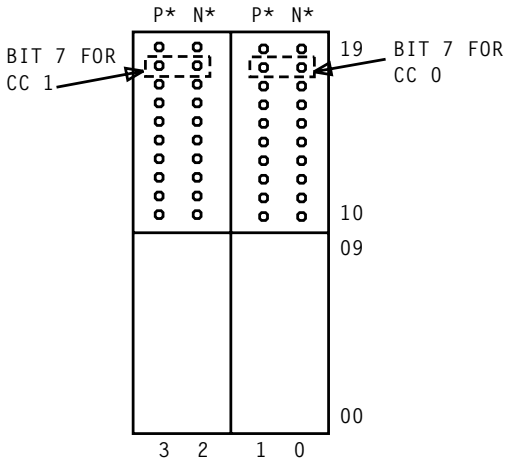
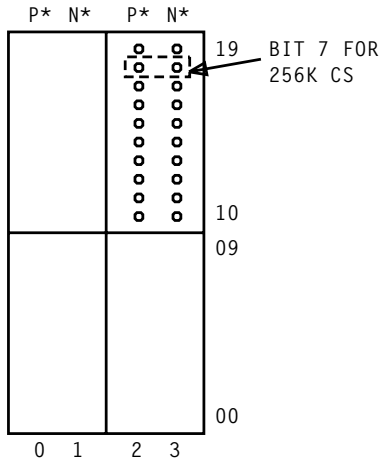


TERMINATION FRAME	CONNECTOR LOCATION	BIT PATTERN
CC 0 BUS 0 (CSB BRANCH B)	034-17	01000111
CC 0 BUS 1 (CSB BRANCH B)	038-17	10001111
CC 0 BUS 0 (CSB BRANCH D)	034-18	01000111
CC 0 BUS 1 (CSB BRANCH D)	038-18	10001111
CC 1 BUS 0 (CSB BRANCH A)	034-17	01000111
CC 1 BUS 1 (CSB BRANCH A)	038-17	10001111
CC 1 BUS 0 (CSB BRANCH C)	034-18	01000111
CC 1 BUS 1 (CSB BRANCH C)	038-18	10001111

* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD

FIG. 1 — Bit Pairs for CC



TERMINATION FRAME	CONNECTOR LOCATION	BIT PATTERN
256K CSB 0	142-02F	01000111
256K CSB 1	142-13F	10001111
256K ECS CSB 0	076-02F	01000111
256K ECS CSB 0	014-02F	01000111
256K ECS CSB 1	076-13F	10001111
256K ECS CSB 1	014-13F	10001111

* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD
F EQUIPMENT SIDE CONNECTOR

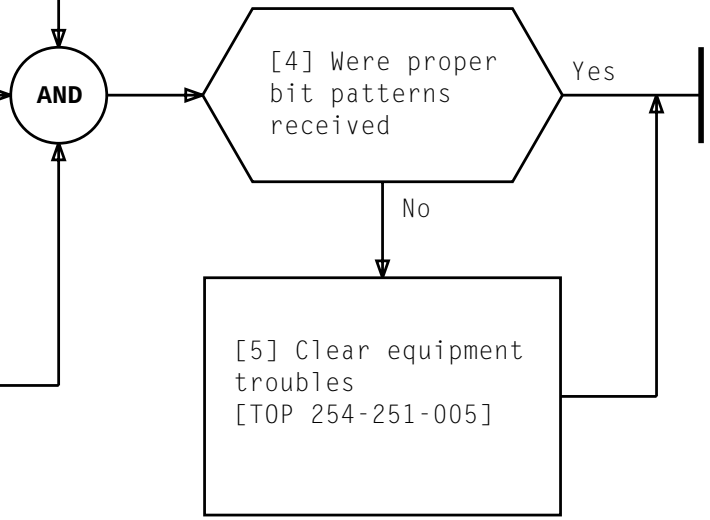
FIG. 2 — Bit Pairs for 256K CS

TABLE A — OSCILLOSCOPE CONTROL SETTINGS FOR MODEL 475	
CONTROLS	**POSITION**
POWER	PULL ON for power on
CH 1 POSITION	Adjust to observe entire pulse
CH 1 VOLTS/DIV	2 VOLTS
CH 1 VAR	CALIB
CH 1 COUPLING	DC
CH 2 POSITION	Adjust to observe entire pulse
CH 2 VOLTS/DIV	2 VOLTS
CH 2 VAR - VOLTS/DIV	Calibrated
CH 2 COUPLING	DC
BAND WIDTH LIMITING SWITCH	NORMAL
VERT MODE	ADD
INVERT	Depress (in)
BEAM FIND	Normal (out)
INTENSITY	Adjust for optimum brightness
FOCUS	Adjust for sharp clear trace
SCALE ILLUM.	Adjust for optimum
X10 MAG	X1 (out)
POSITION and FINE (horizontal)	Adjust to start pulse train from 0 graticule line
A TRIG HOLDOFF	NORM
HORIZ DISPLAY	A
TRIG MODE	NORM
A TRIGGER - COUPLING	AC
A TRIGGER - SOURCE	EXT
A TRIGGER - SLOPE	+ (Positive)
A TRIGGER - LEVEL	Adjust for steady pulse
A AND B TIME/DIV	2 usec
A AND B TIME/DIV - VAR	Variable — set pulses to graticule lines
A AND B DELAY TIME	(not used)
DELAY TIME POSITION	(not used)
B (DLY'D) TRIGGER - COUPLING	(not used)
B (DLY'D) TRIGGER - SOURCE	(not used)
B TRIGGER LEVEL	(not used)
B TRIGGER SLOPE	(not used)

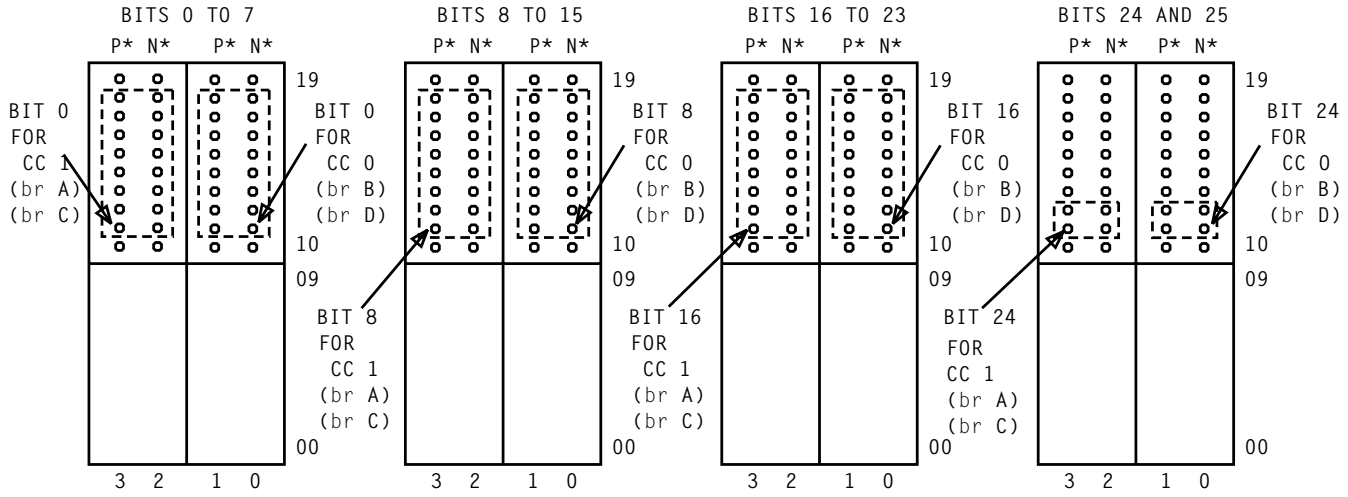
[1] Locate line on FIG. 1, Page 2 or FIG. 2, Page 3 that contains last frame where CS write bus is terminated

[2] Assure 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

[3] Scope P- and N-pins in each dashed line box, in FIG. 1 or 2 at connector locations on line located in Step 2. Observe oscilloscope for proper bit pattern [TABLE A, Page 2 or TABLE B, Page 3] for each associated bus bit being scoped. Note any discrepancies



SCOPE CS WRITE BUS BITS 0 TO 25



CC † (BRANCH A OR B)				
BUS 0	034-17	034-21	034-23	034-25
BUS 1	038-17	038-21	038-23	038-25
CC ‡ (BRANCH C OR D)				
BUS 0	034-18	034-22	034-24	034-26
BUS 1	038-18	038-22	038-24	038-26

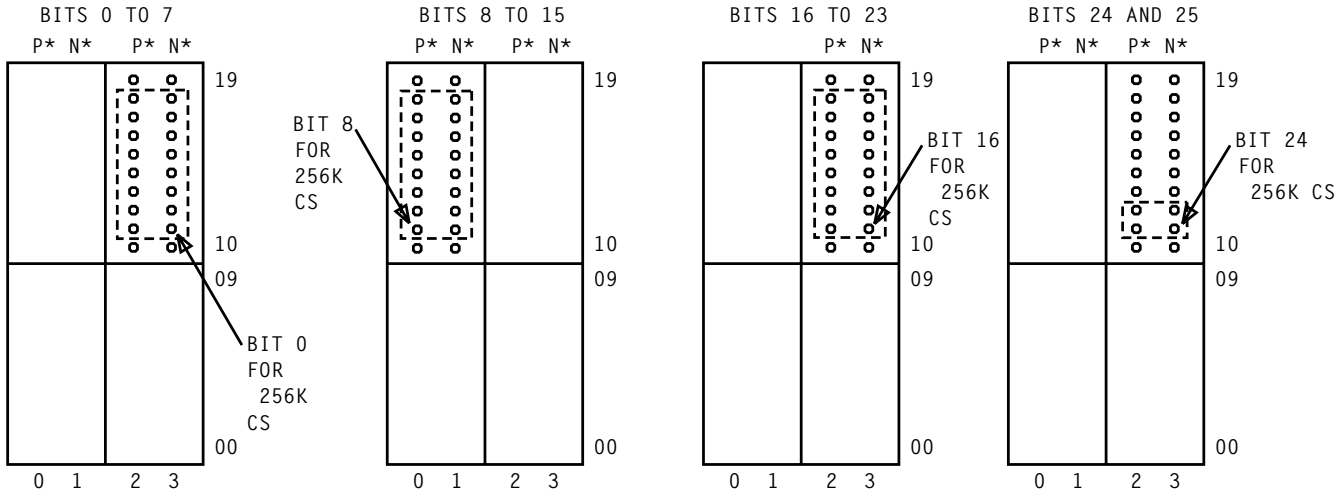
* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD
† CC 0 IS BRANCH B AND CC 1 IS BRANCH A
‡ CC 0 IS BRANCH D AND CC 1 IS BRANCH C

FIG. 1 — Bit Pairs for CC

TABLE A

BIT	BIT PATTERN	
	BUS 0	BUS 1
0	01000000	10000001
1	01000001	10000011
2	01000010	10000101
3	01000011	10000111
4	01000100	10001001
5	01000101	10001011
6	01000110	10001101
7	01000111	10001111
8	01001000	10010001
9	01001001	10010011
10	01001010	10010101
11	01001011	10010111
12	01001100	10011001
13	01001101	10011011
14	01001110	10011101
15	01001111	10011111
16	01010000	10100001
17	01010001	10100011
18	01010010	10100101
19	01010011	10100111
20	01010100	10101001
21	01010101	10101011
22	01010110	10101101
23	01010111	10101111
24	01011001	10110011
25	10100001	01000010

SCOPE CS WRITE BUS BITS 0 TO 25



256K CS				
BUS 0	142-02F	142-04F	142-05F	142-06F
BUS 1	142-13F	142-15F	142-16F	142-17F
256K ECS				
BUS 0	076-02F	076-04F	076-05F	076-06F
BUS 0	014-02F	014-04F	014-05F	014-06F
BUS 1	076-13F	076-15F	076-16F	076-17F
BUS 1	014-13F	014-15F	014-16F	014-17F

* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD
F EQUIPMENT SIDE CONNECTOR

FIG. 2 – Bit Pairs for 256K CS

TABLE B

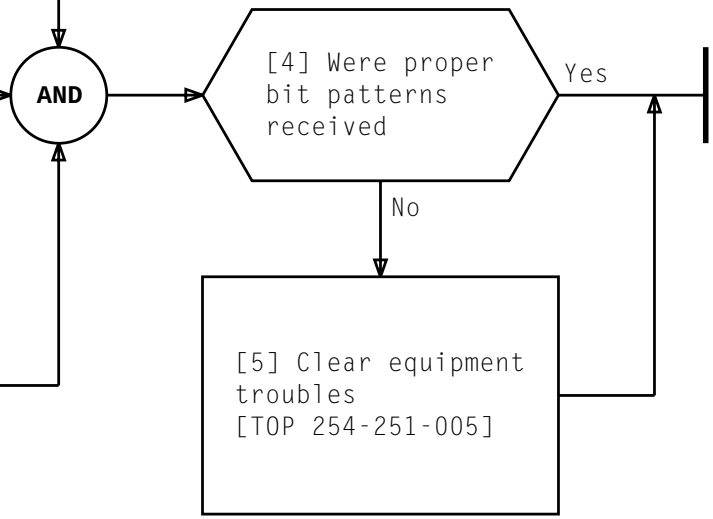
BIT	BIT PATTERN	
	BUS 0	BUS 1
0	01000000	10000001
1	01000001	10000011
2	01000010	10000101
3	01000011	10000111
4	01000100	10001001
5	01000101	10001011
6	01000110	10001101
7	01000111	10001111
8	01001000	10010001
9	01001001	10010011
10	01001010	10010101
11	01001011	10010111
12	01001100	10011001
13	01001101	10011011
14	01001110	10011101
15	01001111	10011111
16	01010000	10100001
17	01010001	10100011
18	01010010	10100101
19	01010011	10100111
20	01010100	10101001
21	01010101	10101011
22	01010110	10101101
23	01010111	10101111
24	01011001	10110011
25	10100001	01000010

SCOPE CS WRITE BUS BITS 0 TO 25

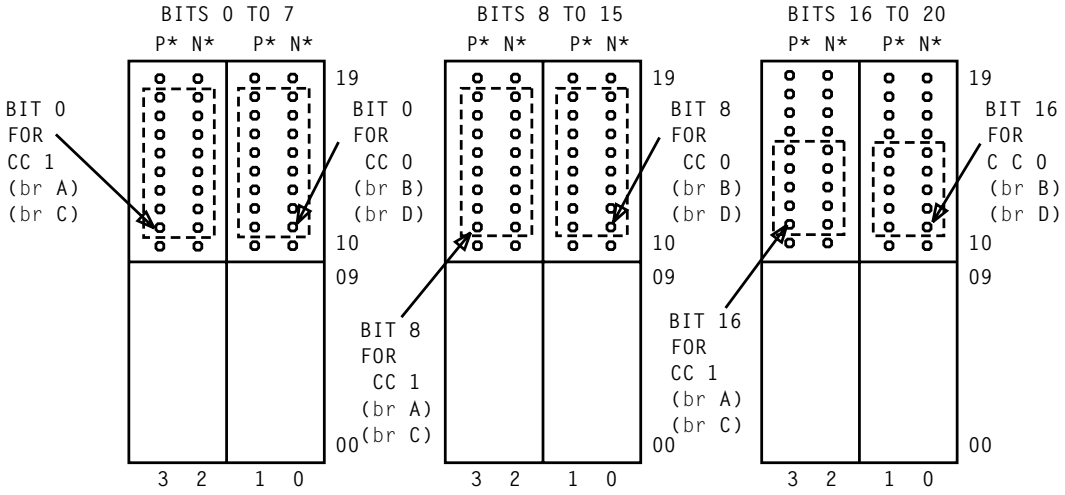
[1] Locate line on FIG. 1, Page 2 or FIG. 2, Page 3 that contains last frame where CS address bus is terminated

[2] Assure 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

[3] Scope P- and N-pins in each dashed line box, in FIG. 1 or 2 at connector locations on line located in Step 1. Observe oscilloscope for proper bit pattern [TABLE A, Page 2 or TABLE B, Page 3] for each associated bus bit being scoped. Note any discrepancies



SCOPE CS ADDRESS BUS BITS 0 TO 20



CC † (BRANCH A OR B)			
BUS 0	034-48	034-50	034-54
BUS 1	038-48	038-50	038-54
CC ‡ (BRANCH C OR D)			
BUS 0	034-49	034-53	034-55
BUS 1	038-49	038-53	038-55

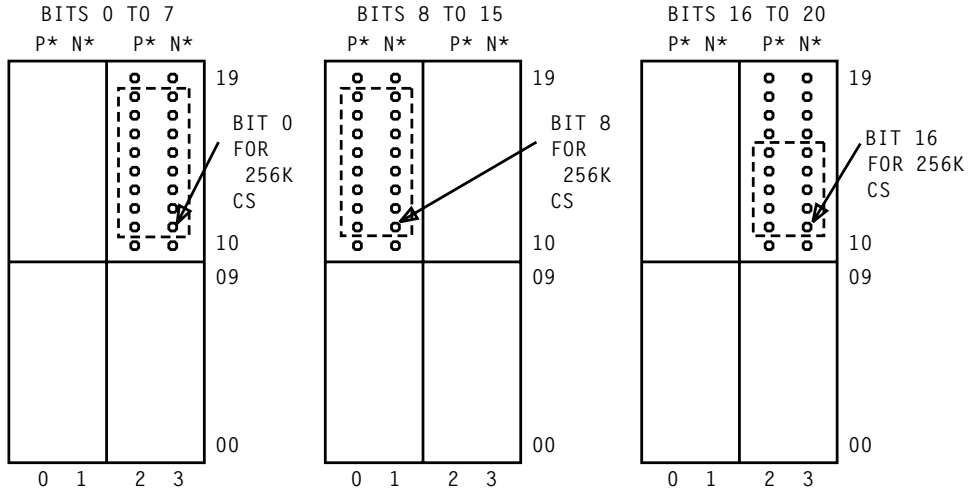
* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD
† CC 0 IS BRANCH B AND CC 1 IS BRANCH A
‡ CC 0 IS BRANCH D AND CC 1 IS BRANCH C

FIG. 1 — Bit Pairs for CC

TABLE A

BIT	BIT PATTERN	
	BUS 0	BUS 1
0	01000000	10000001
1	01000001	10000011
2	01000010	10000101
3	01000011	10000111
4	01000100	10001001
5	01000101	10001011
6	01000110	10001101
7	01000111	10001111
8	01001000	10010001
9	01001001	10010011
10	01001010	10010101
11	01001011	10010111
12	01001100	10011001
13	01001101	10011011
14	01001110	10011101
15	01001111	10011111
16	01010000	10100001
17	00000110	00001100
18	00000101	00001010
19	00000100	00001000
20	00000011	00000110

SCOPE CS ADDRESS BUS BITS 0 TO 20



256K CS			
BUS 0	142-07F	142-08F	142-08F
BUS 1	142-18F	142-19F	142-19F
256K ECS			
BUS 0	076-07F	076-08F	076-08F
BUS 0	014-07F	014-08F	014-08F
BUS 1	076-18F	076-19F	076-19F
BUS 1	014-18F	014-19F	014-19F

* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD
F EQUIPMENT SIDE CONNECTOR

FIG. 2 – Bit Pairs for 256K CS

TABLE B

BIT	BIT PATTERN	
	BUS 0	BUS 1
0	01000000	10000001
1	01000001	10000011
2	01000010	10000101
3	01000011	10000111
4	01000100	10001001
5	01000101	10001011
6	01000110	10001101
7	01000111	10001111
8	01001000	10010001
9	01001001	10010011
10	01001010	10010101
11	01001011	10010111
12	01001100	10011001
13	01001101	10011011
14	01001110	10011101
15	01001111	10011111
16	01010000	10100001
17	00000110	00001100
18	00000101	00001010
19	00000100	00001000
20	00000011	00000110

SCOPE CS ADDRESS BUS BITS 0 TO 20

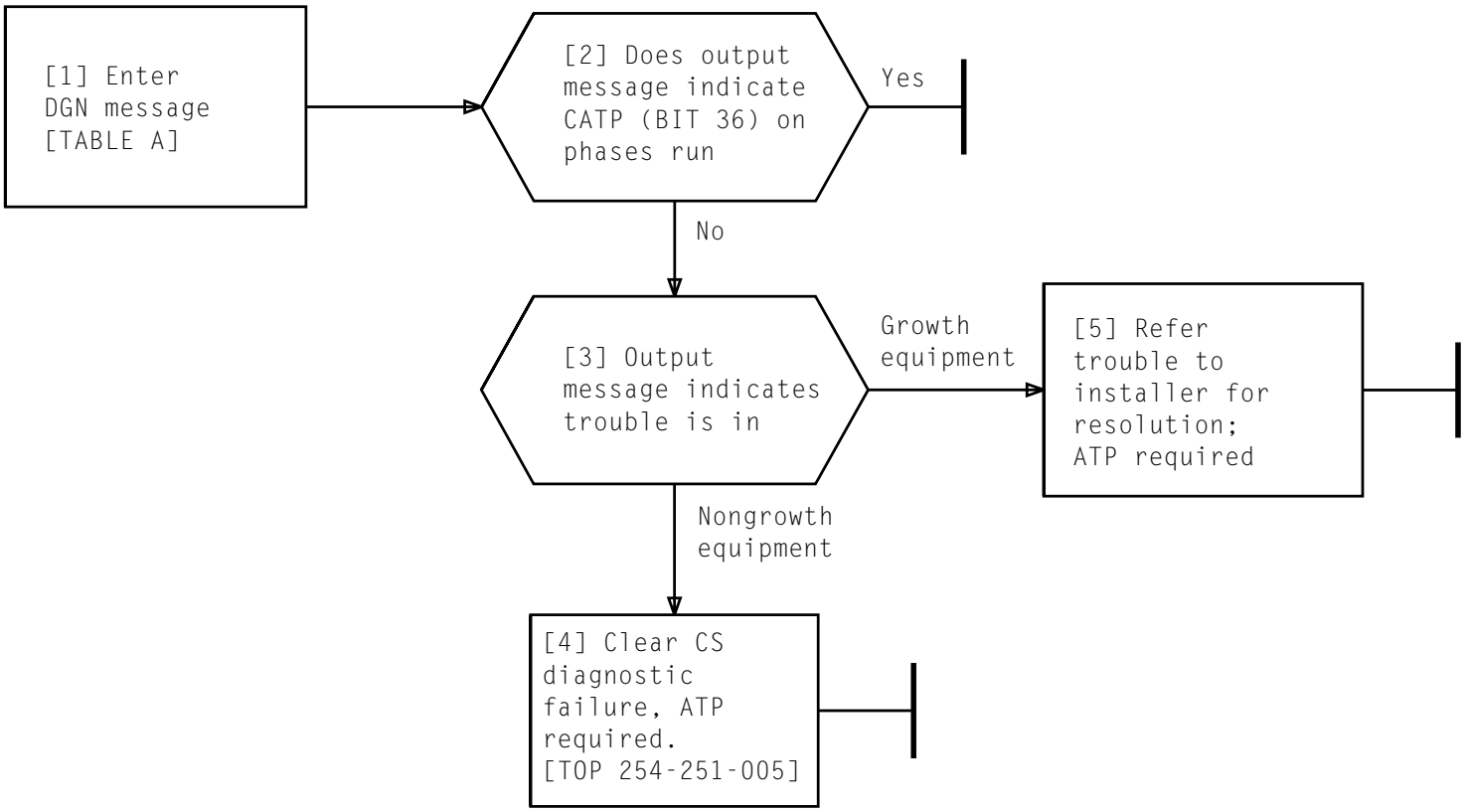


TABLE A
DGN:CS a!
a = Member number of growth CS

DIAGNOSE GROWTH CALL STORE (NORMAL DIAGNOSTICS)

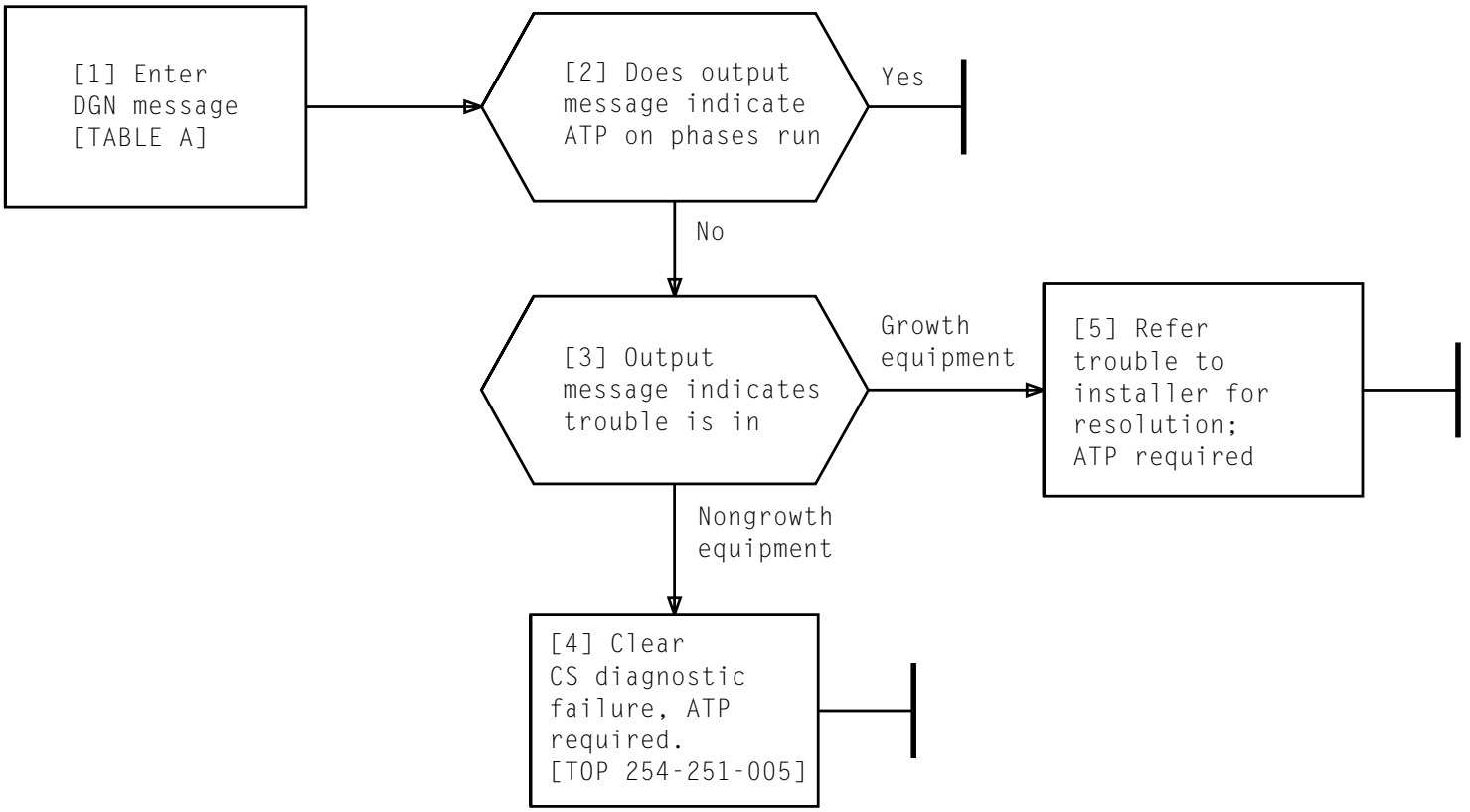


TABLE A
DGN:CS a:PH (24-29,91)!
a = Member number of growth CS

DIAGNOSE GROWTH CALL STORE (DEMAND DIAGNOSTICS)

SUMMARY

Enter in K-code current verify and verify for proper value. If K-code is in error, enter change message to change K-code to 0. Verify buffered data, enter copy message, verify current data, and enter update message. If after each verify, K-code is not correct, enter stop message and start change from beginning.

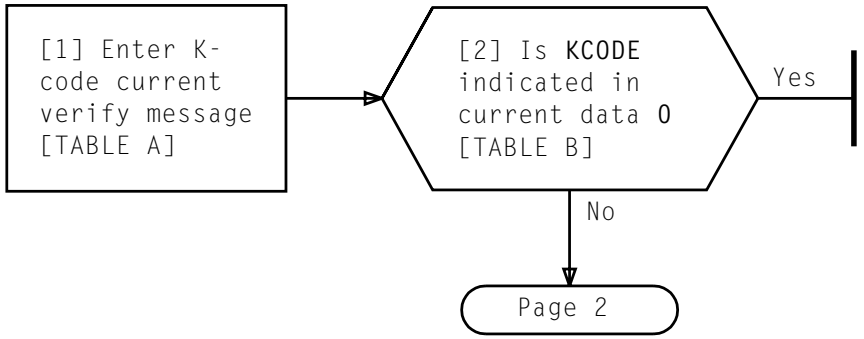


TABLE A

```
VER:UTMN:CS 0,KCODE!
```

TABLE B

```
VER:UTMN,CS 0 COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

CURRENT DATA
KCODE 0
```

CHANGE AND VERIFY K-CODE FOR CALL STORE 0

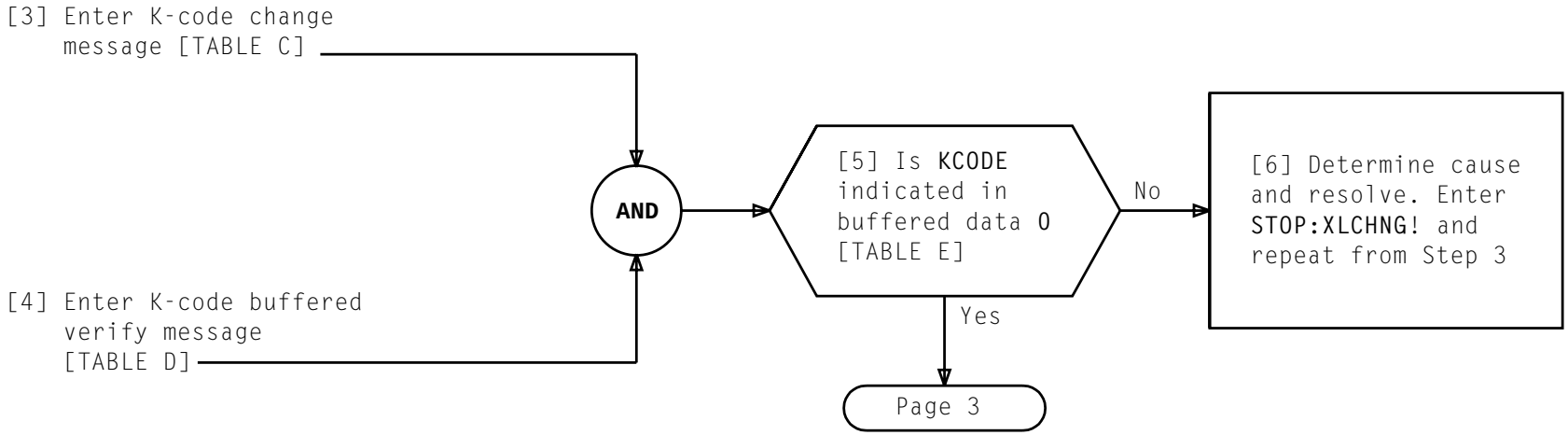


TABLE C
IN:XLBUF:CS 0,KCODE 0!

TABLE E
VER:UTMN,CS 0 COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA KCODE 0

TABLE D
VER:UTMN;BUF:CS 0,KCODE!

CHANGE AND VERIFY K-CODE FOR CALL STORE 0

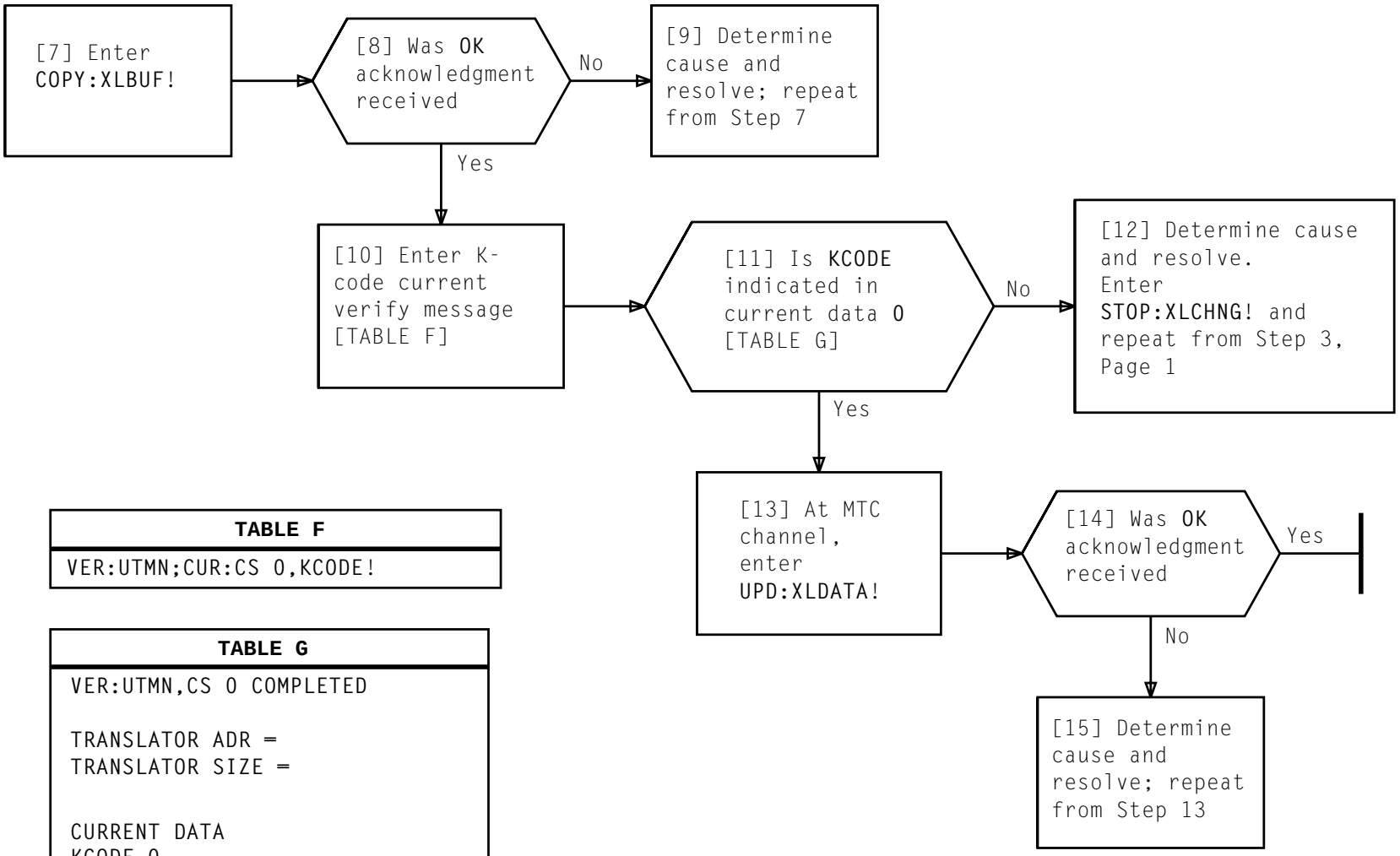


TABLE F
VER:UTMN;CUR:CS 0,KCODE!

TABLE G
VER:UTMN,CS 0 COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA KCODE 0

CHANGE AND VERIFY K-CODE FOR CALL STORE 0

SUMMARY

Enter change message to grow member equipage (ME) from SGRO to OPER. Verify buffered ME, enter copy message, verify current ME, then enter update message. If after each verify, ME is not in right state, enter stop message and start change from beginning.

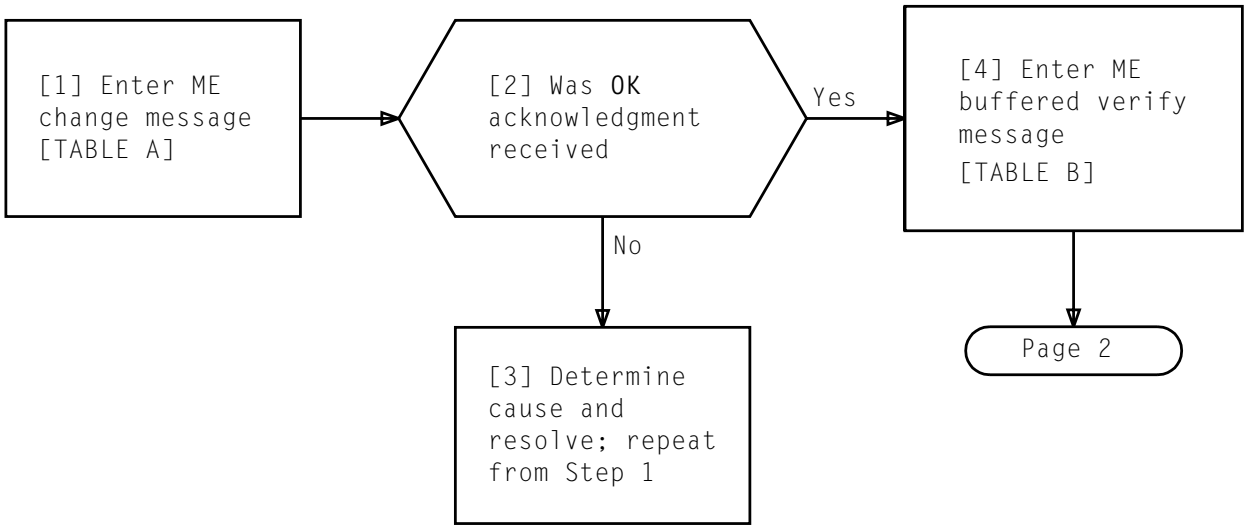


TABLE A
IN:XLBUF:CS 0,ME (SGRO,OPER),ACT!

TABLE B
VER:UTMN;BUF:CS 0,ME!

CHANGE AND VERIFY MEMBER EQUIPAGE FOR CALL STORE 0 SPECIAL GROWTH TO OPERATIONAL

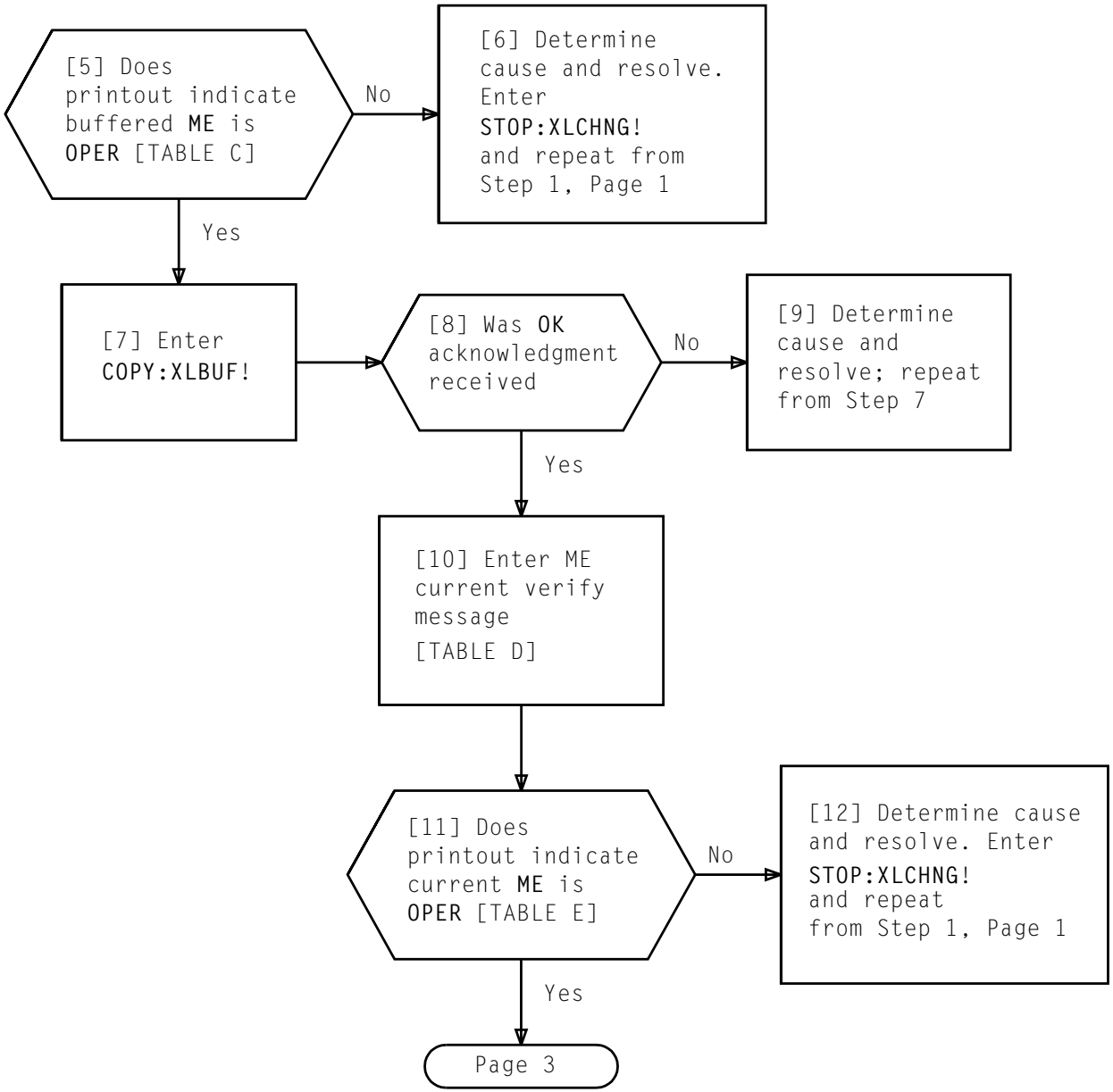


TABLE C

```
VER:UTMN,CS 0 COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

BUFFERED DATA
ME OPER
```

TABLE D

```
VER:UTMN:CS 0,ME!
```

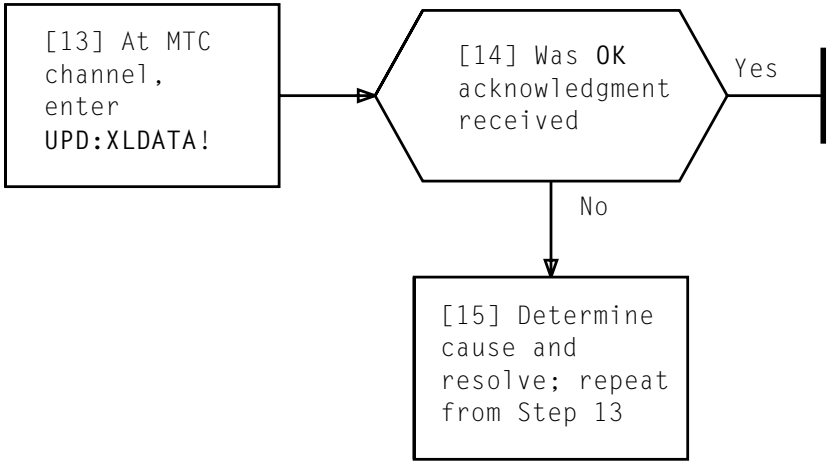
TABLE E

```
VER:UTMN,CS 0 COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

CURRENT DATA
ME OPER
```

CHANGE AND VERIFY MEMBER EQUIPAGE FOR CALL STORE 0 SPECIAL GROWTH TO OPERATIONAL



CHANGE AND VERIFY MEMBER EQUIPAGE FOR CALL STORE 0 SPECIAL GROWTH TO OPERATIONAL

SUMMARY

Enter change message to grow member equipage (ME) from OPER to SGRO. Verify buffered ME, enter copy message, verify current ME, then enter update message. If after each verify, ME is not in right state, enter stop message and start change from beginning.

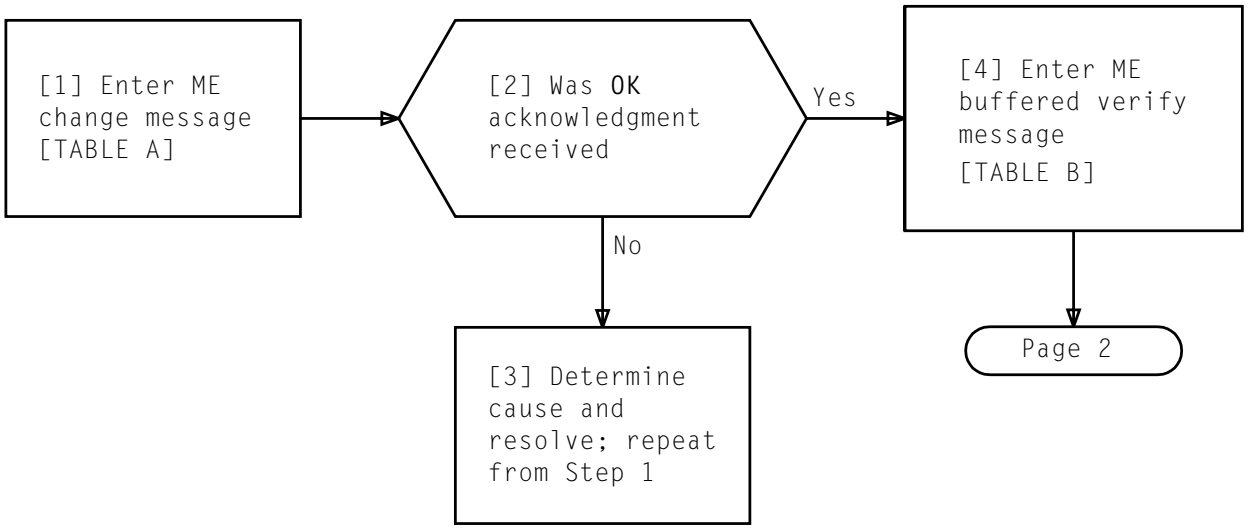


TABLE A
IN:XLBUF:CS a,ME (OPER,SGRO)!
a = Member number of CS

TABLE B
VER:UTMN;BUF:CS a,ME!
a = Member number of CS

CHANGE AND VERIFY MEMBER EQUIPAGE FOR CALL STORE OPERATIONAL TO SPECIAL GROWTH

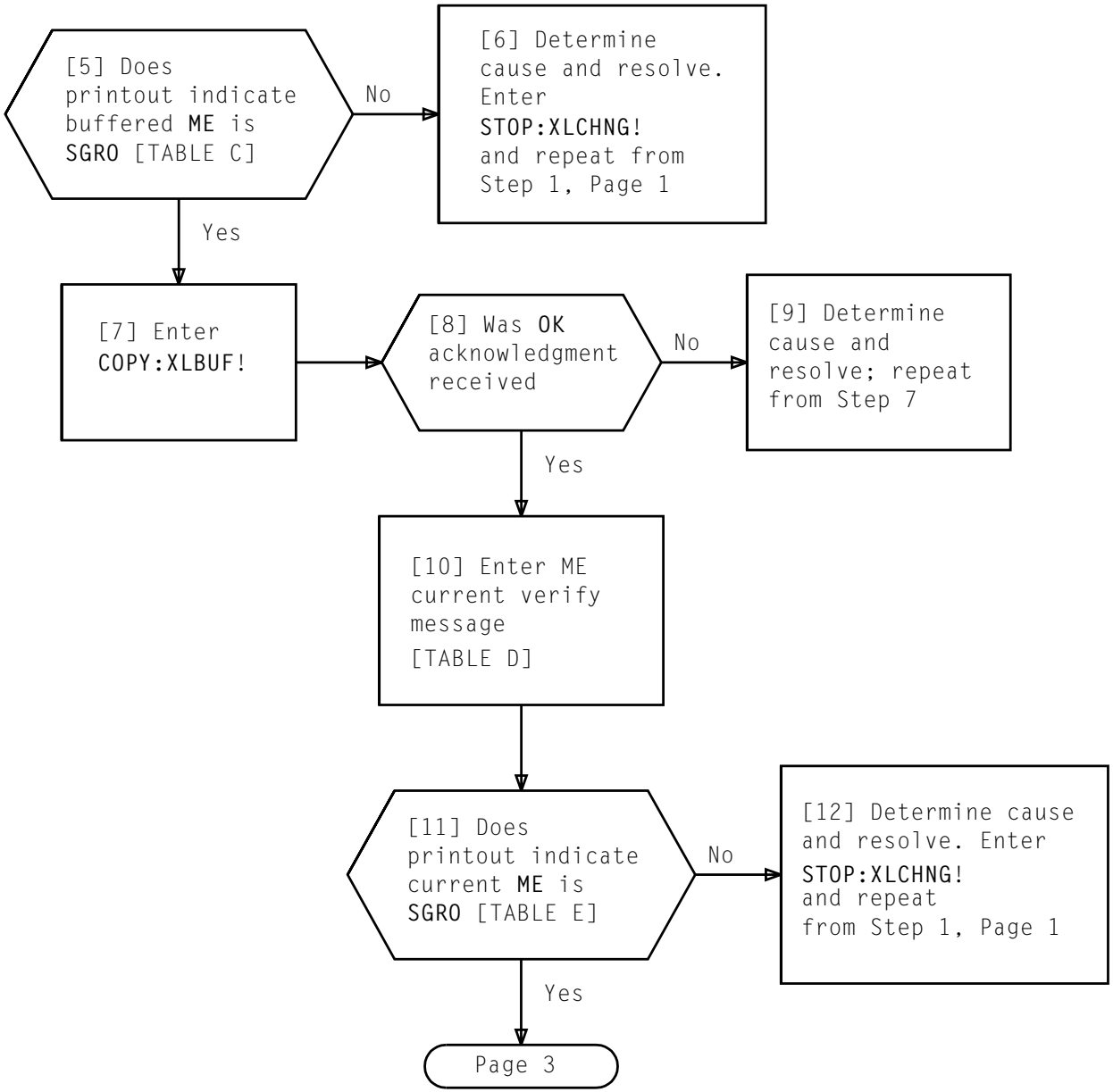


TABLE C

VER:UTMN,CS a COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

BUFFERED DATA
ME SGRO

a = Member number of CS

TABLE D

VER:UTMN:CS a,ME!

a = Member number of CS

TABLE E

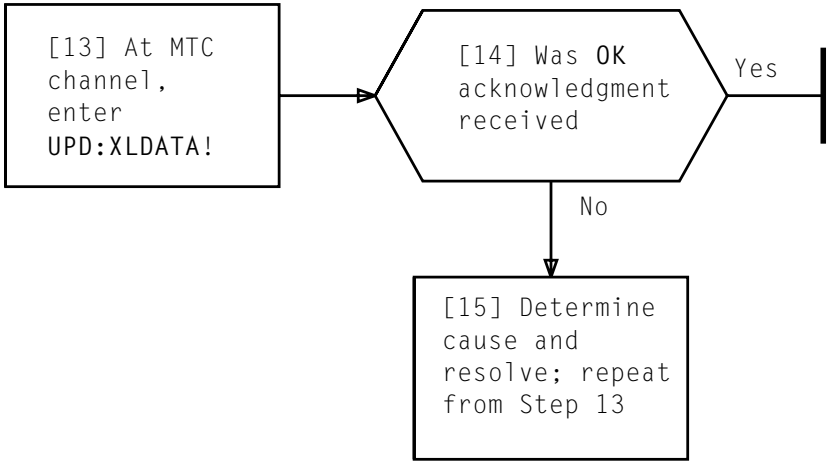
VER:UTMN,CS a COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

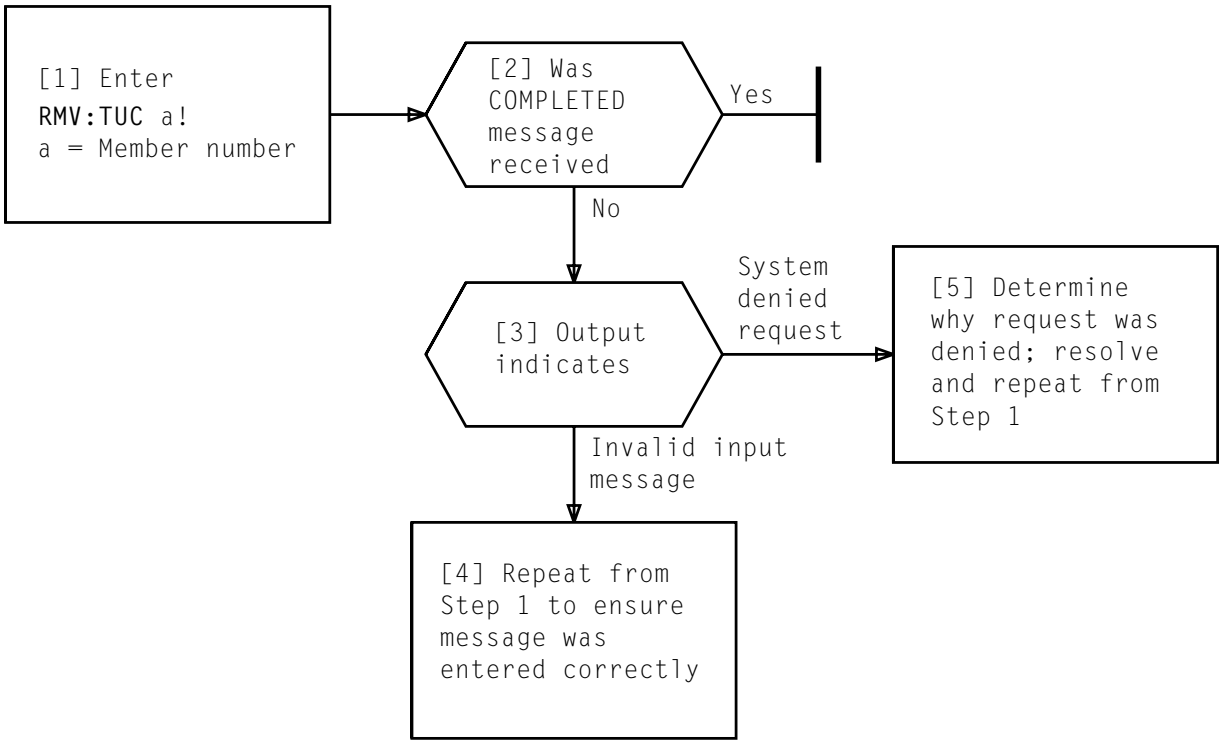
CURRENT DATA
ME SGRO

a = Member number of CS

CHANGE AND VERIFY MEMBER EQUIPAGE FOR CALL STORE OPERATIONAL TO SPECIAL GROWTH



CHANGE AND VERIFY MEMBER EQUIPAGE FOR CALL STORE OPERATIONAL TO SPECIAL GROWTH



REMOVE TUC FROM SERVICE

[1] Using TABLE A, determine CHAN value for logical channel being grown

[2] Using TABLE A, determine CHTYP value for logical channel being grown

[3] Enter message to assign logical channel for logical operation

IN:XLBUF1:LCHAN,CHAN O'a,CHTYP O'b!

a = Channel number (CHAN) determined in Step 1

b = Channel type value determined in Step 2

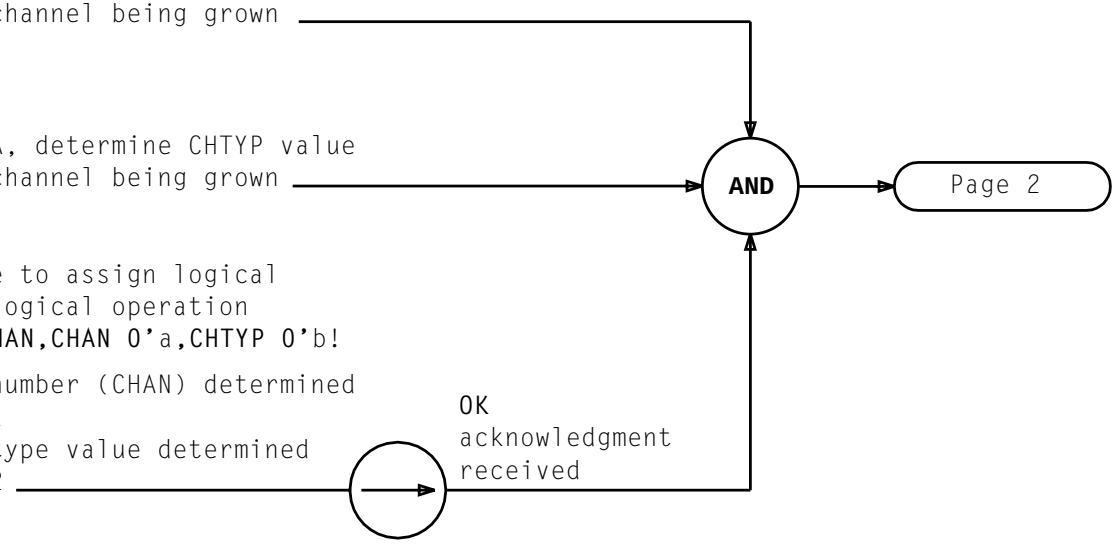


TABLE A

CHANNEL NAME	CHAN	CHTYP
EDASH2	103	11
MAC1	106	0
MAC2	107	0
MAC3	110	0
PSIRAS	111	0
PSSPR	112	0
PSSPR2	113	0
NSA1	114	0
NSA2	115	0

ASSIGN GROWTH LOGICAL CHANNEL FOR LOGICAL OPERATION

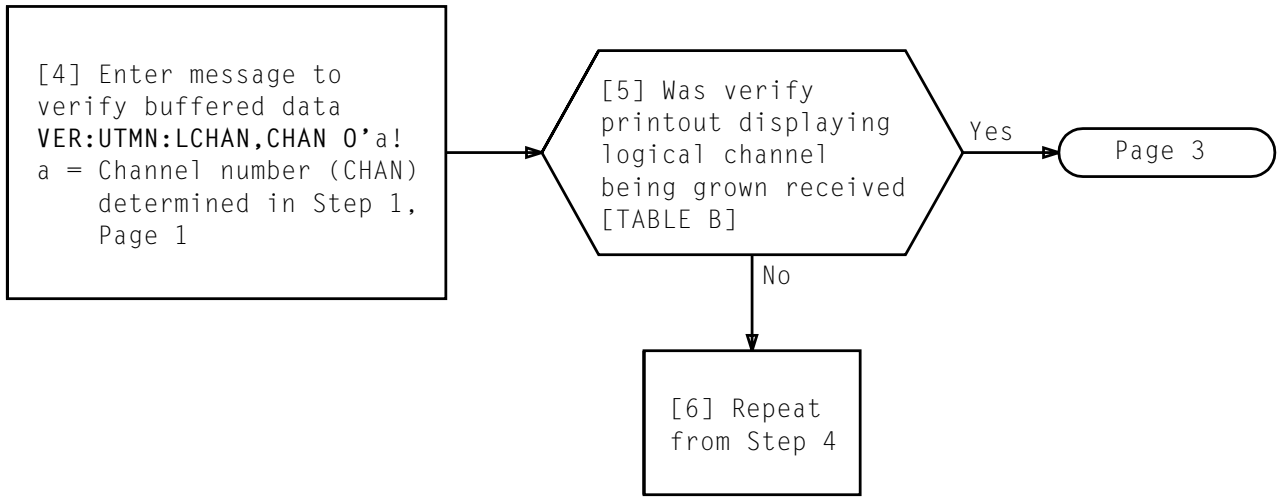
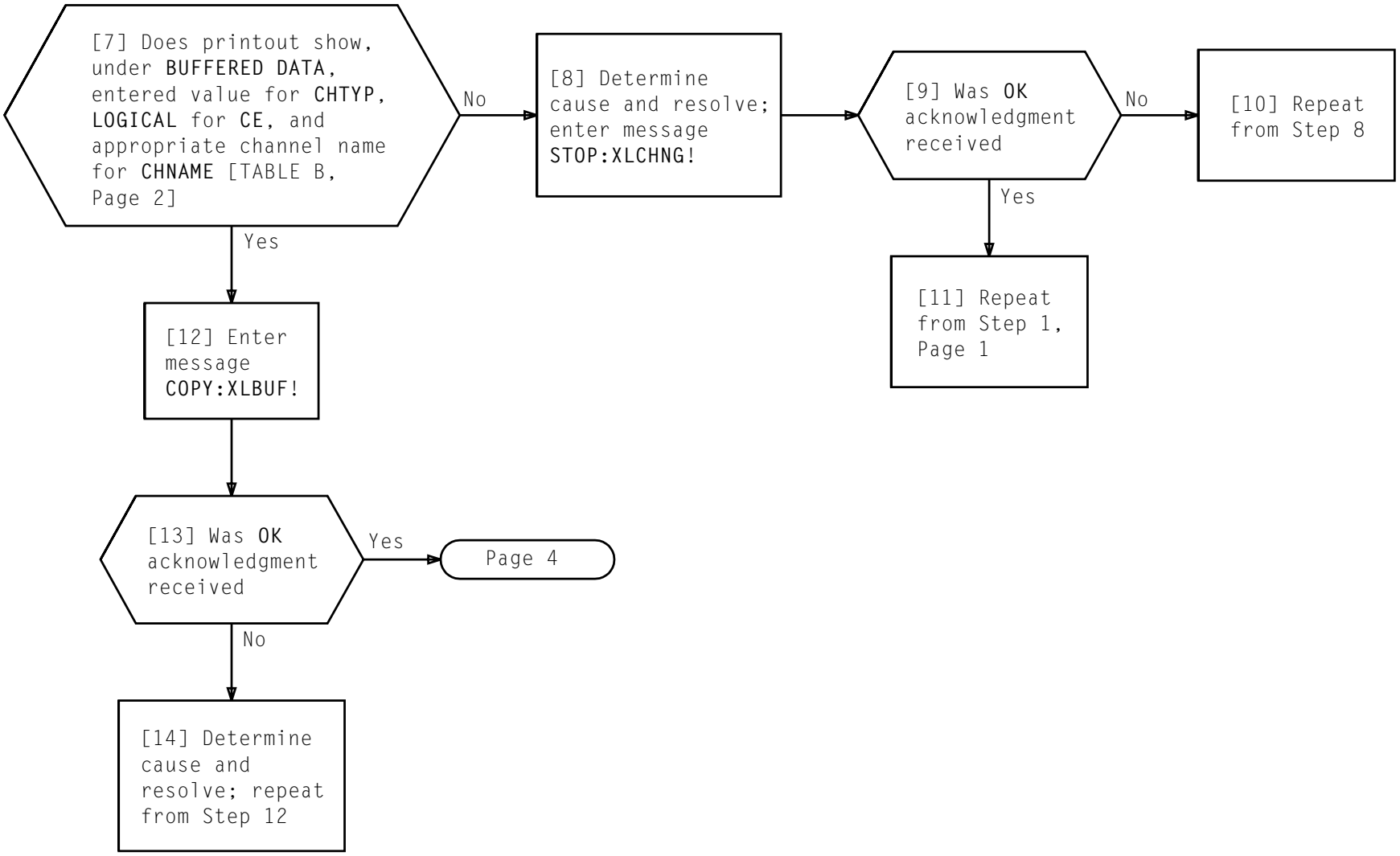


TABLE B

OUTPUT MESSAGE	VARIABLES
VER:UTMN:LCHAN COMPLETED BUFFERED DATA: CHTYP=a CE=LOGICAL PHAPPLID=0 CURRENT DATA: CHNUMBER=b CHNAME=c CE=UNEQ CHTYP=x PHAPPLID=x	a = Channel type determined in Step 2, Page 1 b = Octal channel number of logical channel c = Channel name x = Don't care

ASSIGN GROWTH LOGICAL CHANNEL FOR LOGICAL OPERATION



ASSIGN GROWTH LOGICAL CHANNEL FOR LOGICAL OPERATION

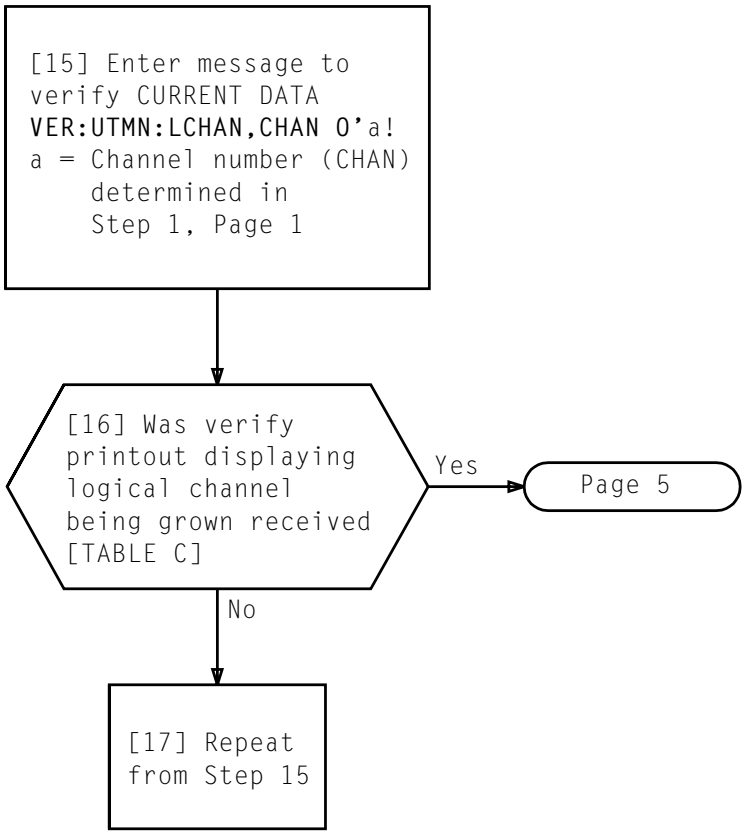
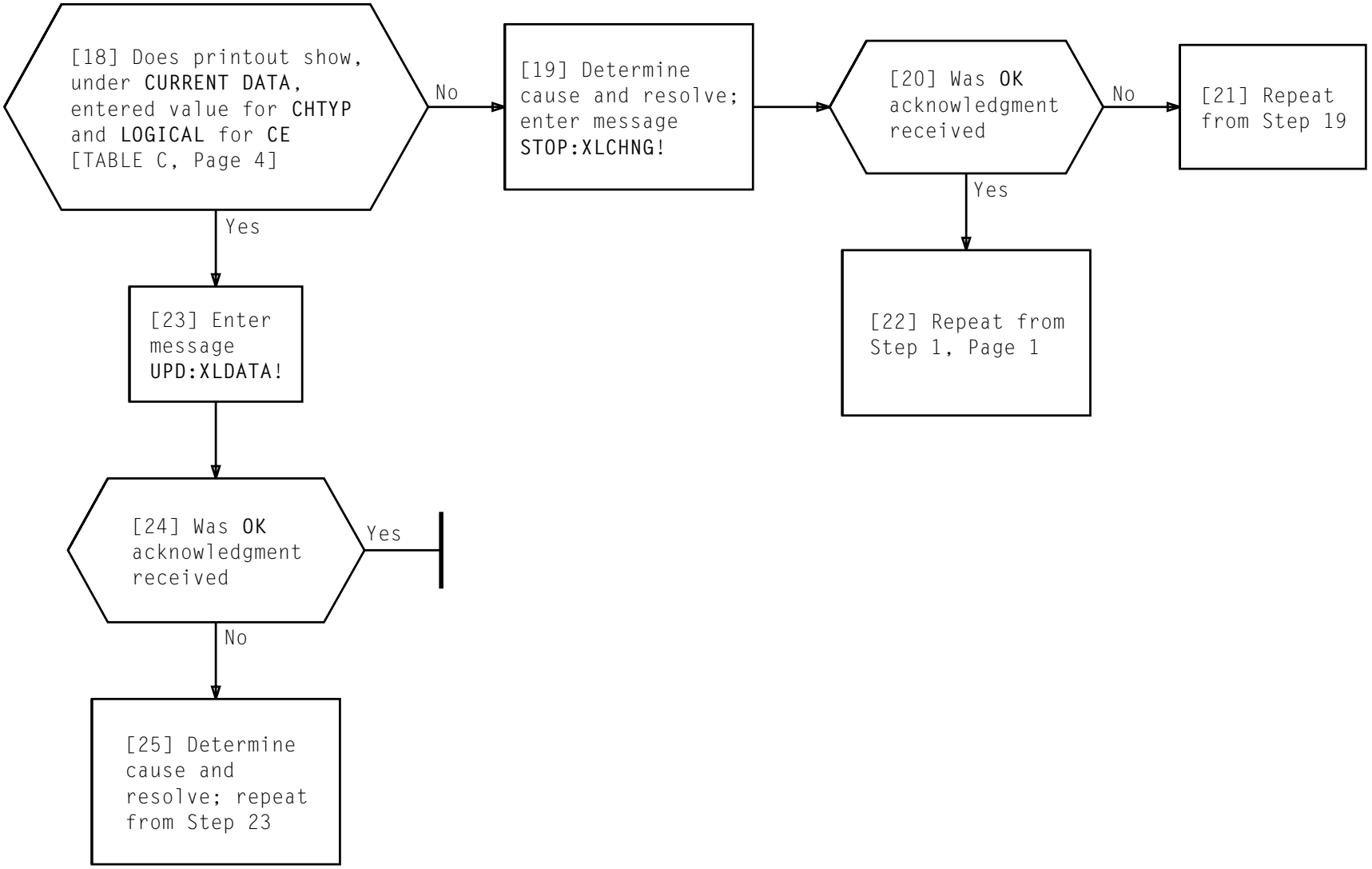


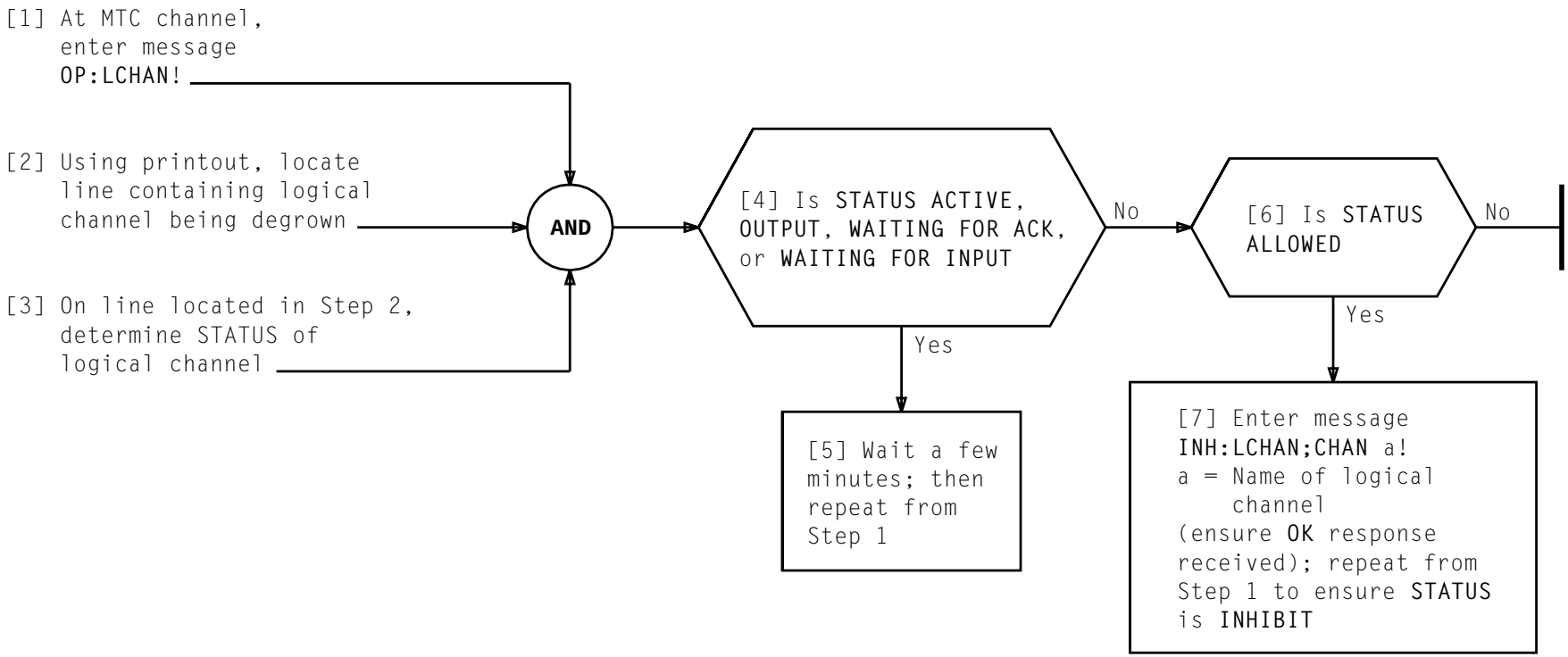
TABLE C

OUTPUT MESSAGE	VARIABLES
VER:UTMN:LCHAN COMPLETED BUFFERED DATA: CHTYP=x CE=x PHAPPLID=x CURRENT DATA: CHNUMBER=a CHNAME=b CE=LOGICAL CHTYP=c PHAPPLID=x	a = Octal channel number of logical channel b = Channel name c = Channel type determined in Step 2, Page 1 x = Don't care

ASSIGN GROWTH LOGICAL CHANNEL FOR LOGICAL OPERATION



ASSIGN GROWTH LOGICAL CHANNEL FOR LOGICAL OPERATION



ENSURE LOGICAL CHANNEL IS INACTIVE AND INHIBIT

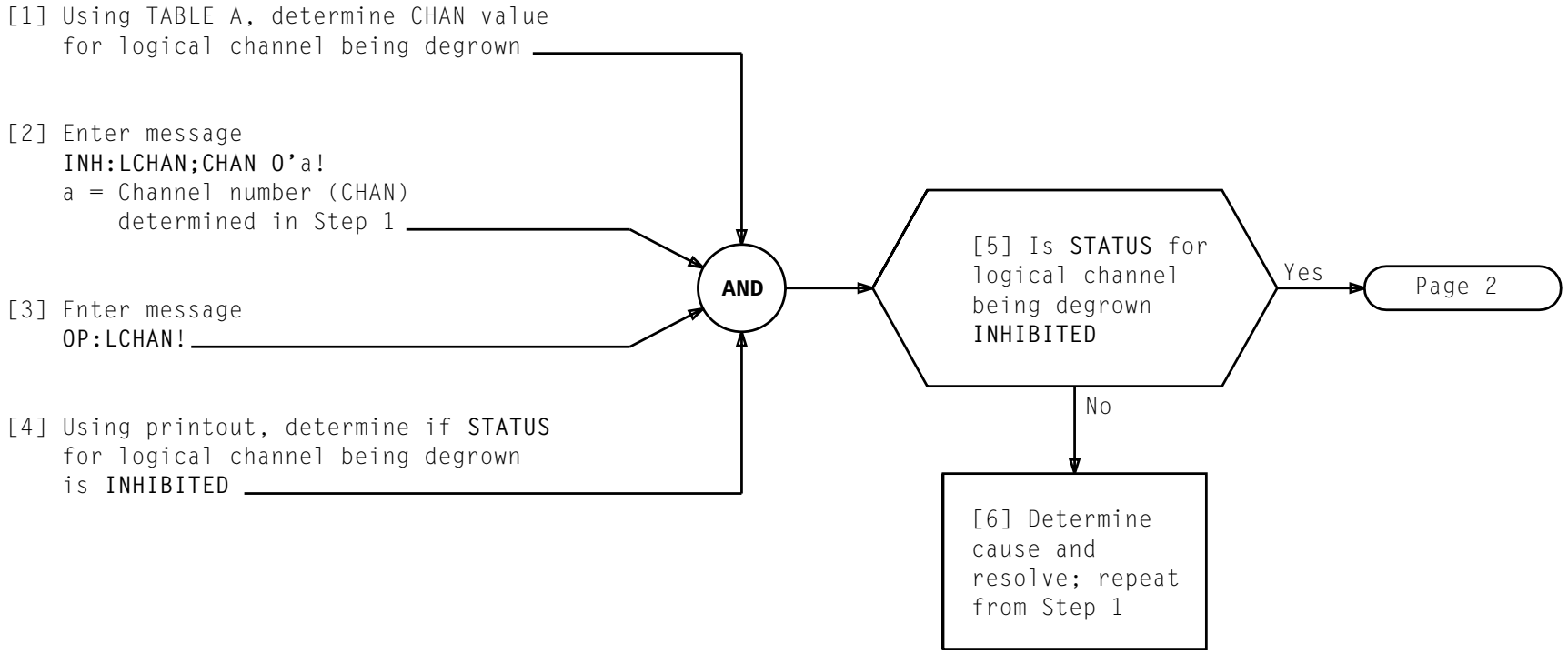


TABLE A

CHANNEL NAME	CHAN
EDASH2	103
MAC1	106
MAC2	107
MAC3	110
PSIRAS	111
PSSPR	112
NSA1	114
NSA2	115

CHANGE LOGICAL CHANGE TO UNEQ

[7] Enter message to change logical channel to UNEQ
IN:XLBUF1:LCHAN,CHAN O'a,CLEAR!

a = Channel number (CHAN) determined in Step 1, Page 1

OK acknowledgment received

[8] Enter message to verify buffered data
VER:UTMN:LCHAN,CHAN O'a!

a = Channel number (CHAN) determined in Step 1, Page 1

AND

[9] Was verify printout displaying logical channel being degrown received [TABLE B]

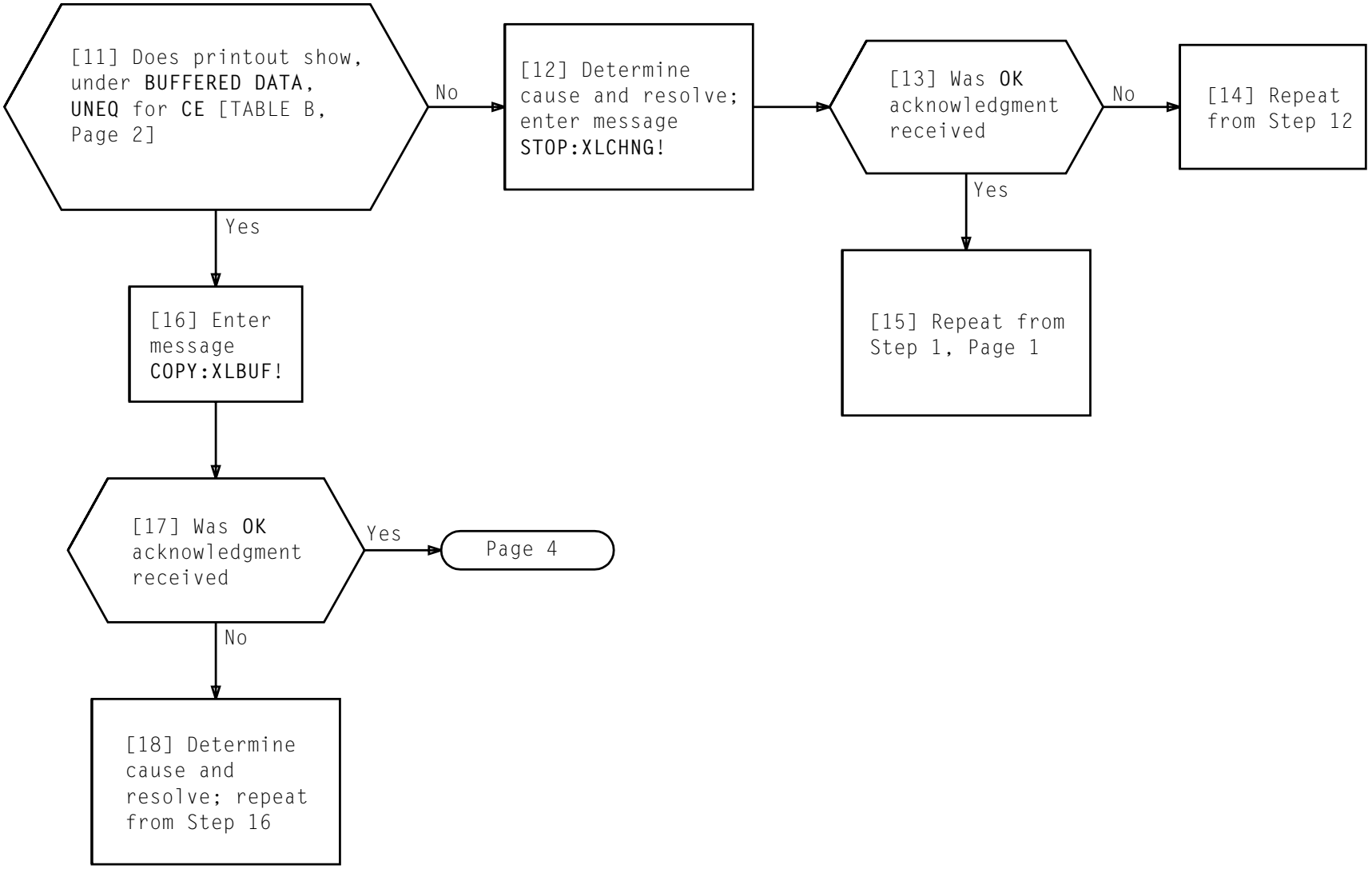
Yes → Page 3

No → [10] Repeat from Step 8

TABLE B

OUTPUT MESSAGE	VARIABLES
VER:UTMN:LCHAN COMPLETED BUFFERED DATA: CHTYP=x CE=UNEQ PHAPPLID=x CURRENT DATA: CHNUMBER=a CHNAME=b CE=LOGICAL CHTYP=x PHAPPLID=x	a = Octal channel number of logical channel b = Channel name x = Don't care

CHANGE LOGICAL CHANGE TO UNEQ



CHANGE LOGICAL CHANNEL TO UNEQ

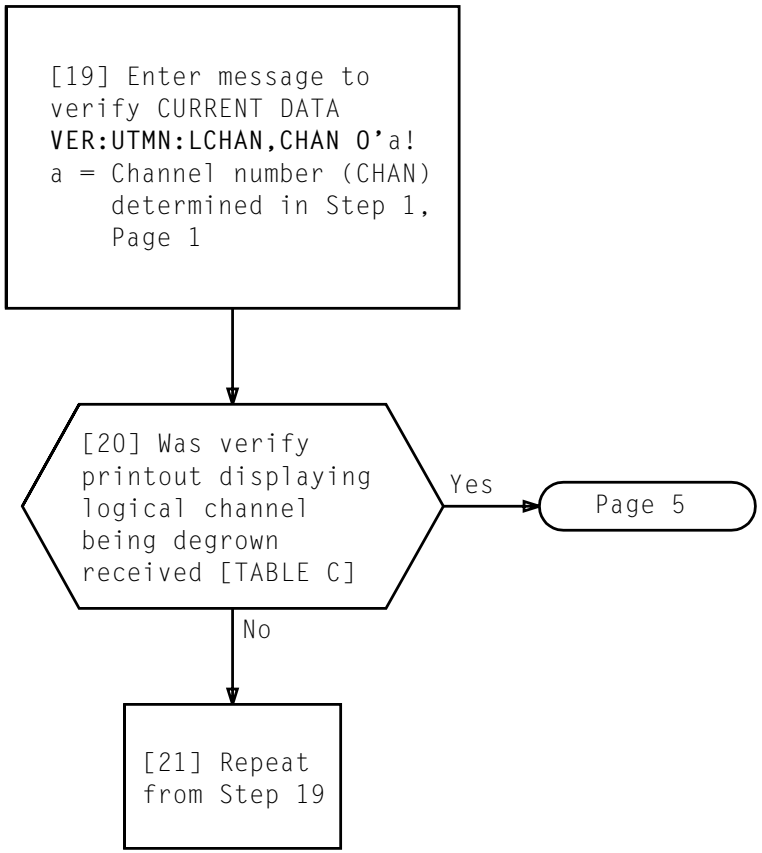
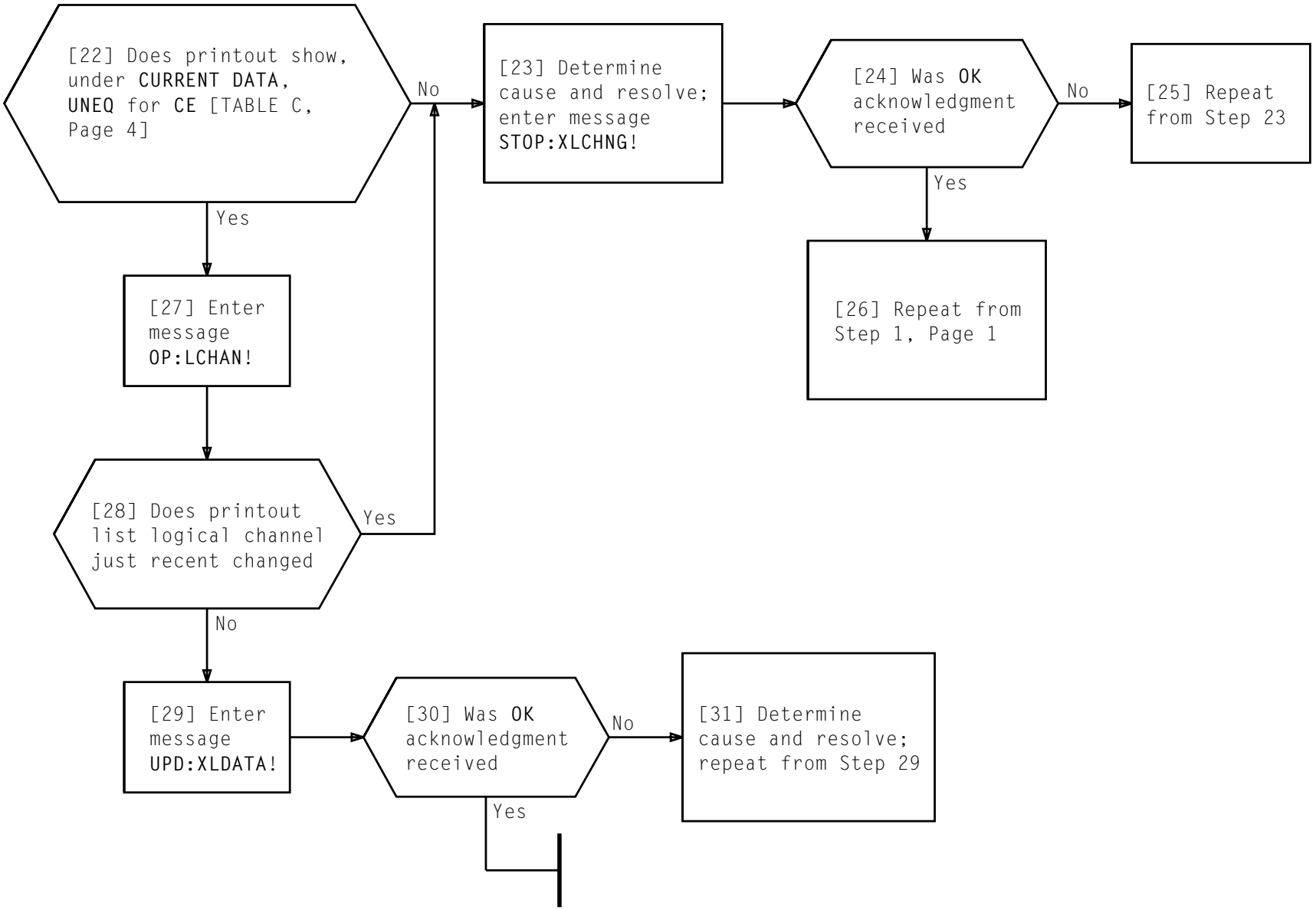
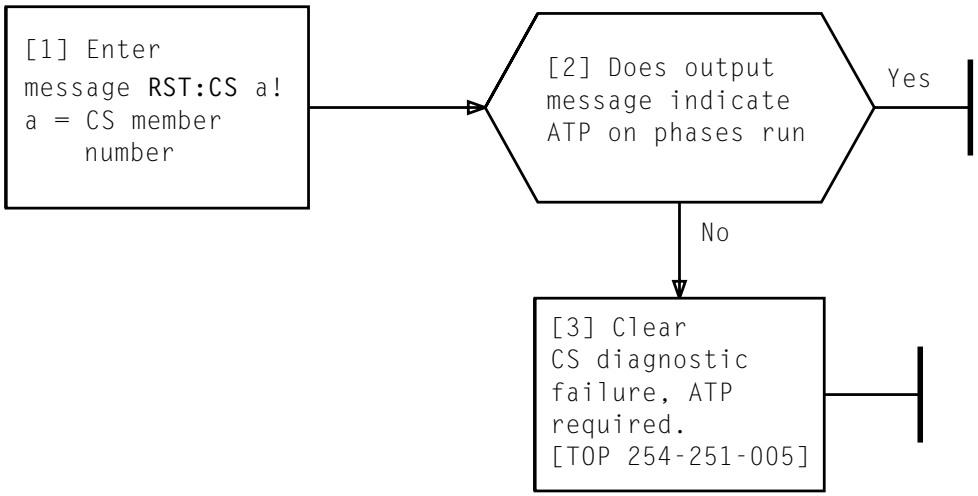


TABLE C	
OUTPUT MESSAGE	**VARIABLES**
VER:UTMN:LCHAN COMPLETED BUFFERED DATA: CHTYP=x CE=x PHAPPLID=x CURRENT DATA: CHNUMBER=a CHNAME=b CE=UNEQ CHTYP=x PHAPPLID=x	a = Octal channel number of logical channel b = Channel name x = Don't care

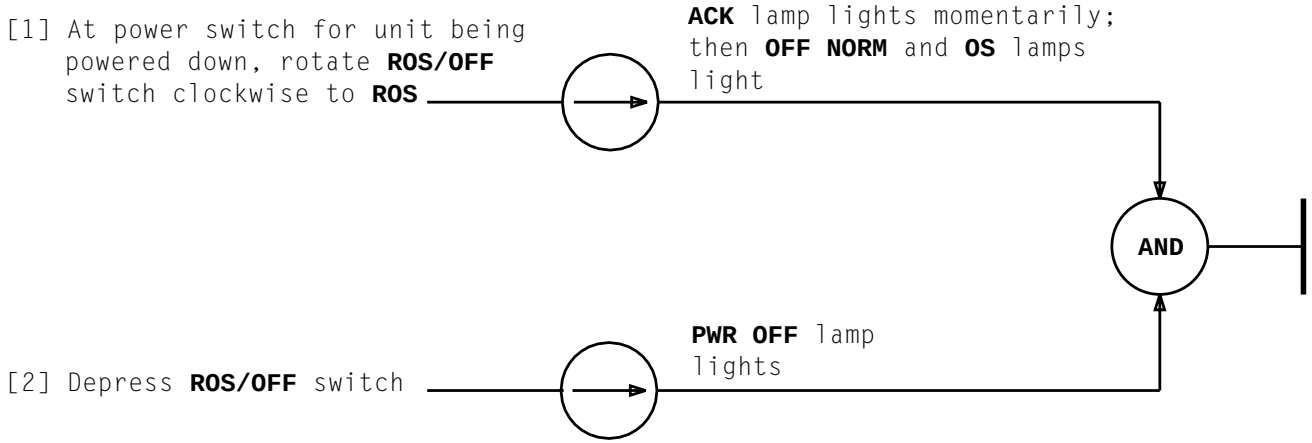
CHANGE LOGICAL CHANNEL TO UNEQ



CHANGE LOGICAL CHANNEL TO UNEQ



DIAGNOSE CS USING RESTORE MESSAGE



REMOVE POWER FROM UNIT USING POWER SWITCH

SUMMARY

Enter hardware version translator (HVTRANS) current verify and verify for Y. If HVTRANS is in error, enter HVTRANS change message for CS or CC. Verify buffered data, enter copy message, verify current data, and then enter update message. If after each verify, HVTRANS is not set to Y, enter stop message and start change from beginning

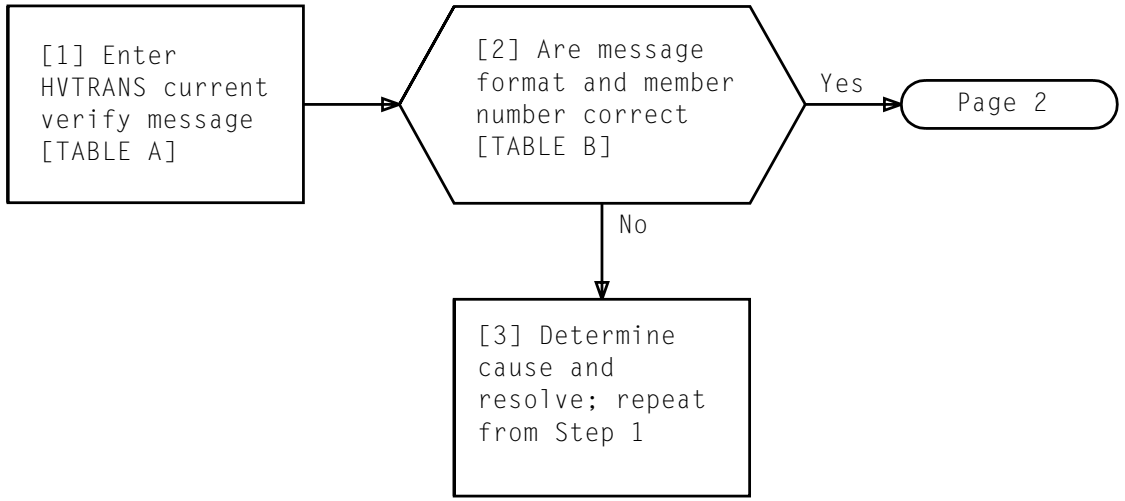


TABLE A

VER:UTMN:a b,HVTRANS!

a = Unit type — CS or CC

b = Member number

TABLE B

VER:UTMN,a b COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

CURRENT DATA
EXTENDED CALL STORE = N

a = Growth unit type

b = Member number

CHANGE AND VERIFY HARDWARE VERSION TRANSLATOR

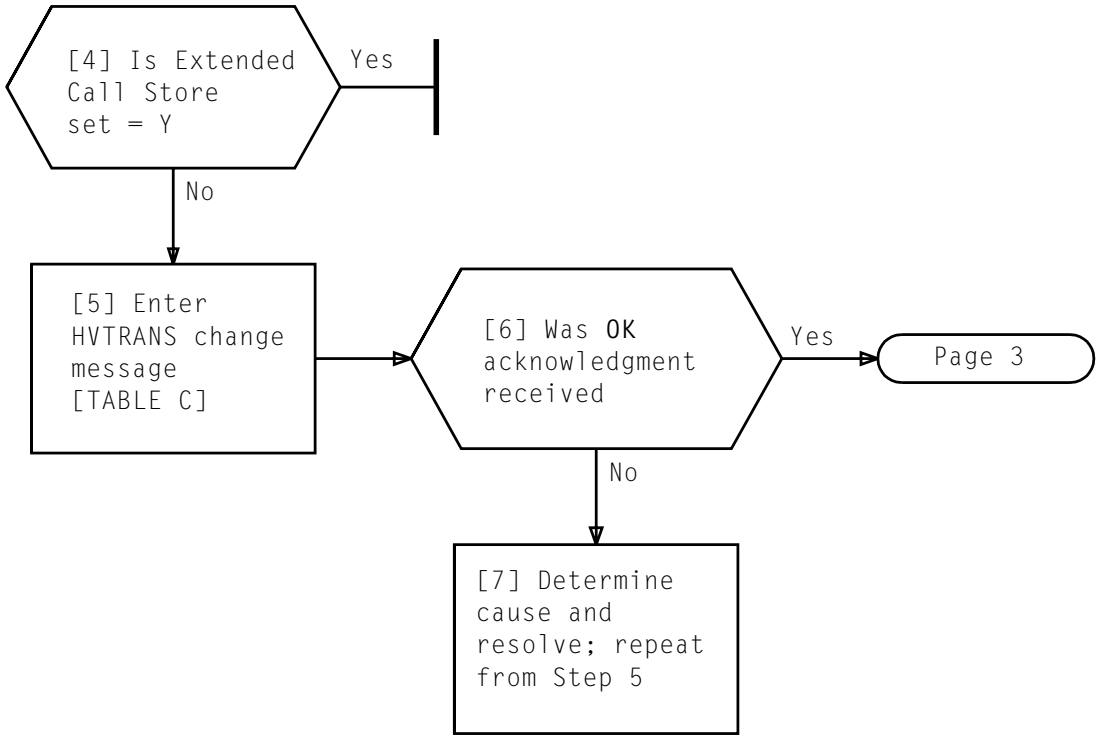


TABLE C
IN:XLBUF:a b,HVTRANS (ECS,Y)!
a = Unit type — CS or CC b = Member number

CHANGE AND VERIFY HARDWARE VERSION TRANSLATOR

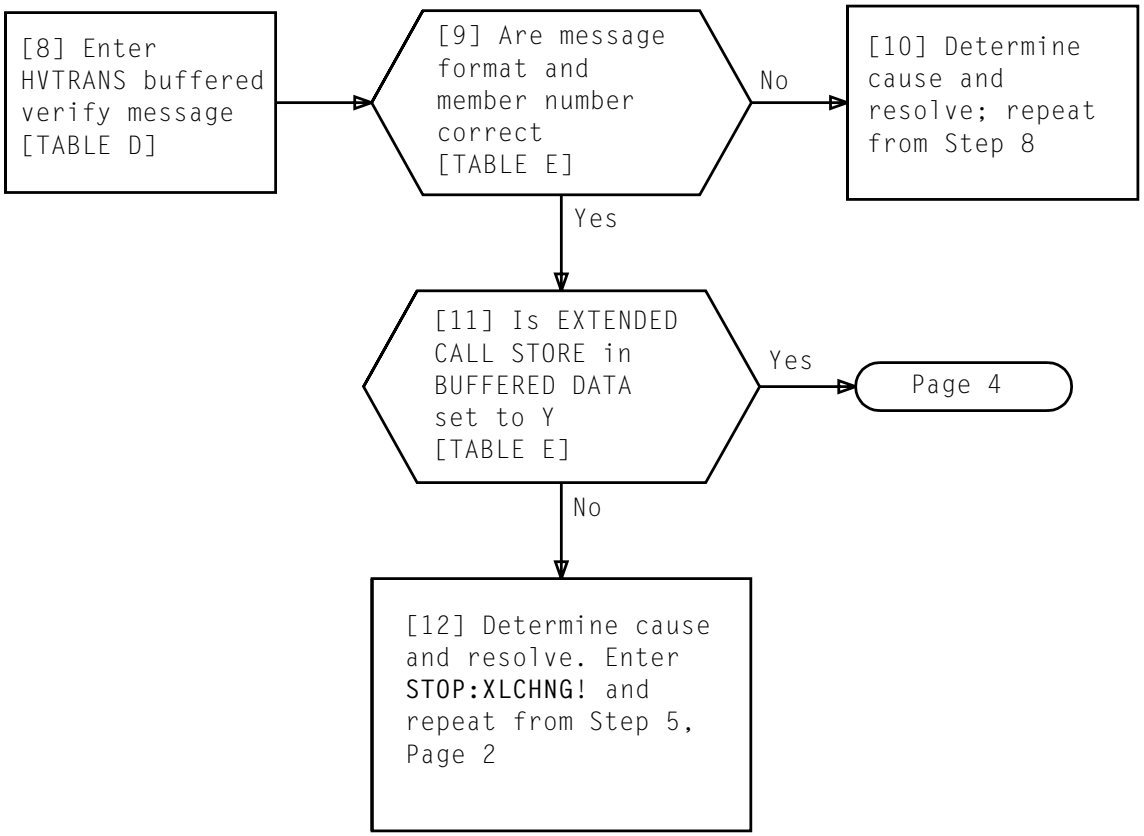


TABLE D
VER:UTMN;BUF:a b,HVTRANS!
a = Unit type — CS or CC b = Member number

TABLE E
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA EXTENDED CALL STORE = Y
a = Growth unit type b = Member number

CHANGE AND VERIFY HARDWARE VERSION TRANSLATOR

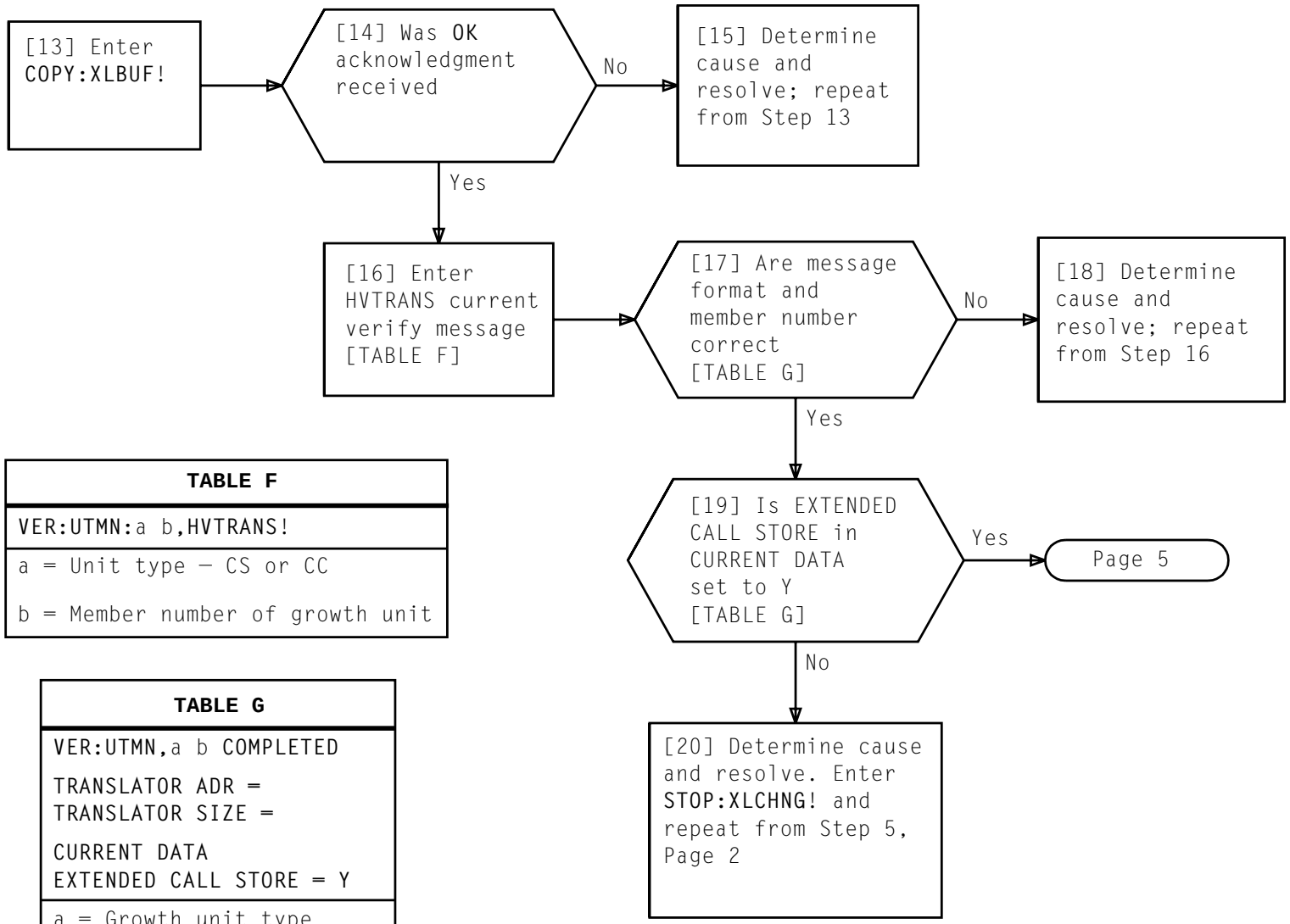


TABLE F
VER:UTMN:a b,HVTRANS!
a = Unit type — CS or CC b = Member number of growth unit

TABLE G
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA EXTENDED CALL STORE = Y
a = Growth unit type b = Member number

CHANGE AND VERIFY HARDWARE VERSION TRANSLATOR

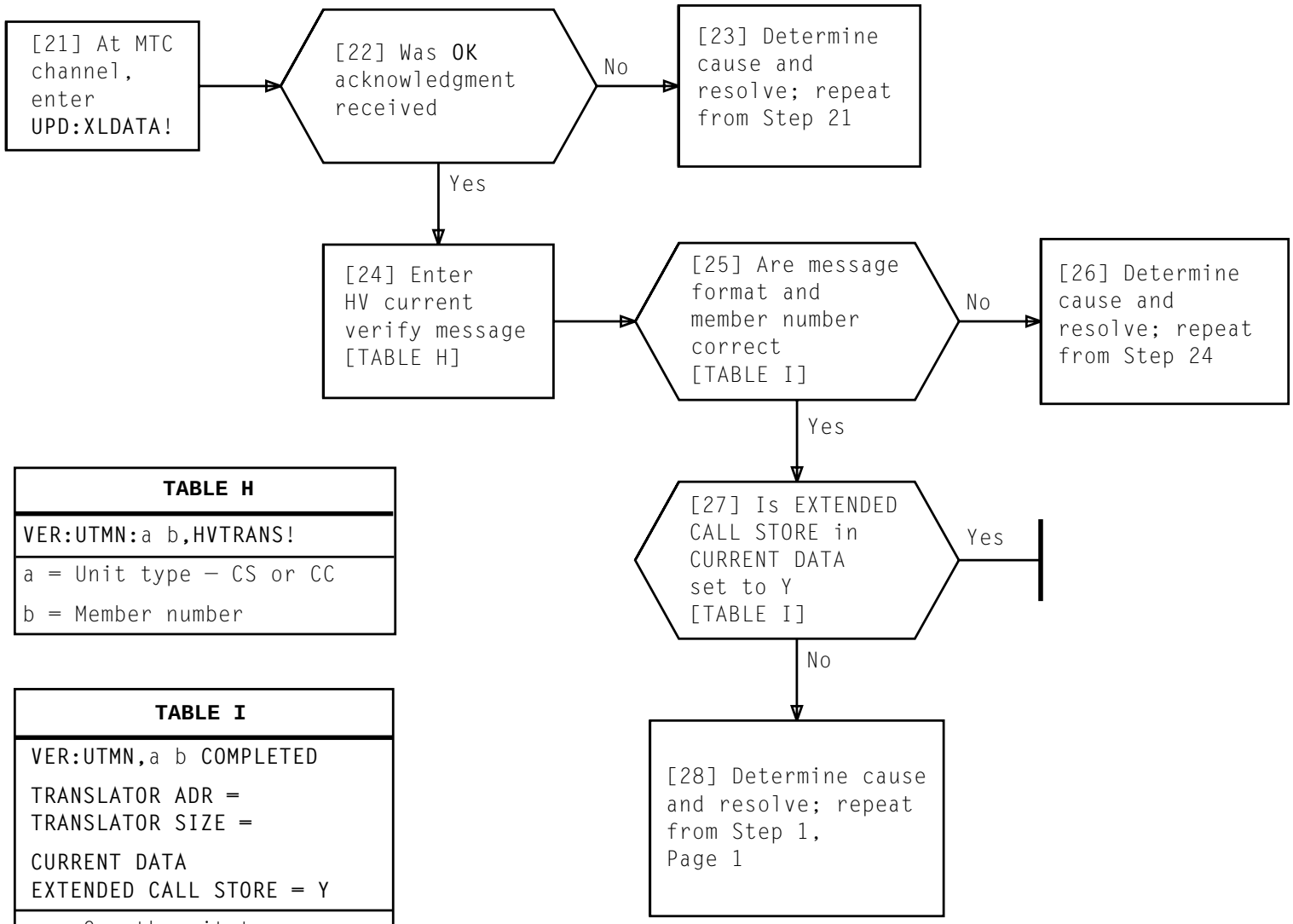
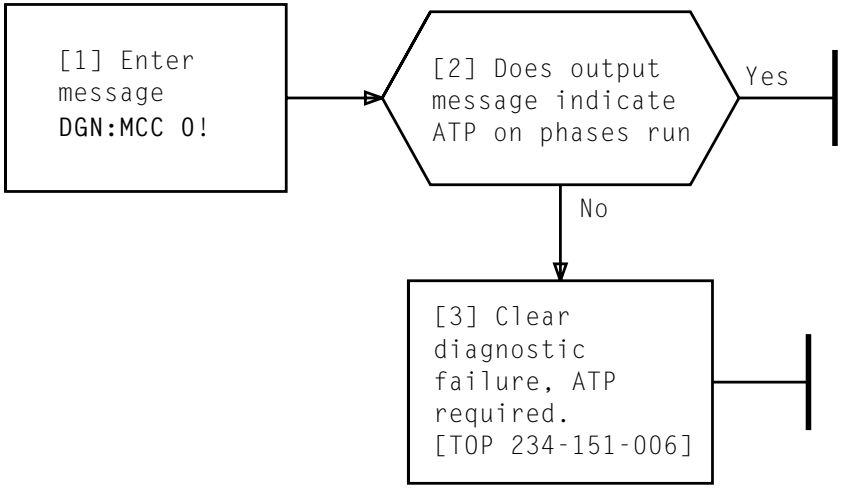


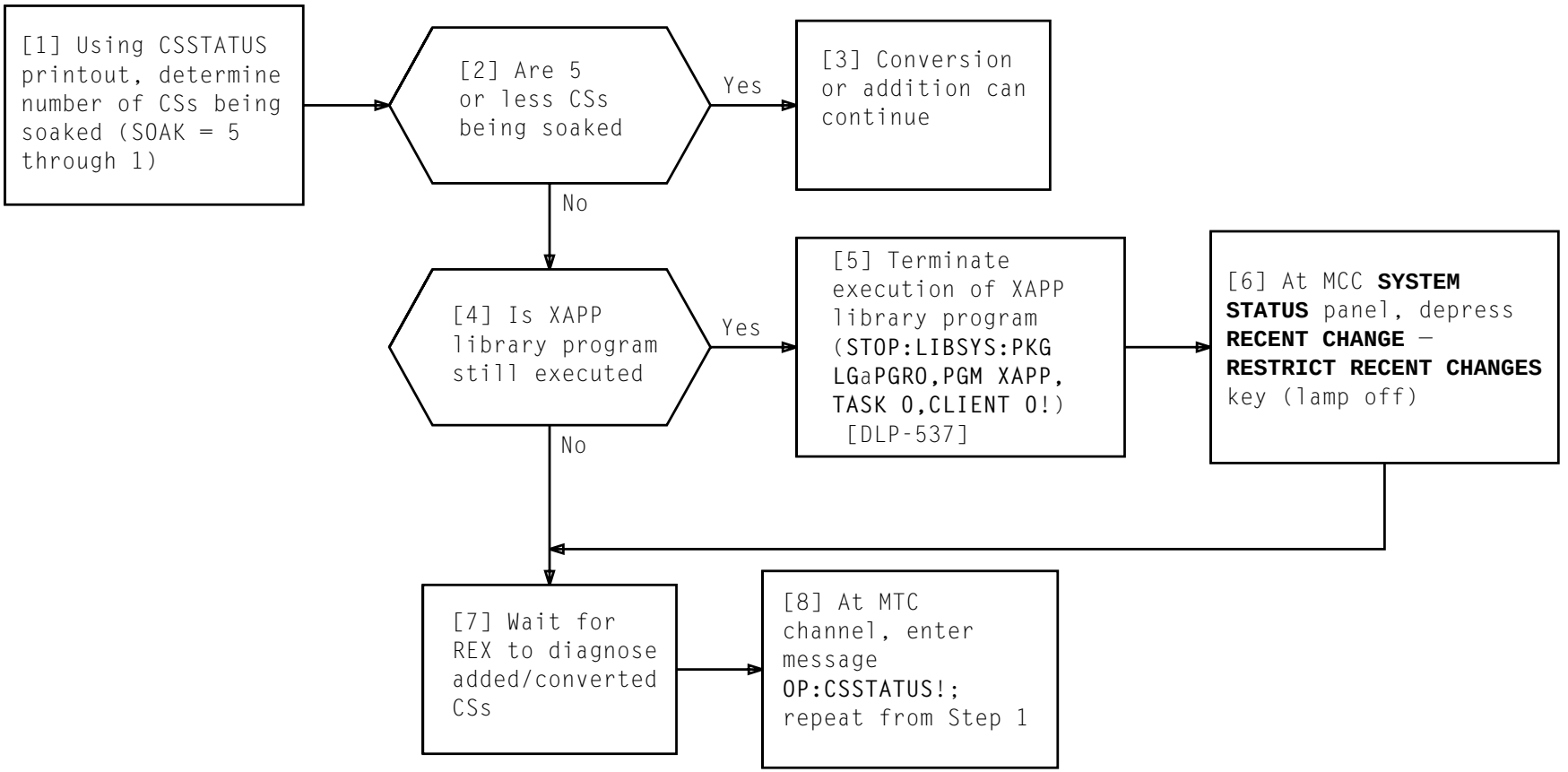
TABLE H
VER:UTMN:a b,HVTRANS!
a = Unit type — CS or CC
b = Member number

TABLE I
VER:UTMN,a b COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA EXTENDED CALL STORE = Y
a = Growth unit type
b = Member number

CHANGE AND VERIFY HARDWARE VERSION TRANSLATOR



DIAGNOSE PPI/MCC



DETERMINE IF CONVERSION/ADDITION CAN CONTINUE

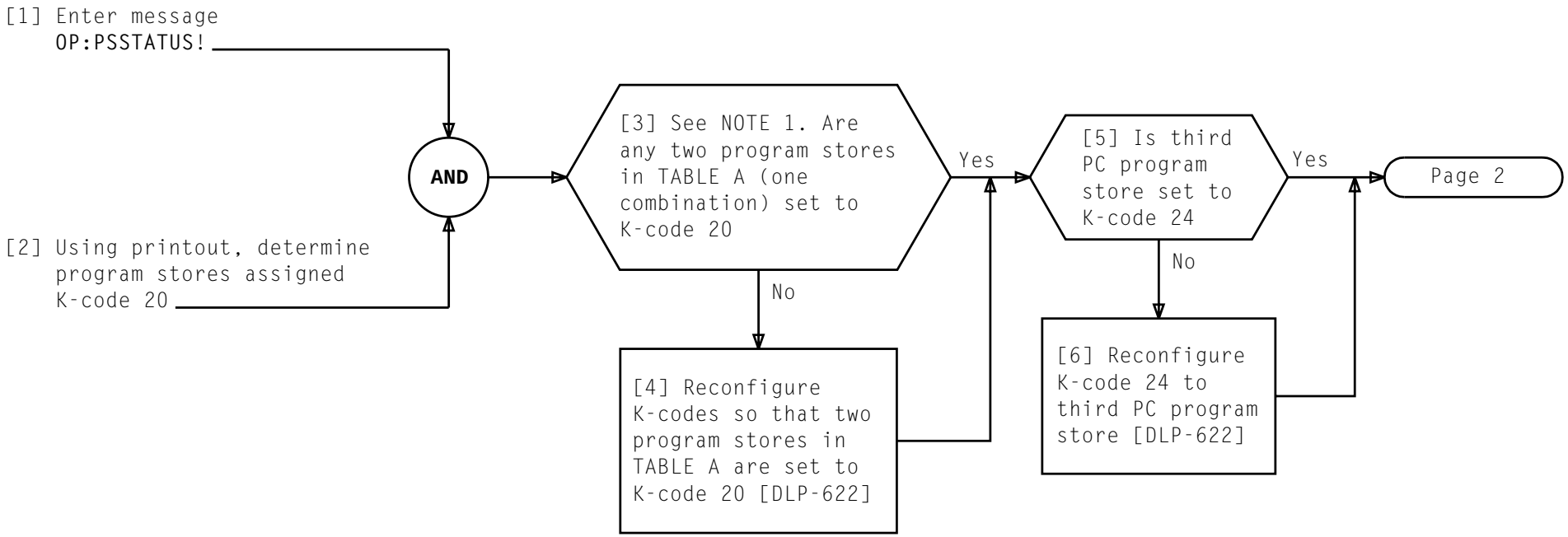
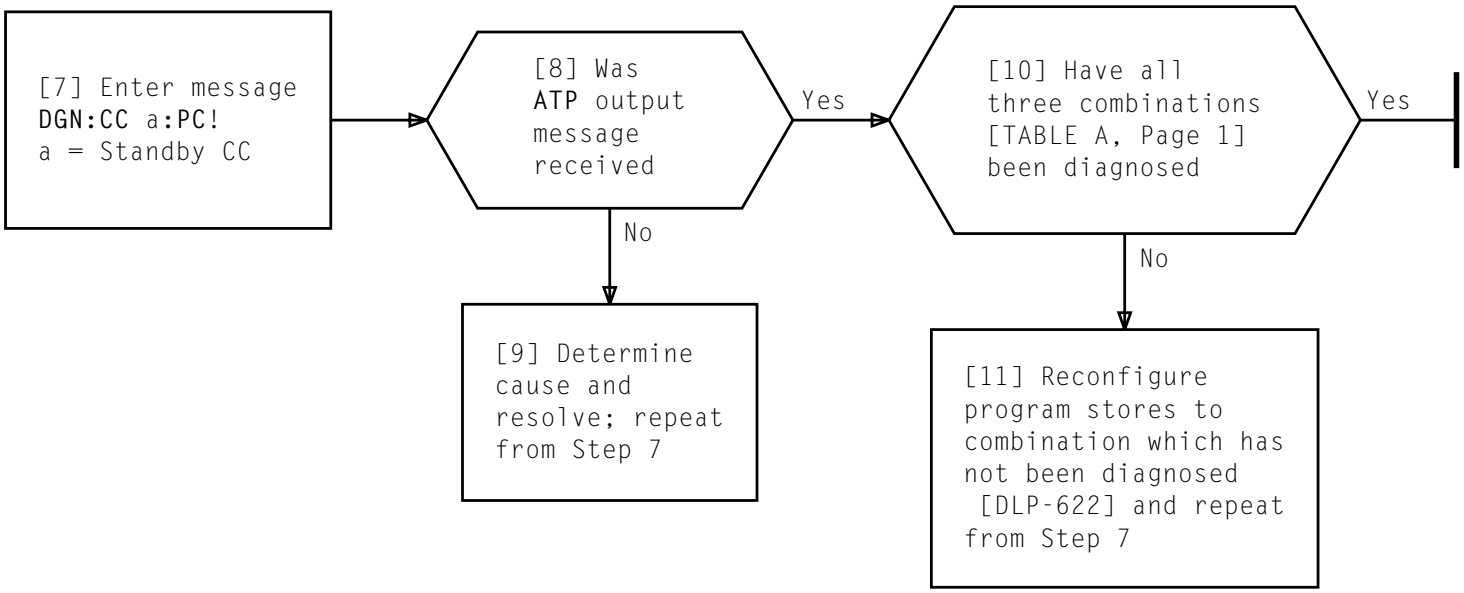


TABLE A	
PC PS COMBINATIONS	
256K START OFFICE	64K START OFFICE
0 and 2	18 and 20
0 and 4	18 and 22
2 and 4	20 and 22

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 CC DIAGNOSTIC PHASE 91 TO TEST PC FUNCTION



RUN CC DIAGNOSTIC PHASE 91 TO TEST PC FUNCTION

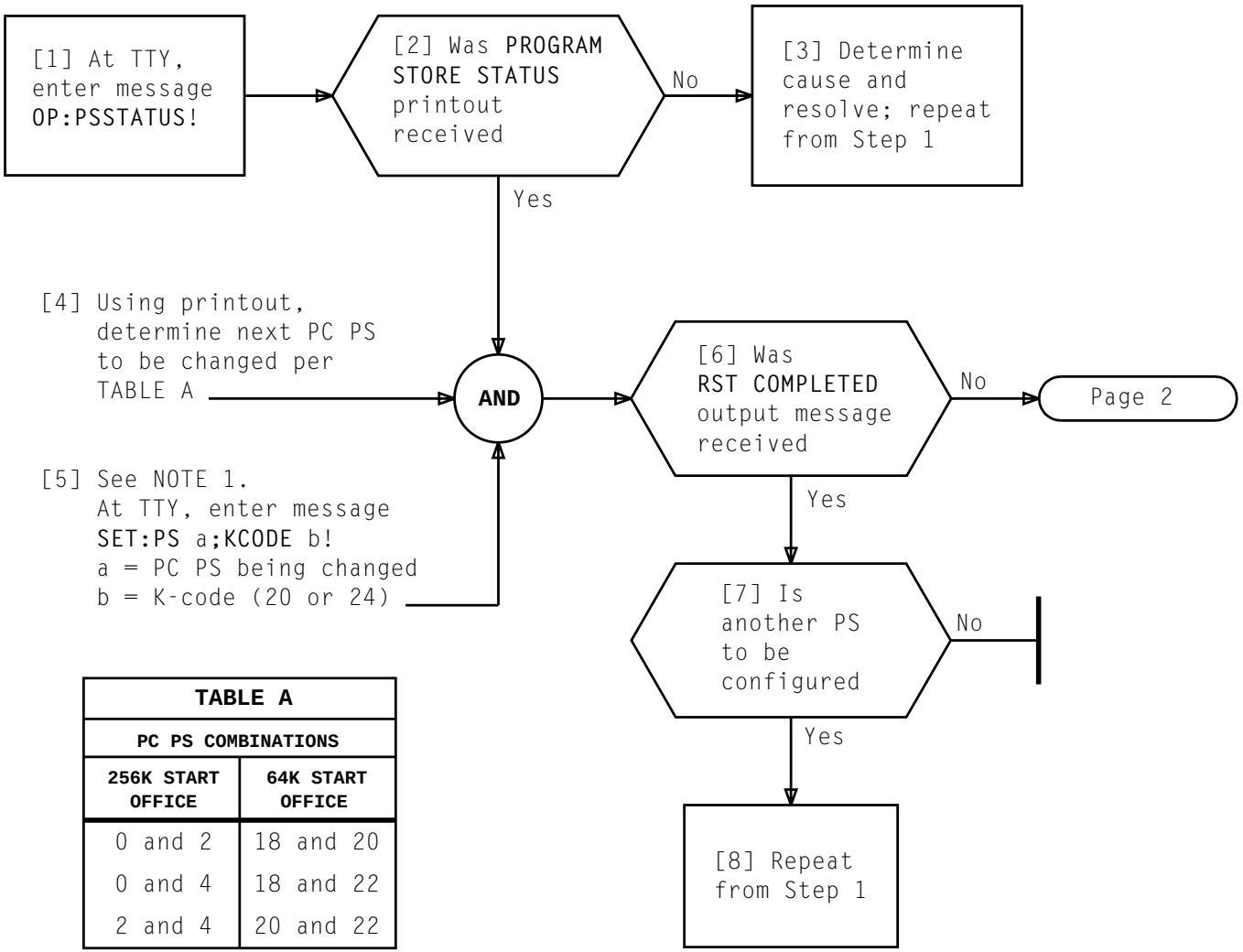
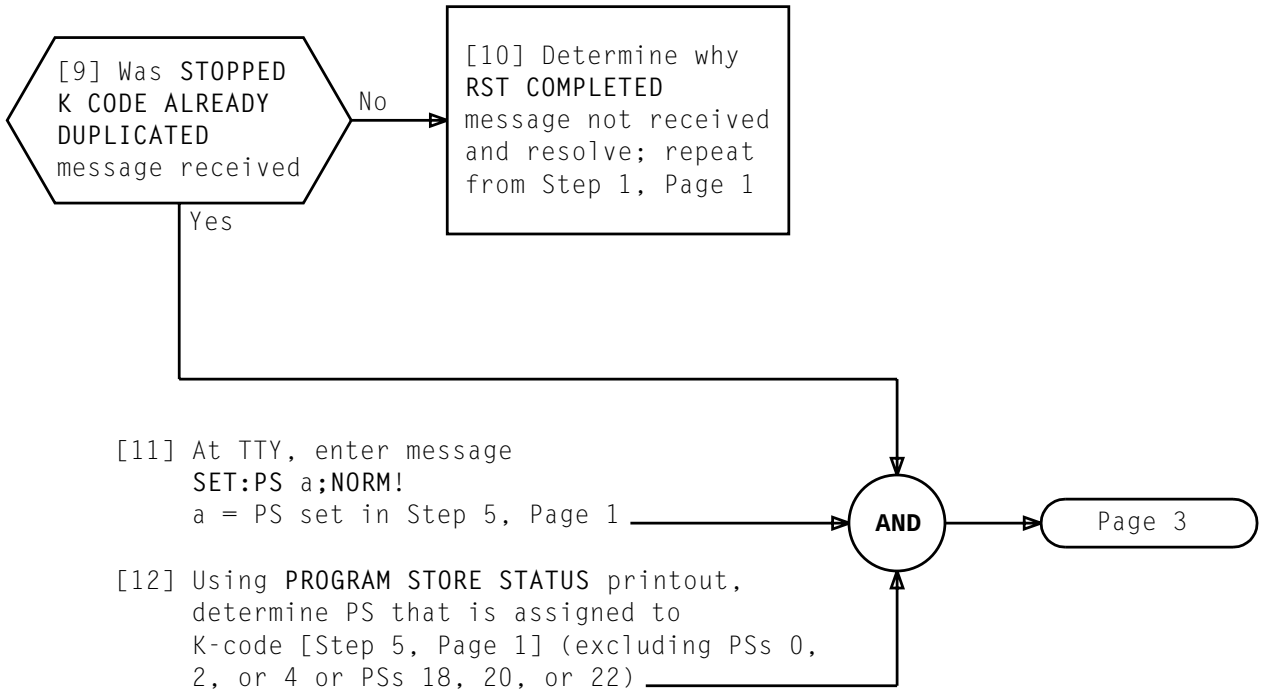


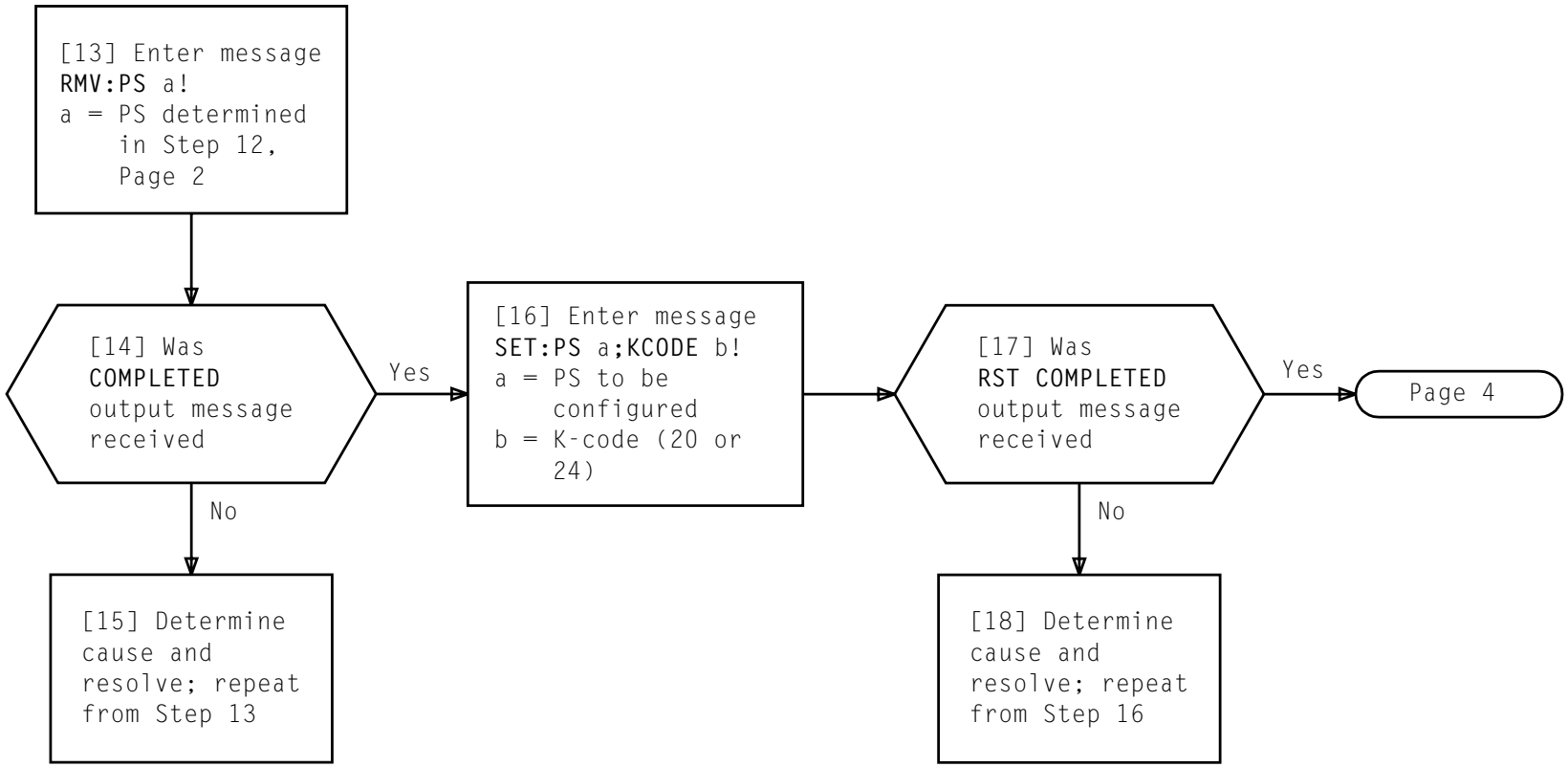
TABLE A	
PC PS COMBINATIONS	
256K START OFFICE	64K START OFFICE
0 and 2	18 and 20
0 and 4	18 and 22
2 and 4	20 and 22

NOTE 1
Program store may need to be removed in order to set PC PS to appropriate K-code

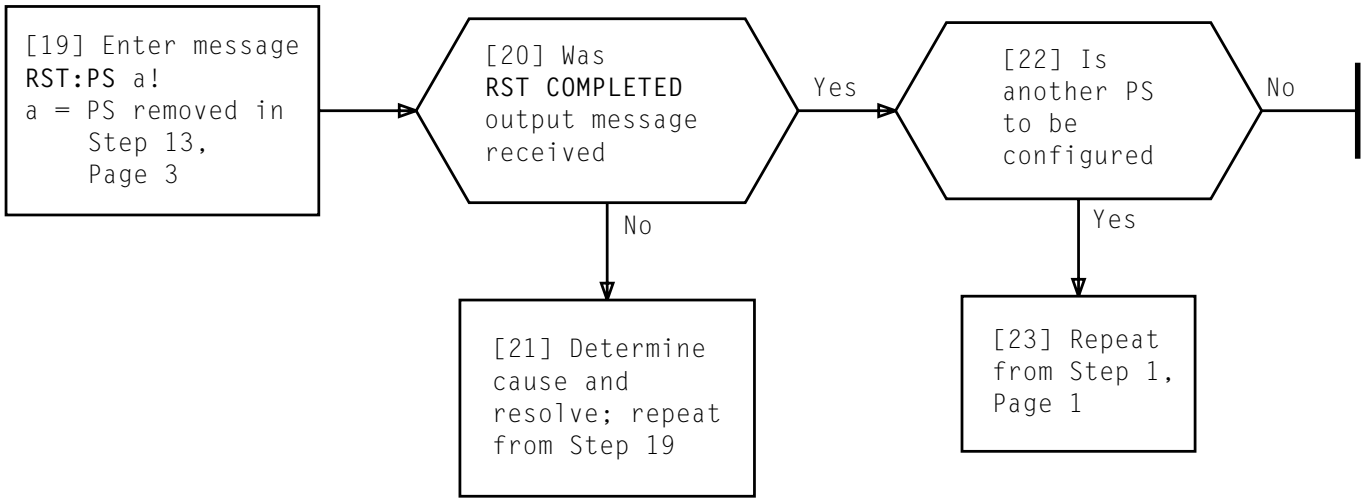
CONFIGURE PS TO K-CODE



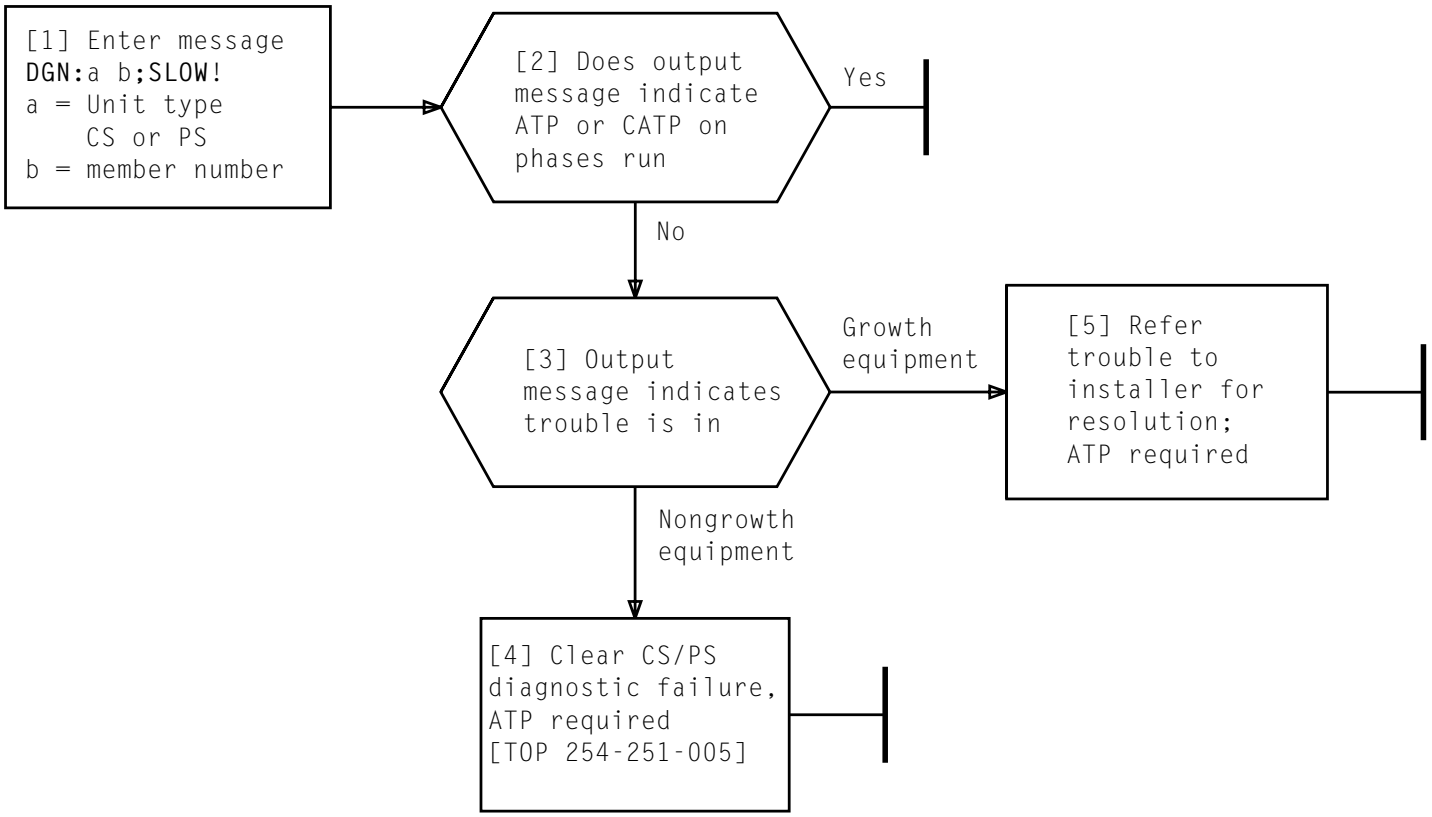
CONFIGURE PS TO K-CODE



CONFIGURE PS TO K-CODE



CONFIGURE PS TO K-CODE



DIAGNOSE CS OR PS USING SLOW OPTION

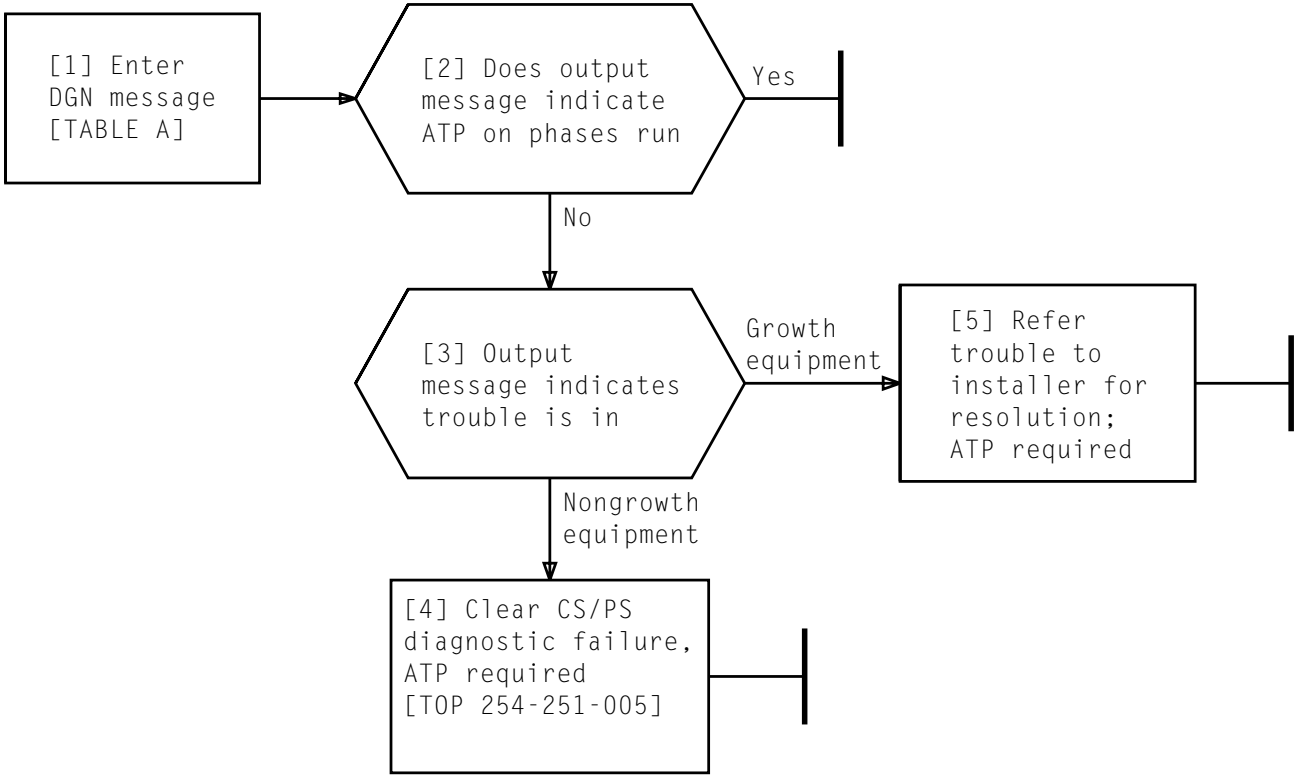


TABLE A
DGN:a b;SLOW:PH (24-29,91)!
a = Unit type CS or PS b = Member number

DIAGNOSE CS OR PS (DEMAND DIAGNOSTICS) USING SLOW OPTION

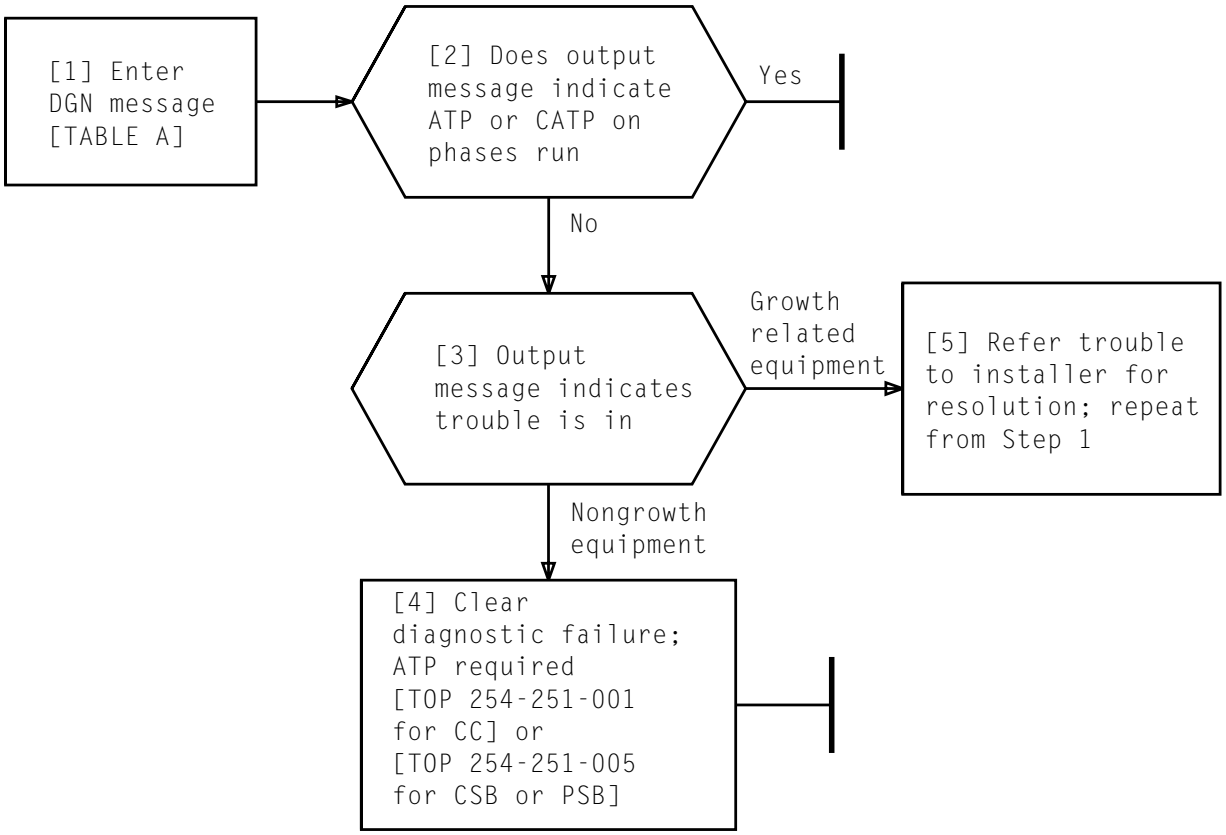


TABLE A
DGN:a b!
a = Unit type CC or CSB or PSB b = Member number 0 or 1

DIAGNOSE CC, CSB, OR PSB

SUMMARY

Enter change message to grow member equipage (ME) from UNEQ to GROW. Verify buffered ME, enter copy message, verify current ME, then enter update message. If after each verify, ME is not in right state, enter stop message and start change from beginning

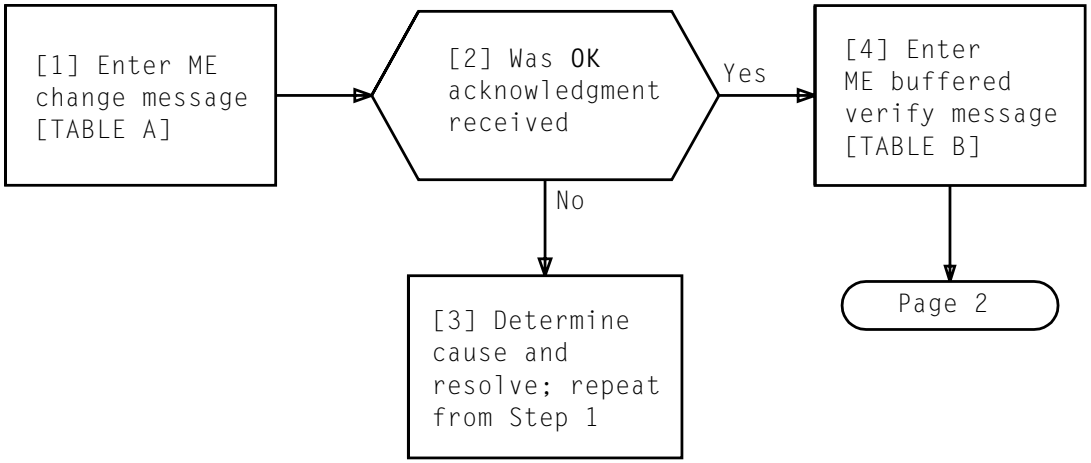


TABLE A
IN:XLBUF1:CS a,ME (UNEQ,GROW)!
a = Member number of growth ECS/CS

TABLE B
VER:UTMN;BUF:CS a,ME!
a = Member number of growth ECS/CS

CHANGE AND VERIFY ECS/CS MEMBER EQUIPAGE UNEQUIPPED TO GROW

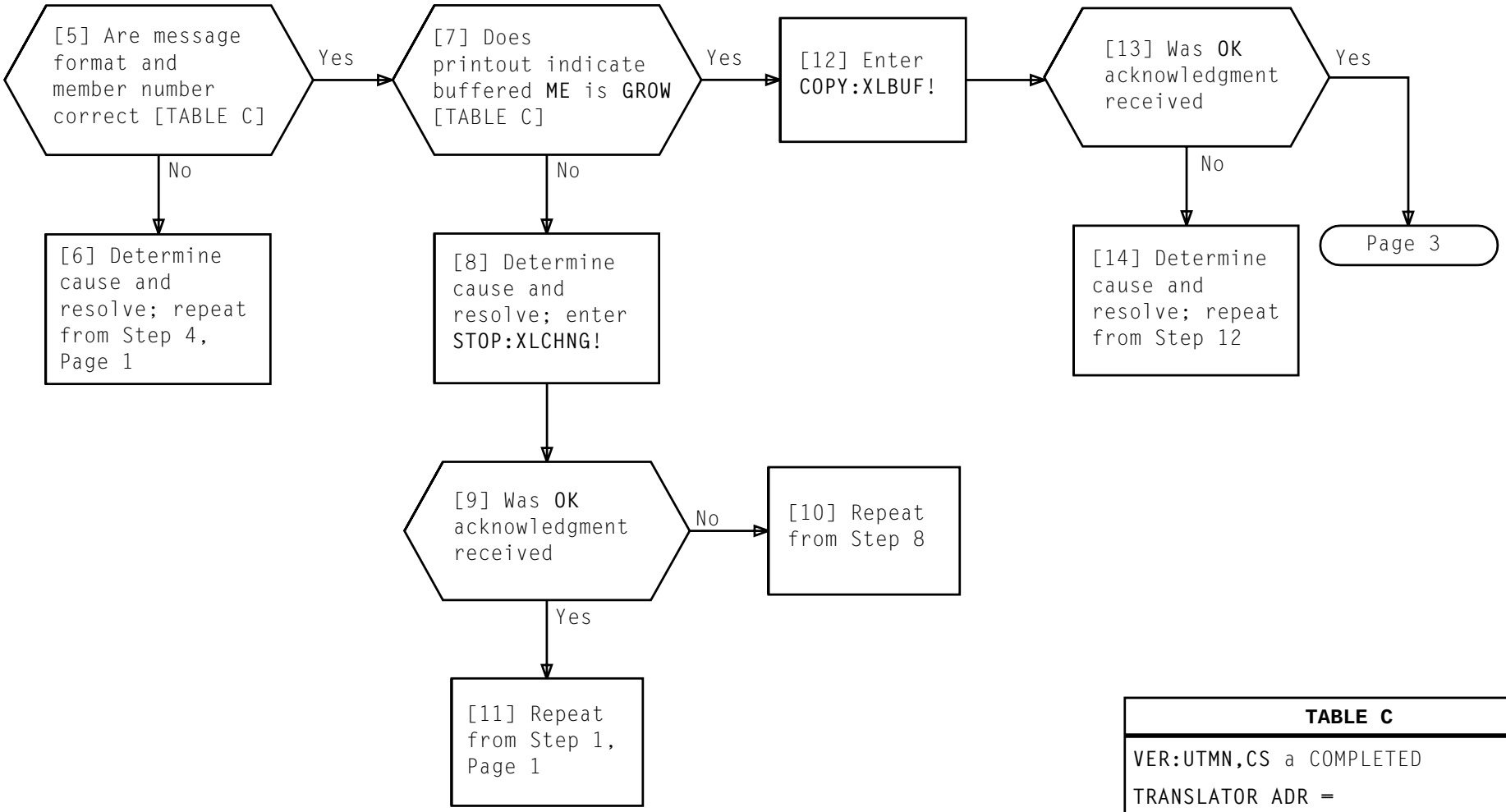


TABLE C
VER:UTMN,CS a COMPLETED
TRANSLATOR ADR = TRANSLATOR SIZE =
BUFFERED DATA ME GROW
a = Member number of growth ECS/CS

CHANGE AND VERIFY ECS/CS MEMBER EQUIPAGE UNEQUIPPED TO GROW

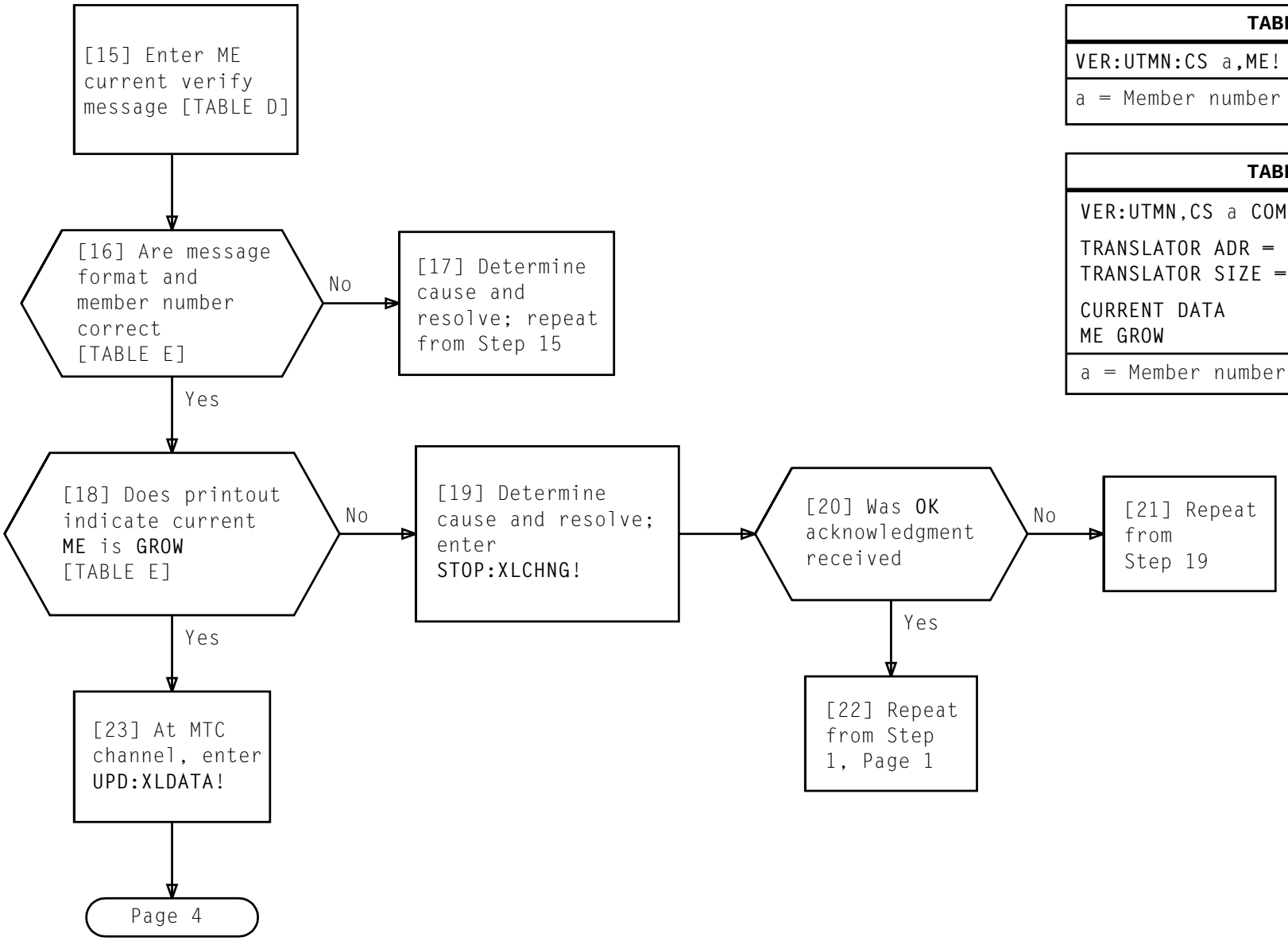


TABLE D
VER:UTMN:CS a,ME!
a = Member number of growth ECS/CS

TABLE E
VER:UTMN,CS a COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME GROW
a = Member number of growth ECS/CS

CHANGE AND VERIFY ECS/CS MEMBER EQUIPAGE UNEQUIPPED TO GROW

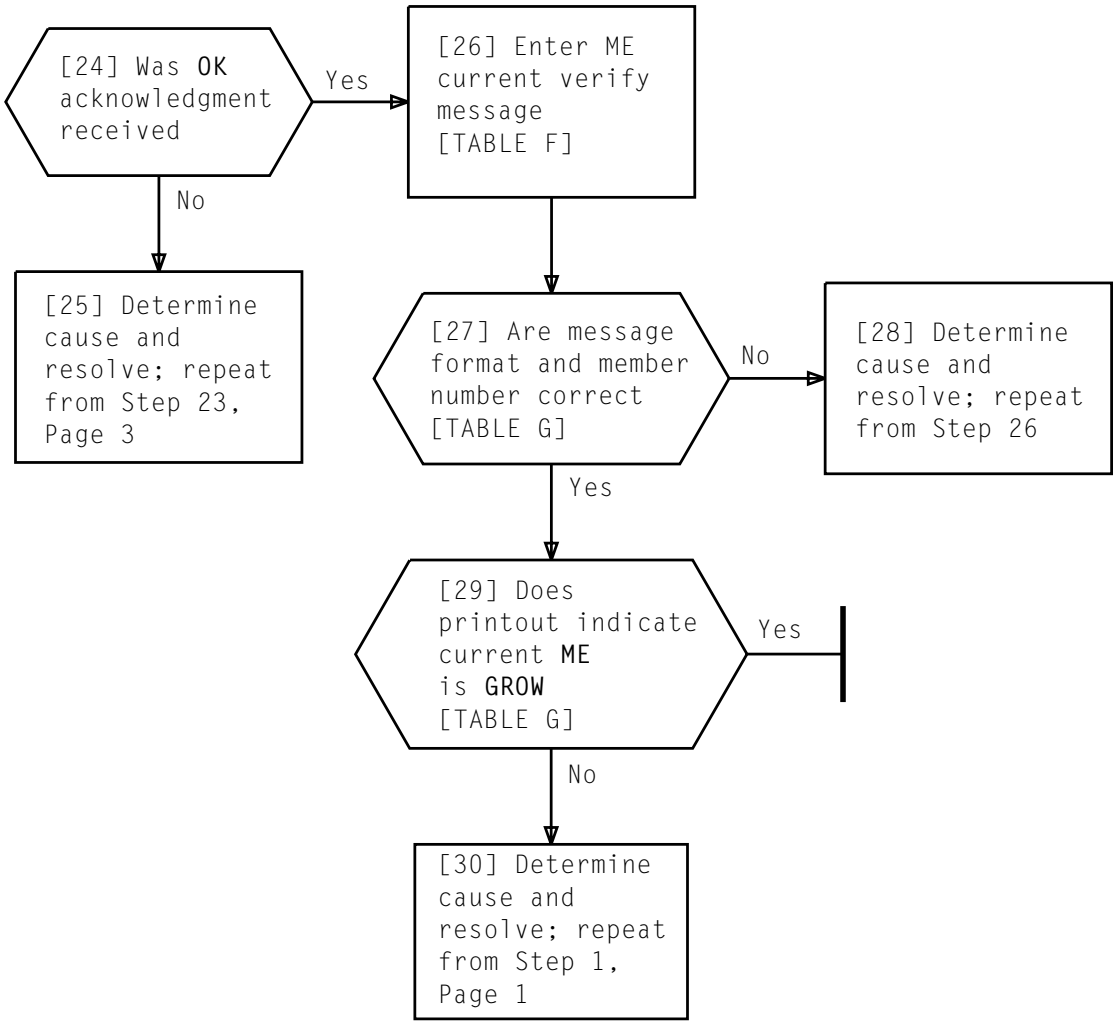


TABLE F
VER:UTMN:CS a,ME!
a = Member number of growth ECS/CS

TABLE G
VER:UTMN,CS a COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME GROW
a = Member number of growth ECS/CS

CHANGE AND VERIFY ECS/CS MEMBER EQUIPAGE UNEQUIPPED TO GROW

SUMMARY

Determine from appropriate office record drawing, frame number of growth associated frame. Enter in frame verify message and verify for proper frame number assignment. If frame number is incorrect, change to proper value. See Fig. 1

ECS 0	CS/PS 1	CC 0	CC 1	CS/PS 0	ECS 1

FIG. 1.

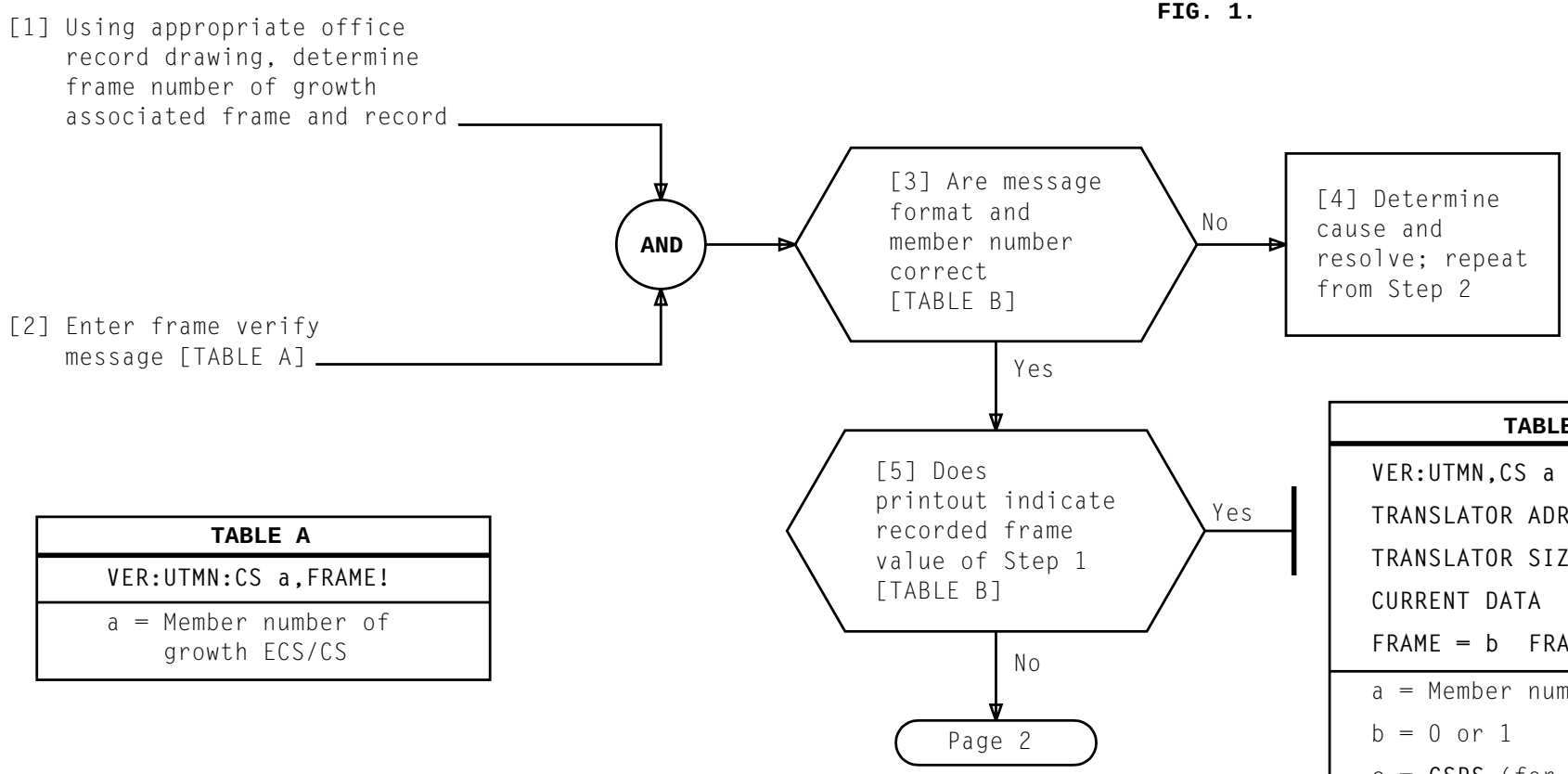


TABLE A
VER:UTMN:CS a,FRAME!
a = Member number of growth ECS/CS

TABLE B
VER:UTMN,CS a COMPLETED
TRANSLATOR ADR =
TRANSLATOR SIZE =
CURRENT DATA
FRAME = b FRAME TYPE = c
a = Member number
b = 0 or 1
c = CSPS (for CS-PS frame type) or
= ECS (for ECS frame type)
= NONE

CHANGE AND VERIFY ECS/CS FRAME NUMBER AND TYPE

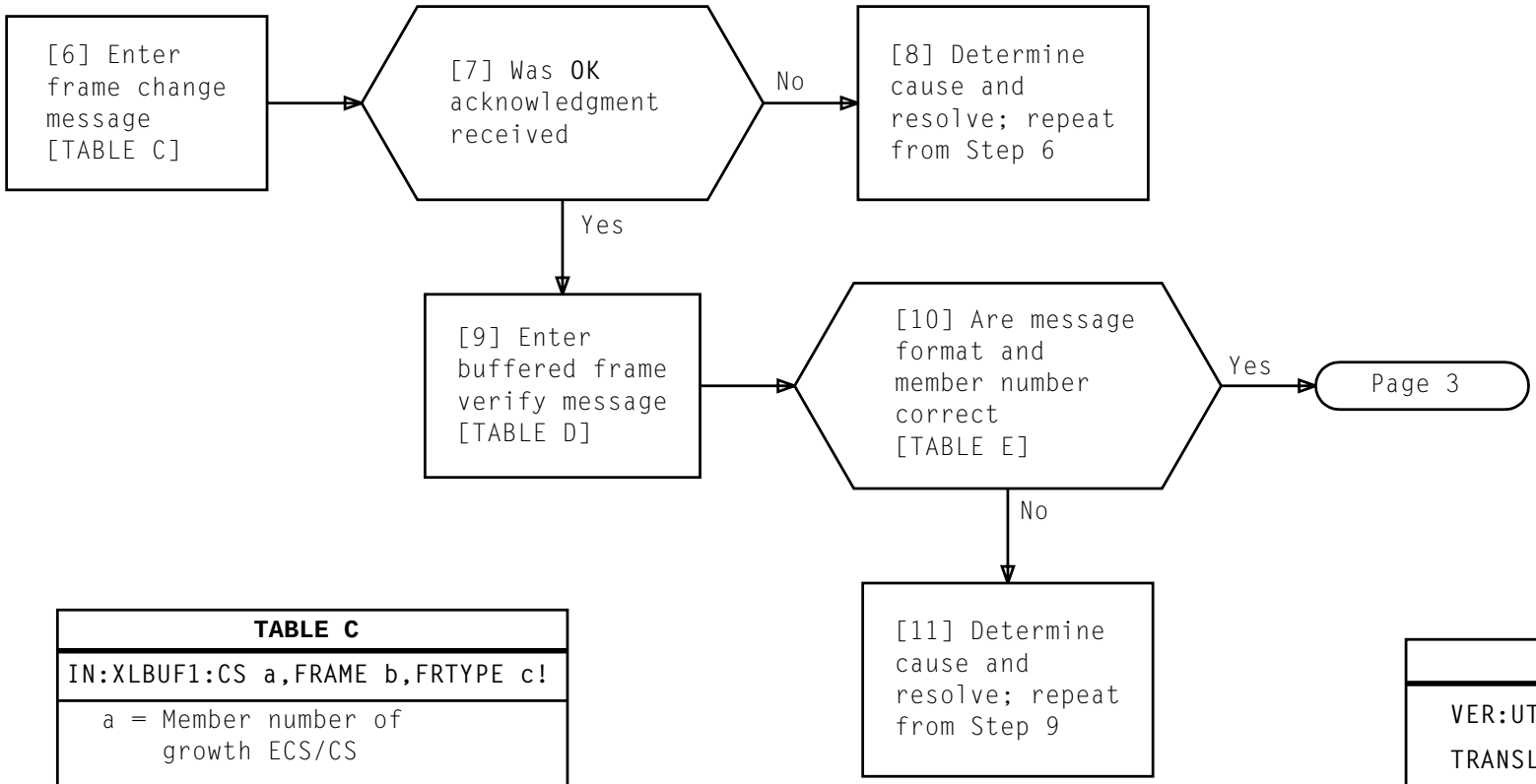


TABLE C
IN:XLBUF1:CS a,FRAME b,FRTYPE c!
a = Member number of growth ECS/CS b = Recorded frame value c = CSPS (for CS-PS frame type) or = ECS (for ECS frame type)

TABLE D
VER:UTMN;BUF:CS a,FRAME!
a = Member number of growth ECS/CS

TABLE E
VER:UTMN,CS a COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA FRAME = b FRAME TYPE = c
a = Member number b = 0 or 1 c = CSPS (for CS-PS frame type) or = ECS (for ECS frame type) = NONE

CHANGE AND VERIFY ECS/CS FRAME NUMBER AND TYPE

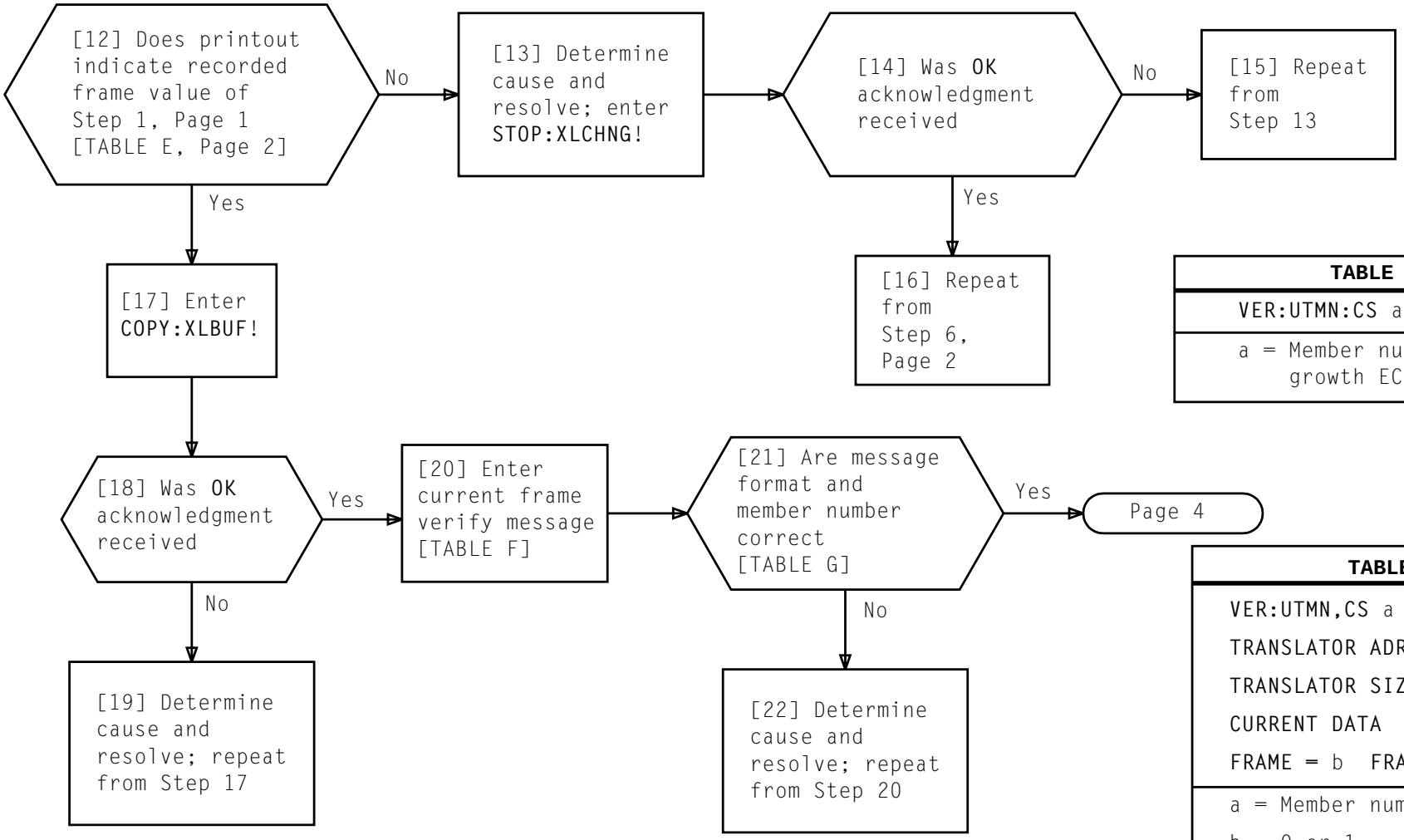
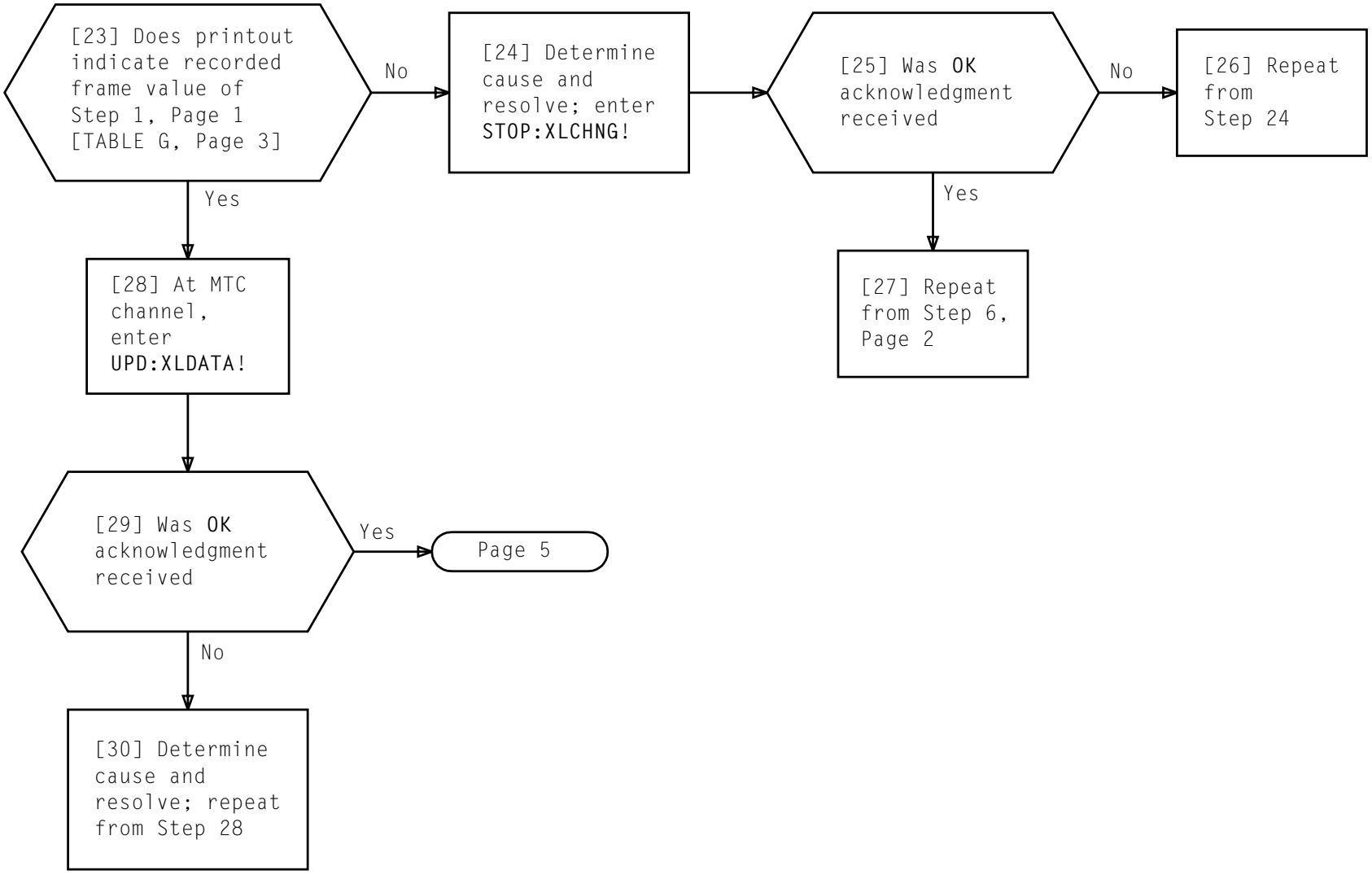


TABLE F
VER:UTMN:CS a,FRAME!
a = Member number of growth ECS/CS

TABLE G
VER:UTMN,CS a COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA FRAME = b FRAME TYPE = c
a = Member number b = 0 or 1 c = CSPS (for CS-PS frame type) or = ECS (for ECS frame type) = NONE

CHANGE AND VERIFY ECS/CS FRAME NUMBER AND TYPE



CHANGE AND VERIFY ECS/CS FRAME NUMBER AND TYPE

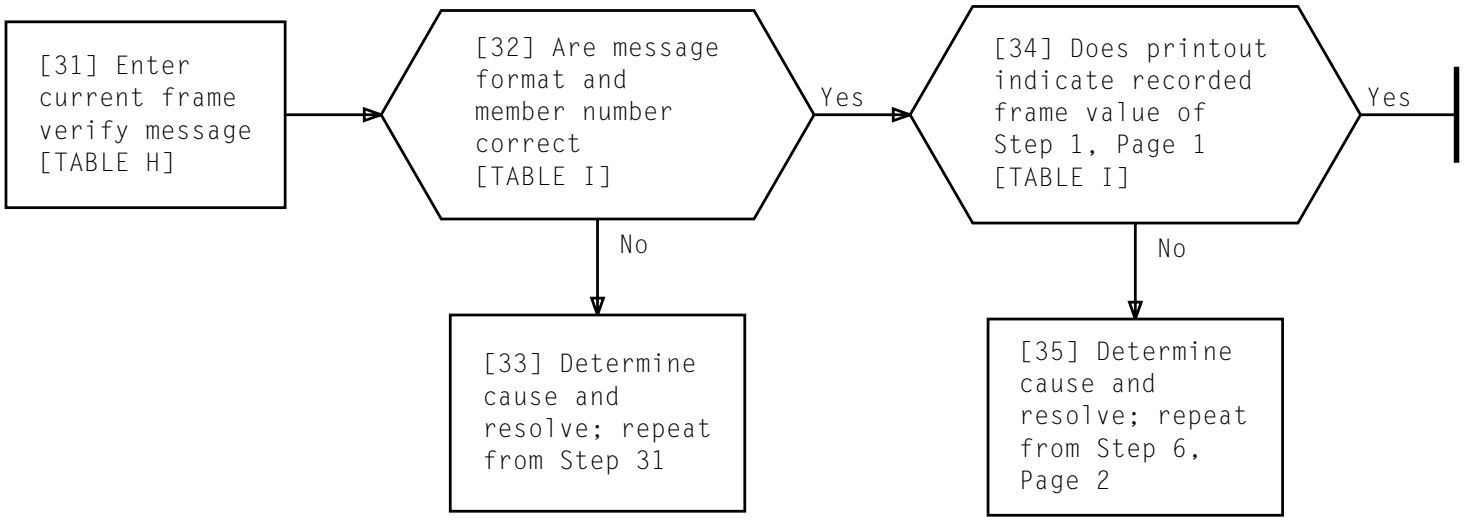


TABLE H
VER:UTMN:CS a,FRAME!
a = Member number of growth ECS/CS

TABLE I
VER:UTMN,CS a COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA FRAME = b FRAME TYPE = c
a = Member number b = 0 or 1 c = CSPS (for CS-PS frame type) or = ECS (for ECS frame type) = NONE

CHANGE AND VERIFY ECS/CS FRAME NUMBER AND TYPE

SUMMARY

Enter change message to grow member equipage (ME) from GROW to SGRO. Verify buffered ME, enter copy message, verify current ME, then enter update message. If after each verify, ME is not in right state, enter stop message and start change from beginning

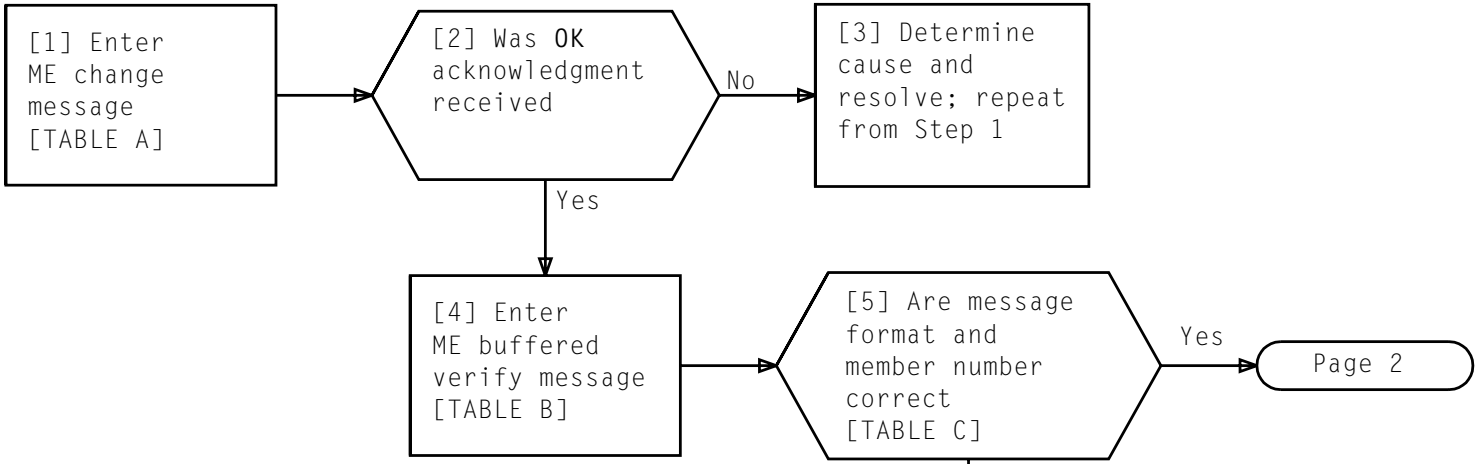


TABLE A
IN:XLBUF1:CS a,ME (GROW,SGRO)!
a = Member number of growth ECS/CS

TABLE B
VER:UTMN;BUF:CS a,ME!
a = Member number of growth ECS/CS

TABLE C
VER:UTMN,CS a COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA ME SGRO
a = Member number of growth ECS/CS

CHANGE AND VERIFY ECS/CS MEMBER EQUIPAGE GROW TO SPECIAL GROWTH

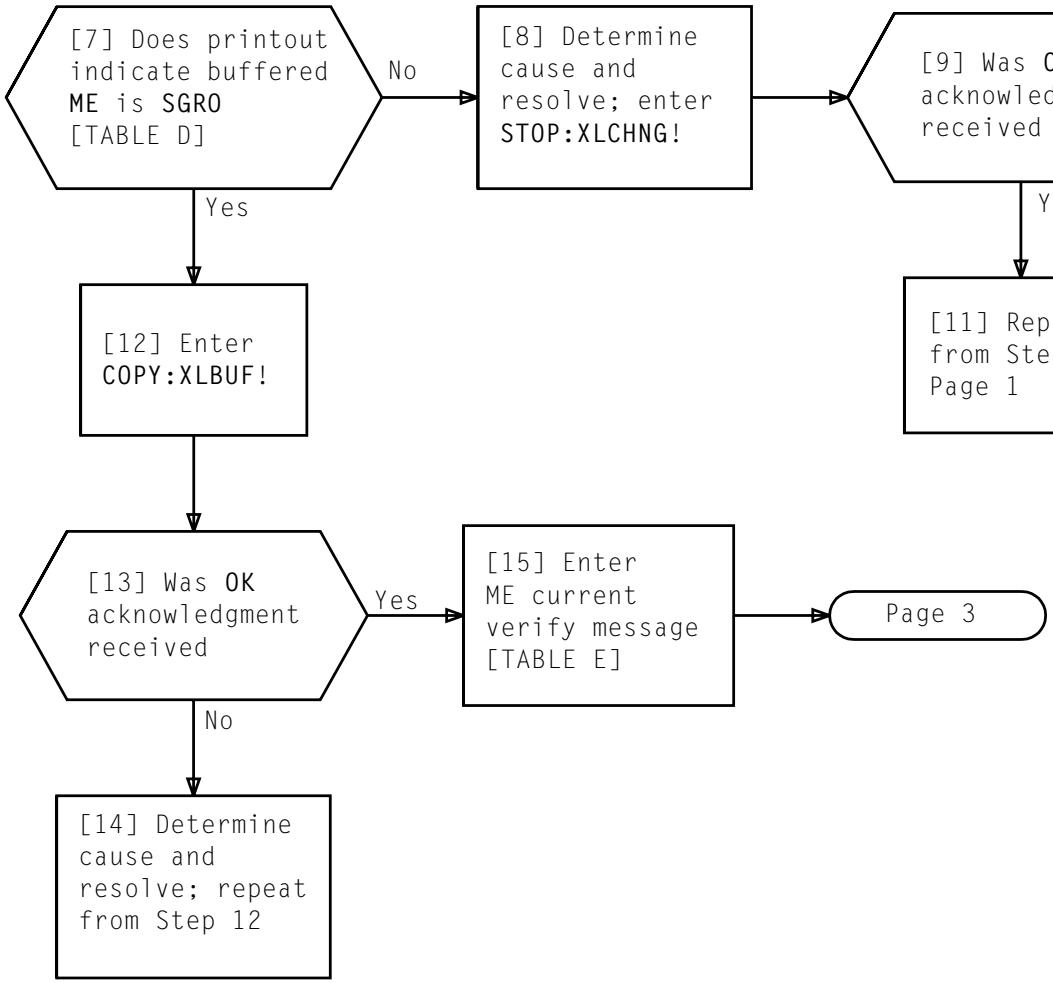


TABLE D
VER:UTMN,CS a COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = BUFFERED DATA ME SGRO
a = Member number of growth ECS/CS

TABLE E
VER:UTMN:CS a,ME!
a = Member number of growth ECS/CS

CHANGE AND VERIFY ECS/CS MEMBER EQUIPAGE GROW TO SPECIAL GROWTH

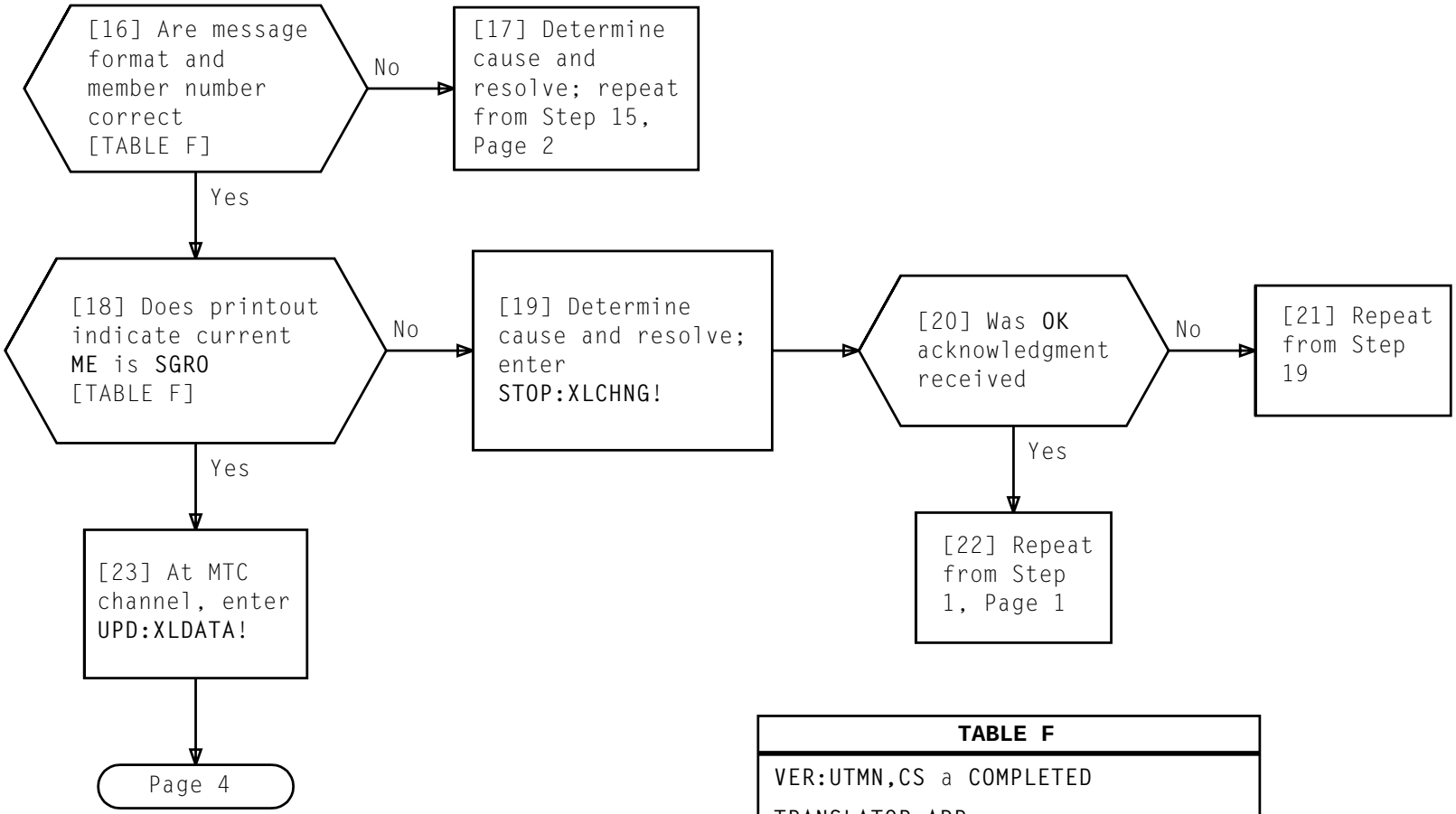


TABLE F

VER:UTMN,CS a COMPLETED
TRANSLATOR ADR = TRANSLATOR SIZE =
CURRENT DATA ME SGRO
a = Member number of growth ECS/CS

CHANGE AND VERIFY ECS/CS MEMBER EQUIPAGE GROW TO SPECIAL GROWTH

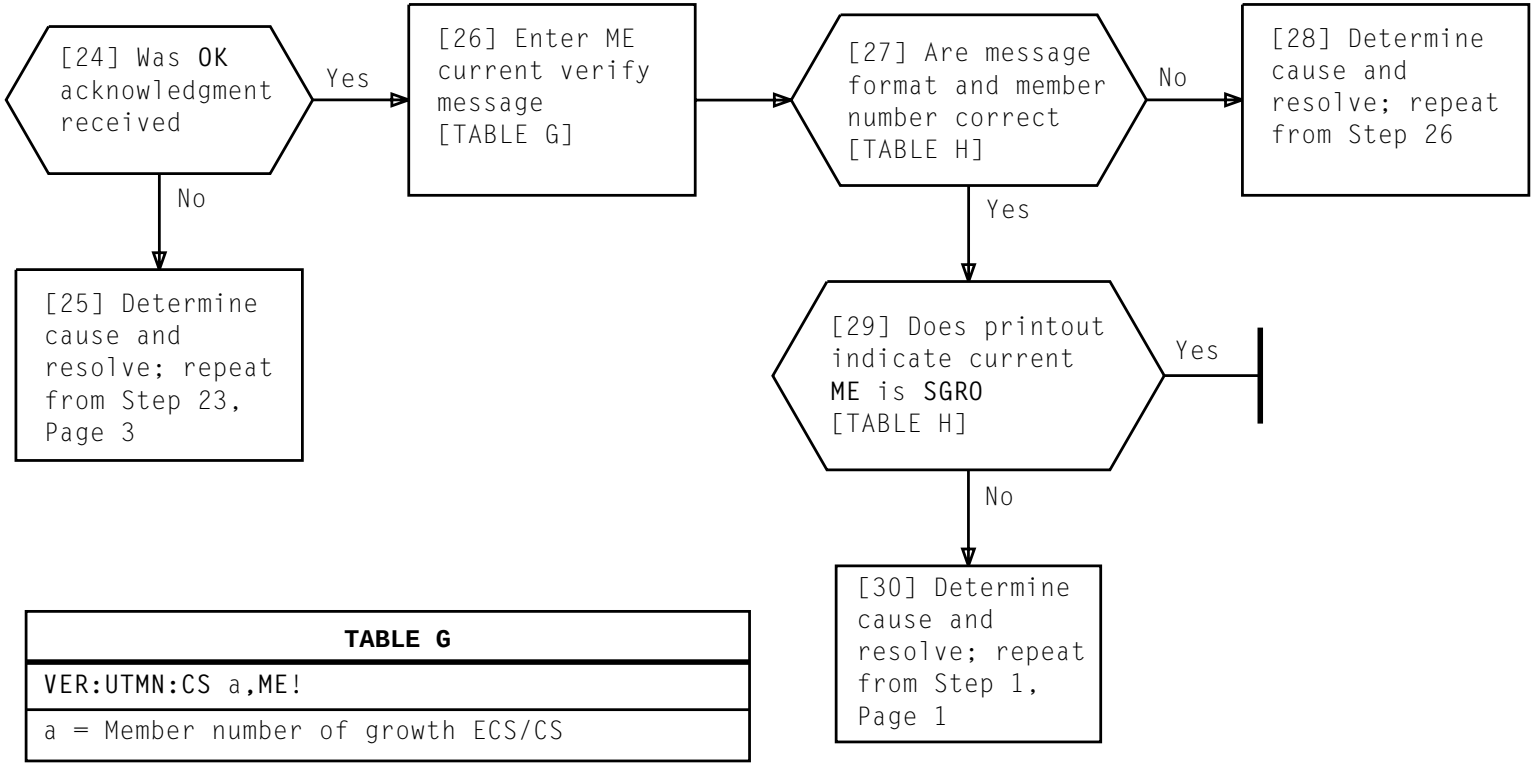


TABLE G
VER:UTMN:CS a,ME!
a = Member number of growth ECS/CS

TABLE H
VER:UTMN,CS a COMPLETED TRANSLATOR ADR = TRANSLATOR SIZE = CURRENT DATA ME SGRO
a = Member number of growth ECS/CS

CHANGE AND VERIFY ECS/CS MEMBER EQUIPAGE GROW TO SPECIAL GROWTH

SUMMARY

Enter change message to grow member equipage (ME) from SGRO to OPER. Verify buffered ME, enter copy message, verify current ME, then enter update message. If after each verify, ME is not in right state, enter stop message and start change from beginning

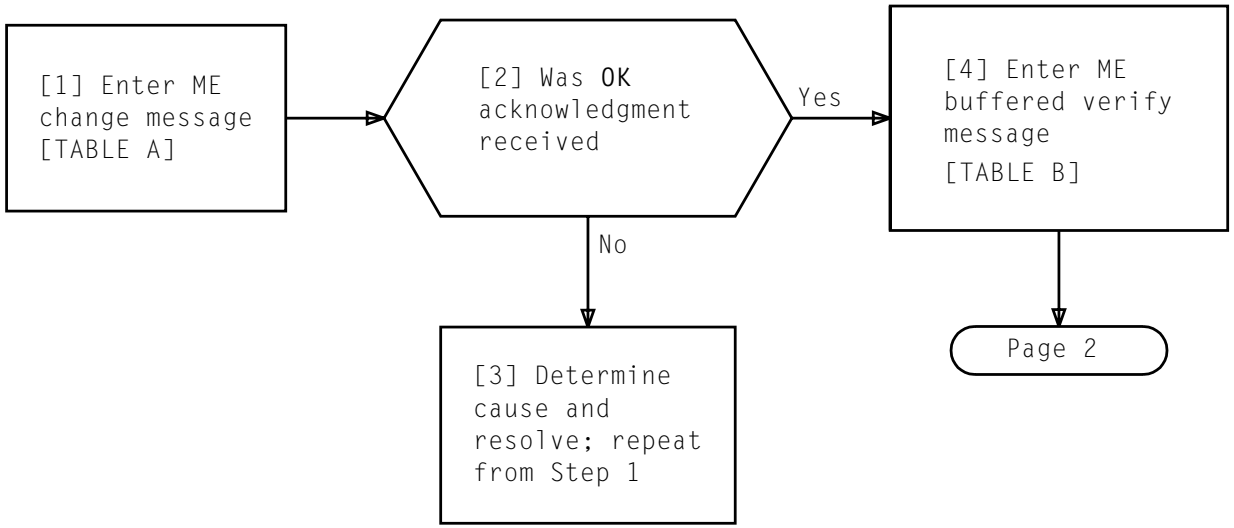


TABLE A
IN:XLBUF1:CS a,ME (SGRO,OPER)!
a = Member number of growth unit

TABLE B
VER:UTMN;BUF:CS a,ME!
a = Member number

CHANGE AND VERIFY MEMBER EQUIPAGE FOR GROWTH CS SPECIAL GROWTH TO OPERATIONAL

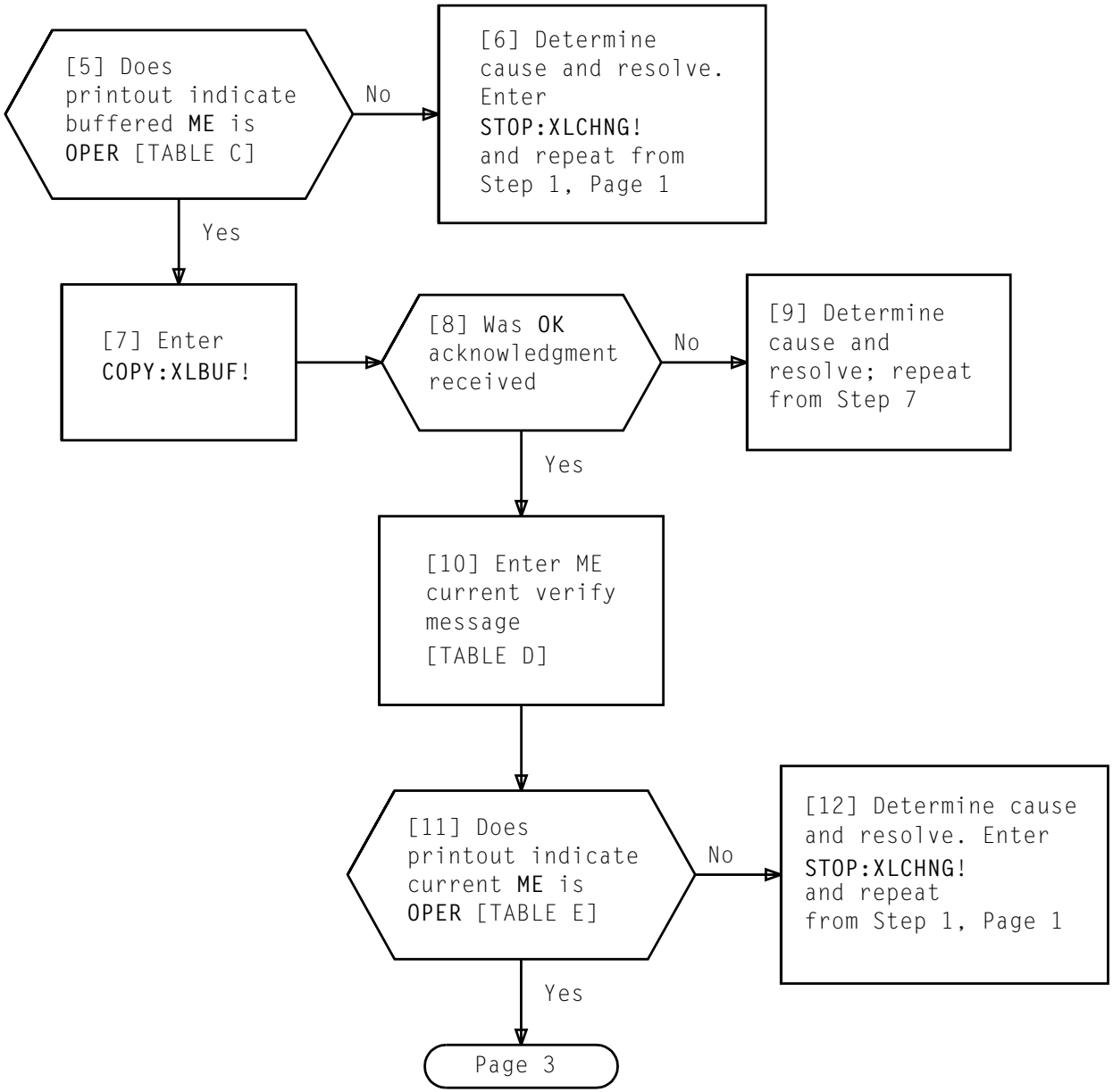


TABLE C

VER:UTMN,a b COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

BUFFERED DATA
ME OPER

a = Member number

TABLE D

VER:UTMN:a b,ME!

a = Member number

TABLE E

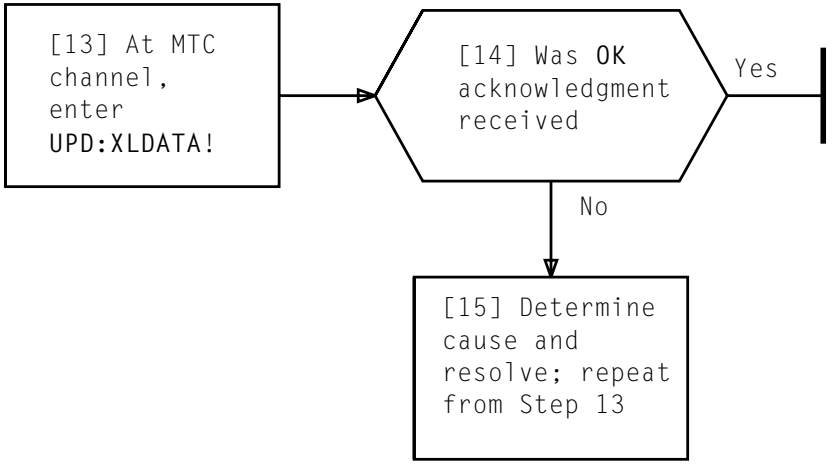
VER:UTMN,a b COMPLETED

TRANSLATOR ADR =
TRANSLATOR SIZE =

CURRENT DATA
ME OPER

a = Member number

CHANGE AND VERIFY MEMBER EQUIPAGE FOR GROWTH CS SPECIAL GROWTH TO OPERATIONAL



CHANGE AND VERIFY MEMBER EQUIPAGE FOR GROWTH ECS/CS SPECIAL GROWTH TO OPERATIONAL

1. Significant software changes have been made to facilitate exercising of new CS units being introduced for the ECS feature. Two major changes that have been added which impact the CS addition (growth) process are:

   A. Development of a feature to generate, administer, report, and modify a list of newly added/modified CSs and CCs which have been placed in the soak mode, that is, a soak list. A CS or CC is said to be soaking when it is serving as a standby unit, NOT when an out-of-service (OOS) unit.

   B. Continual testing of CS units added in the 4E16, Release 2 generic. A search is made for OOS CS units during CS Routine Exercise (REX). Those units will, after passing diagnostic tests, replace CSs being previously used in the system. Some general guidelines the software uses when "shuffling" standby/OOS stores include:

      - OOS CSs (after passing diagnostics) will replace non-soaking CSs to the extent possible, during the REX period.
      - An OOS CS will replace a soaking CS, if no non-soaking operational CSs are available.
      - OOS stores which are OOS because they failed diagnostics, or which are OOS because they were manually removed via RMV:CS, will not be REXed.
      - Only a standby store at KCODES 10,14,20,24,30, and 34 will be removed to make room for an OOS store about to undergo REX. KCODEs 0 and 4 are not used as it is not desirable to leave these KCODES simplex while REX on an OOS store is running.
      - The KCODES used to make room for an OOS Store are checked in a round-robin fashion, starting from KCODE 34 (that is, 34,30,24,20,14,10,34,30,24, etc.). If any stores are soaking, the standbys will be checked until a non-soaking standby is found or each KCODE has been checked once. A non-soaking standby will not be taken if it is the only non-soaking standby.

2. Some specific software changes and additions include:

   A. The active CC will not be switched after CC REX if the standby CC is on the soak list.

   B. The soak count will initially be set to a count of 5 when a new CS has its CSVTRANS data changed from 0 to 1 by the Translation Alteration Print Program (XAPP). The soak will remain unchanged after the next running of REX, but will be decremented by 1 for each subsequent REX period. A soaking CS will be taken off the soak list after at least 5 days of soak.

   C. For CSs, the soak counts for standby stores are decremented during normal REX termination. This is defined to be anything but an abort due to an interrupt. This could occur at any time during the RMV/DGN/RST of a store undergoing REX. Note that normal termination occurs whether or not any stores were actually REXed. In other words, if REX cannot run due to an invalid configuration, the soak counts are still decremented.

   D. Depending on the number of OOS CSs and the number of soaking CSs, a CS being soaked may be temporarily removed from service for a period of time and the soak count will remain unchanged during this period. REX will later restore the CS to service and will then continue to decrement the soak count for each day that it is operational.

   E. In the event that the soak list must be re-established, for example, due to phase recovery action, the soak list may be manually reconstructed using the SET:SOAK message.

Continued on Page 2

GENERAL CC AND ECS SOAK INFORMATION

3. The software changes also impact installation activities:

   A. Installation and maintenance activities during the CC, PS, and CS REX period, about 00:30 to 01:30, which involve modification or testing of operational units and buses should be restricted, since the effect of a severe problem could result in the early termination of REX.

   B. The installation procedures are being written to take advantage of the capability to concurrently soak added CSs while providing at least eight CSs supplying active K-codes and two spare CSs.

   C. Frequent monitoring of CSs (using the OP:CSSTATUS input message) should be performed to determine if the soak list is being properly updated or if manual intervention (using the SET:SOAK input message) is required to re-establish the soak list. It is anticipated that the Operating Company will monitor the soak list and modify it as required, with a record of the daily soak count being made available to Installation. Similar monitoring will be required during the CC hardware change soak periods using the OP:SOAK input message.

4. Some aspects of REX to be considered include:

   A. All CS K-codes which are normally assigned as Active and Duplicate should be duplicated prior to entering REX. The OP:CSSTATUS status should be observed in advance of the start of REX and, if required, appropriate action taken to provide full CS duplication when trouble-free OOS CS(s) are available.

   B. The OP:MACLI, CLASS MTCE input message may be used, about 01:00 to 01:30, to determine which CS is being tested by REX. A CS may also be observed if REX has aborted and the system has requested a CS to be tested.

   C. Conditions which cause CS REX to abort include:

      - CS diagnostic failure — soak value will still be decremented for Standby CSs.
      - CS diagnostic abort (interrupt/interject) — soak value will not be decremented.
      - MAC job abort (interrupt/interject) — soak value will not be decremented.

   D. The SREC1 TTY channel may provide information which may be useful in determining the reason for a MAC or DGN job being aborted.

End of procedure

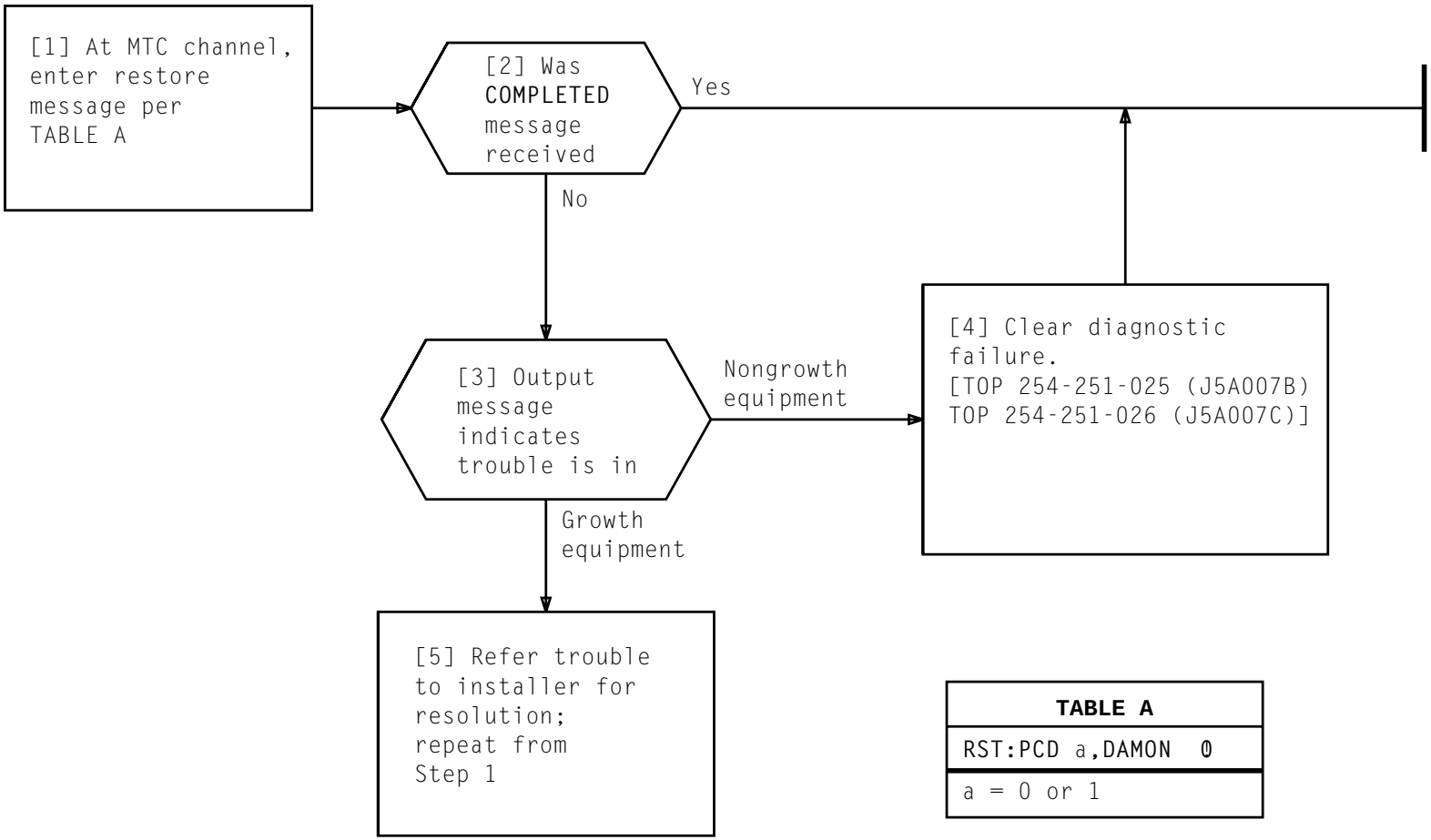


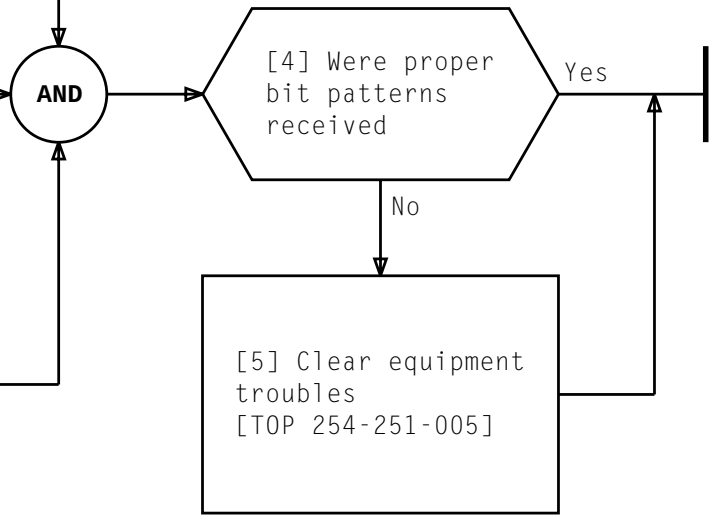
TABLE A
RST:PCD a,DAMON 0
a = 0 or 1

RESTORE PCD TO SERVICE

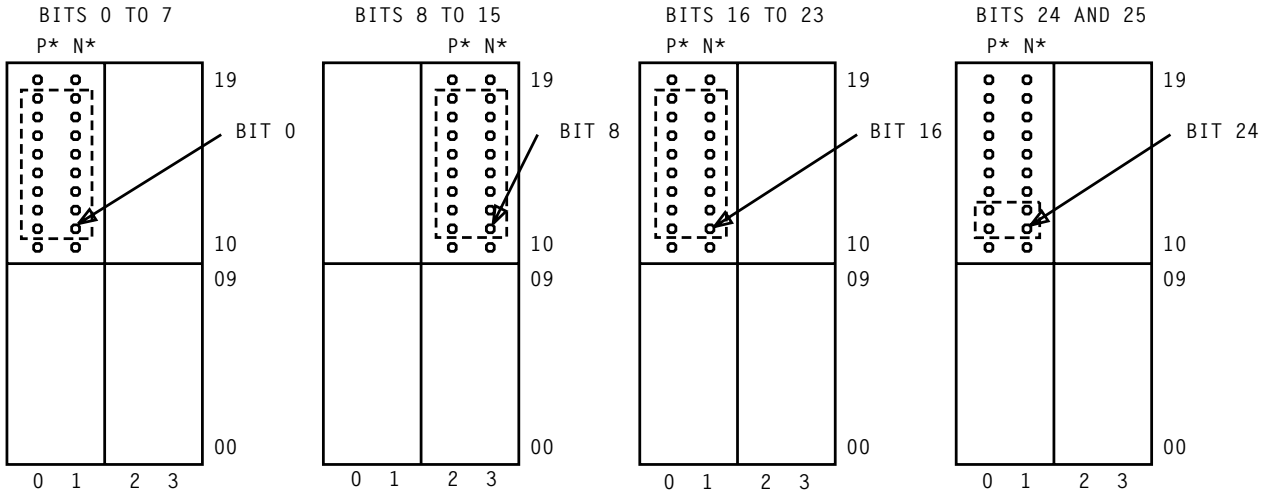
[1] Locate line on FIG. 1, Page 2 that contains last frame where CS reply bus is terminated

[2] 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

[3] Scope P- and N-pins in each dashed line box, in FIG. 1 at connector locations on line located in Step 1. Observe oscilloscope for proper bit pattern [TABLE A, Page 2] for each associated bus bit being scoped. Note any discrepancies



SCOPE CS REPLY BUS BITS 0 TO 25



256K SC				
BUS 0	042-03F	042-04F	042-06F	042-07F
BUS 1	042-14F	042-15F	042-17F	042-18F
256K SC ECS				
BUS 0†	076-03F	076-04F	076-06F	076-07F
BUS 0‡	014-03F	014-04F	014-06F	014-07F
BUS 1†	076-14F	076-15F	076-17F	076-18F
BUS 1‡	014-14F	014-15F	014-17F	014-18F

* P FOR POSITIVE LEAD AND N FOR NEGATIVE LEAD

† 256K SC ECS EQUIPMENT LEVEL 076 USED FOR ECS UNITS 16-19
(CSB BRANCH D FOR ECS FRAME 0 OR CSB BRANCH C FOR ECS FRAME 1)

‡ 256K SC ECS EQUIPMENT LEVEL 014 USED FOR ECS UNITS 20-21
(CSB BRANCH C FOR ECS FRAME 0 OR CSB BRANCH D FOR ECS FRAME 1)

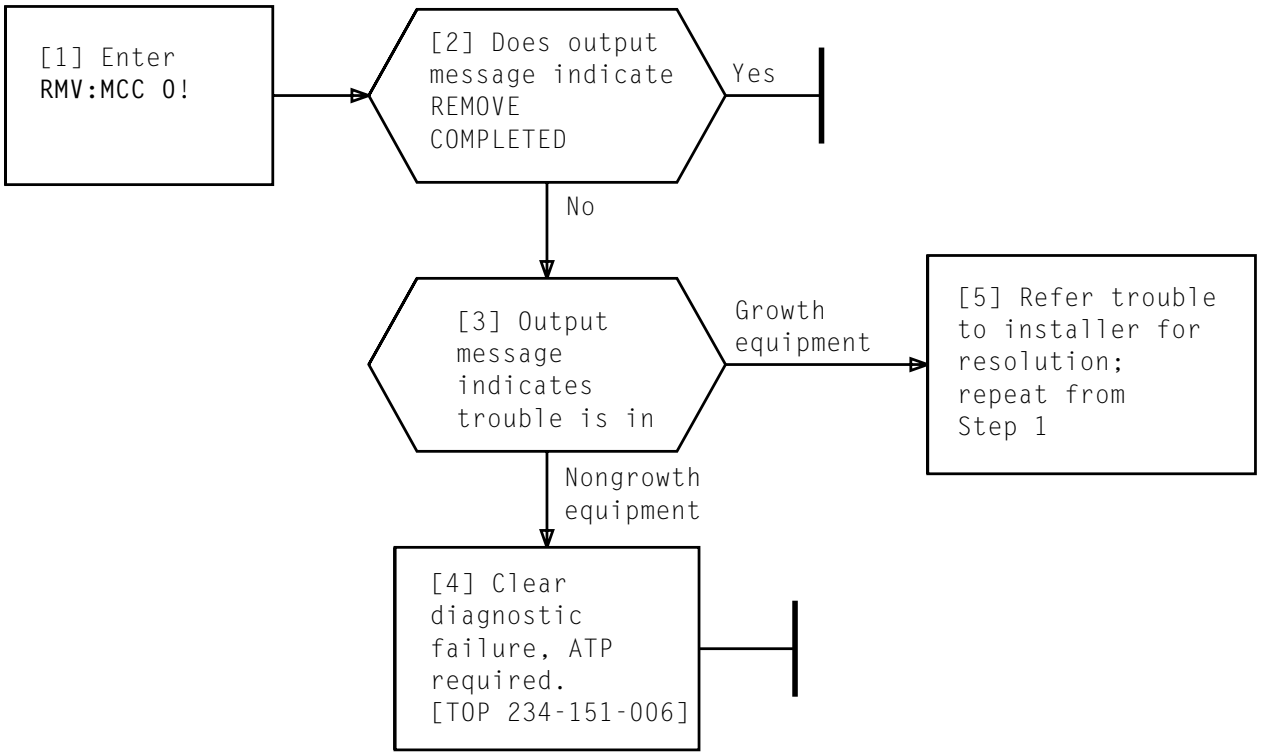
F EQUIPMENT SIDE CONNECTOR

FIG. 1 — Bit Pairs for 256K SC and 256K SC ECS

TABLE A

BIT	BIT PATTERN	
	BUS 0	BUS 1
0	01000000	10000001
1	01000001	10000011
2	01000010	10000101
3	01000011	10000111
4	01000100	10001001
5	01000101	10001011
6	01000110	10001101
7	01000111	10001111
8	01001000	10010001
9	01001001	10010011
10	01001010	10010101
11	01001011	10010111
12	01001100	10011001
13	01001101	10011011
14	01001110	10011101
15	01001111	10011111
16	01010000	10100001
17	01010001	10100011
18	01010010	10100101
19	01010011	10100111
20	01010100	10101001
21	01010101	10101011
22	01010110	10101101
23	01010111	10101111
24	01011001	10110011
25	10100001	01000010

SCOPE CS REPLY BUS BITS 0 TO 25



REMOVE PPI/MCC FROM SERVICE

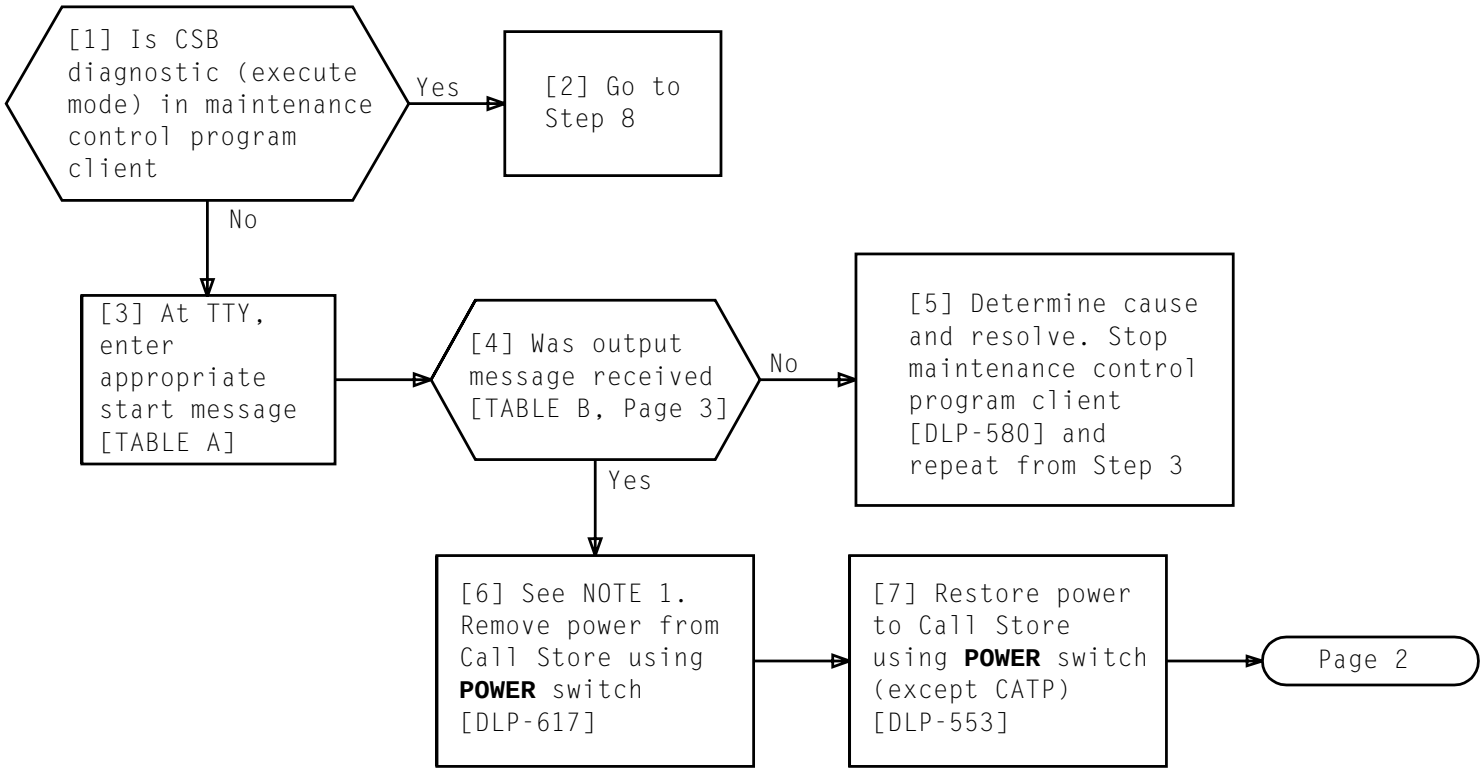


TABLE A
EX:CSB a;START:CS b!
a = 0 or 1 b = CS in ECS Frame

TABLE B
EX:CSB a:[CS b] SUSPENDED MSG COMPL
a = 0 or 1 b = Member number of CS being used

NOTE 1
Steps 6 and 7 are being performed to power cycle call store selected as a

POWER CYCLE AND ENTER EXECUTE MESSAGES FOR LOOPING ON SPECIFIED CS BUS

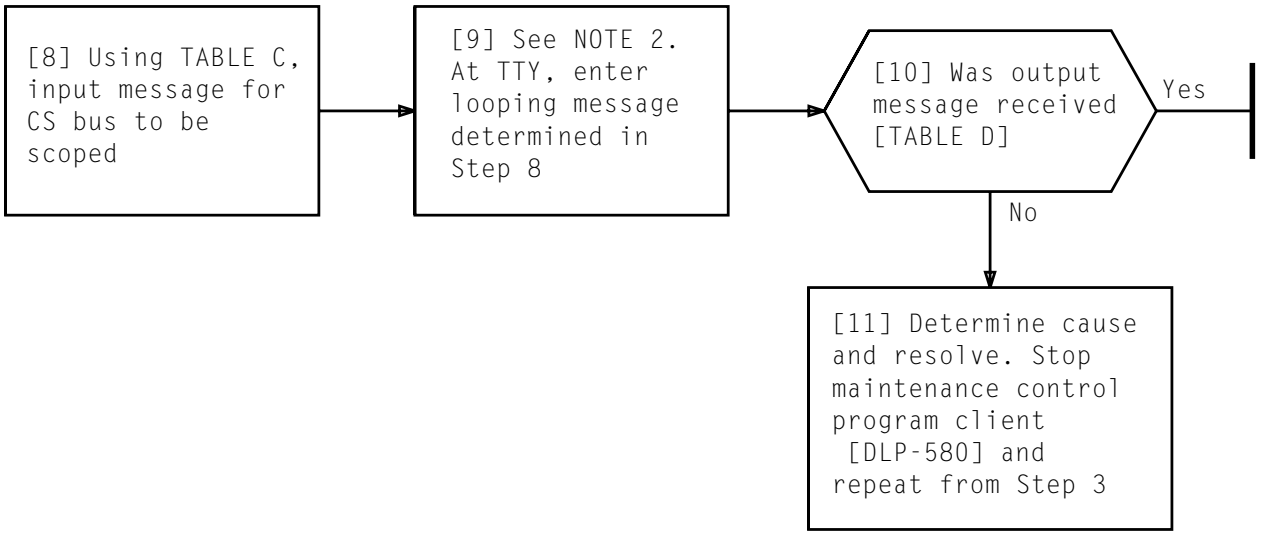
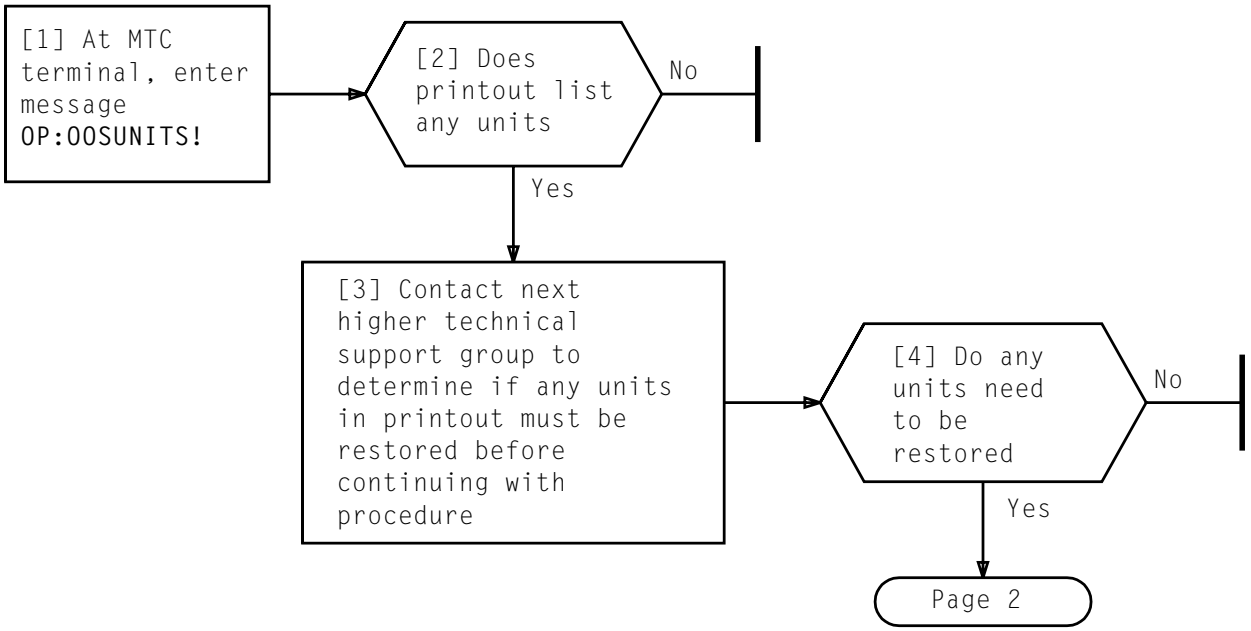


TABLE C
EX:CSB a:PH 99,ADR b!
a = 0 or 1 b = Address 24-37 for CSB 0 or address 56-71 for CSB 1

TABLE D	
EX:CSB a:[CS b] LOOPING STARTED	MSG STARTED
a = 0 or 1 b = Member number of CS being used	

NOTE 2
If problem occurs when setting up loop, use program listing MBDG99 (PR-5A736)

POWER CYCLE AND ENTER EXECUTE MESSAGES FOR LOOPING ON SPECIFIED CS BUS



Added

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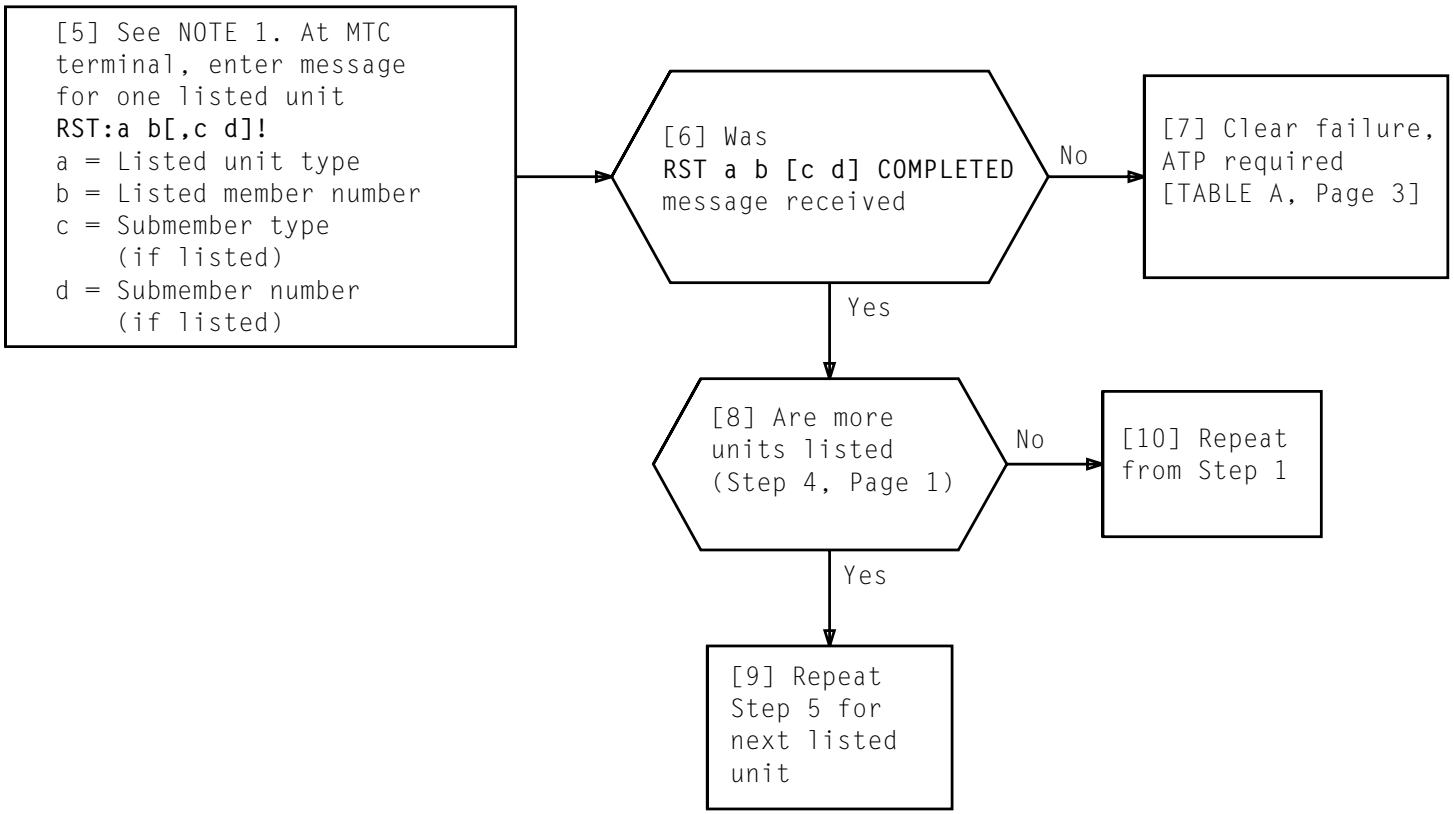
ENSURE ALL UNITS ARE IN-SERVICE



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

Added

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)	254-251-006	MISC A, B, C	234-151-043
API	254-251-016	NCLK	234-151-013
CC	254-251-001	PCDF J5A007B	254-251-025
CNI	234-151-120	PCDF J5A007C	254-251-026
CS and ECS	254-251-005	PS	254-251-005
DIF	234-151-055	PUBB	234-151-015
DT	234-151-045	SCS	234-151-077
EST	234-151-050	SP1	234-151-031
IO J5A006D	254-251-022	SP2	234-151-032
		TGR	234-151-033
		VIF	234-151-025

Added

ENSURE ALL UNITS ARE IN-SERVICE

ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE
• IXL-001		DLP-514		DLP-549		• DLP-584		• DLP-619			
NTP-002		DLP-515		DLP-550		• DLP-585		• DLP-620			
• NTP-003		DLP-516		DLP-551		• DLP-586		• DLP-621			
• NTP-004		DLP-517		DLP-552		• DLP-587		• DLP-622			
• NTP-005		DLP-518		• DLP-553		• DLP-588		• DLP-623			
• NTP-006		DLP-519		DLP-554		• DLP-589		• DLP-624			
• NTP-007		DLP-520		DLP-555		• DLP-590		• DLP-625			
• NTP-008		DLP-521		DLP-556		• DLP-591		• DLP-626			
• NTP-009		DLP-522		DLP-557		• DLP-592		• DLP-627			
• NTP-010		DLP-523		DLP-558		• DLP-593		• DLP-628			
• NTP-011		DLP-524		DLP-559		• DLP-594		• DLP-629			
• NTP-012		DLP-525		DLP-560		• DLP-595		• DLP-630			
• NTP-013		DLP-526		DLP-561		• DLP-596		• DLP-631			
• NTP-014		DLP-527		DLP-562		• DLP-597		• DLP-632			
• NTP-015		DLP-528		DLP-563		• DLP-598		• DLP-633			
• NTP-016		DLP-529		DLP-564		• DLP-599		• DLP-634			
• NTP-017		DLP-530		DLP-565		• DLP-600		• DLP-635			
• NTP-018		DLP-531		DLP-566		• DLP-601		• CKL-891			
• NTP-019		DLP-532		DLP-567		• DLP-602		TNG-893			
TAP-100		DLP-533		DLP-568		• DLP-603		DPL-895			
TAP-101		DLP-534		DLP-569		• DLP-604					
DLP-500		DLP-535		DLP-570		• DLP-605					
DLP-501		DLP-536		DLP-571		• DLP-606					
DLP-502		• DLP-537		• DLP-572		• DLP-607					
DLP-503		DLP-538		• DLP-573		• DLP-608					
• DLP-504		• DLP-539		• DLP-574		• DLP-609					
• DLP-505		DLP-540		• DLP-575		• DLP-610					
DLP-506		DLP-541		• DLP-576		• DLP-611					
DLP-507		DLP-542		• DLP-577		• DLP-612					
DLP-508		DLP-543		• DLP-578		• DLP-613					
DLP-509		• DLP-544		• DLP-579		• DLP-614					
DLP-510		DLP-545		• DLP-580		• DLP-615					
DLP-511		DLP-546		• DLP-581		• DLP-616					
DLP-512		DLP-547		• DLP-582		• DLP-617					
DLP-513		DLP-548		• DLP-583		• DLP-618					

• REVISED OR ADDED ITEM □ CANCELED ITEM Revised | Issue 4 | APR 1994

CHECKLIST

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