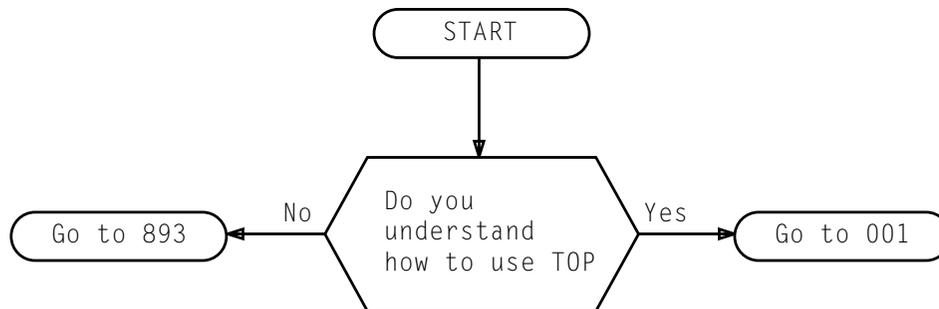




Task Oriented Practice (TOP)

4ESS™ Switch With 1B Processor
NM, MF, ROTL, ALARMS, ABC, POWER PLANTS,
DRO, CCT, 51A TPOS, AND RMS-D2
GROWTH/DEGROWTH



TOP Comments Hot Line:

Monday through Friday

8:00 a.m. - 4:00 p.m. (Eastern)

Call: 1-800-645-6759

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Developed by Lucent Technologies Network Systems TSVS Information Development

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FIND YOUR JOB IN THE LIST BELOW THEN GO TO

620A/625F/630A Power Plant – Add (Support to Installer) NTP-007

105 Test Line – Remote Office Test Line Frame – Add (Support to Installer) NTP-018

51A Test Position – Degrow (Support to Installer) NTP-024

39B Oscillators to DROs – Exchange (Support to Installer) NTP-029

820 Ring and Tone Plant to 3500-535 Ring and Tone Plant – Convert (Support to Installer) NTP-030

Acceptance NTP-002

Aisle Pilot Control Unit to Office Alarm Grid – Add (Support to Installer) NTP-009

Alarm Grid – Miscellaneous Frame B – Add (Support to Installer) NTP-010

Alarm Grouping Control Unit; Manual – Office Alarm Grid – Add (Support to Installer) NTP-013

Alarm Transfer Control Unit – Office Alarm Grid – Add (Support to Installer) NTP-012

Area Bus Center – Add (Support to Installer) NTP-003

Bus Center; Area – Add (Support to Installer) NTP-003

Circuits; Receiver and/or MFS Transmitter – MF Signaling Frame – Add (Used by TELCO Personnel Only) NTP-008

Circuits; Receiver and/or MFS Transmitter – MF Signaling Frame – Add (Support to Installer) NTP-015

Continuity Check Transceiver Submember, (Transceiver 06-11) – Miscellaneous Frame A or C – Add (Support to Installer) NTP-005

Continuity Check Transceiver Unit – Miscellaneous Frame A or C – Add (Support to Installer) NTP-004

Continuity Check Transceiver Unit – Miscellaneous Frame A or C – Degrow (Support to Installer) NTP-027

Control Unit; Aisle Pilot – Office Alarm Grid – Add (Support to Installer) NTP-009

Control Unit; Alarm Transfer – Office Alarm Grid – Add (Support to Installer) NTP-012

Control Unit; Manual Alarm Grouping – Office Alarm Grid – Add (Support to Installer) NTP-013

DOC Transceiver Modules – DOC Transceiver Unit – Add (Support to Installer) NTP-020

TASK INDEX LIST

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FIND YOUR JOB IN THE LIST BELOW THEN GO TO

DOC Transceiver Unit As Transmitter – NMDC Frame – Add (Support to Installer) NTP-019

DR0s; 39B Oscillators to – Exchange (Support to Installer) NTP-029

E2A Telemetry Remote Unit – NMDC Frame – Add (Support to Installer) NTP-022

Exit Pilot Lamps – Office Alarm Grid – Add (Support to Installer) NTP-014

Frame B; Miscellaneous – With Office Alarm Grid(s) – Add (Support to Installer) NTP-011

Frame C; Miscellaneous – With Continuity Check Transceiver (CCT) – Add (Support to Installer) NTP-023

Grid; Alarm – Miscellaneous Frame B – Add (Support to Installer) NTP-010

Lamps; Exit Pilot – Office Alarm Grid – Add (Support to Installer) NTP-014

Line; 105 Test – Remote Office Test Line Frame – Add (Support to Installer) NTP-018

Lower Remote Office Test Line Unit – ROTL Frame – Add (Support to Installer) NTP-017

Management Display Panel; Network – NMDC Frame – Add (Support to Installer) NTP-021

Manual Alarm Grouping Control Unit – Office Alarm Grid – Add (Support to Installer) NTP-013

MFS Transmitter and/or Receiver Circuits – MF Signaling Frame – Add (Used by TELCO Personnel Only) NTP-008

MFS Transmitter and/or Receiver Circuits – MF Signaling Frame – Add (Support to Installer) NTP-015

Miscellaneous Frame B – With Office Alarm Grid(s) – Add (Support to Installer) NTP-011

Miscellaneous Frame C – With Continuity Check Transceiver (CCT) – Add (Support to Installer) NTP-023

Modules; DOC Transceiver – DOC Transceiver Unit – Add (Support to Installer) NTP-020

Multifrequency Signaling Frame and Interfaces – Add (Support to Installer) NTP-006

Multifrequency Signaling Frame – Degrow (Support to Installer) NTP-026

Network Management Display Panel – NMDC Frame – Add (Support to Installer) NTP-021

FIND YOUR JOB IN THE LIST BELOW THEN GO TO

Office Test Line Frame; Remote – Add (Support to Installer) NTP-016

Office Test Line Unit; Lower Remote – ROTL Frame – Add (Support to Installer) NTP-017

Panel; Network Management Display – NMDC Frame – Add (Support to Installer) NTP-021

Pilot Control Unit; Aisle – Office Alarm Grid – Add (Support to Installer) NTP-009

Pilot Lamps; Exit – Office Alarm Grid – Add (Support to Installer) NTP-014

Power Plant; 620A/625F/630A – Add (Support to Installer) NTP-007

Receiver Circuits and/or MFS Transmitter – MF Signaling Frame – Add (Used by TELCO Personnel Only) NTP-008

Receiver Circuits and/or MFS Transmitter – MF Signaling Frame – Add (Support to Installer) NTP-015

Remote Measurement System-Digital 2 (RMS-D2) – Convert to (Support to Installer) NTP-025

Remote Office Test Line Frame – Add (Support to Installer) NTP-016

Remote Office Test Line Frame – Degrow (Support to Installer) NTP-028

RMS-D2; Remote Measurement System-Digital 2 – Convert to (Support to Installer) NTP-025

Ring and Tone; 820 to 3500-535 Ring and Tone Plant – Convert (Support to Installer) NTP-030

Signaling Frame, Multifrequency – Degrow (Support to Installer) NTP-026

Signaling Frame, Multifrequency; and Interfaces – Add (Support to Installer) NTP-006

Submember, Continuity Check Transceiver; (Transceiver 06-11) – Miscellaneous Frame A or C
Add (Support to Installer) NTP-005

Telemetry Remote Unit; E2A – NMDC Frame – Add (Support to Installer) NTP-022

Test Line; 105 – Remote Office Test Line Frame – Add (Support to Installer) NTP-018

Test Line Frame; Remote Office – Add (Support to Installer) NTP-016

Test Line Frame; Remote Office – Degrow (Support to Installer) NTP-028

Test Line Unit; Lower Remote Office – ROTL Frame – Add (Support to Installer) NTP-017

FIND YOUR JOB IN THE LIST BELOW THEN GO TO

Test Position; 51A – Degrow (Support to Installer) NTP-024

Transceiver, DOC; as Transmitter – NMDC Frame – Add (Support to Installer) NTP-019

Transceiver Modules; DOC – DOC Transceiver Unit – Add (Support to Installer) NTP-020

Transceiver Submember, Continuity Check; (Transceiver 06-11) – Miscellaneous Frame A or C –
Add (Support to Installer) NTP-005

Transceiver Unit; Continuity Check – Miscellaneous Frame A or C – Add (Support to Installer) NTP-004

Transceiver Unit; Continuity Check – Miscellaneous Frame A or C – Degrow (Support to Installer) NTP-027

Transfer Control Unit, Alarm – Office Alarm Grid – Add (Support to Installer) NTP-012

Transmitter, MFS; and/or Receiver Circuits – MF Signaling Frame – Add (Used by TELCO Personnel Only) NTP-008

Transmitter, MFS; and/or Receiver Circuits – MF Signaling Frame – Add (Support to Installer) NTP-015

Unit, E2A Telemetry Remote – NMDC Frame – Add (Support to Installer) NTP-022

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

ACCEPTANCE

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Verify Area Bus Center (ABC) Unit Type (UT) Translator and Compare Translations Data 0 Against Wiring Records:		
	1. Verify ABC UT Translator	TELCO/INST	DLP-510
	2. Compare Translations Data Against Wiring Records	INST	—
6	Install Growth ABC Bay and All Fuse Panels As Required	INST	—
7	Verify That Member Number on Growth ABC Frame Is Correct	INST	—
8	Assure That 415A Battery Plant Circuit Breaker(s) of Feeder(s) for Growth ABC Is Off	INST	—
9	Run and Connect Supply Feeder Cables Between Growth ABC and 415A Battery Plant	INST	—
10	Run and Connect Scan Leads Between Growth ABC and SP	INST	—
11	Run and Connect Cables Between Load and Fuse Panels on Growth ABC	INST	—
	(Continued on Page 2)		

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

12	Perform Absolute Word Change To Change ABC Equipage From Unequipped to Operational and Verify (Using RC Form 800)	TELCO	DLP-521
13	Charge Internal Load Capacitors in 415A Battery Plant	INST	-
14	Insert Fuses in ABC Fuse Panel	INST	-
15	Test Alarm Functions	INST	-

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

		RESPONSIBILITY	
	<i>WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling. 2. No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Verify Continuity Check Transceiver (CCT) Unit Type (UT) Translator and Compare Translations Data Against Office Records:		
	1. Verify CCT UT Translator	TELCO/INST	DLP-505
	2. Compare Translations Data Against Wiring Records	INST	—
6	Mount Shelving Unit, Connect Power, and Run Power Tests	INST	—
7	Connect CCT Private Signal Leads	INST	—
8	Connect CCT Transmission Leads:	INST	
	A. Connect Leads T, R, T1, R1 to Associated Voiceband Interface Frame	INST	—
	B. Connect Leads T, R, T1, R1 to D4 Channel Bank, DSX 1, and/or Associated Digital Terminal Frame	INST	—
	(Continued on Page 2)		

ADD CONTINUITY CHECK TRANSCEIVER UNIT TO MISCELLANEOUS FRAME(S) A OR C — SUPPORT TO INSTALLER (INST)

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

9	Verify Power Switch Leads, Then Apply Power Using Power Switch	INST	—
10	Perform Functional Word Change of CCT Translator Word, Then Verify Using RC Form 801 and the Following Parameters (Change CCT Member Equipage From Unequipped to Operational): 1. WORDNO 0 2. SIZE 2 3. DISP 21 4. BINOCT 0 5. NEWDATA 6 6. OLDDATA 0	TELCO	DLP-568
11	Remove CCT Power Using Power Switch (Turn OFF Switch to ROS , Then Depress)	TELCO	—
12	Install Circuit Packs	INST	—
13	Restore Power to CCT Using Power Switch	TELCO	DLP-565
14	If Transmission Leads Are Connected to D4 Channel Bank, DSX 1, and Digital Terminal Frame Equipment, Complete Receiver and Transmit Level Adjustments on D4 Channel Bank Equipment	INST	—
15	Perform Functional Word Change of CCT Translator Word, Then Verify Using RC Form 801 and the Following Parameters (Change CCT Submember Equipage From Unequipped to Operational): 1. WORDNO a (a = 3 for transceivers 00-05 or 4 for transceivers 06-11) 2. SIZE 2 3. DISP 17 4. BINOCT B 5. NEWDATA 11 6. OLDDATA 00	TELCO	DLP-568
16	Set Status of Transceivers to Circuit Administration (CAD) Lock-Out State	TELCO	DLP-506
17	Test Added Transceivers	TELCO/INST	DLP-507
18	Set Status of Transceivers to Active State	TELCO	DLP-508
19	If Other CCT Submember (Transceivers 06-11) Is To Be Added at This Time, Repeat From Item 11	TELCO/INST	—

**ADD CONTINUITY CHECK TRANSCEIVER UNIT TO MISCELLANEOUS
 FRAME(S) A OR C — SUPPORT TO INSTALLER (INST)**

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

		RESPONSIBILITY	
	<i>WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling. 2. No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Verify Continuity Check Transceiver (CCT) Unit Type (UT) Translator and Compare Translations Data Against Office Records:		
	1. Verify CCT UT Translator	TELCO/INST	DLP-509
	2. Compare Translations Data Against Wiring Records	INST	—
	NOTE: Items 6 through 8 should be performed quickly and without interruption because removal of power will take all CCIS type trunks assigned to growth associated CCT unit out of service		
6	Remove CCT Power Using Power Switch (Turn OFF Switch to ROS , Then Depress)	TELCO	—
7	Install Circuit Packs (Transceivers 06-11)	INST	—
8	Restore Power to CCT Using Power Switch	TELCO	DLP-565
	(Continued on Page 2)		

**ADD CONTINUITY CHECK TRANSCEIVER SUBMEMBER (TRANSCEIVERS 06-11)
TO MISCELLANEOUS FRAME(S) A OR C — SUPPORT TO INSTALLER (INST)**

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

9	If Transmission Leads Are Connected to D4 Channel Bank, DSX 1, and Digital Terminal Frame Equipment, Complete Receiver and Transmit Level Adjustments on D4 Channel Bank Equipment	INST	-
10	Perform Functional Word Change of UT Translator Word, Then Verify Using RC Form 801 and the Following Parameters (Change CCT Submember Equipage From Unequipped to Operational): 1. WORDNO 4 2. SIZE 2 3. DISP 17 4. BINOCT B 5. NEWDATA 11 6. OLDDATA 00	TELCO	DLP-568
11	Set Status of Transceivers to Circuit Administration (CAD) Lock-Out State (Transceivers 06-11)	TELCO	DLP-506
12	Test Added Transceivers	TELCO/INST	DLP-507
13	Set Status of Transceivers to Active State (Transceivers 06-11)	TELCO	DLP-508

**ADD CONTINUITY CHECK TRANSCEIVER SUBMEMBER (TRANSCEIVERS 06-11)
 TO MISCELLANEOUS FRAME(S) A OR C - SUPPORT TO INSTALLER (INST)**

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Assure That MFS Frame Power Verification Tests Have Been Completed	INST	—
6	Verify MFS Frame Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify MFS Frame UT Translator	TELCO/INST	DLP-522
	2. Compare Translations Data Against Wiring Records	INST	—
7	Verify Operational Status of Signal Processor K Blocks Containing Scan and Signal Distributor Points for MFS Frame Being Added	TELCO/INST	DLP-523
8	Verify Disabled Status of Equipped MFS Transmitter and Receiver Circuits	TELCO	DLP-524
	(Continued on Page 2)		

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

9	Verify Equipage Status of Interconnecting Units Connecting to MFS Circuits Being Added		
	1. Enter Message VER:UTYPE:a b,SME c! a = VIF or DT or DIF b = VIF/DT/DIF Member Number c = SME Index Number	TELCO	—
	2. If Connecting VIU(s)/DTU(s)/DIU(s) Is Not in OPER Equipage State, Discontinue This Procedure Until VIU(s)/DTU(s)/DIU(s) Is in OPER State	TELCO/INST	—
10	Connect MFS Transmitter and Receiver Private Signal Leads	INST	—
11	Connect MFS Frame Transmission Leads:	INST	—
	A. Connect Leads T, R, T1, R1 to Associated Voiceband Interface Frame	INST	—
	B. Connect Leads T, R, T1, R1 to D4 Channel Bank, DSX 1, and/or Associated Digital Terminal Frame	INST	—
12	Connect MFS Frame Alarm and Control Private Signal Leads	INST	—
13	Verify MFS Frame Alarm and Control Private Signal Leads	INST	—
14	Connect and Verify MFS Frame Alarm Cables	INST	—
15	If Transmission Leads Are Connected to D4 Channel Bank, DSX 1, and Digital Terminal Frame Equipment, Complete Receiver and Transmit Level Adjustments on D4 Channel Bank Equipment	INST	—
16	Recent Change and Verify Member Equipage From UNEQ to GROW	TELCO	DLP-502
17	Recent Change and Verify Member Equipage From GROW to SGRO	TELCO	DLP-502
18	Recent Change and Verify Member Equipage From SGRO to OPER	TELCO	DLP-502
19	Change Added MFS Transmitter and/or Receiver Circuits to Circuit Administration (CAD) Lock-Out State	TELCO	DLP-525
20	Test Equipped MFS Transmitter and Receiver Circuits	INST	—
21	If MFS Transmitter and Receiver Circuits Are To Be Immediately Activated, Change MFS Transmitter and/or Receiver Circuits to Active State and Test	TELCO/INST	DLP-526

**ADD MULTIFREQUENCY SIGNALING FRAME AND INTERFACES —
SUPPORT TO INSTALLER (INST)**

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Verify Power Plant Unit Type (UT) Translator and Compare Translations Data Against Wiring Records:		
	1. Verify Power Plant UT Translator	TELCO/INST	DLP-510
	2. Compare Translations Data Against Wiring Records	INST	—
6	Install Growth Distribution and Converter Bays As Required	INST	—
7	Run and Connect the Following: Scan Leads, 140V Input Feeders, and Alarm Leads	INST	—
8	Run and Connect Scan Leads SA(01) and/or SA(03) From Distribution Bay to SP	INST	—
9	Turn on Converters and Adjust Output	INST	—
10	Perform Absolute Word Change To Change Power Plant Equipage From Unequipped to Operational and Verify (Using RC Form 800)	TELCO	DLP-521
11	Test Alarm Functions	INST	—

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

		RESPONSIBILITY	
	<p><i>WARNINGS</i> 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling.</p> <p>2. No other growth or maintenance activity is allowed during this procedure</p>		
	<p>NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary</p> <p>2. This procedure must be performed during light traffic periods</p> <p>3. 4ESS™ switch operation must be closely monitored while performing this procedure</p> <p>4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS)</p> <p>5. Stability of office must be maintained throughout this procedure</p>		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Verify Disabled Status of MFS Transmitter and/or Receiver Circuits Being Added	TELCO	DLP-527
6	If Transmit and Receive Paths of MF Circuits Being Added Interface to System Via D4 Channel Bank, DSX, and Digital Terminal Equipment:		
	1. Determine Channel Slot Location(s) on D4 Channel Bank to Which MF Circuits Will Interface and Select 4E&MER Channel Unit(s)	TELCO	DLP-514
	2. Disable All Options on 4E&MER Channel Units	TELCO	DLP-518
	3. Condition Test Sets:		
	1. D3/D4 Portable Test Set	TELCO	DLP-515
	2. TTS4BNH Transmission Measuring Set (or Equivalent)	TELCO	DLP-516
	4. Align Receive and Transmit Levels on D4 Channel Bank Unit(s) and Install	TELCO	DLP-517
	(Continued on Page 2)		

ADD MFS TRANSMITTER AND/OR RECEIVER CIRCUITS TO MF SIGNALING FRAME

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

7	Remove Power, Select and Install MFS Circuit Packs, and Restore Power:		
	A. If Circuits Being Added Are in 04 Through 15 Range:		
	1. From Office Records, Determine Circuit Identification Name (CIN) of MFS Circuits (00-15) in Active State and Contained in MFS Frame to Which Circuits Are Being Added	TELCO	—
	2. Change State of Active MFS Circuits to Maintenance Lock-Out	TELCO	DLP-528
	3. Remove Fuse (F1) at Location 52-8 (MFT and MFR Circuits 00-15); PF Lamp Lighted	TELCO	—
	4. Select and Install Circuit Packs:		
	A. MFS Transmitter	TELCO	DLP-511
	B. MFS Receiver	TELCO	DLP-512
	5. Replace Fuse (F1) Removed in Item 7.A.3 (PF Lamp Off)	TELCO	—
	6. Restore Common Tone Supply (CTSA) Using Reset Pushbutton (RSTA)	TELCO	—
	7. Change MFS Circuits in Maintenance Lock-Out State to Active	TELCO	DLP-528
	B. If Circuits Being Added Are in 20 Through 31 Range:		
	1. From Office Records, Determine Circuit Identification Name (CIN) of MFS Circuits (16-31) in Active State and Contained in MFS Frame to Which Circuits Are Being Added	TELCO	—
	2. Change State of Active MFS Circuits to Maintenance Lock-Out	TELCO	DLP-528
	3. Remove Fuse F2 at Location 52-8 (MFT and MFR Circuits 16-31); PF Lamp Lighted	TELCO	—
	4. Select and Install Circuit Packs:		
	A. MFS Transmitter	TELCO	DLP-511
	B. MFS Receiver	TELCO	DLP-512
	5. Replace Fuse (F2) Removed in Item 7.B.3 (PF Lamp Off)	TELCO	—
	6. Restore Common Tone Supply (CTSB) Using Reset Pushbutton (RSTB)	TELCO	—
7. Change MFS Circuits in Maintenance Lock-Out State to Active	TELCO	DLP-528	
(Continued on Page 3)			

ADD MFS TRANSMITTER AND/OR RECEIVER CIRCUITS TO MF SIGNALING FRAME

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

8	Change Added Transmitter and/or Receiver Circuits to Circuit Administration (CAD) Lock-Out State	TELCO	DLP-525
9	Test MFS Transmitter and/or Receiver Circuits Being Added	TELCO	DLP-513
10	If MFS Transmitter and/or Receiver Circuits Being Added Are To Be Immediately Activated, Change MFS Transmitter and/or Receiver Circuits to Active (ACT) State and Test	TELCO	DLP-526

**ADD MFS TRANSMITTER AND/OR RECEIVER CIRCUITS TO MF
SIGNALING FRAME**

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Install Aisle Pilot Control Unit in Growth Associated Alarm Grid	INST	—
6	Connect Cabling From Aisle Pilot Control Unit to:		
	1. Frame Lineups	INST	—
	2. Alarm Grid Control Unit	INST	—
	3. Aisle Pilot Lamps	INST	—
	NOTE: Items 7 through 10 should be performed quickly and without interruption		
7	Remove Fuses C and D From Growth Associated Alarm Grid Fuse Panel	TELCO	DLP-554
	(Continued on Page 2)		

ADD AISLE PILOT CONTROL UNIT TO OFFICE ALARM GRID — SUPPORT TO INSTALLER (INST)

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

8	If Associated Main Aisle Pilot Lamps Are Connected to More Than One Aisle Pilot Control (APC) Unit in Growth Alarm Grid:		
	1. Determine From Office Records Operational APC Unit(s) Other Than Growth Unit Which Connects to Same Main Aisle Pilot Lamps	INST	—
	2. Remove Fuses A() and B() From Alarm Grid Fuse Panel [for Operational APC Unit(s) Identified in 8.1]	TELCO	DLP-553
9	Connect Cabling From Growth APC Unit to Operational APC Unit(s) and/or to Main Aisle Pilot Lamps As Required	INST	—
10	Install Alarm Grid Fuses Removed in Items 7 and 8	TELCO	—
11	Remove Dummy Fuses and Insert Fuses A() and B() at Fuse Panel for Alarm Grid to Which APC Unit Has Been Added	INST	—
12	Perform Aisle and Main Aisle Pilot Lamps Test on Growth APC Unit	INST	—

ADD AISLE PILOT CONTROL UNIT TO OFFICE ALARM GRID — SUPPORT TO INSTALLER (INST)

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Verify Alarm Grid Unit Type (UT) Translator and Compare Translations Data Against Office Records:		
	1. Verify Alarm Grid UT Translator	TELCO/INST	DLP-542
	2. Compare Translations Data Against Wiring Records	INST	—
6	Install Growth Equipment in Miscellaneous Frame B (MB)	INST	—
7	Connect Private Signal Leads to Upper Alarm Grid Control Unit	INST	—
8	Connect Cabling As Required From Growth Alarm Grid Control Unit to:		
	1. Aisle Pilot Control Unit(s)	INST	—
	2. Fuse Panel	INST	—
	3. Alarm Grid Display Panel in MOC and Other Work Centers As Required	INST	—
	4. Main Aisle Pilot Lamps	INST	—
	5. Audible Alarm Panel	INST	—

ADD ALARM GRID TO MISCELLANEOUS FRAME B — SUPPORT TO INSTALLER (INST)

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

9	Connect Cabling From Aisle Pilot Control Unit(s) to:		
	1. Frame Lineups	INST	—
	2. Aisle Pilot Lamps	INST	—
	3. Main Aisle Pilot Lamps	INST	—
10	If Alarm Transfer Control Unit Was Equipped in Item 6, Connect Cabling From Growth Alarm Transfer Control Unit to Alarm Grid Control Unit As Required Depending on Options Selected	INST	—
11	If Manual Alarm Grouping Control Unit Was Equipped in Item 6, Connect Cabling As Required From Growth Manual Alarm Grouping Control Unit to:		
	1. Alarm Grouping Switch	INST	—
	2. Alarm Grid Control Unit As Required Depending on Options Selected	INST	—
	NOTE: Items 12 through 15 should be performed quickly and without interruption because removal of fuses disables 86V ringing and tone facilities in entire office		
12	Notify Office Personnel That Following Audible Alarms Will Be Disabled: Minor, Power Minor, Alarm Battery Supply, and Display Panel Audible Ringer	TELCO	—
13	Disable 86V Audible Alarm Power at Ringing and Tone Plant (RTP)	TELCO	DLP-543
14	Connect Cabling for 86V Audible Alarm Power Between Lower Alarm Grid Control Unit and Upper Alarm Grid Control Unit in Growth-Associated MB Frame	INST	—
15	Replace RTP Fuses F1 and F17 Removed in Item 13	TELCO	—
	(Continued on Page 3)		

**ADD ALARM GRID TO MISCELLANEOUS FRAME B — SUPPORT
TO INSTALLER (INST)**

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

	NOTE: Item 16.A or 16.B should be performed quickly and without interruption		
16	Complete Connections for Exit Pilot Lamps:		
	A. If Exit Pilot Lamps Are Powered by Operational 4ESS ™ Switch G-Option Alarm Grid:		
	1. Remove Power for Exit Pilot Lamps (At Operational G-Option Alarm Grid)	TELCO	DLP-544
	2. Connect Cabling Between Alarm Grid Control Unit of Growth Alarm Grid and Operational G-Option Alarm Grid	INST	—
	3. Replace Fuse T (and R if Removed) Removed in Item 16.A.1	TELCO	—
	B. If Exit Pilot Lamps Are Provided by Foreign System, ZA-Option:		
	1. Request Personnel in Foreign System To Remove Exit Pilot Lamps Power	TELCO	—
	2. Connect Cabling Between Growth Alarm Grid Control Unit and Foreign Alarm Equipment	INST	—
	3. Request Personnel in Foreign System To Restore Exit Pilot Lamps Power	TELCO	—
17	If Alarm Transfer Control Unit Was Equipped in Item 2:		
	1. If Alarm Transfer Via E2 Telemetry to Foreign System Is Required:		
	NOTE: Items 17.1.1 through 17.1.4 should be performed quickly and without interruption		
	1. Notify E2 Control That Status Input Circuit Must Be Disabled	TELCO	—
	2. Request Personnel in E2 Central To Remove Circuit Packs CP26 and CP27 at Status Input Circuit Frame	TELCO	—
	3. Complete SI and SIR Wiring for Growth Alarm Grid	INST	—
4. Request Personnel in E2 Central To Replace Circuit Packs CP26 and CP27 Removed in Item 17.1.2	TELCO	—	
(Continued on Page 4)			

ADD ALARM GRID TO MISCELLANEOUS FRAME B — SUPPORT TO INSTALLER (INST)

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

17 (Contd)	NOTE: Items 17.2 through 17.6 should be performed quickly and without interruption		
	2. Request Personnel in Foreign System To Remove Power That Connects to Transfer Contact Closures in Growth Alarm Grid	TELCO	—
	3. If Growth Alarm Grid Provides Power and Ground for Alarm Transfer Relays in Foreign System, B or E and V Options, Assure That Foreign System Is Not Wired To Provide Battery and Ground With V Option to Growth Alarm Grid	INST	—
	4. If Growth Alarm Grid Does Not Provide Power and Ground for Alarm Transfer Relays in Foreign System, B or E Option Only, Request Personnel in Foreign System To Remove Power From Leads That Connect to Transfer Relay in Growth Alarm Grid	TELCO	—
	5. Complete Cabling As Required Between Growth Alarm Transfer Control Unit and Foreign Office Alarm System	INST	—
	6. Request Personnel in Foreign System To Restore Power Removed in Items 17.2 and 17.4	TELCO	—
18	If Manual Alarm Grouping Control Unit Was Equipped in Item 6:		
	NOTE: Items 18.1 through 18.5 should be performed quickly and without interruption		
	1. Request Personnel in Foreign System To Remove Power That Connects to Manual Alarm Grouping Relay Contact Closures in Growth Alarm Grid	TELCO	—
	2. If Growth Alarm Grid Provides Power and Ground for Alarm Grouping Relays in Foreign System, F and V Options, Assure That Foreign System Is Not Wired To Provide Battery and Ground to Growth Alarm Grid	INST	—
	3. If Growth Alarm Grid Does Not Provide Power and Ground for Alarm Grouping Control Circuit in Foreign System, F Option Only, Request Personnel in Foreign System To Remove Power From Leads That Connect to Grouping Relays in Growth Alarm Grid	TELCO	—
	4. Connect Cabling for Foreign Alarm Grouping Circuits	INST	—
	5. Request Personnel in Foreign System To Restore Power Removed in Items 18.1 and 18.3	TELCO	—
	(Continued on Page 5)		

**ADD ALARM GRID TO MISCELLANEOUS FRAME B — SUPPORT
TO INSTALLER (INST)**

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

19	Remove All Fuses From Fuse Panel for Growth Alarm Grid	INST	—
20	Connect Power Lead Between Fuse Panel for Growth Alarm Grid to Filter Panel in MB Frame	INST	—
21	Install All Fuses in Fuse Panel for Growth Alarm Grid	INST	—
22	Retire Work Center Internal Alarms and Terminate All Internal Alarm Grouping and Routing	TELCO	DLP-559
23	At MCC, if FOR-ATR Lamp Is Lighted, Depress FOR-ATR/REQUEST Switch at MCC (FOR-ATR Lamp Goes Out)	TELCO	—
	NOTE: Present state of alarm transfer should be recorded for later use in reconfiguring alarm transfer	TELCO	—
24	At Nongrowth ALARM GROUPING Switch(es), if ALARM GROUPING Lamp(s) Is Lighted for Grid(s) Associated With Growth Grid Work Center, Depress ALARM GROUPING Switch(es) to Extinguish Lamp(s)	TELCO	—
	NOTE: Present state of alarm grouping should be recorded for later use in reconfiguring alarm grouping and routing		
25	Recent Change Growth Alarm Grid Member Equipage:		
	1. Recent Change and Verify Member Equipage From UNEQ to GROW	TELCO	DLP-502
	2. Recent Change and Verify Member Equipage From GROW to SGRO	TELCO	DLP-502
	3. Recent Change and Verify Member Equipage From SGRO to OPER	TELCO	DLP-502
26	Reconfigure Work Center Alarm Grouping Arrangement and Routing	TELCO	DLP-560
27	Perform Office Alarm Grid Test on Growth Grid:		
	1. Aisle and Main Aisle Pilot Lamps Test	INST	—
	2. Fuse Alarm Test (Major)	INST	—
	3. Fuse Alarm Test (Minor)	INST	—
	4. Office Alarm Grid ABS Failure Test	INST	—
(Continued on Page 6)			

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

27 (Contd)	5. If Growth Grid Is Equipped With Alarm Transfer Control Unit:		
	1. Set FOR-ATR/REQUEST Switch at MCC To Transfer Growth Alarm Grid to Foreign System As Specified by Office Engineering	TELCO	—
	2. Assure That Transfer Occurred As Specified	INST	—
	6. If Growth Grid Is Equipped With Manual Alarm Grouping Control Unit:		
	1. Set Growth Alarm Grouping Switch To Group Growth Alarm Grid With Foreign System As Specified by Office Engineering	TELCO	—
	2. Assure That Alarms Are Occurring in 4ESS Switch System As Specified	INST	—
	3. Assure That Alarms Are Occurring in Foreign Alarm System As Specified	INST	—

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

		RESPONSIBILITY	
	<i>WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling. 2. No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	–
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	–
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Assure That Miscellaneous Frame B (MB) Power Verification Test Has Been Completed	INST	–
6	Remove All Power From Growth MB (by Removing MB Fuses and MB Dedicated Power Distribution Frame Fuses)	INST	–
7	Verify MB Unit Type (UT) Translator and Compare Translations Data Against Office Records:		
	1. Verify MB UT Translator	TELCO/INST	DLP-541
	2. Compare Translations Data Against Wiring Records	INST	–
8	Connect and Verify Interframe Communication Cabling to TEL and TTY Connectors	INST	–
9	Test TTY Beltlines	TELCO	–
	(Continued on Page 2)		

**ADD MISCELLANEOUS FRAME B WITH OFFICE ALARM GRID(S) –
SUPPORT TO INSTALLER (INST)**

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

10	Verify Alarm Grid UT Translator and Compare Translations Data Against Office Records (Lower Alarm Grid)		
	1. Verify Alarm Grid UT Translator	TELCO/INST	DLP-542
	2. Compare Translations Data Against Wiring Records	INST	-
11	Connect Private Signal Leads to Lower Alarm Grid Control Unit	INST	-
12	Assure That All Fuses Are Removed From Lower Alarm Grid Fuse Panel	INST	-
13	Connect Cabling From Lower Alarm Grid Control Unit to:		
	1. Alarm Grid Display Panel in MOC and Other Maintenance Locations As Required	INST	-
	2. Main Aisle Pilot Lamps	INST	-
14	Connect Cabling From Lower Alarm Grid Aisle Pilot Control Unit(s) to:		
	1. Frame Lineups	INST	-
	2. Aisle Pilot Lamps	INST	-
15	3. Main Aisle Pilot Lamps	INST	-
	If Two Alarm Grids Are To Be Equipped on This Order, Repeat Items 10 through 14 for Upper Alarm Grid	TELCO/INST	-
	(Continued on Page 3)		

**ADD MISCELLANEOUS FRAME B WITH OFFICE ALARM GRID(S) -
SUPPORT TO INSTALLER (INST)**

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

16	Complete Connections for Exit Pilot Lamps:		
	A. If Exit Pilot Lamps Are Powered by Operational 4ESS Switch G-Option Alarm Grid:		
	NOTE: Items 16.A.1 through 16.A.4 should be performed quickly and without interruption because removal of fuses disables exit pilot lamps		
	1. Remove Power for Exit Pilot Lamps (at Operational G-Option Alarm Grid)	TELCO	DLP-544
	2. Connect Cabling Between Alarm Grid Control Unit of Lower Growth Alarm Grid and Operational G-Option Alarm Grid Control Unit	INST	—
	3. If Upper Alarm Grid Is Equipped, Connect Cabling Between Alarm Grid Control Units of Upper Growth Alarm Grid and Operational G-Option Alarm Grid Control Unit	INST	—
	4. Replace Fuse T (and R if Removed) Removed in Item 16.A.1	TELCO	—
	B. If Exit Pilot Lamps Are Provided by Foreign System, ZA-Option:		
	NOTE: Items 16.B.1 through 16.B.4 should be performed quickly and without interruption because removal of power in foreign system disables exit pilot lamps		
	1. Request Personnel in Foreign System To Remove Exit Pilot Lamps Power	TELCO	—
	2. Connect Cabling Between Lower Alarm Grid Control Unit and Foreign Alarm Equipment	INST	—
	3. If Upper Alarm Grid Is Equipped, Connect Cabling Between Upper Alarm Grid Control Unit and Foreign Alarm Equipment	INST	—
	4. Request Personnel in Foreign System To Restore Exit Pilot Lamp Power	TELCO	—
	(Continued on Page 4)		

**ADD MISCELLANEOUS FRAME B WITH OFFICE ALARM GRID(S) —
SUPPORT TO INSTALLER (INST)**

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

17	If Lower and/or Upper Alarm Grid Is Equipped With Alarm Transfer Control Unit:		
	1. If Alarm Transfer Via E2 Telemetry to Foreign System Is Required:		
	1. Notify E2 Central That Status Input Circuit Must Be Disabled	TELCO	—
	2. Request Personnel in E2 Central To Remove Circuit Packs CP26 and CP27 at Status Input Circuit Frame	TELCO	—
	3. If Lower Alarm Grid Is Equipped With Alarm Transfer Control Unit, Complete SI and SIR Wiring for Lower Alarm Grid	INST	—
	4. If Upper Alarm Grid Is Equipped and Contains Alarm Transfer Control Unit, Complete SI and SIR Wiring for Upper Alarm Grid	INST	—
	5. Request Personnel in E2 Central To Replace Circuit Packs CP26 and CP27 Removed in Item 17.1.2	TELCO	—
	NOTE: Items 17.2 through 17.8 should be performed quickly and without interruption		
	2. Request Personnel in Foreign System To Remove Power for Transfer Contact Closures in Lower Alarm Grid, if Equipped With Alarm Transfer Control Unit, B or E-Option	TELCO	—
	3. If Upper Alarm Grid Is Equipped and Contains Alarm Transfer Control Unit, B or E-Option, Request Personnel in Foreign System To Remove Power for Transfer Contact Closures in Upper Alarm Grid	TELCO	—
	4. If Lower (or Upper, if Equipped) Alarm Grid Provides Power and Ground for Alarm Transfer Relays in Foreign System, V-Option, Assure That Foreign System Is Not Wired To Provide Power and Ground to Growth Alarm Grid	INST	—
	5. If Lower (or Upper, if Equipped) Alarm Grid Does Not Provide Power and Ground for Alarm Transfer Relays in Foreign System, Request Personnel in Foreign System To Remove Power for Transfer Relay in Growth Alarm Grid	TELCO	—
	6. If Lower (or Upper, if Equipped) Alarm Grid Has Alarm Battery Supply (ABS) Alarms Transferred, Z-Option, and Growth Alarm Grid Does Not Provide Power and Ground for ABS Transfer, Request Personnel in Foreign System To Remove Power for ABS Circuit in Growth Alarm Grid Transfer Control Unit	TELCO	—
	7. Connect Cabling for Alarm Transfer Circuits	INST	—

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

17 (Contd)	8. Request Personnel in Foreign System To Restore Power Removed in Items 17.2 through 17.6	TELCO	-
18	If Lower and/or Upper Alarm Grid Is Equipped With Manual Alarm Grouping Control Unit:		
	NOTE: Items 18.1 through 18.6 should be performed quickly and without interruption		
	1. If Lower (or Upper, if Equipped) Alarm Grid Has Grouping Relay Contact Closures Connected to Foreign System, F-Option, Request Personnel in Foreign System To Remove Power for Manual Alarm Grouping Relay Contact Closures	TELCO	-
	2. If Lower (or Upper, if Equipped) Alarm Grid Provides Power and Ground for Alarm Grouping Control Circuit in Foreign System, V-Option, Assure That Foreign System Is Not Wired To Provide Battery and Ground to Growth Alarm Grid	INST	-
	3. If Lower (or Upper, if Equipped) Alarm Grid Does Not Provide Power and Ground for Alarm Grouping Control Circuit in Foreign System, Request Personnel in Foreign System To Remove Power for Manual Alarm Grouping Control Circuit in Growth Alarm Grid	TELCO	-
	4. If Lower (or Upper, if Equipped) Alarm Grid ABS Alarms Grouped With Foreign System, Z-Option, and Growth Alarm Grid Does Not Provide Power and Ground for ABS Grouping, Request Personnel in Foreign System To Remove Power for ABS Circuit in Growth Alarm Grid Manual Alarm Grouping Control Unit	TELCO	-
	5. Connect Cabling for Foreign Alarm Grouping Circuits	INST	-
	6. Request Personnel in Foreign System To Restore Power Removed in Items 18.1 through 18.4	TELCO	-
	NOTE: Items 19 through 23 should be performed quickly and without interruption because removal of fuses disables the 86V ringing and tone facilities in entire office, and all audible alarms are disabled until these items are completed		
19	Notify Office Personnel That Audible Alarms Will Be Disabled: Minor, Power Minor, Alarm Battery Supply, and Display Panel Audible Ringer	TELCO	-
20	Disable 86V Audible Alarm Power at Ringing and Tone Plant (RTP)	TELCO	DLP-543
21	Connect Cabling for 86V Audible Alarm Power From Lower Alarm Grid Control Unit to RTP	INST	-

**ADD MISCELLANEOUS FRAME B WITH OFFICE ALARM GRID(S) -
SUPPORT TO INSTALLER (INST)**

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

22	If Upper Alarm Grid Is Equipped, Repeat Item 21 for Upper Alarm Grid	INST	—
23	Replace RTP Fuses F1 and F17 Removed in Item 20	TELCO	—
24	Install Fuses for Growth MB:		
	1. Install Growth MB Fuses Removed in Item 6	INST	—
	2. Install Growth MB Dedicated Power Distribution Frame Fuses Removed in Item 6	INST	—
	3. Install Fuses As Required for Lower Alarm Grid	INST	—
	4. If Upper Alarm Grid Is Equipped, Install Fuses As Required for Upper Alarm Grid	INST	—
25	Retire Work Center Internal Alarms and Terminate All Alarm Grouping and Routing	TELCO	DLP-559
26	At MCC, if FOR-ATR Lamp Is Lighted, Depress FOR-ATR REQUEST Switch (FOR-ATR Lamp Goes Out)	TELCO	—
	NOTE: Present state of alarm transfer should be recorded for later use in reconfiguring the alarm transfer		
27	At Nongrowth ALARM GROUPING Switch(es), if ALARM GROUPING Lamp(s) Is Lighted for Grid(s) Associated With Growth Grid Work Center, Depress Alarm Grouping Switch(es) To Extinguish Lamp(s)	TELCO	—
	NOTE: Present state of alarm grouping should be recorded for later use in reconfiguring lamp grouping and routing		
28	Recent Change MB Member Equipage from Unequipped to Operational (Using RC Form 801) and Verify	TELCO	DLP-568
29	Recent Change Alarm Grid Member Equipage:		
	A. Lower Alarm Grid:		
	1. Recent Change and Verify Member Equipage From UNEQ to GROW	TELCO	DLP-502
	2. Recent Change and Verify Member Equipage From GROW to SGRO	TELCO	DLP-502
	3. Recent Change and Verify Member Equipage From SGRO to OPER	TELCO	DLP-502
	(Continued on Page 7)		

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

29 (Contd)	B. Upper Alarm Grid:		
	1. Recent Change and Verify Member Equipage From UNEQ to GROW	TELCO	DLP-502
	2. Recent Change and Verify Member Equipage From GROW to SGRO	TELCO	DLP-502
	3. Recent Change and Verify Member Equipage From SGRO to OPER	TELCO	DLP-502
30	Reconfigure Work Center Alarm Grouping Arrangement and Routing	TELCO	DLP-560
31	Perform Office Alarm Grid Test on Growth Grid(s):		
	1. Aisle and Main Aisle Pilot Lamps Test	INST	—
	2. Fuse Alarm Test (Major)	INST	—
	3. Fuse Alarm Test (Minor)	INST	—
	4. Office Alarm Grid ABS Failure Test	INST	—
	5. If Lower and/or Upper Alarm Grid Is Equipped With Alarm Transfer:		
	1. Set FOR-ATR/REQUEST Switch at MCC To Transfer Growth Alarm Grid(s) to Foreign System As Required	TELCO	—
	2. Assure That Transfer Occurred As Specified	INST	—
	6. If Lower and/or Upper Alarm Grid Is Equipped With Manual Alarm Grouping Control Unit:		
	1. Set Alarm Grouping Switch(es) To Group Growth Alarm Grid(s) With Foreign System As Specified by Office Engineering	TELCO	—
	2. Assure That Alarms Are Occurring in 4ESS Switch System As Specified by Office Engineering	INST	—
3. Assure That Alarms Are Occurring in Foreign Alarm System As Specified by Office Engineering	INST	—	

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

		RESPONSIBILITY	
	<i>WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling. 2. No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Remove Fuse C1 from Growth Associated Alarm Grid Fuse Panel	INST	—
6	Install Growth Alarm Transfer Control Equipment	INST	—
	NOTE: Items 7 through 22 should be performed quickly and without interruption		
7	If Growth Associated Alarm Grid Is X or Y Option (Power Grid), and Growth Alarm Transfer Control Unit Is Equipped With E Option (Alarm Transfer Outgoing) and Z Option (ABS Alarm Transfer), Remove Fuse HB From Growth Associated Alarm Grid Fuse Panel	TELCO	DLP-548
8	If Growth Alarm Transfer Control Unit Is Equipped With Z Option (ABS Alarm Transfer) and B Option (Alarm Transfer Incoming), Remove Fuses PB and S From Growth Associated Fuse Panel	TELCO	DLP-549
9	Remove Fuses From Growth Associated Alarm Grid Fuse Panel Which Provides Power to Signal Distributor (SD) Points	TELCO	DLP-550
10	Connect SD Cabling to Growth Associated Alarm Grid Control Unit	INST	—
	(Continued on Page 2)		

ADD ALARM TRANSFER CONTROL UNIT TO OFFICE ALARM GRID — SUPPORT TO INSTALLER (INST)

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

11	Connect Cabling As Required From Growth Alarm Transfer Control Unit to Alarm Grid Control Unit (Except Leads FAS, FAB, TNR1, TNR2, and TNR3)	INST	—
12	If Growth Alarm Transfer Control Unit Is Equipped With B Option (Alarm Transfer Incoming), Connect Scan Point Cabling Between Growth Associated Alarm Grid Control Unit and Alarm Transfer Control Unit	INST	—
	NOTE: Items 13 through 14.4 should be performed quickly and without interruption because removal of fuses disables 86V ringing and tone facilities in entire office; therefore, all audible alarms are disabled until these items are completed		
13	Notify Office Personnel That Following Audible Alarms Will Be Disabled: Minor, Power Minor, ABS Alarms, and Display Panel Audible Ringer	TELCO	—
14	If Growth Alarm Transfer Control Unit Is Equipped With B Option (Alarm Transfer Incoming) and Z Option (ABS Alarm Transfer):		
	1. Disable 86V Audible Alarm Power at Ringing and Tone Plant (RTP)	TELCO	DLP-543
	2. Connect Leads FAS and FAB Between Alarm Transfer Control Unit and Alarm Grid Control Unit	INST	—
	3. If Display Panel Audible Ringer Is Active in Growth Associated Alarm Grid (J-Option), Connect Paired Leads TNR1 (TNR2 and TNR3, if Required) Between Alarm Transfer Control Unit and Alarm Grid Control Unit	INST	—
	4. Replace RTP Fuses F1 and F17 Removed in Item 14.1	TELCO	—
15	If Alarm Transfer Via E2 Telemetry to Foreign System Is Required:		
	1. Notify E2 Central That Status Input Circuit Must Be Disabled	TELCO	—
	2. Request Personnel in E2 Central To Remove Circuit Packs CP26 and CP27 at Status Input Circuit Frame	TELCO	—
	3. Complete SI and SIR Wiring Associated With Growth Alarm Grid	INST	—
	4. Request Personnel in E2 Central To Replace CP26 and CP27 Circuit Packs Removed in Item 15.2	TELCO	—
	(Continued on Page 3)		

ADD ALARM TRANSFER CONTROL UNIT TO OFFICE ALARM GRID — SUPPORT TO INSTALLER (INST)

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

16	Request Personnel in Foreign System To Remove Power That Connects to Transfer Contact Closures in Growth Alarm Transfer Control at Growth Associated Alarm Grid	TELCO	-
17	If Growth Associated Alarm Grid Provides Power and Ground for Alarm Transfer Relays in Foreign System (V-Option), Assure That Foreign System Is Not Wired To Provide Battery and Ground	INST	-
18	If Growth Associated Alarm Grid Does Not Provide Power and Ground for Alarm Transfer Relays in Foreign System, Request Personnel in Foreign System To Remove Power for Transfer Relays	TELCO	-
19	Complete Cabling As Required Between Growth Alarm Transfer Control Unit and Foreign Office Alarm System	INST	-
20	Request Personnel in Foreign System To Restore Power Removed in Items 16 and 18	TELCO	-
21	Install Fuse C1 in Fuse Panel for Growth Associated Alarm Grid Removed in Item 5	INST	-
22	Install Fuses in Fuse Panel for Growth Associated Alarm Grid Which Were Removed in Items 7, 8, and 9	TELCO	-
23	Set FOR-ATR/REQUEST Switch at MCC To Transfer Growth Associated Alarm Grid to Foreign System As Specified by Office Engineering	TELCO	-
24	Perform Alarm Grid Test:		
	1. Fuse Alarm Test (Major)	INST	-
	2. Fuse Alarm Test (Minor)	INST	-
	3. Office Alarm Grid ABS Failure Test	INST	-
	4. Assure That Transfer Occurred As Specified by Office Engineering	INST	-

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Remove Fuse J from Growth Associated Alarm Grid Fuse Panel	INST	—
6	Install Growth Manual Alarm Grouping Control Equipment	INST	—
	NOTE: Items 7 through 12 should be performed quickly and without interruption		
7	If Growth Associated Alarm Grid Is X or Y Option (Power Grid), and Growth Manual Alarm Grouping Control Unit Is Equipped With F Option (Alarm Grouping) and Z Option (ABS Alarm Grouping), Remove Fuse HB From Growth Associated Fuse Panel	TELCO	DLP-548
8	If Growth Manual Alarm Grouping Control Is Equipped With F Option (Alarm Grouping) and Z Option (ABS Alarm Grouping), Remove Fuses PB and S From Growth Assciated Alarm Grid Fuse Panel	TELCO	DLP-549
9	Remove Fuse x From Growth Associated Alarm Grid Fuse Panel	TELCO	DLP-547
10	If Alarm Grid Display Panels Are Provided in Locations Other Than MOC, Remove Fuses y and z From Growth Associated Alarm Grid Fuse Panel	TELCO	DLP-546
	(Continued on Page 2)		

ADD MANUAL ALARM GROUPING CONTROL UNIT TO OFFICE ALARM GRID — SUPPORT TO INSTALLER (INST)

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

11	Remove Fuses From Growth Associated Alarm Grid Fuse Panel Which Provides Power to Signal Distributor (SD) Points	TELCO	DLP-550
12	Connect SD Cabling to Growth Associated Alarm Grid Control Unit	INST	—
	NOTE: Items 13 through 14.4 should be performed quickly and without interruption because removal of fuses disables 86V ringing and tone facility in entire office, and all audible alarms are disabled until these items are completed	TELCO	—
13	Notify Office Personnel That Following Audible Alarms Will Be Disabled: Minor, Power Minor, ABS Alarms, and Display Panel Audible Ringer	TELCO	—
14	If Growth Manual Alarm Grouping Control Unit Is Equipped With F Option (Alarm Grouping) and Z Option (ABS Alarm Grouping):		
	1. Disable 86V Audible Alarm Power at Ringing and Tone Plant (RTP)	TELCO	DLP-543
	2. Connect Leads FAS and FAB Between Manual Alarm Grouping Control Unit and Alarm Grid Control Unit	INST	—
	3. If Display Panel Audible Ringer Is Active in Growth Associated Alarm Grid, Connect Paired Leads TNR1 (TNR2 and TNR3, if Required) Between Manual Alarm Grouping Control Unit and Alarm Grid Control Unit	INST	—
	4. Replace RTP Fuses F1 and F17 Removed in Item 14.1	TELCO	—
15	Connect Cabling As Required From Growth Manual Alarm Grouping Control Unit to:		
	1. Alarm Grid Control Unit	INST	—
	2. Alarm Grouping Switch	INST	—
	3. Power Alarm Control Unit (If Required)	INST	—
16	Connect Cabling As Required From Alarm Grid Control Unit to Alarm Grid Display Panel(s) in Maintenance Center Other Than MOC	INST	—
	(Continued on Page 3)		

ADD MANUAL ALARM GROUPING CONTROL UNIT TO OFFICE ALARM GRID — SUPPORT TO INSTALLER (INST)

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

17	Complete Connections for Exit Pilot Lamps Provided by Foreign Alarm System, ZA-Option:		
	1. Remove Fuse U From Growth Associated Alarm Grid Fuse Panel	TELCO	DLP-551
	2. Connect Cabling From Growth Manual Alarm Grouping Control Unit to Auxiliary Exit Pilot Relay Lamps	INST	—
	3. Replace Fuse U Removed in Item 17.1	TELCO	—
18	Connect Cabling As Required From Power Alarm Control Unit to:		
	1. Auxiliary Exit Pilot Relay in Growth Manual Grouping Control Unit	INST	—
	2. Alarm Grid Control Unit	INST	—
19	Connect Private Signal Leads to Alarm Grid Control Unit	INST	—
20	Complete Connections for Exit Pilot Lamps		
	A. If Growth Associated Alarm Grid Provides Battery and Ground for Floor and AT/AG Exit Pilot Lamps, G-Option:		
	1. Remove Fuse R From Growth Associated Alarm Grid Fuse Panel	TELCO	DLP-552
	2. Connect Cabling Between Growth Associated Alarm Grid Control Unit and Exit Pilot Lamps	INST	—
	3. Replace Fuse R Removed in Item 20.A.1	TELCO	—
	B. If Exit Pilot Lamps Are Powered by Another 4ESS Switch G-Option Alarm Grid:		
	1. Remove Fuse R From G-Option Alarm Grid Which Supplies Power for Exit Pilot Lamps	TELCO	DLP-552
	2. Connect Cabling Between Alarm Grid Control Unit of Growth Associated Alarm Grid and Operational G-Option Grid	INST	—
	3. Replace Fuse R Removed in Item 20.B.1	TELCO	—
(Continued on Page 4)			

ADD MANUAL ALARM GROUPING CONTROL UNIT TO OFFICE ALARM GRID — SUPPORT TO INSTALLER (INST)

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

20 (Contd)	C. If Exit Pilot Lamps Are Provided by Foreign System, ZA-Option:		
	NOTE: Items 20.C.1 through 3 should be performed quickly and without interruption because removal of power in foreign system disables exit pilot lamps		
	1. Request Personnel in Foreign System to Remove Power for Exit Pilot Lamps Which Are Used in 4ESS Switch Alarm System	TELCO	—
	2. Connect Cabling Between Growth Associated Alarm Grid and Foreign Alarm Equipment	INST	—
	3. Request Personnel in Foreign System To Restore Power for Exit Power Lamps	TELCO	—
21	Complete Connections for Alarm Grouping With Foreign Alarm System		
	NOTE: Items 21.1 through 21.6 should be performed quickly and without interruption		
	1. If Growth Associated Alarm Grid Is a Power Grid Which Supervises Power Equipment Not in Area of 4ESS Switch Equipment (X-Option), Request Personnel in Foreign System To Remove Power for Alarm Transfer and/or Grouping Circuits	TELCO	—
	2. Request Personnel in Foreign System To Remove Power That Connects to Manual Alarm Grouping Relay Contact Closures	TELCO	—
	3. If Growth Associated Alarm Grid Provides Battery and Ground for Alarm Grouping Control Circuit in Foreign System, Assure That Foreign System Is Not Wired To Provide Battery and Ground to Growth Associated Grid	INST	—
	4. If Growth Associated Alarm Grid Does Not Provide Battery and Ground for Alarm Grouping Control Circuit in Foreign System, Request Personnel in Foreign System To Remove Power Provided for Grouping Relays in Growth Alarm Grid	TELCO	—
	5. Connect Cabling for Foreign Alarm Grouping Circuits	INST	—
	6. Request Personnel in Foreign System To Restore All Power Removed in Items 21.1, 21.2, and 21.4	TELCO	—
22	Install Fuses in Growth Associated Alarm Grid Removed in Items 7 Through 11	INST	—
	(Continued on Page 5)		

ADD MANUAL ALARM GROUPING CONTROL UNIT TO OFFICE ALARM GRID — SUPPORT TO INSTALLER (INST)

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

23	Set Appropriate Alarm Grouping Switch at Exit Pilot Lamps To Group Growth Associated Alarm Grid With Specified Foreign Alarm System	TELCO	-
24	Perform Office Alarm Grid Tests on Growth Grid:		
	1. Fuse Alarm Test (Major)	INST	-
	2. Fuse Alarm Test (Minor)	INST	-
	3. Office Alarm Grid ABS Failure Test	INST	-
	4. Assure That Alarms Are Occurring in 4ESS Switch As Specified by Office Engineering	INST	-
5. Assure That Alarms Are Occurring in Foreign Alarm System As Specified by Office Engineering	INST	-	

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	If Exit Pilot Lamp Assembly Being Added Is First Exit Pilot Lamp on This Floor:		
	1. Assure That Power Is Not Provided for Exit Pilot Lamps at G-Option Alarm Grid on This Floor	INST	—
	2. Connect Cabling Between G-Option Alarm Grid Control Unit on This Floor and Added Exit Pilot Lamps	INST	—
	NOTE: Items 5.3 through 5.5 should be performed quickly and without interruption because removal of fuses disables exit pilot lamps		
	3. Remove Power for Exit Pilot Lamps (At G-Option Alarm Grid on Other Floor(s))	TELCO	DLP-544
	4. Connect Cabling Between Added Exit Pilot Lamp on This Floor and Specified Exit Pilot Lamps on Other Floor(s)	INST	—
	5. Insert Fuse T (and R if Required) Removed in Item 5.3	TELCO	—
	(Continued on Page 2)		

ADD EXIT PILOT LAMPS TO OFFICE ALARM GRID — SUPPORT TO INSTALLER (INST)

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

6	If Exit Pilot Lamp Assembly Is Powered by 4ESS Switch Alarm Grid and if Exit Pilot Lamp Assembly Being Added Is Other Than First Exit Pilot Lamp:		
	NOTE: Items 6.1 through 6.5 should be performed quickly and without interruption because removal of power in foreign system disables exit pilot lamps		
	1. Remove Power for Exit Pilot Lamps (At G-Option Alarm Grid on This Floor)	TELCO	DLP-544
	2. Remove Power for Power Exit Pilot Lamps (At ZB-Option Alarm Grid)	TELCO	DLP-544
	3. If Exit Pilot Lamps Being Added Are Multiplied With Exit Pilot Lamps on Other Floor(s):		
	1. Remove Power for Exit Pilot Lamps (At G-Option Alarm Grid on Each Floor Involved)	TELCO	DLP-544
	2. Connect Cabling Between Exit Pilot Lamps Being Added and Existing Exit Pilot Lamps on Other Floor(s)	TELCO	—
	4. Connect Cabling Between Exit Pilot Lamps Added and Existing Lamps on This Floor	INST	—
	5. Replace Fuse T (and R if Removed) Removed in Items 6.1, 6.2, and 6.3.1	TELCO	—
7	If Exit Pilot Lamps Are Provided by Foreign System, ZA-Option:		
	NOTE: Items 7.1 through 7.4 should be performed quickly and without interruption because removal of power in foreign system disables exit pilot lamps		
	1. Request Personnel in Foreign System To Restore Exit Pilot Lamps Power	TELCO	—
	2. If Power Exit Pilot Lamp Is Provided by Foreign System, Request Personnel in Foreign System To Remove Power for Power Exit Pilot Lamps	TELCO	—
	3. Connect Cabling Between 4ESS Switch ZA-Option Alarm Grid Control Unit and Exit Pilot Lamps Being Added	INST	—
4. Request Personnel in Foreign System To Restore Exit Pilot Lamps Power	TELCO	—	
8	Perform Exit Pilot Lamps Tests:		
	1. Fuse Alarm Test (Major)	INST	—
	2. Fuse Alarm Test (Minor)	INST	—

ADD EXIT PILOT LAMPS TO OFFICE ALARM GRID — SUPPORT TO INSTALLER (INST)

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

		RESPONSIBILITY	
	<i>WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling. 2. No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Verify Disabled Status of MFS Transmitter and/or Receiver Circuit(s) Being Added (OP:TRKSTAT,CIN a SVC* b *;SUM:NUM 1,STAT CAD.DSA!)	TELCO	DLP-527
6	If Transmit and Receive Paths of MF Circuits Being Added Interface to System Via D4 Channel Bank, DSX, and Digital Terminal Equipment, Install and Align D4 Channel Bank	INST	—
7	If Local Procedures and Method of Procedure Allow Insertion of MFS Circuit Packs Without Removal of Power From MFS Circuit Pack Locations: Select and Install Circuit Packs	INST	—
8	If Power Must Be Removed From MFS Circuit Pack Locations Before Inserting Circuit Packs:		
	A. If Circuits Being Added Are in 04 Through 15 Range:		
	1. From Office Records, Determine Circuit Identification Name (CIN) of MFS Circuits (00-15) in Active State and Contained in MFS Frame to Which Circuits Are Being Added	TELCO	—
	(Continued on Page 2)		

ADD MFS TRANSMITTER AND/OR RECEIVER CIRCUITS TO MF SIGNALING FRAME — SUPPORT TO INSTALLER (INST)

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

8 (Contd)	2. Change State of Active MFS Circuits to Maintenance Lock-Out (SET:TRKSTAT MTC.LKO,CIN a SVC* b *;SUM:NUM 1!)	TELCO	DLP-528
	3. Remove Fuse F1 at Location 52-8 (MFT and MFR Circuits 00-15); PF Lamp Lighted	TELCO	—
	4. Select and Install Circuit Packs	INST	—
	5. Replace Fuse (F1) Removed in Item 8.A.3. (PF Lamp Off)	TELCO	—
	6. Restore Common Tone Supply (CTSA) Using Reset Pushbutton (RSTA)	TELCO	—
	7. Change MFS Circuits in Maintenance Lock-Out State to Active (SET:TRKSTAT ACT,CIN a SVC* b *;SUM:NUM 1!)	TELCO	DLP-528
	B. If Circuits Being Added Are in 20 Through 31 Range:		
	1. From Office Records, Determine Circuit Identification Name (CIN) of MFS Circuits (16-31) in Active State and Contained in MFS Frame to Which Circuits Are Being Added	TELCO	—
	2. Change State of Active MFS Circuits to Maintenance Lock-Out (SET:TRKSTAT MTC.LKO,CIN a SVC* b *;SUM:NUM 1!)	TELCO	DLP-528
	3. Remove Fuse F2 at Location 52-8 (MFT and MFR Circuits 16-31); PF Lamp Lighted	TELCO	—
	4. Select and Install Circuit Packs	INST	—
	5. Replace Fuse (F2) Removed in Item 8.B.3. (PF Lamp Off)	TELCO	—
	6. Restore Common Tone Supply (CTSB) Using Reset Pushbutton (RSTB)	TELCO	—
	7. Change MFS Circuits in Maintenance Lock-Out State to Active (SET:TRKSTAT ACT,CIN a SVC* b *;SUM:NUM 1!)	TELCO	DLP-528
9	Change Added Transmitter and/or Receiver Circuit(s) to Circuit Administration (CAD) Lock-Out State (SET:TRKSTAT CAD.LKO,CIN a SVC* b *;SUM:NUM 1!)	TELCO	DLP-525
10	Test MFS Transmitter and/or Receiver Circuits Being Added	INST	—
11	If MFS Transmitter and/or Receiver Circuit(s) Being Added Are To Be Immediately Activated, Change MFS Transmitter and/or Receiver Circuit(s) to Active State and Test	TELCO/INST	DLP-526

**ADD MFS TRANSMITTER AND/OR RECEIVER CIRCUITS TO MF
SIGNALING FRAME — SUPPORT TO INSTALLER (INST)**

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Assure That Remote Office Test Line (ROTL) Frame Power Verification Tests Have Been Completed	INST	—
6	Assure That All Fuses Are Removed From Fuse Panel for Growth Frame	INST	—
7	Verify Status of Growth ROTL Unit Trunks (Upper ROTL Unit) (VER:TRK:CIN a!):		
	1. ROTL Control Access Trunk of Port 0 (RT0A)	TELCO/INST	DLP-530
	2. ROTL Trunk Under Test Access Trunk of Port 0 (RT0T)	TELCO/INST	DLP-530
	3. ROTL Control Access Trunk of Port 1 (RT1A)	TELCO/INST	DLP-530
	4. ROTL Trunk Under Test Access Trunk of Port 1 (RT1T)	TELCO/INST	DLP-530
	5. ROTL Port Access Circuit Unsecured (RPCU)	TELCO/INST	DLP-530
	(Continued on Page 2)		

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

8	If Lower ROTL Unit or 105 Test Line(s) Is To Be Equipped on This Order: Verify Status of Trunk(s) for (A) Lower ROTL Unit or (B) 105 Test Line(s) (VER:TRK:CIN a!):		
	A. Lower ROTL Unit:		
	1. RTOA	TELCO/INST	DLP-530
	2. RTOT	TELCO/INST	DLP-530
	3. RT1A	TELCO/INST	DLP-530
	4. RT1T	TELCO/INST	DLP-530
	5. RPCU	TELCO/INST	DLP-530
	B. 105 Test Line(s):		
	1. Verify Trunk Status for Growth 105 Test Line	TELCO/INST	DLP-530
	2. If Two 105 Test Lines Are To Be Equipped on This Order: Repeat Item 8.B.1 for Second 105 Test Line	TELCO/INST	—
9	Connect and Verify Alarm Cables	INST	—
10	Connect and Verify Signaling Leads From Ringing and Tone Plant	INST	—
11	Connect and Verify Scan and SD Cables	INST	—
12	Connect and Verify Cables From Multifrequency Signaling Frame	INST	—
13	Insert All Fuses in Fuse Panel for Growth Frame	INST	—
14	If Metallic Trunk (MT) Units Have Not Been Installed for Growth ROTL Ports: Discontinue This Growth Procedure Until MT Units Have Been Installed in MT Frame, Aligned, and Tested	TELCO/INST	—
15	If Transmission Leads Are Connected to D4 Channel Bank, DSX 1, and Digital Terminal Frame Equipment, Complete Receiver and Transmit Level Adjustments on D4 Channel Bank Equipment	INST	—
16	Align 52A Responder(s) in Growth ROTL Frame Using 52C Test Set	INST	—
17	Set All Operational Office ROTL Unit Trunks to CAD Lock-Out State and Verify	TELCO	DLP-531
18	Set Growth ROTL Unit Trunks to Active State (Upper ROTL Unit) (SET:TRKSTAT ACT,CIN aATM*RTOA!)	TELCO	DLP-532
	(Continued on Page 3)		

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

19	Perform ROTL Unit Test Using ITE 5462 Test Set and Local Office 105 Test Line (Growth Upper ROTL Unit)	INST	—
20	Perform ROTL Unit Test Using ITE 5462 Test Set and Far-End Office 105 Test Line (Growth Upper ROTL Unit)	INST	—
21	Align Growth ROTL Unit Attenuator Pads (Upper ROTL Unit)	INST	—
22	Set All Operational ROTL Port Access Circuit (RPAC) Trunks to CAD Disable State and Verify	TELCO	DLP-533
23	Set One RPAC Trunk Associated With Growth Upper ROTL Unit to Active State (SET:TRKSTAT ACT,CIN aATM*RPCU!)	TELCO	DLP-534
24	Test CAROT/ROTL Compatibility or Manual Test Position/ROTL Compatibility for RPAC Trunk Activated in Item 23:		
	A. Arrange for CAROT Center To Exercise CAROT/ROTL Compatibility Test, Using a Far-End Office 105 Test Line, for RPAC Trunk Activated in Item 23	TELCO/INST	DLP-535
	B. Arrange for Associated Remote Office Manual Test Position To Exercise Compatibility Test, Using a Far-End Office 105 Test Line, for RPAC Trunk Activated in Item 23	TELCO/INST	DLP-536
25	Set RPAC Trunk Activated in Item 23 to CAD Disable State and Verify	TELCO	DLP-537
26	Set Remaining RPAC Trunk Associated With Growth Upper ROTL Unit to Active State (SET:TRKSTAT ACT,CIN aATM*RPCU!)	TELCO	DLP-534
27	Test CAROT/ROTL Compatibility or Manual Test Position/ROTL Compatibility for RPAC Trunk Activated in Item 26:		
	A. Arrange for CAROT Center To Exercise CAROT/ROTL Compatibility Test, Using Far-End Office 105 Test Line, for RPAC Trunk Activated in Item 26	TELCO/INST	DLP-535
	B. Arrange for Associated Remote Office Manual Test Position To Exercise Compatibility Test, Using Far-End Office 105 Test Line, for RPAC Trunk Activated in Item 26	TELCO/INST	DLP-536
28	If Lower ROTL Unit Is To Be Equipped on This Order:		
	1. Set RPAC Trunk Activated in Item 26 to CAD Disable State and Verify	TELCO	DLP-537
	(Continued on Page 4)		

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

28 (Contd)	2. Set ROTL Trunks Associated With Growth Upper ROTL Unit to CAD Lock-Out State and Verify	TELCO	DLP-538
	3. Set Growth ROTL Trunks to Active State (Lower ROTL Unit) (SET:TRKSTAT ACT,CIN aATM*RTOA!)	TELCO	DLP-532
	4. Perform ROTL Unit Test Using ITE 5462 Test Set and Local Office 105 Test Line (Lower ROTL Unit)	INST	—
	5. Perform ROTL Unit Test Using ITE 5462 Test Set and Far-End Office 105 Test Line (Lower ROTL Unit)	INST	—
	6. Align Growth ROTL Unit Attenuator Pads (Lower ROTL Unit)	INST	—
	7. Set One RPAC Trunk Associated With Growth Lower ROTL Unit to Active State (SET:TRKSTAT ACT,CIN aATM*RPCU!)	TELCO	DLP-534
	8. Test CAROT/ROTL Compatibility or Manual Test Position/ROTL Compatibility for RPAC Trunk Activated in Item 28.7:		
	A. Arrange for CAROT Center To Exercise CAROT/ROTL Compatibility Test, Using Far-End Office 105 Test Line, for RPAC Trunk Activated in Item 28.7	TELCO/INST	DLP-535
	B. Arrange for Associated Remote Office Manual Test Position To Exercise Compatibility Test, Using Far-End Office 105 Test Line, for RPAC Trunk Activated in Item 28.7	TELCO/INST	DLP-536
	9. Set RPAC Trunk Activated in Item 28.7 to CAD Disabled State and Verify	TELCO	DLP-537
	10. Set Remaining RPAC Trunk Associated With Growth Lower ROTL Unit to Active State (SET:TRKSTAT ACT,CIN aATM*RPCU!)	TELCO	DLP-534
	11. Test CAROT/ROTL Compatibility or Manual Test Position/ROTL Compatibility for RPAC Trunk Activated in Item 28.10:		
	A. Arrange for CAROT Center To Exercise CAROT/ROTL Compatibility Test, Using Far-End Office 105 Test Line, for RPAC Trunk Activated in Item 28.10	TELCO/INST	DLP-535
	B. Arrange for Associated Remote Office Manual Test Position To Exercise Compatibility Test, Using Far-End Office 105 Test Line, for RPAC Trunk Activated in Item 28.10	TELCO/INST	DLP-536
(Continued on Page 5)			

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

29	Set All Office RPAC Trunks to Active State and Verify	TELCO	DLP-539
30	Set All Office ROTL Unit Trunks to Active State and Verify	TELCO	DLP-540
31	If 105 Test Line(s) Is To Be Equipped on This Order:		
	1. Set All Office 105 Test Lines to CAD Lock-Out State and Verify	TELCO	DLP-545
	2. Set Growth 105 Test Line to Active State (105 Test Line 0) (SET:TRKSTAT ACT,TAN a!)	TELCO	DLP-555
	3. Perform 105 Test Line Local Office Test Using ITE 5462 Test Set (105 Test Line 0)	INST	—
	4. Arrange for Far-End Office To Exercise ROTL Compatibility Test With Local Office (105 Test Line 0)	TELCO/INST	DLP-556
	5. If Two 105 Test Lines Are To Be Equipped on This Order:		
	1. Set Growth 105 Test Line to CAD Lock-Out State and Verify (105 Test Line 0)	TELCO	DLP-557
	2. Set Growth 105 Test Line to Active State (105 Test Line 1) (SET:TRKSTAT ACT,TAN a!)	TELCO	DLP-555
	3. Perform 105 Test Line Local Office Test Using ITE 5462 Test Set (105 Test Line 1)	INST	—
	4. Arrange for Far-End Office To Exercise ROTL Compatibility Test With Local Office (105 Test Line 1)	TELCO/INST	DLP-556
6. Set All Office 105 Test Lines to Active State and Verify	TELCO	DLP-558	

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Verify Status of Growth ROTL Trunks (Lower ROTL Unit) (VER:TRK:CIN a!):		
	1. ROTL Control Access Trunk of Port 0 (RT0A)	TELCO/INST	DLP-530
	2. ROTL Trunk Under Test Access Trunk of Port 0 (RT0T)	TELCO/INST	DLP-530
	3. ROTL Control Access Trunk of Port 1 (RT1A)	TELCO/INST	DLP-530
	4. ROTL Trunk Under Test Access Trunk of Port 1 (RT1T)	TELCO/INST	DLP-530
	5. ROTL Port Access Circuit Unsecured (RPCU)	TELCO/INST	DLP-530
6	Perform Preliminary Installation Activities	INST	—
7	Install ROTL Unit in Growth ROTL Frame	INST	—
8	Assure That Fuses Are Removed From Fuse Panel for Growth ROTL Unit	INST	—
	NOTE: Perform Items 9 through 11 without interruption		
9	Remove Fuse in Power Distribution Frame for Growth Associated ROTL Frame	TELCO	—
	(Continued on Page 2)		

ADD LOWER REMOTE OFFICE TEST LINE (ROTL) UNIT TO ROTL FRAME — SUPPORT TO INSTALLER (INST)

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

10	Install ds2 Terminal Strip and Associated Equipment at Growth Associated ROTL Frame Location 79	INST	—
11	Charge Filter Capacitor and Restore -48V Power to Growth Associated ROTL Frame	TELCO	DLP-529
12	Connect Intraframe Wiring for Growth ROTL Unit	INST	—
13	Connect and Verify Alarm Cables	INST	—
14	Connect and Verify Signaling Leads From Ringing and Tone Plant	INST	—
15	Connect and Verify Scan and SD Cables	INST	—
16	Connect and Verify Cables From Multifrequency Signaling Frame	INST	—
17	Insert All Fuses in Fuse Panel for Growth ROTL Unit	INST	—
18	If Metallic Trunk (MT) Units Have Not Been Installed for Growth ROTL Ports, Discontinue This Growth Procedure Until MT Units Have Been Installed in MT Frame, Aligned, and Tested	TELCO/INST	—
19	If Transmission Leads Are Connected to D4 Channel Bank, DSX 1, and Digital Terminal Frame Equipment, Complete Receiver and Transmit Level Adjustments on D4 Channel Bank Equipment	INST	—
20	Align Growth ROTL 52A Responder Using 52C Test Set	INST	—
21	Set All Operational Office ROTL Unit Trunks to CAD Lock-Out State and Verify	TELCO	DLP-531
22	Set Growth ROTL Unit Trunks to Active State (SET:TRKSTAT ACT,CIN aATM*RTOA!)	TELCO	DLP-532
23	Perform Test on Growth ROTL Unit Using ITE 5462 Test Set and Local Office 105 Test Line	INST	—
24	Perform Test on Growth ROTL Unit Using ITE 5462 Test Set and Far-End Office 105 Test Line	INST	—
25	Align Growth ROTL Unit Attenuator Pads	INST	—
26	Set All Operational ROTL Port Access Circuit (RPAC) Trunks to CAD Disable State and Verify	TELCO	DLP-533
27	Set One RPAC Trunk Associated With Growth ROTL Unit to Active State (SET:TRKSTAT ACT,CIN aATM*RPCU!)	TELCO	DLP-534
	(Continued on Page 3)		

ADD LOWER REMOTE OFFICE TEST LINE (ROTL) UNIT TO ROTL FRAME — SUPPORT TO INSTALLER (INST)

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

28	Test CAROT/ROTL Compatibility or Manual Test Position/ROTL Compatibility for RPAC Trunk Activated in Item 27:		
	A. Arrange for CAROT Center To Exercise CAROT/ROTL Compatibility Test, Using Far-End Office 105 Test Line, for RPAC Trunk Activated in Item 27	TELCO/INST	DLP-535
	B. Arrange for Associated Remote Office Manual Test Position To Exercise Compatibility Test, Using Far-End Office 105 Test Line, for RPAC Trunk Activated in Item 27	TELCO/INST	DLP-536
29	Set RPAC Trunk Activated in Item 27 to CAD Disable State and Verify	TELCO	DLP-537
30	Set Remaining RPAC Trunk Associated With Growth ROTL Unit to Active State (SET:TRKSTAT ACT,CIN aATM*RPCU!)	TELCO	DLP-534
31	Test CAROT/ROTL Compatibility or Manual Test Position/ROTL Compatibility for RPAC Trunk Activated in Item 30:		
	A. Arrange for CAROT Center To Exercise CAROT/ROTL Compatibility Test, Using Far-End Office 105 Test Line, for RPAC Trunk Activated in Item 30	TELCO/INST	DLP-535
	B. Arrange for Associated Remote Office Manual Test Position To Exercise Compatibility Test, Using Far-End Office 105 Test Line, for RPAC Trunk Activated in Item 30	TELCO/INST	DLP-536
32	Set All Office RPAC Trunks to Active State and Verify	TELCO	DLP-539
33	Set All Office ROTL Unit Trunks to Active State and Verify	TELCO	DLP-540

ADD LOWER REMOTE OFFICE TEST LINE (ROTL) UNIT TO ROTL FRAME – SUPPORT TO INSTALLER (INST)

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Verify Status of 105 Test Line Trunk (VER:TRK:CIN a!)	TELCO/INST	DLP-530
6	Perform Preliminary Installation Activities	INST	—
7	Install 105 Test Line in Growth Remote Office Test Line (ROTL) Frame	INST	—
8	Assure That Fuses Are Removed From Fuse Panel for Growth 105 Test Line	INST	—
	NOTE: Perform Items 9 through 11 without interruption		
9	Remove Fuse in Power Distribution Frame for Growth Associated ROTL Frame	TELCO	—
10	Install TST/LN Terminal Strip, Relays, and Associated Equipment at Growth Associated ROTL Frame Location 79	INST	—
11	Charge Filter Capacitor and Restore -48V Power to Growth Associated ROTL Frame	TELCO	DLP-529
12	Connect Intraframe Wiring for Growth 105 Test Line	INST	—
13	Connect and Verify Scan and SD Cables	INST	—
	(Continued on Page 2)		

ADD 105 TEST LINE TO REMOTE OFFICE TEST LINE FRAME — SUPPORT TO INSTALLER (INST)

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

14	Connect and Verify Cables From Multifrequency Signaling Frame	INST	-
15	Insert All Fuses in Fuse Panel for Growth 105 Test Line	INST	-
16	If Transmission Leads Are Connected to D4 Channel Bank, DSX 1, and Digital Terminal Frame Equipment, Complete Receiver and Transmit Level Adjustments on D4 Channel Bank Equipment	INST	-
17	Set All Office 105 Test Lines to CAD Lock-Out State and Verify	TELCO	DLP-545
18	Set Growth 105 Test Line to Active State (SET:TRKSTAT ACT,TAN a!)	TELCO	DLP-555
19	Perform Local Office Test on Growth 105 Test Line Using ITE 5462 Test Set	INST	-
20	Arrange for a Far-End Office To Exercise ROTL Compatibility Test With Local Office on Growth 105 Test Line	TELCO/INST	DLP-556
21	Set All Office 105 Test Lines That Are Set in CAD Lock-Out State to Active State and Verify	TELCO	DLP-558

ADD 105 TEST LINE TO REMOTE OFFICE TEST LINE FRAME - SUPPORT TO INSTALLER (INST)

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

		RESPONSIBILITY	
	<p>WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling.</p> <p>2. No other growth or maintenance activity is allowed during this procedure</p>		
	<p>NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary</p> <p>2. This procedure must be performed during light traffic periods</p> <p>3. 4ESS™ switch operation must be closely monitored while performing this procedure</p> <p>4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS)</p> <p>5. Stability of office must be maintained throughout this procedure</p>		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Verify Network Management Dynamic Overload Control (DOC) Transceiver UT Translator and Compare Translations Data Against Office Records:		
	1. Verify Network Management DOC Transmitter UT Translator (VER:UTYPE:DOCT 0!)	TELCO/INST	DLP-561
	2. Compare Translations Data Against Wiring Records	INST	—
6	Assure That Fuses Are Removed for DOC Transceiver Unit To Be Added	INST	—
7	Assure That Power Switch on Growth DOC Transceiver Unit Is Set to Off	INST	—
8	Install DOC Transceiver Unit in Network Management Display Control (NMDC) Frame	INST	—
9	In Added DOC Transceiver Unit, Assure That FB588 Circuit Packs Switches Are Set to Transmit Position	INST	—
	(Continued on Page 2)		

**ADD DOC TRANSCEIVER UNIT AS TRANSMITTER TO NMDC
FRAME — SUPPORT TO INSTALLER (INST)**

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

10	Complete Connections for Transmit and Acknowledge Signaling:		
	A. If Added DOC Transceiver Modules Are Used With 43A1 Data Set and Carrier Telegraph Interface (CTI) Unit To Be Added Is First CTI Unit in NMDC Frame, Unit 0:		
	1. Install 43A1 CTI Unit 00 in NMDC Frame Equipment Location 064-00	INST	—
	2. Install Fuse Panel (J4A011AH-1) in NMDC Frame	INST	—
	3. Assure That All Fuses Are Removed From Fuse Panel Added in Item 10.A.2	INST	—
	4. Connect Cabling Between Added Fuse Panel and Each CTI Equipment Location in NMDC Frame	INST	—
	NOTE: Items 10.A.5 through 10.A.10 should be performed quickly and without interruption because +24V will be removed from NMDC frame		
	5. Remove Power on Each Operational Unit in NMDC Frame Using Unit Power Switch	TELCO	DLP-566
	6. At PD Frame, Remove +24 VA and +24 VB Fuses Supplying Growth NMDC Frame	TELCO	—
	7. Connect Cabling Between Added Fuse Panel (J4A011AH-1) and Filter Unit	INST	—
	8. Replace PD Frame Fuses Removed in Item 10.A.6	TELCO	—
	9. Charge Filter Capacitors and Restore +24V Power to NMDC Frame	TELCO	DLP-562
	10. Restore Power on Each Operational Unit in NMDC Frame Except Growth Transmitter Unit	TELCO	DLP-565
	11. Connect Cabling Between Added CTI Unit and Added DOC Transceiver Modules	INST	—
12. Connect Cabling Between Added CTI Unit and 43A1 Data Set	INST	—	
13. Install Fuse u00 in Added Fuse Panel (J4A011AH-1)	TELCO	DLP-564	
(Continued on Page 3)			

**ADD DOC TRANSCEIVER UNIT AS TRANSMITTER TO NMDC
FRAME — SUPPORT TO INSTALLER (INST)**

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

10 (Contd)	B. If Added DOC Transceiver Modules Are Used With 43A1 Data Set and CTI Unit(s) To Be Added Are 1 Through 19:		
	1. Assure That Fuses Are Removed for CTI Unit(s) To Be Added	INST	—
	2. Install 43A1 CTI Unit(s) in NMDC Frame	INST	—
	3. Connect Cabling Between Added CTI Unit(s) and Added DOC Transceiver Modules	INST	—
	4. Connect Cabling Between Added CTI Unit(s) and 43A1 Data Set(s)	INST	—
	5. Install Fuse(s) for Added CTI Unit(s) in Fuse Panel (J4A011AH-1)	TELCO	DLP-564
	C. If Added DOC Transceiver Modules Are Used With 43B1, 108D, 108E, 109E, or 109H Data Sets: Connect Transmit and Acknowledge Cabling Between Added DOC Transceiver Modules and Data Sets	INST	—
	D. If Added DOC Transceiver Modules Are Used With Balanced Loop and Loop Resistance Is Less Than 4500 Ohms: Connect Transmit Leads WXYTA and WXYTB and Acknowledge Leads WXYRR and WXYOR to Applicable Transmission Equipment	INST	—
E. If Added DOC Transceiver Modules Are Used With E and M Signaling and Balanced Loop Resistance Is Greater Than 4500 Ohms: Connect Transmit and Acknowledge Cabling Between Added DOC Transceiver Modules and E and M Applique	INST	—	
11	Connect Cabling From Added DOC Transceiver Unit to:		
	1. DOC Transceiver Unit 0	INST	—
	2. Fuse Panel (J4A011AD-1)	INST	—
	3. Control Panel	INST	—
	4. Signal Processor	INST	—
12	Recent Change Network Management DOC Transmitter Equipage to Operational (Using RC Form 801) and Verify	TELCO	DLP-568
13	Install Fuses for Added DOC Transceiver	TELCO	DLP-563
	(Continued on Page 4)		

**ADD DOC TRANSCEIVER UNIT AS TRANSMITTER TO NMDC
FRAME — SUPPORT TO INSTALLER (INST)**

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

14	Power Up Added DOC Transceiver Unit Using Power Switch	TELCO	DLP-565
15	Perform DOC Transceiver Tests:		
	1. MC1 and MC2 Transmitting Test	TELCO/INST	DLP-569
	2. MC3 Loop Test	TELCO/INST	DLP-570

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

		RESPONSIBILITY	
	<p>WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling.</p> <p>2. No other growth or maintenance activity is allowed during this procedure</p>		
	<p>NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary</p> <p>2. This procedure must be performed during light traffic periods</p> <p>3. 4ESS™ switch operation must be closely monitored while performing this procedure</p> <p>4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS)</p> <p>5. Stability of office must be maintained throughout this procedure</p>		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Remove Power on Growth Associated Dynamic Overload Control (DOC) Transceiver Unit With Power Switch	TELCO	DLP-566
6	If Growth DOC Transceiver Is Used in Transmit Mode (Unit 0, 1, 2, or 3):		
	1. Set Switches on FB588 Circuit Packs to Transmit Position	INST	—
	2. Install Circuit Packs in Growth Associated DOC Transceiver Unit	INST	—
7	If Growth DOC Transceiver Is Used in Receive Mode (Unit 4):		
	1. Set Switch on FB588 Circuit Packs to Receive Position	INST	—
	2. Install Circuit Packs in Growth Associated DOC Transceiver Unit	INST	—
	(Continued on Page 2)		

**ADD DOC TRANSCEIVER MODULES TO DOC TRANSCEIVER UNIT —
SUPPORT TO INSTALLER (INST)**

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

8	Complete Connections for Transmit and Acknowledge Signaling:		
	A. If Growth DOC Transceiver Modules Are Used With 43A1 Data Set and Carrier Telegraph Interface (CTI) Unit To Be Added Is First CTI Unit in NMDC Frame, Unit 0:		
	1. Install 43A1 CTI Unit 00 in NMDC Frame Equipment Location 046-00	INST	—
	2. Install Fuse Panel (J4A011AH-1) in NMDC Frame	INST	—
	3. Assure That All Fuses Are Removed From Fuse Panel Added in Item 8.A.2	INST	—
	4. Connect Cabling Between Added Fuse Panel and Each CTI Equipment Location in NMDC Frame	INST	—
	NOTE: Items 8.A.5 through 8.A.10 should be performed quickly and without interruption because +24V will be removed from NMDC frame		
	5. Remove Power on Each Operational Unit in NMDC Frame Using Unit Power Switch	TELCO	DLP-566
	6. At PD Frame, Remove +24 VA and +24 VB Fuses Supplying Growth Associated NMDC Frame	TELCO	—
	7. Connect Cabling Between Added Fuse Panel (J4A011AH-1) and Filter Unit	INST	—
	8. Replace PD Frame Fuses Removed in Item 8.A.6	TELCO	—
	9. Charge Filter Capacitors and Restore +24V Power to NMDC Frame	TELCO	DLP-562
	10. Restore Power on Each Operational Unit in NMDC Frame Except Growth Associated Transmitter Unit	TELCO	DLP-565
	11. Connect Cabling Between Added CTI Unit and Added DOC Transceiver Modules	INST	—
12. Connect Cabling Between Added CTI Unit and 43A1 Data Set	INST	—	
13. Install Fuse U00 in Added Fuse Panel (J4A011AH-1)	TELCO	DLP-564	
(Continued on Page 3)			

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

8 (Contd)	B. If Added DOC Transceiver Modules Are Used With 43A1 Data Set and CTI Unit(s) To Be Added Are 1 Through 19:		
	1. Assure That Fuses Are Removed for CTI Unit(s) To Be Added	INST	—
	2. Install 43A1 CTI Unit(s) in NMDC Frame	INST	—
	3. Connect Cabling Between Added CTI Unit(s) and Added DOC Transceiver Modules	INST	—
	4. Connect Cabling Between Added CTI Unit(s) and 43A1 Data Set(s)	INST	—
	5. Install Fuse(s) for Added CTI Unit(s) in Fuse Panel (J4A011AH-1)	TELCO	DLP-564
	C. If Growth DOC Transceiver Modules Are Used With 43B1, 108D, 108E, or 109H Data Sets: Connect Transmit and Acknowledge Cabling Between Growth DOC Transceiver Modules and Data Sets	INST	—
	D. If Growth DOC Transceiver Modules Are Used With Balanced Loop and Loop Resistance Is Less Than 4500 Ohms: Connect Transmit Leads WXYTA and WXYTB and Acknowledge Leads WXYRR and WXYOR to Applicable Transmission Equipment	INST	—
E. If Growth DOC Transceiver Modules Are Used With E and M Signaling and Balanced Loop Resistance Is Greater Than 4500 Ohms: Connect Transmit and Acknowledge Cabling Between Added DOC Transceiver Modules and E and M Applique	INST	—	
9	Restore Power on Growth Associated DOC Transceiver Unit With Power Switch	TELCO	DLP-565
10	If Modules Were Added to DOC Transceiver Unit 0, 1, 2, or 3, Perform Following Tests:		
	1. MC1 and MC2 Transmitting Tests	TELCO/INST	DLP-569
	2. MC3 Loop Test	TELCO/INST	DLP-570
11	If Modules Were Added to DOC Transceiver Unit 4, Perform DOC Receive Test:		
	1. Request Far-End Office Personnel To Perform MC1 and MC2 Transmitting Tests	TELCO/INST	—
	2. Assure That DOC MC1 and MC2 Transmitting Tests Are Completed	TELCO/INST	—

**ADD DOC TRANSCEIVER MODULES TO DOC TRANSCEIVER UNIT —
SUPPORT TO INSTALLER (INST)**

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

		RESPONSIBILITY	
	<i>WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling. 2. No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Install Network Management Display (NMD) (Console) or (Wall) Panel	INST	—
6	Remove Power on Network Management Remote and Distribution (NMR&D) Unit Using Power Switch	TELCO	DLP-566
7	Install Circuit Packs in NMR&D Unit	INST	—
8	Connect and Verify Interframe Communication Cabling	INST	—
9	Connect System Status Cabling Between NMR&D Unit and Added NMD (Console) or (Wall) Panel	INST	—
10	Restore Power on NMR&D Unit Using Power Switch	TELCO	DLP-565
11	Connect +24V (A and X or B and Y) Cabling Between Fuse Panel on NMDC Frame and Added NMD (Console) or (Wall) Panel	INST	—
12	Remove Dummy Fuses and Install Fuses in Fuse Panel (J4A011AE and J4A011AF) at NMDC Frame for Added NMD Panel	INST	—
	(Continued on Page 2)		

ADD NETWORK MANAGEMENT DISPLAY PANEL TO NMDC FRAME — SUPPORT TO INSTALLER (INST)

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

13	Perform DOC Transceiver Tests:		
	1. MC1 and MC2 Transmitting Test	TELCO/INST	DLP-569
	2. MC3 Loop Test	TELCO/INST	DLP-570

ADD NETWORK MANAGEMENT DISPLAY PANEL TO NMDC FRAME – SUPPORT TO INSTALLER (INST)

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Install E2A Telemetry Remote Unit in Network Management Display Control (NMDC) Frame	INST	—
	NOTE: Items 6 through 10 should be performed quickly and without interruption because removal of power disables existing network management display panel		
6	Remove Power on Network Management Remote and Distribution (NMR&D) Unit Using Power Switch	TELCO	DLP-566
7	Connect Cabling Between NMR&D Unit and Added E2A Telemetry Unit	INST	—
8	Restore Power on NMR&D Unit Using Power Switch	TELCO	DLP-565
9	Remove Dummy Fuses and Install Fuses TN and TP in Fuse Panel (J4A011AE-1) at NMDC Frame	INST	—
10	If E2A Telemetry Remote Unit Has Transmission Equipment Ready for Test, Perform Following Tests:		
	1. DOC MC1 and MC2 Transmitting Test	TELCO/INST	DLP-569
	2. DOC MC3 Loop Test	TELCO/INST	DLP-570

ADD E2A TELEMETRY REMOTE UNIT TO NMDC FRAME — SUPPORT TO INSTALLER (INST)

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

		RESPONSIBILITY	
	<i>WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling. 2. No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Assure that Miscellaneous Frame C (MCF) Power Verification Test Has Been Completed	INST	—
6	Remove All Power From Growth MCF (by Removing MCF Fuses and MCF Dedicated Power Distribution Frame Fuses)	INST	—
7	Verify MCF Unit Type (UT) Translator and Compare Translations Data Against Office Records:		
	1. Verify MCF UT Translator	TELCO/INST	DLP-541
	2. Compare Translations Data Against Wiring Records	INST	—
8	Connect and Verify Interframe Communication Cabling to TEL and TTY Connectors	INST	—
9	Test TTY Beltlines	TELCO/INST	—
10	Install Fuses Removed in Item 6	INST	—
	(Continued on Page 2)		

**ADD MISCELLANEOUS FRAME C WITH CONTINUITY CHECK
TRANSCEIVER (CCT) UNIT — SUPPORT TO INSTALLER (INST)**

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

11	Recent Change MCF Member Equipage From Unequipped to Operational; Using RC Form 801 and the Following Parameters, Perform Functional Word Change of UT Translator Word; Then Verify 1. WORDNO 0 2. SIZE 2 3. DISP 22 4. BINOCT B 5. NEWDATA 11 6. OLDDATA 00	TELCO	DLP-568
12	Verify CCT Unit Type (UT) Translator and Compare Translations Data Against Office Records:		
	1. Verify CCT UT Translator	TELCO/INST	DLP-505
	2. Compare Translations Data Against Wiring Records	INST	—
13	At CCT Unit, Connect Power and Run Power Tests	INST	—
14	Connect Private Signal and Transmission Leads	INST	—
15	Verify Power Switch Leads and Then Apply Power Using Power Switch	INST	—
16	Change CCT Member Equipage From Unequipped to Operational; Using RC Form 801 and the Following Parameters, Perform Functional Word Change of UT Translator Word; Then Verify 1. WORDNO 0 2. SIZE 2 3. DISP 22 4. BINOCT B 5. NEWDATA 11 6. OLDDATA 00	TELCO	DLP-568
17	Remove CCT Power Using Power Switch (Turn OFF Switch ROS, Then Depress)	TELCO	—
18	Install Circuit Packs	INST	—
19	Restore Power to CCT Using Power Switch	TELCO	DLP-565
	(Continued on Page 3)		

**ADD MISCELLANEOUS FRAME C WITH CONTINUITY CHECK
 TRANSCEIVER (CCT) UNIT — SUPPORT TO INSTALLER (INST)**

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

20	Change CCT Submember Equipage From Unequipped to Operational; Using RC Form 801 and the Following Parameters, Perform Functional Word Change of UT Translator Word; Then Verify 1. WORDNO a (a = 3 for transceivers 00-05 or 4 for transceivers 06-11) 2. SIZE 2 3. DISP 17 4. BINOCT B 5. NEWDATA 11 6. OLDDATA 00	TELCO	DLP-568
21	Set Status of Tranceivers to Circuit Administration (CAD) Lock-Out State	TELCO	DLP-506
22	Test Added Transceivers	TELCO/INST	DLP-507
23	Set Status of Transceivers to Active State	TELCO	DLP-508
24	If Other CCT Submember (Transceivers 06-11) Is To Be Added at This Time, Repeat From Item 17	TELCO/INST	-
25	If Additional CCT Units Are To Be Added to Miscellaneous Frame C, Complete Procedures Contained in NTP-004	TELCO/INST	-

**ADD MISCELLANEOUS FRAME C WITH CONTINUITY CHECK
 TRANSCEIVER (CCT) UNIT – SUPPORT TO INSTALLER (INST)**

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	<p>NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary</p> <p>2. This procedure must be performed during light traffic periods</p> <p>3. 4ESS™ switch operation must be closely monitored while performing this procedure</p> <p>4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS)</p> <p>5. Stability of office must be maintained throughout this procedure</p> <p>6. The control area and the position number make up the test position (TPOS) member number. For example, control area 2 and position 5 would be test position 25</p>		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	If 51A Test Position Is Being Degrown Because of RMS-D2 Conversion, Go to Item 19	TELCO/INST	—
6	At TCA Channel, Enter Message To Reroute Termination of Incoming 101 Calls Destined for 51A TPOS To Be Degrown to Different TPOS (RTE:TP a;TP b!) a = Member Number of the Degrowth 51A TPOS b = Member Number of the TPOS to Which Incoming 101 Calls Are To Be Transferred	TELCO/TOC	—
7	At Degrowth TTP Channel, Enter 001/ab to Log-Off DATASPEED 40/4 TTP Channel a = Control Area b = Position Number in Control Group	TELCO/TOC	—
8	Enter Message To Obtain List of TSGs Assigned to Degrowth 51A TPOS (VER:TSGLIST:CAREA a,CPOS b!) a = Control Area Associated With Degrowth 51A TPOS b = Degrowth 51A Position Within Control Area	TELCO/MAC	—
	(Continued on Page 2)		

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

	NOTE: All test positions might not have the optional equipment required to satisfactorily test some TSGs		
9	Reassign All TSGs Assigned to Degrowth 51A TPOS to Different TPOS With Same Optional Equipment Using RC Form 107, 108, or 109 for Message TSGs or RC Forms 106 and 103 for Voice Frequency Link (VFL) TSGs	TELCO/MAC	—
	NOTE: Due to the complexity of reassigning VFL trunk subgroups, consideration should be given to changing the degrowth test position to one which has no VFL TSG(s) assigned		
10	Verify That Degrowth 51A TPOS Has No TSGs Assigned to it (VER:TSGLIST:CAREA a,CPOS b!) a = Control Area Associated With 51A TPOS Degrowth, b = Degrowth 51A Position	TELCO/TOC	—
	<i>CAUTION: If degrowth test position is to be maintained as a pseudo test position, procedures in Items 7, 8, and 9 shall be executed as directed by local requirements</i>		
11	Change TSG Responsibility From Degrowth 51A TPOS to Different TPOS Using Procedures Outlined in TOP 234-152-051	TELCO/MAC	—
12	Obtain TSGLST (Trunk Subgroup List) From CMSMC and Verify That Degrowth 51A TPOS Is No Longer Responsible for Any TSGs in CMS	TELCO/MAC	—
13	At Control Position Associated With Degrowth 51A TPOS:		
	1. Obtain 900 Display	TELCO/TOC	—
	2. Reassign Work (Circuit Orders) Identified on Page 206 Using 902 Command	TELCO/TOC	—
	3. Reassign Work (Trouble Tickets and Routines) Identified on Pages 201, 202, 203, 204, 205, and 207 Using 903 Command	TELCO/TOC	—
	4. Obtain New 900 Display and Verify That Degrowth TPOS Does Not Have Any Work Assigned to It	TELCO/TOC	—
	(Continued on Page 3)		

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

14	<p>Inform CAROT 2 Center of Pending 51A TPOS Removal and Request Changes Be Made, As Required, to CAROT 2 Data File Records Listed Below:</p> <ul style="list-style-type: none"> • Control Office for Trunks (CT) Record • Control Office for Facilities (CF) Record • ROTL Control Office For Trunks (RC) Record <p>Refer to 190-102-203 for Precautions and Additional Information Regarding These Changes</p>	TELCO	—
15	<p>At TCA Channel, Obtain Printout of UT Translation Data for Degrowth 51A TPOS (VER:UTYPE:TPOS a!) a = Degrowth 51A TPOS Member Number (2 Digits)</p>	TELCO/TOC	—
16	<p>At TCA Channel, Set TATs Assigned to Degrowth 51A TPOS to CAD Disabled State and Verify (SET:TRKSTAT CAD.DSA,TSN 0'a:NUM 3!) a = Octal TSN Value Found in Word 3, Bits 0 Through 16 of Translations Data Obtained in Previous Item</p>	TELCO/TOC	—
	<p>NOTE: All TSNs assigned to degrowth 51A TPOS must be in CAD.DSA state in output messages of Item 16 before continuing with this procedure</p>		
17	Delete Degrowth 51A TPOS As Alternate for Other Test Positions	TELCO/MAC	DLP-567
18	Use RC Form 701 to Degrow Member Equipage From Operational to Unequipped	TELCO/MAC	DLP-500
19	Remove Power From Degrowth 51A TPOS:		
	1. Locate -48V BDFB/-48V Power Plant (625B Type) Fuse Supplying -48V to Degrowth 51A TPOS	INST	—
	2. Locate +24V Power Plant (620A Type) Fuse Supplying +24V to Degrowth 51A TPOS	INST	
	3. Locate Circuit Breaker Supplying 115V AC to Degrowth 51A TPOS	INST	—
	4. If More Than One Test Position Is Supplied Through Same -48v and +24v Fuse, and 115V AC Circuit Breaker, Temporarily Cease Operations at These Positions Before Proceeding	TELCO/TOC	—
	(Continued on Page 4)		

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

19 (Contd)	<i>CAUTION: If -48V BDFB/-48V Power Plant (625B Type) fuse is equipped with separately mounted alarm fuse, remove alarm fuse first.</i>		
	NOTE: The decision to disconnect or leave in place power supply cables for degrowth 51A should be as directed by office supervisor and/or office engineer. In any case, office records shall be updated to reflect the change in fuse designation.		
	5. At -48V BDFB/-48V Power Plant (625B Type) and +24V Power Plant (620A Type) Fuse Locations, Remove Fuses or Set Circuit Breakers to Open Position	TELCO/INST	-
	6. Open Circuit Breaker Supplying 115V AC to Degrowth 51A TPOS	TELCO/INST	-
	7. Carefully Disconnect -48V Cable From Ground and Load Side of Respective Fuse Post	INST	-
	8. Carefully Disconnect +24V Cable From Ground and Load Side of Respective Fuse Post	INST	-
	9. Disconnect 115V AC Supply Cable From Degrowth 51A TPOS	INST	-
	10. If Other Test Positions Are Supplied Through Fuses Removed or Circuit Breakers Opened, Restore Power to These Positions Whose Power Was Removed in Items 19.5 and 19.6	INST	-
11. Operation of These Test Positions May Now Resume	TELCO/TOC	-	
20	Disconnect All Incoming Cabling From Position Connector Panel at Degrowth TPOS Console	INST	-
21	Disconnect TTP Channel Power Cord and Data Cable	INST	-
22	Disconnect -48V and +24V Cables From Position Console	INST	-

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

		RESPONSIBILITY	
	<p>WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling.</p> <p>2. No other growth or maintenance activity is allowed during this procedure</p>		
	<p>NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary</p> <p>2. This procedure must be performed during light traffic periods</p> <p>3. 4ESS™ switch operation must be closely monitored while performing this procedure</p> <p>4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS)</p> <p>5. Stability of office must be maintained throughout this procedure</p> <p>6. Remote Measurement System-Digital 2 (RMS-D2) equipment must be installed and operational</p> <p>7. Circuit Maintenance System (CMS) must be running on 1CMS10 generic or later</p> <p>8. Unit Type (UT) entries for RMS-D2 test positions must be provided in ODA prior to test position growth</p> <p>9. Digital Service test line (DS-1 interface) assignments [Test Access Trunks (TATs) and service circuits] must be provided in ODA prior to RMS-D2 growth</p> <p>10. Two TCA channels, one for each RMS-D2, must be grown in input/output processor per 234-153-010. See DLP-573, in this practice, for typical channel and port data</p> <p>11. Close coordination, between CMS, MOC, and TOC, must be maintained during this procedure</p> <p>12. Two 9600 BPS private lines (BX.25 level 3 permanent virtual circuit), one for each RMS-D2, must be installed between CMS and RMS-D2 and tested per local practice</p> <p>13. 51A test position terminals, linked to CMS, must be modified to 9600 BPS</p> <p>14. Each trunk work station must have two types of voiceband link telephone sets connected through a private branch exchange to RMS-D2 frames (2-way handset and receive only speaker phone)</p>		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	-
	(Continued on Page 2)		

**CONVERT TO REMOTE MEASUREMENT SYSTEM-DIGITAL 2 (RMS-D2) -
SUPPORT TO INSTALLER (INST)**

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

2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Verify CINs Assigned to DS-1 Interfaces for RMS-D2 Frame 1. Save Printout for Later Use (OP:TRKSTAT,CIN 1a00CLN*TAT****:CAR!)	TELCO	DLP-571
6	Verify CINs Assigned to DS-1 Interfaces for RMS-D2 Frame 2. Save Printout for Later Use (OP:TRKSTAT,CIN 2a00CLN*TAT****:CAR!)	TELCO	DLP-571
7	Verify UT Translator (TPOS) for One Test Position To Be Added. Record TSN Value in Word 3 (VER:UTYPE:TPOS ab!)	TELCO/INST	DLP-572
8	Using Printout From Item 7, Compare Translations Data Against Wiring Records	INST	—
9	Verify That TAT 0 and TAT 1 Are Assigned to Test Position (Item 7) To Be Added (VER:TRKNAME,TSN 0'a!)	TELCO	DLP-575
10	Repeat Items 7 Through 9 for Each Test Position To Be Added	TELCO/INST	—
11	Ensure That Alarm Cables Are Connected Between RMS-D2 Frames and Office Alarms	INST	—
12	Using Office Drawing T-nnnn-Hn-407, Determine Crossconnect Assignments at DSX-1 for DS-1 Interface (n = Office Unique Drawing Identification Number)	INST	—
13	At DSX-1, Crossconnect Between Facility Port (DIU) and RMS-D2 Frame 1	INST	—
14	At DSX-1, Crossconnect Between Facility Port (DIU) and RMS-D2 Frame 2	INST	—
15	Activate DS-1 Interface Channels 17 Through 24 on RMS-D2 Frame 1 That Are Not Active (Channels 17 Through 24 Recorded in Item 5) (SET:TRKSTAT ACT,CIN a!)	TELCO	DLP-576
16	Activate DS-1 Interface Channels 17 Through 24 on RMS-D2 Frame 2 That Are Not Active (Channels 17 Through 24 Recorded in Item 6) (SET:TRKSTAT ACT,CIN a!)	TELCO	DLP-576
17	Ensure That TN1187 Circuit Pack (Digital Remote Test Port) Is Installed in RMS-D2 Frames 1 and 2 at 39-148 Location	INST	—
	(Continued on Page 3)		

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

18	Recent Change and Verify TPOS Member Equipage for One Test Position To Be Added From UNEQ to GROW	TELCO	DLP-502
19	Recent Change and Verify TPOS Member Equipage for Test Position (Item 18) From GROW to SGRO	TELCO	DLP-502
20	Recent Change and Verify TPOS Member Equipage for Test Position (Item 18) From SGRO to OPER	TELCO	DLP-502
21	Enter INIT:TPDT! To Initialize Test Position Directory Table	TELCO	—
22	Activate TAT 0 and TAT 1 Assigned to Test Position (Item 18) (SET:TRKSTAT ACT,TSN 0'a:NUM 2!)	TELCO	DLP-577
23	Enter SET:TP ab;ON! To Set Attended Status for Test Position (Item 18) to Attended	TELCO	—
24	Enter OP:TPMAP! and Verify That Test Position (Item 18) Is Listed in Printout	TELCO/INST	—
25	Repeat Items 18 through 24 for Each Test Position To Be Added	TELCO/INST	—
26	Request TOC To Perform Acceptance Tests on RMS-D2 Frames	TELCO/INST	—
	NOTE: Satisfactory acceptance test results must be received before continuing		
27	Request TOC To Reroute Incoming 101 Calls From 51A Test Positions To Be Removed to RMS-D2 Test Positions (RTE:TP ab;TP cd!)	TELCO	—
	NOTE: 51A test positions must not be degrown to unequipped state at this time. These test positions will be degrown in ODA during generic retrofit or ODA update. 51A test positions can be disconnected and removed as long as 101 calls are routed to RMS-D2		
28	If 51A Test Positions Are To Be Removed, Perform Degrow 51A Test Position Procedure. Continue This Procedure at Item 29 Upon Completion	TELCO/INST	—
29	If ROTL Frames Are To Be Removed, Perform Degrow ROTL Frame Procedure	TELCO/INST	—

**CONVERT TO REMOTE MEASUREMENT SYSTEM-DIGITAL 2 (RMS-D2) —
SUPPORT TO INSTALLER (INST)**

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. This procedure may be used for MF Signaling (MFS) frame not equipped with MF test circuits		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Determine From Company Order, MFS Frame To Be Degrown and Associated SP1 and DIU, DTU, or VIU, As Required	TELCO/INST	—
6	Set Receiver and Transmitter Circuits for Degrowth MFS Frame to CAD.DSA State (SET:TRKSTAT CAD.DSA,CIN aabb SVC* c *;SUM:NUM 32!	TELCO	DLP-578
7	Verify Disabled Status of Equipped MFS Transmitter and Receiver Circuits Assigned to Degrowth MFS Frame (OP:TRKSTAT,CIN aabb SVC* c *;SUM:NUM 32,STAT CAD.DSA!)	TELCO	DLP-524
8	Verify DIU, DTU, or VIU Number Interconnected to Degrowth MFS Circuits (VER:TRKNAME,CIN aabb SVC* c *!)	TELCO	DLP-579
9	Recent Change and Verify Member Equipage of Degrowth MFS From OPER to SGRO (Degrow) Using RC Form 701	TELCO	DLP-500
	(Continued on Page 2)		

**DEGROW MULTIFREQUENCY SIGNALING FRAME — SUPPORT TO
INSTALLER (INST)**

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

10	Recent Change and Verify Member Equipage of Degrowth MFS From SGRO to GROW (Degrow) Using RC Form 701	TELCO	DLP-500
11	Recent Change and Verify Member Equipage of Degrowth MFS From GROW to UNEQ (Degrow) Using RC Form 701	TELCO	DLP-500
12	At Degrowth MFS Frame, Remove Alarm and Power Fuses	INST	—
13	Remove -48V Power From Degrown MFS Frame at Power Distribution Frame	INST	—
14	If Degrowth MFS Circuits Connect to DIF or DT Via D4 Channel Bank, Install Looping Devices at DSX for Degrowth MFS Circuits Assigned to DIU or DTU (Item 8)	INST	—
15	If DIU or DTU Was Removed From Service During Item 14, Restore Unit to Service (RST:DIF/DT a,DIU/DTU b!)	TELCO	—
16	Remove MFS Transmission Leads:		
	A. Remove Leads T, R, T1, R1 to Associated VIF Frame	INST	—
	B. Remove Leads T, R, T1, R1 to D4 Channel Bank and DSX	INST	—
17	Remove Alarm Wiring in Degrown MFS Frame. If MFS Frame Is in Middle of Lineup, Connect New Cable Between Remaining Frames To Bridge Open	INST	—
18	Remove Private Signal Leads (MSD and MSN Points)	INST/TELCO	—
19	Remove Cables Between MFS Frame and Associated SP Matrix Frame for MF Transmitters and Receivers (MSD and MSN)	INST/TELCO	—
20	If Degrown MFS Frame Provides 480 Hz for International Dialing, Remove Cable Pair Between Ringing and Tone Plant and Degrown MFS Frame	INST	—
21	Remove Common Circuits (Telephone Jacks, TTY Jacks, and Appliance Outlets) From Degrown MFS Frame	INST	—
	NOTE: If degrown MFS frame is to be removed from lineup, all signal and transmission leads for miscellaneous external circuits must be removed and recabled prior to MFS frame removal		
22	Remove Degrown MFS Frame From Lineup	INST	—

**DEGROW MULTIFREQUENCY SIGNALING FRAME — SUPPORT TO
INSTALLER (INST)**

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

		RESPONSIBILITY	
	<p><i>WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling.</i></p> <p><i>2. No other growth or maintenance activity is allowed during this procedure</i></p>		
	<p>NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary</p> <p>2. This procedure must be performed during light traffic periods</p> <p>3. 4ESS™ switch operation must be closely monitored while performing this procedure</p> <p>4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS)</p> <p>5. Stability of office must be maintained throughout this procedure</p>		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	–
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	–
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Determine From Company Order, Continuity Check Transceiver (CCT) Unit To Be Degrown	TELCO/INST	–
6	Set CCIS Type Trunks for Transceivers 00-05 and/or 06-11 in Degrowth CCT to CAD.DSA (SET:TRKSTAT CAD.DSA,CIN a0bSVC*XCVR:NUM c!)	TELCO	DLP-580
7	Verify Disabled Status of CCIS Type Trunks Assigned to Degrowth CCT (OP:TRKSTAT,CIN a0bSVC*XCVR:NUM c,STAT CAD.DSA!)	TELCO	DLP-581
	(Continued on Page 2)		

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

8	Perform Functional Word Change of CCT Translator Word; Then Verify Using RC Form 801 and the Following Parameters (Change CCT Submember Equipage From Operational to Unequipped): 1. WORDNO a (a = 3 for transceiver 00-05 or 4 for transceiver 06-11) 2. SIZE 2 3. DISP 17 4. BINOCT B 5. NEWDATA 00 6. OLDDATA 11	TELCO	DLP-568
9	Remove CCT Power Using Power Switch (Turn OFF Switch to ROS , Then Depress)	TELCO	-
10	Remove CCT Circuit Packs	INST	-
11	Perform Functional Word Change of CCT Translator Word; Then Verify Using RC Form 801 and the Following Parameters (Change CCT Member Equipage From Operatonal to Unequipped): 1. WORDNO 0 2. SIZE 2 3. DISP 21 4. BINOCT 0 5. NEWDATA 0 6. OLDDATA 6	TELCO	DLP-568
12	Remove CCT Transmission Leads:		
	A. Remove Leads T, R, T1, R1 to Associated VIF	INST	-
	B. Remove Leads T, R, T1, R1 to D4 Channel Bank, DSX 1, DTF, and/or DIF	INST	-
13	If Degrowth CCT Connects to DIF or DT Via D4 Channel Bank, Install Looping Devices at DSX for Degrowth CCT Transceivers	INST	-
	(Continued on Page 3)		

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

14	Remove Private Signal Leads	INST	
15	If Second Set of Transceivers (00-05 or 06-11), Repeat From Item 8	TELCO/INST	-

**DEGROW CONTINUITY CHECK TRANSCEIVER UNIT FROM MISCELLANEOUS
FRAME A OR C – SUPPORT TO INSTALLER (INST)**

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

		RESPONSIBILITY	
	<i>WARNING: No other growth or maintenance activity is allowed during this procedure</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS TM switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure 6. RMS-D2 frames must be grown before remote office test line (ROTL) frame is degrown		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
5	Determine From Company Order ROTL Frame Number To Be Degrown	TELCO	—
6	If ROTL Is Equipped With 105 Test Line(s), Set Degrowth ROTL 105 Test Line(s) to CAD.DSA State and Verify	TELCO	DLP-582
7	Set RPAC Trunks for Degrowth ROTL Frame to CAD.DSA State and Verify	TELCO	DLP-584
8	Set ROTL Unit Trunks for Degrowth ROTL Frame to CAD.DSA State and Verify	TELCO	DLP-583
9	Remove Fuses From Degrowth ROTL Frame	INST	—
10	Disconnect Degrowth ROTL Frame Transmission Leads	INST	—
11	Disconnect Scan and SD Cables	INST	—
12	Disconnect Signaling Leads From Ringing and Tone Plant	INST	—
	(Continued on Page 2)		

**DEGROW REMOTE OFFICE TEST LINE FRAME — SUPPORT
TO INSTALLER (INST)**

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

13	Disconnect Alarm Cables. If ROTL Frame Is in Middle of Lineup, Place New Cable Between Remaining Frames To Bridge Open	INST	-
14	Remove Frame Equipment From Floor	INST	-

**DEGROW REMOTE OFFICE TEST LINE FRAME - SUPPORT
TO INSTALLER (INST)**

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

		RESPONSIBILITY	
	<p>WARNINGS: 1. An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs and DROs (before ground strap is installed) while handling</p> <p>2. No other growth or maintenance activity is allowed during this procedure</p>		
	<p>NOTES: 1. Appropriate Input/Output Manuals must be used if clarification of input message or output message is necessary</p> <p>2. This procedure must be performed during light traffic periods</p> <p>3. 4ESS™ Switch operation must be closely monitored while performing this procedure</p> <p>4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS)</p> <p>5. Stability of office must be maintained throughout this procedure</p> <p>6. If problems are encountered and backout is required, Items 121 through 139 can be used as guidelines with assistance from appropriate support organization</p> <p>7. 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</p> <p>8. Maximum of two DROs can be exchanged per shift</p> <p>9. Office must be in 4E15 Release 4 or later generic</p>		
1	Notify Next Higher Technical Support Group That Functional Assignment for DIU Digroup Change Is Going To Be Performed. Obtain Information for Items 7 and 8 From Next Higher Technical Support Group	TELCO	—
2	Ensure 1B Processor Routine Exerciser (REX) Successfully Diagnosed 1B Processor Equipment Within 24 Hours of Performing This Procedure	TELCO	—
3	Ensure 4ESS ™ Switch Is in Stable Condition	TELCO	DLP-592
4	Ensure 1B Processor and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
	(Continued on Page 2)		

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

5	Perform Preliminary Installation Activities	INST	—
6	Verify That Sync Reference Signal Is Not Received From 39B Oscillator. Do Not Continue if Sync Reference Signal Is Received From 39B Oscillator	TELCO	—
7	Ensure That Each 39B Oscillator is Stable for a Period of 48 Hours Prior to Conversion	TELCO	—
8	Test DS1 Sync Reference Signal Level	TELCO	DLP-591
9	At MTC Channel, Enter Message INH:MACLI,CLASS MTCE;ALL! To Inhibit REX	TELCO	—
10	Enter Message STOP:TEST;PUSYS! To Terminate Routine Maintenance Tests on Peripheral System	TELCO	—
11	At MTC Channel, Enter Message OP:OOSUNITS! and Ensure None of Following Frames or Units Are Listed: <ul style="list-style-type: none"> • CC • PUB • TSI • TMS • SCLK • NCSU • NCLK Chains 0 Through 3 	TELCO	DLP-585
	NOTE: Do not continue until all above frames and units are in-service		
12	Using Associated Unit Power Switch, Diagnose Each Unit in Following Order: <ul style="list-style-type: none"> • NCLK Chain 3 • NCLK Chain 2 • NCLK Chain 1 • NCLK Chain 0 	TELCO	DLP-586
	NOTE: Items 13 through 21 are being performed to exchange NCSU firmware to support DRO		
13	At NCSU Power Switch, Rotate ROS/OFF Switch to ROS ; Ensure OS Lamp Lights	TELCO	—
14	At MTC Channel, Enter Message DGN:SCLK 0,NCSU 0! To Diagnose NCSU. No Diagnostic Failures Allowed on Phases Run	TELCO	—
15	At Each 39B Oscillator in NCLK Frame, Set STROBE Switch to DISABLE	TELCO	—
16	At NCSU Power Switch, Depress ROS/OFF Pushbutton; Ensure PWR OFF Lamp Lights	TELCO	—
17	At NCLK Frame Location 046-044, Remove FG58 Circuit Pack	INST	—

EXCHANGE 39B OSCILLATORS IN NCLK FRAME WITH DISCIPLINED RUBIDIUM OSCILLATORS (DROs) — SUPPORT TO INSTALLER (INST)

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

18	Install FG92 Circuit Pack (MC-4A067-01) at Location in Item 13	INST	—
19	Perform Recent Change for New Firmware Version	TELCO	DLP-587
20	At NCSU Power Switch, Depress ON Pushbutton To Restore Power (Leave ROS/OFF Switch in ROS Position)	TELCO/INST	—
21	At MTC Channel, Enter Message DGN:SCLK 0,NCSU 0:PH 1-7! To Diagnose Firmware Change. No Failures Allowed on Phases Run; Phase 1 CATP and Phases 2 Through 7 ATP Required	TELCO/INST	DLP-588
	<p>NOTES: 1. One clock chain at a time must be exchanged in following order: chain 3, chain 1, chain 2, and chain 0</p> <p>2. DRO exchange will take place over 2-night period. Chain 3 and chain 1 first night; chain 2 and chain 0 second night</p>		
22	At MTC Channel, Enter Message OP:OOSUNITS:NCLK! and Ensure No NCLK Chain Is Listed (Leave NCSU Out-of-Service). If any NCLK Chain Is Listed, Enter Message RST:NCLK 0,CHAIN a! (a = Chain Listed in Printout) for Each Chain Listed. Do Not Continue Until All NCLK Chains Are Restored	TELCO	DLP-589
23	Enter Message RMV:NCLK 0,CHAIN a! (a = 39B Oscillator Number Being Exchanged – 3, 1, 2, or 0) To Remove Chain From Service; Ensure RMV: NCLK 0, CHAIN a COMPL Message Is Received	TELCO	—
24	At NCLK CHAIN Power Switch (3, 1, 2, or 0) Associated With One 39B Oscillator Being Exchanged, Rotate ROS/OFF Switch to ROS ; Ensure OS Lamp Is On	TELCO	—
25	At MTC Channel, Enter Message RMV:NCLK 0,OSC a! (a = 39B Oscillator Number Being Exchanged – 3, 1, 2, or 0) To Remove 39B Oscillator From Service; Ensure RMV: NCLK 0, OSC a COMPL Message Is Received	TELCO	—
26	At NCLK CHAIN Power Switch (Item 20), Depress ROS/OFF Switch To Remove Power; Ensure PWR OFF Lamp Lights	TELCO	—
27	At 39B Oscillator Being Exchanged, Record LED Settings for Later Use if Backout Is Required	INST	—
28	At NCLK Frame Fuse Panel, Remove +24V and –48V Fuses Associated With 39B Oscillator Being Exchanged	INST	—
	<i>CAUTION: When removing +5V power unit, be careful that adjacent +5V power unit stays in place</i>		

**EXCHANGE 39B OSCILLATORS IN NCLK FRAME WITH DISCIPLINED
RUBIDIUM OSCILLATORS (DROs) – SUPPORT TO INSTALLER (INST)**

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

29	At NCLK Frame Remove +24V Power Unit (71G1) and +5V Power Unit (J87389S-3,L3) Associated With 39B Oscillator Being Exchanged	INST	—
30	At 39B Oscillator Being Exchanged, Disconnect Cables Only at P13, P18, P19, P21, and J20	INST	—
31	Remove Eight Screws Holding 39B Oscillator Being Exchanged	INST	—
32	At 39B Oscillator Being Exchanged and Frame Upright, Remove Oscillator Ground Strap	INST	—
33	Remove 39B Oscillator Being Exchanged From NCLK Frame	INST	—
	<i>WARNING: New DRO must be carried to NCLK frame in ESD bag until antistatic wrist strap can be put on</i>		
34	Place New DRO in Location Vacated by 39B Oscillator	INST	—
35	At New DRO, Set ENABLE/DISABLE Switch to DISABLE	INST	—
36	Install New Group Strap From DRO to Frame Upright (6" Strap for DROs 0 and 2 or 8-1/2" Strap for DROs 1 and 3)	INST	—
37	Fasten DRO Mounting Plate to Frame Shelf	INST	—
	<i>DANGER: 140 volts present at rear of fuse panel</i>		
	<i>WARNING: Wires in this area are extremely susceptible to breakage</i>		
38	At Rear of Fuse Panel and Power Converter Associated With 39B Oscillator Being Exchanged, Replace Bias Resistor	INST	—
39	On Terminal Strip at Rear Side of NCLK Chain Being Exchanged, Replace Equalizer Components	INST	—
40	At DRO, Connect -48V Power Cable to P19	INST	—
41	At DRO, Connect D/A INPUT/OUTPUT Cable to J20	INST	—
42	At DRO, Connect Phase Lock Cable to P21	INST	—
	NOTE: Do Not connect RF Output cable to P13 at this time		
43	Recheck All Wiring Changes Before Going to Next Item	INST	—
44	At NCLK Frame Fuse Panel, Install -48V and +24V Fuses Associated With New DRO To Apply Power to DRO	INST	—
	(Continued on Page 5)		

**EXCHANGE 39B OSCILLATORS IN NCLK FRAME WITH DISCIPLINED
RUBIDIUM OSCILLATORS (DROs) — SUPPORT TO INSTALLER (INST)**

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

	NOTE: Associated clock chain is still powered down. Power is applied to new DRO		
45	Perform Items 47 Through 49 During 30-Minute Warm-up Period (Item 46)	TELCO/INST	—
46	During First 30 Minutes After -48V Power Is Applied (Warm-up Period), Ensure Following DRO Status: <ul style="list-style-type: none"> • RF OUTPUT – Disconnected • ENABLE/DISABLE Switch – Ignored • TOS INHIBIT (TOS Card) – On then Off • FREE RUN – Flashing • OSC WRITE WORD – init • MAJOR – On • All other status lamps – Off 	INST	—
47	At NCLK CHAIN Power Switch Associated With DRO Being Exchanged, Depress ON Pushbutton To Restore Power (Leave ROS/OFF Switch in ROS Position)	TELCO/INST	—
48	At MTC Channel, Enter Message DGN:NCLK 0,CHAIN a;RAW! (a = New DRO Number – 3, 1, 2, or 0) To Diagnose NCLK Chain for DRO Being Exchanged. Expect Tests To Fail for Phase 4 Only; No Failures Allowed on Any Other Phases Run	TELCO/INST	DLP-590
49	At NCLK CHAIN Power Switch Associated With DRO Being Exchanged, Depress ROS/OFF Pushbutton; Ensure PWR OFF Lamp Lights	TELCO	—
50	If 30-Minute Warm-up Period (Item 46) Has Not Completed, Wait Until Time Is Up Before Proceeding to Next Item	TELCO/INST	—
51	At DRO, Verify 2000 Is Indicated on OSC WRITE WORD Display	INST	—
	NOTE: After fourth DRO has been installed, more than one DRO may have MASTER LED lighted temporarily		
52	Verify All Other Indicators Are Off (RANGE TOL and/or MINOR LEDs May Be On)	INST	—
53	Connect RF Output Cable to P13	INST	—
	<i>WARNING: NCLK chain of DRO being checked must remain powered down</i>		
54	At DRO, Verify ENABLE/DISABLE Switch Still Set to DISABLE	INST	—

**EXCHANGE 39B OSCILLATORS IN NCLK FRAME WITH DISCIPLINED
RUBIDIUM OSCILLATORS (DROs) – SUPPORT TO INSTALLER (INST)**

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

55	Disconnect NCSU Cable at J20	INST	—
56	Connect Oscillator Manual Adjustment Unit (OMAU) Cable to J20. Expect OMAU Power LED On	INST	—
57	At OMAU, Set Thumbwheel Switches to Frequency Word FFFF and Depress LOAD Pushbutton	INST	—
58	Ensure Following OMAU LED Status: <ul style="list-style-type: none"> • VERIFY — Off • FREQ HI — On • FREQ LO — On 	INST	—
	NOTE: Items 59 through 63 are being performed to test new DRO		
59	At DRO, Set ENABLE/DISABLE Switch to ENABLE	INST	—
60	Test Full Frequency Range of DRO. For Each Frequency Setting, Ensure OSC WRITE WORD Display at DRO Is Same Frequency That Was Set at OMAU	INST	—
	NOTE: Items 61 through 73 are being performed to test DRO alarm bits	INST	—
61	At OMAU, Set Thumbwheel Switches to Frequency Word 0001 and Depress LOAD Pushbutton	INST	—
62	Ensure Following OMAU and DRO LED Status: <ul style="list-style-type: none"> • At OMAU, FREQ HI — On • At OMAU, FREQ LO — Off • At DRO, MAJOR — On • At DRO, MINOR — Off 	INST	—
63	At OMAU, Set Thumbwheel Switches to Frequency Word 0000 and Depress LOAD Pushbutton	INST	—
64	Ensure Following OMAU and DRO LED Status: <ul style="list-style-type: none"> • At OMAU, FREQ HI — Off • At OMAU, FREQ LO — Off • At DRO, MAJOR — Off • At DRO, MINOR — Off 	INST	—

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

65	At OMAU, Set Thumbwheel Switches to Frequency Word 0002 and Depress LOAD Pushbutton	INST	—
66	Ensure Following OMAU and DRO LED Status: <ul style="list-style-type: none"> • At OMAU, FREQ HI — Off • At OMAU, FREQ LO — On • At DRO, MAJOR — Off • At DRO, MINOR — On 	INST	—
67	At OMAU, Set Thumbwheel Switches to Frequency Word 0000 and Depress LOAD Pushbutton	INST	—
68	Ensure OMAU and DRO LED Status Is Same As in Item 60	INST	—
69	At OMAU, Set Thumbwheel Switches to Frequency Word 2000 and Depress LOAD Pushbutton	INST	—
70	At DRO, Ensure OSC WRITE WORD Display Indicates 2000	INST	—
71	Set ENABLE/DISABLE Switch to DISABLE	INST	—
72	Disconnect OMAU Cable at J20	INST	—
73	Connect NCSU Cable to J20	INST	—
	NOTE: Items 74 through 81 are being performed to test RF Output level		
74	Set Up Oscilloscope Using Standard Procedures	INST	—
	<i>WARNING: When terminal 201 on FB687 is being scoped, power must be removed from chain while connecting or disconnecting scope probe</i>		
75	At Network Clock Unit, Connect Scope Probe to Terminal 201 on FB687 Circuit Pack Associated With NCLK Chain Being Exchanged	INST	—
76	Verify Level Is 0.9±0.1V Peak-to-Peak (Expected Voltage Level When NCLK Chain Is Powered Down)	INST	—
77	Disconnect Scope Probe (Item 75)	INST	—
78	At Network Clock Unit, Connect Scope Probe to Terminal 018 on FB214 Circuit Pack Associated With NCLK Chain Being Exchanged	INST	—
79	At NCLK CHAIN Power Switch Associated With DRO Being Exchanged, Depress ON Pushbutton To Restore Power (Leave ROS/OFF Switch in ROS Position)	TELCO/INST	—

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

80	Verify Level Is 1.9±0.1V Peak-to-Peak	INST	—
81	Disconnect Scope Probe (Item 78)	INST	—
82	At MTC Channel, Enter Message AUD:PUSTAT! To Run Peripheral Unit Status Audit; Wait for Message Complete (MSG COMPL)	TELCO/INST	—
83	At DRO, Set ENABLE/DISABLE Switch to ENABLE	INST	—
84	At MTC Channel, Enter Message RST:NCLK 0,OSC a! (a = New DRO Number – 3, 1, 2, or 0); Ensure REPT:NCSU 0:RST OSC a STOPPED,NCSU 0/S, OSC a MARKED I/S, MANUAL UPDATE REQUIRED and RST: NCLK 0, OSC a COMPL Messages Are Received	TELCO/INST	—
85	Enter Message DGN:SCLK 0,NCSU 0:PH 8,NCLK 0,CHAIN a! (a = New DRO Number – 3, 1, 2, or 0). Expect CATP and STOPPED OS DGN Messages	TELCO/INST	—
86	At DRO, Set ENABLE/DISABLE Switch to DISABLE	INST	—
87	At NCLK CHAIN Power Switch Associated With New DRO, Rotate ROS/OFF Switch to Normal Position. Expect CATP and STOPPED OS RMVD Messages	TELCO/INST	—
88	At MTC Channel, Enter Message RST:NCLK 0,CHAIN a! (a = New DRO Number – 3, 1, 2, or 0); Ensure REPT:NCLK 0,OSC I/S – CHAIN a RESTORED (WITH OSC) COMPLETE and RST: NCLK 0, CHAIN a COMPL Messages Are Received	TELCO/INST	—
89	If Only One 39B Oscillator Is Being Replaced This Shift, Perform Items 90 Through 92; Otherwise, Go to Item 95 (If Two DROs Are Completed, Go to Item 96)	TELCO	—
90	At MTC Channel, Enter Message ALW:MACLI,CLASS MTCE! To Allow REX	TELCO	—
91	Enter Message TEST:PUSYS! To Start Scheduling of Routine Maintenance Tests	TELCO	—
92	Safe Point To Temporarily Stop This Procedure. Resume Procedure at Item 89 When Continuing	TELCO/INST	—
93	At MTC Channel, Enter Message INH:MACLI,CLASS MTCE;ALL! To Inhibit REX	TELCO	—
94	Enter Message STOP:TEST;PUSYS! To Terminate Routine Maintenance Tests on Peripheral System	TELCO	—
95	Repeat Items 18 Through 84 To Exchange NCLK Chain 1	TELCO/INST	—
96	At MTC Channel, Enter Message ALW:MACLI,CLASS MTCE! To Allow REX	TELCO	—

**EXCHANGE 39B OSCILLATORS IN NCLK FRAME WITH DISCIPLINED
RUBIDIUM OSCILLATORS (DROs) – SUPPORT TO INSTALLER (INST)**

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

97	Enter Message TEST:PUSYS! To Start Scheduling of Routine Maintenance Tests	TELCO	—
98	Soak NCLK Chains 3 and 1 for 12 Hours	TELCO/INST	—
99	Safe Point To Temporarily Stop This Procedure (Leave NCSU Out-of-Service)	TELCO/INST	—
100	At MTC Channel, Enter Message INH:MACLI,CLASS MTCE;ALL! To Inhibit REX	TELCO	—
101	Enter Message STOP:TEST;PUSYS! To Terminate Routine Maintenance Tests on Peripheral System	TELCO	—
102	Repeat Items 22 Through 88 To Exchange NCLK Chain 2	TELCO/INST	—
103	If Only One 39B Oscillator Is Being Replaced This Shift, Perform Items 104 Through 106; Otherwise, Go to Item 105 (If Two DROs Are Completed, Go to Item 106)	TELCO	—
104	At MTC Channel, Enter Message ALW:MACLI,CLASS MTCE! To Allow REX	TELCO	—
105	Enter Message TEST:PUSYS! To Start Scheduling of Routine Maintenance Tests	TELCO	—
106	Safe Point To Temporarily Stop This Procedure, Resume Procedure at Item 107 When Continuing	TELCO/INST	—
107	At MTC Channel, Enter Message INH:MACLI,CLASS MTCE;ALL! To Inhibit REX	TELCO	—
108	Enter Message STOP:TEST;PUSYS! To Terminate Routine Maintenance Tests on Peripheral System	TELCO	—
109	Repeat Items 22 Through 88 To Exchange NCLK Chain 0	TELCO/INST	—
110	At Each DRO, Set ENABLE/DISABLE Switch to ENABLE	INST	—
111	At NCSU Power Switch, Rotate ROS/OFF Switch to Normal Position. Expect RST: SCLK 0,NCSU 0 STOPPED OS RMVD Message To Be Received	TELCO/INST	—
	<i>CAUTION: Do not restore NCSU unconditionally</i>		
	NOTE: Expect BLM on NCSU within 10 minutes after entering restore message		
112	At MTC Channel, Enter Message RST:SCLK 0,NCSU 0!; Ensure DGN: SCLK 0, NCSU 0 CATP (xxxxxxxx xxxxxxxx) MSG COMPL RST: SCLK 0, NCSU 0 COMPL Messages Are Received	TELCO/INST	—
113	Wait for BLM Printout Before Continuing	TELCO/INST	—
114	At NCSU Status and Display Panel, Ensure OPERATIONAL MODE — NORMAL LED Is On	INST	—
115	At MTC Channel, Enter Message ALW:MACLI,CLASS MTCE! To Allow REX	TELCO	—
	(Continued on Page 10)		

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

116	Enter Message TEST:PUSYS! To Start Scheduling of Routine Maintenance Tests	TELCO	—
117	Using MTC Channel Printouts, Ensure No NCSU F-Level Interrupt Printouts Are Being Received	INST	—
118	At MCC SYSTEM ALARM Panel, if REF STAT Lamp Is On, Depress REF STAT Key for Status Printout. If Error Condition Is Indicated in Status Printout, Fix Trouble	INST	—
119	At This Point, Office Is Committed to New DROs. No Backout Is Allowed	TELCO/INST	—
120	At MCC SYSTEM ALARM Panel, Ensure FREE RUN Lamp Is Off (Indicates DROs Are Phase Locked and NCSU in Normal Mode)	INST	—
	NOTE: This completes DRO Exchange. End of procedure		
	BACKOUT PROCEDURE		
	NOTES: 1. Decision to backout DRO exchange must be determined from situation involved. Appropriate technical support organization must be consulted and assist in making the decision 2. Following sequence is not a requirement, but provides recommended guidelines for DRO backout. Appropriate technical support organization must assist during DRO backout		
121	Remove Power From Associated Clock Chain Using Power Switch	INST	—
122	Remove Power From DRO by Removing Associated Power Fuses (Item 44)	INST	—
123	Remove DRO From NCLK Frame	INST	—
124	Change Straps Installed in Item 39	INST	—
125	Place 9.53K Resistor Across (in Parallel) Resistor R32 Replaced in Item 35	INST	—
126	Install +5V and -24V Converters for 39B Oscillator	INST	—
127	Install 39B Oscillator in NCLK Shelf Position	INST	—
128	Install All 39B Oscillator Cabling	INST	—
129	Restore Power to 39B Oscillator by Installing Associated -48V and +24V Fuses	INST	—
130	Restore Power to Associated Clock Chain Using Power Switch (Leave ROS/OFF Switch in ROS Position)	TELCO	—
131	Check 39B Oscillator per AT&T 234-151-013	INST	—
	(Continued on Page 11)		

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

132	If RF Output Level and Frequency Are Not Set to Specifications, Perform Manual Adjustment of 39B Oscillator	INST	-
133	Conditionally Restore Clock Chain and 39B Oscillator to Service	TELCO/INST	-
134	At NCLK CHAIN Power Switch, Rotate ROS/OFF Switch to Normal Position	TELCO/INST	-
135	Allow 39B Oscillator to Stabilize and Warm Up at Least 24 Hours. Continue at Item 136 During Warm up Period	TELCO/INST	-
136	Repeat From Item 121 for Next DRO, if Required	TELCO/INST	-
137	If NCSU Is Equipped With DRO Firmware, Reinstall 39B Oscillator Firmware	TELCO/INST	-
138	Restore NCSU to Service	TELCO/INST	-

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

		RESPONSIBILITY	
	<i>WARNING: An antistatic wrist strap must be worn to prevent electrostatic discharge and possible damage to circuit packs while handling</i>		
	NOTES: 1. Appropriate Input/Output manuals must be used if clarification of input message or output message is necessary 2. This procedure must be performed during light traffic periods 3. 4ESS ™ switch operation must be closely monitored while performing this procedure 4. Corrective action must be taken immediately on any activity that may cause any unit to go out of service (OOS) 5. Stability of office must be maintained throughout this procedure		
1	Using Office Record Drawing T-nnnn-Hn-46x, Determine Where 28 Scan, 5 SD Points and Miscellaneous Leads Associated With 820A Ring and Tone Plant Are Connected and Record for Later Use	INST	—
2	Using Office Record Drawing T-nnnn-Hn-46x, Determine Locations Where Tone Circuits Associated With 820A Ring and Tone Plant Are Connected and Record for Later Use	INST	—
3	Inventory Main Material Order per Installation Job Specification	INST	—
4	Erect, Align, and Bolt New Growth Ring and Tone Plant Cabinet in Its Proper Location	INST	—
5	Perform Ground Tests on New Ring and Tone Plant Cabinet	INST	—
6	Connect Cabinet Ground Strap to New Ring and Tone Plant Cabinet	INST	—
7	Run All Cables Associated With This Growth and Connect to Proper Locations at New Growth Ring and Tone Plant (Do Not Connect Opposite Ends at This Time)	INST	—
8	Connect -48V A and B Power to New Ring and Tone Plant Cabinet	INST	—
9	At New Ring and Tone Plant Cabinet, Set Main Selector Switch to NOR	INST	—
10	Notify Next Higher Support Organization That 820A Ring and Tone Plant Is Being Converted to New Ring and Tone Plant Cabinet. Request Information for Items 11 Through 13	TELCO	—
11	Ensure 1B Processor Has Not Experienced any Terminal Suspends, Bootstraps, Diagnostic Failures, or Overloads Within Last 24 Hours	TELCO	—
12	Ensure Any 1B Processor and/or System Problems Have Been Cleared Before Performing This Procedure	TELCO	—

CONVERT 820 RING AND TONE PLANT TO 3500-535 RING AND TONE PLANT — SUPPORT TO INSTALLER (INST)

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

13	Ensure 4ESS Switch Is in Stable Condition	TELCO	DLP-592
14	Ensure 3B, 1B Processor, and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
15	At Battery Distribution Fuse Board (BDFB)/PDF, Install Fuses for New Ring and Tone Plant Cabinet per Proper Procedures	INST	—
16	Obtain a True RMS Digital Multimeter (DMM)	INST	—
17	Verify Side 1 (System 1) Tone Levels:		
	1. At New Ring and Tone Plant Cabinet, Remove Front Panel From Ring-Tone-Interrupter Plant Unit (Level 28 for Associated Side 1)	INST	—
	2. In Ring-Tone-Interrupter Plant Unit (Item 17.1), Connect Digital Multimeter (DMM) to Jacks Labeled BT	INST	—
	3. On DMM, Verify Busy Tone Level; This Level Must Be Between 0.082 and 0.114V RMS. If Busy Tone Level Is Not Correct, On Card 21 - CETAC BT, Adjust R2 to 0.098+/-0.016V RMS on DMM	INST	—
	4. Disconnect DMM From Jacks Labeled BT and Connect to Jacks Labeled TPT	INST	—
	5. On DMM, Verify Test Progress Tone Level; This Level Must Be Between 0.366 and 0.506V RMS. If Test Progress Tone Level Is Not Correct, On Card 22 - CETAC TPT, Adjust R2 to 0.436+/-0.07V RMS on DMM	INST	—
	6. Disconnect DMM From Jacks Labeled TPT and Connect to Jacks Labeled HT	INST	—
	7. On DMM, Verify High Tone Level; This Level Must Be Between 0.131 and 0.181V RMS. If High Tone Level Is Not Correct, On Card 23 - CETAC HT, Adjust R2 to 0.156+/-0.025V RMS on DMM	INST	—
	8. Disconnect DMM From Jacks Labeled HT and Connect to Jacks Labeled AR	INST	—
	9. On DMM, Verify Audible Ring Level; This Level Must Be Between 0.146 and 0.202V RMS. If Audible Ring Level Is Not Correct, On Card 24 - CETAC AR, Adjust R2 to 0.174+/-0.028V RMS on DMM	INST	—
	10. Disconnect DMM From Jacks Labeled AR and Connect to Jacks Labeled RG	INST	—
	11. On DMM, Verify Ring Voltage Level; This Level Must Be Between 84 and 88 VAC. If Ring Voltage Level Is Not Correct, On Card 27 - CEWT-L, Adjust R1 to 86+/-2 VAC	INST	—
	12. Disconnect DMM From Jacks Labeled RG	INST	—

CONVERT 820 RING AND TONE PLANT TO 3500-535 RING AND TONE PLANT — SUPPORT TO INSTALLER (INST)

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

18	Verify Side 0 (System 0) Tone Levels:		
	1. At New Ring and Tone Plant Cabinet, Remove Front Panel From Ring-Tone-Interrupter Plant Unit (Level 36 for Associated Side 0)	INST	—
	2. In Ring-Tone-Interrupter Plant Unit (Item 18.1), Connect Digital Multimeter (DMM) to Jacks Labeled BT	INST	—
	3. On DMM, Verify Busy Tone Level; This Level Must Be Between 0.082 and 0.114V RMS. If Busy Tone Level Is Not Correct, On Card 21 - CETAC BT, Adjust R2 to 0.098+/-0.016V RMS on DMM	INST	—
	4. Disconnect DMM From Jacks Labeled BT and Connect to Jacks Labeled TPT	INST	—
	5. On DMM, Verify Test Progress Tone Level; This Level Must Be Between 0.366 and 0.506V RMS. If Test Progress Tone Level Is Not Correct, On Card 22 - CETAC TPT, Adjust R2 to 0.436+/-0.07V RMS on DMM	INST	—
	6. Disconnect DMM From Jacks Labeled TPT and Connect to Jacks Labeled HT	INST	—
	7. On DMM, Verify High Tone Level; This Level Must Be Between 0.131 and 0.181V RMS. If High Tone Level Is Not Correct, On Card 23 - CETAC HT, Adjust R2 to 0.156+/-0.025V RMS on DMM	INST	—
	8. Disconnect DMM From Jacks Labeled HT and Connect to Jacks Labeled AR	INST	—
	9. On DMM, Verify Audible Ring Level; This Level Must Be Between 0.146 and 0.202V RMS. If Audible Ring Level Is Not Correct, On Card 24 - CETAC AR, Adjust R2 to 0.174+/-0.028V RMS on DMM	INST	—
	10. Disconnect DMM From Jacks Labeled AR and Connect to Jacks Labeled RG	INST	—
	11. On DMM, Verify Ring Voltage Level; This Level Must Be Between 84 and 88 VAC. If Ring Voltage Level Is Not Correct, On Card 27 - CEWT-L, Adjust R1 to 86+/-2 VAC	INST	—
12. Disconnect DMM From Jacks Labeled RG	INST	—	
(Continued on Page 4)			

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

19	At 1B MTC Terminal, Enter Following Messages To Determine if All Tone Circuits Are In-Service: <ul style="list-style-type: none"> • OP:TONESTAT,BT60 0! • OP:TONESTAT,BT60 1! • OP:TONESTAT,BT120 0! • OP:TONESTAT,BT120 1! • OP:TONESTAT,AR 0! • OP:TONESTAT,AR 1! • OP:TONESTAT,TPT 0! • OP:TONESTAT,TPT 1! 	TELCO	DLP-594
20	Enter Message INH:MACLI,CLASS MTCE;REX! To Inhibit REX	TELCO	—
21	Determine Base Miscellaneous Scan Point (VER:UTYPE:RT 0!)	TELCO	DLP-596
22	At 1B MTC Terminal, Enter Message AUD:NUM(20,28)! To Run Audits 20 and 28; Ensure 0 Error Message Received for Audits 20 and 28	TELCO	—
23	Enter Message INH:AUD:NUM(20,28)! To Inhibit Audits 20 and 28	TELCO	—
24	Disable Scan Points Associated With Side 0 of 820A Ring and Tone Plant	TELCO	DLP-597
25	At One Adjacent Frame to 820A Ring and Tone Plant, Test Alarm Indicator on End Guard by Shorting Alarm Leads	INST/TELCO	—
26	If 820A Ring and Tone Plant Is Between Two Frames, at Second Adjacent Frame to 820A Ring and Tone Plant, Test Alarm Indicator on End Guard by Shorting Alarm Leads	INST/TELCO	—
27	At Office Alarm Grid, Disconnect Major Alarm Cable Associated With 820A Ring and Tone Plant	INST	—
28	At 820A Ring and Tone Plant, Disconnect Major Alarm Cable. Reconnect Milted Connections, if Required	INST	—
29	At One Adjacent Frame to 820A Ring and Tone Plant, Test Alarm Indicator on End Guard by Shorting Alarm Leads	INST/TELCO	—
30	If 820A Ring and Tone Plant Is Between Two Frames, at Second Adjacent Frame to 820A Ring and Tone Plant, Test Alarm Indicator on End Guard by Shorting Alarm Leads	INST/TELCO	—
	(Continued on Page 5)		

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

31	At Office Alarm Grid, Connect Major Alarm Cable Associated With New Ring and Tone Plant	INST	—
32	At New Ring and Tone Plant, Connect Major Alarm Cable	INST	—
	NOTE: Care should be taken when removing or connecting signal leads at SP to avoid shorting		
33	At SP, Disconnect Five SD Leads, Associated With 820A Ring and Tone Plant, From Locations Determined in Item 1. These Leads Will Be Temporarily Reconnected in Item 35	INST	—
34	Connect Five SD Leads, Associated With New Ring and Tone Plant, to Locations Vacated in Item 33	INST	—
35	Temporarily Connect Five SD Leads, Disconnected in Item 33	INST	—
36	Disconnect 15 Scan Points Associated With Side 0 of 820A Ring and Tone Plant From Locations Determined in Item 1	INST	—
37	Connect 15 Scan Points to Their Respective Locations Vacated in Item 36	INST	—
38	Disconnect Miscellaneous Leads Associated With 820A Ring and Tone Plant. Reconnect Malted Connections, if Required	INST	—
39	Connect Miscellaneous Leads to Proper Locations at New Ring and Tone Plant Cabinet and Destination Frame(s), and Verify	INST	—
40	At 1B MTC Terminal, Remove Each CIN 0 Tone From Service Using the Following Remove Messages: <ul style="list-style-type: none"> • RMV:TONE,BT60 0! • RMV:TONE,BT120 0! • RMV:TONE,AR 0! • RMV:TONE,TPT 0! 	TELCO	DLP-598
41	Disconnect CIN 0 Tone Circuits From Locations Determined in Item 2	INST	—
	(Continued on Page 6)		

CONVERT 820 RING AND TONE PLANT TO 3500-535 RING AND TONE PLANT — SUPPORT TO INSTALLER (INST)

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

42	Connect CIN 0 Tone Circuits:		
	1. Connect AR Tone and AR Tone Return Leads to Proper Locations	INST	—
	2. At New Ring and Tone Plant, on Card 15 - CEM4, Adjust R4 Clockwise Until DL1 LED Is Steady Red. Turn R4 Counterclockwise Until DL1 LED Is Flashing Green at 10 Flashes per Minute. Turn R4 an Additional Half Turn Counterclockwise	INST/TELCO	—
	3. Connect BT60 Tone and BT60 Tone Return Leads to Proper Locations	INST	—
	4. At New Ring and Tone Plant, on Card 15 - CEM4, Adjust R13 Clockwise Until DL2 LED Is Steady Red. Turn R13 Counterclockwise Until DL2 LED Is Flashing Green at 1 Flash per Second. Turn R13 an Additional Half Turn Counterclockwise	INST/TELCO	—
	5. Connect BT120 Tone and BT120 Tone Return Leads to Proper Locations	INST	—
	6. At New Ring and Tone Plant, on Card 15 - CEM4, Adjust R30 Clockwise Until DL3 LED Is Steady Red. Turn R30 Counterclockwise Until DL3 LED Is Flashing Green at 2 Flashes per Second. Turn R30 an Additional Half Turn Counterclockwise	INST/TELCO	—
	7. Connect TPT Tone and TPT Tone Return Leads to Proper Locations	INST	—
	8. At New Ring and Tone Plant, on Card 15 - CEM4, Adjust R42 Clockwise Until DL4 LED Is Steady Red. Turn R42 Counterclockwise Until DL4 LED Is Steady Green. Turn R42 an Additional Half Turn Counterclockwise	INST/TELCO	—
9. Connect All Other Circuits Associated With Side 0, if Applicable	INST	—	
43	At 1B MTC Terminal, Restore Each CIN 0 Tone to Service Using the Following Restore Messages: <ul style="list-style-type: none"> • RST:TONE,BT60 0! • RST:TONE,BT120 0! • RST:TONE,AR 0! • RST:TONE,TPT 0! 	TELCO/INST	DLP-595
44	Enter Following Messages To Determine if CIN 0 Tone Circuits Are In-Service: <ul style="list-style-type: none"> • OP:TONESTAT,BT60 0! • OP:TONESTAT,BT120 0! • OP:TONESTAT,AR 0! • OP:TONESTAT,TPT 0! 	TELCO/INST	DLP-600

CONVERT 820 RING AND TONE PLANT TO 3500-535 RING AND TONE PLANT — SUPPORT TO INSTALLER (INST)

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

45	Remove Each CIN 1 Tone From Service Using the Following Remove Messages: <ul style="list-style-type: none"> • RMV:TONE,BT60 1! • RMV:TONE,BT120 1! • RMV:TONE,AR 1! • RMV:TONE,TPT 1! 	TELCO	DLP-598
46	Restore Each CIN 1 Tone to Service Using the Following Restore Messages: <ul style="list-style-type: none"> • RST:TONE,BT60 1! • RST:TONE,BT120 1! • RST:TONE,AR 1! • RST:TONE,TPT 1! 	TELCO/INST	DLP-595
47	Allow Scan Points Disabled in Item 24	TELCO	DLP-599
48	At 1B MTC Terminal, Enter Message INH:AUDMSG:NUM(20,28)! To Inhibit Audit Messages for Audits 20 and 28	TELCO	—
49	Enter Message ALW:AUD:NUM(20,28)! To Allow Audits 20 and 28	TELCO	—
50	Enter Message AUD:NUM(20,28)! To Run Audits 20 and 28; Expect Message Indicating Error(s) for Audit 20	TELCO	—
51	Enter Message AUD:NUM 20! To Run Audit 20 Again; Expect 0 Errors for Audit 20	TELCO	—
52	Enter Message ALW:AUDMSG:NUM(20,28)! To Allow Audit Messages for Audits 20 and 28	TELCO	—
53	Enter Message ALW:MACLI,CLASS MTCE! To Allow Rex	TELCO	—
54	Soak New Ring and Tone Plant for a Minimum of One Non-Cabling Shift. Continue at Item 55 When Resuming	TELCO/INST	—
55	Notify Next Higher Support Organization That 820A Ring and Tone Plant Conversion to New Ring and Tone Plant Cabinet Is Continuing	TELCO	—
56	Ensure 3B, 1B Processor, and Peripheral Units Are Operating in Normal Duplex Mode	TELCO	DLP-593
	(Continued on Page 8)		

CONVERT 820 RING AND TONE PLANT TO 3500-535 RING AND TONE PLANT — SUPPORT TO INSTALLER (INST)

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

57	At 1B MTC Terminal, Enter Following Messages To Determine if All Tone Circuits Are In-Service: <ul style="list-style-type: none"> • OP:TONESTAT,BT60 0! • OP:TONESTAT,BT60 1! • OP:TONESTAT,BT120 0! • OP:TONESTAT,BT120 1! • OP:TONESTAT,AR 0! • OP:TONESTAT,AR 1! • OP:TONESTAT,TPT 0! • OP:TONESTAT,TPT 1! 	TELCO	DLP-594
58	Enter Message INH:MACLI,CLASS MTCE;REX! To Inhibit REX	TELCO	—
59	Enter Message AUD:NUM(20,28)! To Run Audits 20 and 28; Ensure 0 Error Message Received for Audits 20 and 28	TELCO	—
60	Enter Message INH:AUD:NUM(20,28)! To Inhibit Audits 20 and 28	TELCO	—
61	Disable Scan Points Associated With Side 1 of 820A Ring and Tone Plant	TELCO	DLP-597
62	At SP, Disconnect 13 Scan Points Associated With Side 1 of 820A Ring and Tone Plant From Locations Determined in Item 1	INST	—
63	Connect 13 Scan Points to Their Respective Locations Vacated in Item 62	INST	—
64	Remove Each CIN 1 Tone From Service Using the Following Remove Messages: <ul style="list-style-type: none"> • RMV:TONE,BT60 1! • RMV:TONE,BT120 1! • RMV:TONE,AR 1! • RMV:TONE,TPT 1! 	TELCO	DLP-598
65	Disconnect CIN 1 Tone Circuits From Locations Determined in Item 2	INST	—
66	Connect CIN 1 Tone Circuits:		
	1. Connect AR Tone and AR Tone Return Leads to Proper Locations	INST	—
	(Continued on Page 9)		

CONVERT 820 RING AND TONE PLANT TO 3500-535 RING AND TONE PLANT — SUPPORT TO INSTALLER (INST)

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

66 (Contd)	2. At New Ring and Tone Plant, on Card 15 - CEM4, Adjust R4 Clockwise Until DL1 LED Is Steady Red. Turn R4 Counterclockwise Until DL1 LED Is Flashing Green at 10 Flashes per Minute. Turn R4 an Additional Half Turn Counterclockwise	INST/TELCO	—
	3. Connect BT60 Tone and BT60 Tone Return Leads to Proper Locations	INST	—
	4. At New Ring and Tone Plant, on Card 15 - CEM4, Adjust R13 Clockwise Until DL2 LED Is Steady Red. Turn R13 Counterclockwise Until DL2 LED Is Flashing Green at 1 Flash per Second. Turn R13 an Additional Half Turn Counterclockwise	INST/TELCO	—
	5. Connect BT120 Tone and BT120 Tone Return Leads to Proper Locations	INST	—
	6. At New Ring and Tone Plant, on Card 15 - CEM4, Adjust R30 Clockwise Until DL3 LED Is Steady Red. Turn R30 Counterclockwise Until DL3 LED Is Flashing Green at 2 Flashes per Second. Turn R30 an Additional Half Turn Counterclockwise	INST/TELCO	—
	7. Connect TPT Tone and TPT Tone Return Leads to Proper Locations	INST	—
	8. At New Ring and Tone Plant, on Card 15 - CEM4, Adjust R42 Clockwise Until DL4 LED Is Steady Red. Turn R42 Counterclockwise Until DL4 LED Is Steady Green. Turn R42 an Additional Half Turn Counterclockwise	INST/TELCO	—
	9. Connect All Other Circuits Associated With Side 0, if Applicable	INST	—
	67	At 1B MTC Terminal, Restore Each CIN 1 Tone to Service Using the Following Restore Messages: <ul style="list-style-type: none"> • RST:TONE,BT60 1! • RST:TONE,BT120 1! • RST:TONE,AR 1! • RST:TONE,TPT 1! 	TELCO/INST
68	Enter Following Messages To Determine if CIN 1 Tone Circuits Are In-Service: <ul style="list-style-type: none"> • OP:TONESTAT,BT60 1! • OP:TONESTAT,BT120 1! • OP:TONESTAT,AR 1! • OP:TONESTAT,TPT 1! 	TELCO	DLP-600
69	Allow Scan Points Disabled in Item 61	TELCO	DLP-599

CONVERT 820 RING AND TONE PLANT TO 3500-535 RING AND TONE PLANT — SUPPORT TO INSTALLER (INST)

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

70	At 1B MTC Terminal, Enter Message INH:AUDMSG:NUM(20,28)! To Inhibit Audit Messages for Audits 20 and 28	TELCO	–
71	Enter Message ALW:AUD:NUM(20,28)! To Allow Audits 20 and 28	TELCO	–
72	Enter Message AUD:NUM(20,28)! To Run Audits 20 and 28; Expect Message Indicating Error(s) for Audit 20	TELCO	–
73	Enter Message AUD:NUM 20! To Run Audit 20 Again; Expect 0 Errors for Audit 20	TELCO	–
74	Enter Message ALW:AUDMSG:NUM(20,28)! To Allow Audit Messages for Audits 20 and 28	TELCO	–
75	Recent Change and Verify Floor Location in Unit Type Translator for New Ring and Tone Plant	TELCO	DLP-601
76	Verify Major Alarm for Side 0 in New Ring and Tone Plant:		
	1. Set Main Selector Switch to OFF-0 ; Ensure OS-0, RING GEN TRFR, OFF NOR, and PWR OFF Lights Are On	INST/TELCO	–
	2. At Fuse Panel, Install Blown Fuse in Unused Location for Side 0; Major Alarm Must Not Be Received	INST	–
	3. Set Main Selector Switch to NOR ; Ensure OS-0, RING GEN TRFR, OFF NOR, and PWR OFF Lights Extinguish	INST/TELCO	–
	4. In Printout, Ensure New Floor Location Number (FLN) Is Received	INST/TELCO	–
	5. Ensure Major Alarm Is Generated (Fuse LED at Top of New Ring and Tone Plant On, End Guard Lamp On, and Audible Alarm Received)	INST/TELCO	–
	6. Set Main Selector Switch to OFF-0 ; Major Alarm Should Retire (Fuse LED at Top of New Ring and Tone Plant Off, End Guard Lamp Off, and Audible Alarm Retired)	INST/TELCO	–
	7. At Fuse Panel, Remove Blown Fuse Installed in Item 76.2	INST	–
	8. Set Main Selector Switch to NOR	INST	–
	(Continued on Page 11)		

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

77	Verify Major Alarm for Side 1 in New Ring and Tone Plant:		
	1. Set Main Selector Switch to OFF-1 ; Ensure OS-1 , OFF NOR , and PWR OFF Lights Are On	INST/TELCO	—
	2. At Fuse Panel, Install Blown Fuse in Unused Location for Side 1; Major Alarm Must Not Be Received	INST	—
	3. Set Main Selector Switch to NOR ; Ensure OS-0 , OFF NOR , and PWR OFF Lights Extinguish	INST/TELCO	—
	4. Ensure Major Alarm Is Generated (Fuse LED at Top of New Ring and Tone Plant On, End Guard Lamp On, and Audible Alarm Received)	INST/TELCO	—
	5. Set Main Selector Switch to OFF-1 ; Major Alarm Should Retire (Fuse LED at Top of New Ring and Tone Plant Off, End Guard Lamp Off, and Audible Alarm Retired)	INST/TELCO	—
	6. At Fuse Panel, Remove Blown Fuse Installed in Item 77.2	INST	—
7. Set Main Selector Switch to NOR	INST	—	
78	Obtain Oscilloscope and Set Up To Verify Tones Are Connected to Proper Locations	INST	—
79	Verify Tone Circuits Are Connected Properly for Side 0:		
	1. Using Oscilloscope, Verify Busy Tone 60 Is Present at Assigned Point	INST/TELCO	—
	2. Using Oscilloscope, Verify Busy Tone 120 Is Present at Assigned Point	INST/TELCO	—
	3. Using Oscilloscope, Verify High Tone Is Present at Assigned Point	INST/TELCO	—
	4. Using Oscilloscope, Verify Audible Ring Is Present at Assigned Point	INST/TELCO	—
5. Using Oscilloscope, Verify Test Progress Tone Is Present at Assigned Point	INST/TELCO	—	
80	Verify Tone Circuits Are Connected Properly for Side 1:		
	1. Using Oscilloscope, Verify Busy Tone 60 Is Present at Assigned Point	INST/TELCO	—
	2. Using Oscilloscope, Verify Busy Tone 120 Is Present at Assigned Point	INST/TELCO	—
	3. Using Oscilloscope, Verify High Tone Is Present at Assigned Point	INST/TELCO	—
	4. Using Oscilloscope, Verify Audible Ring Is Present at Assigned Point	INST/TELCO	—
5. Using Oscilloscope, Verify Test Progress Tone Is Present at Assigned Point	INST/TELCO	—	
	(Continued on Page 12)		

CONVERT 820 RING AND TONE PLANT TO 3500-535 RING AND TONE PLANT — SUPPORT TO INSTALLER (INST)

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

81	At New Ring and Tone Plant, Verify Return Path Tone Monitor Circuits for CIN 0:		
	1. At Back of New Ring and Tone Plant on Main Terminal Block Labeled B-4387-C, Disconnect ONE of Following Leads at Given Location: <ul style="list-style-type: none"> • E-02 for Audible Ring 0 • E-06 for Busy Tone 60 0 • E-12 for Busy Tone 120 0 • E-16 for Test Progress Tone 0 	INST	—
	2. At 1B MTC Terminal, Ensure Following Messages Are Received Indicating Failure on Scan Return for Associated Lead: <ul style="list-style-type: none"> • REPT:TROUBLE RT 0 SIDE 0 a RTN FLN nnnnn.nn a = Tone Circuit Associated With Removed Lead (AR, BT60, HT, or TPT) • RMV:TONE a 0 CIN b COMPLETED MATE ACT b = CIN of Tone Circuit • REPT:CIN b ;TAL ;STAT MTC: 	INST/TELCO	—
	3. Install Lead Disconnected in Item 81.1	INST	—
	4. Repeat Items 81.1 Through 81.3 for Each Lead Listed in Item 81.1	INST/TELCO	—
5. At 1B MTC Terminal, Restore Each CIN 0 Tone to Service Using the Following Restore Messages: <ul style="list-style-type: none"> • RST:TONE,BT60 0! • RST:TONE,BT120 0! • RST:TONE,AR 0! • RST:TONE,TPT 0! 	TELCO/INST	DLP-595	
82	At New Ring and Tone Plant, Verify Return Path Tone Monitor Circuits for CIN 1:		
	1. At Back of New Ring and Tone Plant on Main Terminal Block Labeled B-4387-C, Disconnect ONE of Following Leads at Given Location: <ul style="list-style-type: none"> • E-22 for Audible Ring 1 • E-26 for Busy Tone 60 1 • E-32 for Busy Tone 120 1 • E-36 for Test Progress Tone 1 	INST	—
	(Continued on Page 13)		

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

82 Contd	2. At 1B MTC Terminal, Ensure Following Messages Are Received Indicating Failure on Scan Return for Associated Lead <ul style="list-style-type: none"> • REPT:TROUBLE RT 0 SIDE 1 a RTN FLN nnnnnn.nn a = Tone Circuit Associated With Removed Lead (AR, BT60, HT, or TPT) • RMV:TONE a 1 CIN b COMPLETED MATE ACT b = CIN of Tone • REPT:CIN b ;TAL ;STAT MTC: 	INST/TELCO	-
	3. Install Lead Disconnected in Item 82.1	INST	-
	4. Repeat Items 82.1 Through 82.3 for Each Lead Listed in Item 82.1	INST/TELCO	-
	5. At 1B MTC Terminal, Restore Each CIN 1 Tone to Service Using the Following Restore Messages: <ul style="list-style-type: none"> • RST:TONE,BT60 1! • RST:TONE,BT120 1! • RST:TONE,AR 1! • RST:TONE,TPT 1! 	TELCO/INST	DLP-595
83	Verify CIN 1 Forward Path Tone Monitor Circuit:		
	1. At Ring-Tone-Interrupter Plant Unit (Level 28 for Associated Side 1), Adjust R2 Counterclockwise on Card 21 - CETAC BT Until Associated LED on Card 4 - CEM4 Switches From Green to Red	INST/TELCO	-
	2. At 1B MTC Terminal, Ensure Following Message(s) Is Received Indicating a Failure for BT Card: <ul style="list-style-type: none"> • REPT:TROUBLE RT 0 SIDE 1 BT FLN nnnnnn.nn • SW:RT 0 COMPL SIDE 1 ACT (This Message May Not Be Received) 	INST/TELCO	-
	3. In Ring-Tone-Interrupter Plant Unit (Item 83.1), Connect Digital Multimeter (DMM) to Jacks Labeled BT	INST	-
	4. At Card 21 - CETAC BT, Adjust R2 Clockwise Until Associated LED on Card 4 - CEM4 Switches From Red to Green	INST/TELCO	-
	5. Adjust R2 to 0.098+/-0.016V RMS on DMM	INST/TELCO	-
	(Continued on Page 14)		

CONVERT 820 RING AND TONE PLANT TO 3500-535 RING AND TONE PLANT — SUPPORT TO INSTALLER (INST)

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

83 Contd	6. Disconnect DMM From Jacks Labeled BT and Connect to Jacks Labeled TPT	INST	—
	7. At Ring-Tone-Interrupter Plant Unit (Level 28 for Associated Side 1), Adjust R2 Counterclockwise on Card 22 - CETAC TPT Until Associated LED on Card 4 - CEM4 Switches From Green to Red	INST/TELCO	—
	8. At 1B MTC Terminal, Ensure Following Message(s) Is Received Indicating a Failure for TPT Card: • REPT:TROUBLE RT 0 SIDE 1 TPT FLN nnnnn.nn • SW:RT 0 COMPL SIDE 1 ACT (This Message May Not Be Received)	INST/TELCO	—
	9. At Card 22 - CETAC TPT, Adjust R2 Clockwise Until Associated LED on Card 4 - CEM4 Switches From Red to Green	INST/TELCO	—
	10. Adjust R2 to 0.436+/-0.07V RMS on DMM	INST/TELCO	—
	11. Disconnect DMM From Jacks Labeled TPT and Connect to Jacks Labeled HT	INST	—
	12. At Ring-Tone-Interrupter Plant Unit (Level 28 for Associated Side 1), Adjust R2 Counterclockwise on Card 23 - CETAC HT Until Associated LED on Card 4 - CEM4 Switches From Green to Red	INST/TELCO	—
	13. At 1B MTC Terminal, Ensure Following Message(s) Is Received Indicating a Failure for HT Card: • REPT:TROUBLE RT 0 SIDE 1 HT FLN nnnnn.nn • SW:RT 0 COMPL SIDE 1 ACT (This Message May Not Be Received)	INST/TELCO	—
	14. At Card 23 - CETAC HT, Adjust R2 Clockwise Until Associated LED on Card 4 - CEM4 Switches From Red to Green	INST/TELCO	—
	15. Adjust R2 to 0.156+/-0.025V RMS on DMM	INST/TELCO	—
	16. Disconnect DMM From Jacks Labeled HT and Connect to Jacks Labeled AR	INST	—
	17. At Ring-Tone-Interrupter Plant Unit (Level 28 for Associated Side 1), Adjust R2 Counterclockwise on Card 24 - CETAC AR Until Associated LED on Card 4 - CEM4 Switches From Green to Red	INST/TELCO	—
	(Continued on Page 15)		

CONVERT 820 RING AND TONE PLANT TO 3500-535 RING AND TONE PLANT — SUPPORT TO INSTALLER (INST)

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

83 Contd	18. At 1B MTC Terminal, Ensure Following Message(s) Is Received Indicating a Failure for AR Card: <ul style="list-style-type: none"> • REPT:TROUBLE RT 0 SIDE 1 AR FLN nnnnn.nn • SW:RT 0 COMPL SIDE 1 ACT (This Message May Not Be Received) 	INST/TELCO	—
	19. At Card 24 - CETAC AR, Adjust R2 Clockwise Until Associated LED on Card 4 - CEM4 Switches From Red to Green	INST/TELCO	—
	20. Adjust R2 to 0.174+/-0.028V RMS on DMM	INST/TELCO	—
	21. Disconnect DMM From Jacks Labeled AR	INST	—
	22. At New Ring and Tone Plant Cabinet, Install Front Panel on Ring-Tone-Interrupter Plant Unit (Level 28 for Associated Side 1)	INST	—
84	Verify CIN 0 Forward Path Tone Monitor Circuit:		
	1. At Ring-Tone-Interrupter Plant Unit (Level 36 for Associated Side 0), Adjust R2 Counterclockwise on Card 21 - CETAC BT Until Associated LED on Card 4 - CEM4 Switches From Green to Red	INST/TELCO	—
	2. At 1B MTC Terminal, Ensure Following Message(s) Is Received Indicating a Failure for BT Card: <ul style="list-style-type: none"> • REPT:TROUBLE RT 0 SIDE 0 BT FLN nnnnn.nn • SW:RT 0 COMPL SIDE 1 ACT (This Message May Not Be Received) 	INST/TELCO	—
	3. In Ring-Tone-Interrupter Plant Unit (Item 84.1), Connect Digital Multimeter (DMM) to Jacks Labeled BT	INST	—
	4. At Card 21 - CETAC BT, Adjust R2 Clockwise Until Associated LED on Card 4 - CEM4 Switches From Red to Green	INST/TELCO	—
	5. Adjust R2 to 0.098+/-0.016V RMS on DMM	INST/TELCO	—
	6. Disconnect DMM From Jacks Labeled BT and Connect to Jacks Labeled TPT	INST	—
	7. At Ring-Tone-Interrupter Plant Unit (Level 36 for Associated Side 0), Adjust R2 Counterclockwise on Card 22 - CETAC TPT Until Associated LED on Card 4 - CEM4 Switches from Green to Red	INST/TELCO	—
(Continued on Page 2)			

CONVERT 820 RING AND TONE PLANT TO 3500-535 RING AND TONE PLANT — SUPPORT TO INSTALLER (INST)

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

84 Contd	8. At 1B MTC Terminal, Ensure Following Message(s) Is Received Indicating a Failure for TPT Card: <ul style="list-style-type: none"> • REPT:TROUBLE RT 0 SIDE 0 TPT FLN nnnnn.nn • SW:RT 0 COMPL SIDE 1 ACT (This Message May Not Be Received) 	INST/TELCO	—
	9. At Card 22 - CETAC TPT, Adjust R2 Clockwise Until Associated LED on Card 4 - CEM4 Switches From Red to Green	INST/TELCO	—
	10. Adjust R2 to 0.436+/-0.07V RMS on DMM	INST/TELCO	—
	11. Disconnect DMM From Jacks Labeled TPT and Connect to Jacks Labeled HT	INST	—
	12. At Ring-Tone-Interrupter Plant Unit (Level 36 for Associated Side 0), Adjust R2 Counterclockwise on Card 23 - CETAC HT Until Associated LED on Card 4 - CEM4 Switches From Green to Red	INST/TELCO	—
	13. At 1B MTC Terminal, Ensure Following Message(s) Is Received Indicating a Failure for HT Card: <ul style="list-style-type: none"> • REPT:TROUBLE RT 0 SIDE 0 HT FLN nnnnn.nn • SW:RT 0 COMPL SIDE 1 ACT (This Message May Not Be Received) 	INST/TELCO	—
	14. At Card 23 - CETAC HT, Adjust R2 Clockwise Until Associated LED on Card 4 - CEM4 Switches From Red to Green	INST/TELCO	—
	15. Adjust R2 to 0.156+/-0.025V RMS on DMM	INST/TELCO	—
	16. Disconnect DMM From Jacks Labeled HT and Connect to Jacks Labeled AR	INST	—
	17. At Ring-Tone-Interrupter Plant Unit (Level 36 for Associated Side 0), Adjust R2 Counterclockwise on Card 24 - CETAC AR Until Associated LED on Card 4 - CEM4 Switches From Green to Red	INST/TELCO	—
18. At 1B MTC Terminal, Ensure Following Message(s) Is Received Indicating a Failure for AR Card: <ul style="list-style-type: none"> • REPT:TROUBLE RT 0 SIDE 0 AR FLN nnnnn.nn • SW:RT 0 COMPL SIDE 1 ACT (This Message May Not Be Received) 	INST/TELCO	—	
(Continued on Page 16)			

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

84 Contd	19. At Card 24 - CETAC AR, Adjust R2 Clockwise Until Associated LED on Card 4 - CEM4 Switches From Red to Green	INST/TELCO	-
	20. Adjust R2 to 0.174+/-0.028V RMS on DMM	INST/TELCO	-
	21. Disconnect DMM From Jacks Labeled AR	INST	-
	22. At New Ring and Tone Plant Cabinet, Install Front Panel on Ring-Tone-Interrupter Plant Unit (Level 36 for Associated Side 0)	INST	-
85	At SP, Disconnect 5 Temporary SD Leads Connected in Item 35	INST	-
86	Enter Message INH:AUD:NUM(20,28)! To Inhibit Audits 20 and 28	TELCO	-
87	Test Ring and Tone Signal Distributor Points 0, 1, and 2	TELCO/INST	DLP-602
88	At 1B MTC Terminal, Enter Message INH:AUDMSG:NUM(20,28)! To Inhibit Audit Messages for Audits 20 and 28	TELCO	-
89	Enter Message ALW:AUD:NUM(20,28)! To Allow Audits 20 and 28	TELCO	-
90	Enter Message AUD:NUM(20,28)! To Run Audits 20 and 28; Expect 0 Errors for Audits 20 and 28	TELCO	-
	NOTE: Item 91 is being performed to test Signal Distributor Point 4 (DA04)		
91	At New Ring and Tone Plant, Depress RING GEN TRFR Switch. Wait for Audit To Clear Lamp (Should Take Between 10 and 30 Seconds)	TELCO/INST	-
92	Enter Message ALW:MACLI,CLASS MTCE! To Allow Rex	TELCO	-
93	Notify Next Higher Support Organization That Conversion Is Complete	TELCO	-

CONVERT 820 RING AND TONE PLANT TO 3500-535 RING AND TONE PLANT - SUPPORT TO INSTALLER (INST)

SUMMARY

Call up RC Form 701 on CRT. Using output, fill in blank fields on form to degrow state of member equipage (ME) from OPER to SGRO and/or from SGRO to GROW and/or from GROW to UNEQ. Using assigned order numbers, activate each recent change; then verify completion of each change of state.

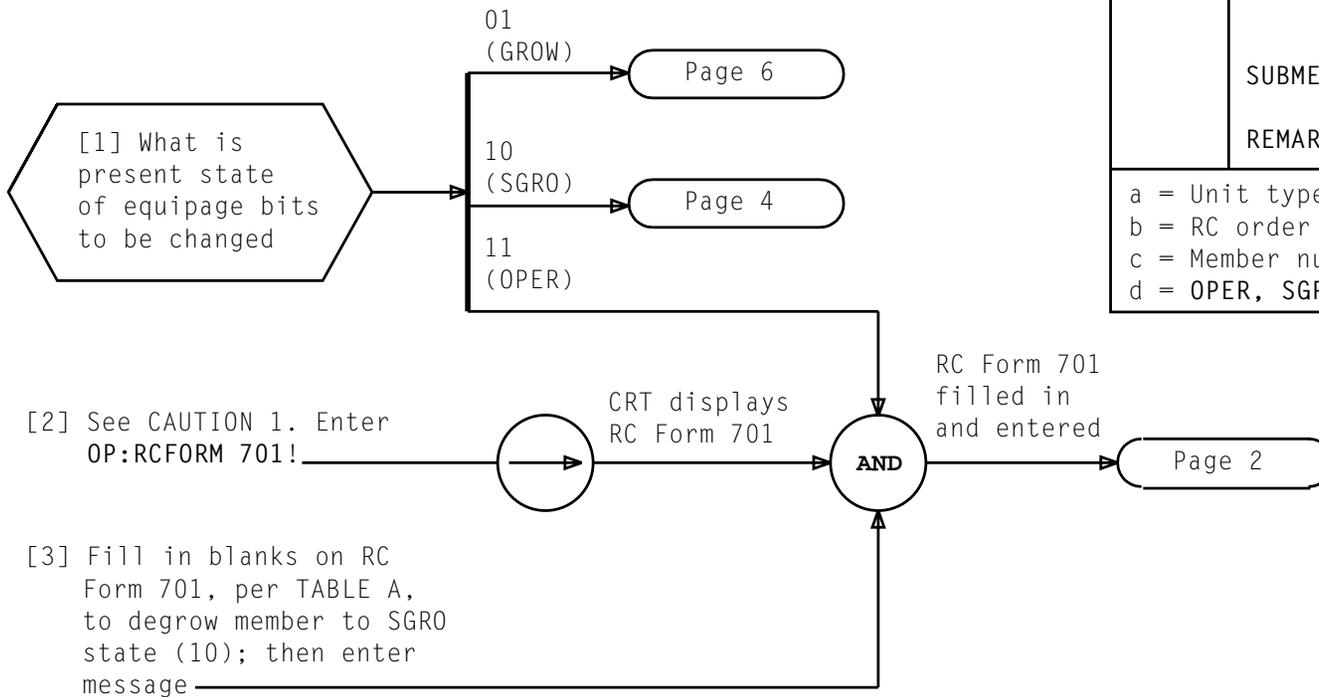
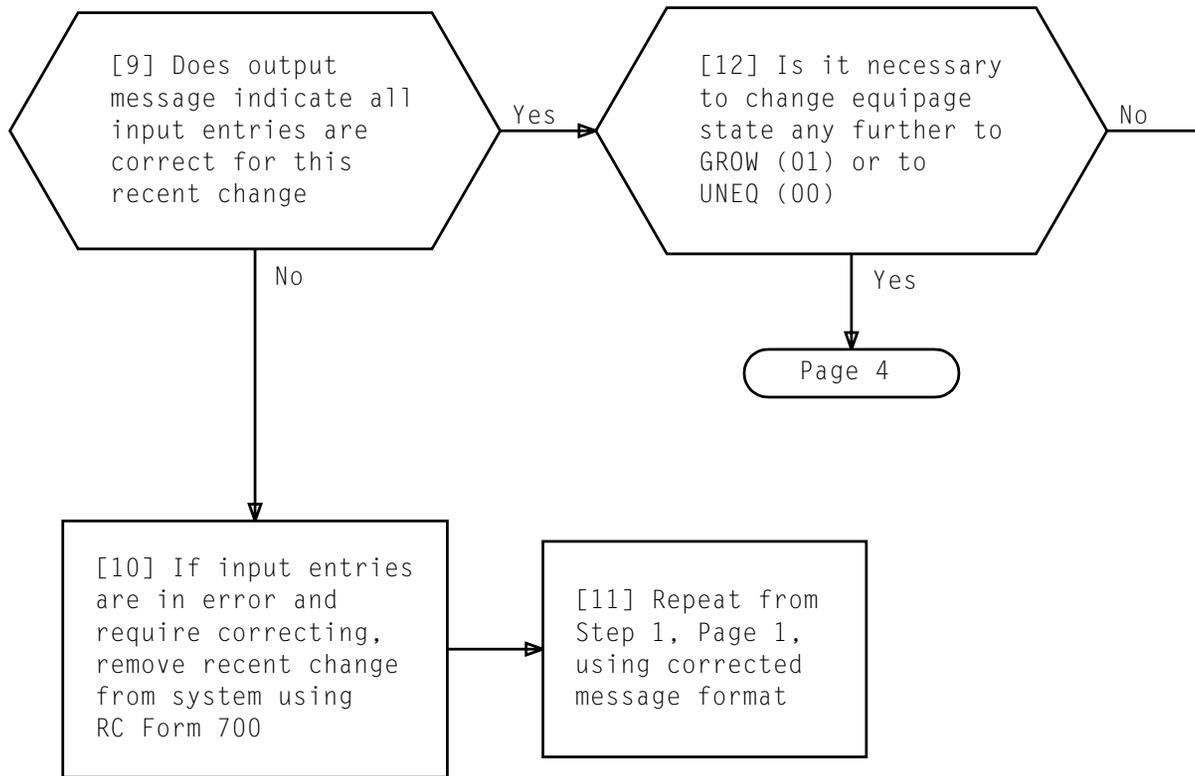


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	RC:UTYPE;CHG;OPT(EQP,DEGROW),TST: UTYN a, ORNU b, MEMN c, OLD NEW ME (d , d), SUBMEM ----, OLD NEW SME (----, ----), REMARKS -----!
a = Unit type = GRID, MFS, or TPOS b = RC order number c = Member number of degrowth frame d = OPER, SGRO	

<i>CAUTION 1 Calling up RC form will cause all CRT data to be cleared</i>	
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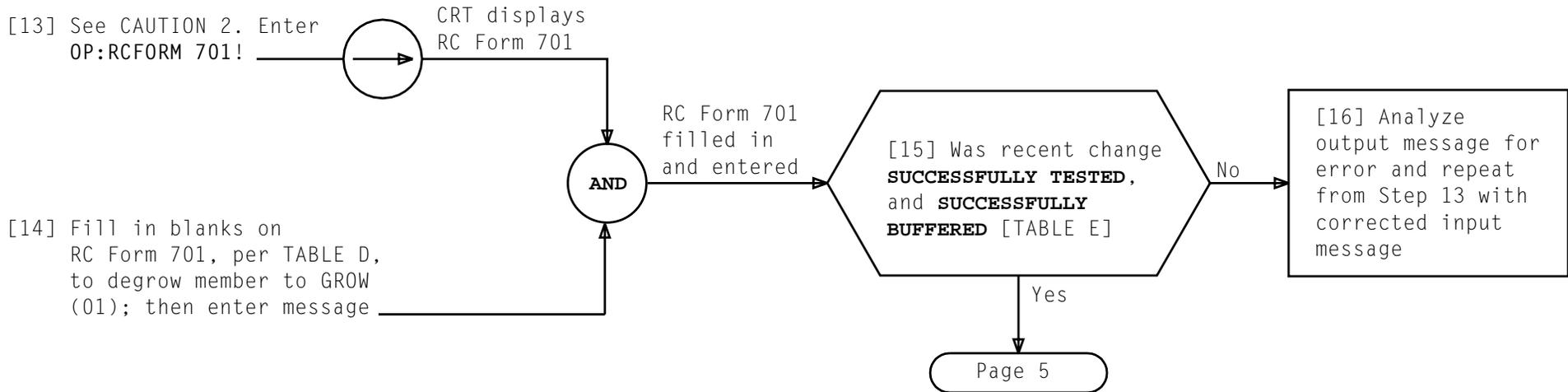


TABLE D	
RC:UTYPE;CHG;OPT(EQP,DEGROW),TST:	UTYN a,
ORNU b,	
	OLD NEW
MEMN c,	ME (d , d),
	OLD NEW
SUBMEM _____,	SME (_____, _____),
REMARKS _____!	
a = Unit type = GRID, MFS, or TPOS	
b = RC order number	
c = Member number of degrowth frame	
d = SGRO, GROW	

TABLE E	
RC ORNU b	SUCCESSFULLY TESTED
RC ORNU b	SUCCESSFULLY BUFFERED
RC:UTYPE;CHG;OPT(EQP,DEGROW),BUF:	UTYN a,
ORNU b,	
	OLD NEW
MEMN c,	ME (SGRO, GROW),
	OLD NEW
SUBMEM _____,	SME (_____, _____),
REMARKS _____!	
a = Unit type = GRID, MFS, or TPOS	
b = RC order number	
c = Member number of degrowth frame	

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

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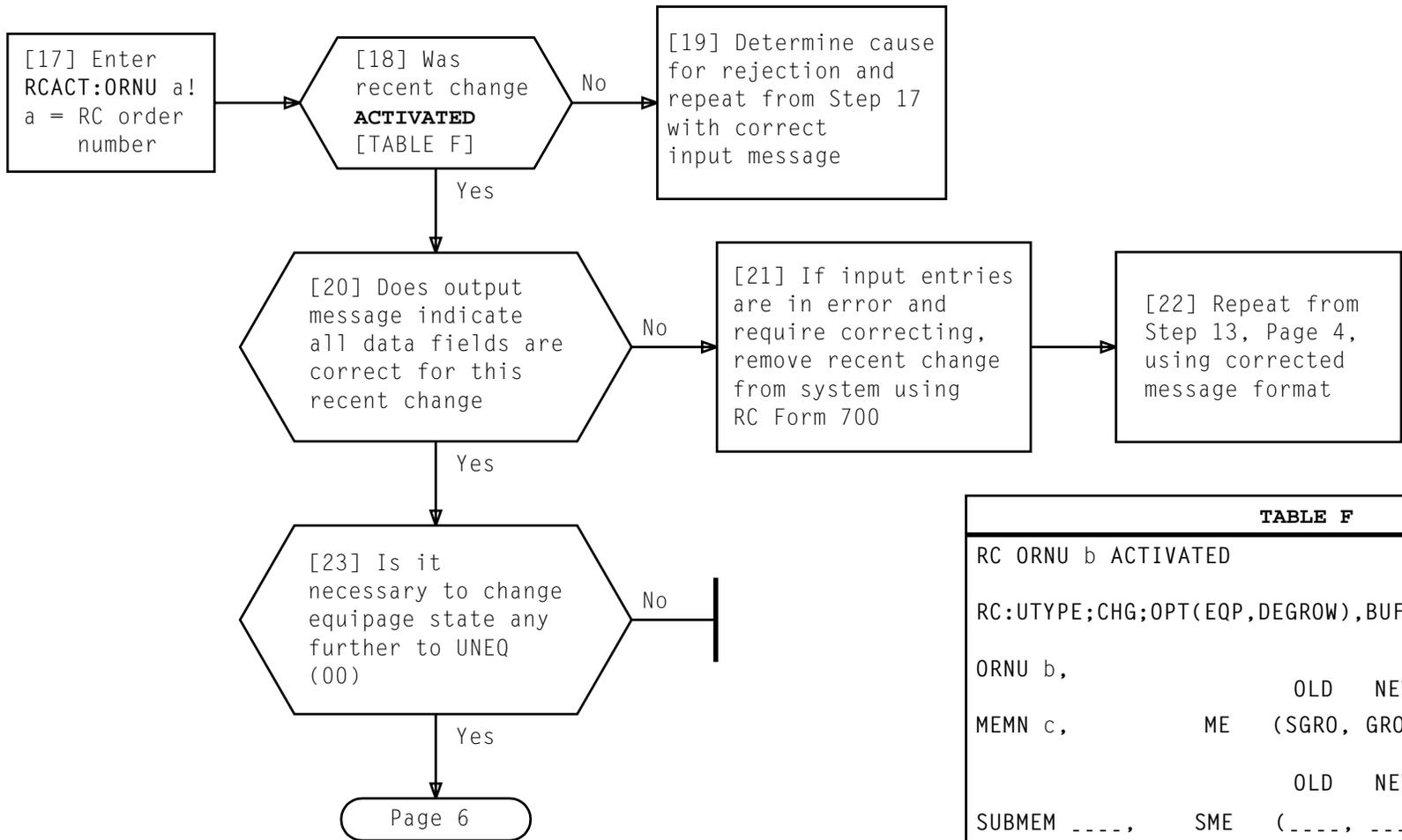


TABLE F	
RC ORNU b ACTIVATED	
RC:UTYPE;CHG;OPT(EQP,DEGROW),BUF:	UTYN a,
ORNU b,	
	OLD NEW
MEMN c, ME (SGRO, GROW),	
	OLD NEW
SUBMEM _____, SME (_____, _____),	
REMARKS.....!	
a = Unit type = GRID, MFS, or TPOS	
b = RC order number	
c = Member number of degrowth frame	

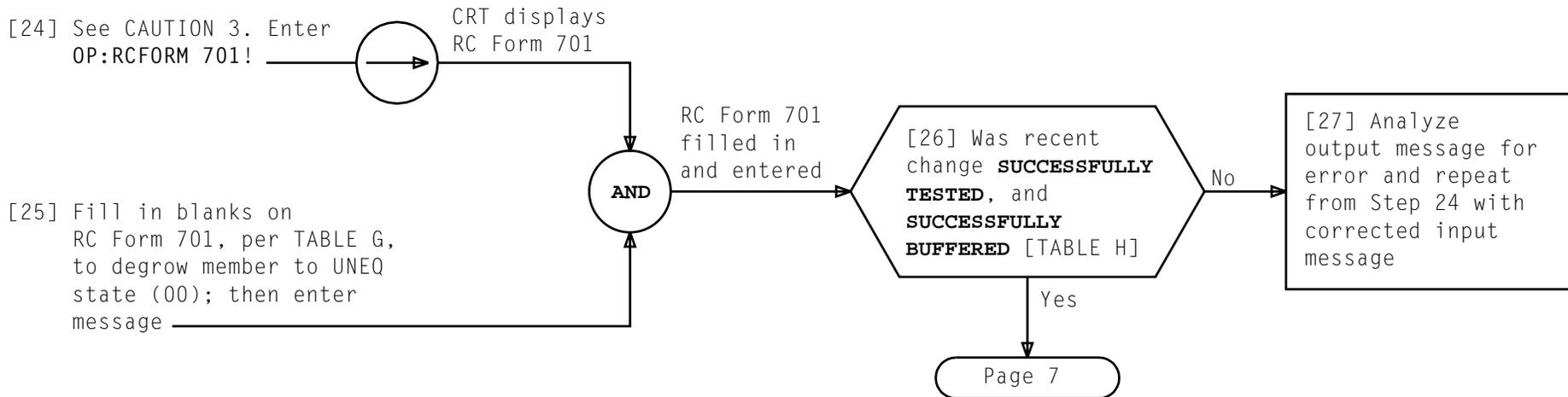


TABLE G	
RC:UTYPE;CHG;OPT(EQP,DEGROW),TST:	UTYN a,
ORNU b,	
	OLD NEW
MEMN c, ME (d, d),	
	OLD NEW
SUBMEM _____, SME (_____, _____),	
REMARKS _____!	
a = Unit type = GRID, MFS, or TPOS	
b = RC order number	
c = Member number of degrowth frame	
d = GROW, UNEQ	

TABLE H	
RC ORNU b SUCCESSFULLY TESTED	
RC ORNU b SUCCESSFULLY BUFFERED	
RC:UTYPE;CHG;OPT(EQP,DEGROW),BUF:	UTYN a,
ORNU b,	
	OLD NEW
MEMN c, ME (GROW, UNEQ),	
	OLD NEW
SUBMEM _____, SME (_____, _____),	
REMARKS _____!	
a = Unit type = GRID, MFS, or TPOS	
b = RC order number	
c = Member number of degrowth frame	

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

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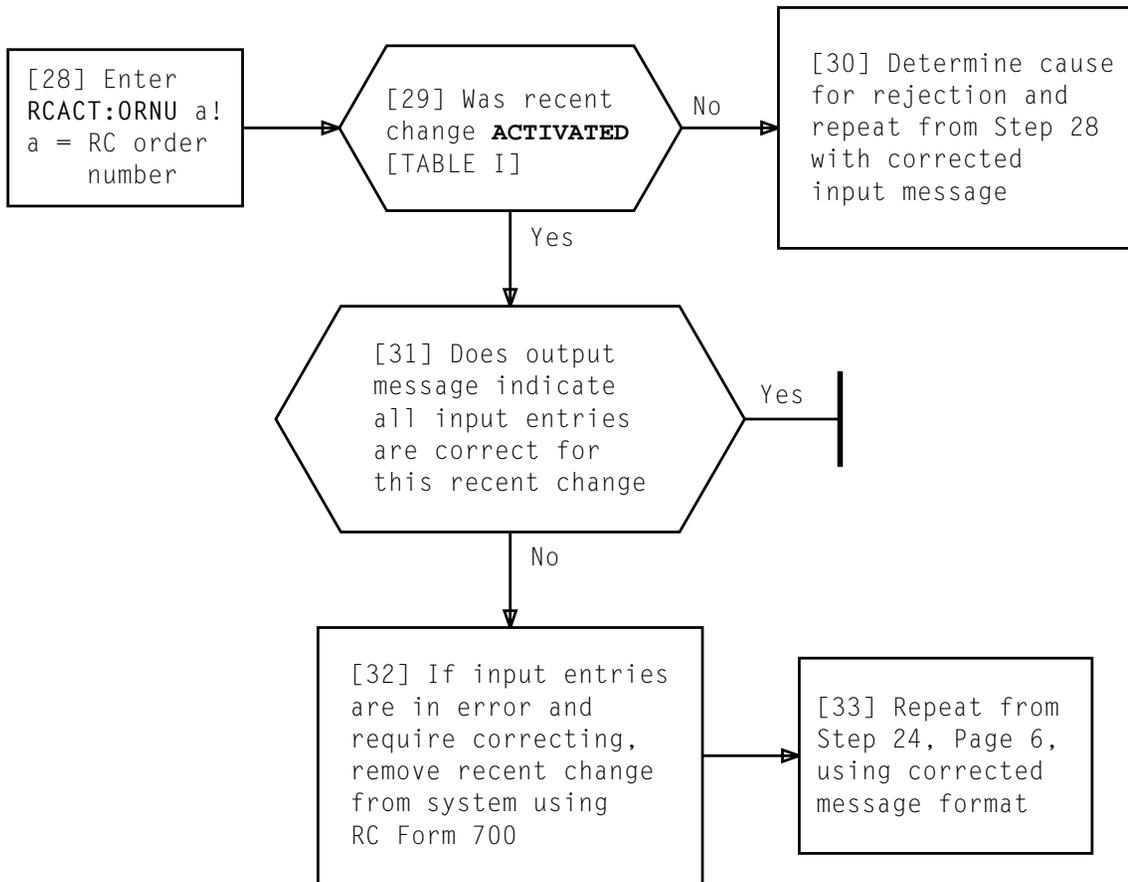


TABLE I	
RC ORNU b ACTIVATED	
RC:UTYPE;CHG;OPT(EQP,DEGROW),BUF:	UTYN a,
ORNU b,	
	OLD NEW
MEMN c,	ME (GROW, UNEQ),
	OLD NEW
SUBMEM	SME (.....,),
REMARKS.....!	
a = Unit type = GRID, MFS, or TPOS	
b = RC order number	
c = Member number of degrowth frame	

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

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

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

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

[6] Search ROW and COL listing in office record and locate row and column previously recorded

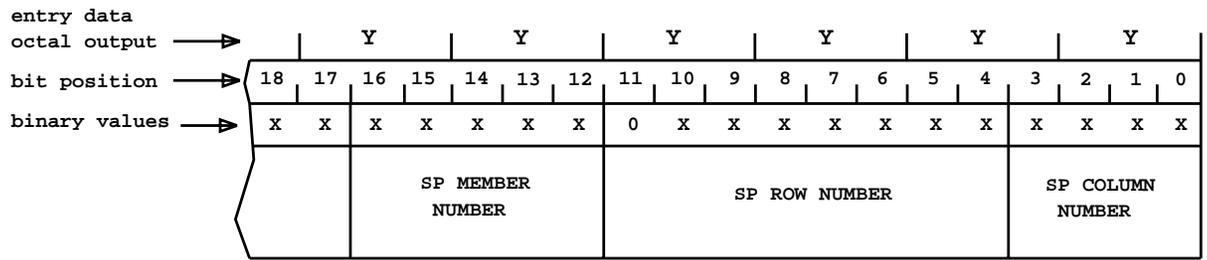
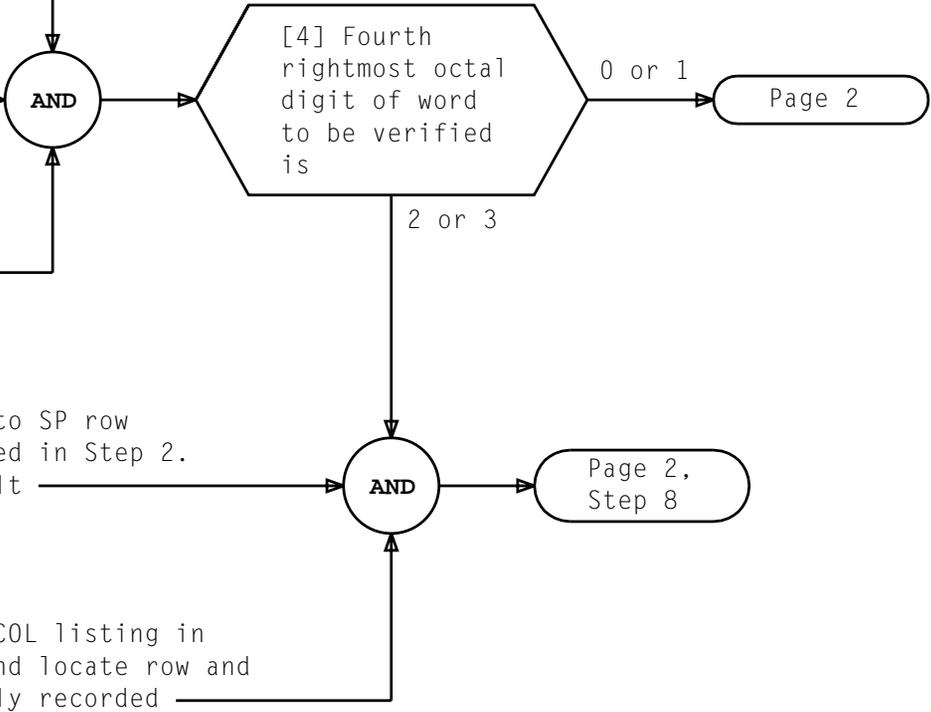
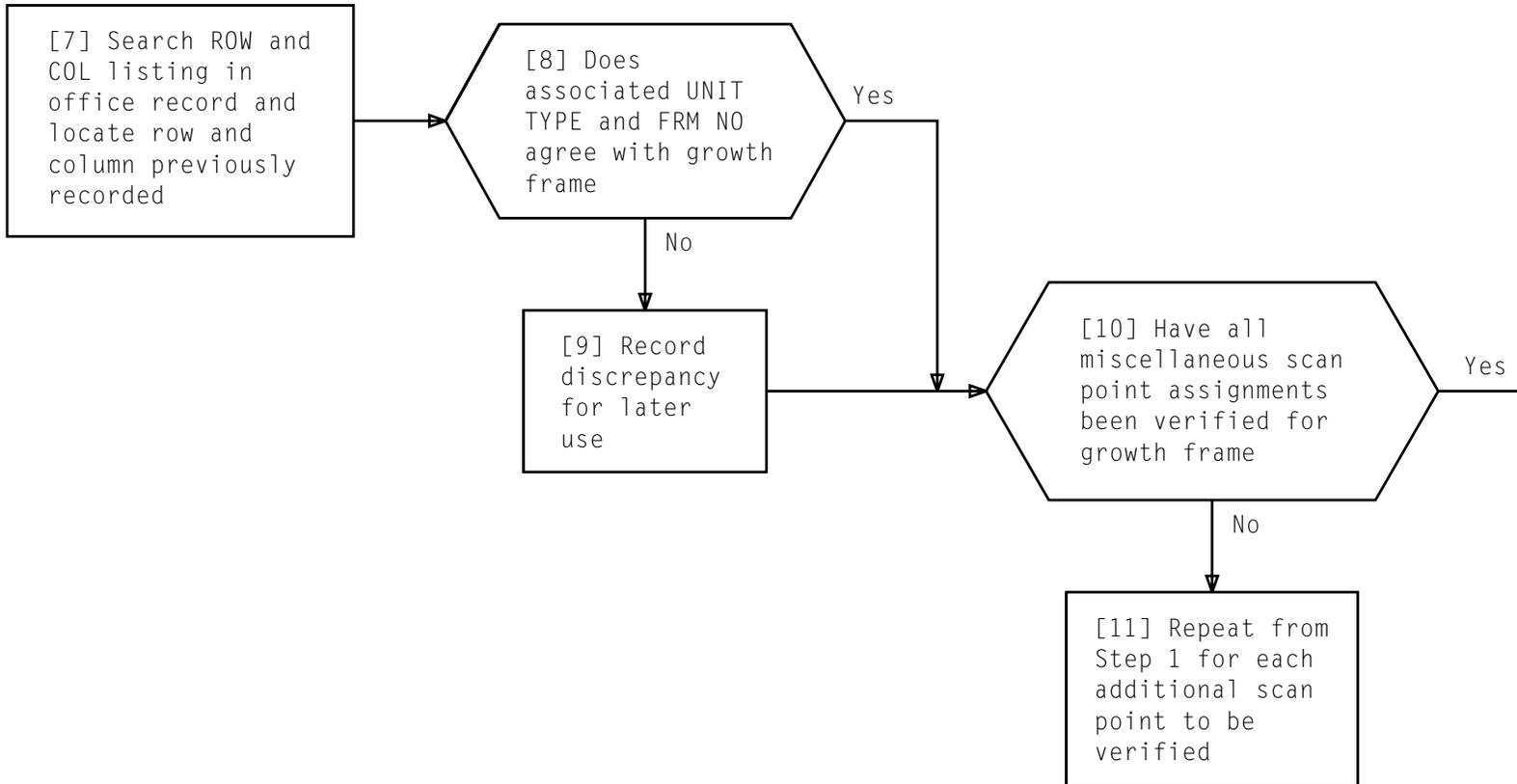


FIG. 1 - Entry Data Word Layout

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VERIFY MISCELLANEOUS SCAN POINT ASSIGNMENT(S) FOR GROWTH FRAME

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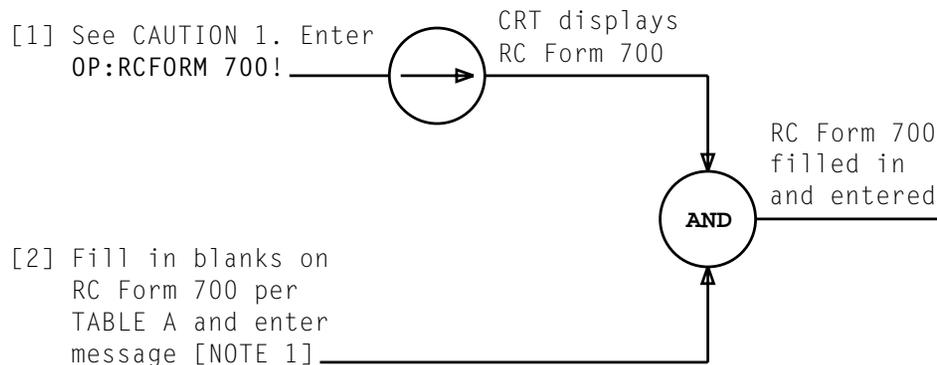
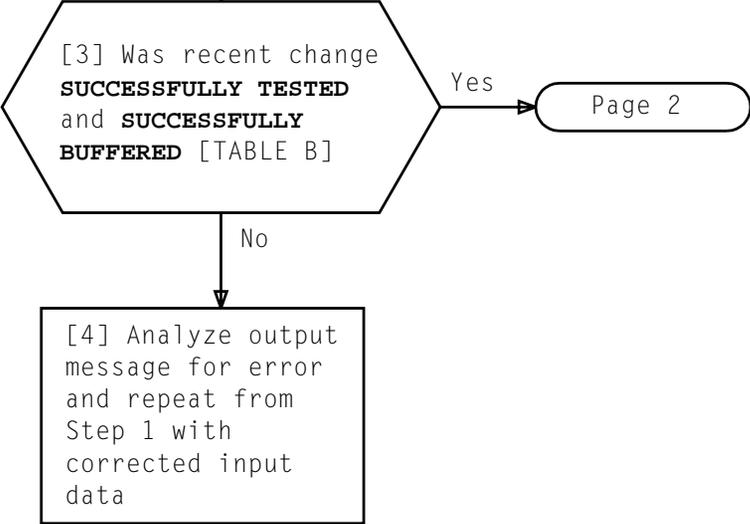


TABLE A	
RC:UTYPE;CHG;OPT(EQP,GROW),TST:	UTYN a,
ORNU b,	
MEMN c,	OLD NEW ME (d, d),
SUBMEM	OLD NEW SME (.....,,),
REMARKS.....!	
a = Unit type = GRID, MFS or TPOS b = RC order number c = Member number of growth frame d = UNEQ, GROW or GROW, SGRO or SGRO, OPER	

TABLE B	
RC ORNU a,	SUCCESSFULLY TESTED
RC ORNU a,	SUCCESSFULLY BUFFERED
RC:UTYPE;CHG;OPT(EQP,GROW),BUF:	UTYN b,
ORNU a,	
MEMN c,	OLD NEW ME (d, d),
SUBMEM	OLD NEW SME (.....,,),
REMARKS.....!	
a = RC order number b = Unit type = GRID, MFS or TPOS c = Member number of growth frame d = Entered member equipage	



NOTE 1
When growing TPOS,
member number is
two-digit value.
First is control
area and second is
test position number

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

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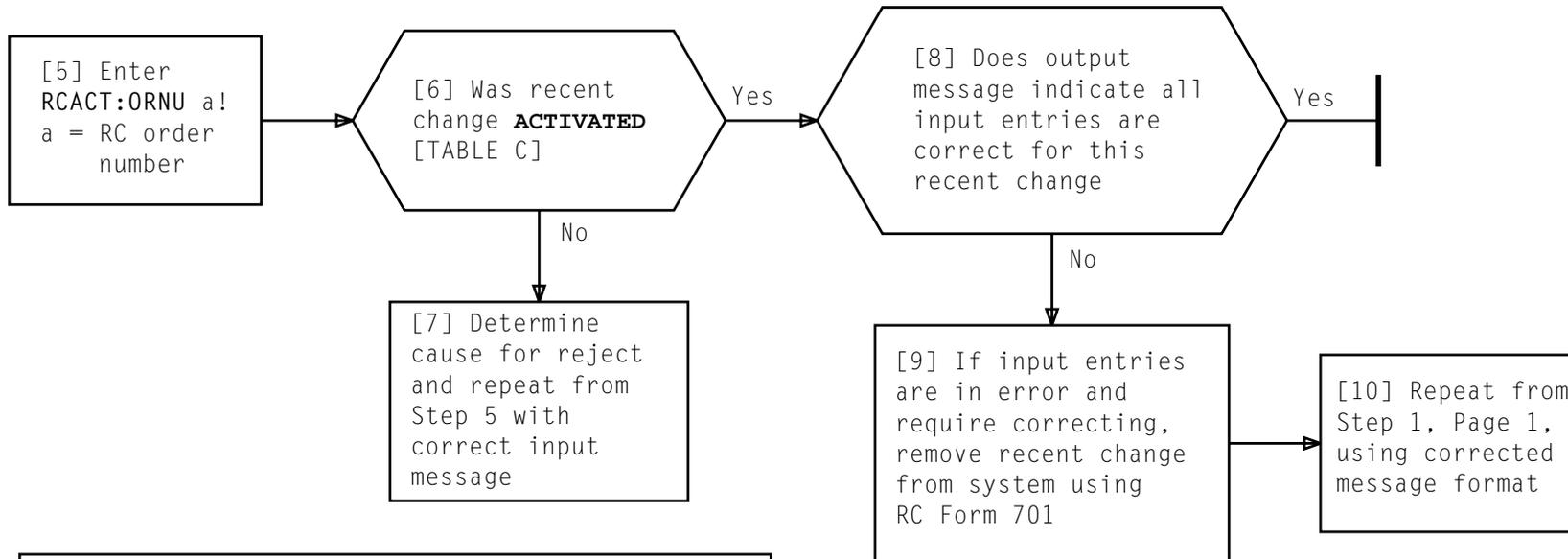


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:UTYPE;CHG;OPT(EQP,GROW),BUF: UTYN b, ORNU a, MEMN c, ME (d, d), OLD NEW OLD NEW SUBMEM, SME (.....,), REMARKS----- !
a = RC order number b = Unit type = GRID, MFS or TPOS c = Member number of growth frame d = Entered member equipage	

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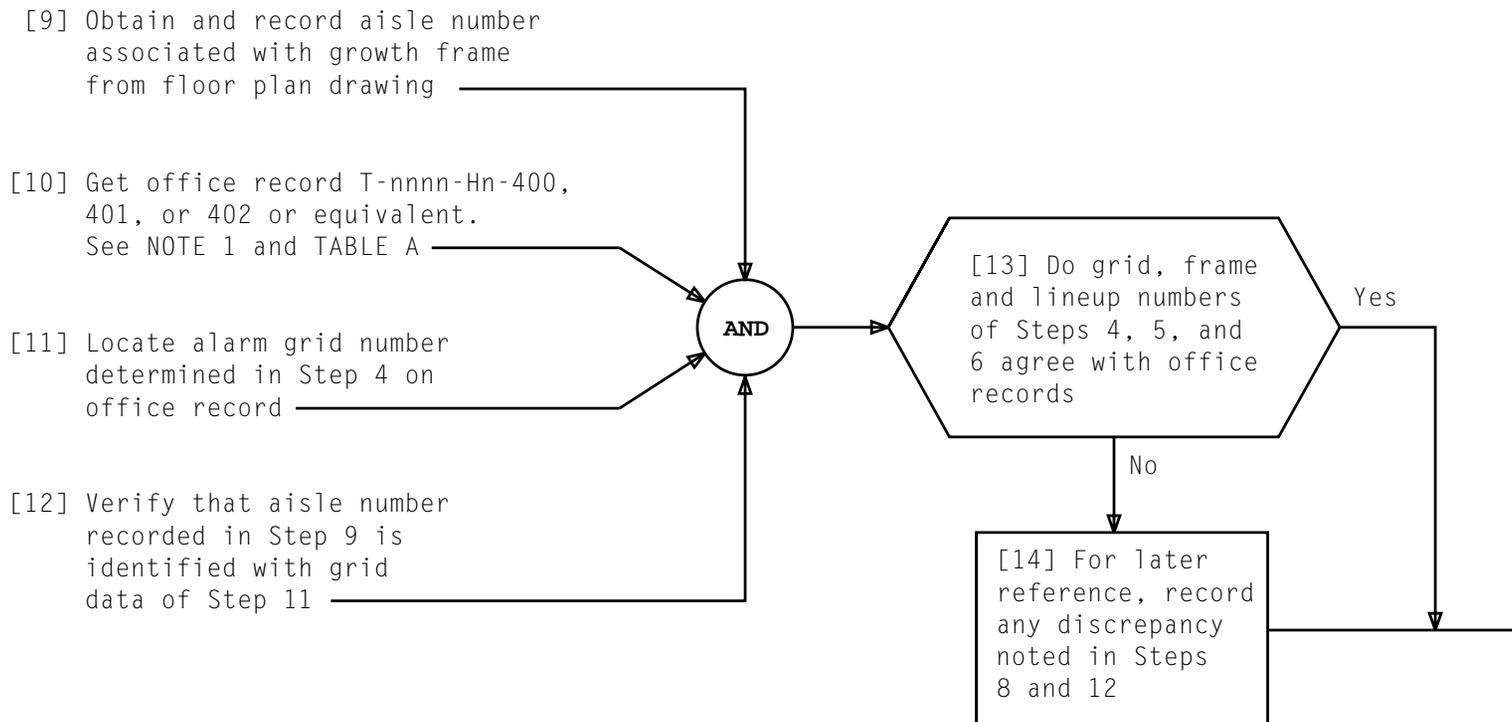


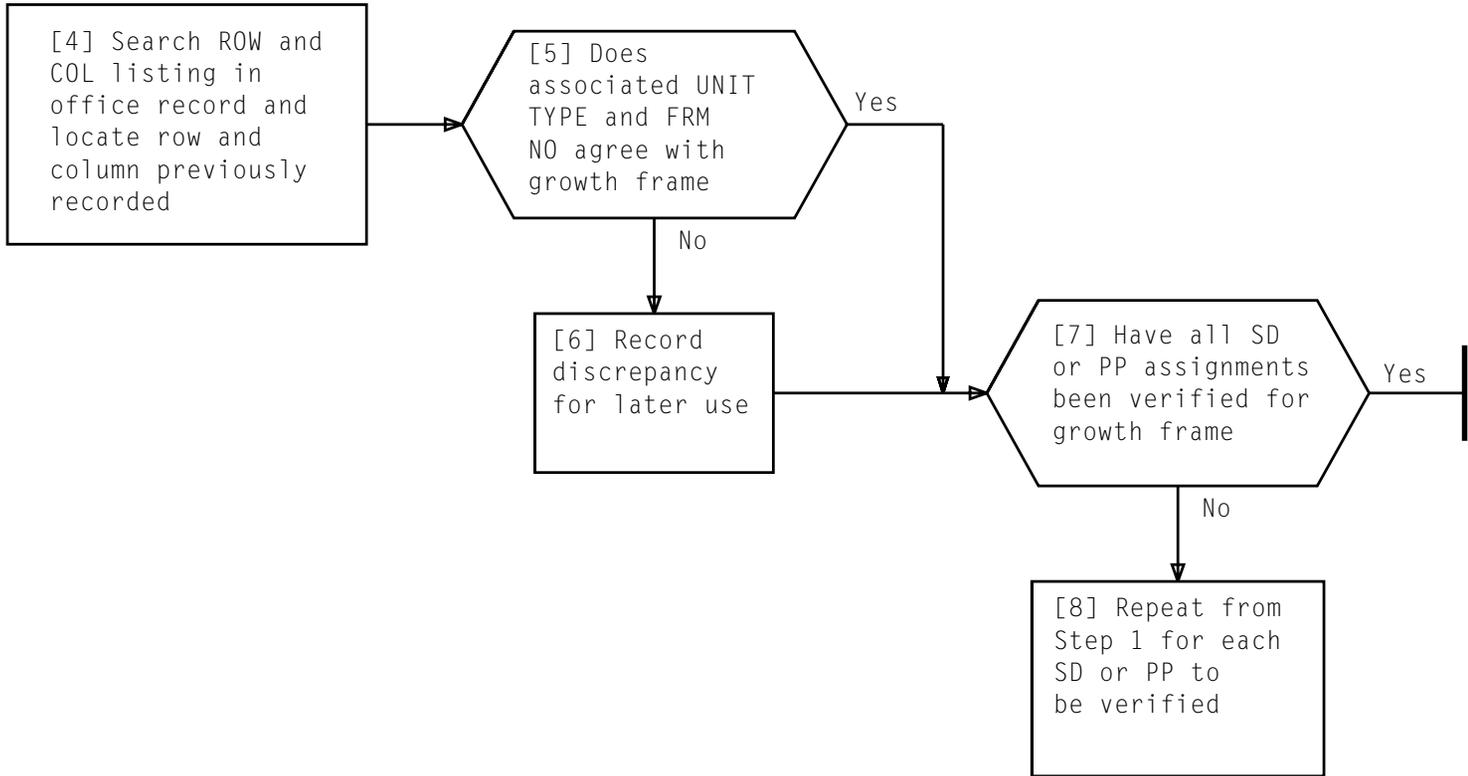
TABLE A	
ALARM GRIDS	DRAWING NUMBER
1 through 5	T-nnnn-Hn-400
6 through 10	T-nnnn-Hn-401
11 through 15	T-nnnn-Hn-402

NOTE 1
 n = Office unique drawing identification number

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VERIFY SD OR PULSE POINT ASSIGNMENTS FOR GROWTH FRAME

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SUMMARY

Using verify entry input message, call the CCT UT translator and verify that resulting TTY octal output data, when converted, agrees with office records. Refer to

entry word explanations in TABLE B, Page 4 for assistance in interpreting specific data fields. If it is determined that UT entry data are in error, word change(s) may be required.

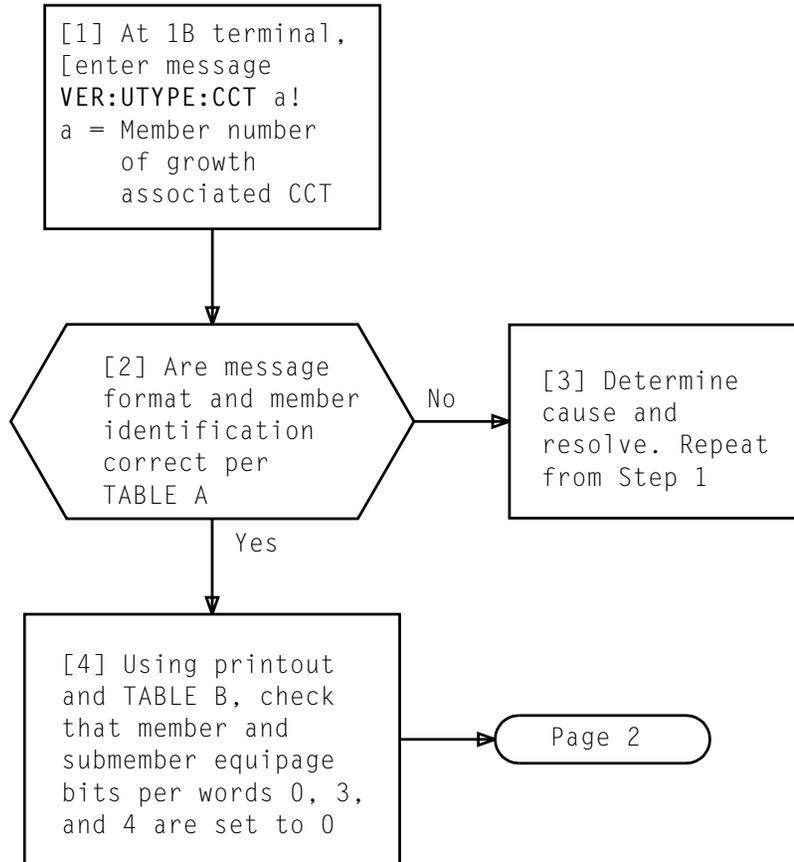
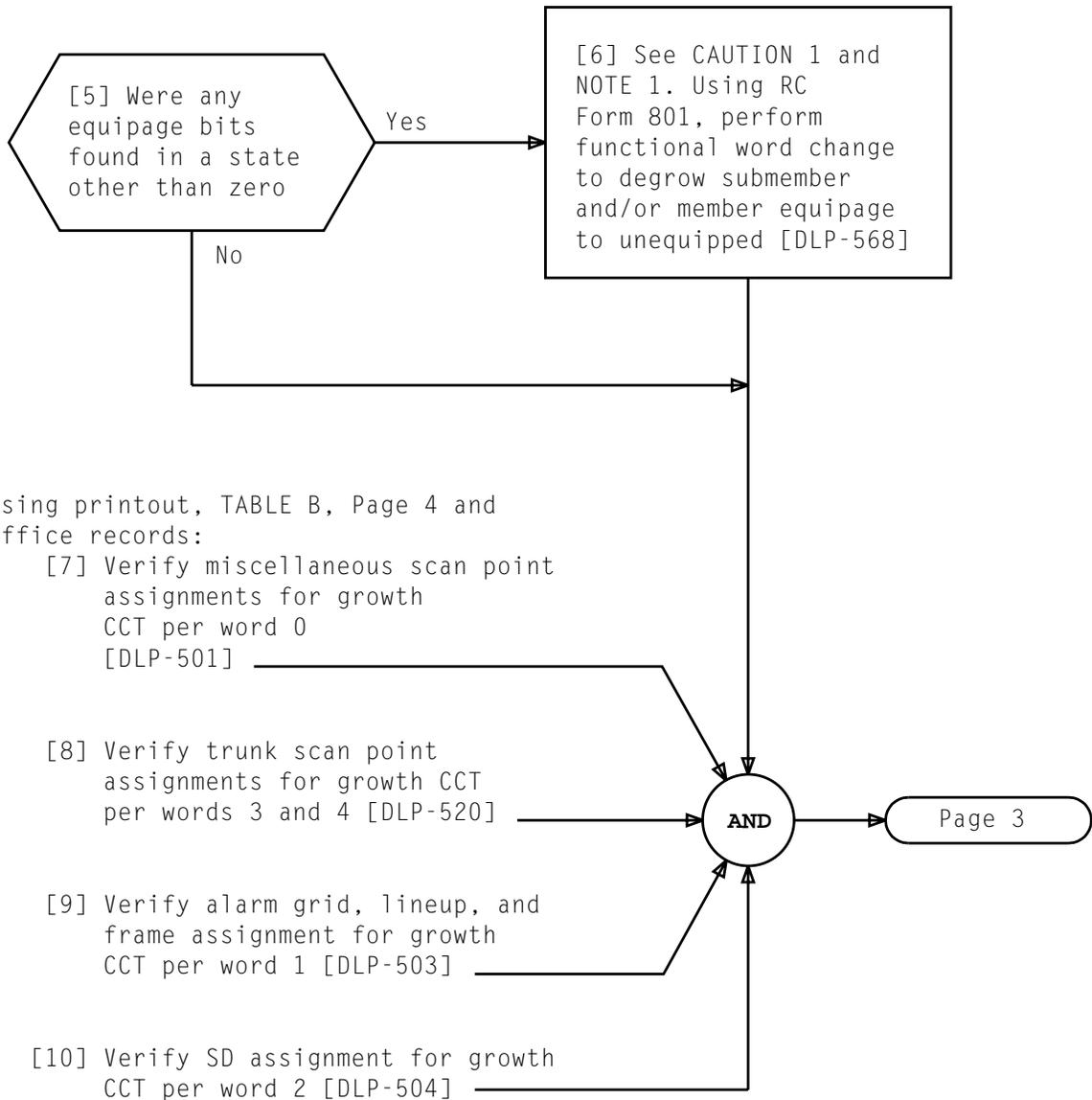


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN CCT, MEMN b, ME UNEQ, ENTRY ADDRESS c, ENTRY SIZE 5, CUR WORD 0 _____ _____
a = Floor location number b = Member number of growth associated CCT c = Starting octal address for unit type entry	

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NOTE 1
 Submember equipage must be degrown first if required followed by degrowth of member equipage, if required

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

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VERIFY CONTINUITY CHECK TRANSCEIVER (CCT) UT TRANSLATOR

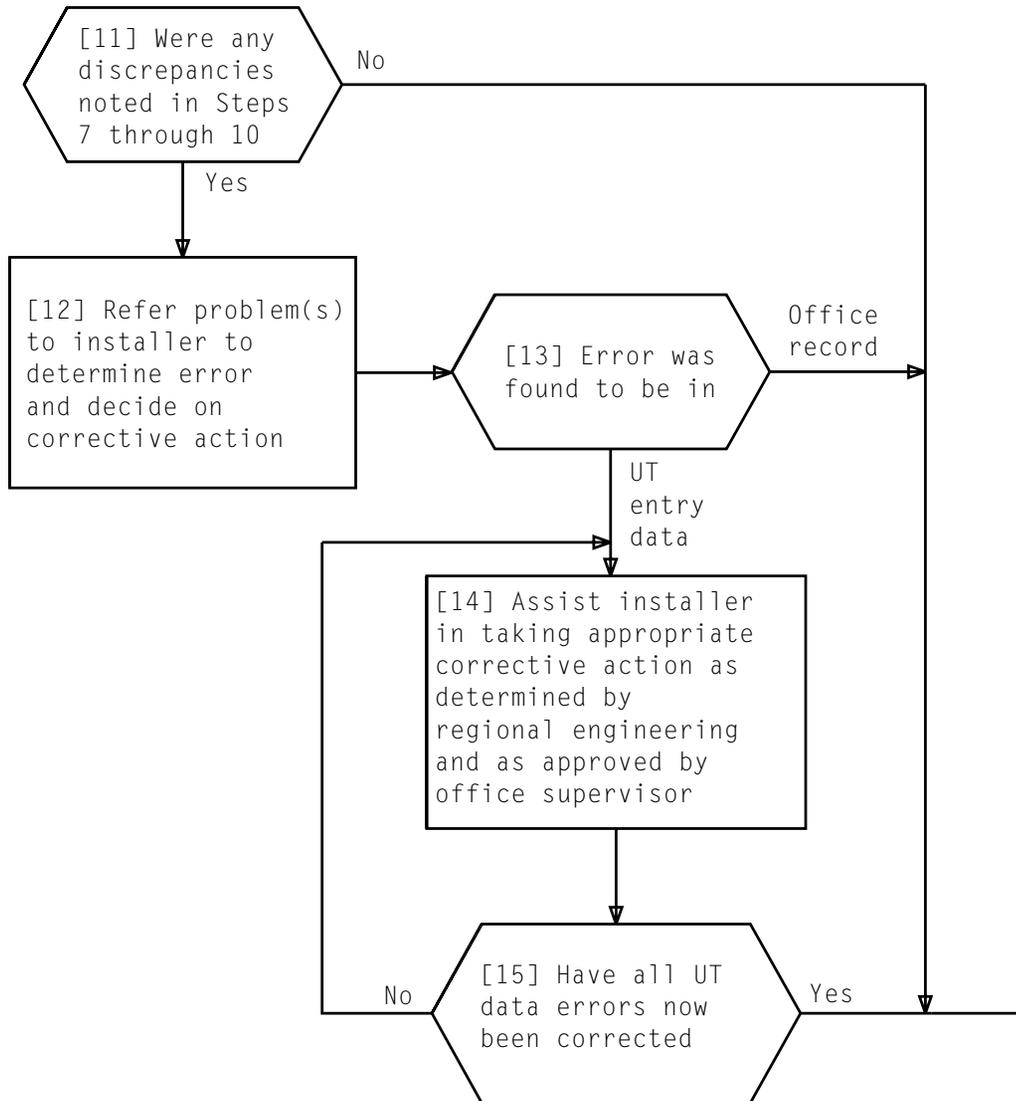


TABLE B

ENTRY WORD (OCTAL)

UT ENTRY DATA AND WORD CONFIGURATION

0	entry 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
		MEMBER EQUIPAGE				SP MEMBER NUMBER				SP ROW NUMBER				SP COLUMN NUMBER											
		MEMBER BASE MISCELLANEOUS SCAN NUMBER																							
		<p>X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent</p> <p>Y = Variable octal numbers</p>																							
1	entry 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															
		<p>X...X = Converts to decimal frame info as reflected in office floor plan drawing</p> <p>Y = Variable octal numbers</p>												<p>ZZZZ = Converts to decimal alarm grid number as reflected in office record drawings T-nnnn-Hn-400, 401, or 402 or equivalent</p>											

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
2	entry data	0		0		Y		Y		Y		Y		Y		Y									
	octal output																								
	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	Z	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X
								*	SP MEMBER NUMBER				SP ROW NUMBER				SP COLUMN NUMBER								
		MEMBER BASE MISCELLANEOUS SD NUMBER																							
	<p>X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent Y = Variable octal numbers</p> <p>*CCT rack mounting type Z = 0 for type 1: subunit with 8 transceivers and 2 test circuits = 1 for type 2: two subunits each with 6 transceivers</p>																								
3	entry data	0		0		Y		Y		Y		Y		Y		Y									
	octal output																								
	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	X	X	X	X	X	X	X	X	X	X	X	X
							SUBUNIT 1 EQUIPAGE	SP MEMBER NUMBER				SP ROW NUMBER				SP COLUMN NUMBER									
		TRUNK SCAN NUMBER (TSN1)																							
	<p>X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-460 or equivalent</p> <p>Y = Variable octal numbers</p>																								

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
4	entry data	0		0		Y		Y		Y		Y		Y		Y									
	octal output																								
	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	X	X	X	X	X	X	X	X	X	X	X	X
							SUBUNIT 2 EQUIPAGE	SP MEMBER NUMBER				SP ROW NUMBER					SP COLUMN NUMBER								
TRUNK SCAN NUMBER (TSN2)																									
<p>X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-460 or equivalent</p> <p>Y = Variable octal numbers</p>																									

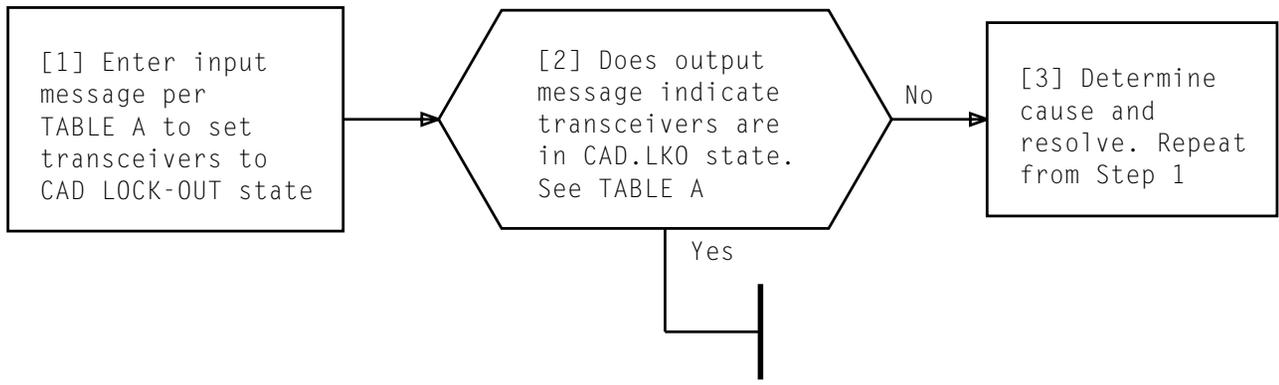


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT CAD.LKO,CIN a0ØSVC*XCVR:NUM 6!	SET:TRKSTAT CAD.LKO<MAN> TRAF<c> ,CIN a0/bSVC* XCVR *** • • SET:TRKSTAT ,CIN a0/bSVC* XCVR *** NUM COMPLETED TRK COUNT 6
a = Member number of growth CCT to which transceivers belong b = Number of first transceiver in submember = 0 for transceivers 00-05 = 6 for transceivers 06-11 c = Trunk register state code	

SET TRANSCEIVERS (CCT) TO CAD LOCK-OUT STATE

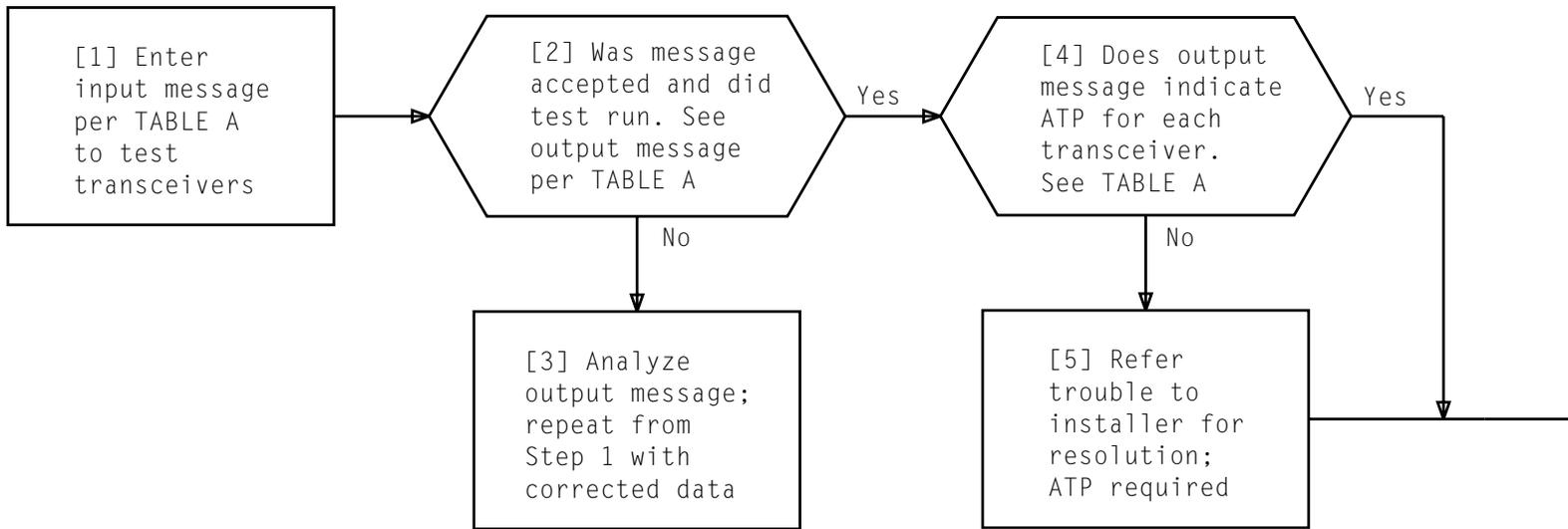


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
TEST:TRK,CIN a0/BSVC*XCVR;SVC:TSG,STAT CAD.LK0!	TEST:TRK,CIN a0/bSVC* XCVR *** ;SVC ,ATP . . TEST:TRK,CIN a0/bSVC* XCVR *** ;SVC , TSG STAT CAD.LK0 COMPLETED
a = Member number of growth CCT to which transceivers belong b = Number of first transceiver in submember = 0 for transceivers 00-05 = 6 for transceivers 06-11	

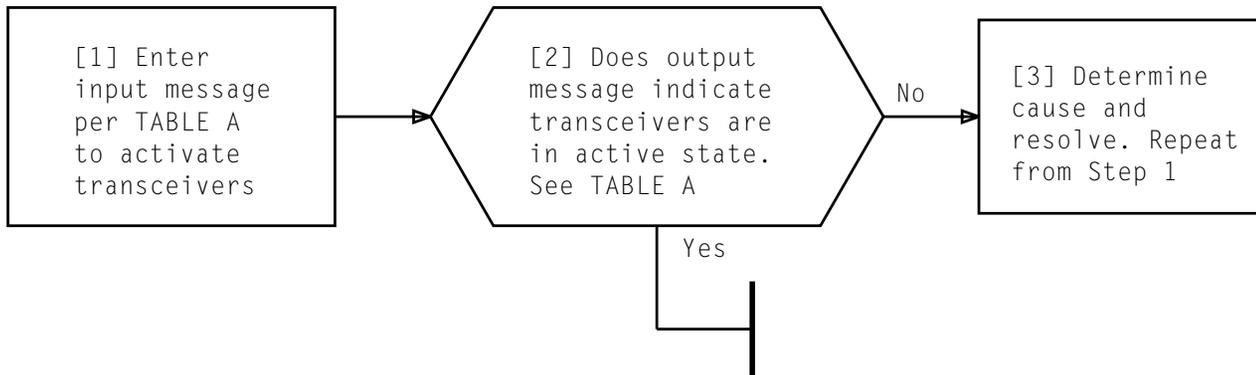


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT ACT,CIN a0/SVC*XCVR:STAT CAD.LK0!	SET:TRKSTAT ACT TRAF<c> ,CIN a0/bSVC* XCVR *** • • SET:TRKSTAT ,CIN a0/bSVC* XCVR *** TSG,STAT COMPLETED TRK COUNT 6
a = Member number of growth CCT to which transceivers belong b = Number of first transceiver in submember = 0 for transceivers 00-05 = 6 for transceivers 06-11 c = Trunk register state code	

SUMMARY

Using verify entry input message, call up CCT UT translator and verify that resulting TTY octal output data, when converted, agrees with office records. Refer to

entry word explanations in TABLE B, Page 3 for assistance in interpreting specific data fields. If it is determined that UT entry data are in error, word change(s) may be required.

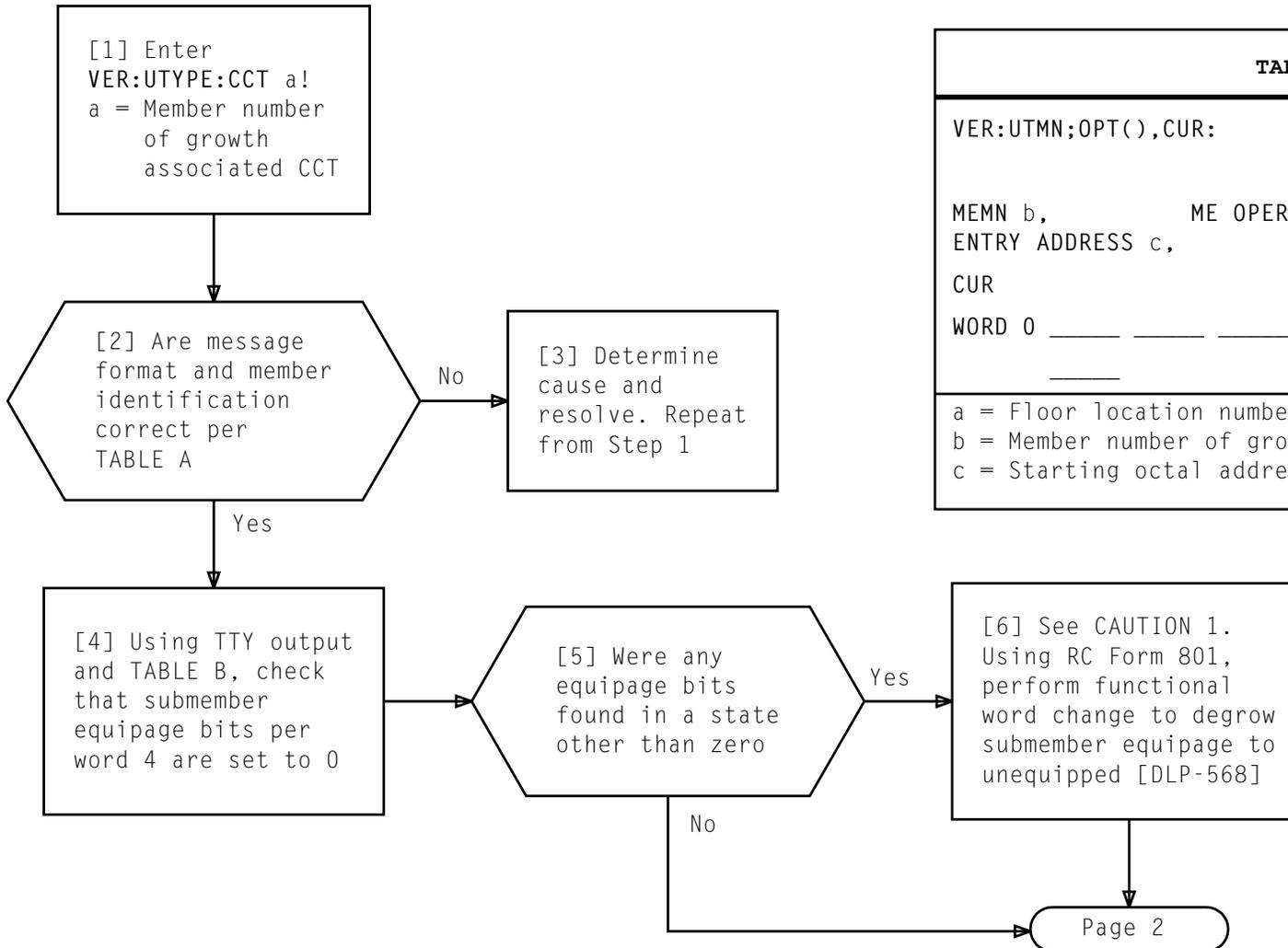
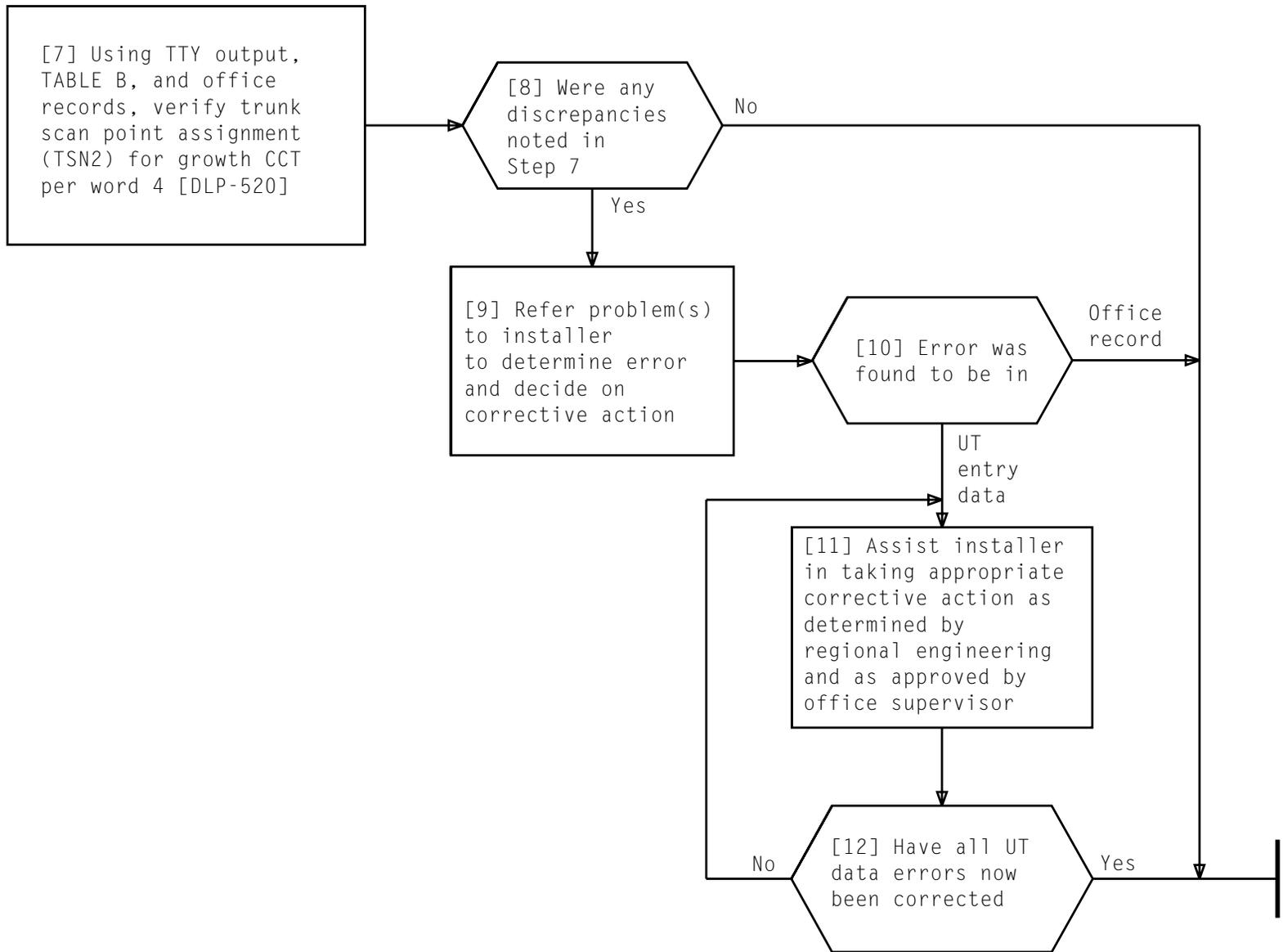


TABLE A		
VER:UTMN;OPT(),CUR:	FLN a,	UTYN CCT,
MEMN b,	ME OPER,	
ENTRY ADDRESS c,		ENTRY SIZE 5,
CUR		
WORD 0	_____	_____

a = Floor location number b = Member number of growth associated CCT c = Starting octal address for unit type entry		

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

**VERIFY CONTINUITY CHECK TRANSCEIVER (CCT) UT TRANSLATOR
 (ADDING SUBMEMBER ONLY)**



**VERIFY CONTINUITY CHECK TRANSCEIVER (CCT) UT TRANSLATOR
(ADDING SUBMEMBER ONLY)**

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TABLE B																									
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
4	entry 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	X	X	X	X	X	X	X	X	X	X	X	X
							SUBUNIT 2	SP MEMBER NUMBER					L OR R MATRIX	SP ROW NUMBER					SP COLUMN NUMBER						
							EQUIPAGE	TRUNK SCAN NUMBER (TSN2)																	
	X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-460 or equivalent												Y = Variable octal numbers												

VERIFY CONTINUITY CHECK TRANSCEIVER (CCT) UT TRANSLATOR
(ADDING SUBMEMBER ONLY)

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SUMMARY

Using verify input message, call up appropriate UT translator and verify that resulting TTY octal output data, when converted, agrees with office records. Refer

to entry word explanations in TABLE C, Page 4, as required, for assistance in interpreting specific data fields. If it is determined that UT entry data are in error, word change(s) may be required.

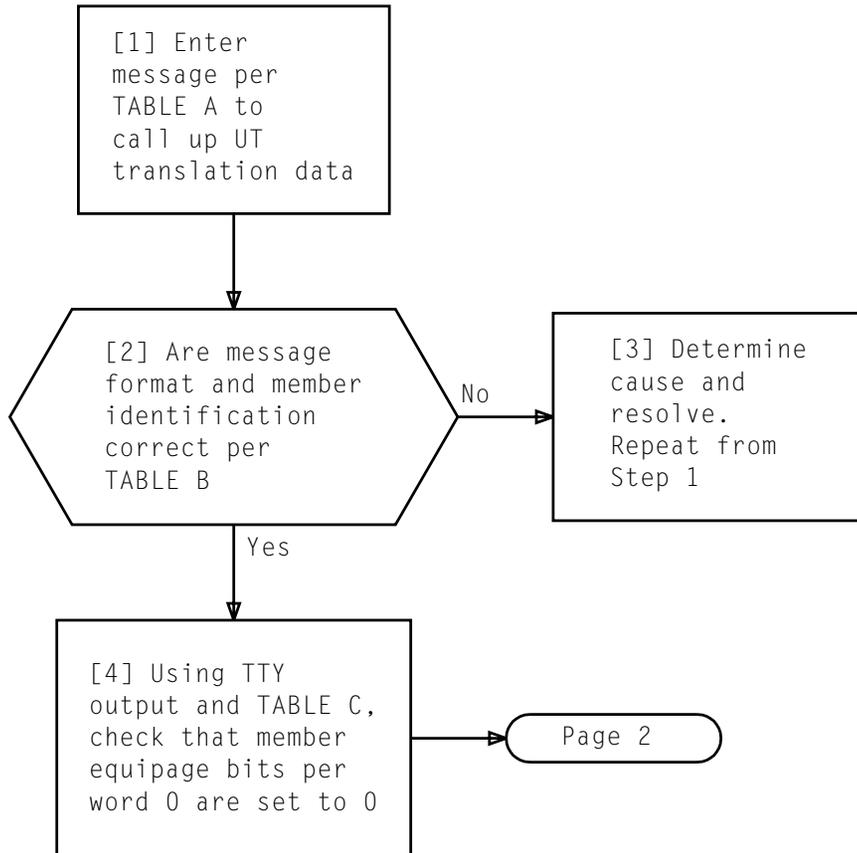
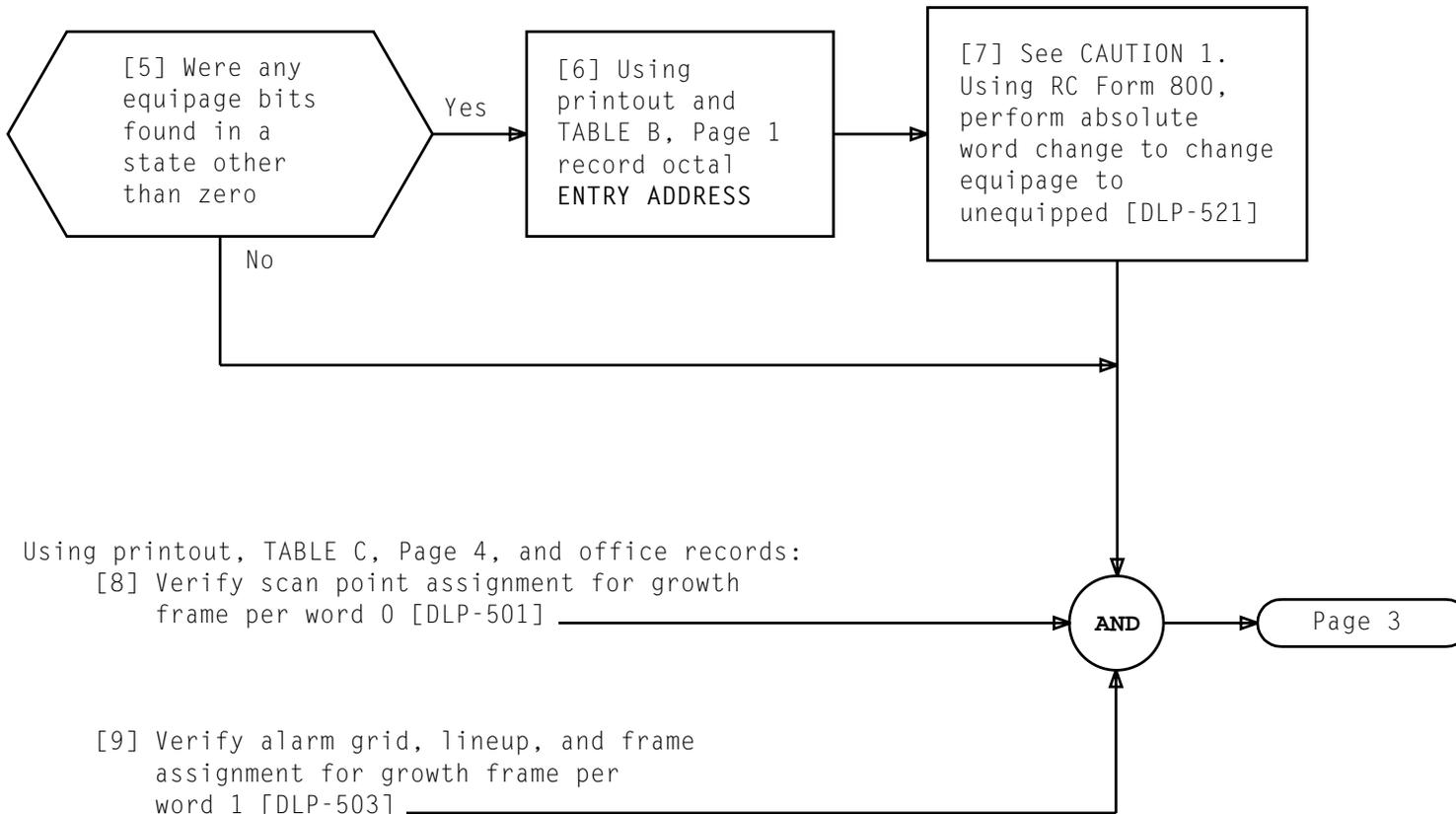


TABLE A	
VER:UTYPE:a b!	
a = Unit type	
= PP620 (for 620A Power Plant)	
= PP625 (for 625F Power Plant)	
= PP630 (for 630A Power Plant)	
= ABCNT (for Area Bus Center)	
b = Member number of growth unit	

TABLE B	
VER:UTMN;OPT(),CUR: FLN a, UTYN b,	
MEMN c, ME UNEQ, ENTRY ADDRESS d, ENTRY SIZE 2,	
CUR WORD 0 _____	
a = Floor location number	
b = Unit type = PP620 (for 620A Power Plant)	
= PP625 (for 625F Power Plant)	
= PP630 (for 630A Power Plant)	
= ABCNT (for Area Bus Center)	
c = Member number of growth ABC or Power Plant	
d = Starting octal address for unit type entry	

**VERIFY AREA BUS CENTER (ABC) OR POWER PLANT (620A/625F/630A)
UT TRANSLATOR**

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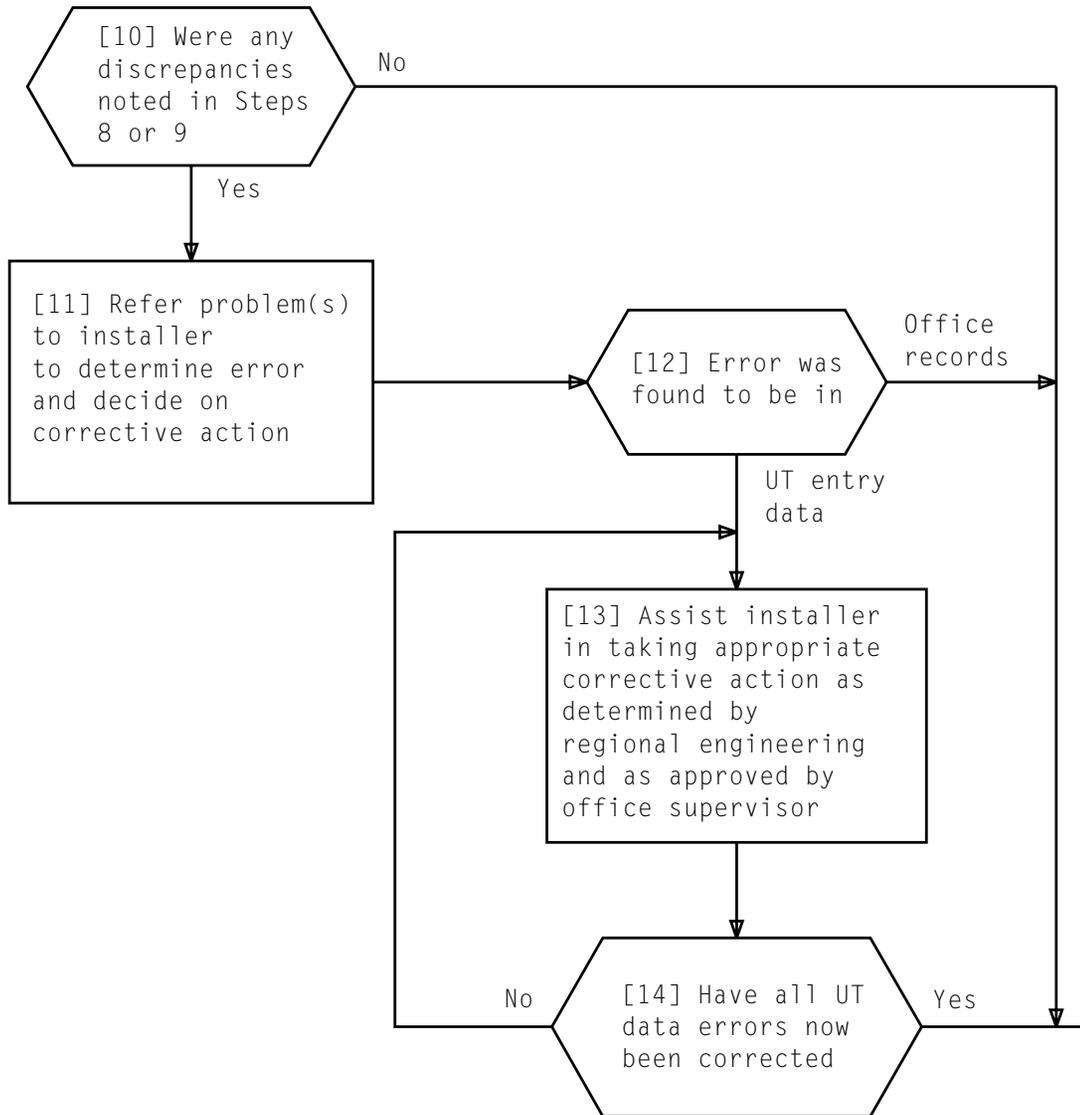
Using printout, TABLE C, Page 4, and office records:

[8] Verify scan point assignment for growth frame per word 0 [DLP-501]

[9] Verify alarm grid, lineup, and frame assignment for growth frame per word 1 [DLP-503]

<i>CAUTION 1 Depend on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data change</i>	
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**VERIFY AREA BUS CENTER (ABC) OR POWER PLANT (620A/625F/630A)
UT TRANSLATOR**



**VERIFY AREA BUS CENTER (ABC) OR POWER PLANT (620A/625F/630A)
UT TRANSLATOR**

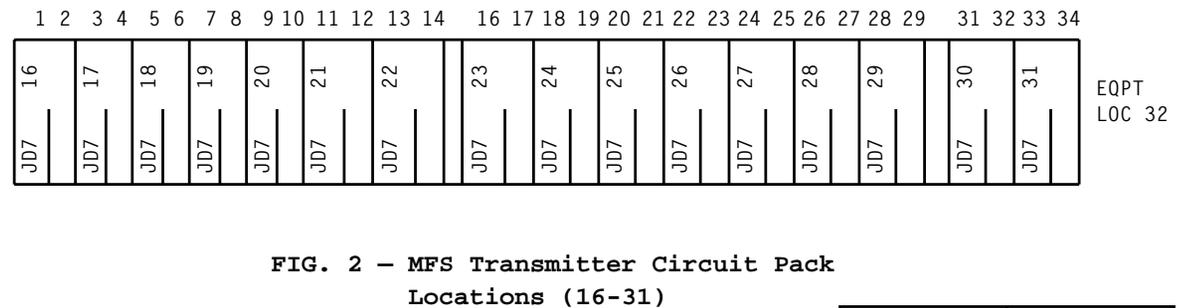
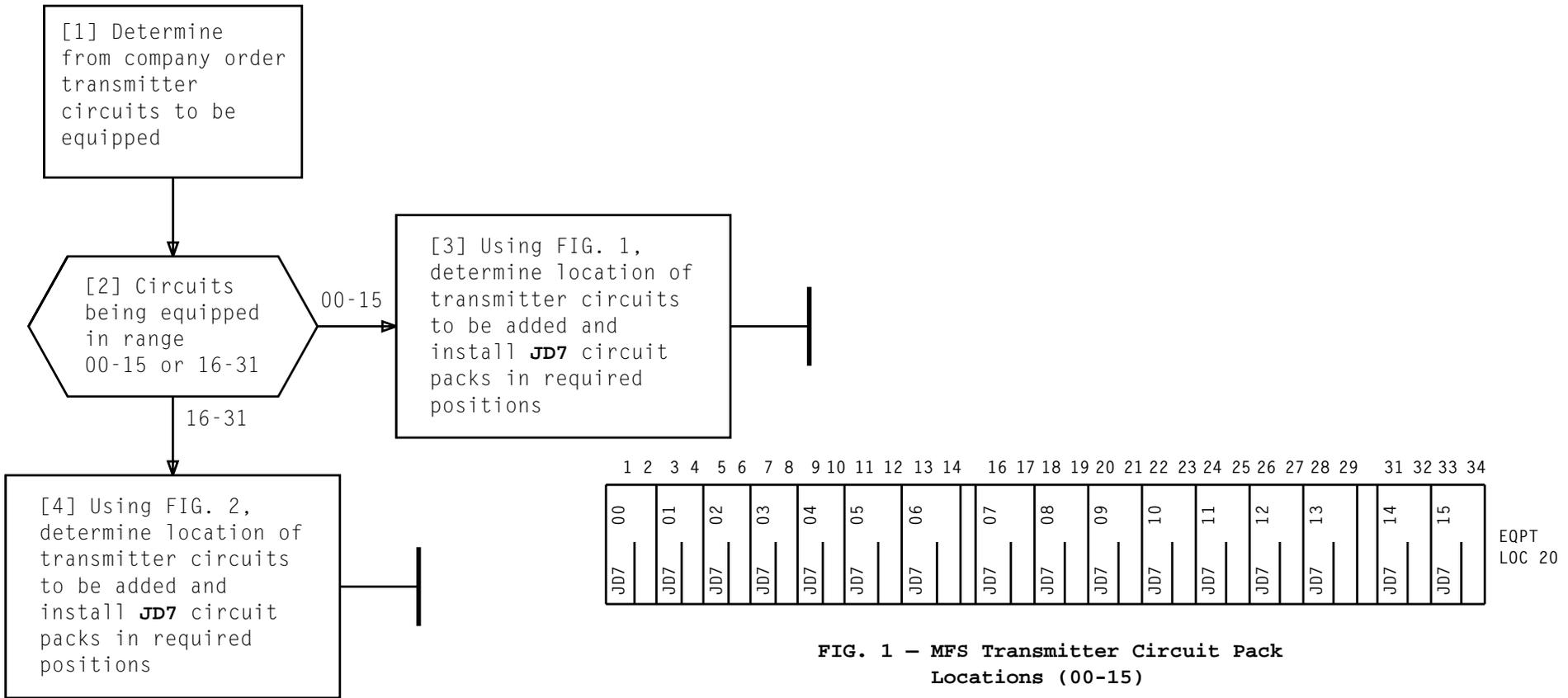
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TABLE C

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																										
0	entry data	0	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y											
	octal output																										
	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		
	MEMBER EQUIPAGE							SP MEMBER NUMBER				SP ROW NUMBER				SP COLUMN NUMBER											
	MEMBER BASE MISCELLANEOUS SCAN NUMBER																										
<p>X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent</p> <p>Y = Variable octal numbers</p>																											
1	entry data	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
	octal output																										
	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	X	
	ASSIGNED ALARM GRID NUMBER	FRAME LINEUP NUMBER										FRAME NUMBER															
<p>X...X = Converts to decimal frame info as reflected in office floor plan drawing</p> <p>Y = Variable octal numbers</p> <p>ZZZZ = Converts to decimal alarm grid number as reflected in office record drawings T-nnnn-Hn-400, 401 or 402 or equivalent</p>																											

VERIFY AREA BUS CENTER (ABC) OR POWER PLANT (620A/625F/630A)
UT TRANSLATOR

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SELECT AND INSTALL MFS TRANSMITTER CIRCUIT PACKS

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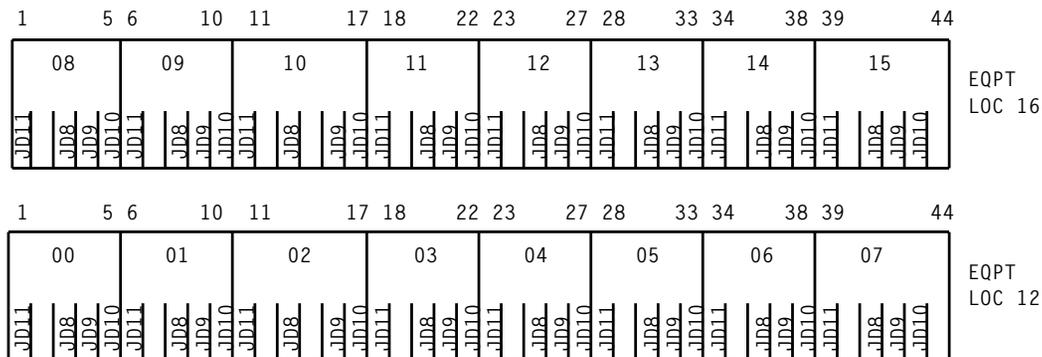
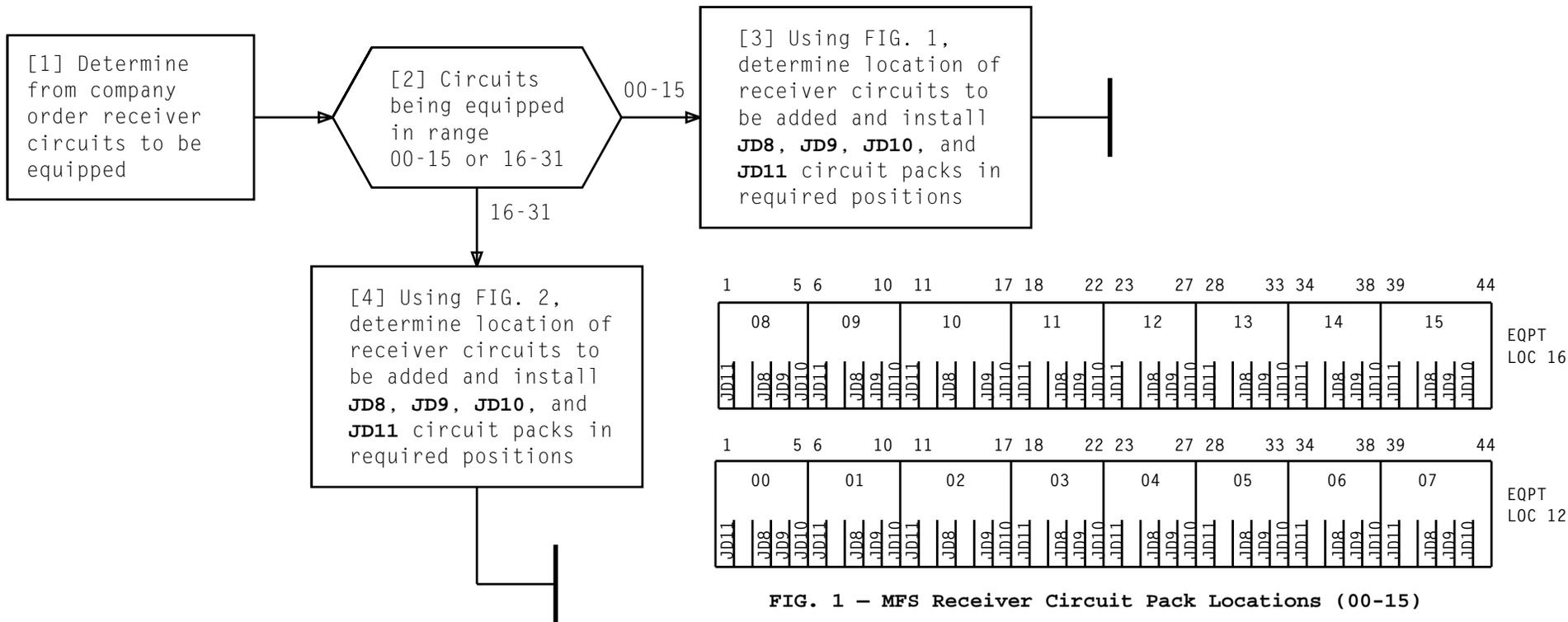


FIG. 1 - MFS Receiver Circuit Pack Locations (00-15)

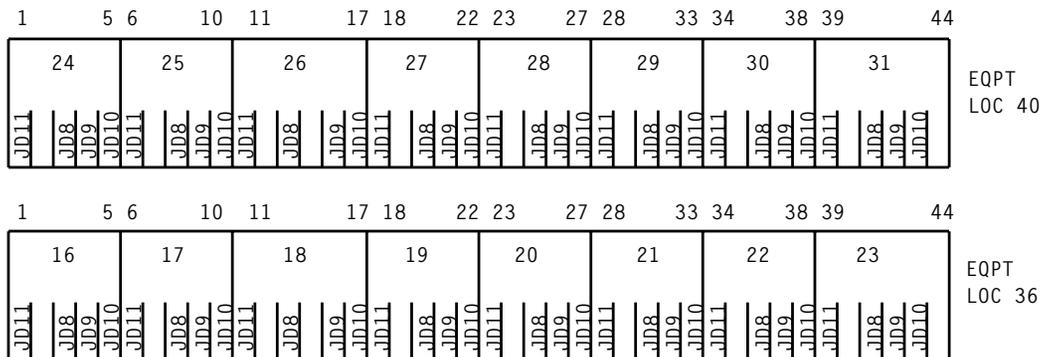


FIG. 2 - MFS Receiver Circuit Pack Locations (16-31)

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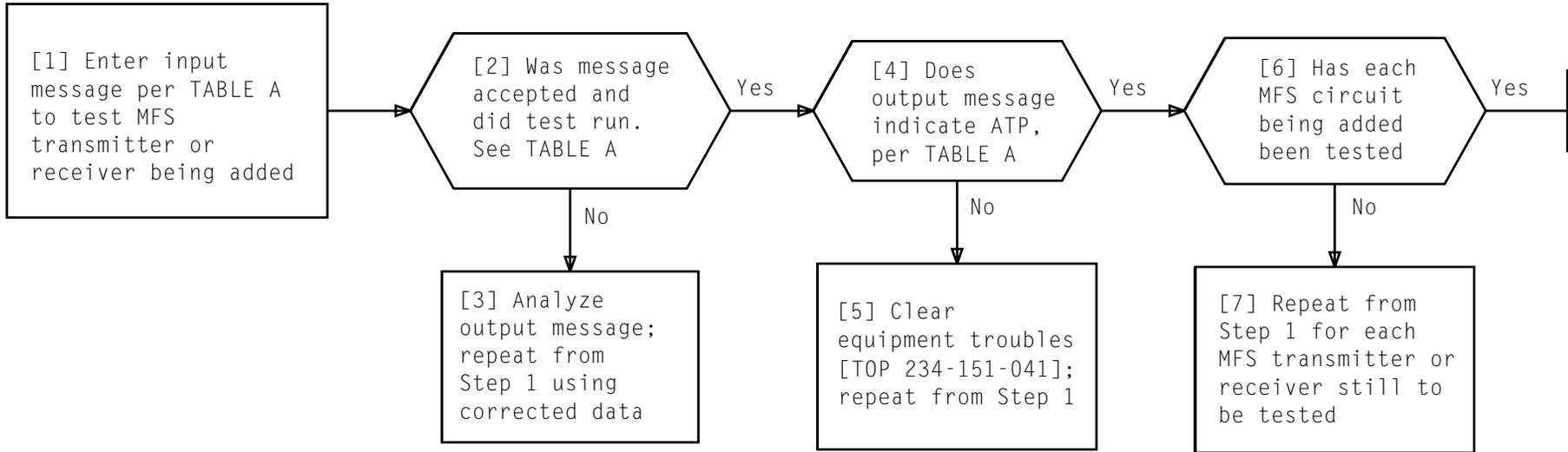


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
TEST:TRK,CIN aabb SVC* c *;SVC!	TEST:TRK,CIN aabb SVC* c * ***;SVC,ATP
aa = MFS frame member number bb = MFS circuit number to be tested c = MFX for MFS transmitter MFR for MFS receiver	

**TEST MFS TRANSMITTER AND/OR RECEIVER
CIRCUITS BEING ADDED**

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[1] Determine location of added channel unit(s) using FIG. 1

[2] Select one **4E&MER** channel unit pack per added unit. See FIG. 2

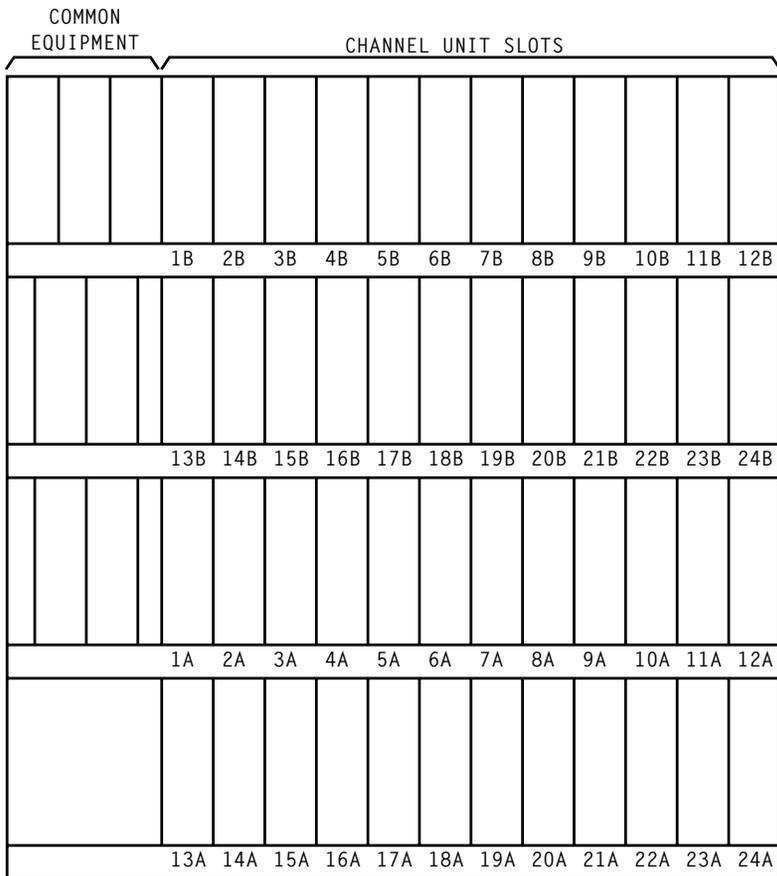
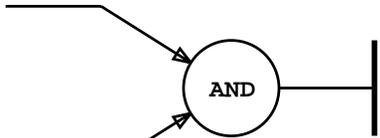


FIG. 1 - D4 Channel Bank (Front View)

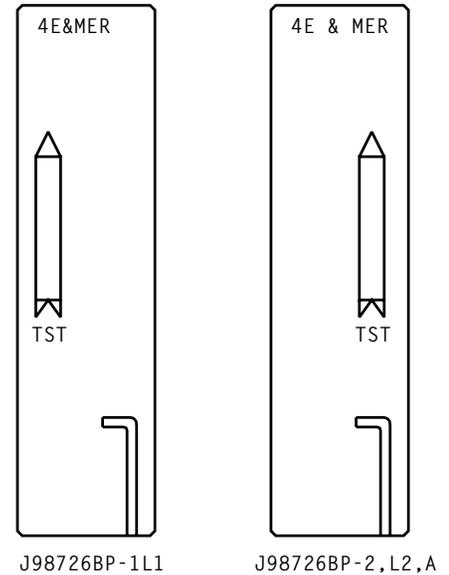


FIG. 2 - Faceplate of 4E&MER Channel Unit

DETERMINE CHANNEL SLOT LOCATION(S) AND SELECT 4E&MER CHANNEL UNIT(S)

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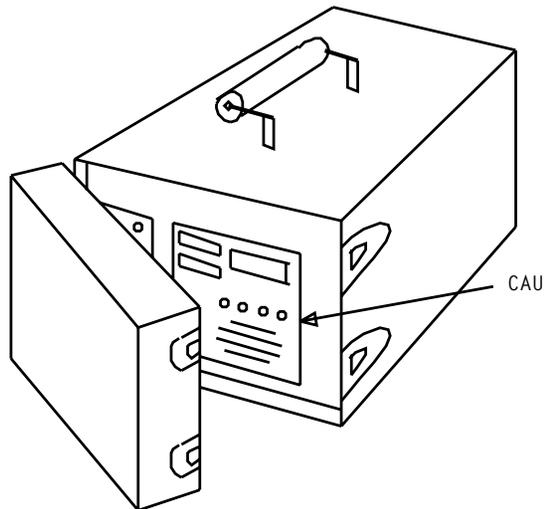
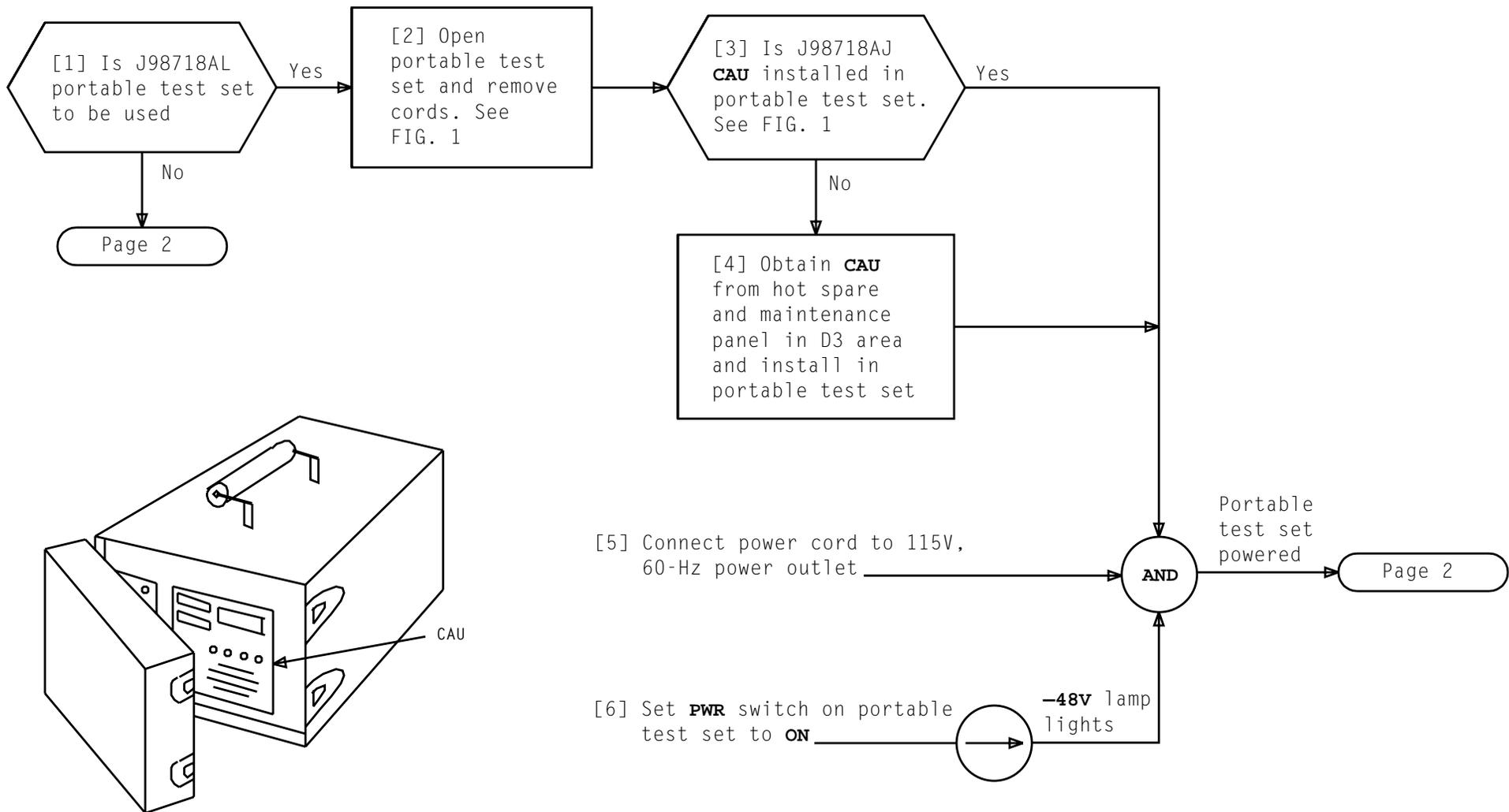


FIG. 1 - Portable Test Set Equipped With CAU

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ON CAU:

[7] Set REJ FLT switch to OUT

[8] Set SEND LEVEL DB switch to OFF

[9] Set TEST switch to CAL

Meter pointer is at left end of scale

CAU switches set

[10] Does meter indicate within raised black index per FIG. 2

[13] CAU is out of calibration. Get another CAU and repeat Steps 1 through 10

[11] Is CAU speaker emitting sound

[14] Set TEST switch to CHAN LINE and rotate VOL control counterclockwise

[12] Rotate VOL control clockwise

[15] Get another CAU and repeat Steps 1 through 11

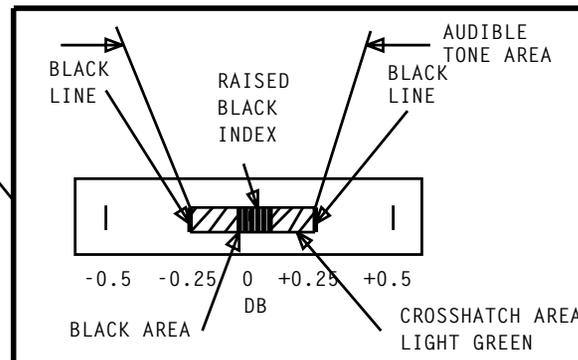
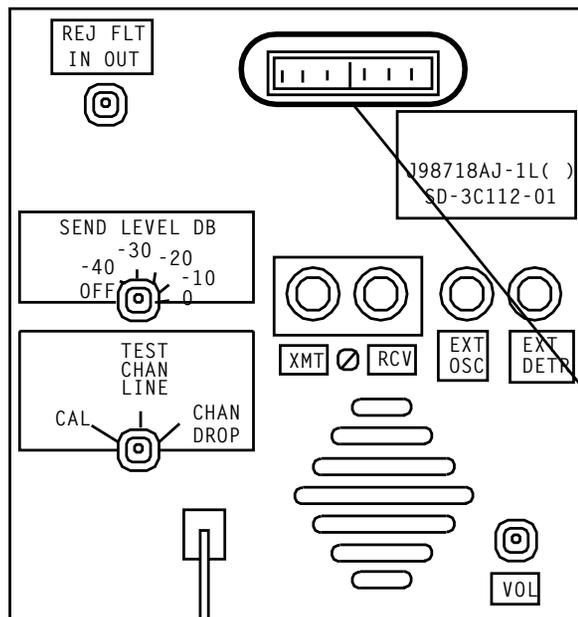
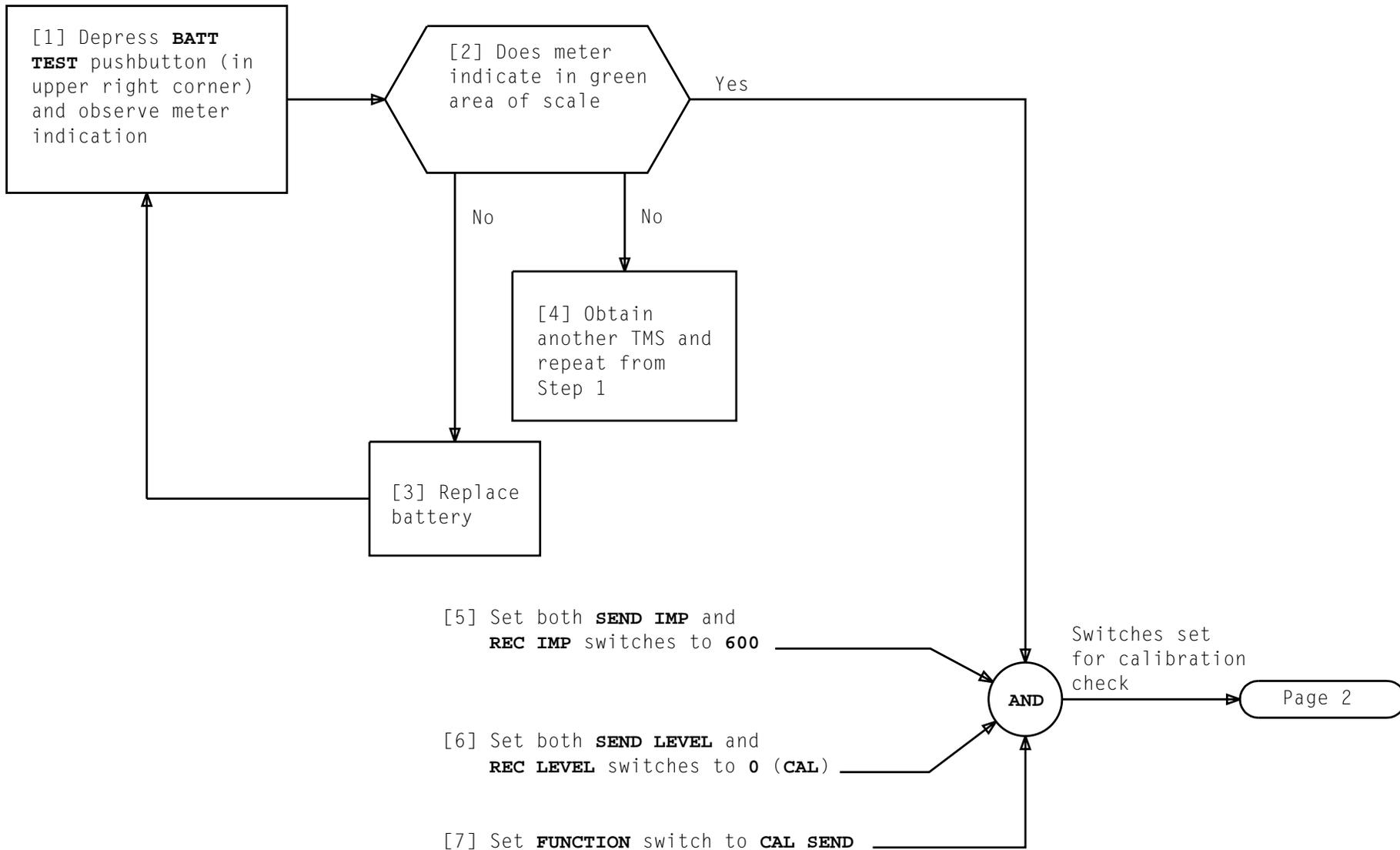
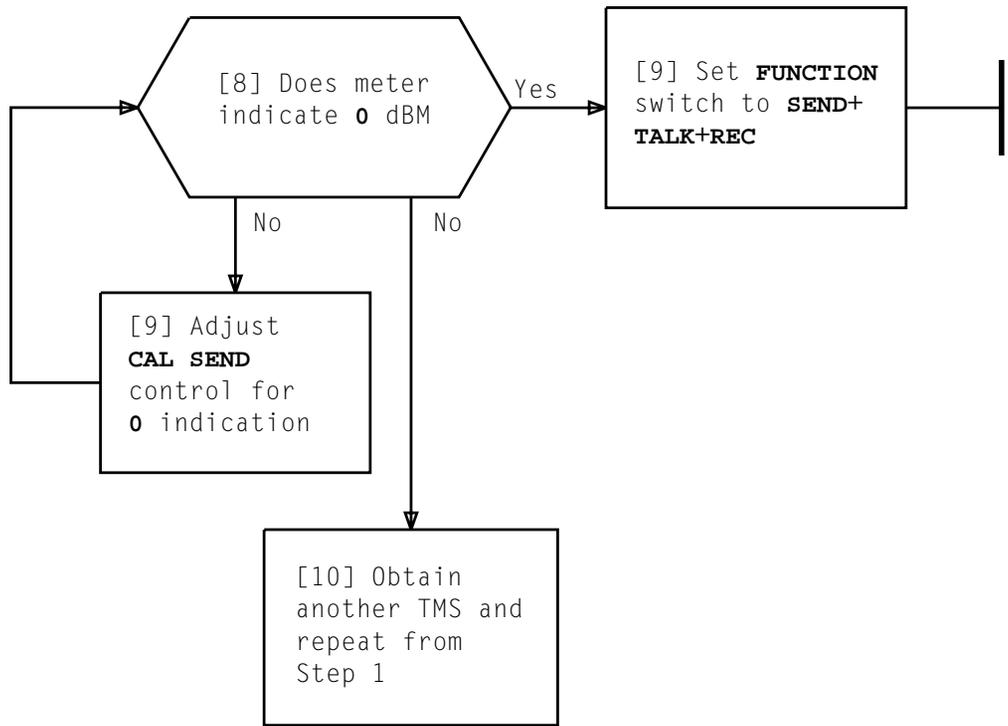


FIG. 2





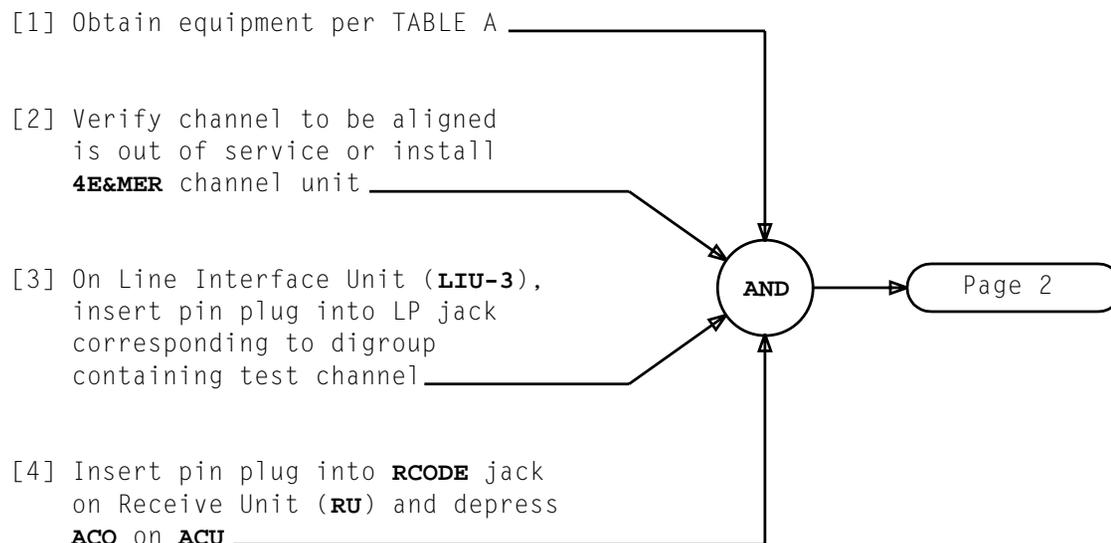
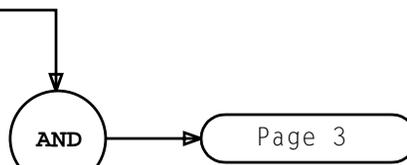


TABLE A	
EQUIPMENT REQUIRED	RECOMMENDED TYPE
D4 Channel Unit Extender	J98726MF
D3 Channel Access Unit	J98718AJ, L2
D3/D4 Portable Test Set	J98718AL
2 Patch Cords	3P6D
1 Test Cord	P6AD
2 Pin Plugs	KS-19531 or Equiv.
Signal Generator	HP3550 or Equiv.
Transmission Measuring Set (TMS)	TTS4BNH or Equivalent

ALIGN RECEIVE AND TRANSMIT LEVELS ON D4 CHANNEL BANK UNIT(S) AND INSTALL

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[5] Make test connections per FIG. 1



[6] Observe CAU meter. See FIG. 1

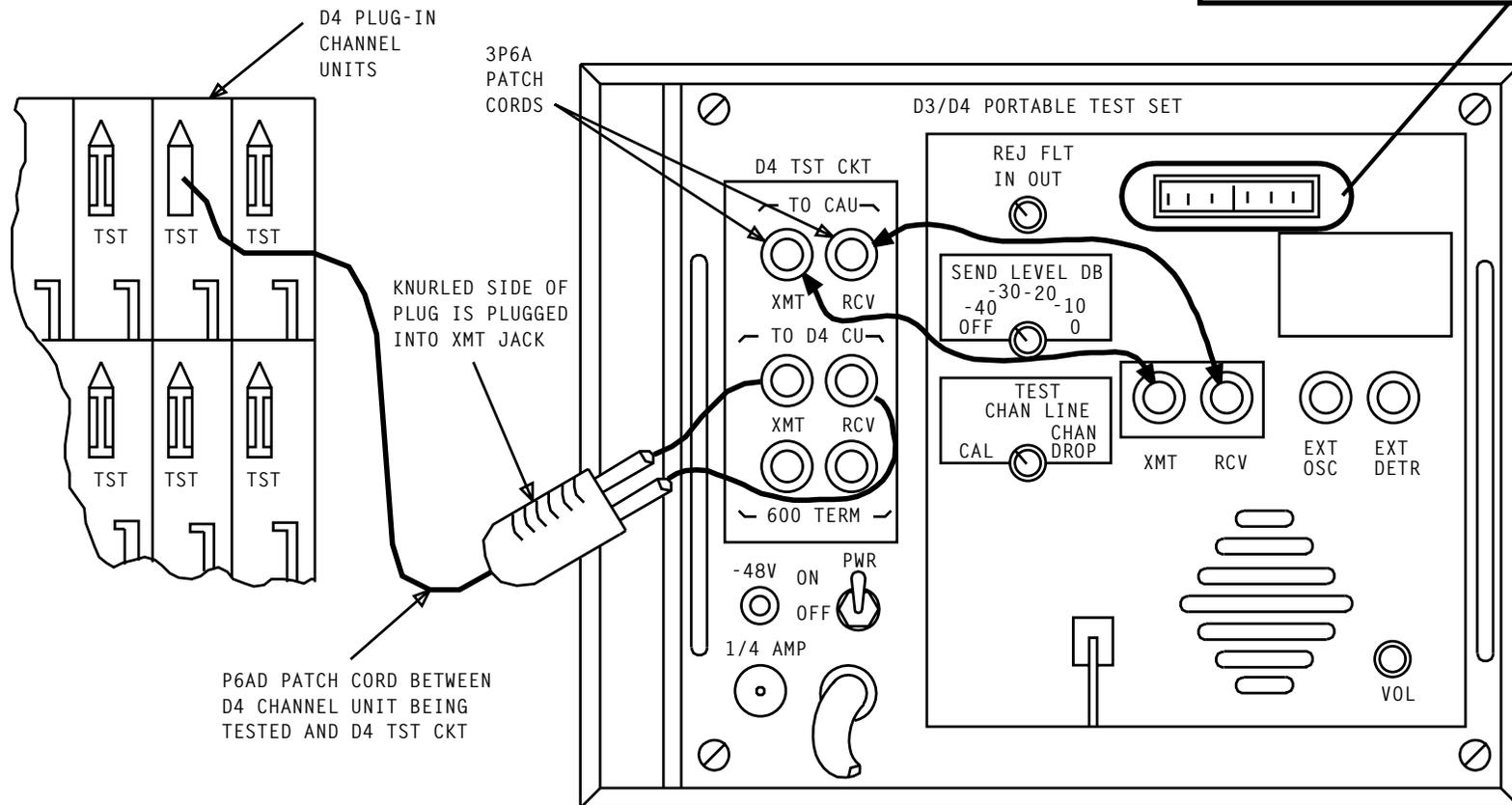
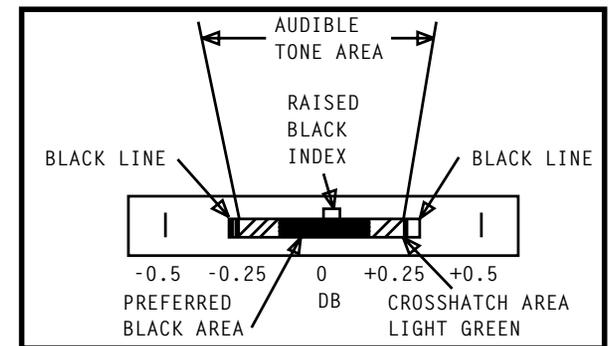


FIG. 1

ALIGN RECEIVE AND TRANSMIT LEVELS ON D4 CHANNEL BANK UNIT(S) AND INSTALL

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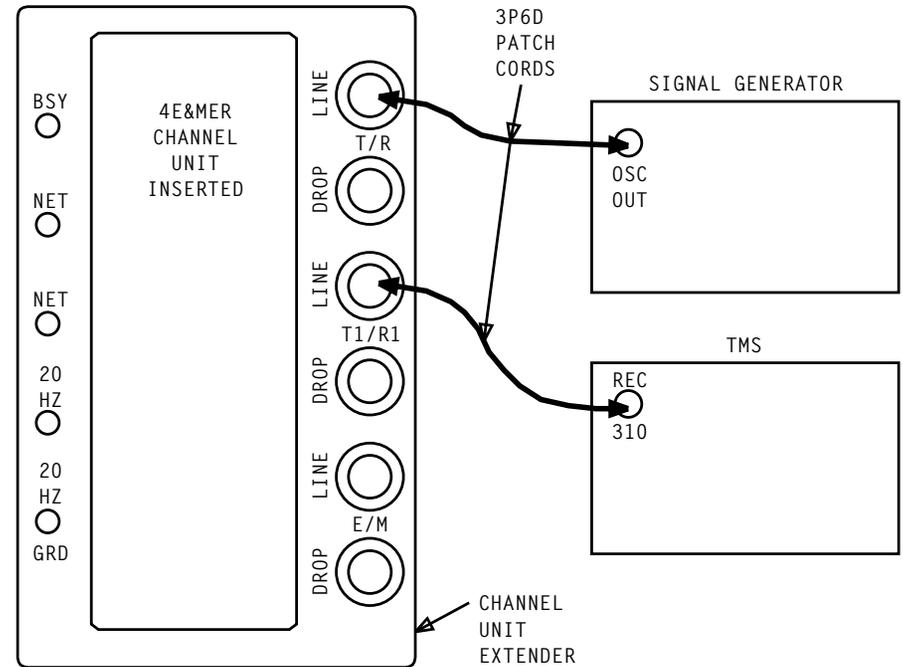
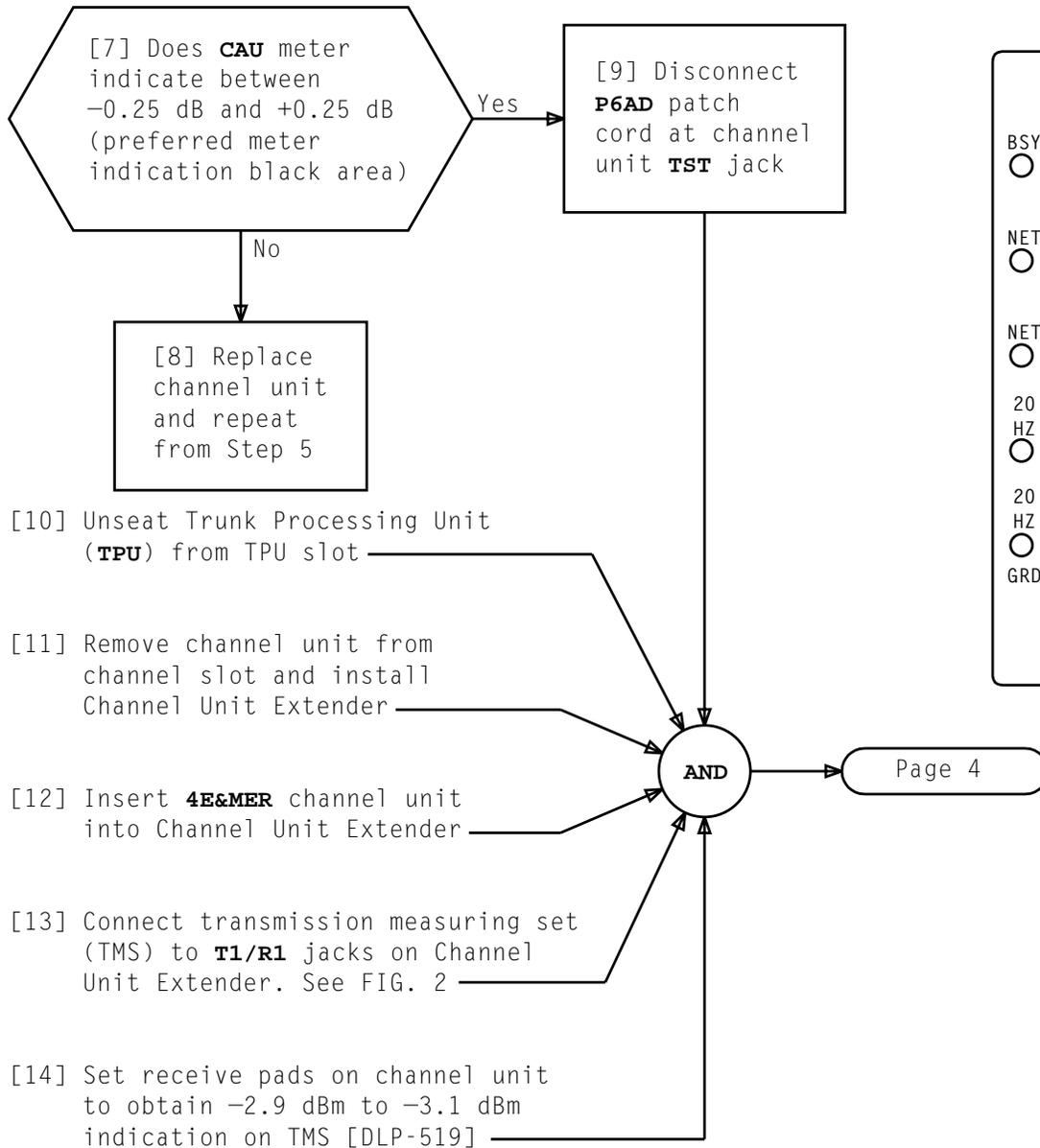
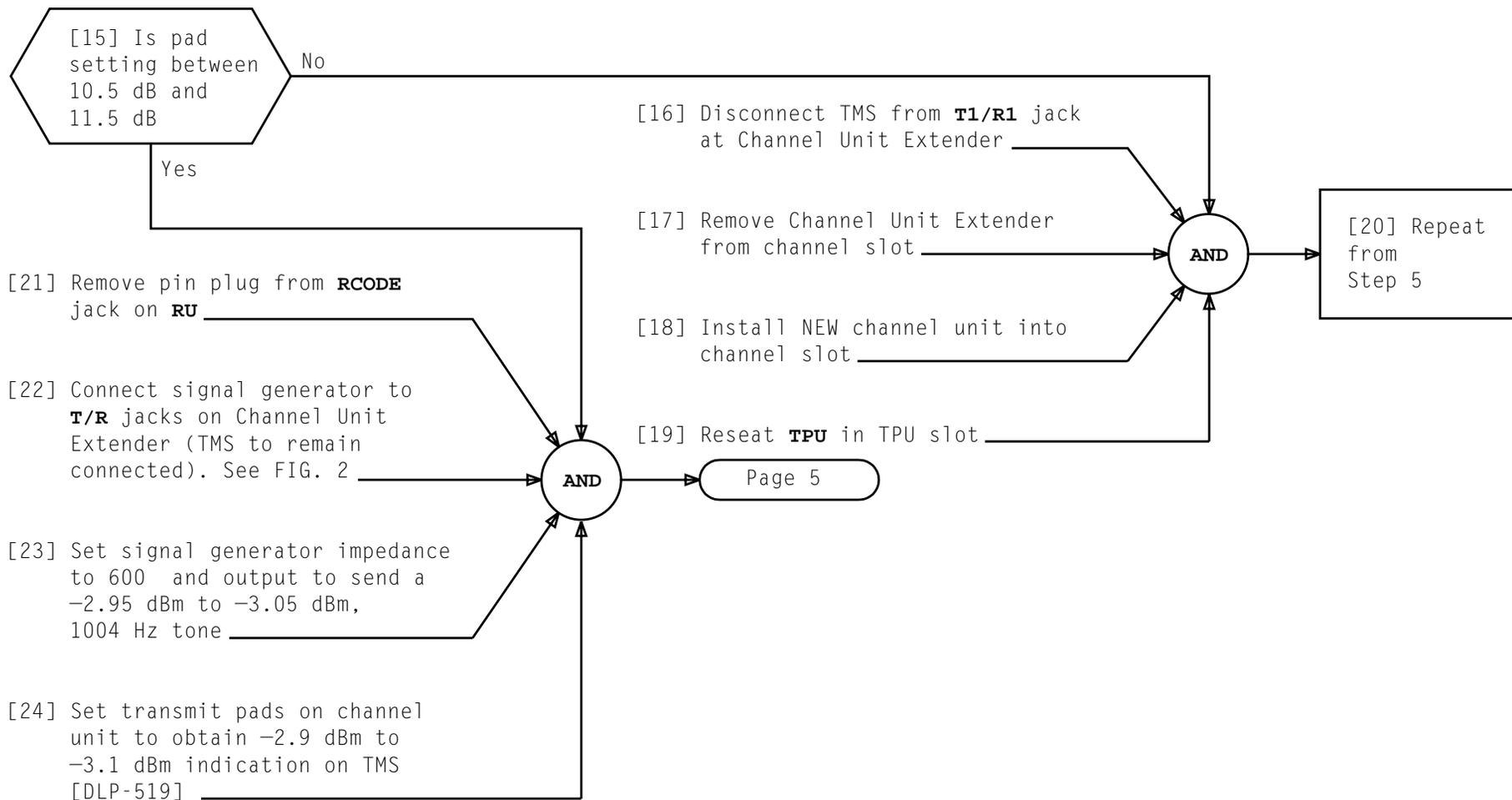


FIG. 2

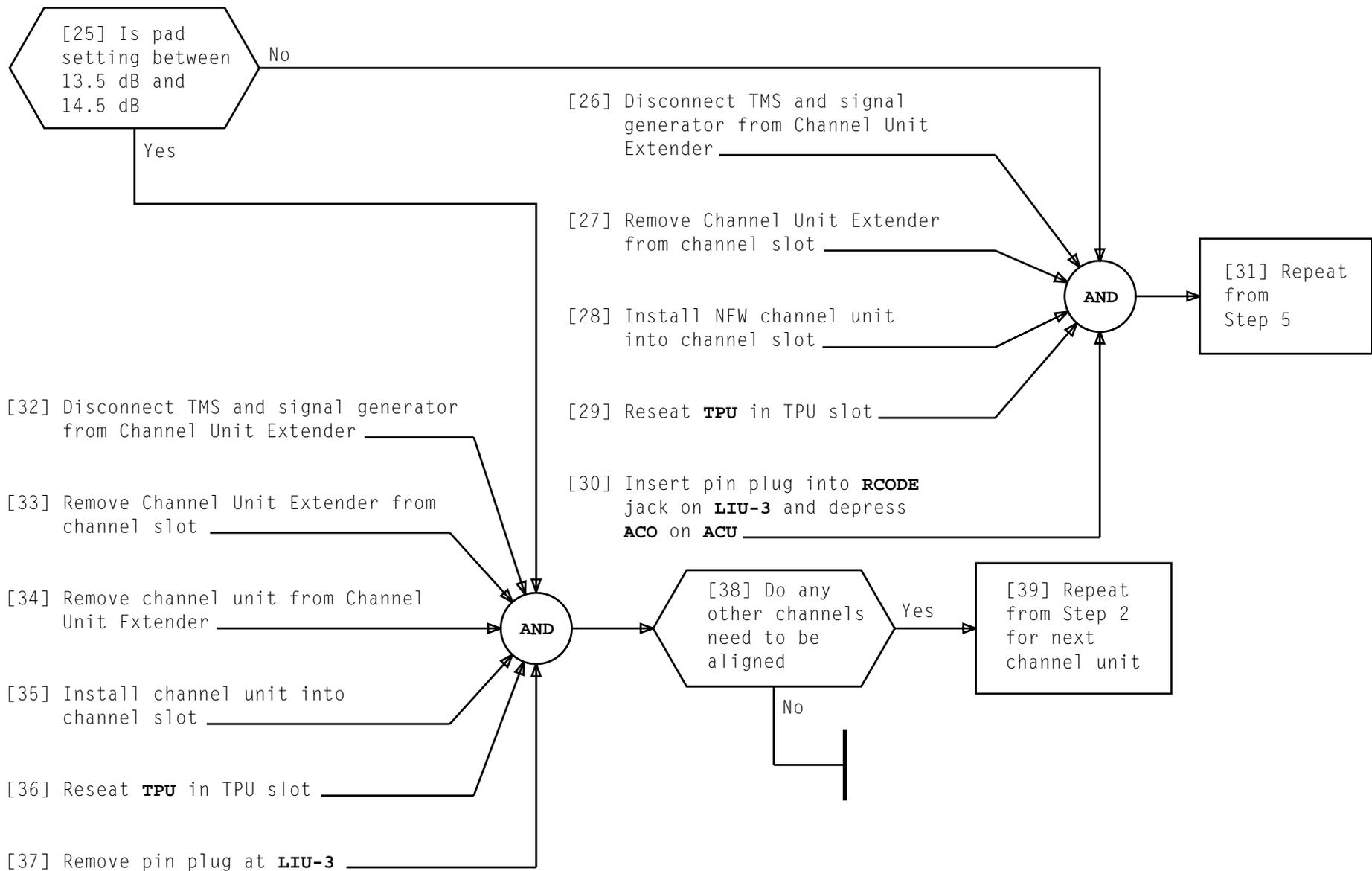
ALIGN RECEIVE AND TRANSMIT LEVELS ON D4 CHANNEL BANK UNIT(S) AND INSTALL

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ALIGN RECEIVE AND TRANSMIT LEVELS ON D4 CHANNEL BANK UNIT(S) AND INSTALL

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ALIGN RECEIVE AND TRANSMIT LEVELS ON D4 CHANNEL BANK UNIT(S) AND INSTALL

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[1] Get KS-21838, L1 extractor or longnose pliers. See FIG. 1

[2] Locate option socket-plug combination on side of channel unit. See FIG. 2

[3] See WARNING 1. Use extractor or pliers to move all four plugs to white side of socket (black showing). See FIG. 3

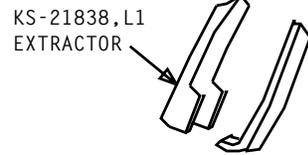


FIG. 1

SOCKET-PLUG COMBINATION FOR OPTION SETTING

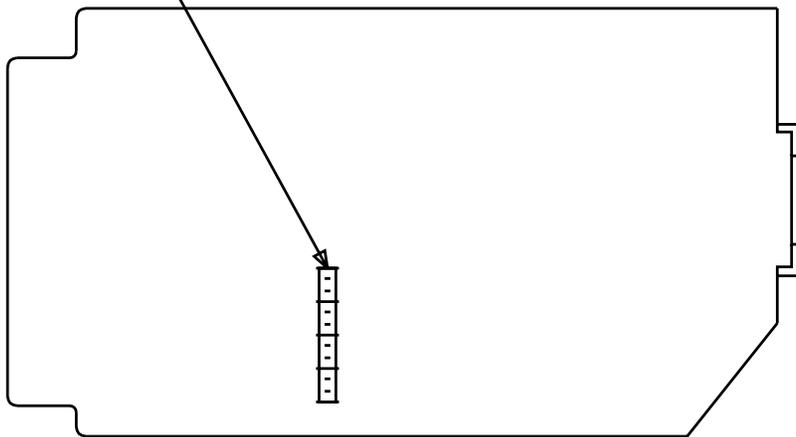


FIG. 2 - 4E&MER Channel Unit (Component Side)

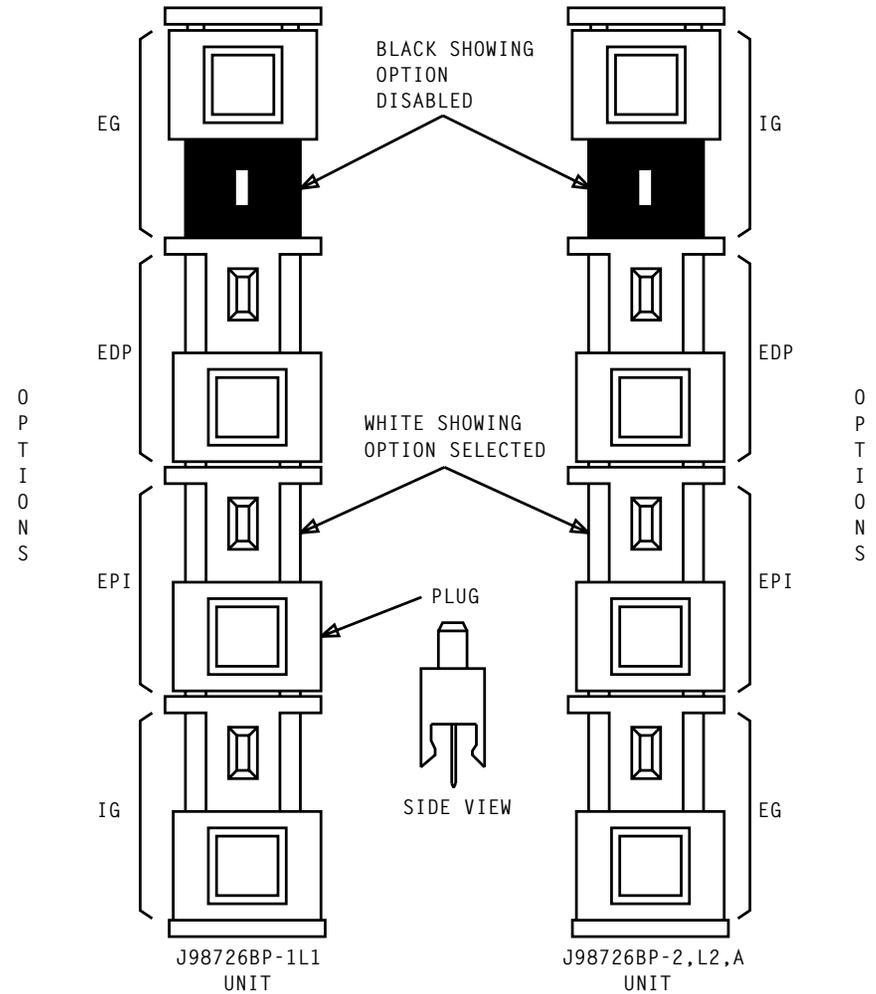


FIG. 3 - Option Plugs Located on 4E&MER Channel Unit

<i>WARNING 1 Twisting will break connectors</i>	
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DISABLE ALL OPTIONS ON 4E&MER CHANNEL UNIT(S)

[1] Identify plug-socket attenuators on channel unit. See FIG. 1

[2] Get **KS-21838, L1** extractor or longnose pliers. See FIG. 2

[3] See WARNING 1. Using tool in Step 2, increase attenuation by moving plugs next to numbers on sockets until TMS reads between -2.9 dBm and -3.1 dBm. See EXAMPLE 1 and NOTE 1

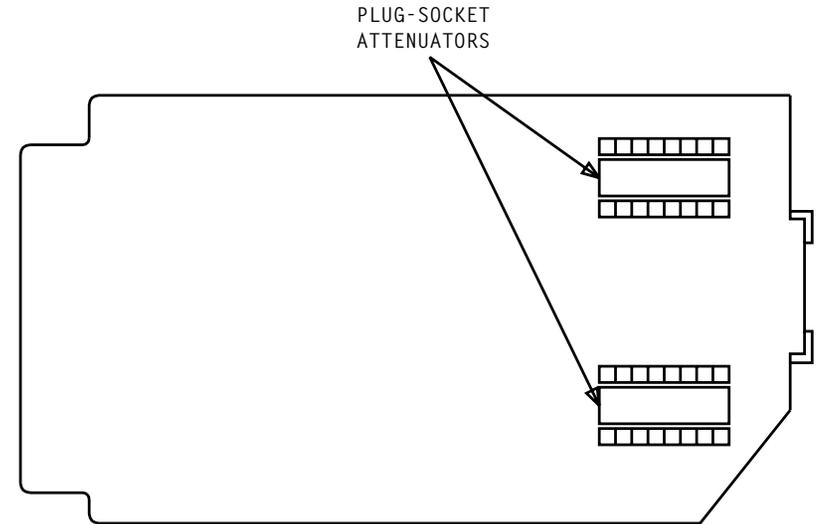
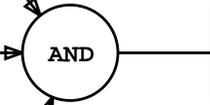


FIG. 1 - 4E&MER Channel Unit (Component Side)

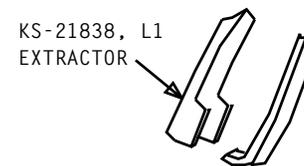
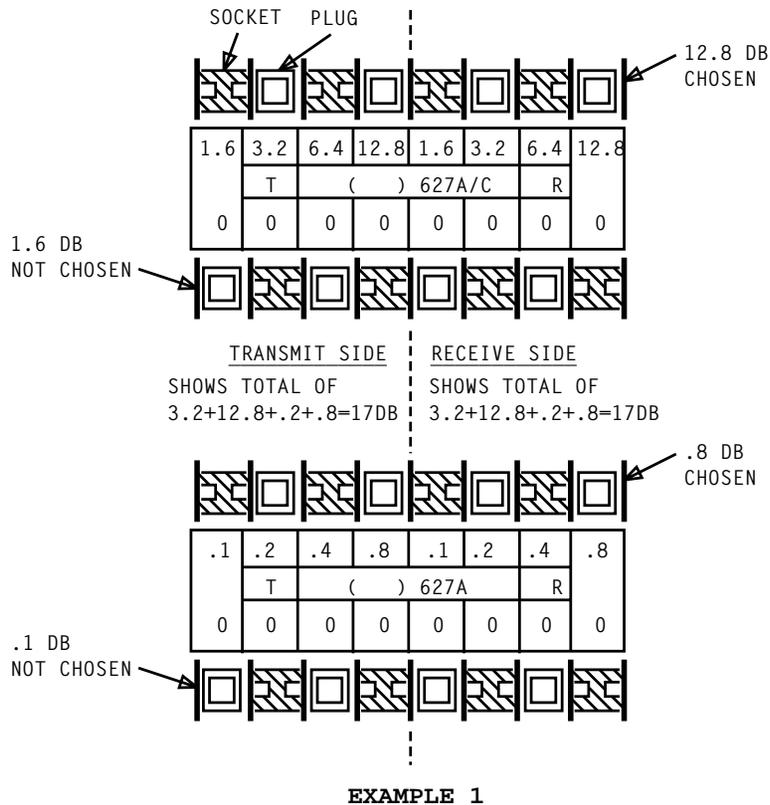


FIG. 2

NOTE 1
There must be a plug placed either on the numbered side or 0 side of each setting

WARNING 1
Twisting will break connectors. Plugs should be pulled straight out

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[1] Note word in output message containing trunk 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 T-nnnn-Hn-460-xx or equivalent.
xx = SP member number determined in Step 2 _____

[4] Add decimal number per TABLE A to SP row number determined in Step 2. Record new result _____

[5] Search ROW and COL listing in office record and locate row and column previously recorded _____

AND

Page 2

TABLE A	
FOURTH RIGHTMOST OCTAL DIGIT IN ENTRY WORD EQUALS	DECIMAL NUMBER TO BE ADDED
0 or 1	0
2 or 3	64
4 or 5	128
6 or 7	192

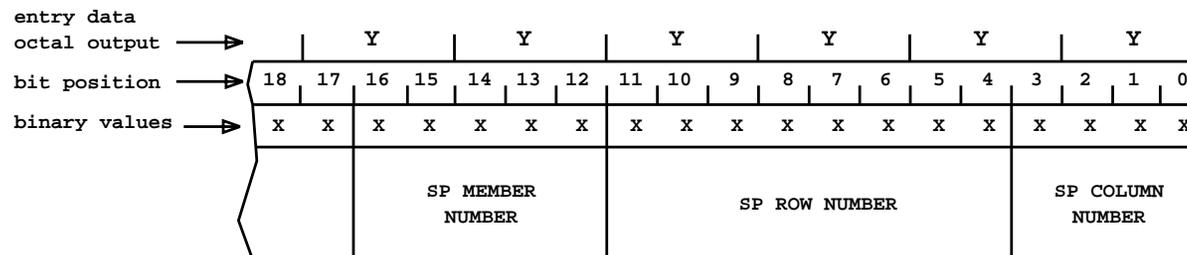
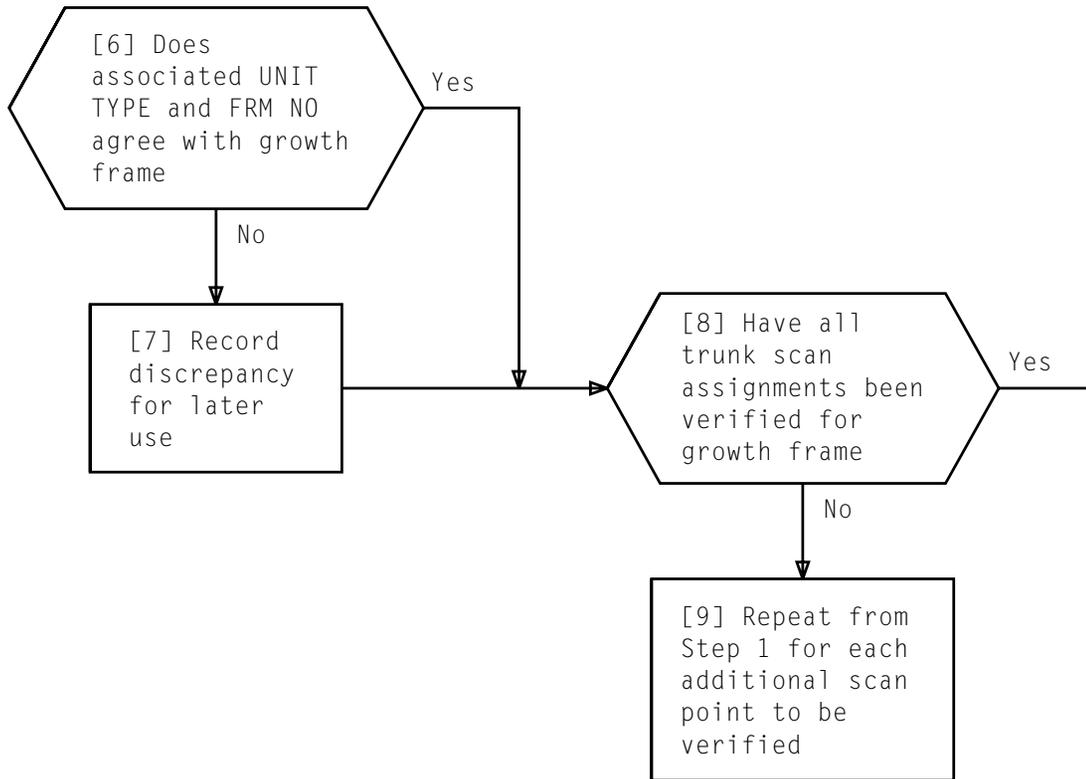


FIG. 1 - Entry Data Word Layout

VERIFY TRUNK SCAN POINT ASSIGNMENT(S) FOR GROWTH FRAME

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VERIFY TRUNK SCAN POINT ASSIGNMENT(S) FOR GROWTH FRAME

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SUMMARY

If necessary, obtain octal ENTRY ADDRESS. Request RC Form 800 and fill in blanks to change equipage of Area Bus

Center/Power Plant. Enter message and then verify inactive translations. Using assigned order number, activate the recent change and then verify current translations.

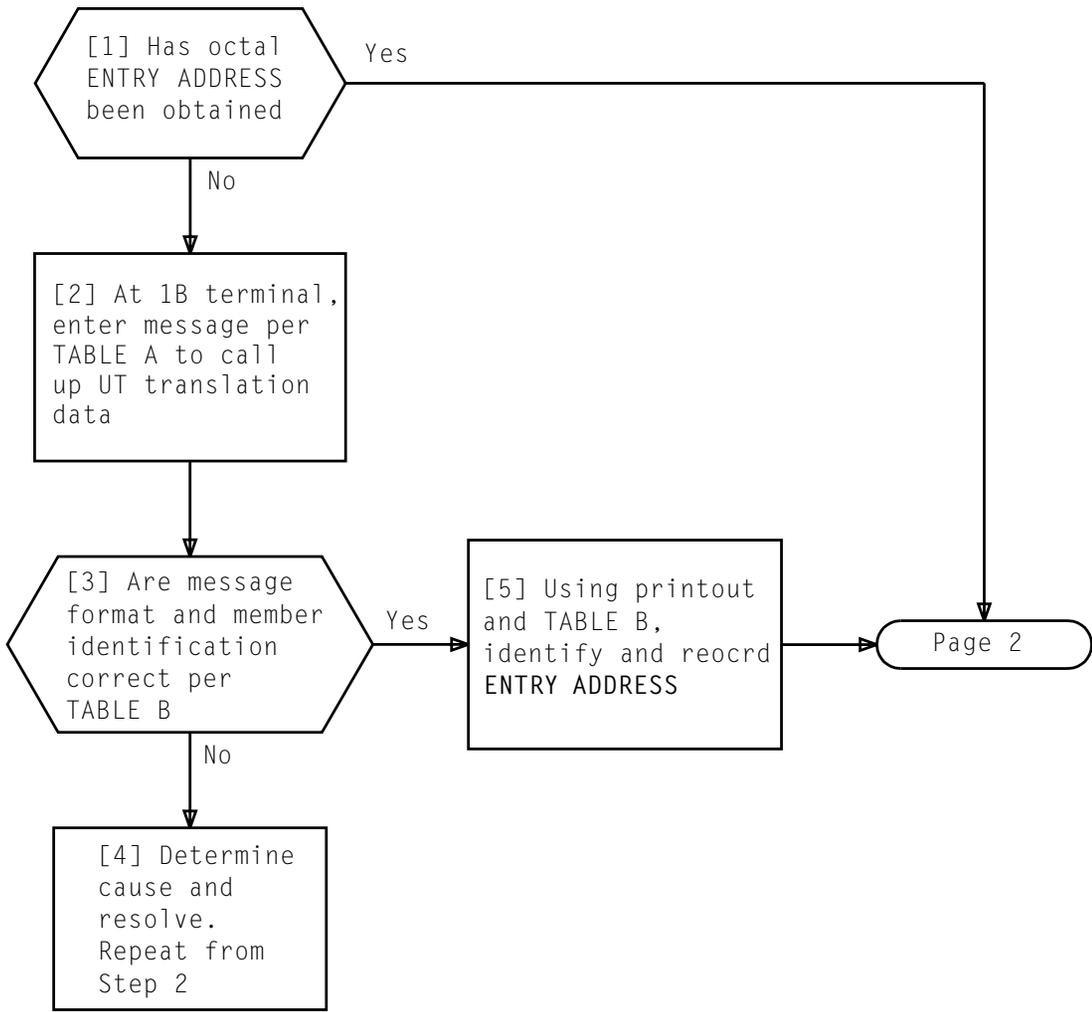


TABLE A	
MESSAGE NUMBER	INPUT MESSAGE
1	VER:UTYPE:a b!
a = Unit type = PP620 (for 620A Power Plant) = PP625 (for 625F Power Plant) = PP630 (for 630A Power Plant) = ABCNT (for Area Bus Center) b = Member number of growth unit	

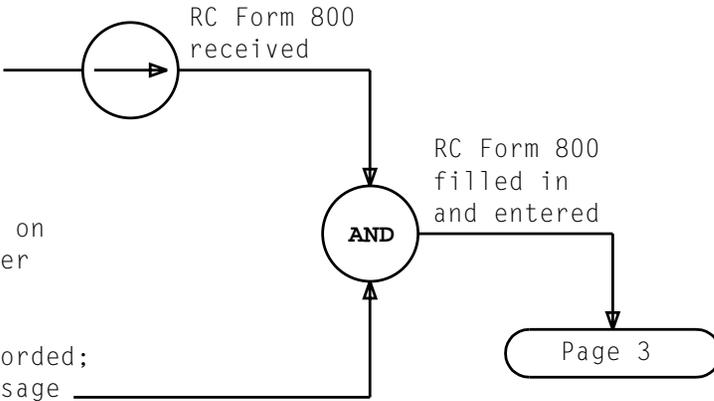
TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN b,
2	MEMN c, ME d, ENTRY SIZE 2, CUR WORD 0 _____
a = Floor location number b = Unit type = PP620 (for 620A Power Plant) = PP625 (for 625F Power Plant) = PP630 (for 630A Power Plant) = ABCNT (for Area Bus Center) c = Member number of growth ABC or Power Plant d = UNEQ, GROW, SGRO, or OPER e = Starting octal address for unit type entry	

PERFORM ABSOLUTE WORD CHANGE TO CHANGE ABC/POWER PLANT EQUIPAGE (USING RC FORM 800) AND VERIFY

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[6] See CAUTION 1.

Enter message
to request RC
Form 800
OP:RCFORM 800!



[7] Fill in blanks on
RC Form 800, per
TABLE C, using
ENTRY ADDRESS
previously recorded;
then enter message

TABLE C	
RC:FUNC;CHG;OPT(ABSOLUTE),a: FSONLY b,ADDRESS __ c __ , ORNU __ d __ , WORDNO _____, SIZE e, DISP f, BINOCT g, NEWDATA h _____, OLDDATA i _____, REMARKS _____!	
a = TST b = N c = Absolute word address (octal ENTRY ADDRESS) d = RC order number e = 2 f = 22 g = B	h = Desired equipage of ABC/Power Plant: = 00 for UNEQ = 01 for GROW = 10 for SGRO = 11 for OPER i = Present equipage of ABC/Power Plant: = 00 for UNEQ = 01 for GROW = 10 for SGRO = 11 for OPER

<i>CAUTION 1</i> <i>Calling up RC</i> <i>form will cause</i> <i>all CRT data to</i> <i>be cleared</i>	
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**PERFORM ABSOLUTE WORD CHANGE TO CHANGE ABC/POWER PLANT
EQUIPAGE (USING RC FORM 800) AND VERIFY**

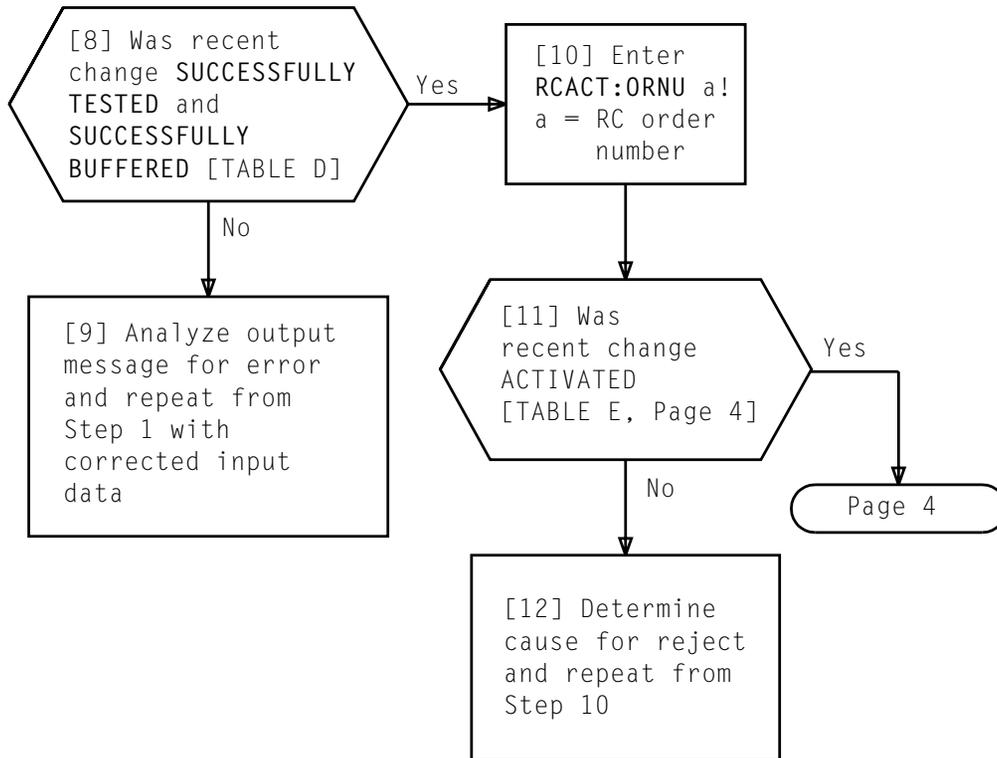


TABLE D	
RC ORNU a SUCCESSFULLY TESTED	
RC ORNU a SUCCESSFULLY BUFFERED	
RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N,ADDRESS b, ORNU a, WORDNO ----, SIZE 2, DISP 22, BINOCT B, NEWDATA c, OLDDATA d, REMARKS _ _ _ _ _ !	
a = RC order number	
b = Absolute word address (octal ENTRY ADDRESS)	
c = Desired equipage of ABC/Power Plant:	
= 00 for UNEQ	
= 01 for GROW	
= 10 for SGRO	
= 11 for OPER	
d = Present equipage of ABC/Power Plant:	
= 00 for UNEQ	
= 01 for GROW	
= 10 for SGRO	
= 11 for OPER	

PERFORM ABSOLUTE WORD CHANGE TO CHANGE ABC/POWER PLANT EQUIPAGE (USING RC FORM 800) AND VERIFY

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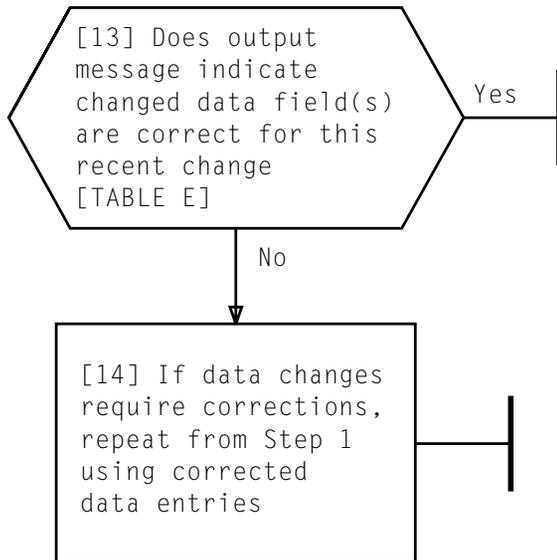


TABLE E	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N,ADDRESS b, ORNU a, WORDNO ----, SIZE 2, DISP 22, BINOCT B, NEWDATA c, OLDDATA d, REMARKS -----!
a = RC order number b = Absolute word address (octal ENTRY ADDRESS) c = Desired equipage of ABC/Power Plant: = 00 for UNEQ = 01 for GROW = 10 for SGRO = 11 for OPER d = Present equipage of ABC/Power Plant: = 00 for UNEQ = 01 for GROW = 10 for SGRO = 11 for OPER	

PERFORM ABSOLUTE WORD CHANGE TO CHANGE ABC/POWER PLANT EQUIPAGE (USING RC FORM 800) AND VERIFY

SUMMARY

Using verify entry input message, call up growth MFS UT translator and verify that resulting TTY octal output data, when converted, agrees with office records.

Refer to entry word explanations in TABLE B, Page 3, as required, for assistance in interpreting specific data fields. If it is determined that UT entry data are in error, word change(s) may be required.

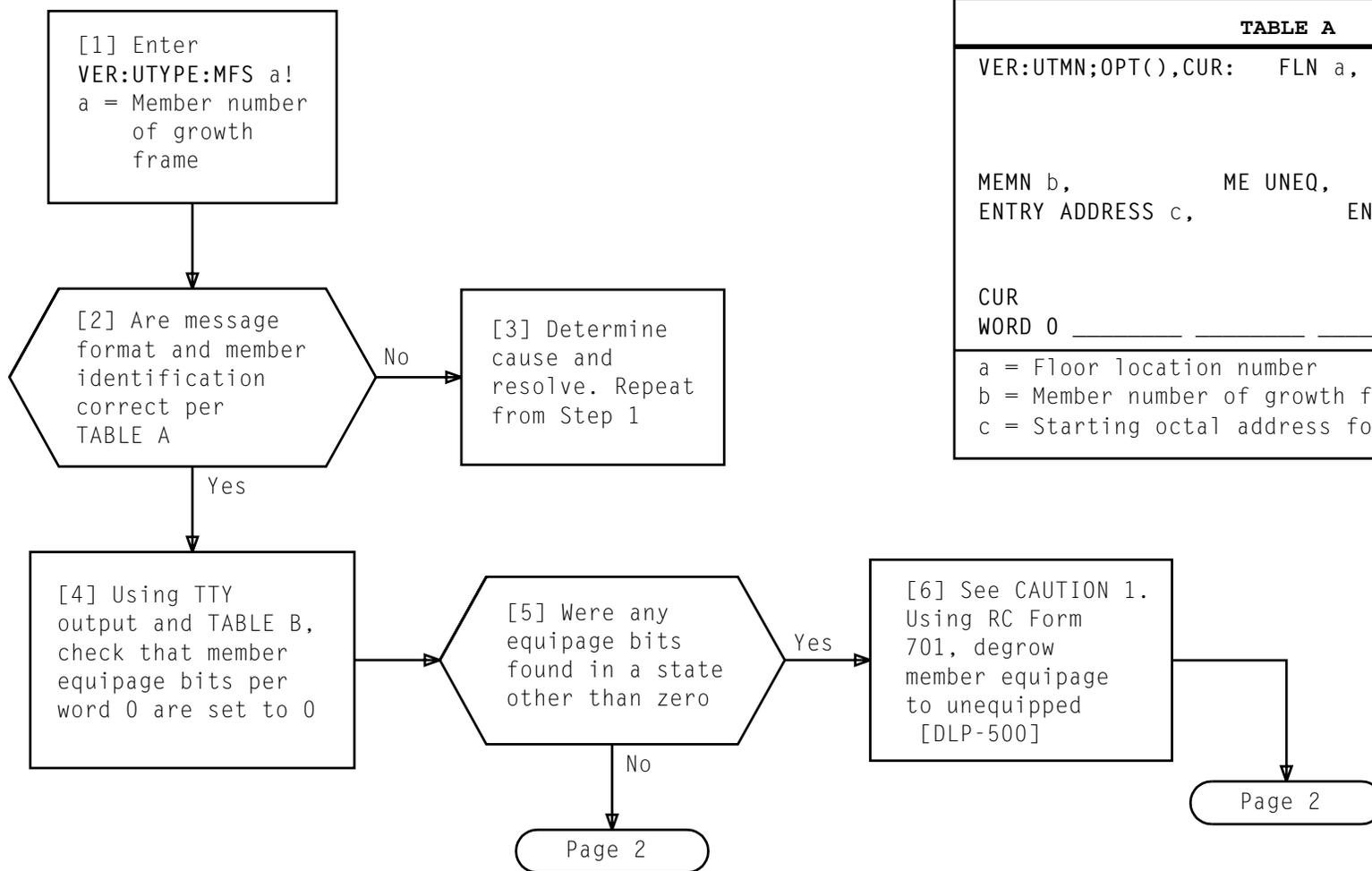


TABLE A	
VER:UTMN;OPT(),CUR: FLN a,	UTYN MFS,
MEMN b,	ME UNEQ,
ENTRY ADDRESS c,	ENTRY SIZE 4,
CUR	
WORD 0 _____	
a = Floor location number	
b = Member number of growth frame	
c = Starting octal address for unit type entry	

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

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Using printout, TABLE B, Page 3,
and office records:

[7] Verify scan point assignment
for growth MFS per word 0
[DLP-501]

[8] Verify alarm grid, lineup,
and frame assignment for
growth frame per word 1
[DLP-503]

[9] Verify SD assignment
for growth frame per
word 2 [DLP-504]

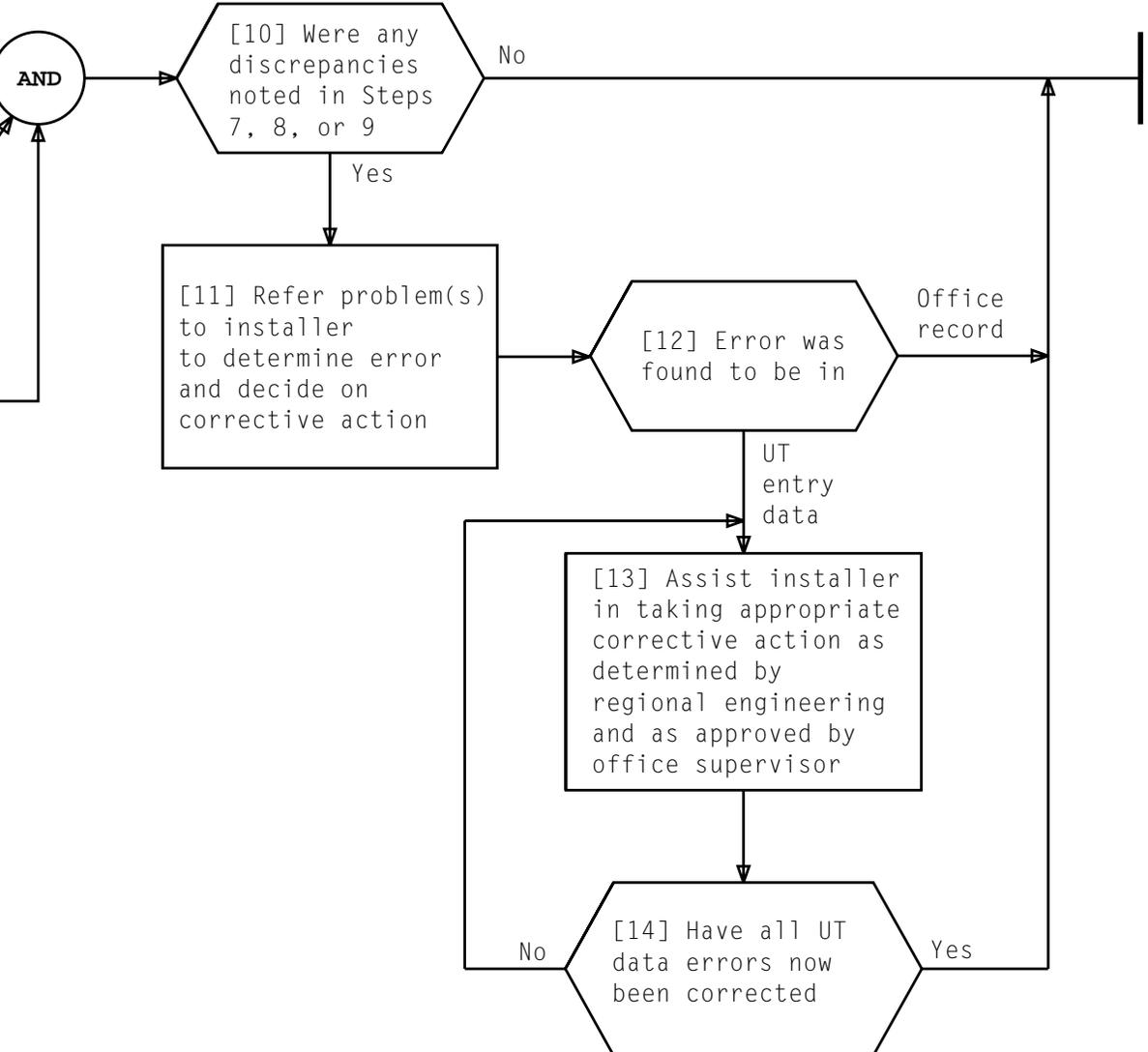


TABLE B

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
0	entry data octal output	0	0	Y	Y	Y	Y	Y	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	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 NO.				MATRIX				SP ROW NO.				SP COLUMN NO.							
	BASE MISCELLANEOUS SCAN POINT																								
	<p>Equipage (equivalent to member equipage in standard UT layout) X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent Y = Variable octal numbers</p>																								
1	entry data octal output	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	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
		ALARM GRID ASSIGNMENT				FRAME LINEUP NUMBER								FRAME NUMBER											
	<p>X...X = Converts to decimal frame information as reflected in office floor plan drawing ZZZZ = Converts to decimal alarm grid number as reflected in office record drawings T-nnnn-Hn-400, 401, or 402 or equivalent Y = Variable octal numbers</p>																								
2	entry data octal output	0	0	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	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	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 NO.				MATRIX				SP ROW NO.				SP COLUMN NO.							
	BASE MISCELLANEOUS SD NUMBER																								
	<p>X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent Y = Variable octal numbers</p>																								

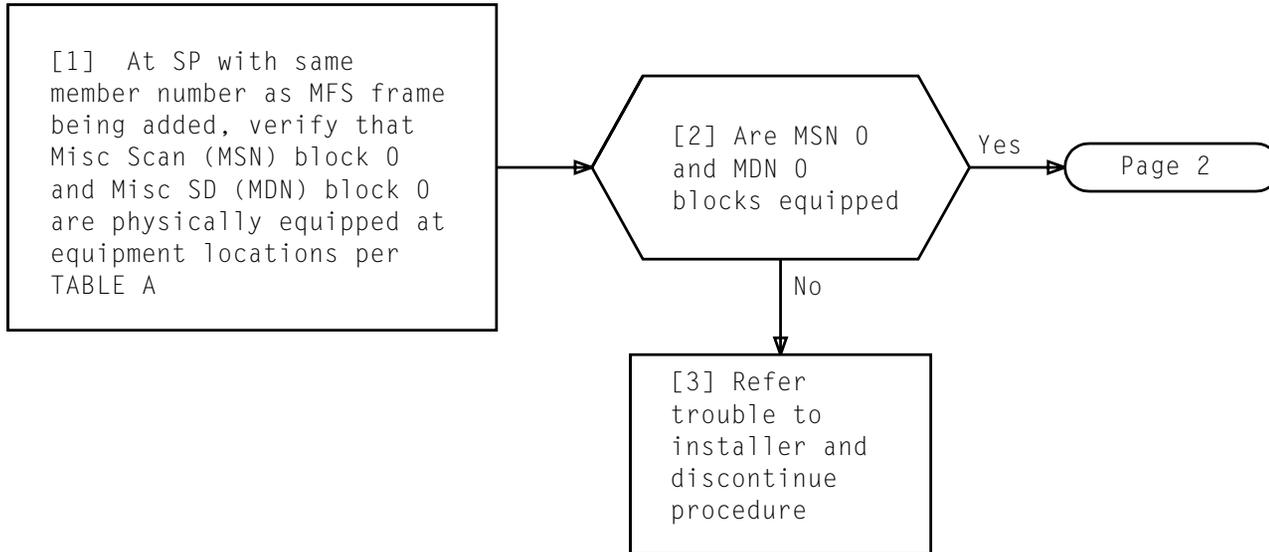


TABLE A	
SP BLOCK	EQUIPMENT LOCATION
MSN 0	168, 268
MDN 0	056, 145, 245

**VERIFY OPERATIONAL STATUS OF SIGNAL PROCESSOR
K BLOCKS CONTAINING SCAN AND SIGNAL DISTRIBUTOR POINTS
FOR MFS FRAME BEING ADDED**

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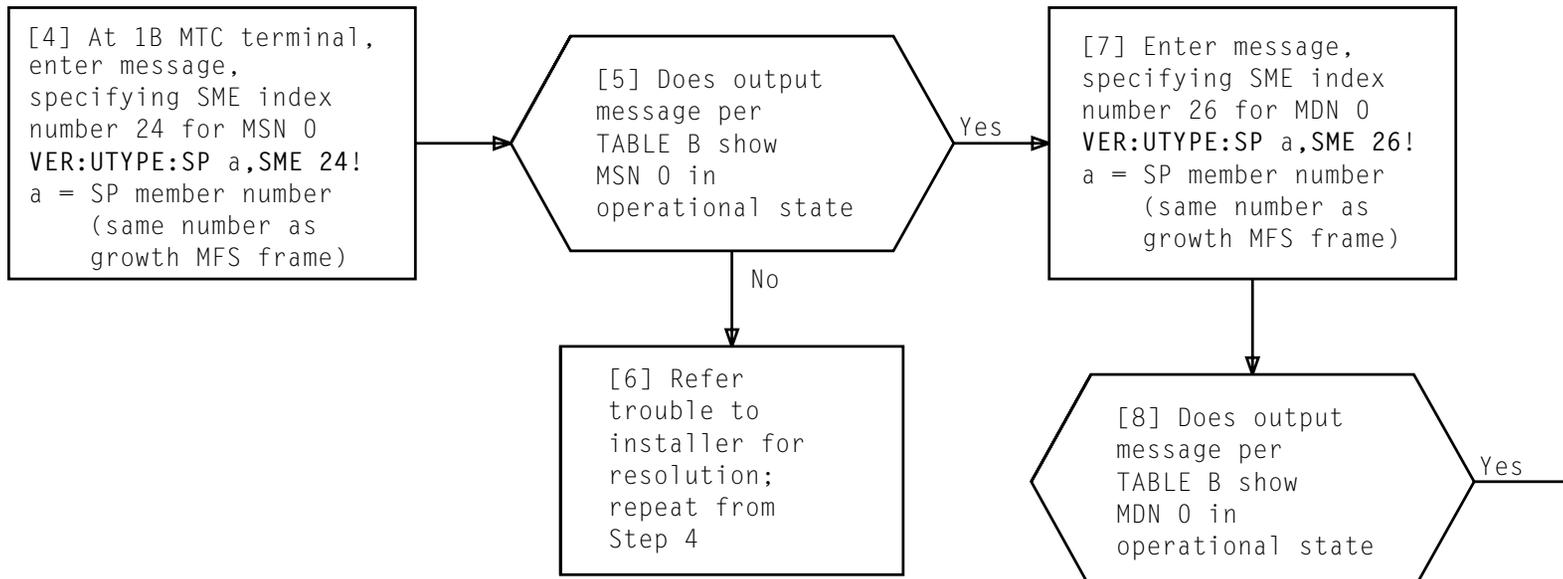


TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(SME),CUR: FLN a, UTYN SP, MEMN b, ME OPER, SUBMEM c, SME OPER,
a = Floor location number b = SP member number (same number as growth MFS frame) c = SME index number = 24 (for MSN 0) = 26 (for MDN 0)	

**VERIFY OPERATIONAL STATUS OF SIGNAL PROCESSOR
K BLOCKS CONTAINING SCAN AND SIGNAL DISTRIBUTOR POINTS
FOR MFS FRAME BEING ADDED**

[1] At 1B MTC terminal, enter input message per TABLE A to verify disabled state of MFS transmitters _____

[2] Verify that output message shows TRK COUNT as 32. See TABLE A _____

[3] Enter input message per TABLE A to verify disabled state of MFS receivers _____

[4] Verify that output message shows TRK COUNT as 32. See TABLE A _____

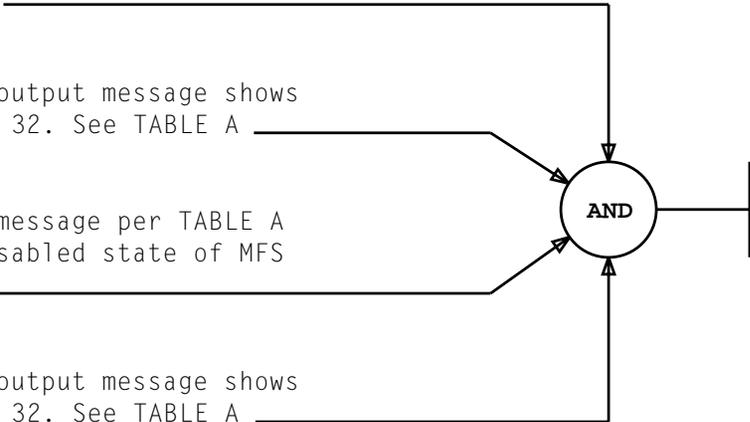


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,CIN aabb SVC* c *;SUM:NUM 32,STAT CAD.DSA!	OP:TRKSTAT CAD.DSA ,CIN aabb SVC* c* *** NUM,STAT,SUM COMPLETED TRK COUNT 32
aa = MFS frame member number bb = MFS circuit number (specify lowest circuit number of MFS circuit(s) being added) c = MFX for MFS transmitter MFR for MFS receiver	

**VERIFY DISABLED STATUS OF EQUIPPED MFS
TRANSMITTER AND RECEIVER CIRCUITS**

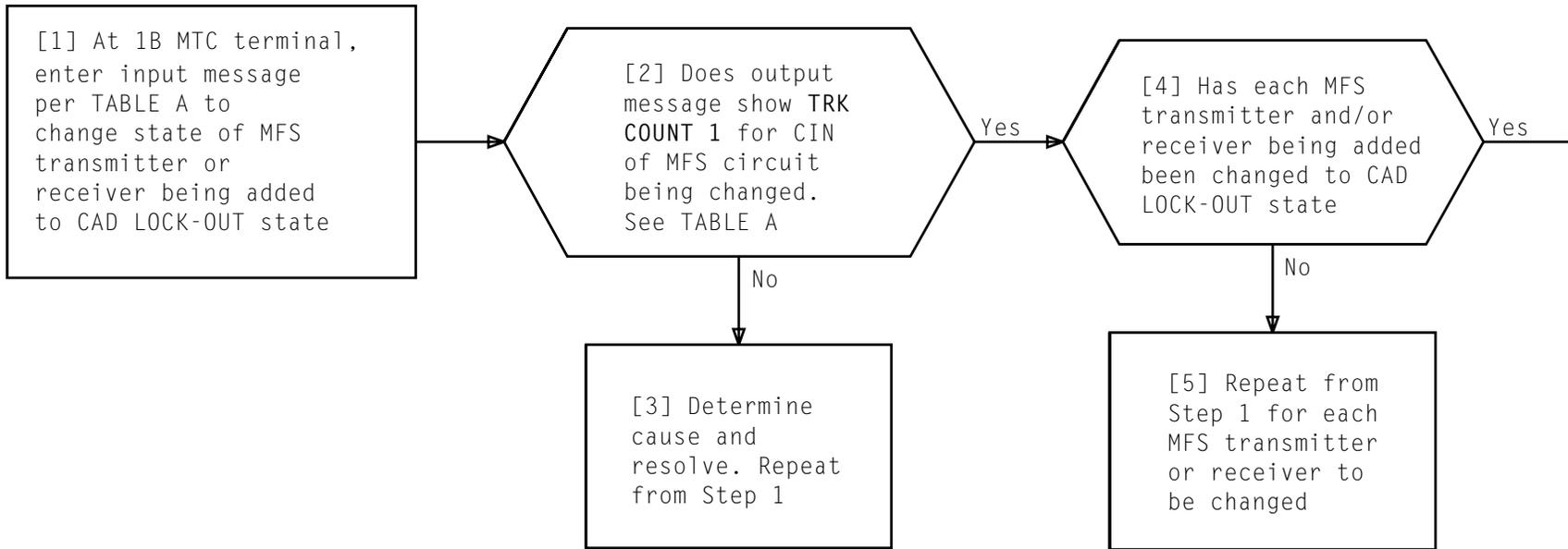


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT CAD.LKO,CIN aabb SVC* c *;SUM:NUM 1!	SET:TRKSTAT,CIN aabb SVC* c* *** NUM,STAT,SUM COMPLETED TRK COUNT 1
aa = MFS frame member number bb = MFS circuit number to be added c = MFX for MFS transmitter MFR for MFS receiver	

CHANGE ADDED MFS TRANSMITTER AND/OR RECEIVER CIRCUITS TO CIRCUIT ADMINISTRATION (CAD) LOCK-OUT STATE

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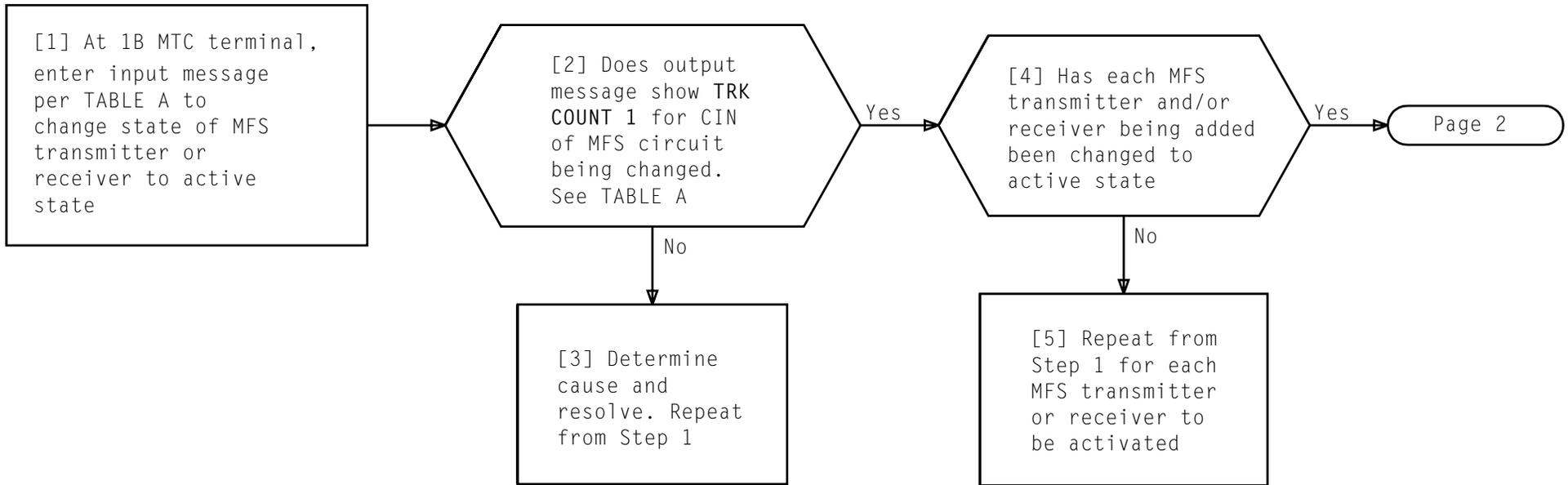


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT ACT,CIN aabb SVC* c *;SUM:NUM 1!	SET:TRKSTAT,CIN aabb SVC* c* *** NUM,SUM COMPLETED TRK COUNT 1
aa = MFS frame member number bb = MFS circuit number to be activated c = MFX for MFS transmitter MFR for MFS receiver	

CHANGE MFS TRANSMITTER AND/OR RECEIVER CIRCUIT(S) TO ACTIVE STATE AND TEST

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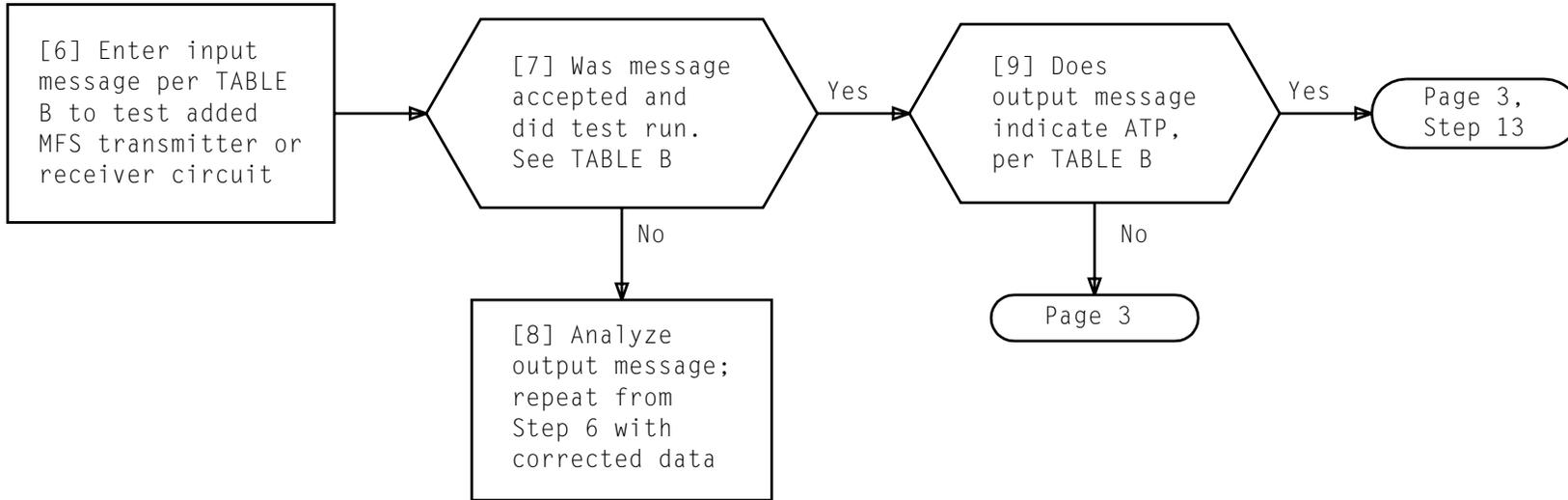
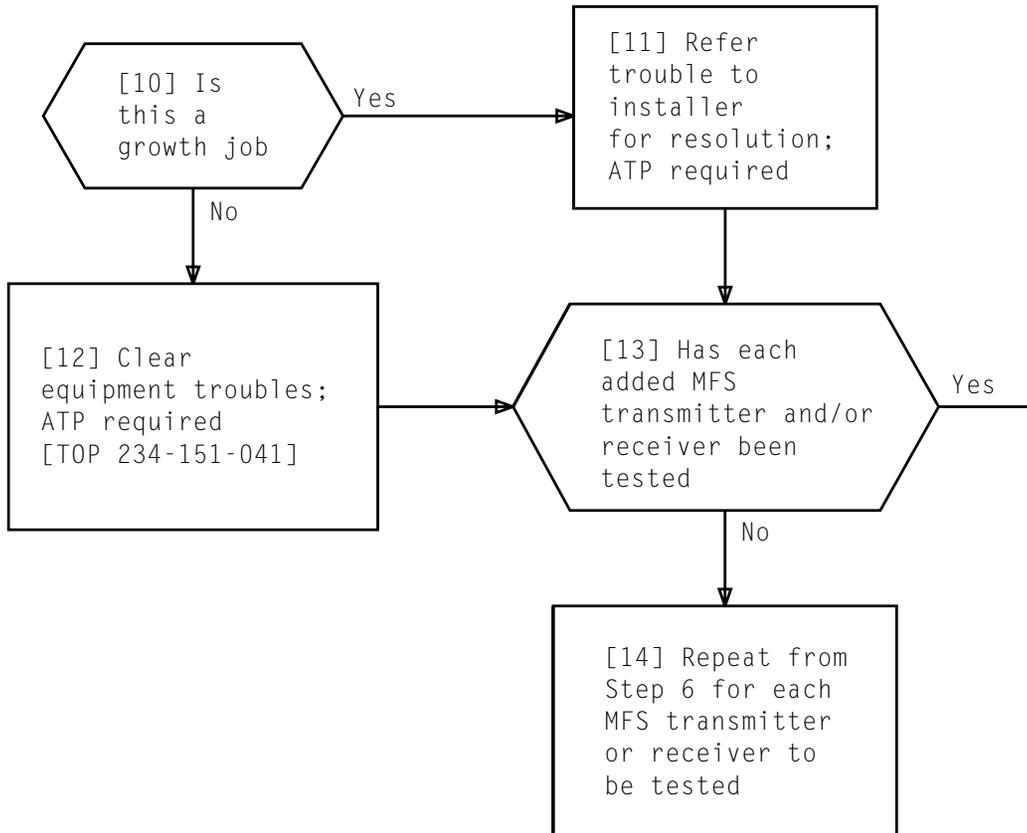


TABLE B	
INPUT MESSAGE	OUTPUT MESSAGE
TEST:TRK,CIN aabb SVC* c *;SVC!	TEST:TRK,CIN aabb SVC* c* ***;SVC, ATP
aa = MFS frame member number bb = MFS circuit number to be activated c = MFX for MFS transmitter MFR for MFS receiver	

CHANGE MFS TRANSMITTER AND/OR RECEIVER CIRCUIT(S) TO ACTIVE STATE AND TEST

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CHANGE MFS TRANSMITTER AND/OR RECEIVER CIRCUIT(S) TO ACTIVE STATE AND TEST

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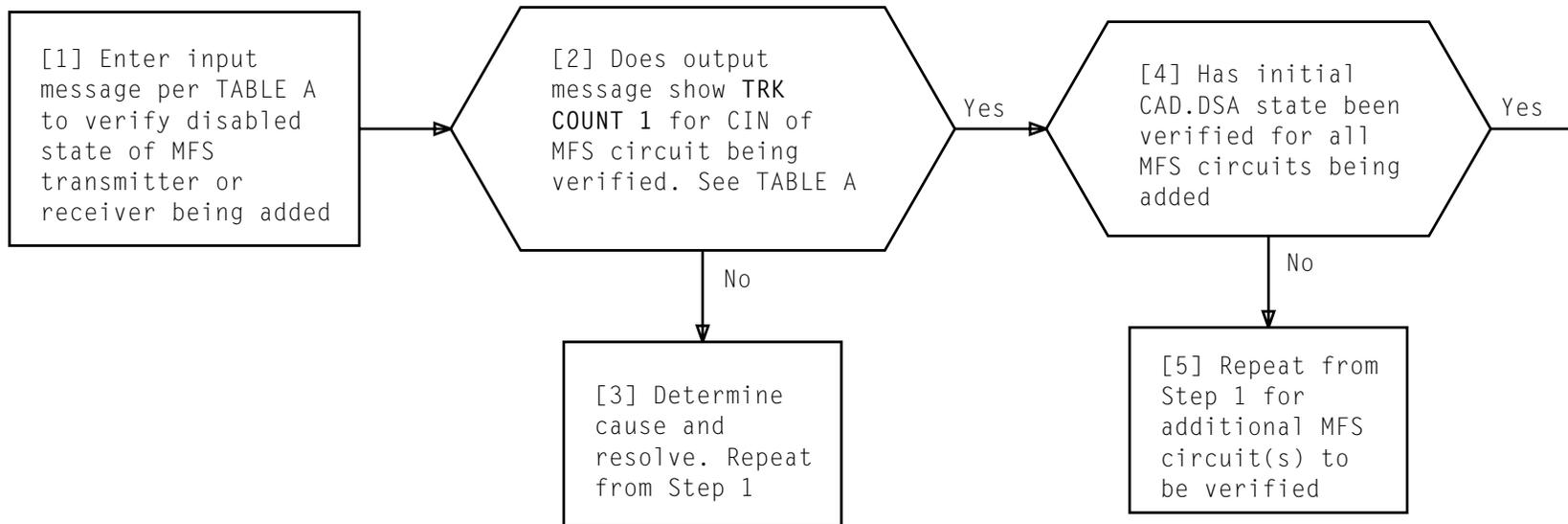


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,CIN aabb SVC* c *;SUM:NUM 1,STAT CAD.DSA!	OP:TRKSTAT ,CIN aabb SVC* c* *** NUM,STAT, SUM COMPLETED TRK COUNT 1
aa = MFS frame member number bb = MFS circuit number (specify lowest circuit number of MFS circuit(s) being added) c = MFR for MFS receiver MFX for MFS transmitter	

VERIFY DISABLED STATUS OF MFS TRANSMITTER AND/OR RECEIVER CIRCUIT(S) BEING ADDED

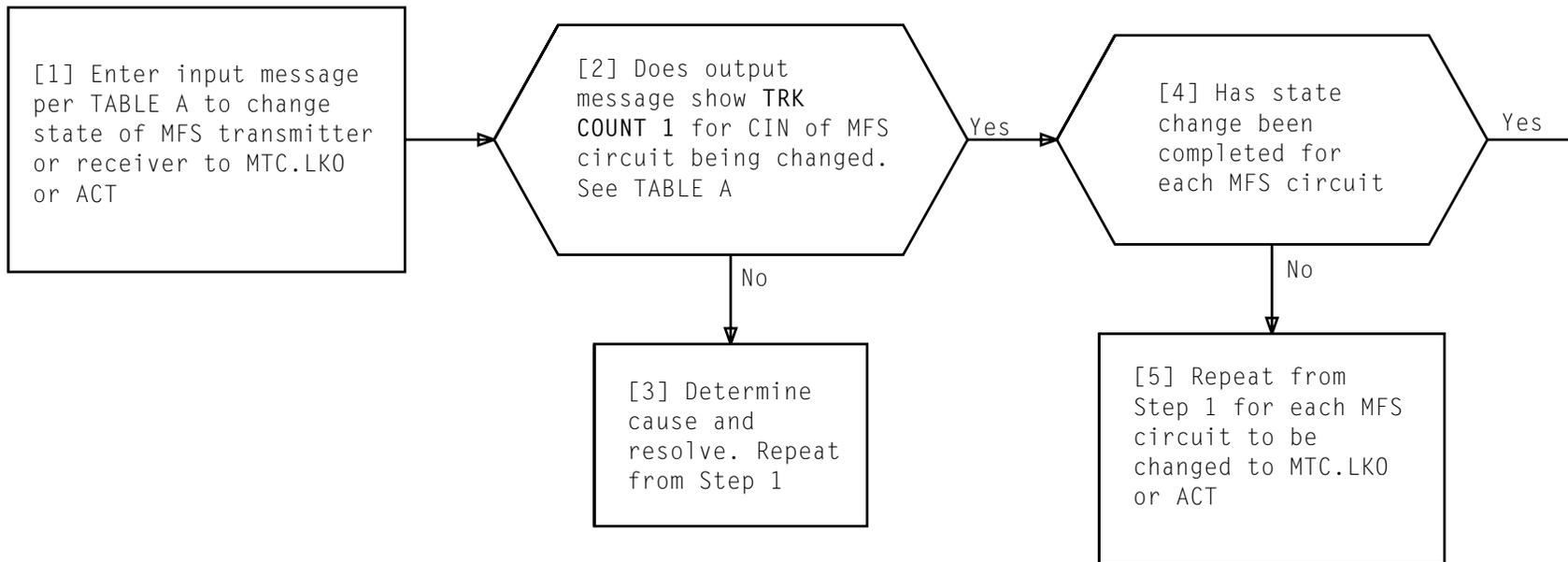
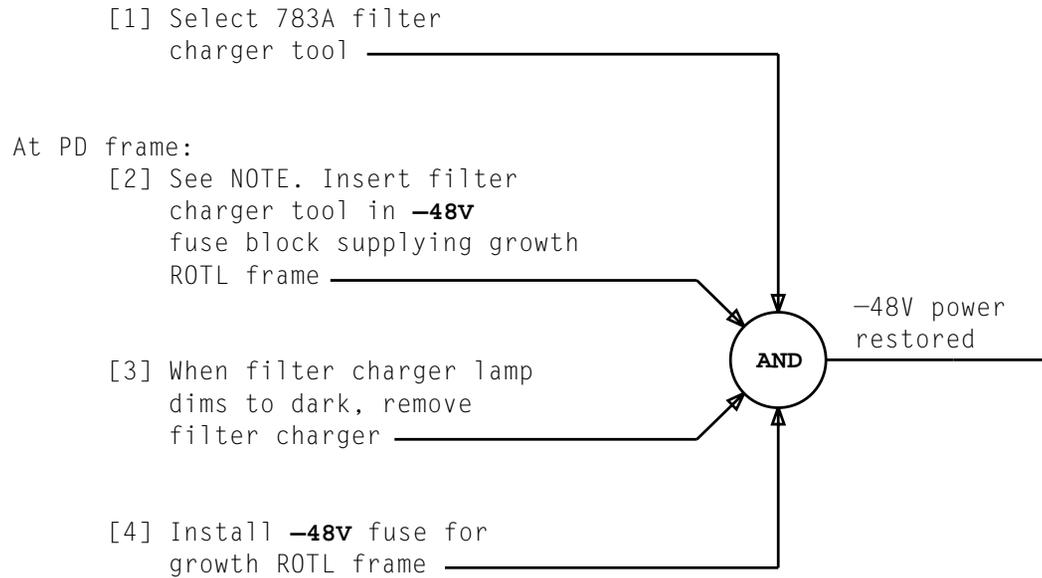


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT a,CIN bbcc SVC* d *;SUM:NUM 1!	SET:TRKSTAT a,CIN bbcc SVC* d* *** NUM,SUM COMPLETED TRK COUNT 1
a = State to which circuit will be changed ACT or MTC.LK0 bb = MFS frame member number cc = MFS circuit number to be changed d = MFR for MFS receiver MFX for MFS transmitter	



NOTE	
When filter charger tool is inserted in fuse block, filter charger lamp is initially on at full bright. As capacitor is charged, filter charger lamp gradually dims to dark	
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CHARGE FILTER CAPACITOR AND RESTORE -48V POWER TO GROWTH ROTL FRAME

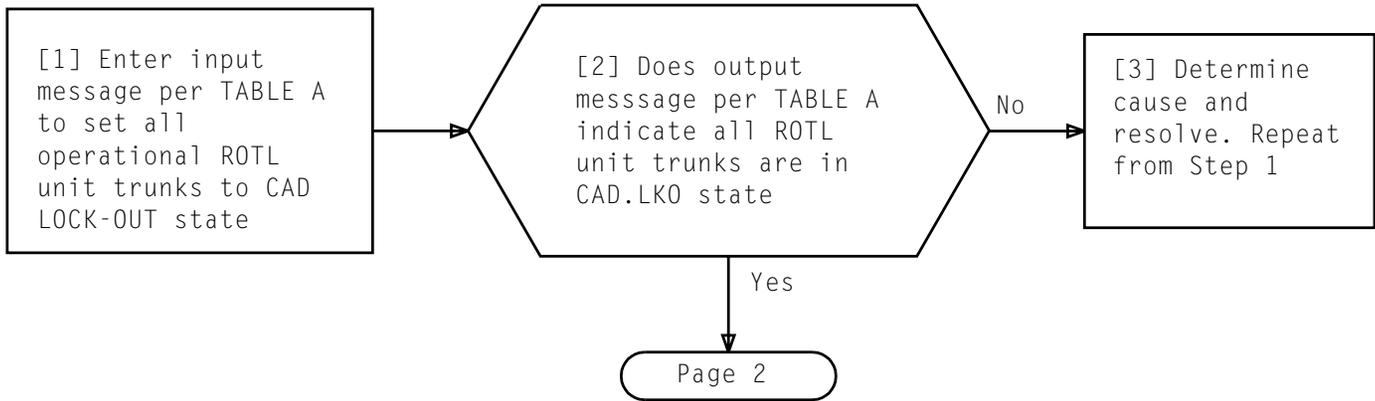


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT CAD.LKO,CIN aATM*RT0/A:TSG	SET:TRKSTAT CAD.LKO TRAF ,CIN aATM*RT0/A • • SET:TRKSTAT,CIN aATM*RT0/A TSG COMPLETED TRK COUNT b
a = Traffic number of CIN b = Trunk count	

SET ALL ROTL UNIT TRUNKS TO CAD LOCK-OUT STATE AND VERIFY

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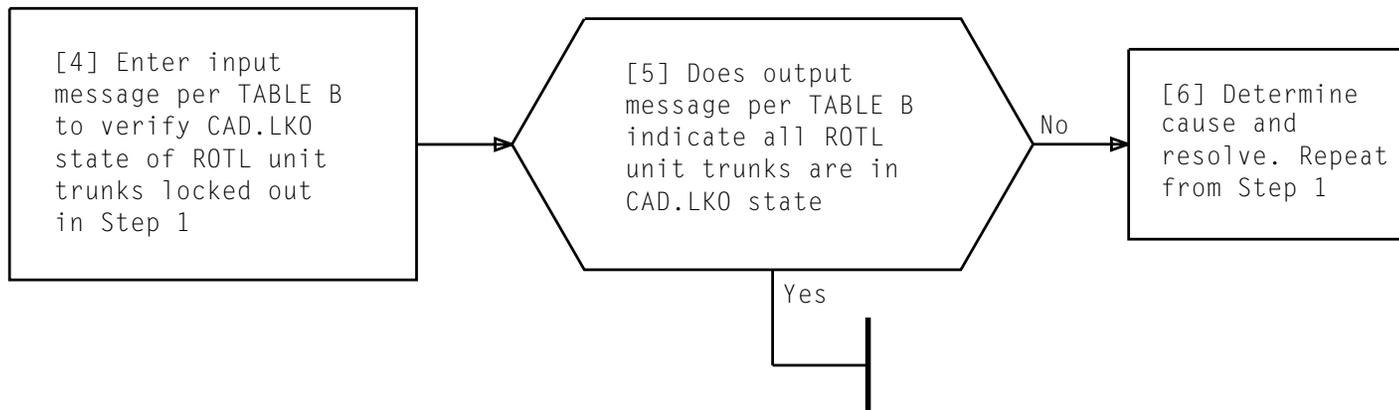


TABLE B	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,CIN aATM*RT0/A:TSG	OP:TRKSTAT CAD.LKO TRAF ,CIN aATM*RT0/A • • • OP:TRKSTAT,CIN aATM*RT0/A TSG COMPLETED TRK COUNT b
a = Traffic number of CIN b = Trunk count	

SET ALL ROTL UNIT TRUNKS TO CAD LOCK-OUT STATE AND VERIFY

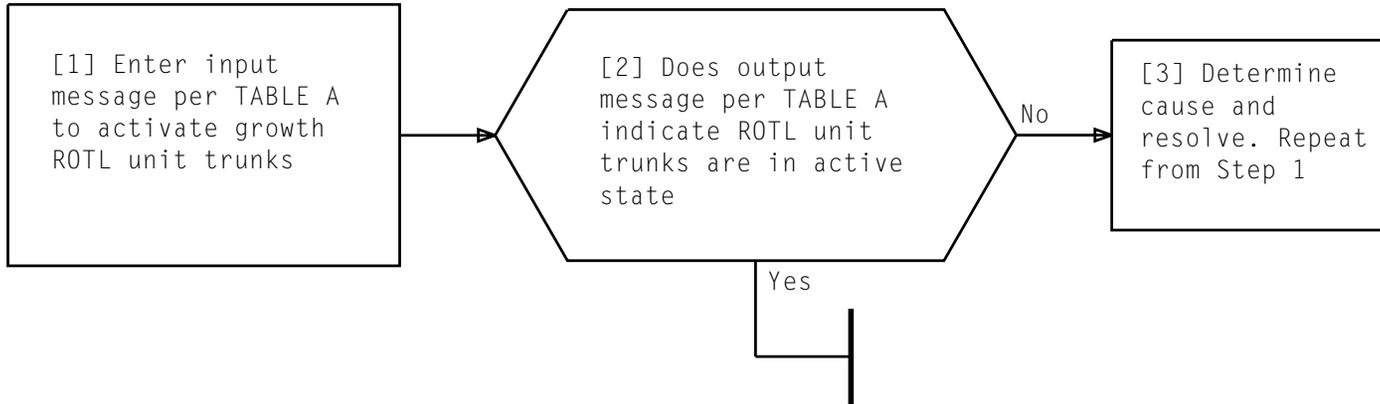


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT ACT,CIN aATM*RT0/A	SET:TRKSTAT ACT TRAF ,CIN aATM*RT0/A 4 TSNS AFFECTED. BASE TSN
a = Traffic number of CIN	

SET GROWTH ROTL UNIT TRUNKS TO ACTIVE STATE

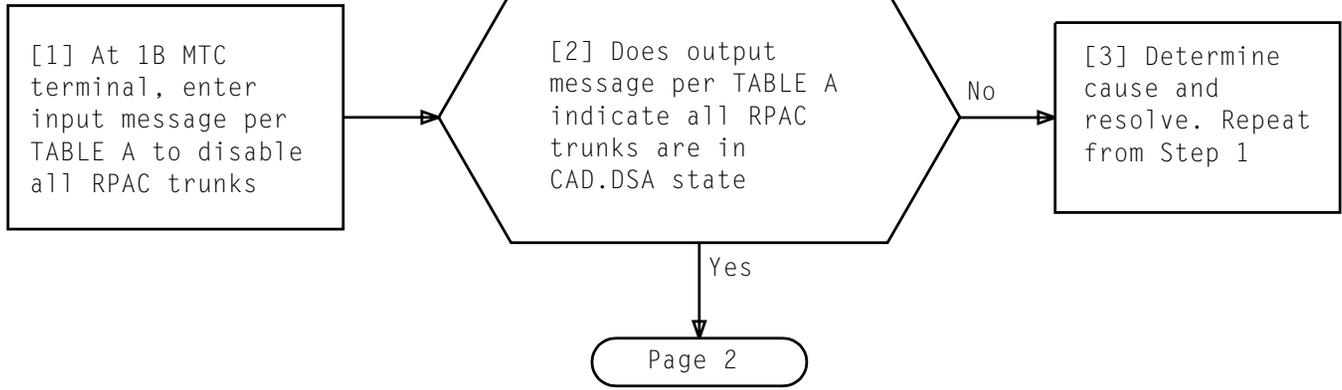


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT CAD.DSA,CIN aATM*RPCU:TSG!	SET:TRKSTAT CAD.DSA TRAF ,CIN aATM*RPCU
	•
	•
	SET:TRKSTAT,CIN aATM*RPCU TSG COMPLETED TRK COUNT b
a = Traffic number of CIN b = Trunk count	

SET ALL RPAC TRUNKS TO CAD DISABLE STATE AND VERIFY

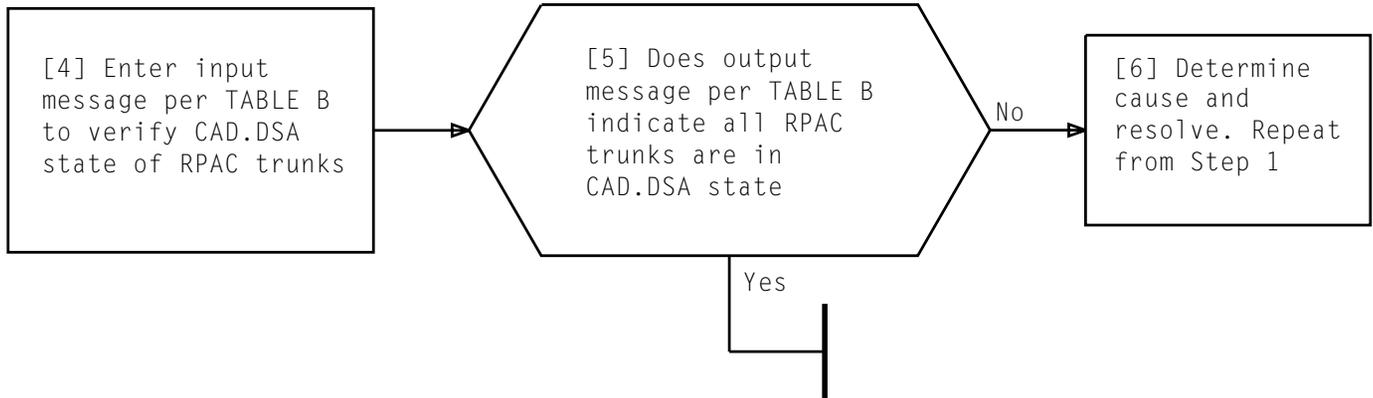


TABLE B	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,CIN aATM*RPCU:TSG!	OP:TRKSTAT CAD.DSA TRAF ,CIN aATM*RPCU : :
	OP:TRKSTAT,CIN aATM*RPCU TSG COMPLETED TRK COUNT b
a = Traffic number of CIN b = Trunk count	

SET ALL RPAC TRUNKS TO CAD DISABLE STATE AND VERIFY

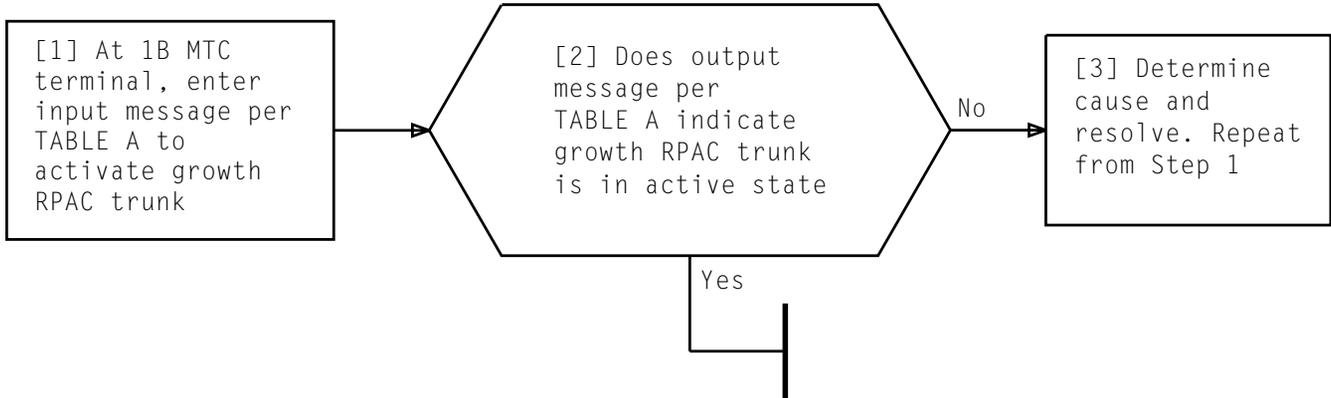
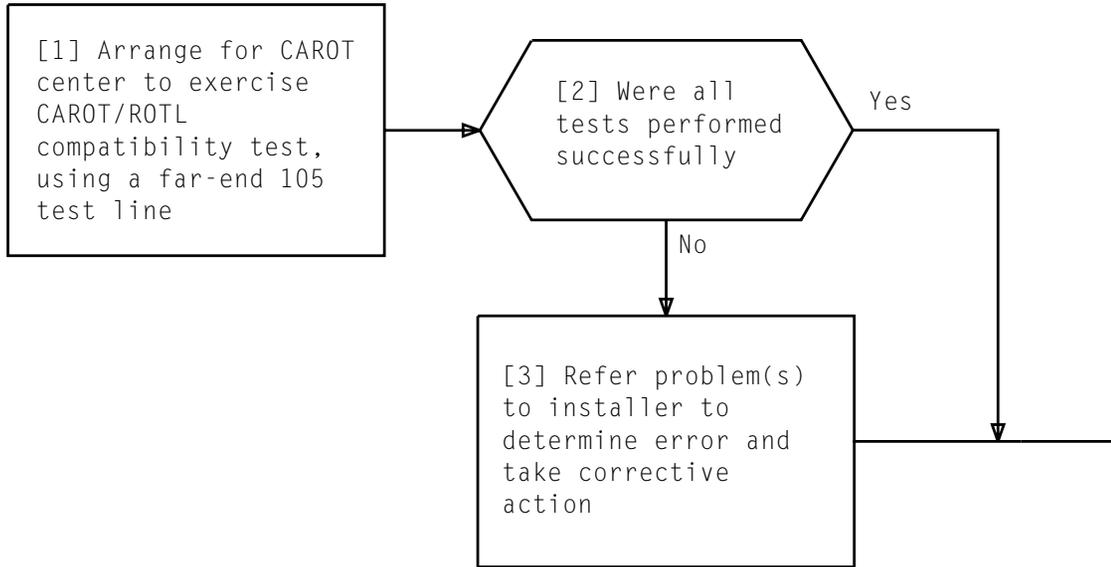
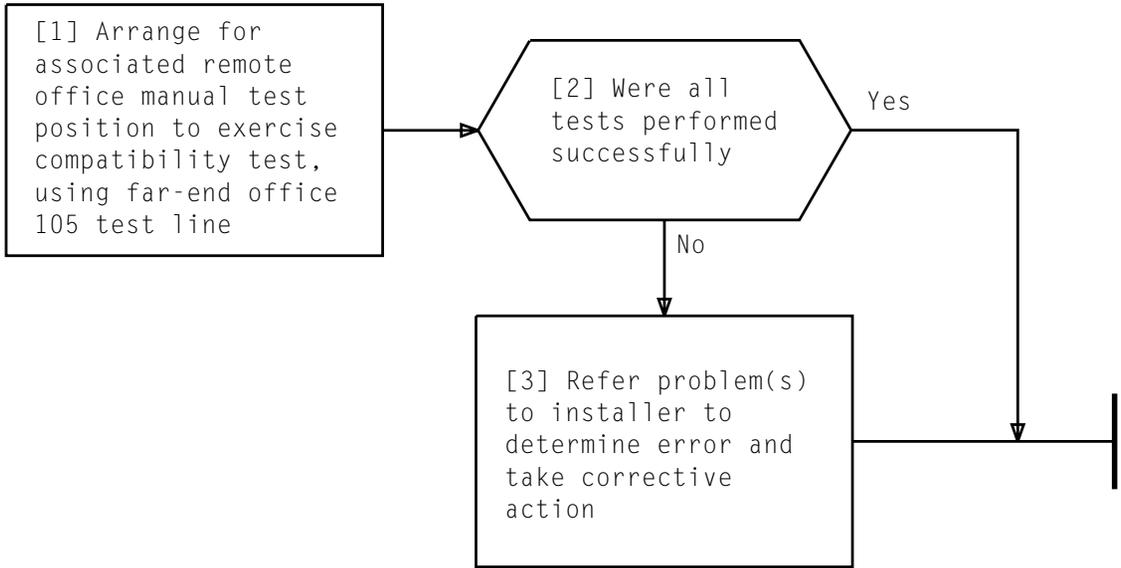


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT ACT,CIN aATM*RPCU!	SET:TRKSTAT ACT TRAF ,CIN aATM*RPCU
a = Traffic number of CIN	

SET GROWTH RPAC TRUNK TO ACTIVE





PERFORM MANUAL TEST POSITION COMPATIBILITY TEST

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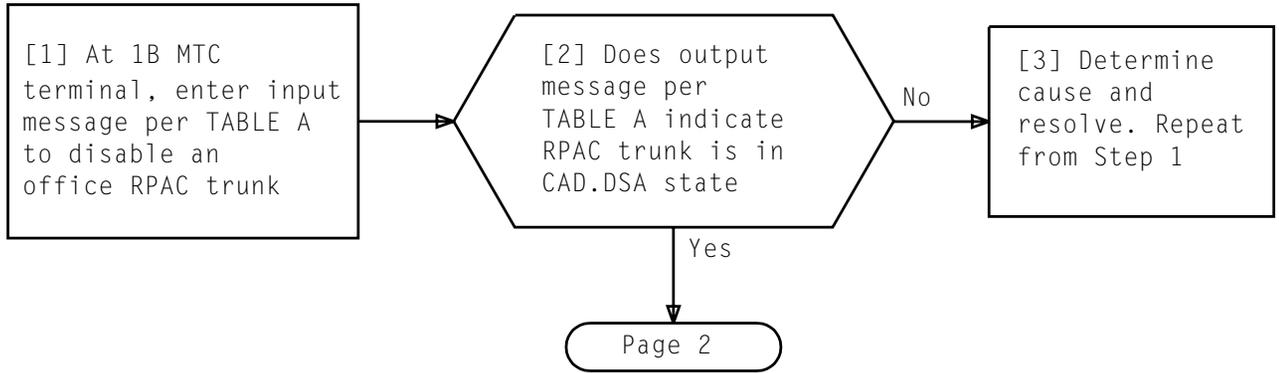


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT CAD.DSA,CIN aATM*RPCU!	SET:TRKSTAT CAD.DSA TRAF ,CIN aATM*RPCU
a = Traffic number of CIN	

SET OFFICE RPAC TRUNK TO CAD DISABLE STATE AND VERIFY

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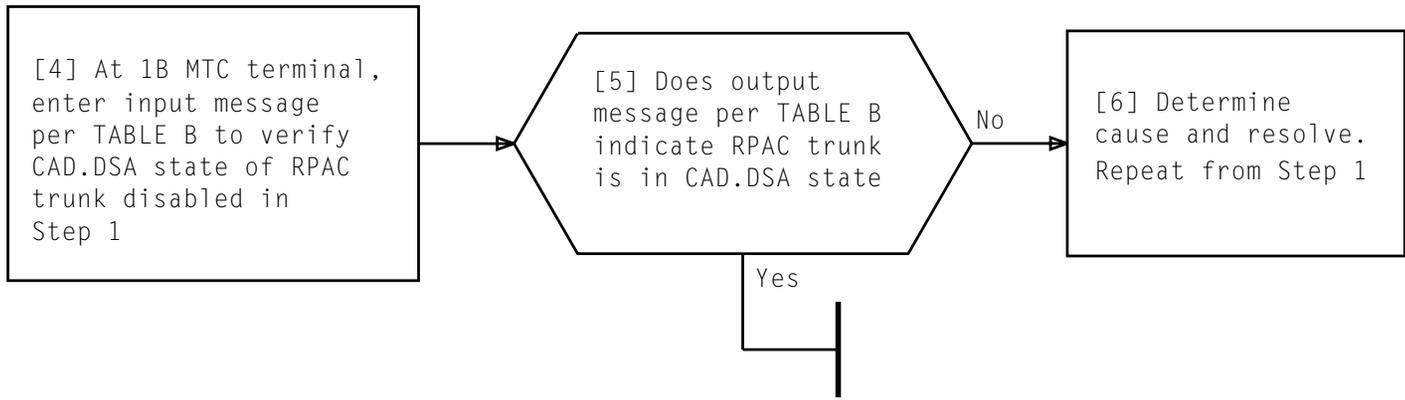


TABLE B	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,CIN aATM*RPCU!	OP:TRKSTAT CAD.DSA TRAF ,CIN aATM*RPCU
a = Traffic number of CIN	

SET OFFICE RPAC TRUNK TO CAD DISABLE STATE AND VERIFY

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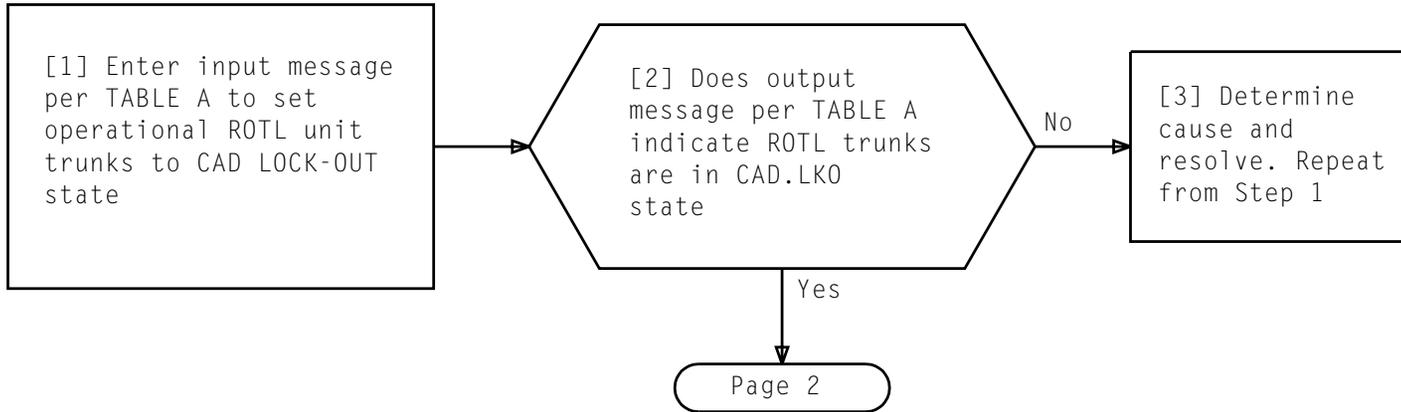


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT CAD.LKO,CIN aATM*RT0/A	SET:TRKSTAT CAD.LKO TRAF ,CIN aATM*RT0/A 4 TSNS AFFECTED. BASE TSN
a = Traffic number of CIN	

SET ROTL UNIT TRUNKS TO CAD LOCK-OUT STATE AND VERIFY

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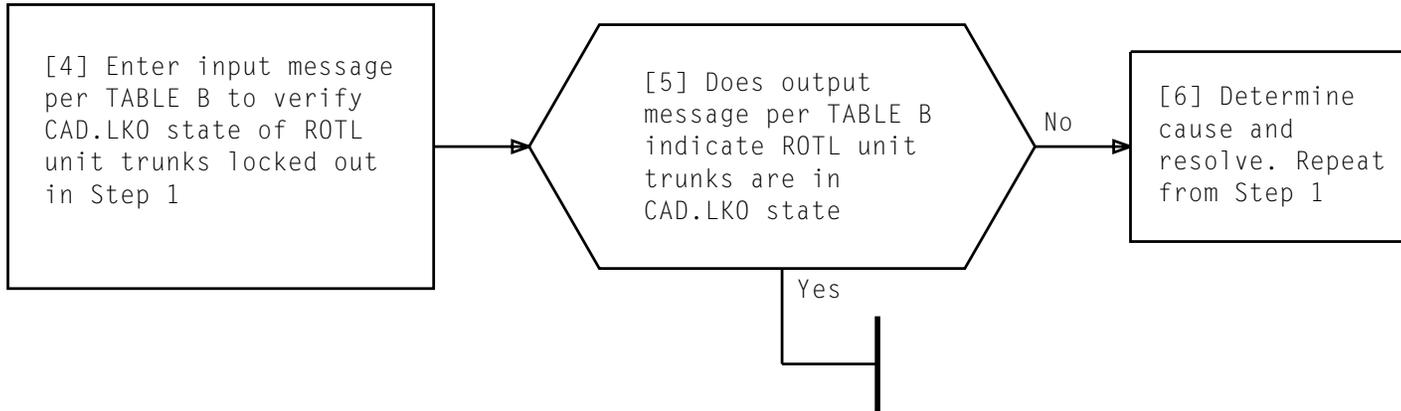


TABLE B	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,TSN a:NUM 4!	OP:TRKSTAT CAD.LKO TRAF ,TSN b OP:TRKSTAT CAD.LKO TRAF ,TSN c OP:TRKSTAT CAD.LKO TRAF ,TSN d OP:TRKSTAT CAD.LKO TRAF ,TSN e OP:TRKSTAT, TSN a NUM COMPLETED TRK COUNT 4
a = Base TSN from SET:TRKSTAT output message b = TSN of RT0A c = TSN of RT0T d = TSN of RT1A e = TSN of RT1T	

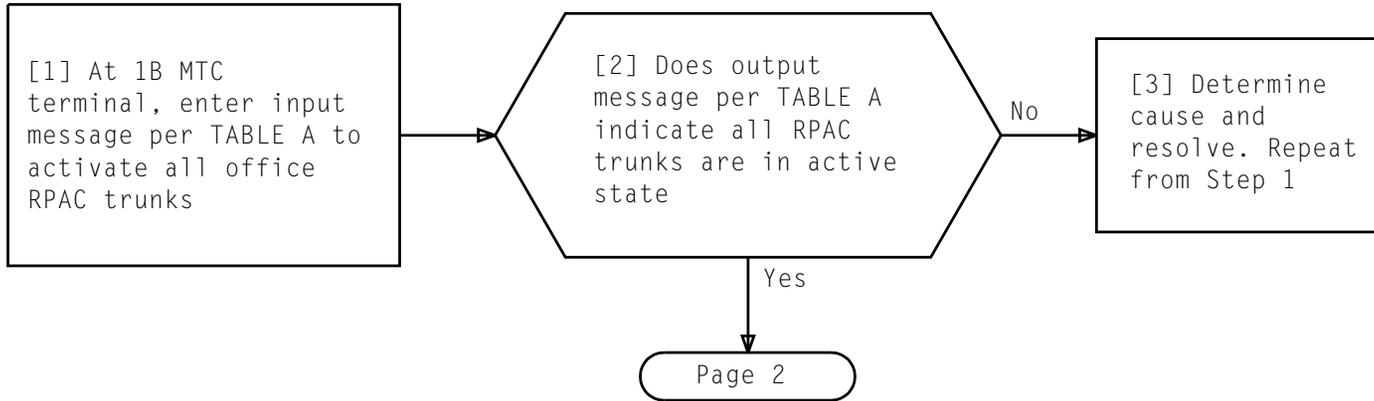


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT ACT,CIN aATM*RPCU:TSG!	SET:TRKSTAT ACT TRAF ,CIN a ATM*RPCU
	•
	•
	SET:TRKSTAT,CIN a ATM*RPCU TSG COMPLETED
a = Traffic number of CIN	

SET ALL OFFICE RPAC TRUNKS TO ACTIVE STATE AND VERIFY

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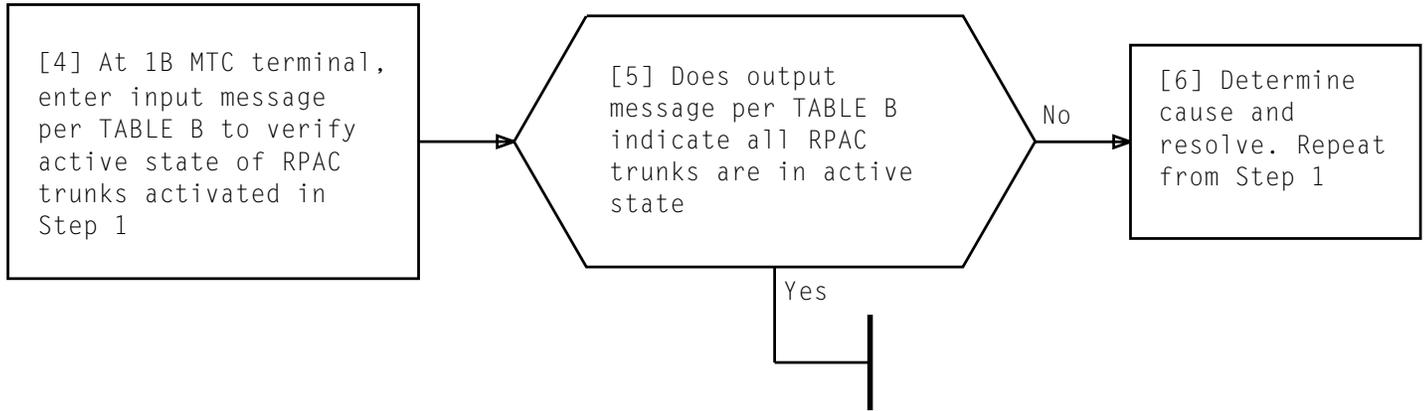


TABLE B	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,CIN aATM*RPCU:TSG!	OP:TRKSTAT ACT TRAF ,CIN a ATM*RPCU
	• •
	OP:TRKSTAT,CIN a ATM*RPCU TSG COMPLETED
a = Traffic number of CIN	

SET ALL OFFICE RPAC TRUNKS TO ACTIVE STATE AND VERIFY

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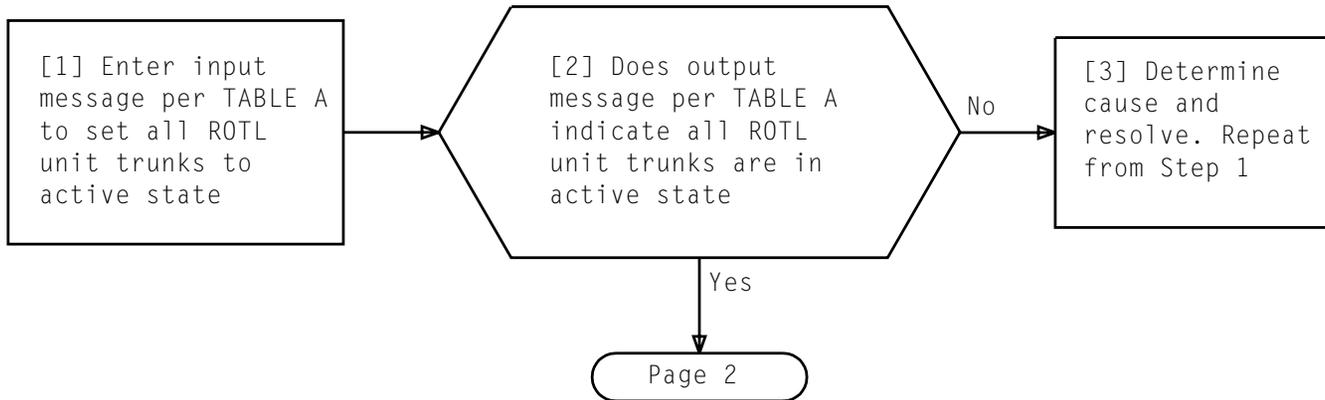


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT ACT,CIN aATM*RT0/A:TSG	SET:TRKSTAT ACT TRAF ,CIN a ATM*RT0/A • • SET:TRKSTAT,CIN a ATM*RT0/A TSG COMPLETED TRK COUNT b
a = Traffic number of CIN b = Trunk count	

SET ALL ROTL UNIT TRUNKS TO ACTIVE STATE AND VERIFY

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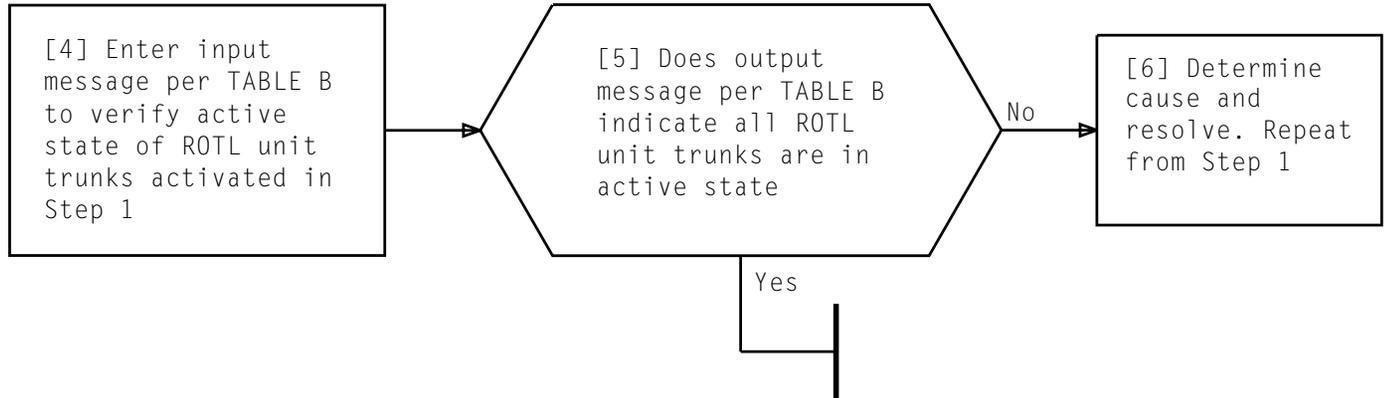


TABLE B	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,CIN aATM*RT0/A:TSG	OP:TRKSTAT ACT TRAF ,CIN a ATM*RT0/A • • OP:TRKSTAT,CIN a ATM*RT0/A TSG COMPLETED TRK COUNT b
a = Traffic number of CIN b = Trunk count	

SET ALL ROTL UNIT TRUNKS TO ACTIVE STATE AND VERIFY

<p style="text-align: center;">SUMMARY</p> <p>Using verify entry input message, call up growth MB or MCF UT translator and verify that resulting TTY octal output, when converted, agrees with office records.</p>	<p>Refer to entry word explanations of TABLE B, Page 3 as required, for assistance in interpreting specific data fields. If it is determined that UT entry data are in error, word change(s) may be required.</p>
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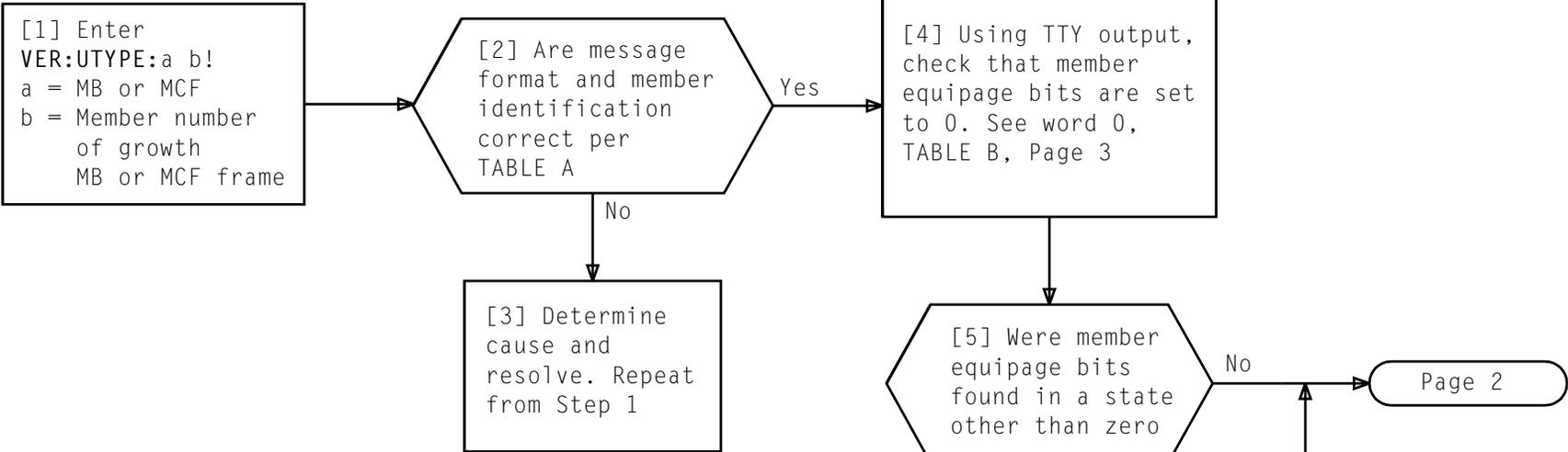


TABLE A	
VER:UTMN;OPT(),CUR: FLN a, UTYN b,	
MEMN c, ME UNEQ,	
ENTRY ADDRESS d, ENTRY SIZE 2,	
CUR	
WORD 0 _____	
a = Floor location number b = MB or MCF c = Member number of growth frame d = Starting octal address for unit type entry	

CAUTION 1 <i>Depending on local procedures, supervisory or TELCO engineering approval must be obtained prior to performing any data changes</i>	
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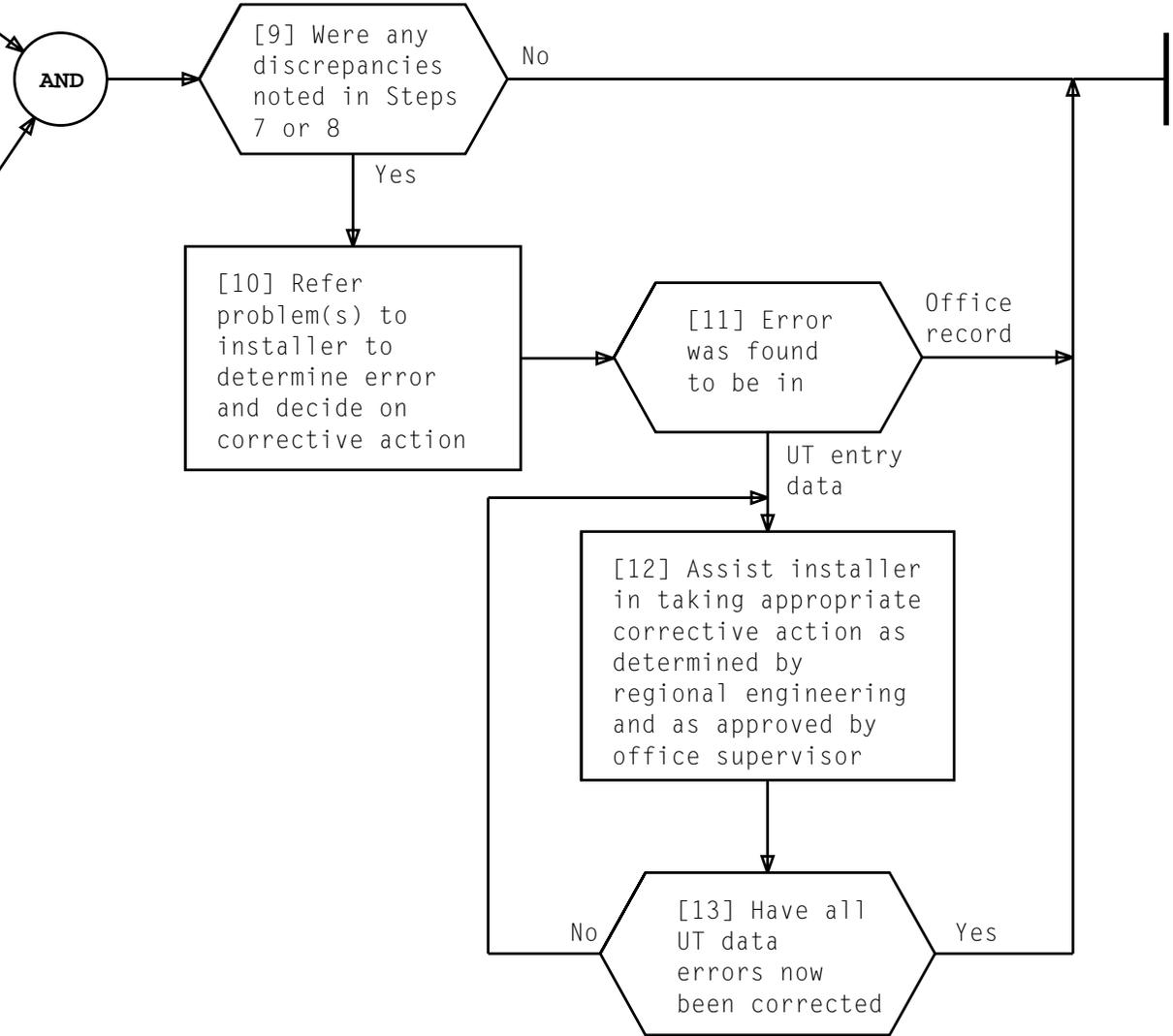
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VERIFY MB OR MCF UT TRANSLATOR

Using printout, office records,
and TABLE B, Page 3:

[7] Verify scan point assignment
for growth MB or MCF per
word 0 [DLP-501]

[8] Verify alarm grid, lineup
and frame assignment for
growth MB or MCF per word 1
[DLP-503]



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TABLE B

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																							
0	entry data	0				0				Y				Y										
	octal output	0				0				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
	MEMBER EQUIPAGE	SP MEMBER NUMBER				L OR R MATRIX				SP ROW NUMBER				SP COLUMN NUMBER										
		BASE MISCELLANEOUS SCAN NUMBER																						
	<p>X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent</p> <p>Y = Variable octal numbers</p>																							
1	entry data	Y				Y				Y				Y										
	octal output	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
	ALARM GRID NUMBER	LINEUP NUMBER								FRAME NUMBER														
	<p>X...X = Converts to decimal frame info as reflected in office floor plan drawing</p> <p>Y = Variable octal numbers</p> <p>ZZZZ = Converts to decimal alarm grid number as reflected in office record drawings T-nnnn-Hn-400,401, or 402 or equivalent</p>																							

SUMMARY

Using verify entry input message, call up growth Alarm Grid UT translator and verify that resulting TTY octal output data, when converted, agrees with office

records. Refer to entry word explanations of TABLE B, Page 4, as required, for assistance in interpreting specific data fields. If it is determined that UT entry data are in error, word change(s) may be required.

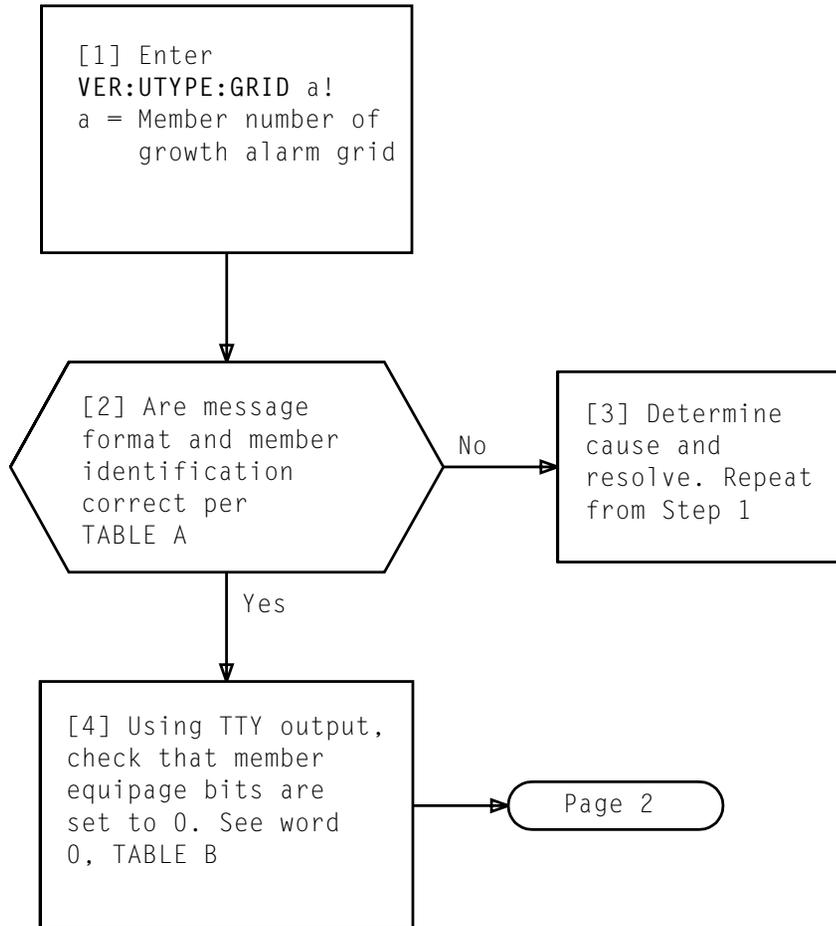
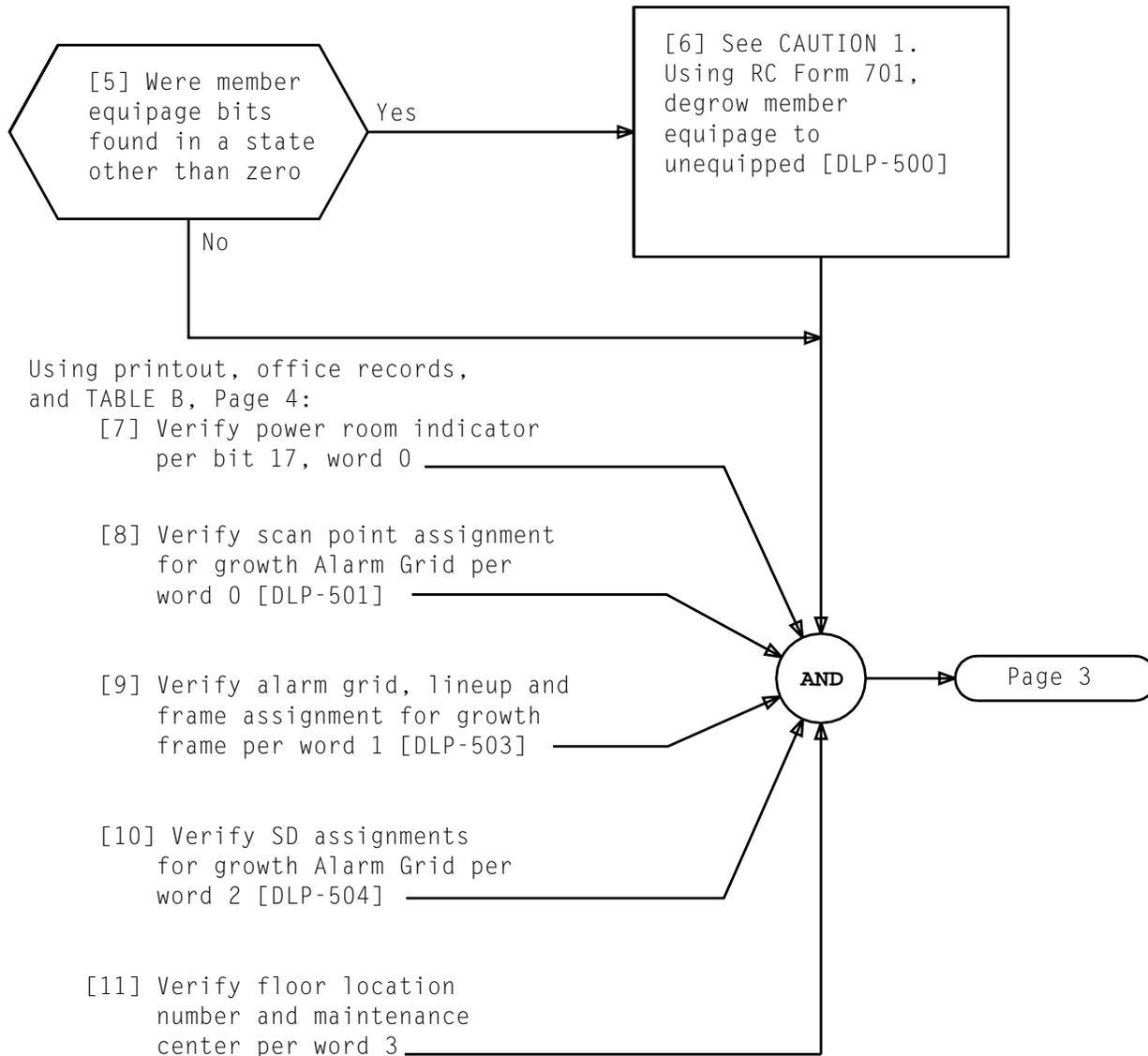


TABLE A	
VER:UTMN;OPT(),CUR:	FLN a, UTYN GRID,
MEMN b, ME UNEQ, ENTRY ADDRESS c,	ENTRY SIZE 4,
CUR WORD 0	_____
a = Floor location number b = Member number of growth alarm grid c = Starting octal address for unit type entry	



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

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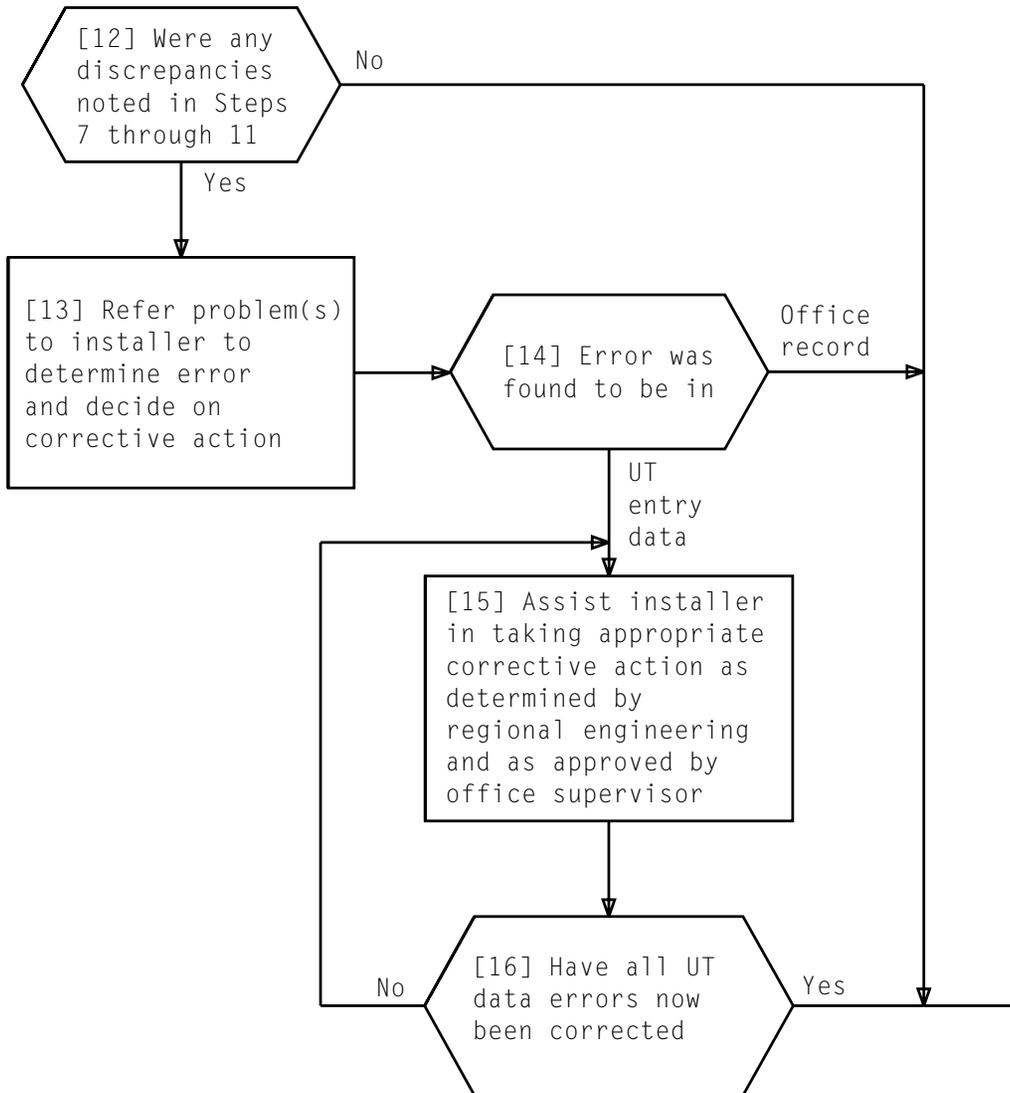


TABLE B

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
0	entry data octal output	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	0	0	0	0	0	0	0	Z	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	
	MEMBER EQUIPAGE						P R	SP MEMBER NUMBER					SP ROW NUMBER					SP COLUMN NUMBER							
	BASE MISCELLANEOUS SCAN NUMBER																								
	X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent Y = Variable octal numbers										Z = 0 (Not equipped for power room alarm monitoring) 1 (Equipped for power room alarm monitoring)														
1	entry data octal output	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	
	ALARM GRID NUMBER				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												

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																							
2	entry data	0		0		Y		Y		Y		Y		Y		Y								
	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					SP ROW NUMBER					SP COLUMN NUMBER						
	BASE MISCELLANEOUS SD NUMBER																							
	<p>X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-462 or equivalent</p> <p>Y = Variable octal numbers</p>																							
3	entry data	0		0		Y		Y		Y		Y		Y		Y								
	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	Z	Z	Z	Z	Z	Z	Z	Z	Z	X	X	X	X	X	X	X	X
								FLOOR LOCATION NUMBER							MAINTENANCE CENTER									
	<p>XXX = 223 for MOC 224 for TEC1 225 for TEC2 226 for TEC3 227 for TEC4 230 for TEC5 231 for TOC</p> <p>Y = Variable octal numbers</p> <p>ZZZZ = Converts to decimal floor location number of frame containing growth Alarm Grid as reflected in office record</p>																							

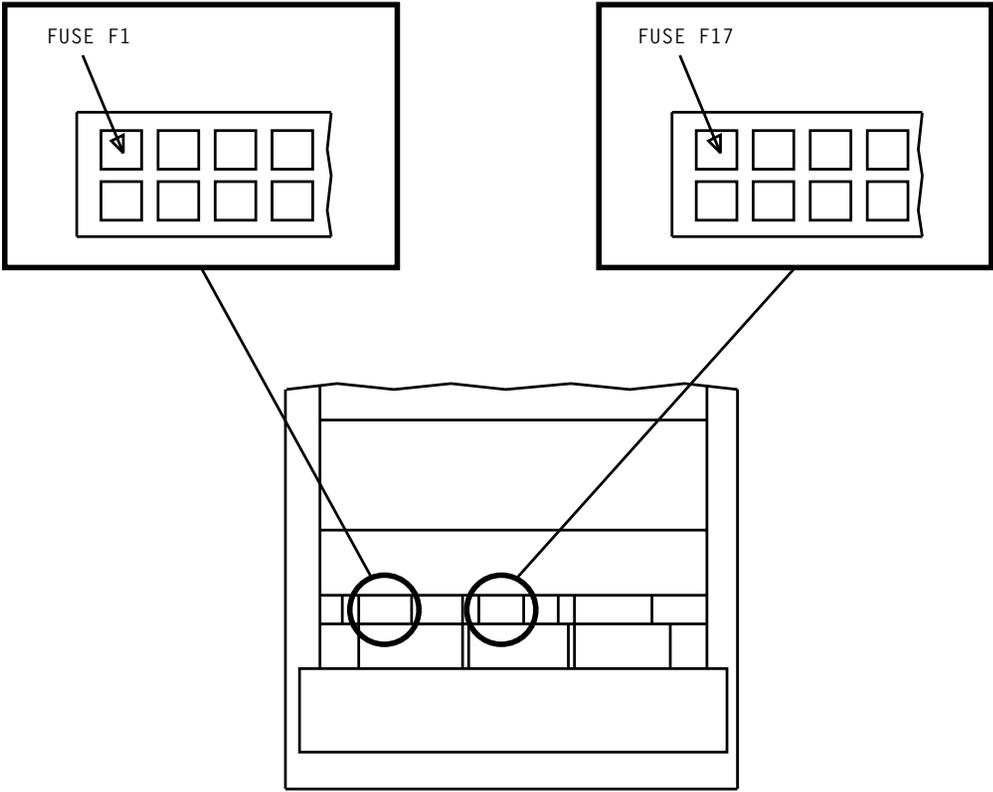
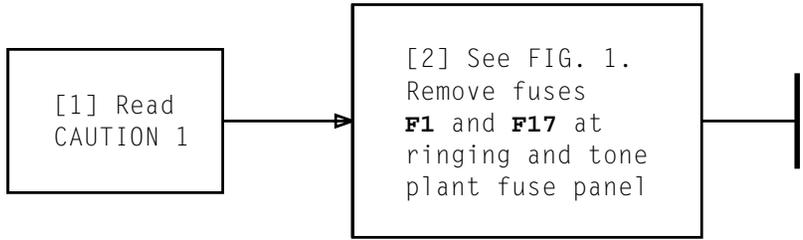


FIG. 1 - Ringing and Tone Plant Fuse Location

*CAUTION 1
Removal of fuses F1 and F17 will disable 86V ringing and tone facility in the entire 4 ESS switching office. All minor, power minor, alarm battery supply, and display panel audible alarm ringer will be disabled. Complete wiring quickly and without delay*

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DISABLE 86V AUDIBLE ALARM POWER AT RINGING AND TONE PLANT

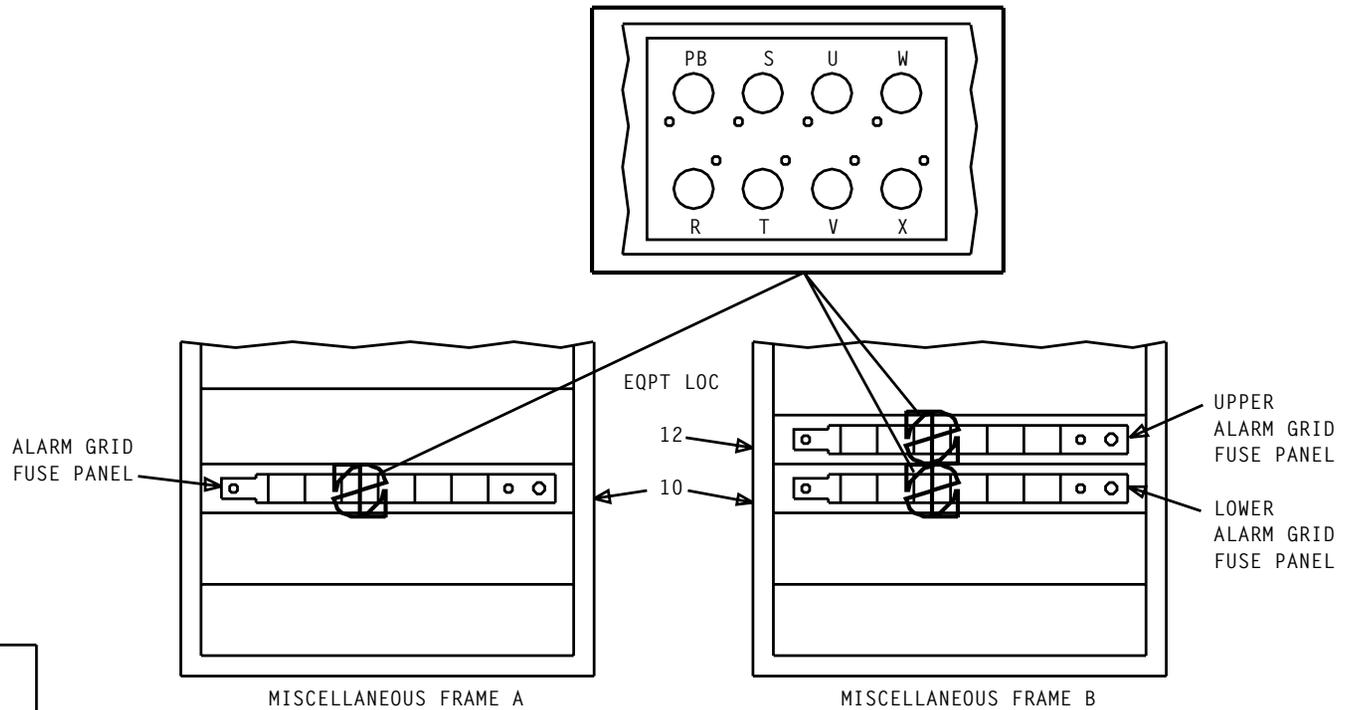
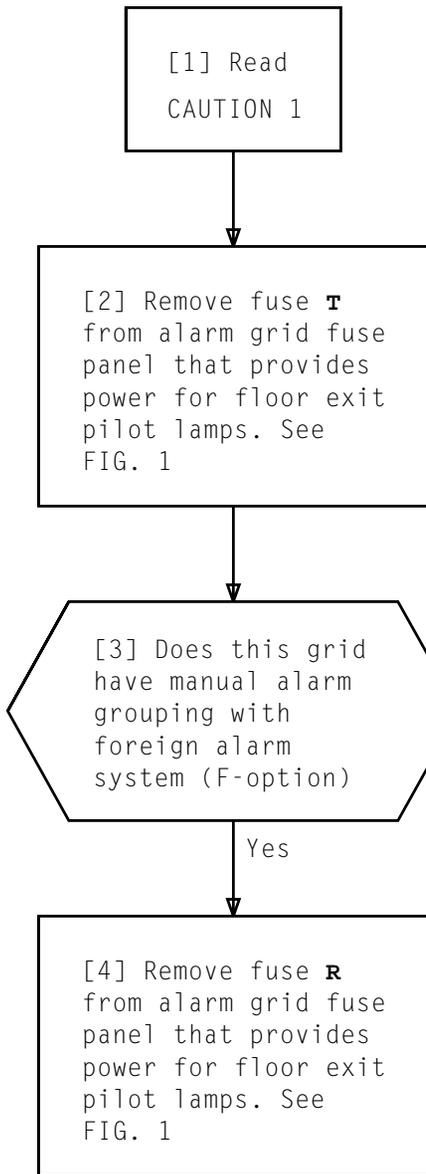


FIG. 1 - Office Alarm Grid Fuse Location

CAUTION 1
 Removal of fuses will disable exit pilot lamps on this floor. Complete wiring quickly and restore power without delay

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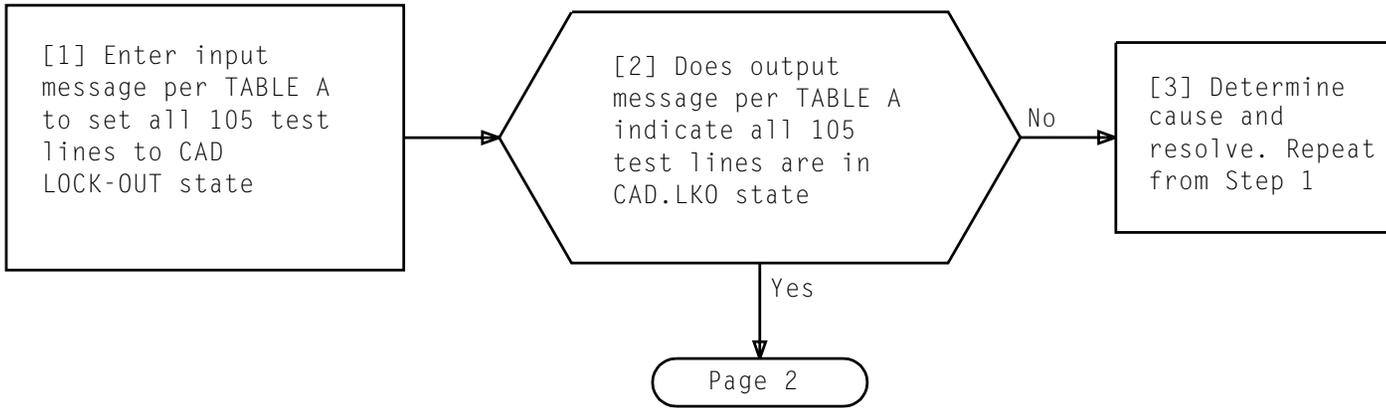


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT CAD.LKO,TAN a:TSG!	SET:TRKSTAT CAD.LKO TRAF ,TAN a • • SET:TRKSTAT,TAN a TSG COMPLETED TRK COUNT b
a = TAN number assigned to 105 test line b = Trunk count	

SET ALL 105 TEST LINES TO CAD LOCK-OUT STATE AND VERIFY

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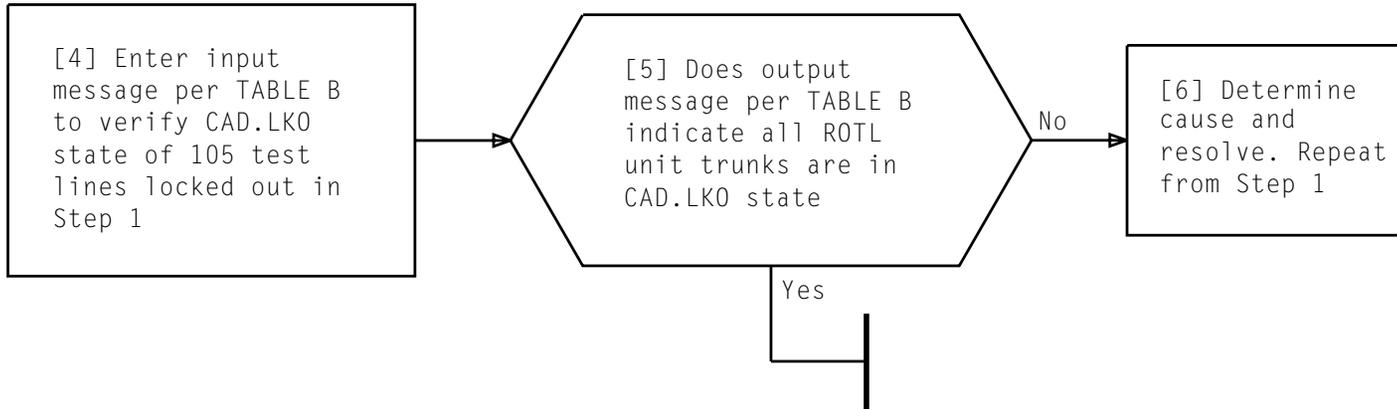


TABLE B	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,TAN a:TSG!	OP:TRKSTAT CAD.LKO TRAF ,TAN a • • OP:TRKSTAT,TAN a TSG COMPLETED TRK COUNT b
a = TAN number assigned to 105 test line b = Trunk count	

SET ALL 105 TEST LINES TO CAD LOCK-OUT STATE AND VERIFY

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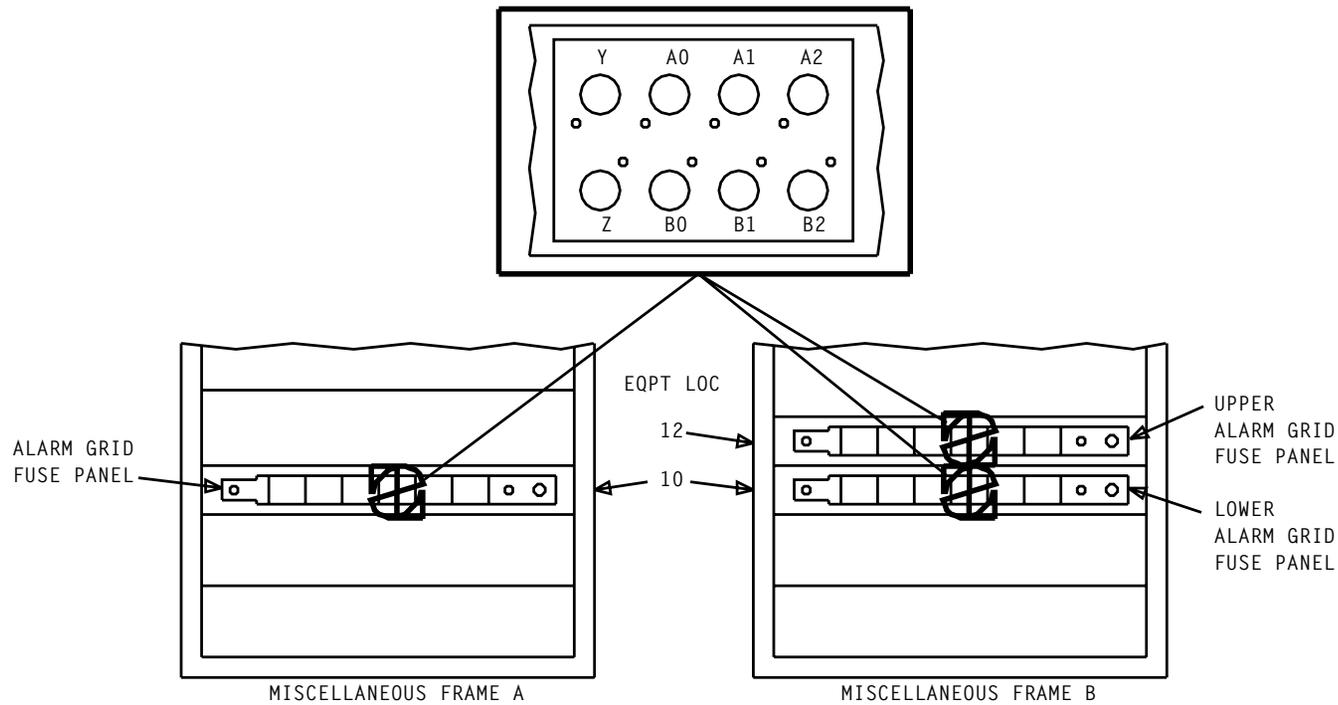
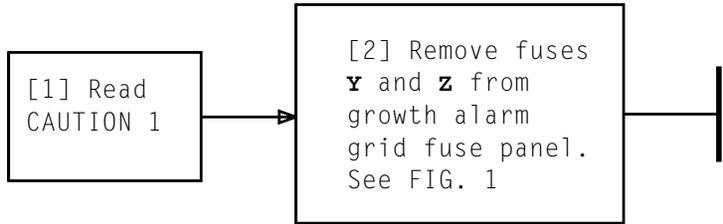


FIG. 1 - Office Alarm Grid Fuse Location

CAUTION 1
Removal of fuses Y and Z will disable alarm grid display panel in location other than MOC. Complete wiring quickly and restore power without delay

REMOVE FUSES Y AND Z FROM GROWTH ASSOCIATED ALARM GRID FUSE PANEL

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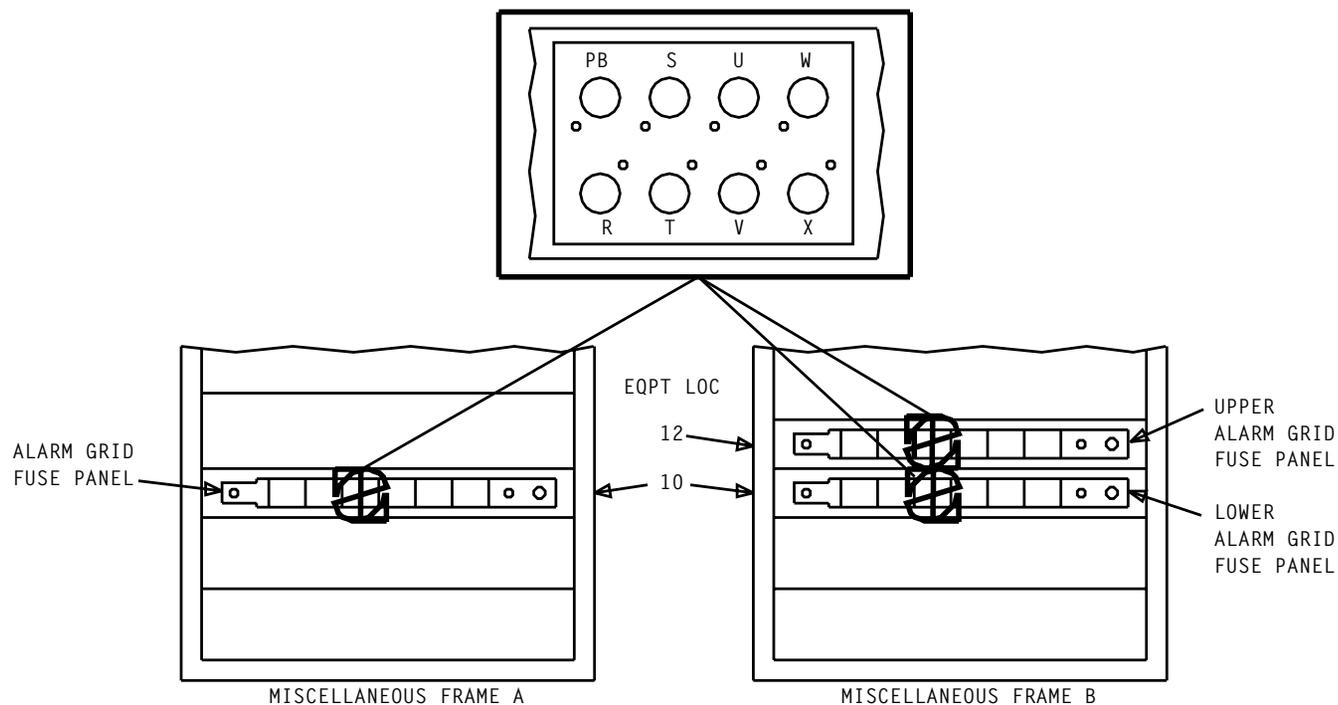
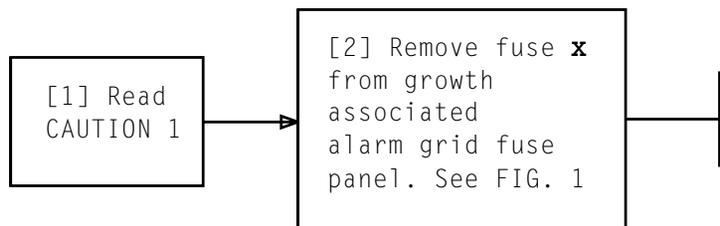


FIG. 1 - Office Alarm Grid Fuse Location

CAUTION 1
 Removal of fuse x will disable alarm grid display panel at MOC. Complete wiring quickly and restore power without delay

REMOVE FUSE X FROM GROWTH ASSOCIATED ALARM GRID FUSE PANEL

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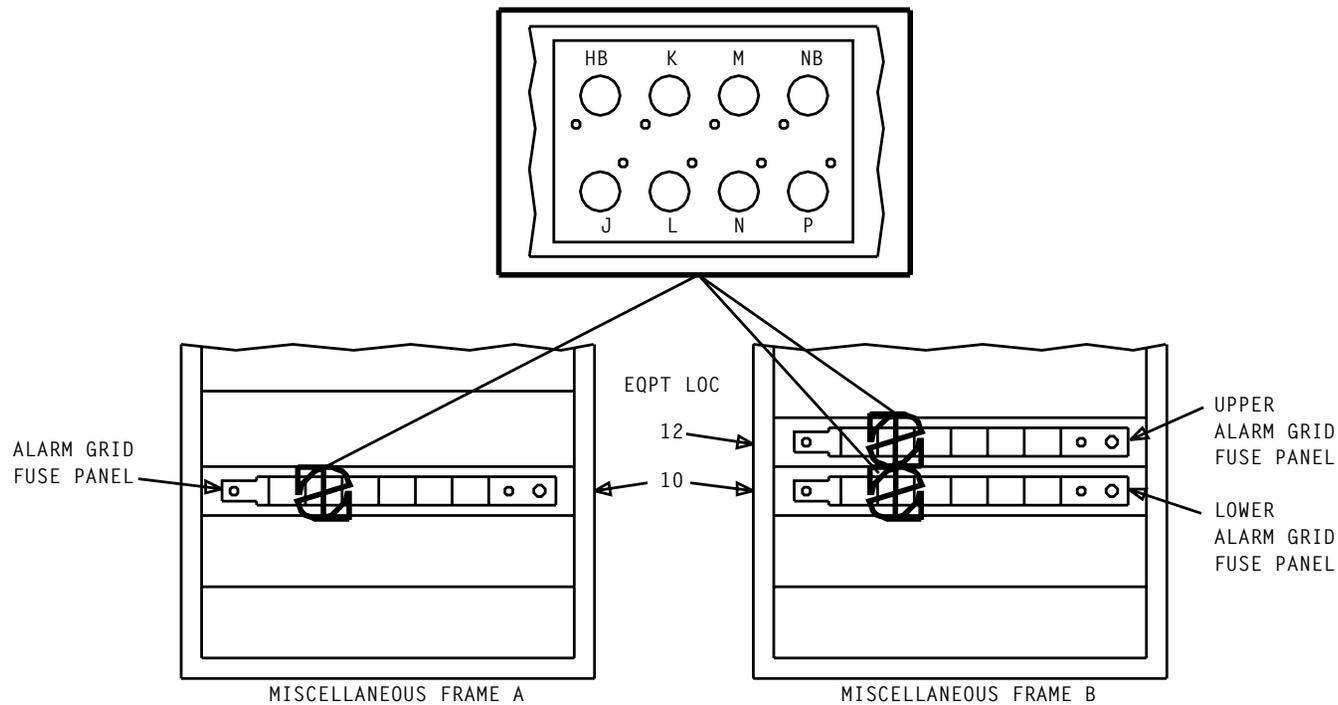
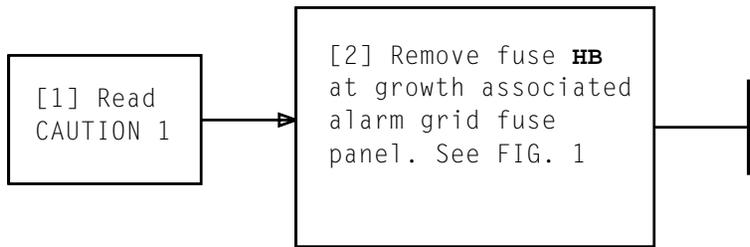


FIG. 1 - Office Alarm Grid Fuse Location

CAUTION 1
 Removal of fuse **HB** will disable alarm battery supply alarm in this grid. Complete wiring quickly and restore power without delay

REMOVE FUSE HB FROM GROWTH ASSOCIATED ALARM GRID FUSE PANEL

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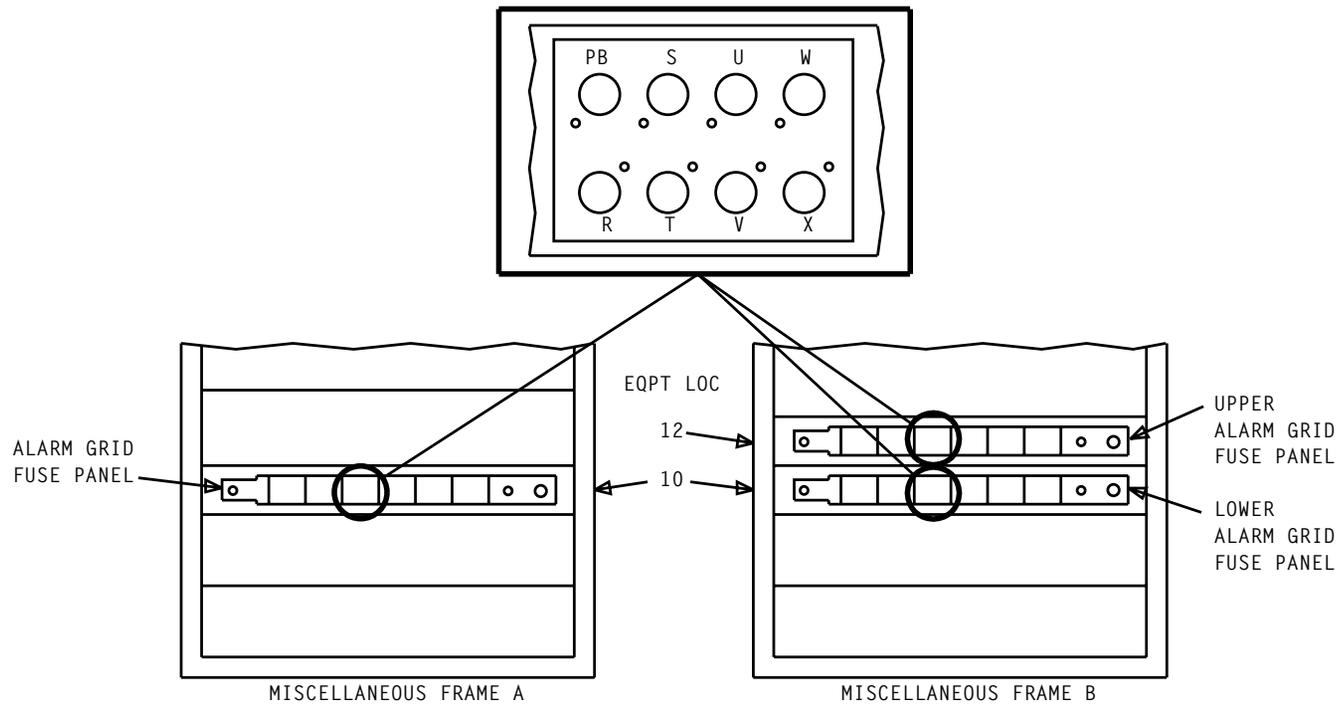
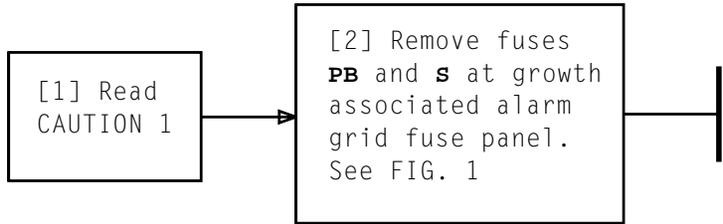


FIG. 1 - Office Alarm Grid Fuse Location

<i>CAUTION 1</i>	
<i>Removal of fuses PB and S will disable OTH lamp at auxiliary main, processor main, and main aisle pilot lamps. Complete wiring quickly and restore power without delay</i>	
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REMOVE FUSES PB AND S FROM GROWTH ASSOCIATED ALARM GRID FUSE PANEL

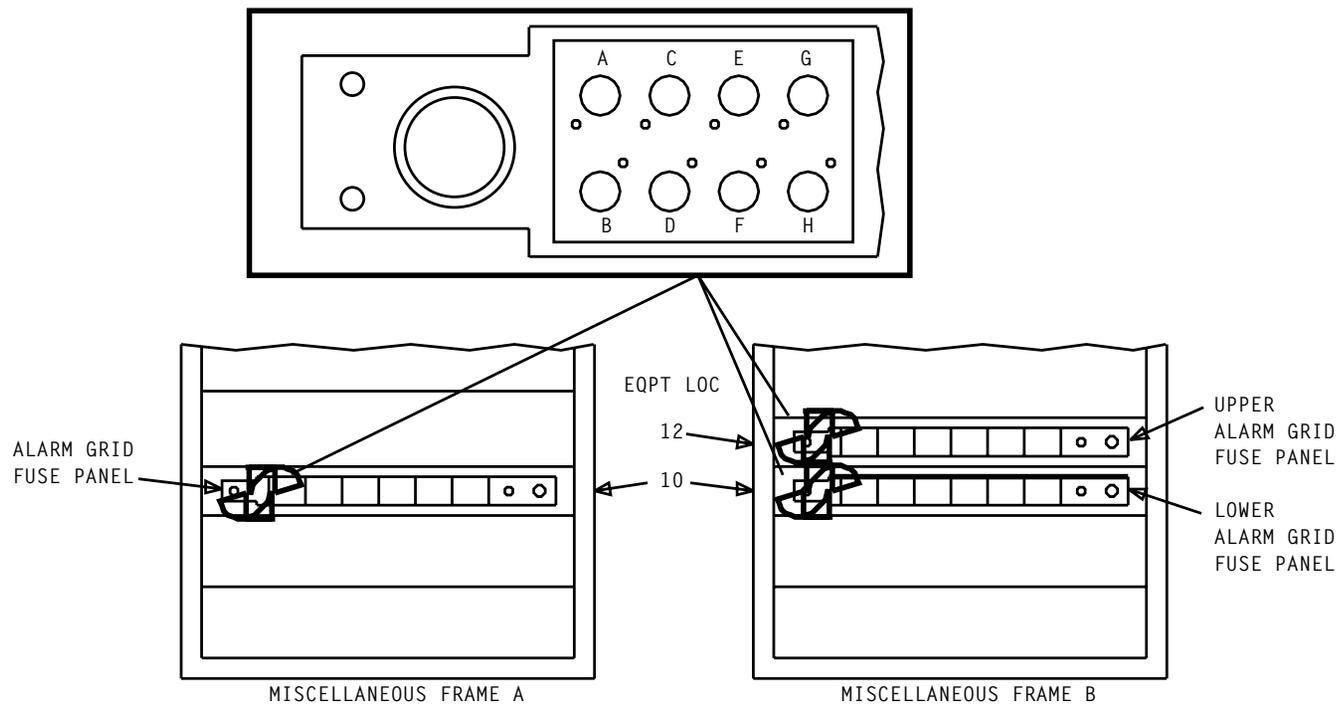
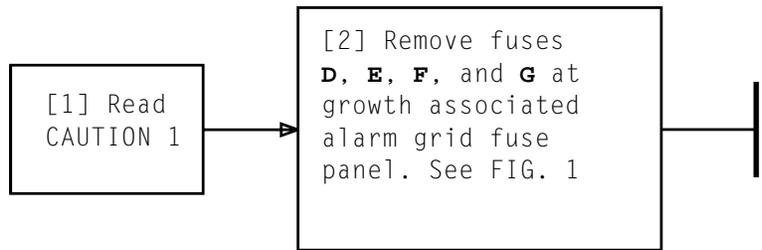


FIG. 1 - Office Alarm Grid Fuse Location

CAUTION 1
Removal of fuses D, E, F, and G will disable signal distributor points in growth associated grid. Complete wiring quickly and restore power without delay

REMOVE FUSES FROM GROWTH ASSOCIATED ALARM GRID FUSE PANEL WHICH PROVIDES POWER TO SD POINTS

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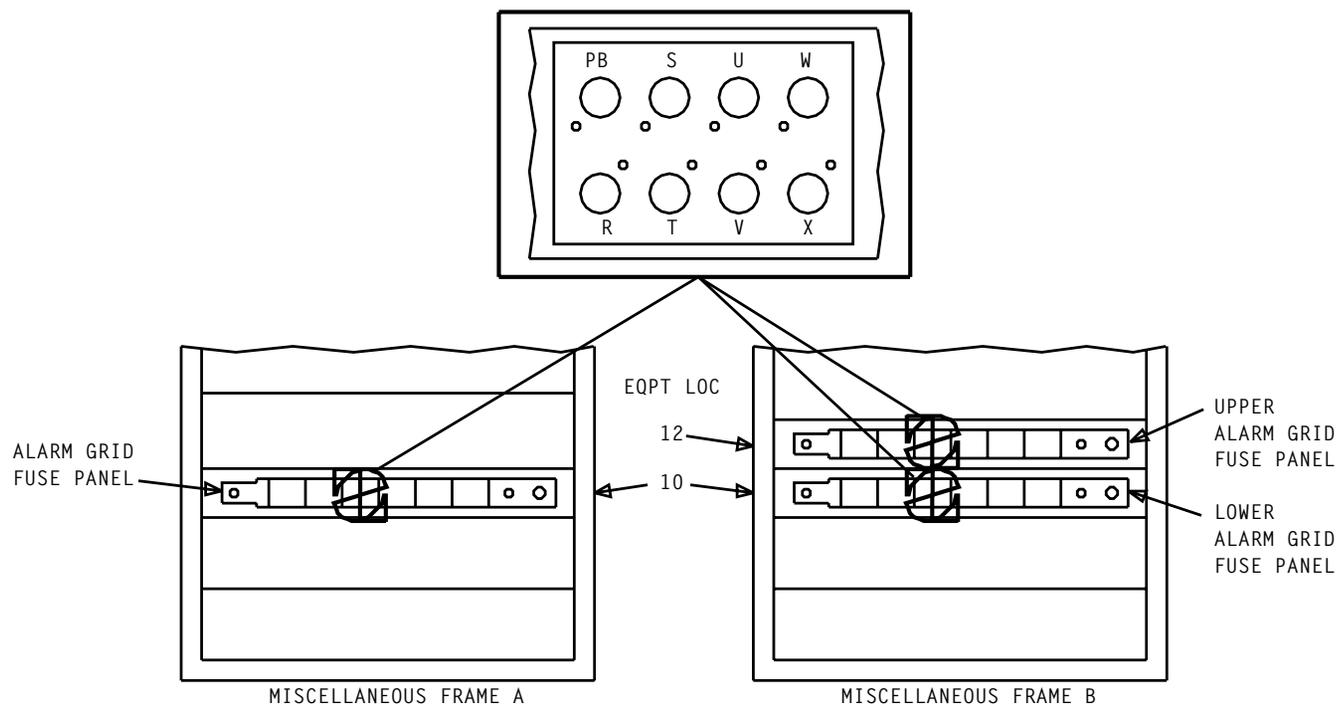
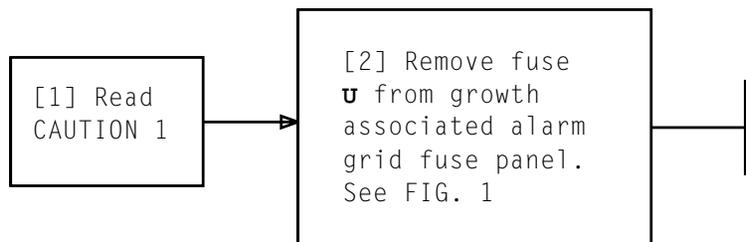


FIG. 1 - Office Alarm Grid Fuse Location

CAUTION 1
 Removal of fuse U will remove battery and ground to foreign exit pilot lamps. Complete wiring quickly and restore power without delay

REMOVE FUSE U FROM GROWTH ASSOCIATED ALARM GRID FUSE PANEL

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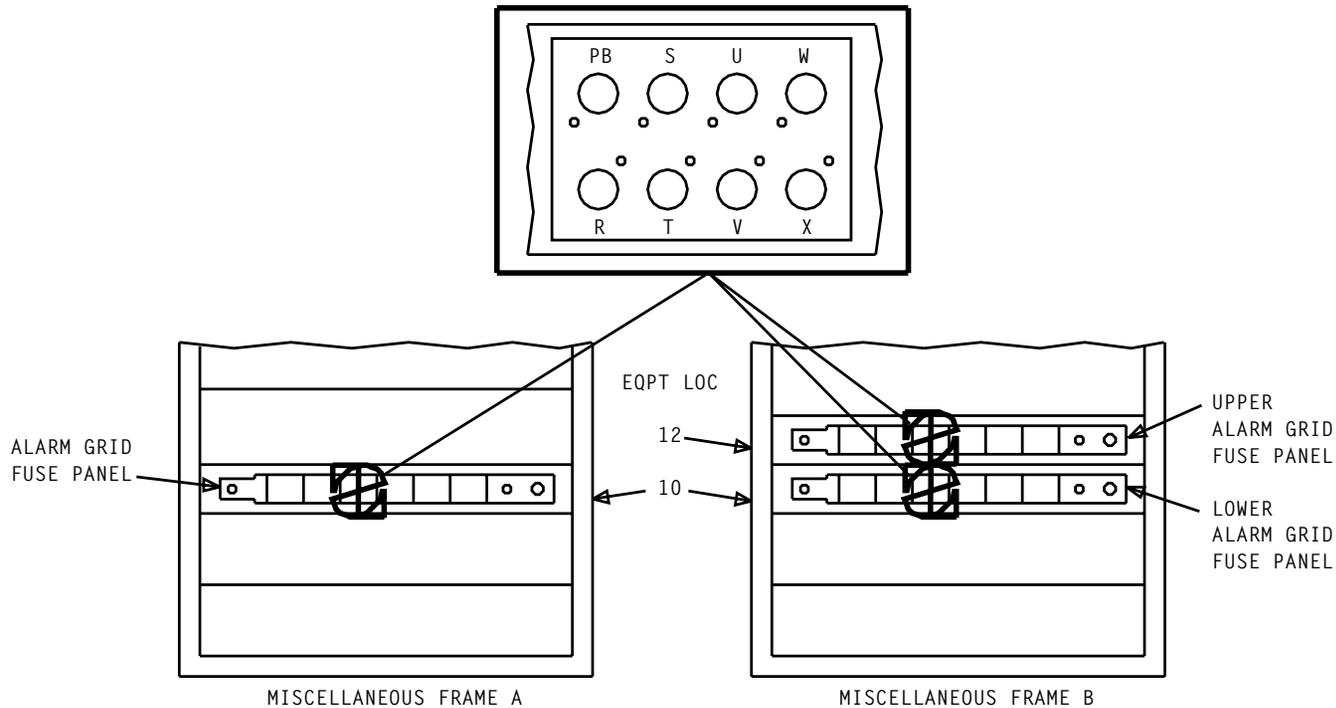
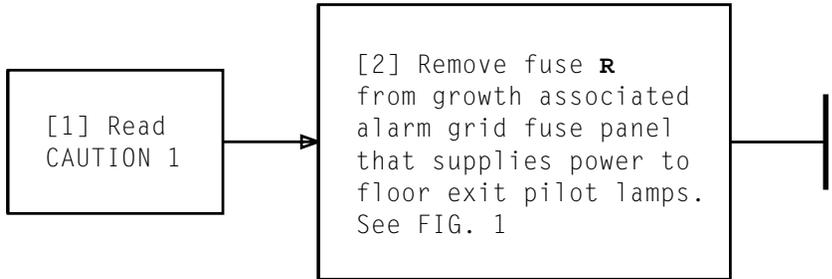


FIG. 1 - Office Alarm Grid Fuse Location

REMOVE FUSE R FROM GROWTH ASSOCIATED ALARM GRID FUSE PANEL

CAUTION 1

Removal of fuse R will de-energize floor exit pilot lamps and all system alarm visual indicators. Complete wiring quickly and restore power without delay

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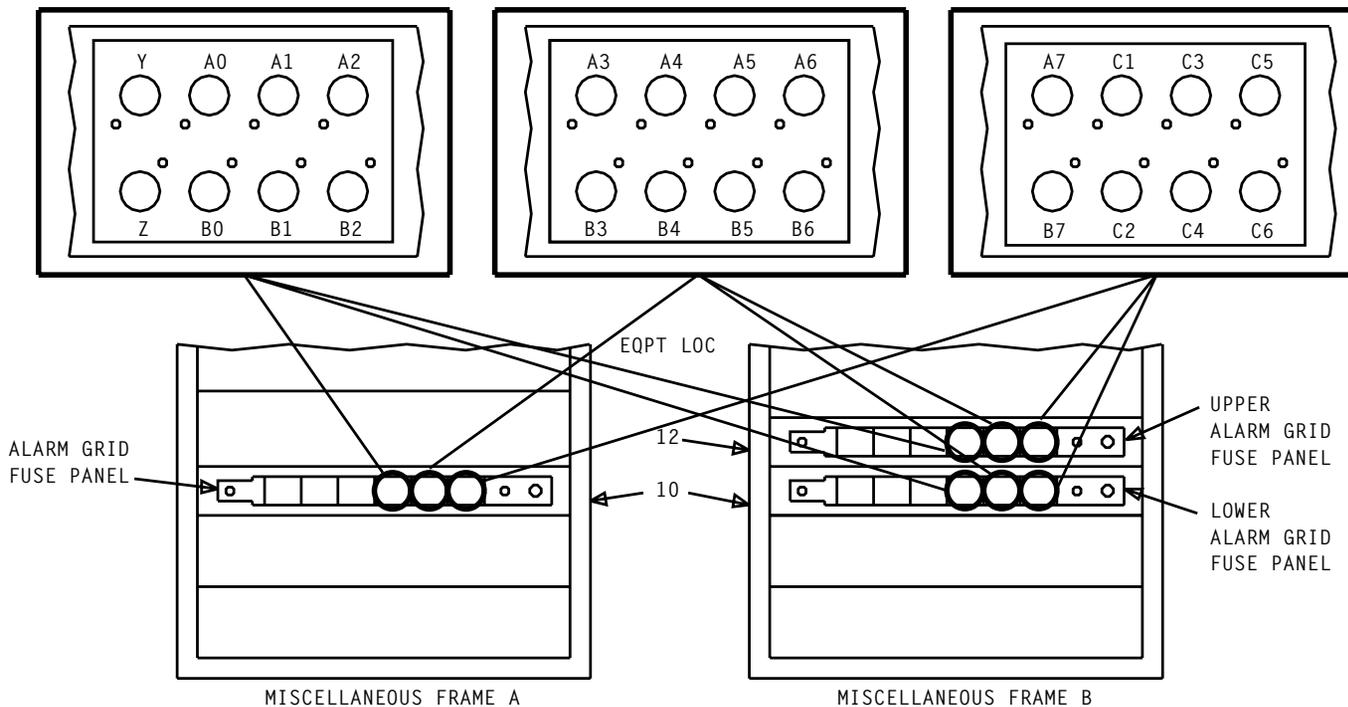
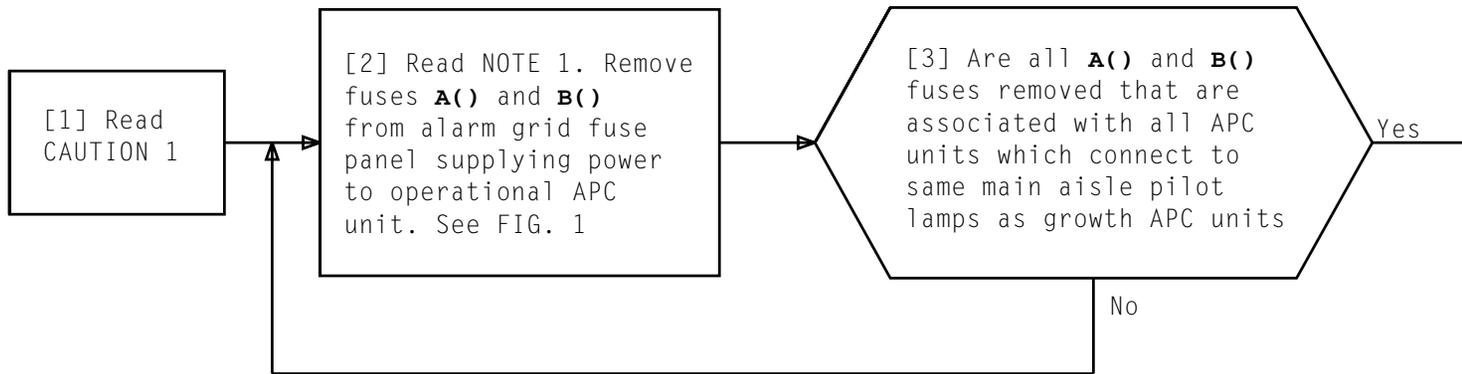


FIG. 1 - Office Alarm Grid Fuse Location

NOTE 1

Parentheses following A and B represent numbers from 0 to 7. Fuse pairs **A0** and **B0**, **A1** and **B1**, etc., to **A7** and **B7** relate to like numbered aisle pilot control units 0 to 7

CAUTION 1

*Removal of fuses **A()** and **B()** will disable all functions of aisle pilot control(s). Complete wiring quickly and restore power without delay*

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REMOVE FUSES A AND B FROM ALARM GRID FUSE PANEL

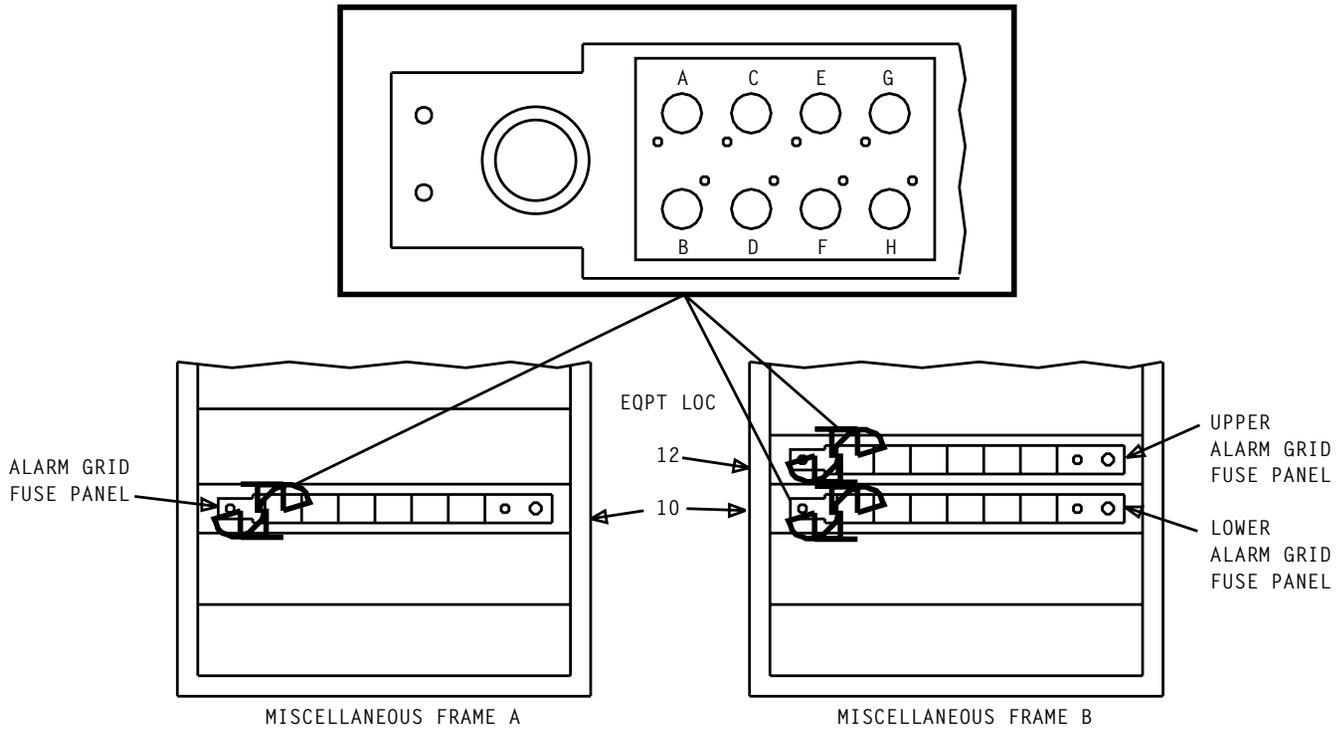
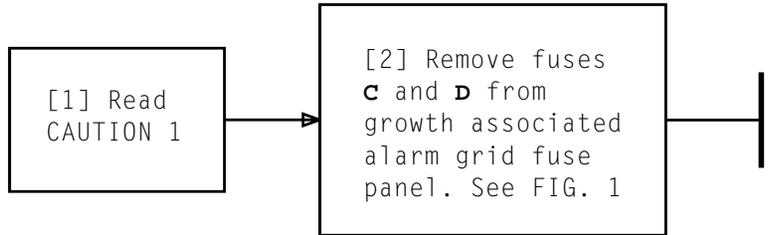


FIG. 1 - Office Alarm Grid Fuse Location

REMOVE FUSES C AND D FROM GROWTH ASSOCIATED ALARM GRID FUSE PANEL

*CAUTION 1
Removal of fuses C and D will affect major and minor alarm relays. Complete wiring quickly and restore power without delay*

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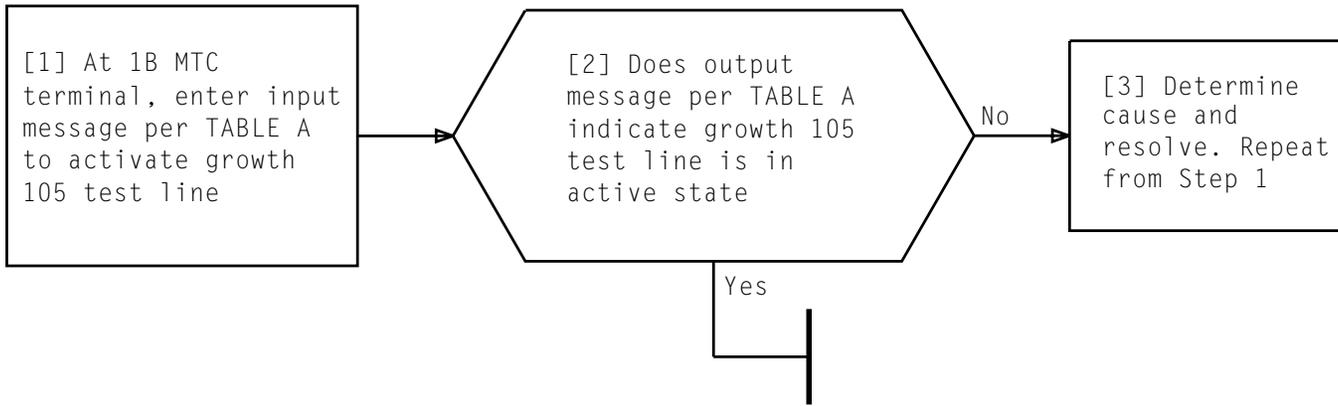
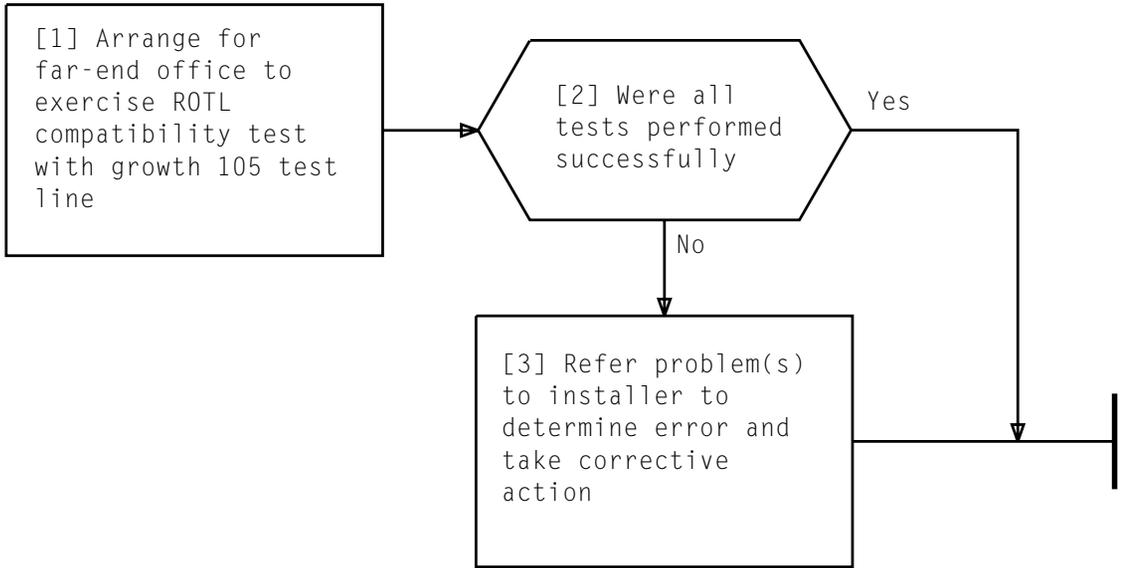


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT ACT,TAN a!	SET:TRKSTAT ACT TRAF ,TAN a
a = TAN number assigned to 105 test line	

SET GROWTH 105 TEST LINE TO ACTIVE STATE



PERFORM ROTL COMPATIBILITY TEST WITH GROWTH 105 TEST LINE

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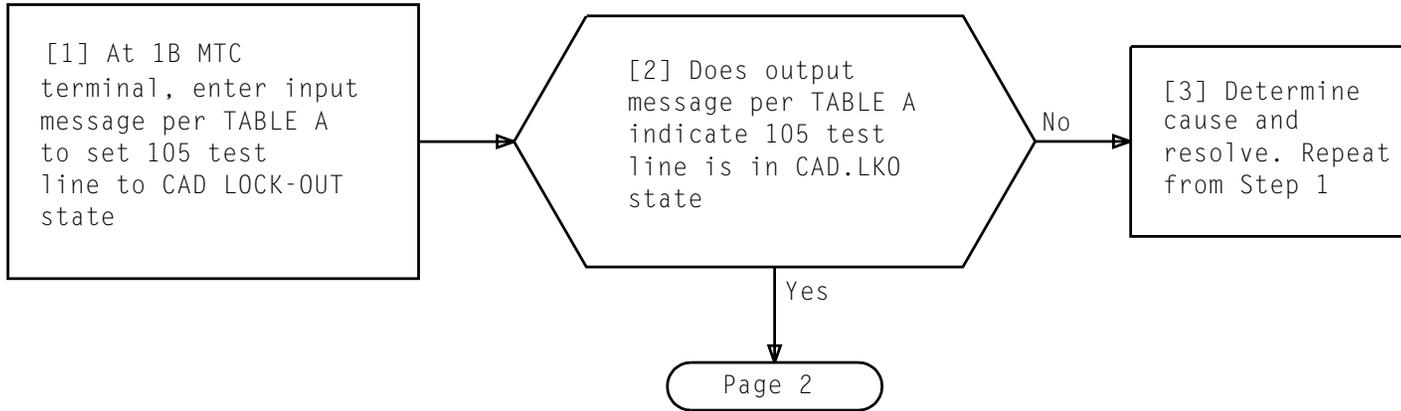


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT CAD.LKO,TAN a!	SET:TRKSTAT CAD.LKO TRAF ,TAN a
a = TAN number assigned to 105 test line	

SET 105 TEST LINE TO CAD LOCK-OUT STATE AND VERIFY

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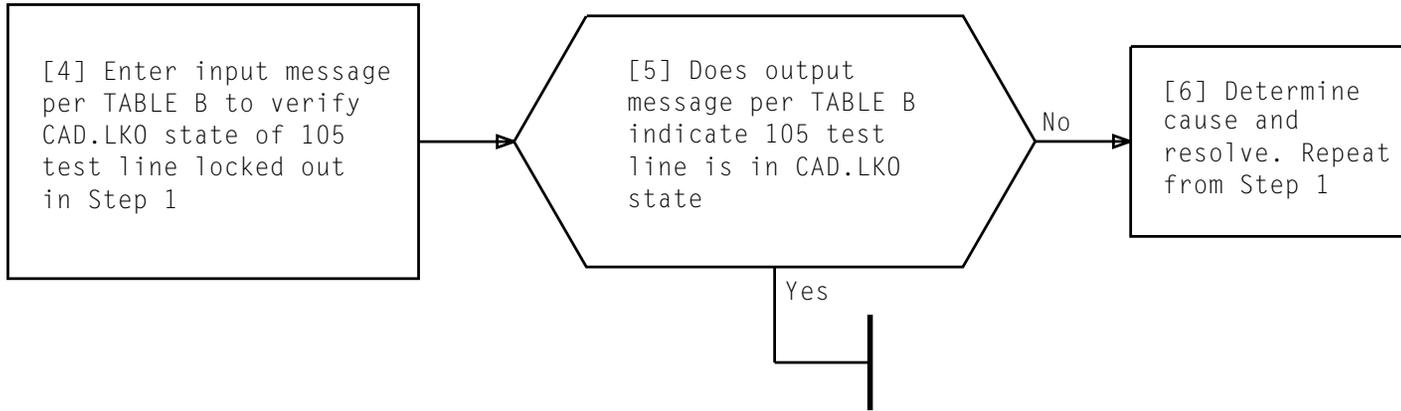


TABLE B	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,TAN a!	OP:TRKSTAT CAD.LKO TRAF ,TAN a
a = TAN number assigned to 105 test line	

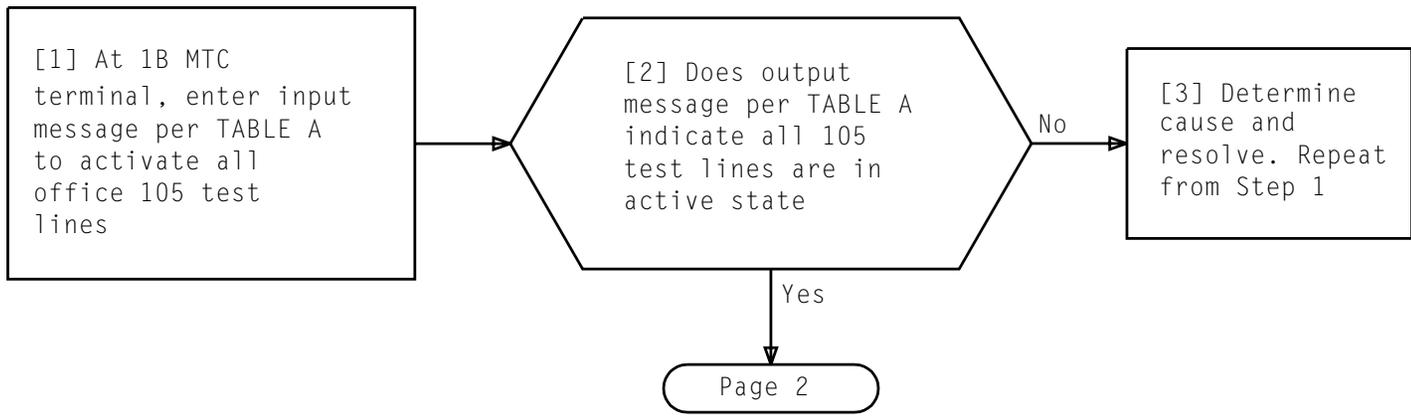


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT ACT,TAN a:TSG!	SET:TRKSTAT ACT TRAF ,TAN a • • SET:TRKSTAT,TAN a TSG COMPLETED TRK COUNT b
a = TAN number assigned to 105 test line b = Trunk count	

SET ALL OFFICE 105 TEST LINES TO ACTIVE STATE AND VERIFY

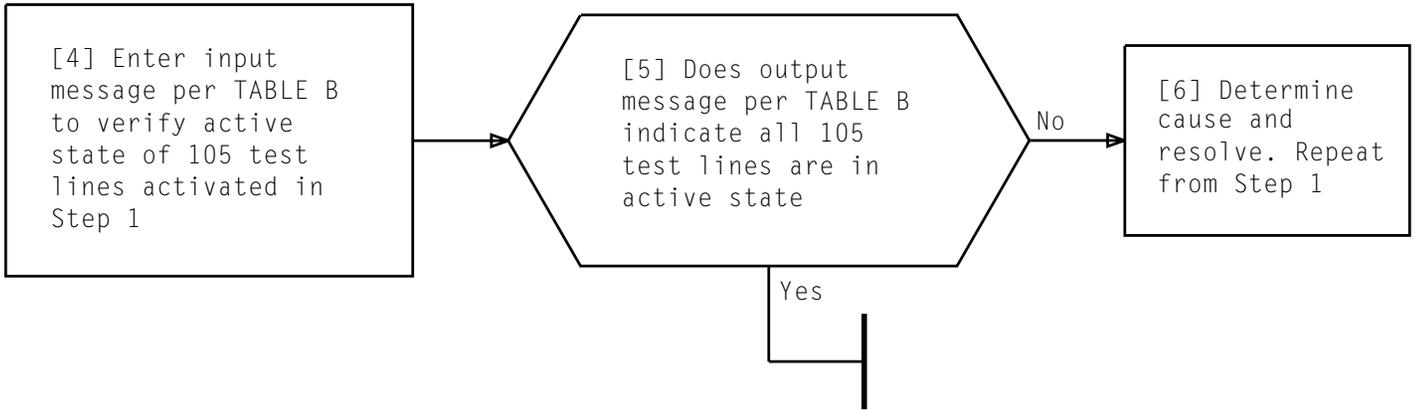


TABLE B	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,TAN a:TSG!	OP:TRKSTAT ACT TRAF ,TAN a • • OP:TRKSTAT,TAN a TSG COMPLETED TRK COUNT b
a = TAN number assigned to 105 test line b = Trunk count	

SET ALL OFFICE 105 TEST LINES TO ACTIVE STATE AND VERIFY

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SUMMARY

Retire software alarms at each work center indicating active system alarms. Manually clear any hardware alarms at individual frames. Determine status of alarm system configuration with input message before terminating all alarm grouping and routing between work centers.

[1] Determine from **sys** lamp at each alarm grid display panel which work center(s) indicates active software alarm

[2] At 1B MTC terminal, enter input message per TABLE A to retire software alarms for a work center indicating active software alarm

[3] Does output message indicate **RETIRE ALARM COMPLETE** per TABLE A

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

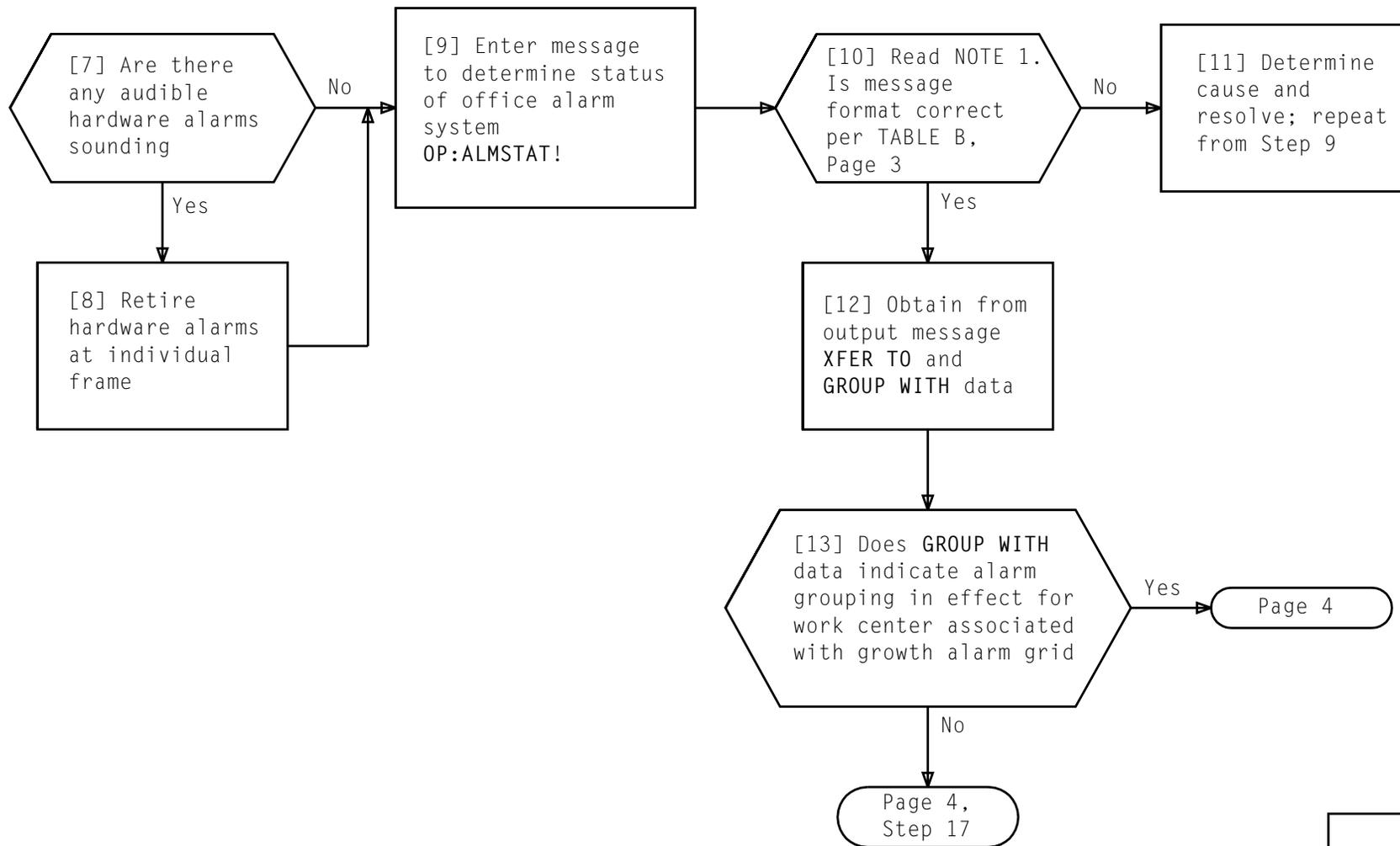
[5] Has alarm been retired for each office work center

[6] Repeat from Step 2 for each work center indicating active software alarms

TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
RTR:ALM;MC a!	RTR:ALM a COMPL
a = Maintenance Center in which alarms are to be retired – MOC or TEC1 or TEC2 or TEC3 or TEC4 or TEC5 or TOC	

RETIRE WORK CENTER INTERNAL ALARMS AND TERMINATE ALL INTERNAL ALARM GROUPING AND ROUTING

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NOTE 1	
Retain output message printout for later use in reconfiguring the alarm grouping and routing	
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RETIRE WORK CENTER INTERNAL ALARMS AND TERMINATE ALL INTERNAL ALARM GROUPING AND ROUTING

TABLE B							
MESSAGE NUMBER	OUTPUT MESSAGE						
1	OP:ALMSTAT XFER XFER INTO ALM GRP LINKS LINKS MC TO FROM SIL WITH IN OUT MOC a ---- b ---- c ---- d ---- ----- TEC1 a ---- b ---- c ---- d ---- ----- TEC2 a ---- b ---- c ---- d ---- ----- TEC3 a ---- b ---- c ---- d ---- ----- TEC4 a ---- b ---- c ---- d ---- ----- TEC5 a ---- b ---- c ---- d ---- ----- TOC a ---- b ---- c ---- d ---- -----						
<p>a = Decimal number indicating Maintenance Center that the MC is transferred to: 0 = Not Transferred 1 = MOC 2 = TEC1 3 = TEC2 4 = TEC3 5 = TEC4 6 = TEC5 7 = TOC 8-15 Reserved</p> <p>b = 15 bit binary field indicating Maintenance Center that is transferred into the MC: (bit value of 1 indicates transferred into or grouped with the MC) Bit 0 Identifies MOC Bit 1 Identifies TEC1 Bit 2 Identifies TEC2 Bit 3 Identifies TEC3 Bit 4 Identifies TEC4 Bit 5 Identifies TEC5 Bit 6 Identifies TOC</p> <p>c = Binary bit indicating if audible alarms are silenced: 0 = Not Silenced 1 = Silenced</p> <p>d = 15 bit binary field indicating Maintenance Center grouped with the MC: See definition of "b" above for bit identities</p>							

**RETIRE WORK CENTER INTERNAL ALARMS AND TERMINATE ALL
INTERNAL ALARM GROUPING AND ROUTING**

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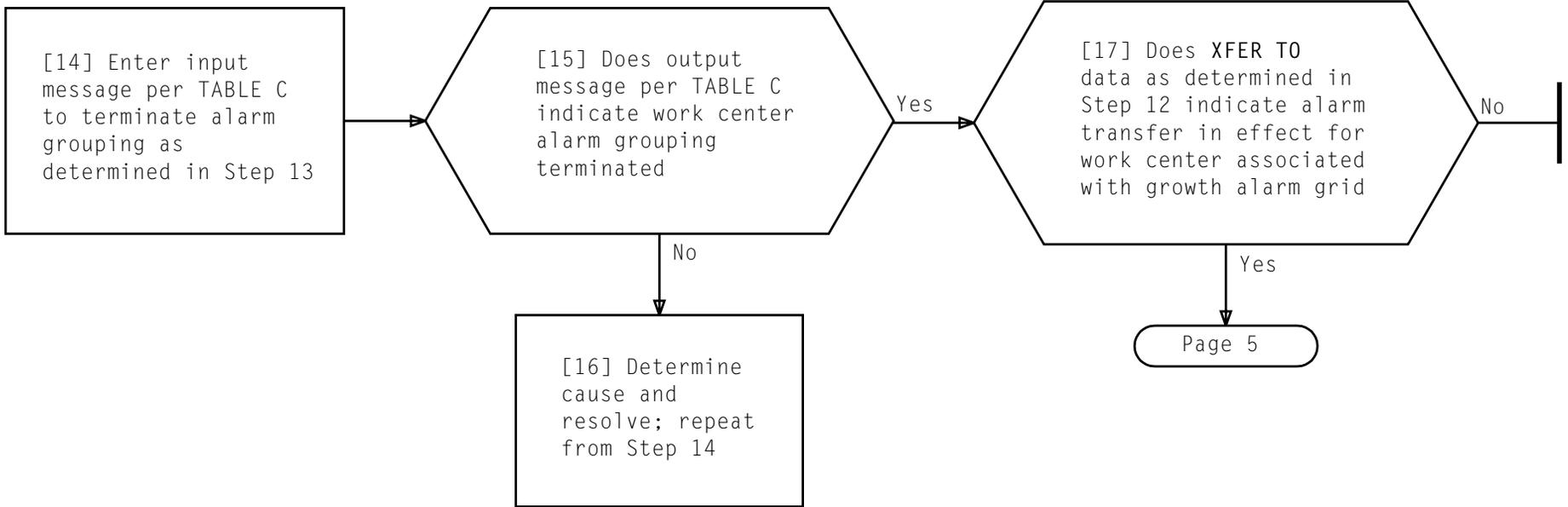


TABLE C	
INPUT MESSAGE	OUTPUT MESSAGE
STOP:CFR;ALMGRP,MC a!	STOP:CFR;ALMGRP a COMPL
a = Maintenance Center for which alarm grouping is to be terminated = MOC or TEC1 or TEC2 or TEC3 or TEC4 or TEC5 or TOC or ALL	

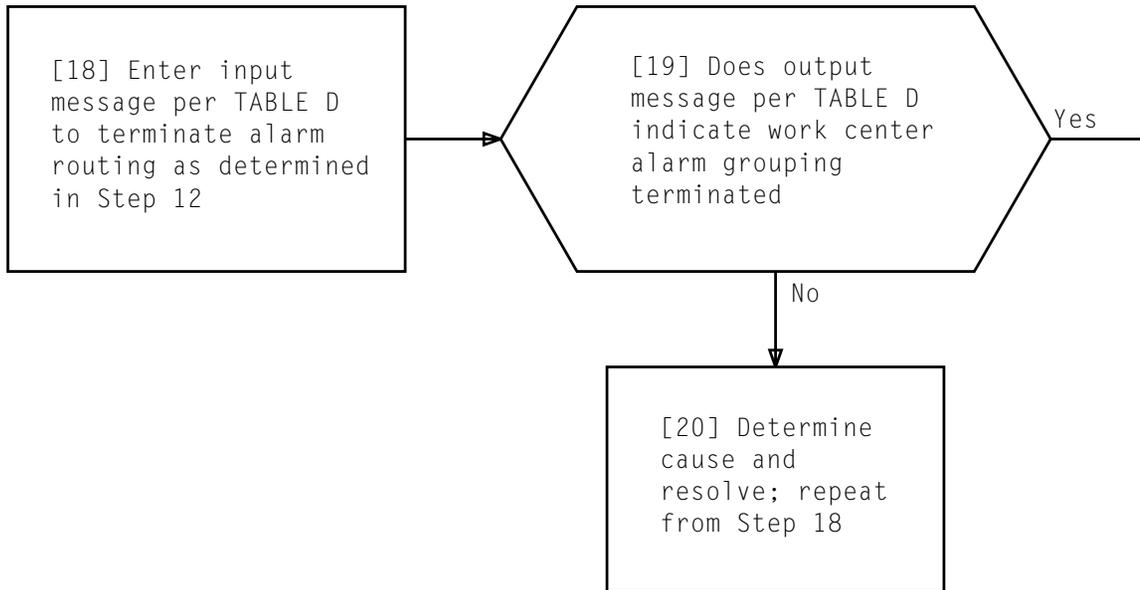


TABLE D	
INPUT MESSAGE	OUTPUT MESSAGE
STOP:RTE;ALM,MC a!	STOP:RTE;ALM FROM a COMPL
a = Maintenance Center for which alarm routing is to be terminated = MOC or TEC1 or TEC2 or TEC3 or TEC4 or TEC5 or TOC or ALL	

[1] Obtain XFER TO, GROUP WITH, and ALM SIL data from alarm system status output message previously obtained

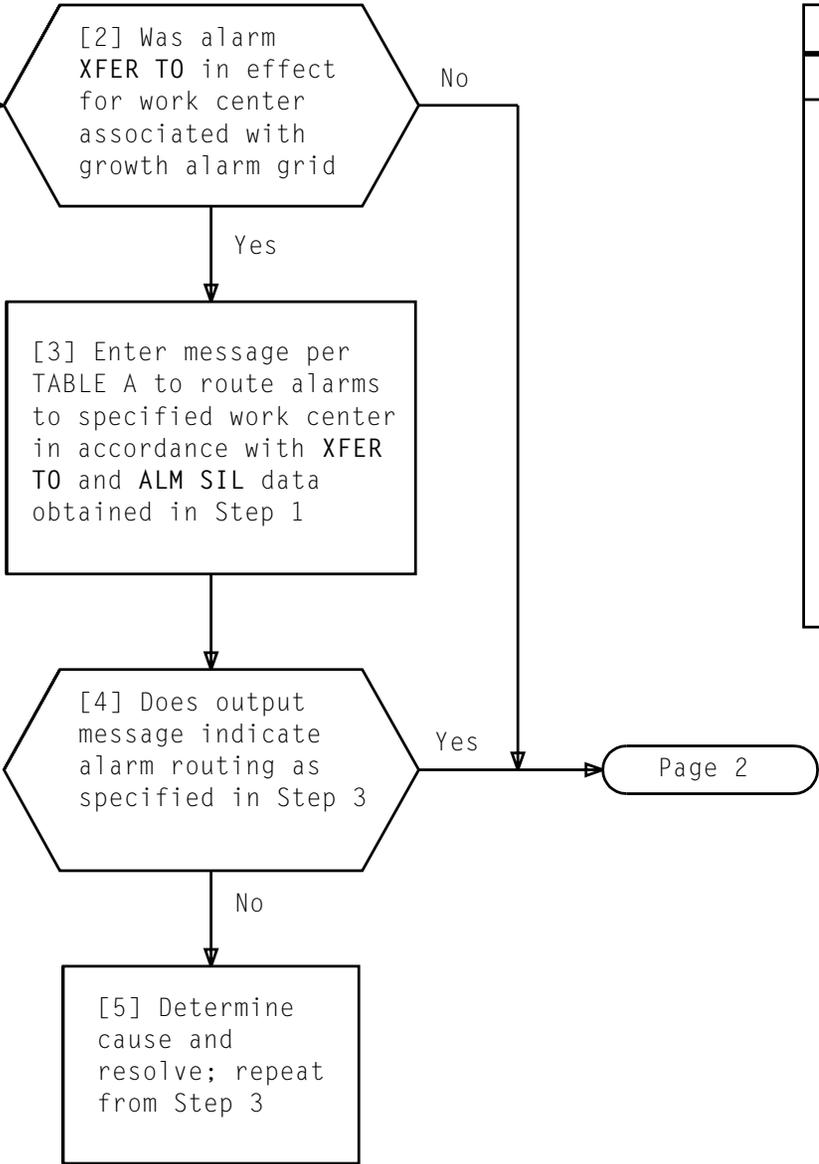


TABLE A	
RTE:ALM,MC a;MC b:c!	
a	= Maintenance Center from which alarms are to be routed = MOC or TEC1 or TEC2 or TEC3 or TEC4 or TEC5 or TOC or ALL
b	= Maintenance Center to which alarms are to be routed = MOC or TEC1 or TEC2 or TEC3 or TEC4 or TEC5 or TOC or ALL
c	= SIL (if audible alarms are to be silenced in MC a)

RECONFIGURE WORK CENTER ALARM GROUPING ARRANGEMENT AND ROUTING

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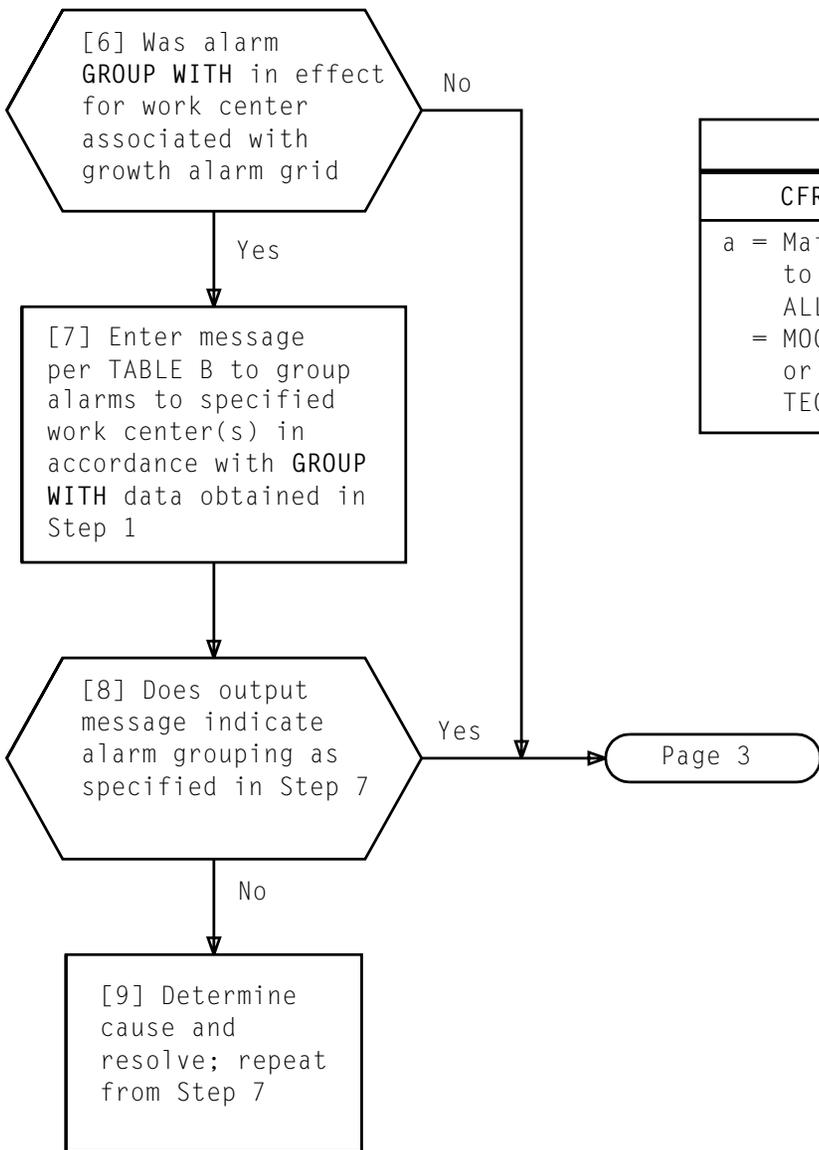
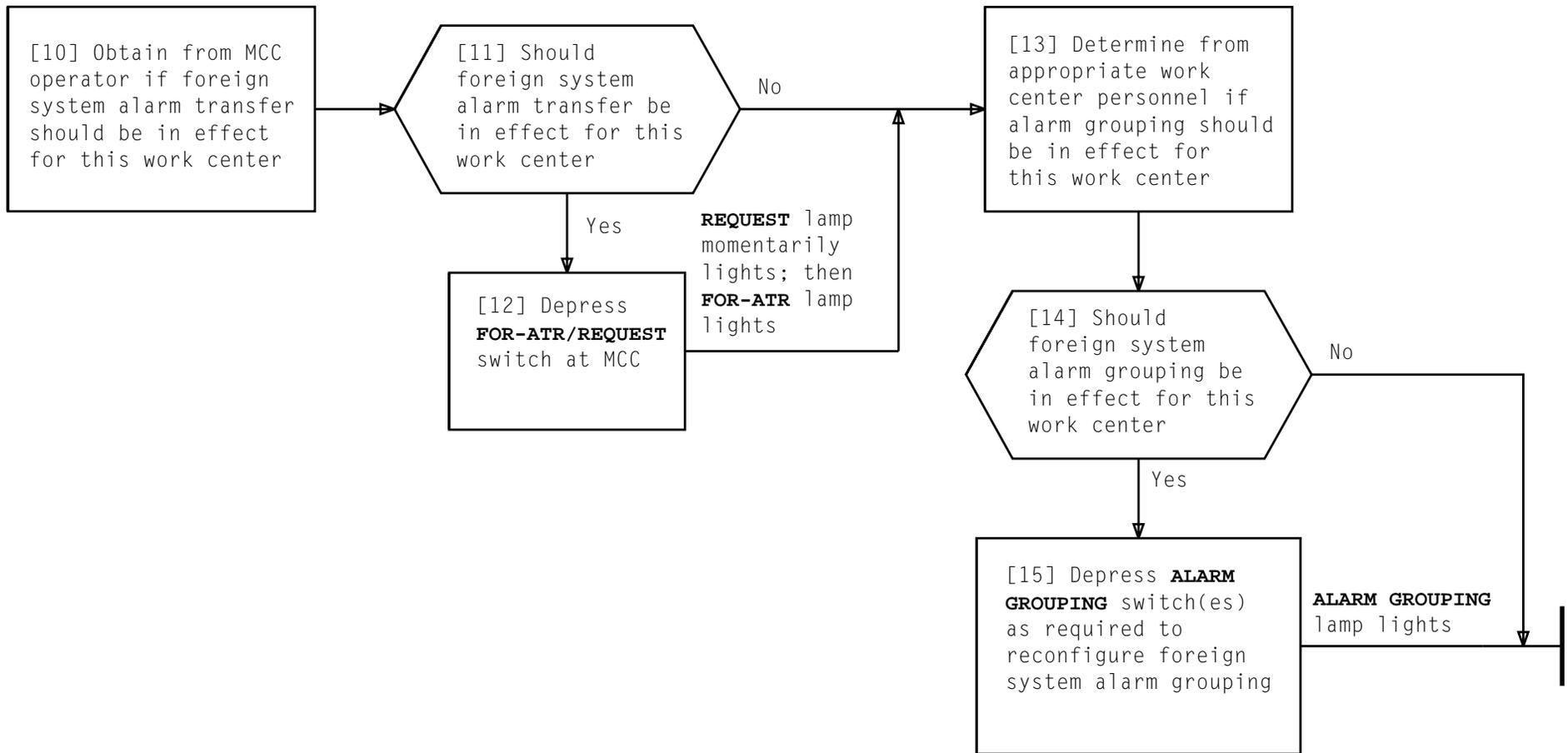


TABLE B
CFR:ALMGRP,MC a!
a = Maintenance centers to be grouped (enter ALL, or two or more) = MOC or TEC1 or TEC2 or TEC3 or TEC4 or TEC5 or TOC or ALL

RECONFIGURE WORK CENTER ALARM GROUPING ARRANGEMENT AND ROUTING

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**RECONFIGURE WORK CENTER ALARM GROUPING
ARRANGEMENT AND ROUTING**

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SUMMARY

Using verify entry input message, call up growth DOC transmitter UT translator and verify that resulting octal output data, when converted, agrees with office

records. Refer to entry word explanations in TABLE B, Page 4 for assistance in interpreting specific data fields. If it is determined that UT entry data are in error, word change(s) may be required

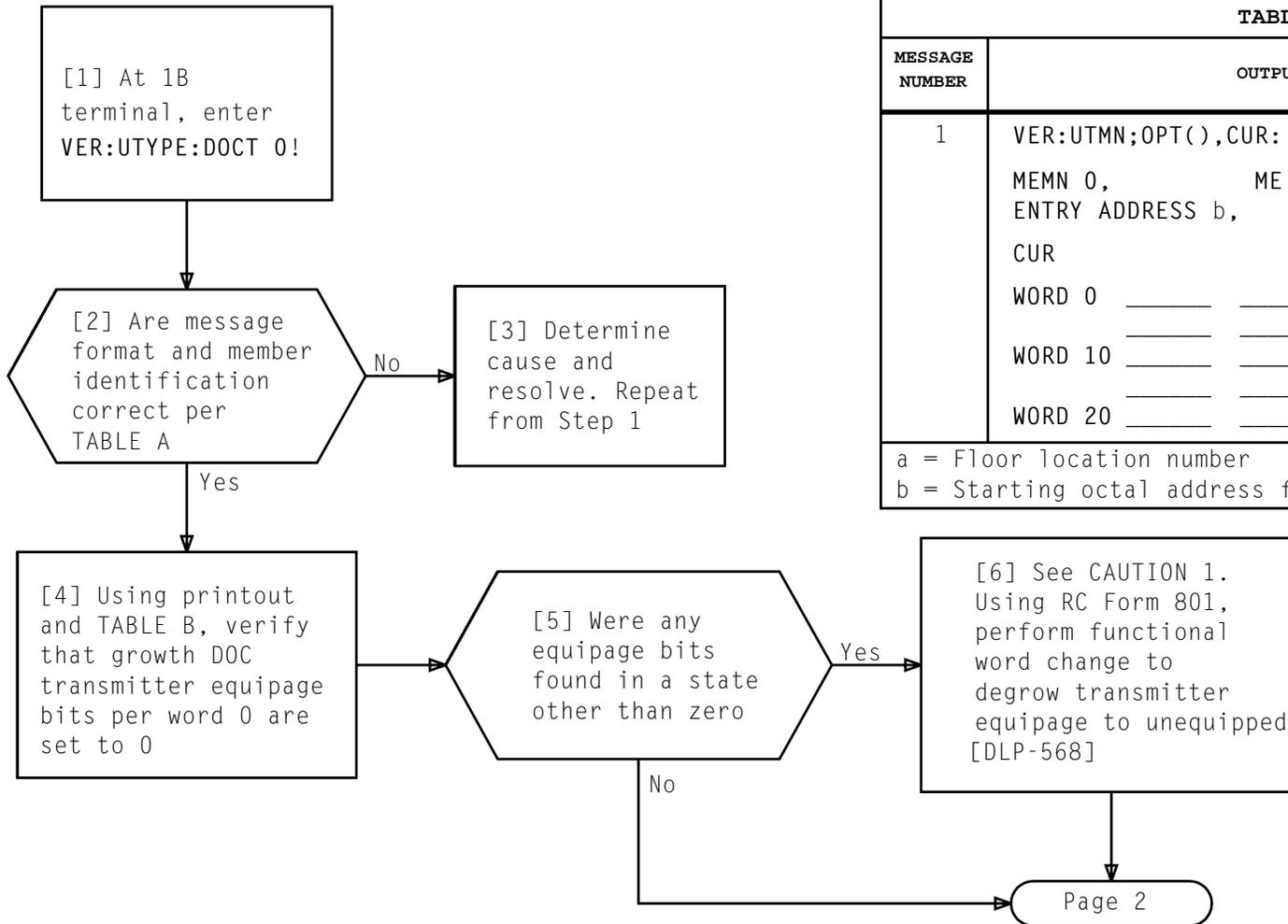


TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN DOCT, MEMN 0, ME OPER, ENTRY ADDRESS b, ENTRY SIZE 20, CUR WORD 0 _____ WORD 10 _____ WORD 20 _____
a = Floor location number b = Starting octal address for unit type entry	

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

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[7] Using TABLE C, identify octal word associated with growth DOC transmitter

[8] Using printout, TABLE B, Page 4 and office records, verify scan point assignment for growth DOC transmitter per word identified in Step 7 [DLP-501]

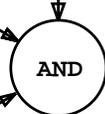
[9] Using TABLE D, identify octal word associated with growth DOC transmitter

[10] Using printout, TABLE B, and office records, verify SD point assignment for growth DOC transmitter per word identified in Step 9 [DLP-504]

TABLE C	
DOC TRANSMITTER	ENTRY DATA OCTAL WORD
1	6
2	10
3	12

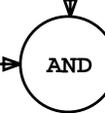
TABLE D	
DOC TRANSMITTER	ENTRY DATA OCTAL WORD
1	7
2	11
3	13

TABLE E	
DOC TRANSMITTER	ENTRY DATA OCTAL WORD
1	15 and 21
2	16 and 22
3	17 and 23



[11] Using TABLE E, identify octal words associated with growth DOC transmitter

[12] Using printout and TABLE B, verify with MAC supervisor that growth DOC transmitter assignment and dial pulse indicator bits are properly set in words identified in Step 11



Page 3

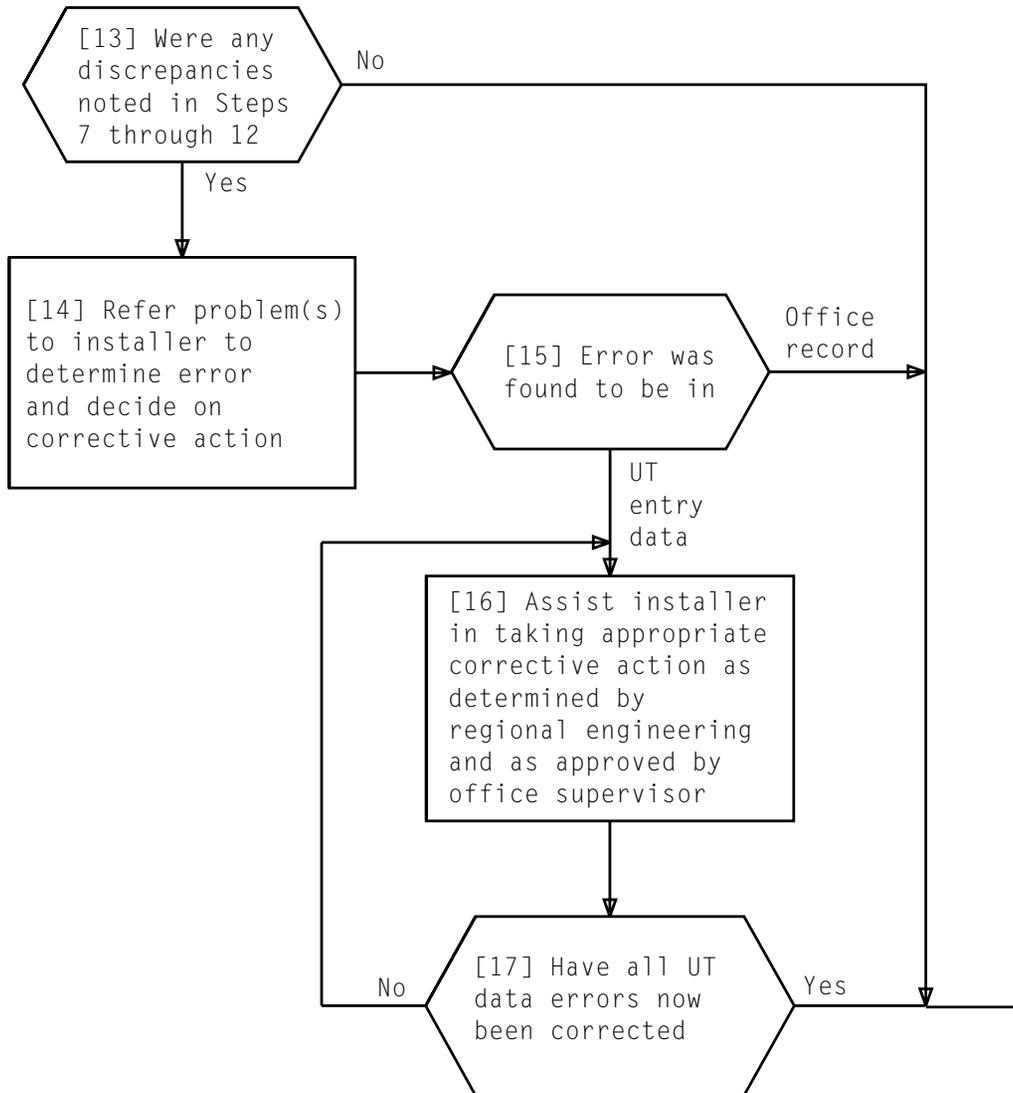


TABLE B

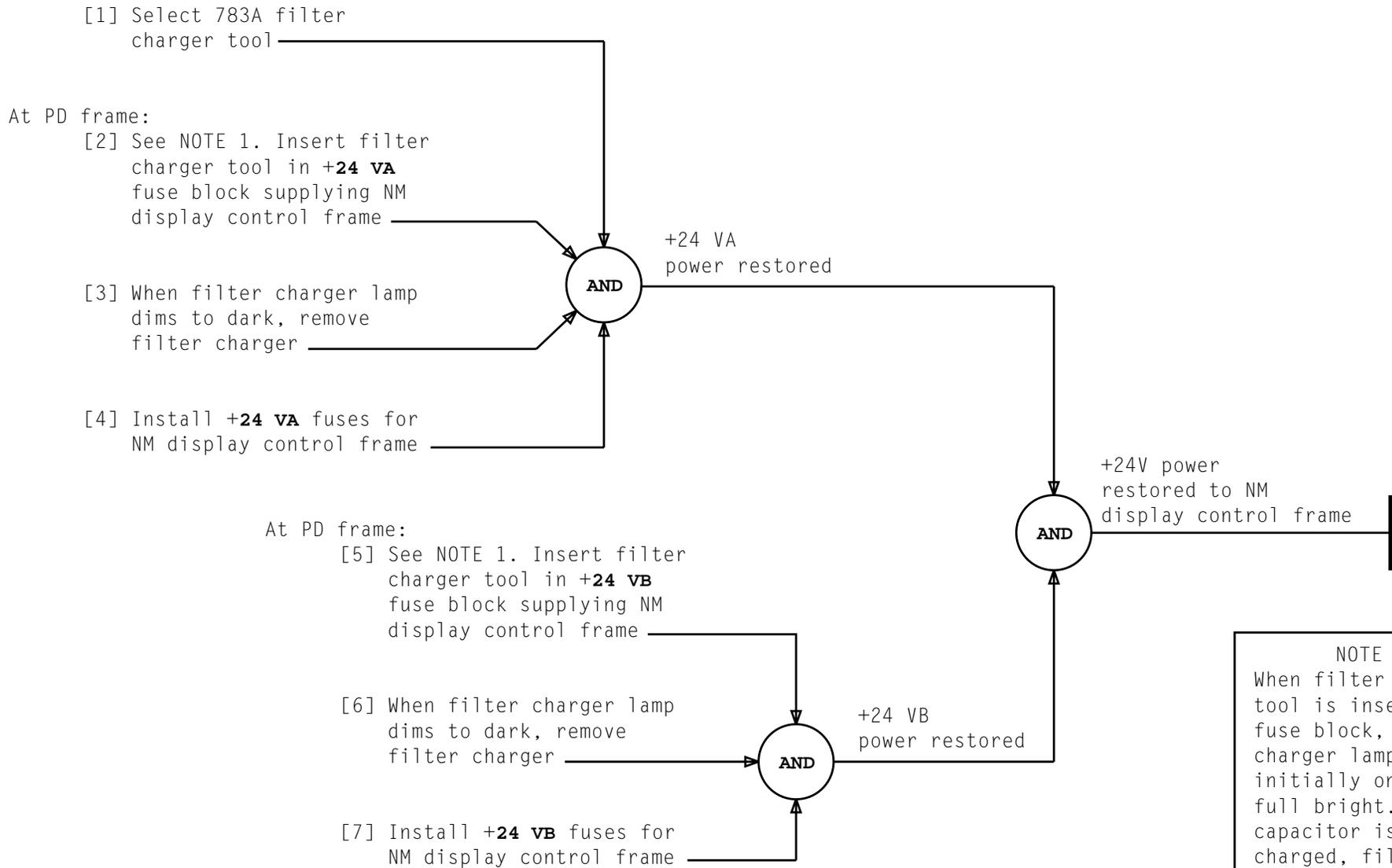
ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																									
0	entry data octal output	6	0	0	0	0	0	Y	Y	Y																
	bit position	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
	binary values	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	X	X	X	X	X	X	1	1
	MEMBER EQUIPAGE											3	2	1	0	DOC TRANSMITTER NUMBER										
DOC TRANSMITTER EQUIPAGE																										
XX = 00 for DOC transmitter being added and other unequipped DOC transmitter or 11 for each operational DOC transmitter																										
Y.Y = Variable octal numbers																										
6, 10, and 12	entry data octal output	0	0	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	0	0	0	0	0	0	0	X	X	X	X	X	0	X	X	X	X	X	X	X	X	X	X	X	X
										SP MEMBER NUMBER				SP ROW NUMBER				SP COLUMN NUMBER								
BASE MISC SCAN POINT FOR DOC TRANSMITTER 1/2/3																										
X...X = Converts to decimal SP information as reflected in office record drawing T-nnnn-Hn-461 or equivalent																										
Y..Y = Variable octal numbers																										

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																						
7, 11, and 13	entry data octal output	0		0		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	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				SP ROW NUMBER						SP COLUMN NUMBER																																																			
BASE MISC SD POINTS FOR DOC TRANSMITTER 1/2/3																																																																							
<p>X...X = Converts to decimal SP information as reflected in office record drawing T-nnnn-Hn-462 or equivalent</p>										<p>Y..Y = Variable octal numbers.</p>																																																													
15, 16, and 17	entry data octal output	0		0		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	0	0	0	0	0	0	0	0	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X																																														
										DOC TRANSMITTER CIRCUIT ASSIGNMENT INDICATOR																																																													
								<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>31</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td> </tr> <tr> <td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td><td>32</td> </tr> <tr> <td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td><td>48</td> </tr> </table>																31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48
31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16																																																								
47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32																																																								
63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48																																																								
<p>X ==1 for assigned circuits ==0 for unassigned circuits</p>																<p>Y = Variable octal number</p>																																																							
<p>DOC TRMTR 3 (WORD 17) - CIRCUITS 48-63</p> <p>DOC TRMTR 2 (WORD 16) - CIRCUITS 32-47</p> <p>DOC TRMTR 1 (WORD 15) - CIRCUITS 16-31</p>																																																																							

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																																																										
21, 22, and 23	entry data																																																																										
	octal output	0 0 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 0 X																																																																									
		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;">31</td><td style="width:10%;">30</td><td style="width:10%;">29</td><td style="width:10%;">28</td><td style="width:10%;">27</td><td style="width:10%;">26</td><td style="width:10%;">25</td><td style="width:10%;">24</td><td style="width:10%;">23</td><td style="width:10%;">22</td><td style="width:10%;">21</td><td style="width:10%;">20</td><td style="width:10%;">19</td><td style="width:10%;">18</td><td style="width:10%;">17</td><td style="width:10%;">16</td> </tr> <tr> <td style="width:10%;"></td> <td>47</td><td>46</td><td>45</td><td>44</td><td>43</td><td>42</td><td>41</td><td>40</td><td>39</td><td>38</td><td>37</td><td>36</td><td>35</td><td>34</td><td>33</td><td>32</td> </tr> <tr> <td style="width:10%;"></td> <td>63</td><td>62</td><td>61</td><td>60</td><td>59</td><td>58</td><td>57</td><td>56</td><td>55</td><td>54</td><td>53</td><td>52</td><td>51</td><td>50</td><td>49</td><td>48</td> </tr> </table> <p style="text-align: center;">DOC TRANSMITTER CIRCUIT DIAL PULSE INDICATOR</p> <p>DOC TRMTR 3 (WORD 23) - CIRCUITS 48-63 DOC TRMTR 2 (WORD 22) - CIRCUITS 32-47 DOC TRMTR 1 (WORD 21) - CIRCUITS 16-31</p> <p>X ==1 for MF type incoming signaling characteristic ==0 for DP type incoming signaling characteristic</p> <p style="text-align: right;">Y = Variable octal number</p>																									31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16		47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32		63	62	61	60	59	58	57	56	55	54	53	52	51	50	49
	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16																																																											
	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32																																																											
	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48																																																											



NOTE 1
 When filter charger tool is inserted in fuse block, filter charger lamp is initially on at full bright. As capacitor is charged, filter charger lamp gradually dims to dark

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CHARGE FILTER CAPACITOR AND RESTORE 24V POWER TO NM DISPLAY CONTROL FRAME

TABLE A	
DOC TRANSCEIVER UNIT [SEE CAUTION 1]	FUSE DESIGNATION
0	V0 R0 0V 0L 0VA
1	V1 R1 1V 1L 1VA
2	V2 R2 2V 2L 2VA
3	V3 R3 3V 3L 3VA
4	V4 R4 4V 4L 4VA

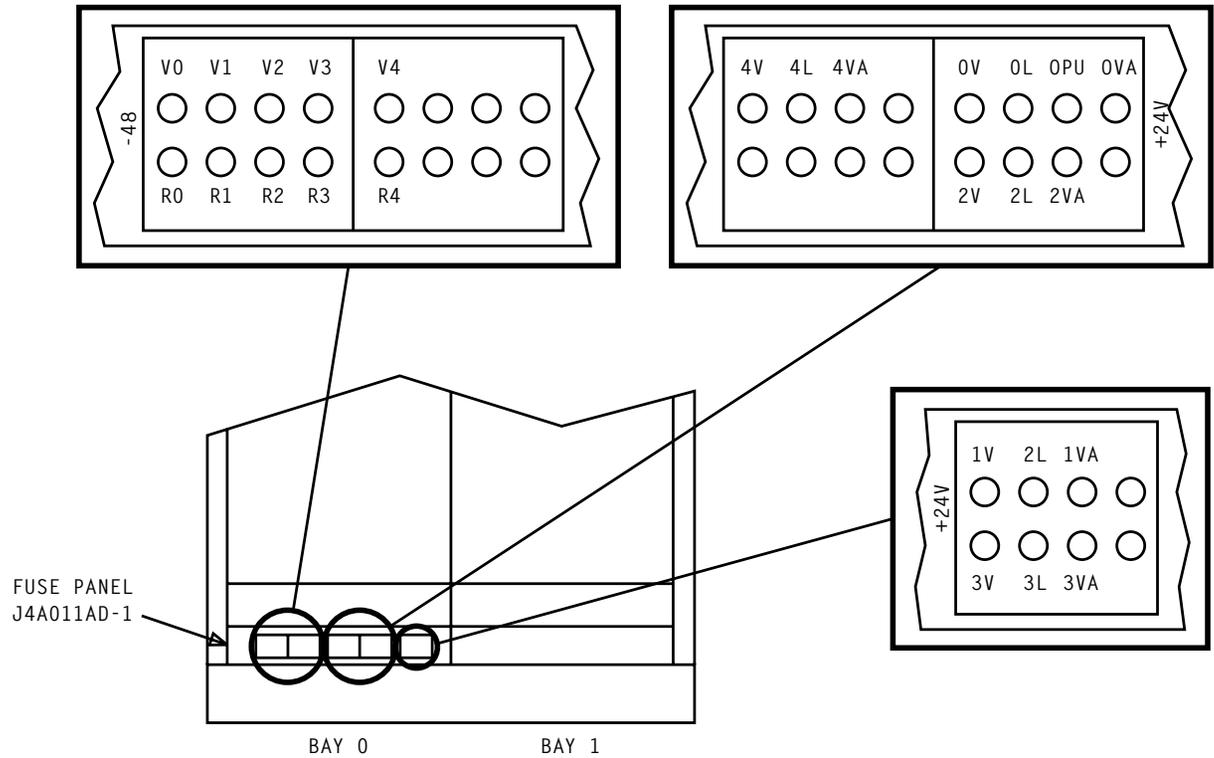


FIG. 1 - NM Display Control Frame Fuse Location

<i>CAUTION 1 Removal of fuses will disable DOC transceiver</i>	
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TABLE A	
CARRIER TELEGRAPH INTERFACE UNIT	FUSE DESIGNATION
00	U00
01	U01
02	U02
03	U03
04	U04
05	U05
06	U06
07	U07
08	U08
09	U09
10	U10
11	U11
12	U12
13	U13
14	U14
15	U15
16	U16
17	U17
18	U18
19	U19

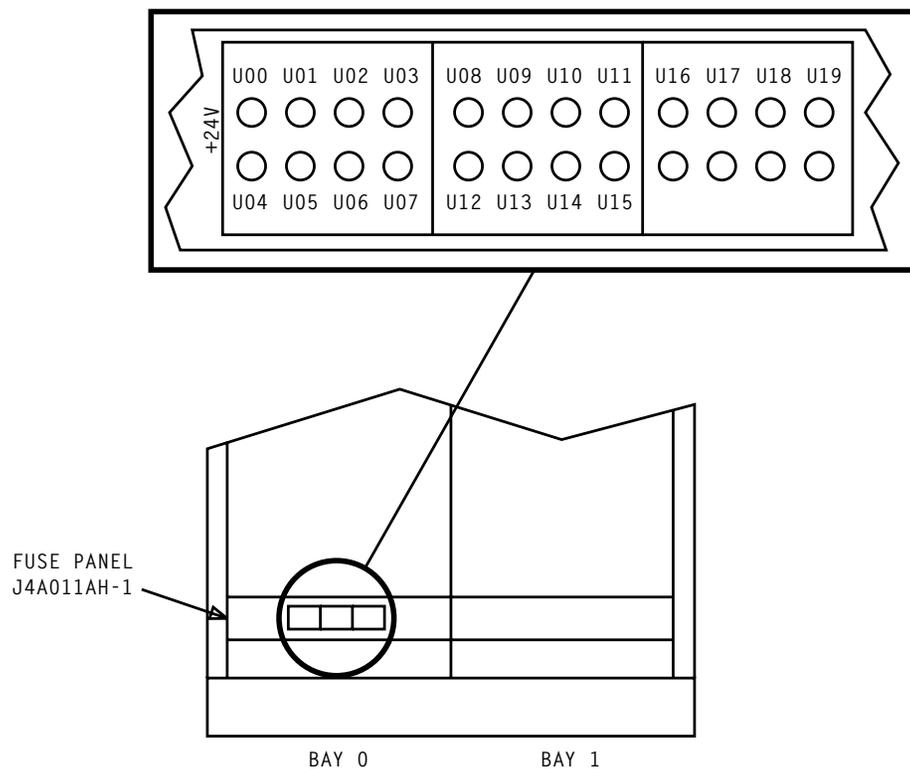
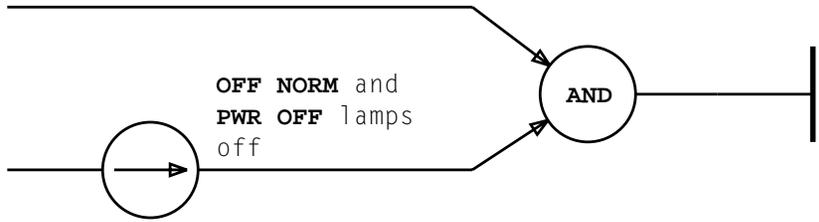


FIG. 1 - NM Display Control Frame Fuse Location

At unit on frame:

[1] Rotate **OFF** switch
to normal position

[2] Depress **ON** switch

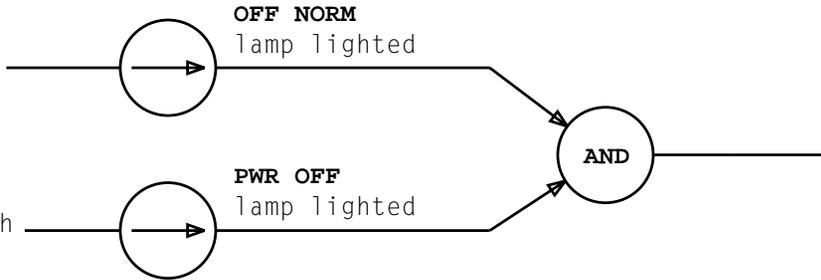


RESTORE POWER USING UNIT POWER SWITCH

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On unit at NMDC frame:

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



REMOVE POWER FOR UNIT ON NMDC FRAME USING UNIT POWER SWITCH

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SUMMARY

Call up RC Form 801 on CRT. Fill in blank fields on form to identify and to correct selected digit(s) within selected word of UT translator. Enter message, then verify inactive translations. Using assigned order number, activate recent change then verify current translations.

- [1] See CAUTION 1.
At 1B terminal, enter
OP:RCFORM 801!

CRT displays
RC Form 801
per FIG. 1

```

RC:FUNC;CHG;OPT(TRANS),_ _ _ :      TRANSID _ _ _ _ _ ,
ORNU  _ _ _ _ _ ,
ENTRY _ _ _ _ _ , WORDNO _ _ _ _ ,
SIZE  _ _ ,          DISP _ _ _ .
BINOCT _ _ ,
NEWDATA _ _ _ _ _ _ _ _ _ _ _ ,
OLDDATA _ _ _ _ _ _ _ _ _ _ _ ,
REMARKS _ _ _ _ _ _ _ _ _ _ _ !
    
```

Using CRT display of RC Form 801:

- [2] Type TST in field following (TRANS)
- [3] See TABLE A. Determine translator identifier for growth or degrowth member requiring UT translator change
- [4] In field following TRANSID, type unit type identifier determined in Step 3
- [5] Type recent change order number assigned to this word change in field following ORNU
- [6] In field following ENTRY, type member number of growth or degrowth member requiring UT translator change

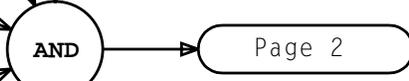


FIG. 1 - Blank RC Form 801

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

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PERFORM FUNCTIONAL WORD CHANGE OF UT TRANSLATOR WORD THEN VERIFY

Using CRT display of RC Form 801:

[7] In field following WORDNO,
type decimal number of
UT translator word to
be changed

[8] Determine quantity of
consecutive bits which
span all bits requiring
change in this UT
translator word

[9] In field following SIZE,
type decimal number of
bits determined in Step 8.
See example in FIG. 2,
Page 3

[10] Determine bit position
number (range of 0 to 23)
identifying rightmost of
consecutive bits
determined in Step 8

[11] In field following DISP,
type decimal number
determined in Step 10.
See example in FIG. 2

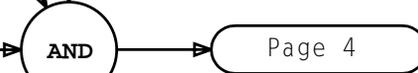


TABLE A	
GROWTH MEMBER REQUIRING UT TRANSLATOR CHANGE	TRANSLATOR IDENTIFIER (TRANSID)
Continuity Check Transceiver	UTCCT
DOC Transmitter	UTDOCT
Misc Frame B	UTMB
Misc Frame C	UTMCF
51A Test Position	UTTPOS

**PERFORM FUNCTIONAL WORD CHANGE OF
UT TRANSLATOR WORD THEN VERIFY**

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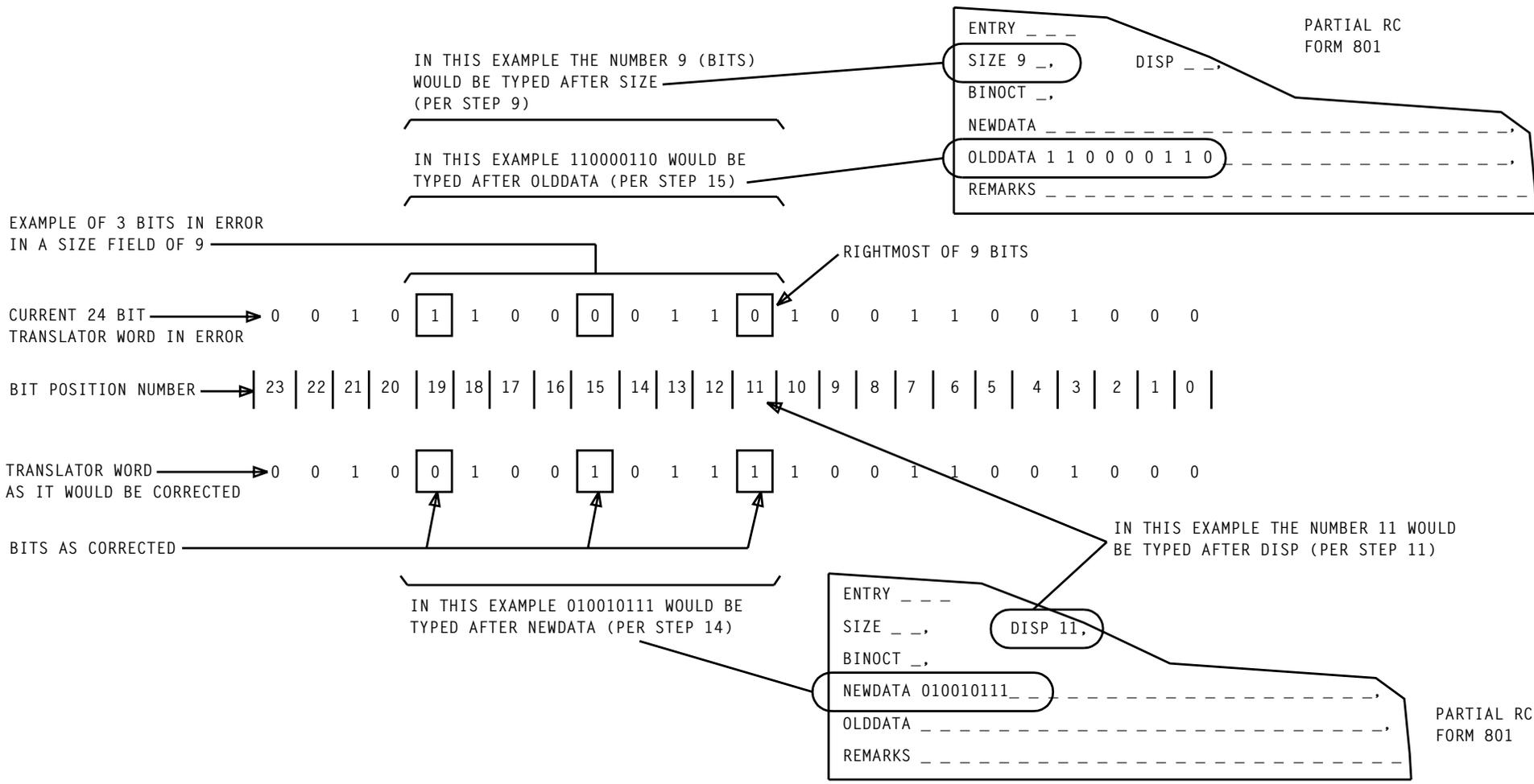


FIG. 2 - Example of Functional Word Change Considerations

PERFORM FUNCTIONAL WORD CHANGE OF
 UT TRANSLATOR WORD THEN VERIFY

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Using TTY and CRT display of
RC Form 801:

[12] Type **B** in field following
BINOCT _____

[13] Read NOTE 1. Determine
binary bits to be inserted
into UT translator word to
correct that word. See
example in FIG. 2,
Page 3 _____

[14] In field following **NEWDATA**,
type binary bits determined
in Step 13. See example
in FIG. 2 _____

[15] Read NOTE 2. In field
following **OLDDATA**, type
current binary contents
of only that portion of
the UT translator word
requiring change. See
example in FIG. 2 _____

[16] Enter form _____

RC Form 801
filled in
and entered

AND

Page 5

NOTES

1. Quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**
2. Quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

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**PERFORM FUNCTIONAL WORD CHANGE OF
UT TRANSLATOR WORD THEN VERIFY**

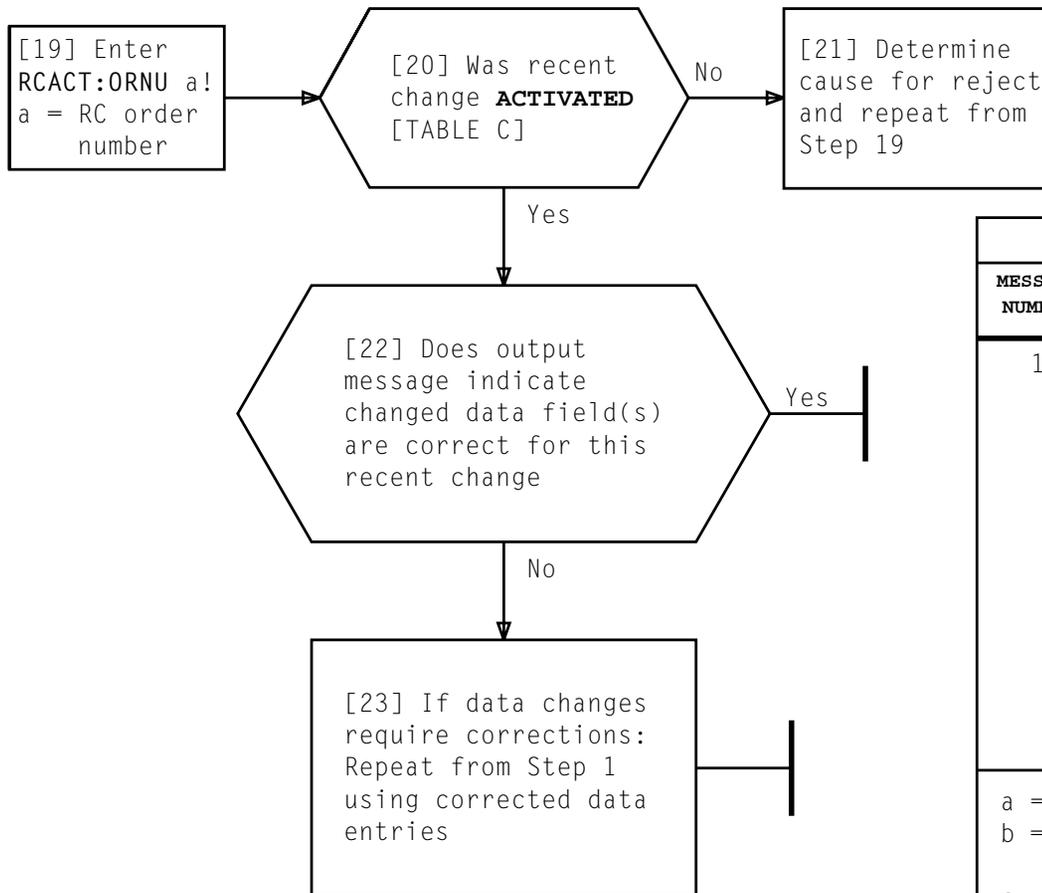


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(TRANS),BUF: TRANSID b, ORNU a, ENTRY c, WORDNO d, SIZE e, DISP f, BINOCT B, NEWDATA g, OLDDATA h, REMARKS..... !
a = RC order number b = Unit type = UTCCT, UTDOCT, UTMB, UTMCF or UTTPOS c = Member number of growth/degrowth frame d = Decimal number of word changed e = Decimal number of bits changed f = Decimal number of bit position (Rightmost bit) g = Binary bits inserted to correct data h = Binary contents of portion of word changed	

**PERFORM FUNCTIONAL WORD CHANGE OF
UT TRANSLATOR WORD THEN VERIFY**

SUMMARY

Using network management maintenance terminal request control and input directory page, type CIN name for TSG associated with growth transmitter. Using **SEND MC1** window, activate transmitting signals and verify that **DOC ACK** lamp does not light, and that DOC inconsistency report is not output.

[1] Notify far-end office personnel to expect transmit test to be performed

At Network Management
Display terminal:

[2] If control and input directory page is not displayed, type (+) in directory space at bottom of page and depress **SEND** key

Control and input directory page displayed

[3] Type (+) in parenthesis after CN3 on directory page

CN3 general control change page displayed

[4] Depress **SEND** key

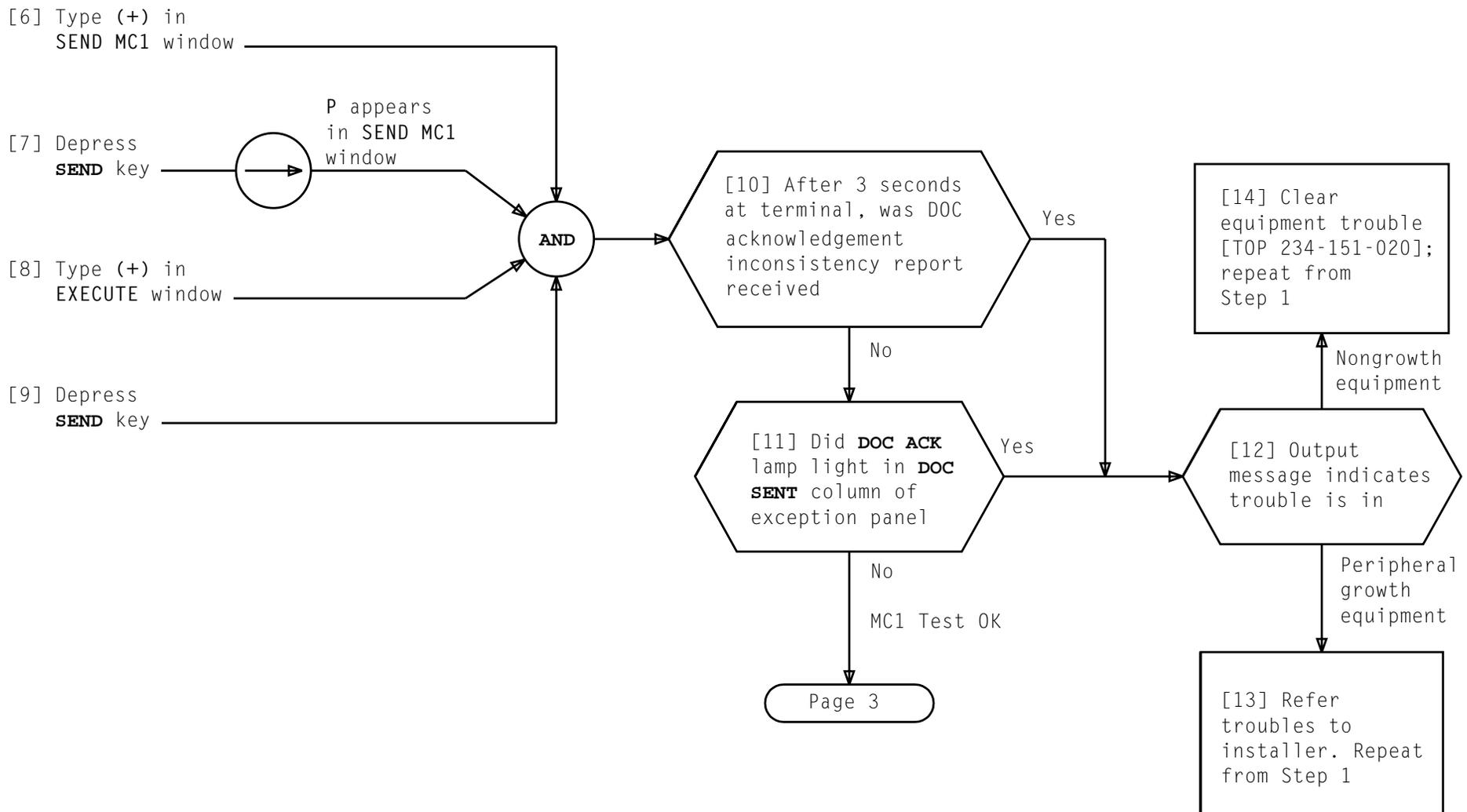
[5] On CN3 page, type CIN name in window for TSG associated with transmitter under test

AND

Page 2

PERFORM DOC MC1 AND MC2 TRANSMITTING TEST

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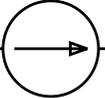
PERFORM DOC MC1 AND MC2 TRANSMITTING TEST

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At Network Management
Display terminal:

[15] Type (+) in
directory space
at bottom of page

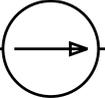
[16] Depress **SEND** key



Control and
input directory
page displayed

[17] Type (+) in
parenthesis after CN3
on directory page

[18] Depress **SEND** key



CN3 general
control change
page displayed

[19] On CN3 page, type
CIN name in window
for TSG associated
with transmitter
under test

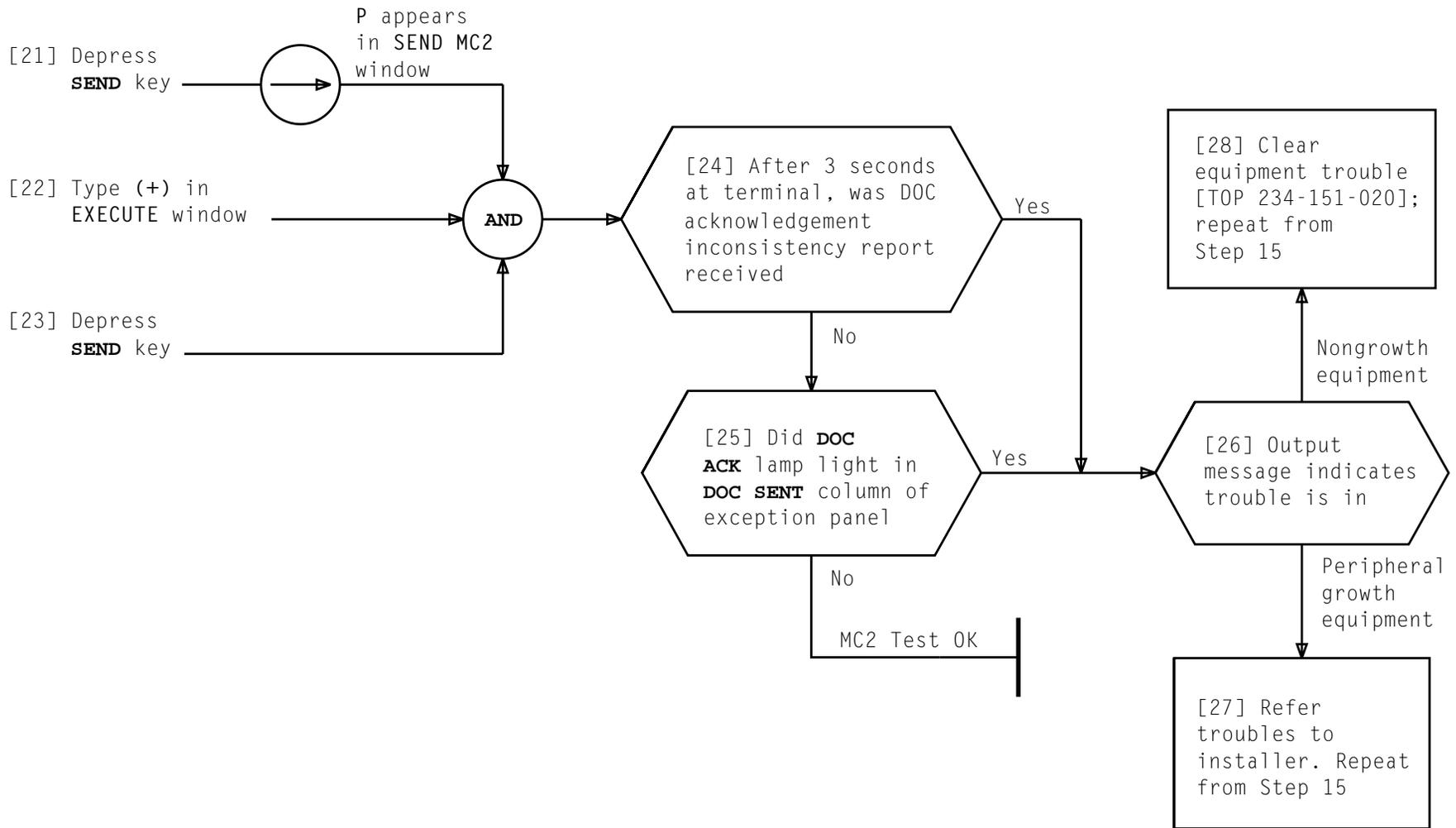
[20] Type (+) in
SEND MC2 window

AND

Page 4

PERFORM DOC MC1 AND MC2 TRANSMITTING TEST

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SUMMARY

Using network management maintenance terminal, obtain CN4 control change page and fill in appropriate windows to transmit and execute the MC3 loop test. Verify that **DOC ACK** lamp does not light, and DOC inconsistency report is not output.

At Network Management
Display terminal:

[1] If control and input directory page is not displayed, type (+) in directory space at bottom of page and depress **SEND** key

Control and input directory page displayed

[2] Type (+) in parenthesis after CN4 on directory page

CN4 general control change page displayed

[3] Depress **SEND** key

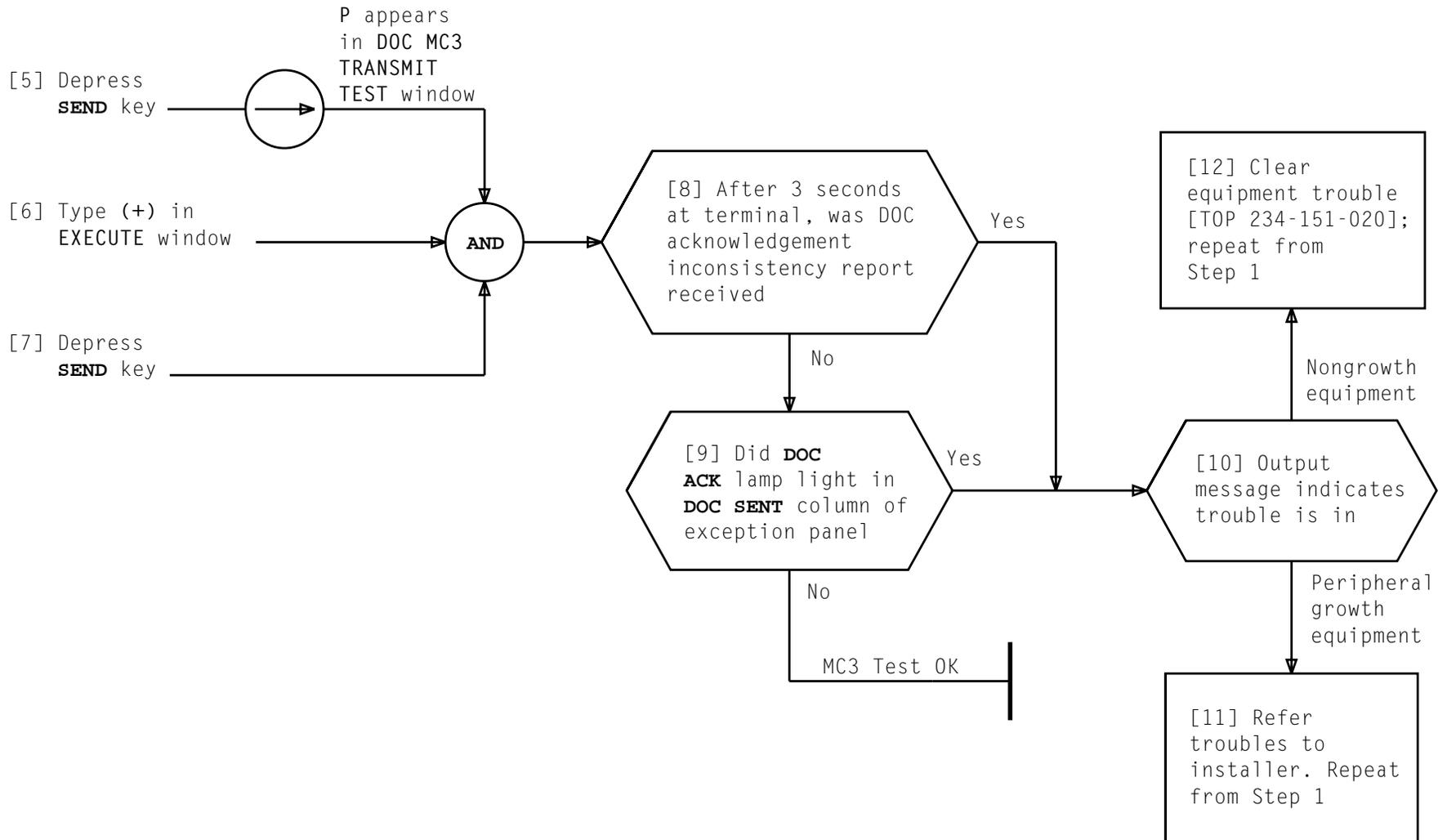
[4] On CN4 page, type (+) in DOC MC3 TRANSMIT TEST window

AND

Page 2

PERFORM DOC MC3 LOOP TEST

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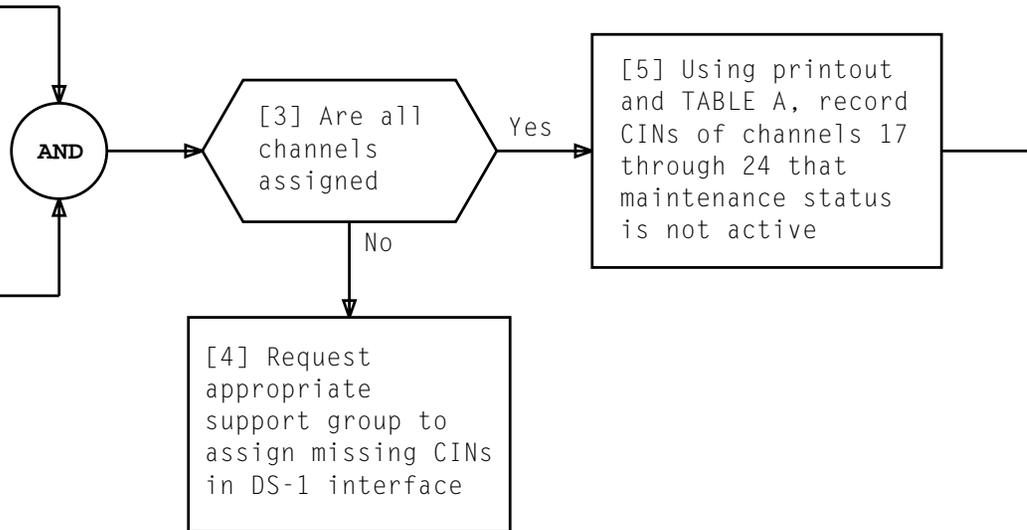


PERFORM DOC MC3 LOOP TEST

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[1] At 1B MTC terminal, enter
 OP:TRKSTAT,CIN ab00CLN*TAT****:CAR!
 a = 1 for RMS-D2 frame 1 or
 2 for RMS-D2 frame 2
 b = Control area RMS-D2 frame
 assigned

[2] Using printout and TABLE A, Page 2,
 verify CIN assignments for DS-1
 interface (channels 1 through 24)



VERIFY DS-1 INTERFACE ASSIGNMENTS

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TABLE A		
CHANNEL	OUTPUT MESSAGE	VARIABLES
1	OP:TRKSTAT a *MBT*,CIN bc00 CLN* TAT* *** d	a = Maintenance status
2	OP:TRKSTAT a *MBT*,CIN bc01 CLN* TAT* *** d	b = 1 for RMS-D2 frame 1 or
3	OP:TRKSTAT a *MBT*,CIN bc10 CLN* TAT* *** d	2 for RMS-D2 frame 2
4	OP:TRKSTAT a *MBT*,CIN bc11 CLN* TAT* *** d	c = Control area RMS-D2 frame
5	OP:TRKSTAT a *MBT*,CIN bc20 CLN* TAT* *** d	assigned
6	OP:TRKSTAT a *MBT*,CIN bc21 CLN* TAT* *** d	d = Office identity
7	OP:TRKSTAT a *MBT*,CIN bc30 CLN* TAT* *** d	e = 0 for RMS-D2 frame 1 or
8	OP:TRKSTAT a *MBT*,CIN bc31 CLN* TAT* *** d	1 for RMS-D2 frame 2
9	OP:TRKSTAT a *MBT*,CIN bc40 CLN* TAT* *** d	f = 0 for RMS-D2 frame 1 or
10	OP:TRKSTAT a *MBT*,CIN bc41 CLN* TAT* *** d	3 for RMS-D2 frame 2
11	OP:TRKSTAT a *MBT*,CIN bc50 CLN* TAT* *** d	g = 1 for RMS-D2 frame 1 or
12	OP:TRKSTAT a *MBT*,CIN bc51 CLN* TAT* *** d	4 for RMS-D2 frame 2
13	OP:TRKSTAT a *MBT*,CIN bc60 CLN* TAT* *** d	h = 2 for RMS-D2 frame 1 or
14	OP:TRKSTAT a *MBT*,CIN bc61 CLN* TAT* *** d	5 for RMS-D2 frame 2
15	OP:TRKSTAT a *MBT*,CIN bc70 CLN* TAT* *** d	i = MWAT for RMS-D2 frame 1 or
16	OP:TRKSTAT a *MBT*,CIN bc71 CLN* TAT* *** d	MW10 for RMS-D2 frame 2
17	OP:TRKSTAT a *MBT*,CIN e CLN* DTAT *** d	
18	OP:TRKSTAT a *MBT*,CIN e CLN* DLPC *** d	
19	OP:TRKSTAT a *MBT*,CIN e CLN* 104D *** d	
20	OP:TRKSTAT a *MBT*,CIN e CLN* 109* *** d	
21	OP:TRKSTAT a *MBT*,CIN f CLN* 105D *** d	
22	OP:TRKSTAT a *MBT*,CIN g CLN* 105D *** d	
23	OP:TRKSTAT a *MBT*,CIN h CLN* 105D *** d	
24	OP:TRKSTAT a *MBT*,CIN 1 TAS* i *** d	
	OP:TRKSTAT ,CIN bc00 CLN* TAT* *** d CAR COMPLETED TRK COUNT 24	

SUMMARY

Using verify entry input message, call up growth TPOS UT translator and verify that resulting octal output data, when converted, agrees with office records. Refer to entry

word explanations in TABLE B, Page 5, as required, for assistance in interpreting specific data fields. If it is determined that UT entry data are in error, word change(s) may be required

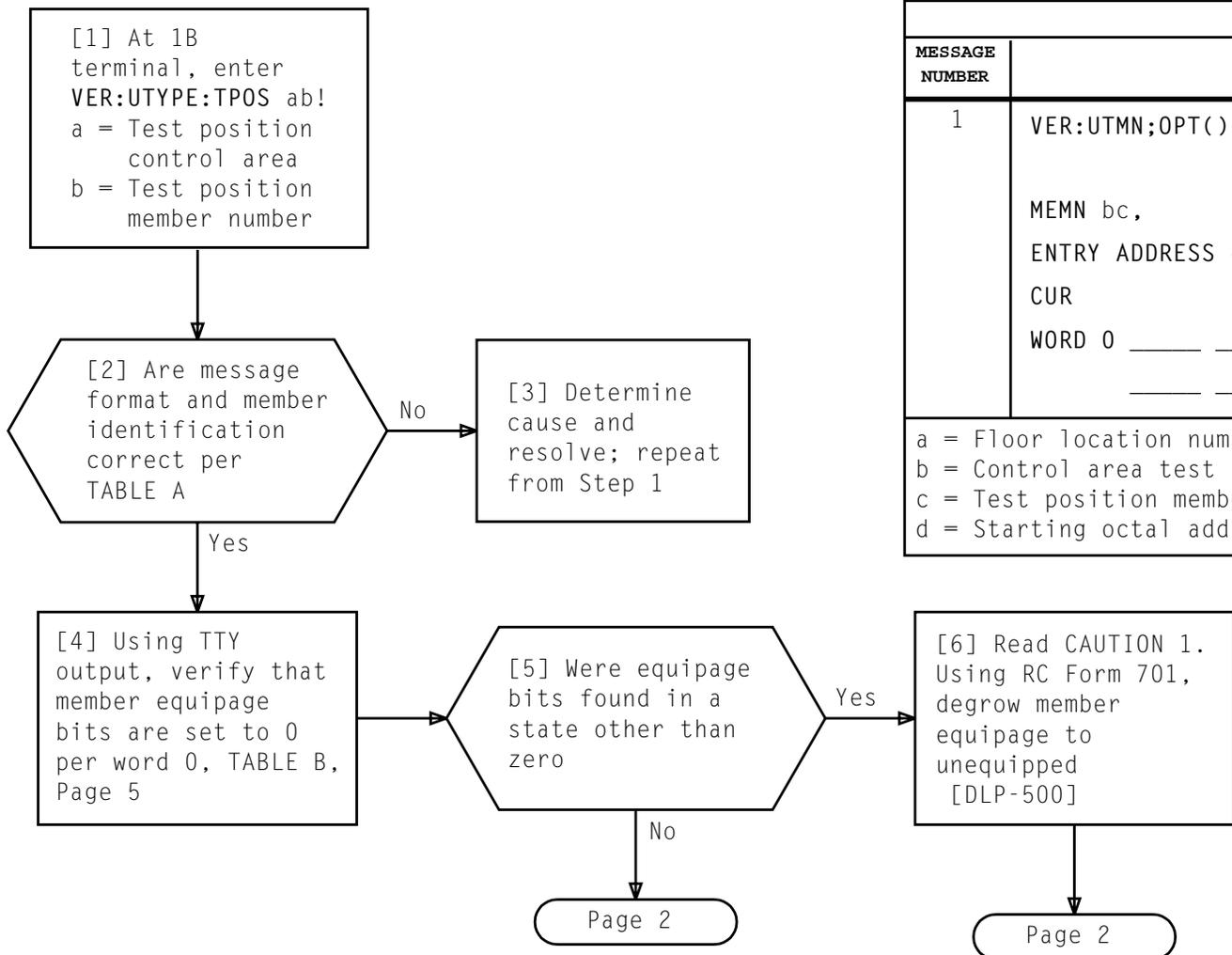
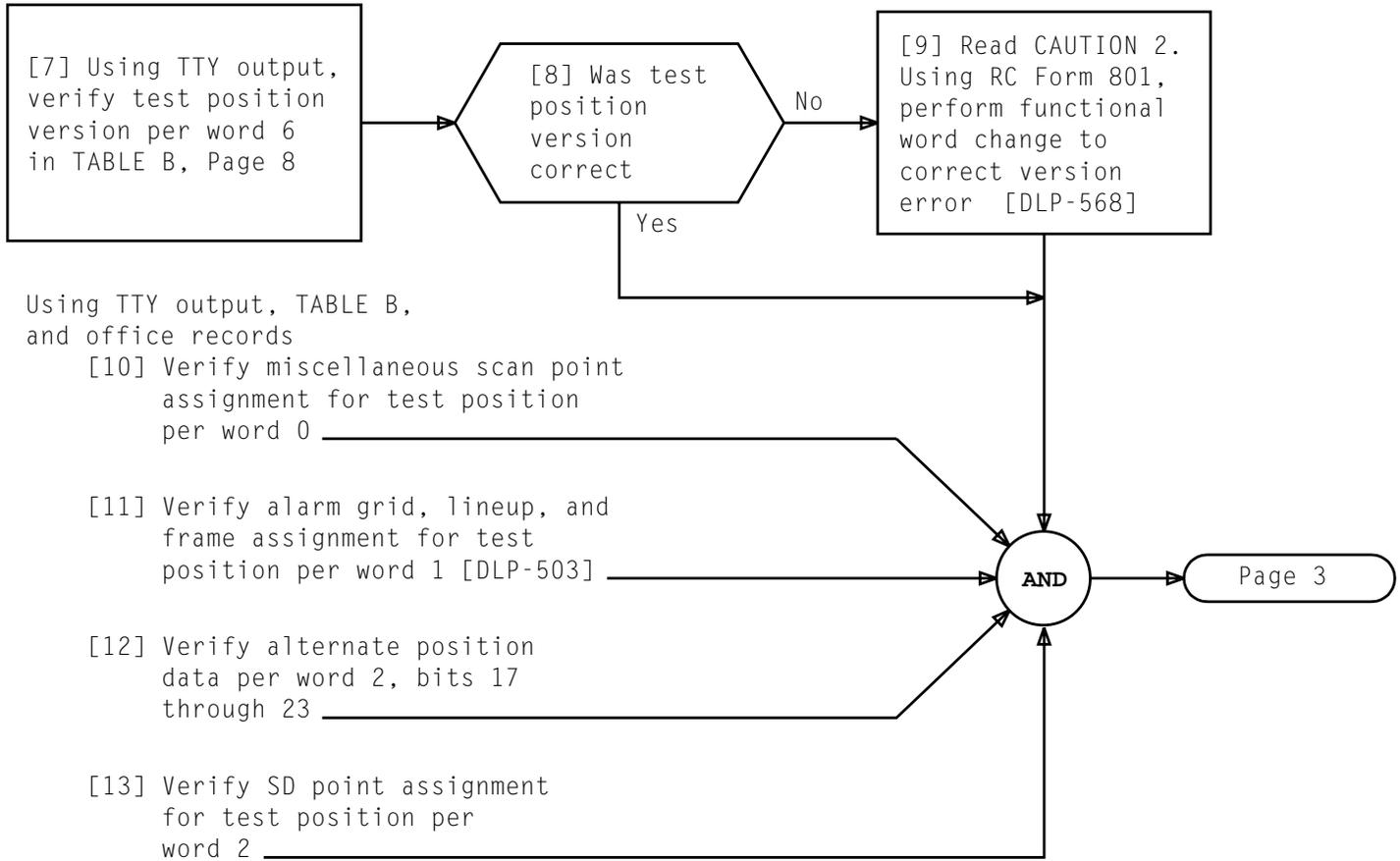


TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN TPOS, MEMN bc, ME UNEQ, ENTRY ADDRESS d, ENTRY SIZE 7, CUR WORD 0 _____ _____
a = Floor location number b = Control area test position assigned to c = Test position member number d = Starting octal address for UT entry	

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

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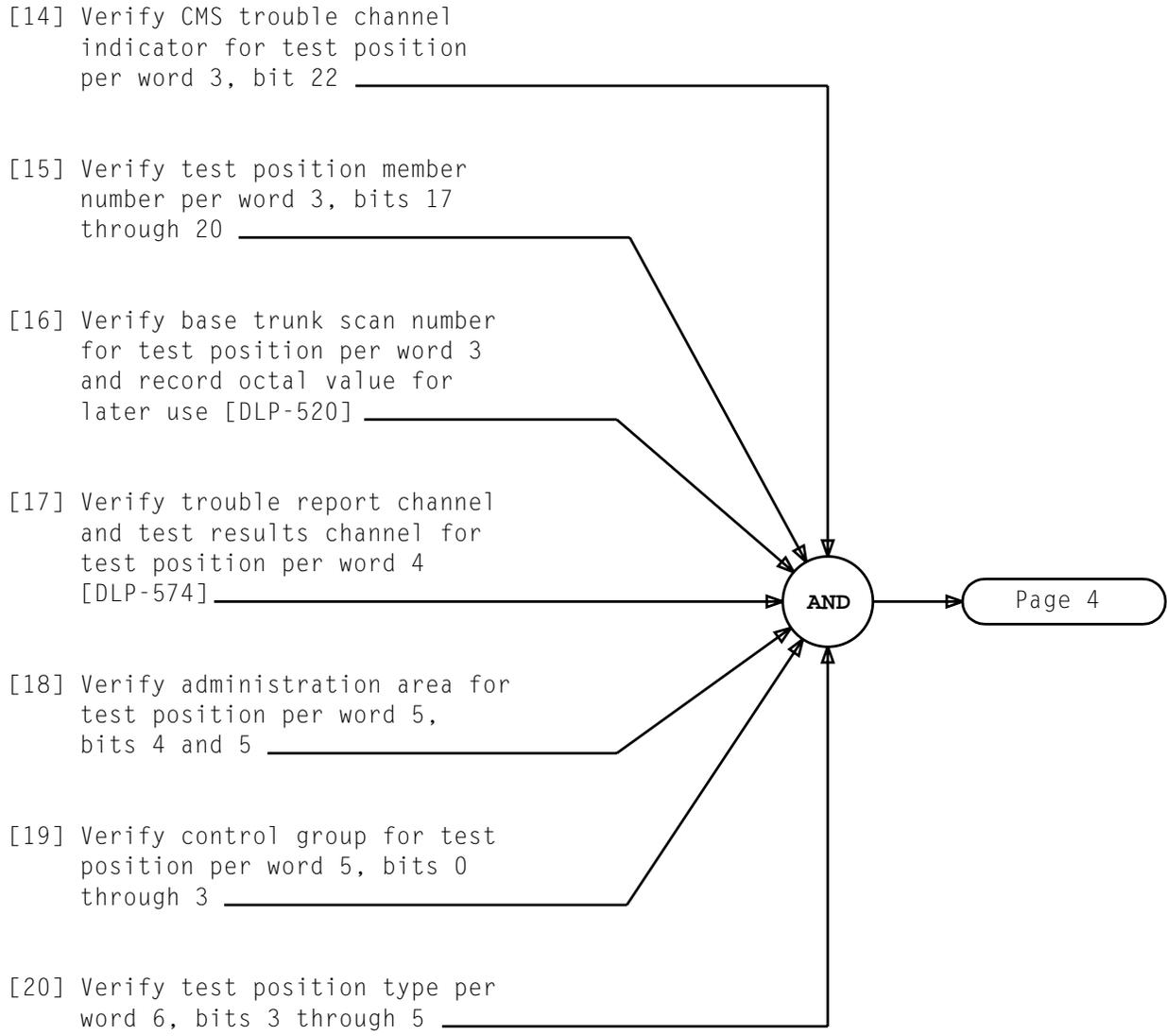


Using TTY output, TABLE B,
and office records

- [10] Verify miscellaneous scan point assignment for test position per word 0
- [11] Verify alarm grid, lineup, and frame assignment for test position per word 1 [DLP-503]
- [12] Verify alternate position data per word 2, bits 17 through 23
- [13] Verify SD point assignment for test position per word 2

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

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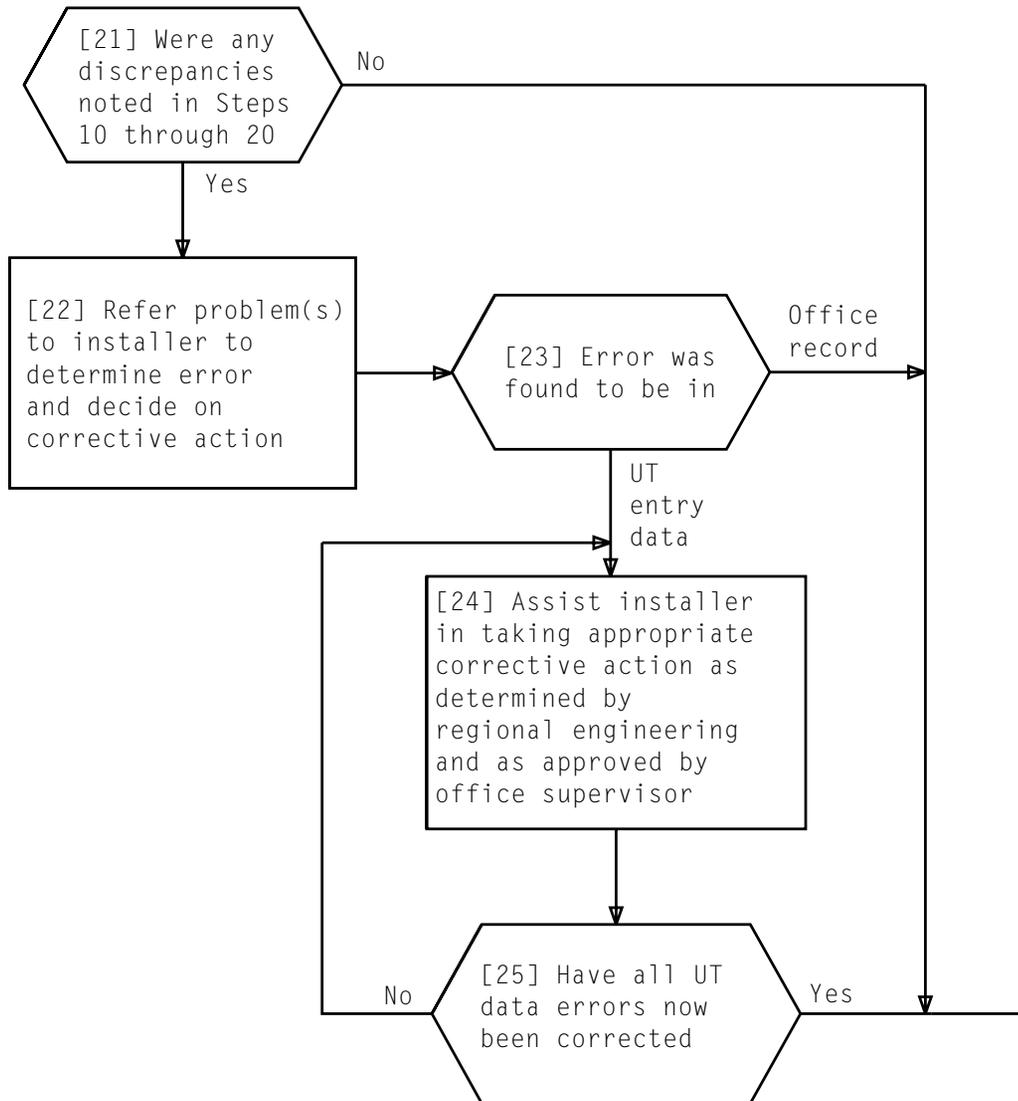


TABLE B

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
0	entry data	0 0 0 0 0 0 0 0																							
	octal output																								
	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																							
MEMBER EQUIPAGE		SP MEMBER NUMBER						SP ROW NUMBER						SP COLUMN NUMBER											
MEMBER BASE MISCELLANEOUS SCAN NUMBER																									
1	entry data	Y Y Y Y Y Y Y																							
	octal output																								
	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																							
ASSIGNED ALARM GRID NUMBER				FRAME LINEUP NUMBER										FRAME NUMBER											
X...X = Converts to decimal frame info as reflected in office floor plan drawing												ZZZZ = Converts to decimal alarm grid number as reflected in office record drawings													
Y= Variable octal numbers												T-nnnn-Hn-400, 401, or 402 or equivalent													

TABLE B (Contd)

ENTRY WORD (OCTAL)		UT ENTRY DATA AND WORD CONFIGURATION																							
2	entry data	0																							
	octal output	0																							
	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	0	0	0	0	0	0	0	0
		ALTERNATE TEST POSITION						SP MEMBER NUMBER				L OR R MATRIX		SP ROW NUMBER				SP COLUMN NUMBER							
		MEMBER BASE MISCELLANEOUS SD NUMBER																							
3	entry data	Y																							
	octal output	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	W	0	Z	Z	Z	Z	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
			T P C M S L		MEMBER NUMBER				SP MEMBER NUMBER				L or R MATRIX		SP ROW NUMBER				SP COLUMN NUMBER						
		TRUNK SCAN NUMBER (TSN)																							
		<p>X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-460 or equivalent</p> <p>W = CMS trouble channel indicator - = 1 if troubles reported on CMS1 through CMS4, CMSH1, or CMSH2 channel = 0 if troubles reported on any other channel</p>												<p>Y = Variable octal numbers</p> <p>Z.Z = Test position member number in binary</p>											

TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																								
4	entry data	0				0				Y				Y				Y				Y			
	octal output																								
	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	X	X	X	X	X	X	X	Z	Z	Z	Z	Z	Z	Z
												TROUBLE REPORT CHANNEL						TEST RESULTS CHANNEL							
X...X = Converts to octal channel value												Z...Z = Converts to octal channel value													
Y = Variable octal numbers																									
5	entry data	0				0				0				0				Y				Y			
	octal output																								
	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	0	X	X	Z	Z	Z	Z	
																		ADMIN AREA			CONTROL GROUP				
XX = Administration area - = 00 for associated company = 01 for AT&T Communications = 10 for international																		ZZZZ = Converts to decimal Control Area							
Y= Variable octal numbers																									

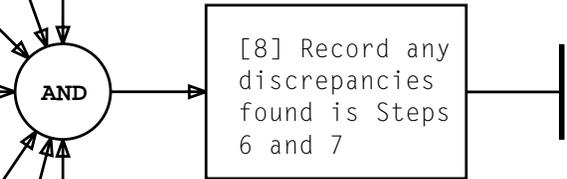
TABLE B (Contd)

ENTRY WORD (OCTAL)	UT ENTRY DATA AND WORD CONFIGURATION																																								
6	entry data																																								
	octal output	<table border="1" style="width:100%; text-align:center;"> <tr> <td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td> </tr> </table>																	0	0	0	0	0	0	0	1	1														
	0	0	0	0	0	0	0	1	1																																
	bit position	<table border="1" style="width:100%; text-align:center;"> <tr> <td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td> </tr> </table>																	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
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	<table border="1" style="width:100%; text-align:center;"> <tr> <td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td> </tr> </table>																	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1																		
																			TEST POSITION TYPE	VERSION NUMBER																					

Channel and port data in TABLE A are typical values for the growth TCA channel assigned to RMS-D2. Engineered values must be used if different from TABLE A

TABLE A	
FIELD NAME	VALUE
Hardware generation (CHG)	1
Name (CHNAME)	TCAa (a = Growth TCA number)
Backup name (BKUP)	SREC1
Speed (SPD)	4800
Mode (MODE)	FLLDPX
Dialup security (DIALUP)	N
Terminal type (TRMTYP)	KD
Paper tape (TAPE)	N
Special handling (CHTYP)	0 (zero)
Network protocol application ID (PHAPPLID)	0 (zero)
Station type (STATYP)	DCE
Automatic calling unit (ACU)	N
Port type connection (PTC)	PLDS
Data set type (DSTYPE)	Not Required for this channel
Switched carrier (SWC)	Not Required for this channel
Answer back feature (AB)	N

- [1] Note contents of word 4 in entry output message _____
- [2] Convert five rightmost octal digits to binary per FIG. 1 _____
- [3] Convert binary bits 0 through 6 to octal per FIG. 1 and record _____
- [4] Convert binary bits 7 through 13 to octal per FIG. 1 and record _____
- [5] Using TABLE A, Page 2, locate channel(s) that trouble reports and test results will be received and record associated octal value(s) _____
- [6] Compare test results channel octal value recorded in Step 5 with value recorded in Step 3 _____
- [7] Compare trouble reports channel octal value recorded in Step 5 with value recorded in Step 4 _____



		Y		Y		Y		Y		Y						
	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
	0	0	X	X	X	X	X	X	X	Z	Z	Z	Z	Z	Z	Z
	TROUBLE REPORT CHANNEL									TEST RESULTS CHANNEL						

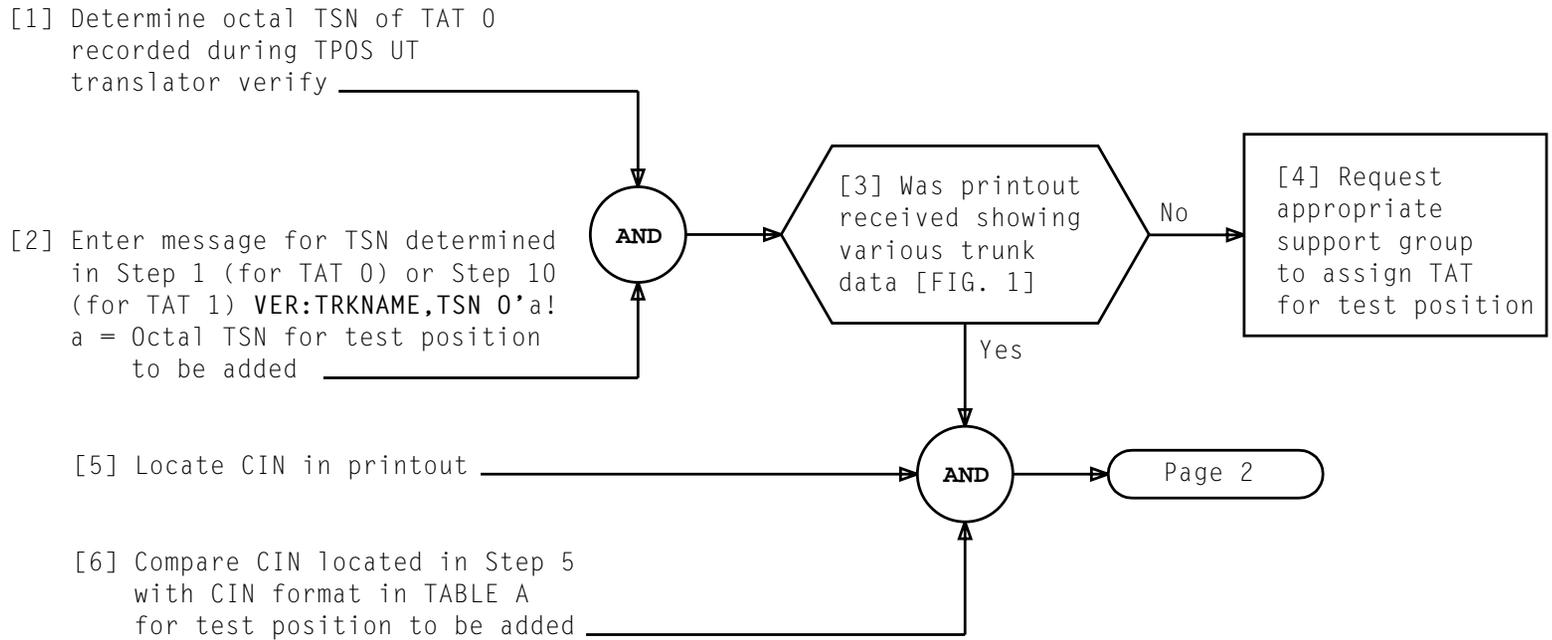
FIG. 1 - Entry Word 4 Layout

VERIFY TROUBLE REPORT AND TEST RESULTS CHANNEL(S)

TABLE A			
CHANNEL	OCTAL VALUE	CHANNEL	OCTAL VALUE
BELT1	3	TCA1	21
BELT2	4	TCA2	45
CMS1	15	TCA3	46
CMS2	16	TCA4	47
CMS3	17	TCA5	50
CMS4	20	TCA6	51
CMSH1	100	TCA7	52
CMSH2	101	TCA8	53
EADASH1	102	TCA9	54
EADASH2	103	TCA10	55
ISCC	71	TEC1	14
MTC	0	TEC2	35
NMDT1	12	TEC3	36
NMDT2	13	TEC4	37
NMDT3	34	TEC5	40
NMNOC1	61	TRF1	10
NMPR1	11	TRF2	33
NMPR2	60	TTS1	62
RCDT1	7	TTS2	63
RCDT2	31	TTS3	64
RCDT3	32	TTS4	65
RCMOC	2	TTS5	66
RCREC	6	TTS6	67
RCRRT1	56	DUP1	72
RCRRT2	57	DUP2	73
RMT1	22	DUP3	74
SCC1	24	DUP4	75
SREC1	1	DUP5	76
SREC2	30	DUP6	77
SVOBS	23		

VERIFY TROUBLE REPORT AND TEST RESULTS CHANNEL(S)

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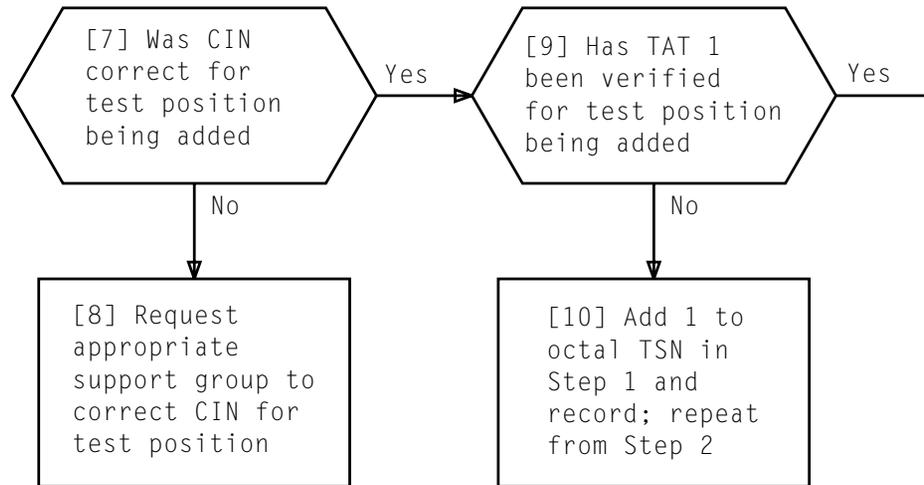


```

VER:TRKNAME,TSN 2021601: ISC TESTATP   OSC TESTATP
OTAN 106601 - TAN 17 1 3 001
CIN 1500 CLN* TAT* *** STC - BTFN 100
TSN 2021601 - TSN 0'246601
DIF 20,DIU 27,DG 1
  
```

TABLE A	
abcd CLN* TAT* ***	
a = 1 for RMS-D2 frame 1 or 2 for RMS-D2 frame 2	
b = Control area RMS-D2 frame assigned	
c = Test position number to be added (0-7)	
d = TAT number (0 or 1)	

FIG. 1 - Sample VER:TRKNAME Printout



VERIFY TEST POSITION TAT ASSIGNMENTS

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[1] Determine one channel that is not active, channels 17 through 24, recorded from OP:TRKSTAT message [TABLE A]

[2] At 1B MTC terminal, enter message for CIN determined in Step 1
 SET:TRKSTAT ACT,CIN a!
 a = CIN of trunk not active

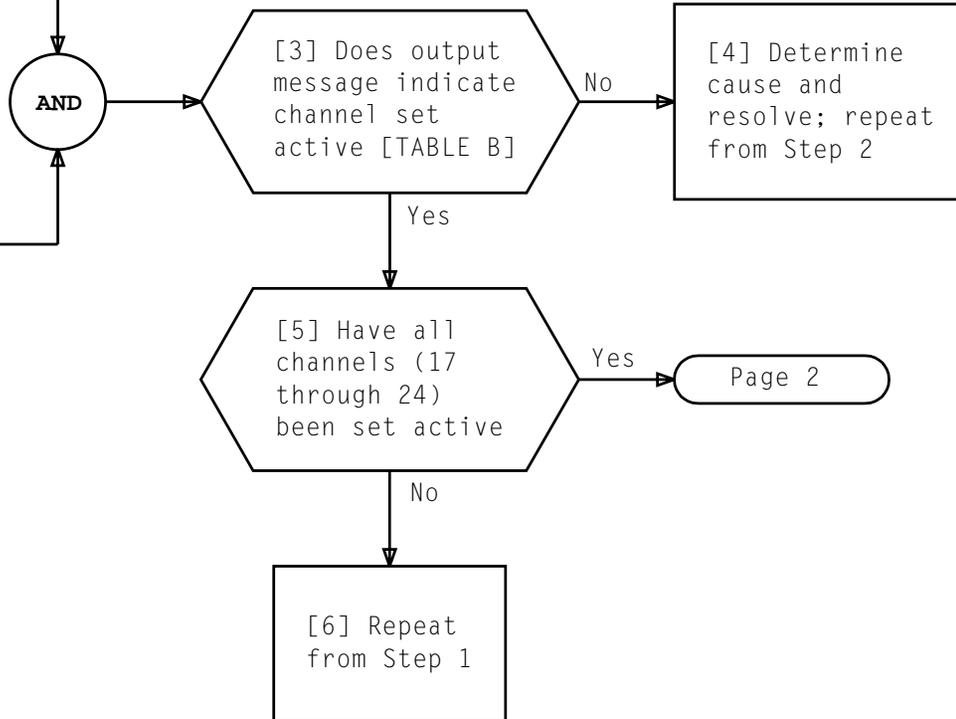


TABLE A	
CHANNEL	CIN
17	a CLN* DTAT ***
18	a CLN* DLPC ***
19	a CLN* 104D ***
20	a CLN* 109* ***
21	b CLN* 105D ***
22	c CLN* 105D ***
23	d CLN* 105D ***
24	1 TAS* MWAT ***
	for RMS-D2 frame 1 or 1 TAS* MW10 *** for RMS-D2 frame 2
a = 0 for RMS-D2 frame 1 or 1 for RMS-D2 frame 2	
b = 0 for RMS-D2 frame 1 or 3 for RMS-D2 frame 2	
c = 1 for RMS-D2 frame 1 or 4 for RMS-D2 frame 2	
d = 2 for RMS-D2 frame 1 or 5 for RMS-D2 frame 2	

TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	SET:TRKSTAT ACT TRAF< IDLE 1> *MBT*,CIN a bbb
	a = CIN of channel set active bbb = Office identity

ACTIVATE DS-1 INTERFACE CHANNELS 17 THROUGH 24

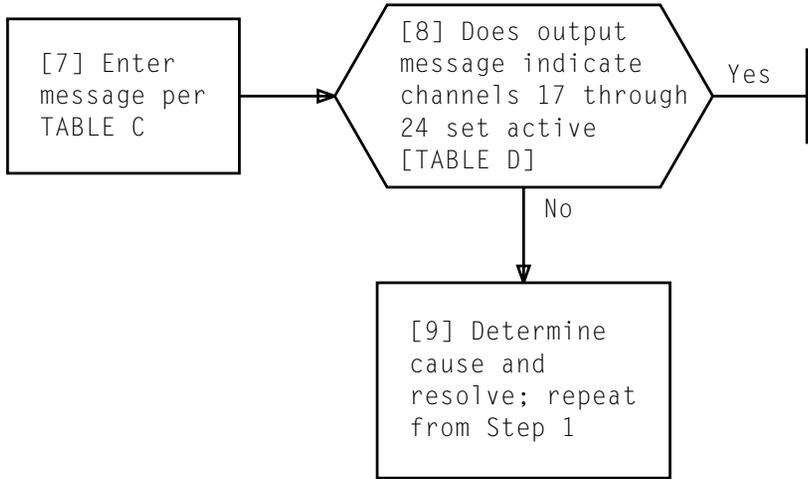


TABLE C	
MESSAGE NUMBER	INPUT MESSAGE
1	OP:TRKSTAT,CIN ab00CLN*TAT****:CAR!
a = 1 for RMS-D2 frame 1 or 2 for RMS-D2 frame 2	
b = Control area RMS-D2 frame assigned	

TABLE D	
CHANNEL	OUTPUT MESSAGE
1	●
16	●
17	OP:TRKSTAT ACT TRAF< IDLE 1> *MBT*,CIN a CLN* DTAT *** b
18	OP:TRKSTAT ACT TRAF< IDLE 1> *MBT*,CIN a CLN* DLPC *** b
19	OP:TRKSTAT ACT TRAF< IDLE 1> *MBT*,CIN a CLN* 104D *** b
20	OP:TRKSTAT ACT TRAF< IDLE 1> *MBT*,CIN a CLN* 109* *** b
21	OP:TRKSTAT ACT TRAF< IDLE 1> *MBT*,CIN c CLN* 105D *** b
22	OP:TRKSTAT ACT TRAF< IDLE 1> *MBT*,CIN d CLN* 105D *** b
23	OP:TRKSTAT ACT TRAF< IDLE 1> *MBT*,CIN e CLN* 105D *** b
24	OP:TRKSTAT ACT TRAF< IDLE 1> *MBT*,CIN 1 TAS* f *** b

a = 0 for RMS-D2 frame 1 or
1 for RMS-D2 frame 2

b = Office identity

c = 0 for RMS-D2 frame 1 or
3 for RMS-D2 frame 2

d = 1 for RMS-D2 frame 1 or
4 for RMS-D2 frame 2

e = 2 for RMS-D2 frame 1 or
5 for RMS-D2 frame 2

f = MWAT for RMS-D2 frame 1 or
MW10 for RMS-D2 frame 2

ACTIVATE DS-1 INTERFACE CHANNELS 17 THROUGH 24

[1] Determine octal TSN of TAT 0
recorded during TPOS UT translator
verify _____

[2] Enter message for TSN determined
in Step 1 [NOTE 1]
SET:TRKSTAT ACT,TSN 0'a:NUM 2!
a = Octal TSN of TAT 0 _____

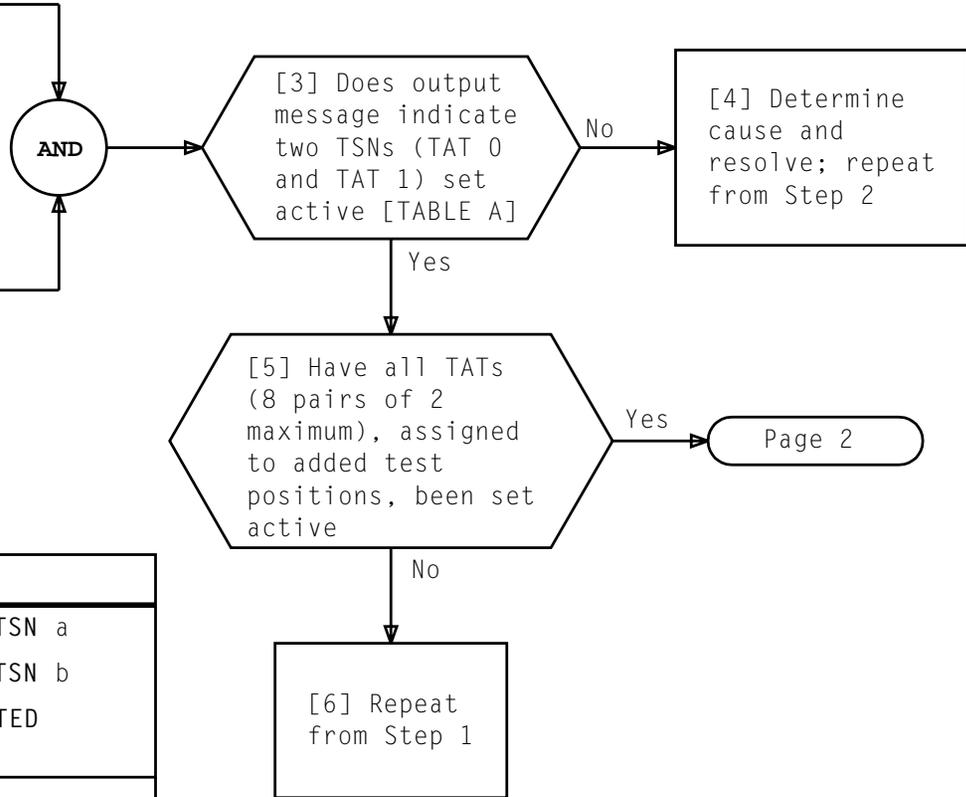


TABLE A	
SET:TRKSTAT ACT TRAF< IDLE 1> *MBT*,TSN a	
SET:TRKSTAT ACT TRAF< IDLE 1> *MBT*,TSN b	
SET:TRKSTAT ,TSN a	NUM COMPLETED
TRK COUNT 2	
a = Decimal TSN of TAT 0	
b = Decimal TSN of TAT 1	

NOTE 1	
SET message will activate TAT 0 and TAT 1 assigned to added test position	
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ACTIVATE TATs ASSIGNED TO ADDED TEST POSITIONS

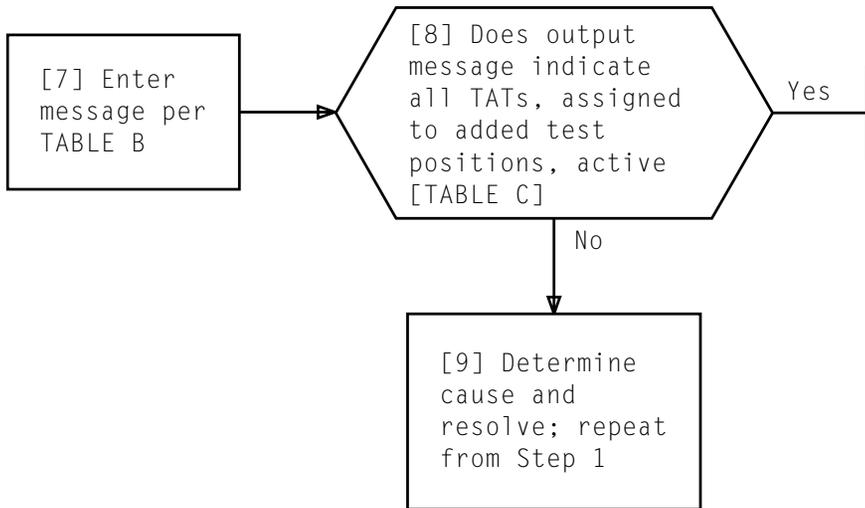


TABLE B
OP:TRKSTAT,CIN ab00CLN*TAT****:CAR!
a = 1 for RMS-D2 frame 1 or 2 for RMS-D2 frame 2
b = Control area RMS-D2 frame assigned

TABLE C		
TEST POSITION	CHANNEL	OUTPUT MESSAGE
0	1	OP:TRKSTAT a *MBT*,CIN bc00 CLN* TAT* *** d
0	2	OP:TRKSTAT a *MBT*,CIN bc01 CLN* TAT* *** d
1	3	OP:TRKSTAT a *MBT*,CIN bc10 CLN* TAT* *** d
1	4	OP:TRKSTAT a *MBT*,CIN bc11 CLN* TAT* *** d
2	5	OP:TRKSTAT a *MBT*,CIN bc20 CLN* TAT* *** d
2	6	OP:TRKSTAT a *MBT*,CIN bc21 CLN* TAT* *** d
3	7	OP:TRKSTAT a *MBT*,CIN bc30 CLN* TAT* *** d
3	8	OP:TRKSTAT a *MBT*,CIN bc31 CLN* TAT* *** d
4	9	OP:TRKSTAT a *MBT*,CIN bc40 CLN* TAT* *** d
4	10	OP:TRKSTAT a *MBT*,CIN bc41 CLN* TAT* *** d
5	11	OP:TRKSTAT a *MBT*,CIN bc50 CLN* TAT* *** d
5	12	OP:TRKSTAT a *MBT*,CIN bc51 CLN* TAT* *** d
6	13	OP:TRKSTAT a *MBT*,CIN bc60 CLN* TAT* *** d
6	14	OP:TRKSTAT a *MBT*,CIN bc61 CLN* TAT* *** d
7	15	OP:TRKSTAT a *MBT*,CIN bc70 CLN* TAT* *** d
7	16	OP:TRKSTAT a *MBT*,CIN bc71 CLN* TAT* *** d
Printout continues with status of channels 17 through 24		
a = Maintenance status – must be ACT for test positions being added b = 1 for RMS-D2 frame 1 or 2 for RMS-D2 frame 2 c = Control area RMS-D2 frame assigned d = Office identity		

ACTIVATE TATs ASSIGNED TO ADDED TEST POSITIONS

- [1] Determine lowest receiver and transmitter circuit numbers in degrowth MFS frame
- [2] Enter message for receivers or transmitters in degrowth MFS
 SET:TRKSTAT CAD.DSA,CIN aabb SVC* c *;SUM:NUM 32!
 aa = Degrowth MFS member number
 bb = Receiver or transmitter circuit number (Step 1)
 c = MFR for receivers or MFX for transmitters

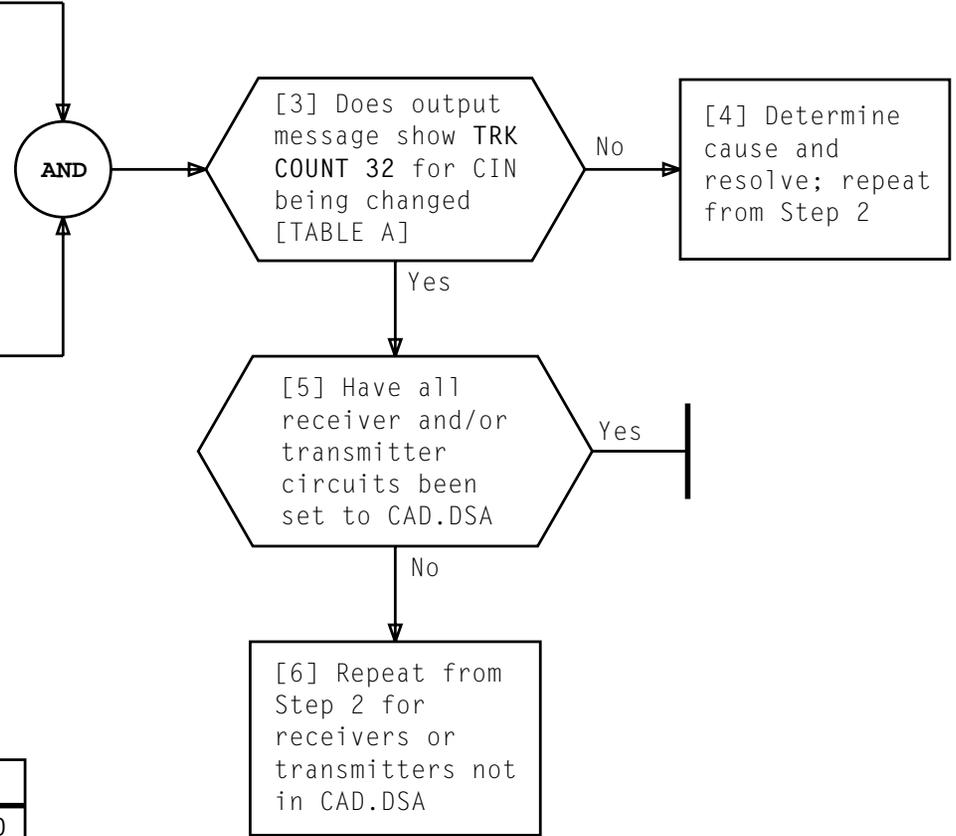


TABLE A
SET:TRKSTAT ,CIN aabb SVC* c* *** NUM,STAT,SUM COMPLETED TRK COUNT 32
aa = Degrowth MFS member number bb = Receiver or transmitter circuit number (Step 1) c = MFR for receivers or MFX for transmitters

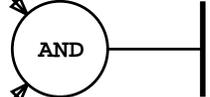
SET RECEIVERS AND/OR TRANSMITTERS TO CAD DISABLE STATE

[1] At 1B MTC terminal,
 enter message for receivers in
 degrowth MFS frame
VER:TRKNAME,CIN aabb SVC* MFR *!
 aa = Degrowth MFS member number
 bb = Lowest receiver circuit number

[2] Using printout and FIG. 1, locate
 fifth line with DIF/DT/VIF data
 and record for later use

[3] Enter message for transmitters in
 degrowth MFS frame
VER:TRKNAME,CIN aabb SVC* MFX *!
 aa = Degrowth MFS member number
 bb = Lowest transmitter circuit
 number

[4] Using printout and FIG. 1, locate
 fifth line with DIF/DT/VIF data
 and record for later use



```

VER:TRKNAME,CIN 1800 SVC* MFR* ***: ISC TESTATP OSC TESTATP
OTAN 106601 - TAN 17 1 3 001
CIN 1800 SVC* MFR* *** STC - BTFN 100
TSN 2021601 - TSN 0'246601
DT 10,DTU 5,DG 1
  
```

RECORD THIS LINE

FIG. 1 - Sample VER:TRKNAME Printout

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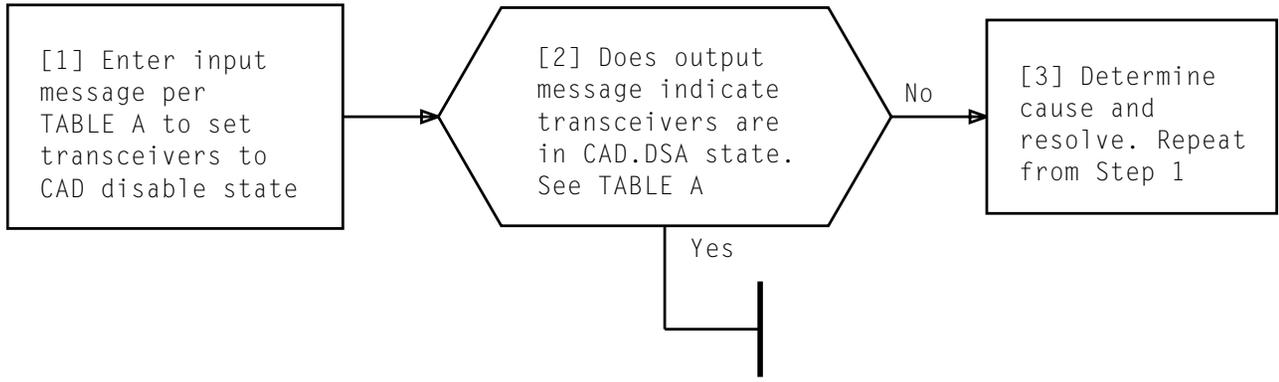


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT CAD.DSA,CIN a0ØSVC*XCVR:NUM c!	SET:TRKSTAT ,CIN a0/bSVC* XCVR *** NUM COMPLETED TRK COUNT c
a = Member number of degrowth CCT to which transceivers belong b = Number of first transceiver in submember = 0/for transceivers 00-05 or 00-11 = 6 for transceivers 06-11 c = Number of transceivers being degrown = 6 for transceivers 00-05 or 06-11 = 12 for transceivers 00-11	

SET TRANSCEIVERS (CCT) TO CAD DISABLE STATE

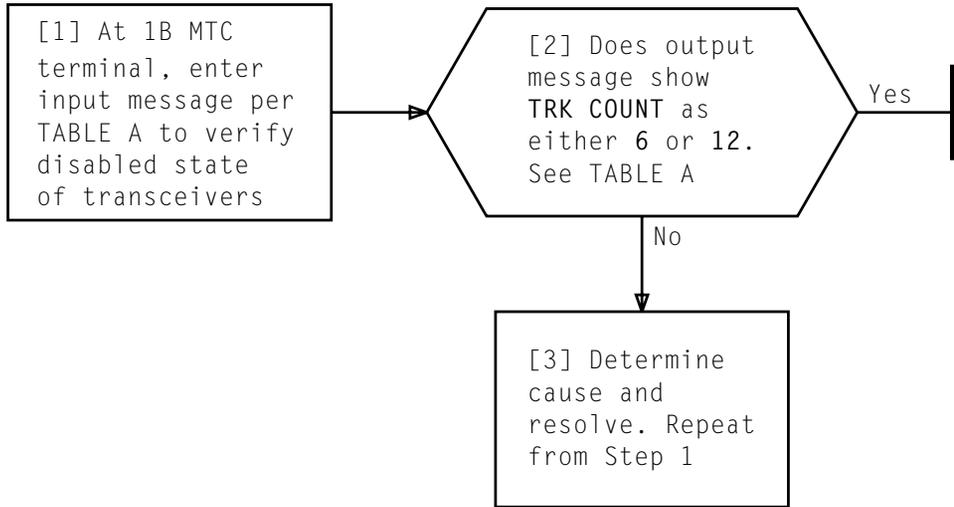


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,CIN a0ØSVC*XCVR:NUM c,STAT CAD.DSA!	OP:TRKSTAT CAD.DSA ,CIN a0Ø SVC* XCVR *** NUM,STAT COMPLETED TRK COUNT c
a = Member number of degrowth CCT to which transceivers belong b = Number of first transceiver in submember = 0 for transceivers 00-05 or 00-11 = 6 for transceivers 06-11 c = Number of transceivers being degrown = 6 for transceivers 00-05 or 06-11 = 12 for transceivers 00-11	

VERIFY DISABLE STATUS OF TRANSCEIVERS (CCT)

[1] Obtain TANs for 105 test lines assigned to degrowth ROTL

[2] At 1B MTC terminal, enter input message per TABLE A to set 105 test line to CAD disabled state

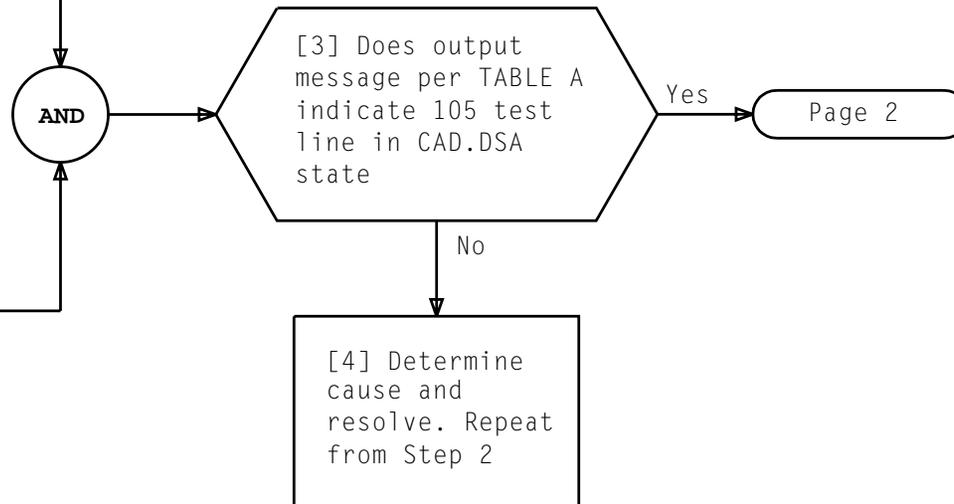


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT CAD.DSA,TAN a!	SET:TRKSTAT CAD.DSA TRAF ,TAN a SET:TRKSTAT,TAN a COMPLETED TRK COUNT 1
a = TAN number assigned to 105 test line	

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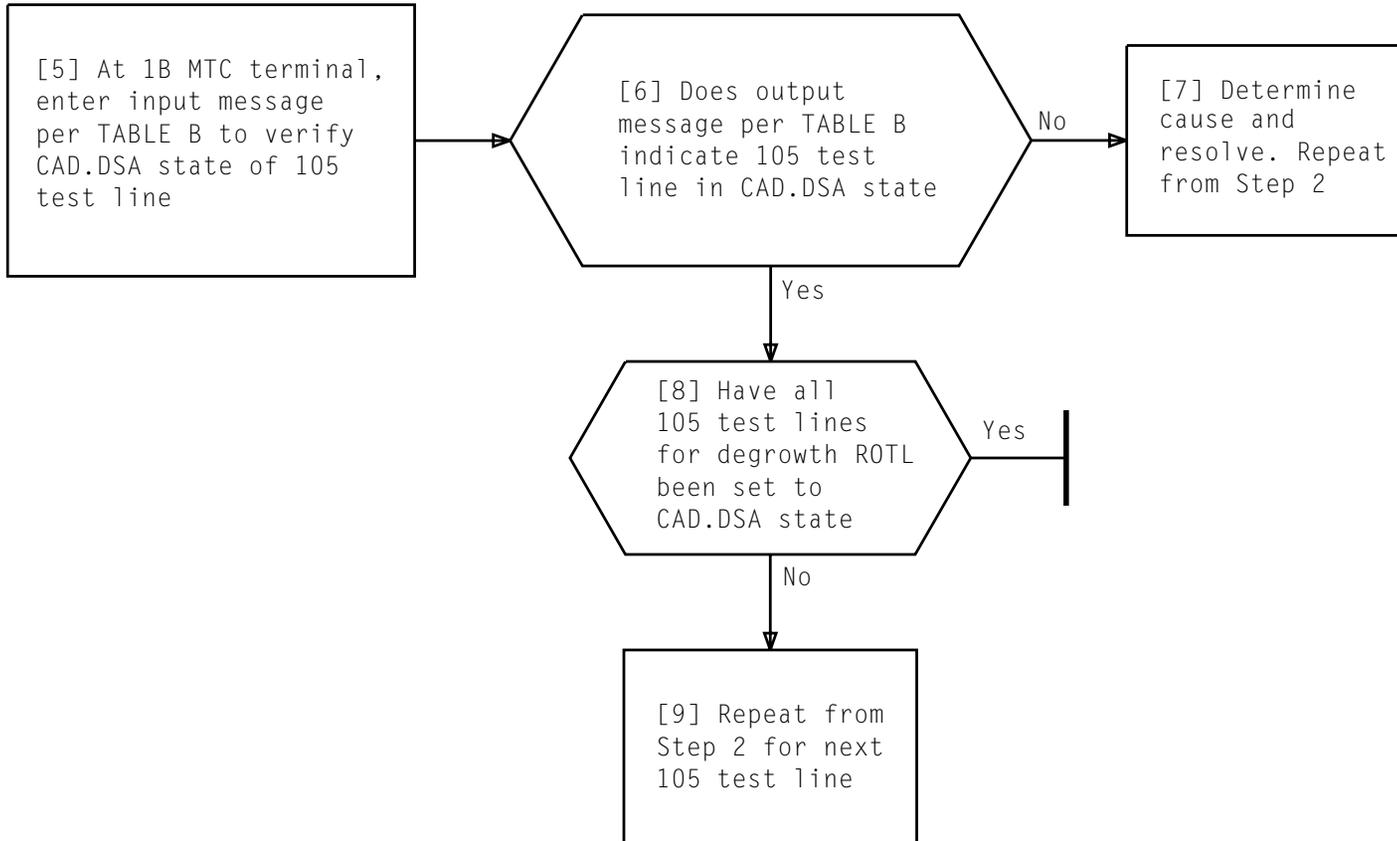


TABLE B	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,TAN a!	OP:TRKSTAT CAD.DSA TRAF ,TAN a OP:TRKSTAT,TAN a COMPLETED TRK COUNT 1
a = TAN number assigned to 105 test line	

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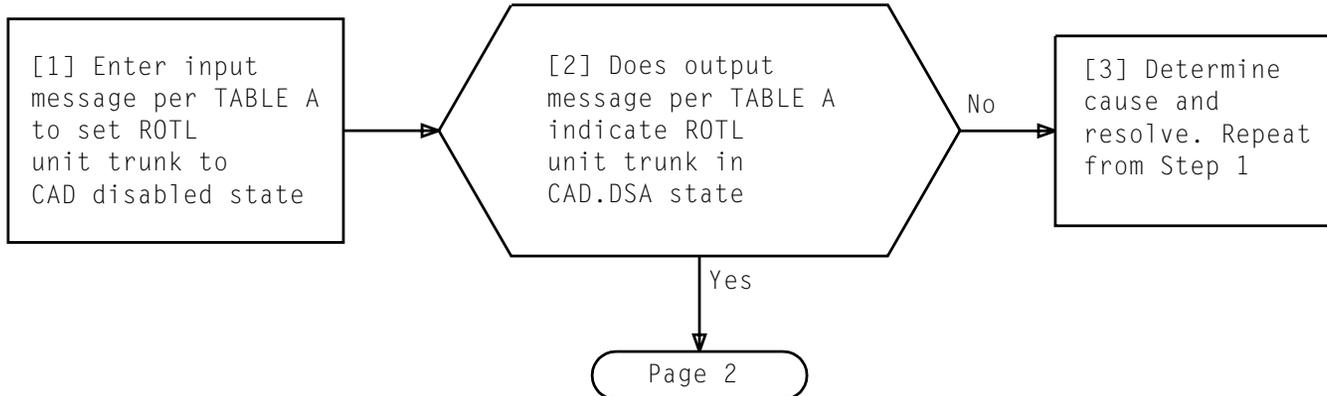


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT CAD.DSA,CIN ab!	SET:TRKSTAT CAD.DSA TRAF ,CIN a b SET:TRKSTAT,CIN a b COMPLETED TRK COUNT 1
a = Traffic number of CIN b = Abbreviated portion of CIN = ATM*RT0/A = ATM*RT0/T = ATM*RT1A = ATM*RT1T	

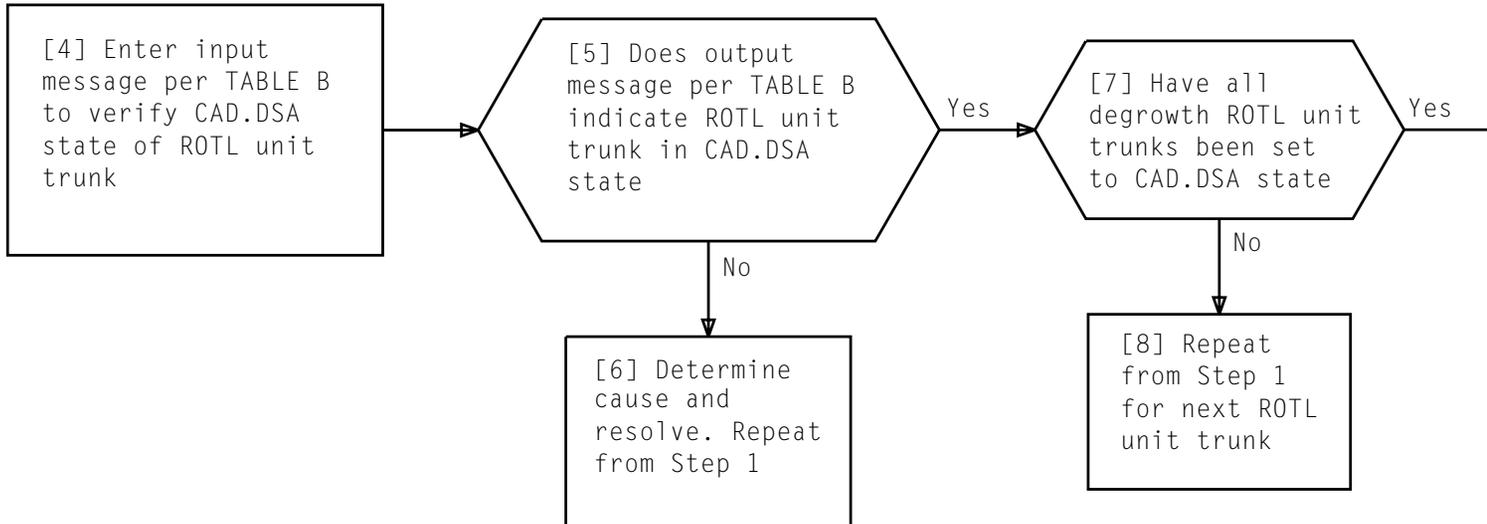


TABLE B	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,CIN ab!	OP:TRKSTAT CAD.DSA TRAF ,CIN a b OP:TRKSTAT,CIN a b COMPLETED TRK COUNT 1
a = Traffic number of CIN b = Abbreviated portion of CIN for trunk just set to CAD.DSA = ATM*RT0/A = ATM*RT0/T = ATM*RT1A = ATM*RT1T	

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[1] Obtain traffic numbers for RPAC trunks assigned to degrowth ROTL

[2] At 1B MTC terminal, enter input message per TABLE A to set degrowth RPAC trunk to CAD disabled state

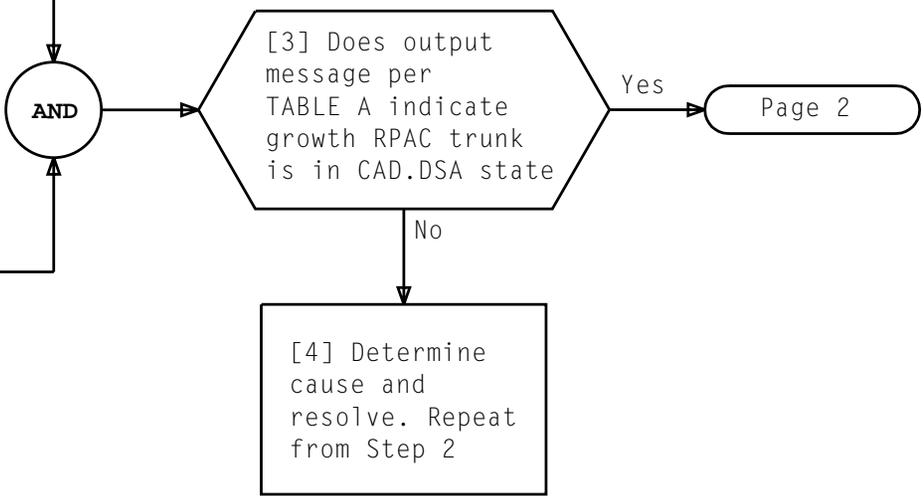


TABLE A	
INPUT MESSAGE	OUTPUT MESSAGE
SET:TRKSTAT CAD.DSA,CIN aATM*RPCU!	SET:TRKSTAT CAD.DSA TRAF ,CIN aATM*RPCU
a = Traffic number of CIN	

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SET DEGROWTH RPAC TRUNKS TO CAD DISABLED STATE AND VERIFY

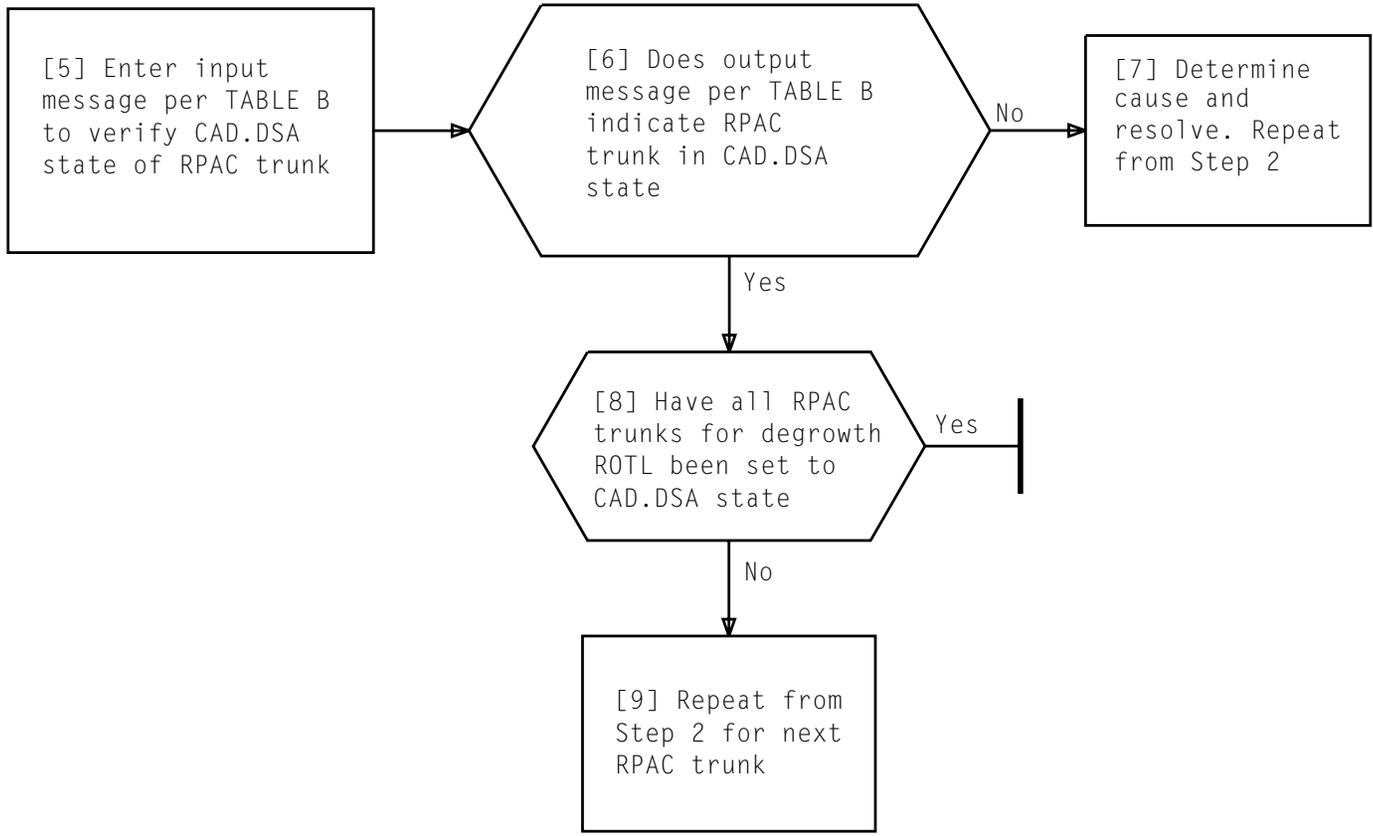


TABLE B	
INPUT MESSAGE	OUTPUT MESSAGE
OP:TRKSTAT,CIN aATM*RPCU!	OP:TRKSTAT CAD.DSA TRAF ,CIN aATM*RPCU OP:TRKSTAT,CIN aATM*RPCU COMPLETED TRK COUNT 1
a = Traffic number of CIN	

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SET DEGROWTH RPAC TRUNKS TO CAD DISABLED STATE AND VERIFY

[1] At 1B MTC terminal, enter message
OP:00SUNITS!

[2] Are any units in TABLE A listed in printout

[3] Enter restore message associated with unit listed [TABLE A]

[4] Was unit restored to service

[5] Determine cause and resolve; repeat from Step 3

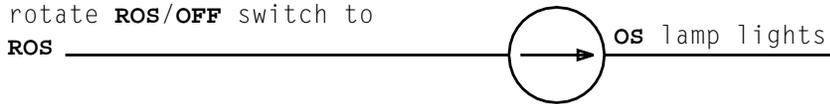
[6] Were more units listed in printout (Step 2)

[7] Repeat from Step 3 for next unit listed

[8] Repeat from Step 1

TABLE A	
UNIT	RESTORE MESSAGE
CC	RST:CC a!
PUB	RST:PUB a!
TSI	RST:TSI a!
TMS	RST:TMS a!
SCLK	RST:SCLK 0!
NCSU	RST:SCLK 0,NCSU 0!
NCLK Chains 0 through 3	RST:NCLK 0,CHAIN a!
a = Member number/chain number listed in printout	

[1] At power switch associated with first unit in TABLE A, rotate **ROS/OFF** switch to



[2] Rotate **ROS/OFF** switch (Step 1) back to normal position

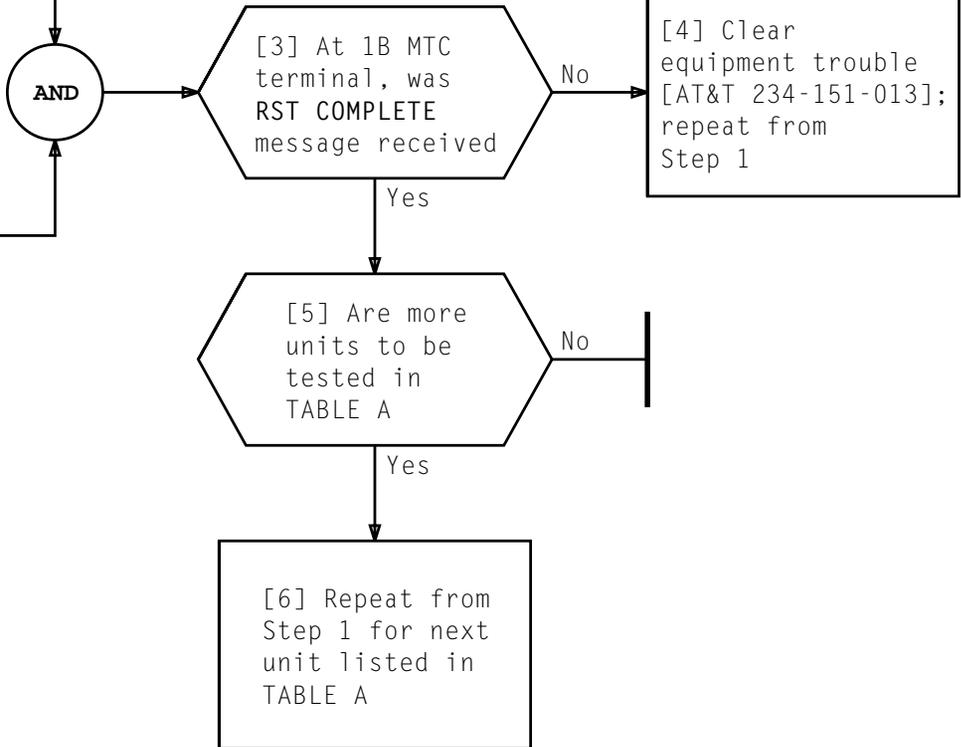


TABLE A	
POWER SWITCH	LOCATION
NCLK CHAIN 3	166-68
NCLK CHAIN 2	166-03
NCLK CHAIN 1	066-68
NCLK CHAIN 0	066-03

[1] At 1B MTC terminal, enter message
VER:UTYPE:SCLK 0!

[2] Using printout and TABLE A,
record ENTRY ADDRESS for
later use

[3] Using printout, FIG. 1 and TABLE A,
convert second and third
leftmost octal digits of
octal word 12 to binary

[4] Record binary bits 17 through
19 for later use

[5] Using printout and TABLE A,
record octal word 16 for
later use

AND

Page 2

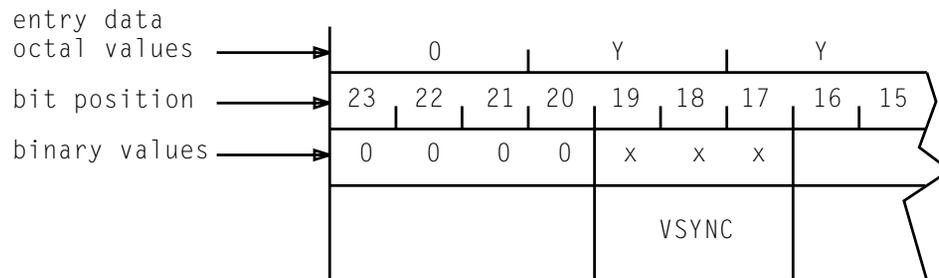
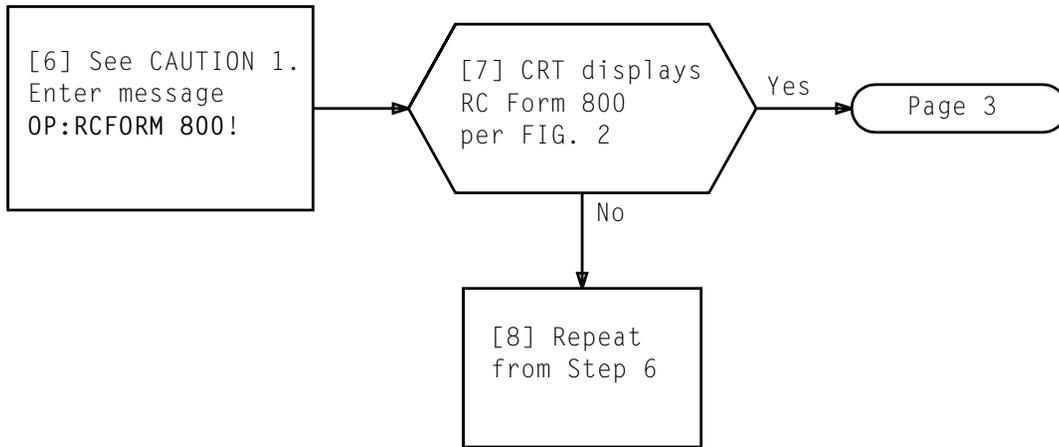


FIG. 1 - Octal Word 12 VSYNC Layout

TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT (),CUR: FLN a, UTYN SCLK, MEMN 0, ME OPER, ENTRY ADDRESS b, ENTRY SIZE 15, CUR WORD 0 _____ _____ WORD 10 _____ (WORD 12) _____ (WORD 16)
a = Floor location number b = Starting octal address for unit-type entry	



```

RC:FUNC;CHG;OPT (ABSOLUTE), ___: FSONLY _ , ADDRESS _____,
ORNU _____,
WORDNO _____,
SIZE __ , DISP __ ,
BINOCT _ ,
NEWDATA _____,
OLDDATA _____,
REMARKS _____!
  
```

FIG. 2 - Blank RC Form 800

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

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[9] Read NOTES 1 and 2. Using terminal and CRT display of RC Form 800, fill in blank fields on RC Form 800 per TABLE B and enter

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TABLE B

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

a = TST
b = N
c = Address recorded in Step 2, Page 1
d = RC order number
e = 10 (decimal)
f = 3
g = 17
h = B
i = 010
j = Binary bits recorded in Step 4, Page 1

NOTES

1. The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**
2. The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

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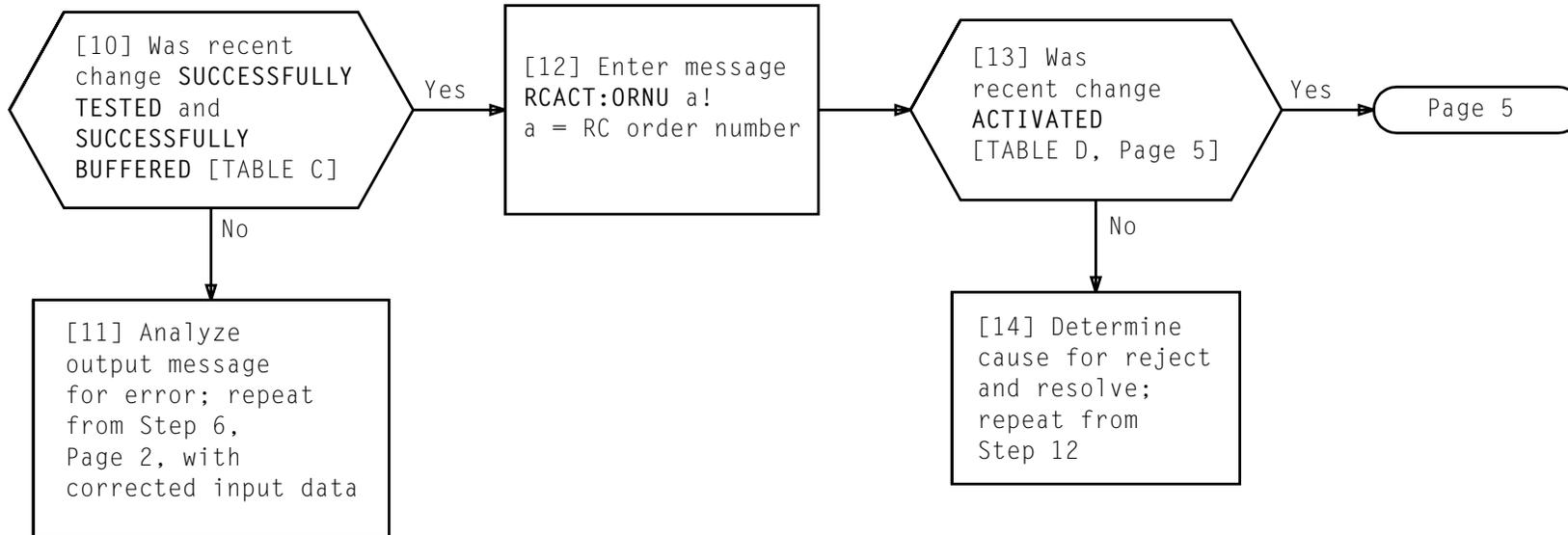


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGES
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(Absolute),BUF: FSONLY N,ADDRESS a, ORNU b, WORDNO 10, SIZE 3, DISP 17, BINOCT B, NEWDATA 010, OLDDATA c, REMARKS !
a = Entered address b = RC Order number c = Entered OLDDATA	

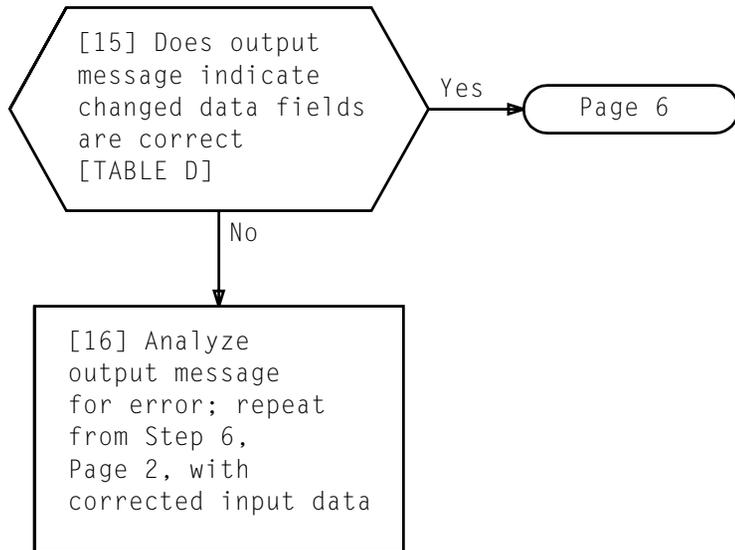
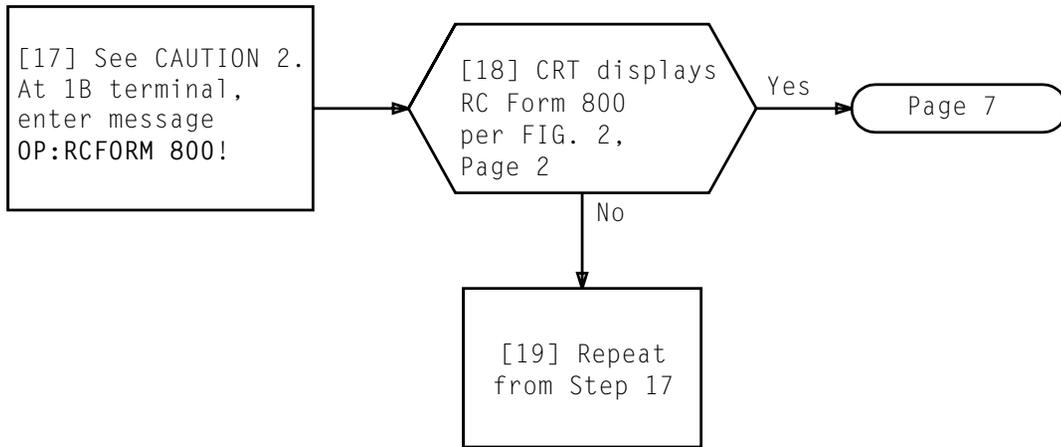


TABLE D	
MESSAGE NUMBER	OUTPUT MESSAGES
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N,ADDRESS a, ORNU b, WORDNO 10, SIZE 3, DISP 17, BINOCT B, NEWDATA 010, OLDDATA c, REMARKS ----- !
a = Entered address b = RC Order number c = Entered OLDDATA	



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

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[20] Read NOTES 3 and 4. Using terminal and CRT display of RC Form 800, fill in blank fields on RC Form 800 per TABLE E and enter

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TABLE E	
MESSAGE NUMBER	INPUT MESSAGE
1	RC:FUNC;CHG;OPT(ABSOLUTE),a: FSONLY b, ADDRESS c, ORNU d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS ----- !
a = TST b = N c = Address recorded in Step 2, Page 1 d = RC order number e = 14 (decimal) f = 24 g = 0 (zero) h = 0 (letter 0) i = 00010000 j = Octal word 16 recorded in Step 5, Page 1	

NOTES

- The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**
- The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

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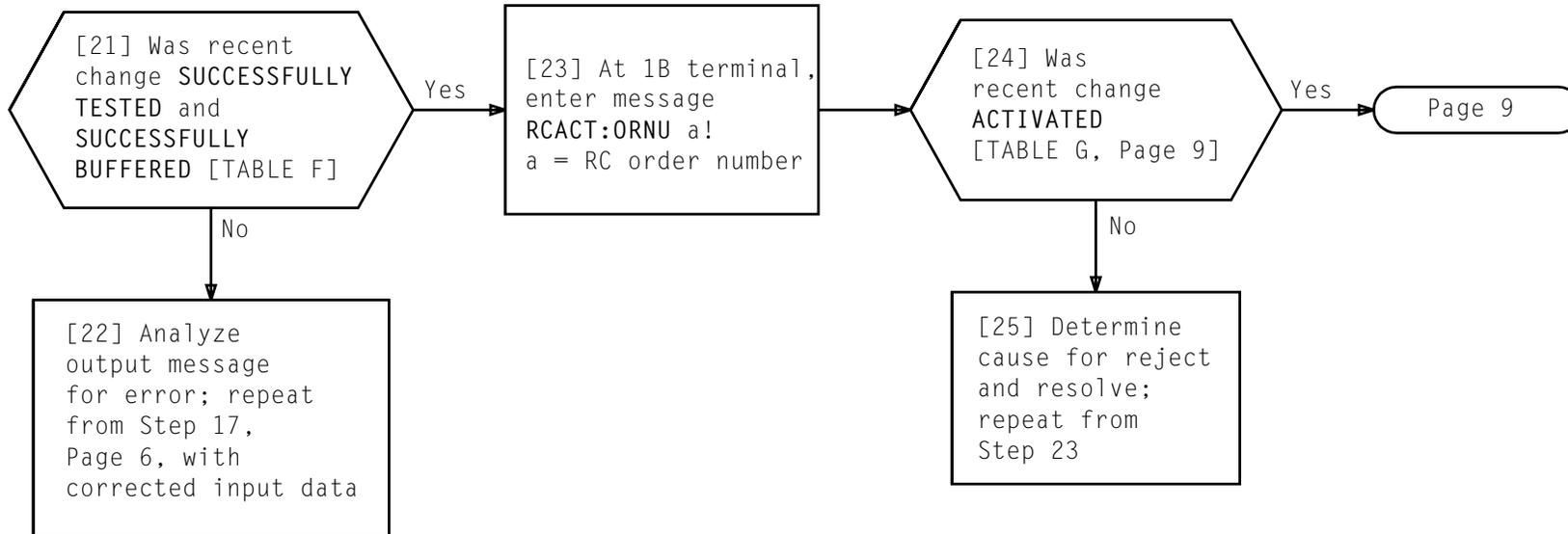
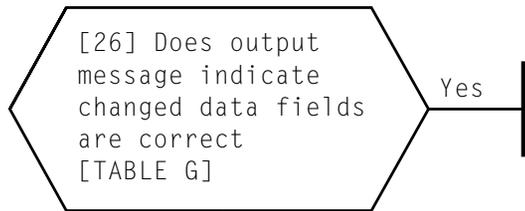


TABLE F	
MESSAGE NUMBER	OUTPUT MESSAGES
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N,ADDRESS a, ORNU b, WORDNO 14, SIZE 24, DISP 0, BINOCT 0, NEWDATA 00010000, OLDDATA c, REMARKS!
a = Entered address b = RC Order number c = Entered OLDDATA	

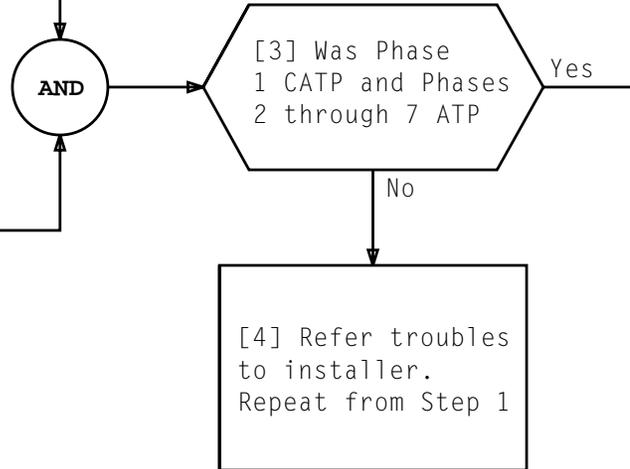


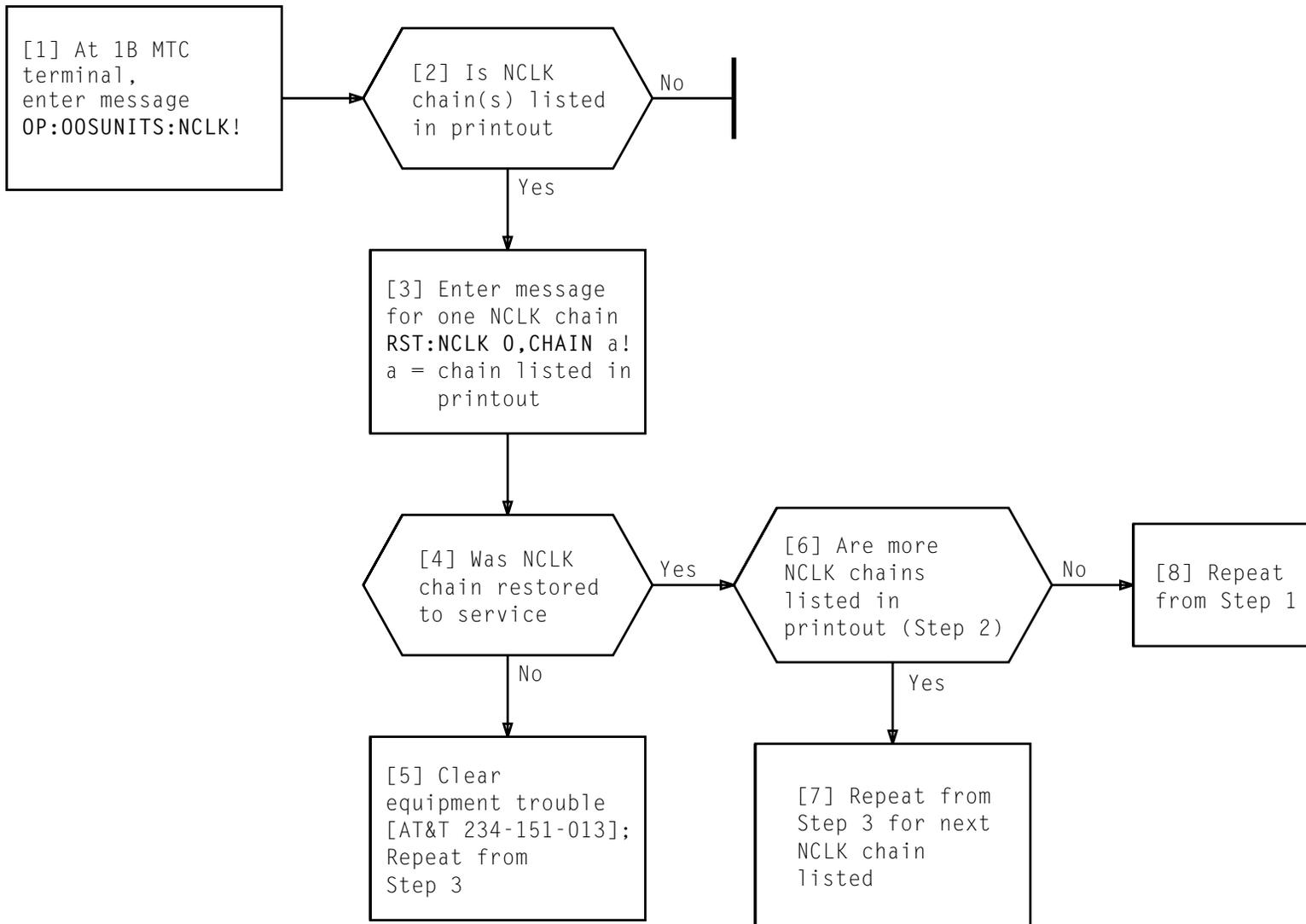
[27] Analyze output message for error; repeat from Step 17, Page 6, with corrected input data

TABLE G	
MESSAGE NUMBER	OUTPUT MESSAGES
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N,ADDRESS a, ORNU b, WORDNO 14, SIZE 24, DISP 0, BINOCT 0, NEWDATA 00010000, OLDDATA c, REMARKS ----- !
a = Entered address b = RC Order number c = Entered OLDDATA	

[1] At 1B MTC terminal, enter message
DGN:SCLK 0,NCSU 0:PH 1-7!

[2] Observe printout for
diagnostic failures



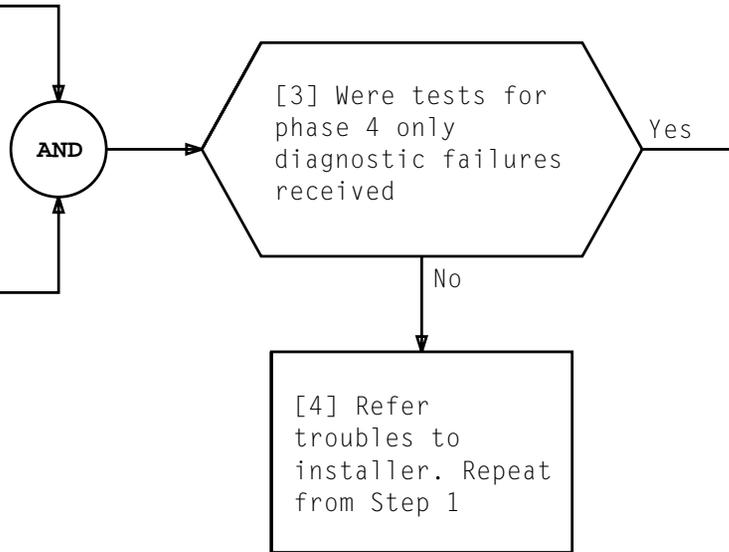


VERIFY NCLK CHAINS ARE IN-SERVICE

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[1] At 1B MTC terminal, enter message
DGN:NCLK 0,CHAIN a;RAW!
a = DRO number being
exchanged

[2] Observe printout for
diagnostic failures



DIAGNOSE NCLK CHAIN BEING EXCHANGED

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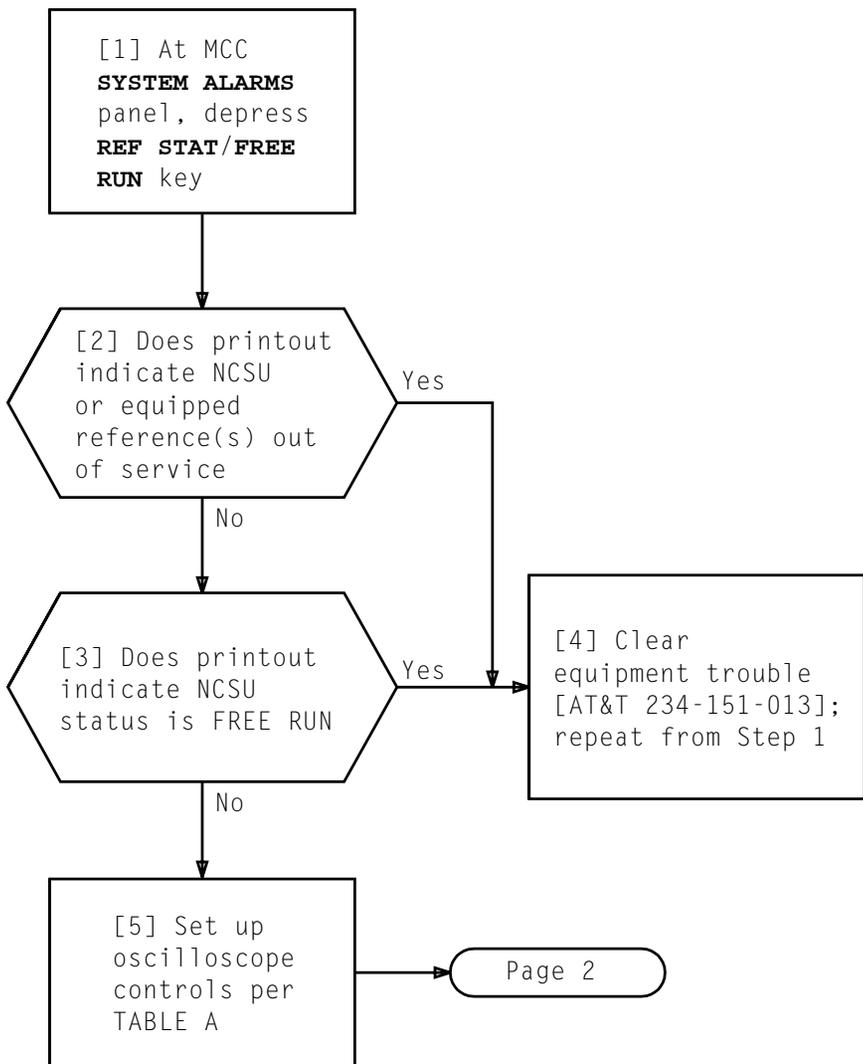


TABLE A	
CONTROLS	SETTINGS
Channel 1 sensitivity*	2 volts/div
Vertical input	Channel 1
Trigger	Internal and norm or channel 1
Timebase	.1 or .2 μ s/div
Vertical and horizontal coupling	DC
*Scope probe must be connected to vertical channel 1	

[6] At terminal block 052-03,
attach probe ground to pin 090
and scope probe to pin 091

[7] See FIG. 1. Observe waveform
for symmetry and amplitude
[NOTES 1 and 2]

[10] At terminal block 052-03, move
probe ground to pin 092 and
scope probe to pin 093

[11] See FIG. 1. Observe waveform
for symmetry and amplitude
[NOTES 1 and 2]

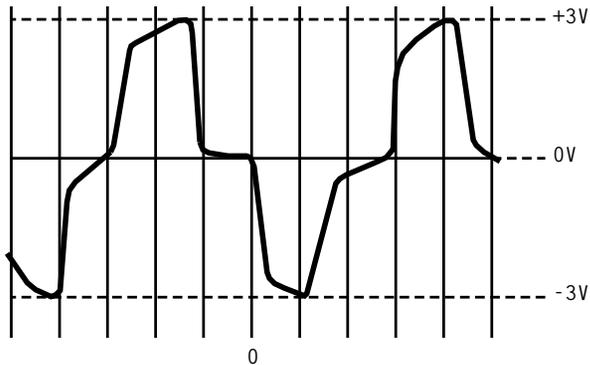
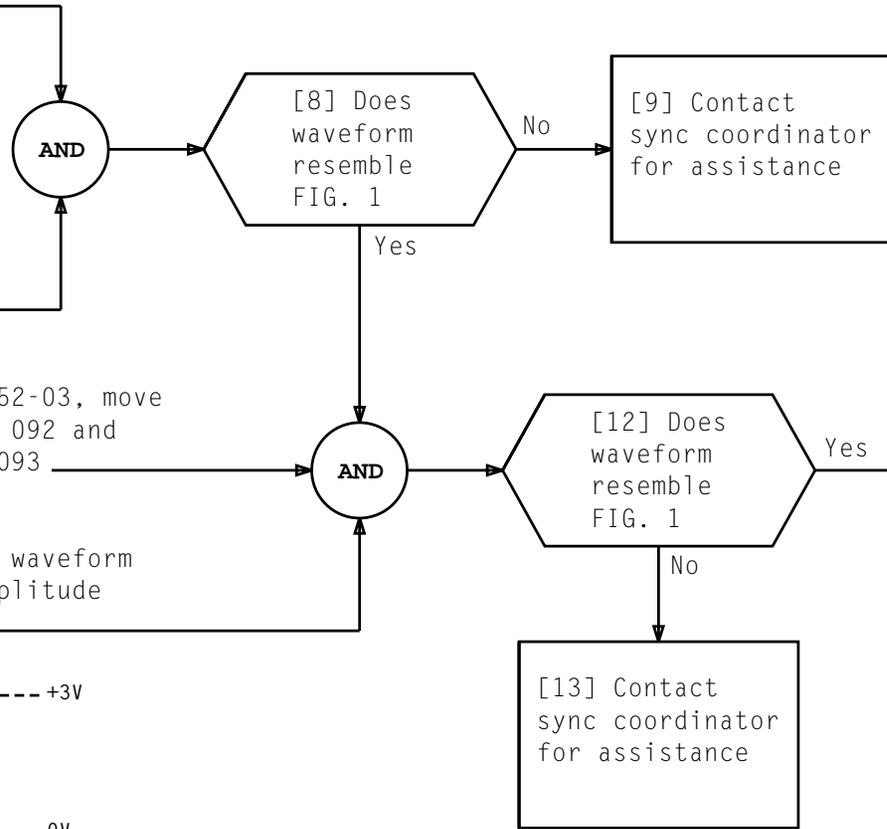


FIG. 1 - Typical DS1 Sync Reference Signal
Vert = 2V/DIV, Horiz = 0.1 μ s/DIV

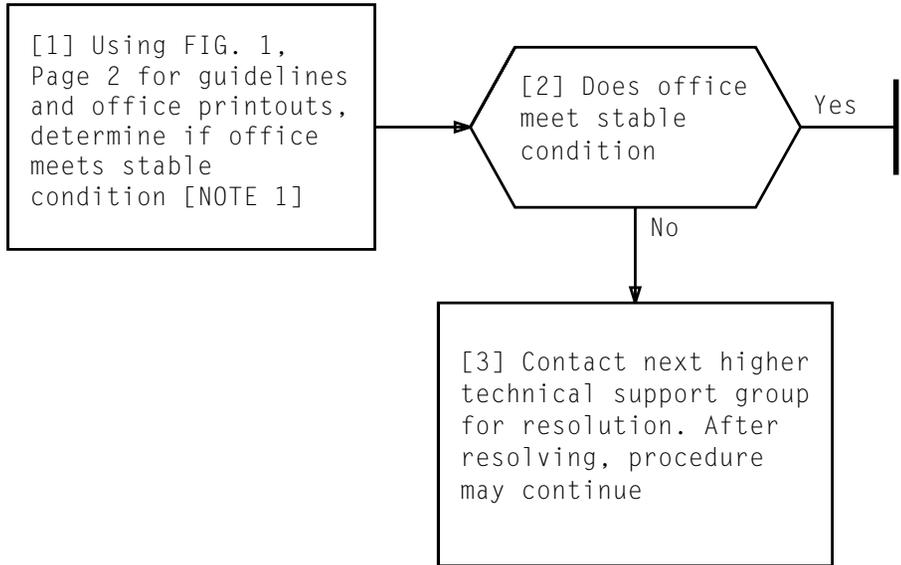


NOTES

1. Symmetry may vary slightly depending on cable lengths and grounding conditions
2. Amplitude limits are 3.5V p-p minimum and 8V p-p maximum

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CHECK DS1 SYNC REFERENCE SIGNAL LEVEL



DETERMINE IF OFFICE IS STABLE

NOTE 1	
FIG. 1 is based on 7-day rolling average for all per-day measures; all other measures are as indicated. All resolved troubles are discounted from measures	
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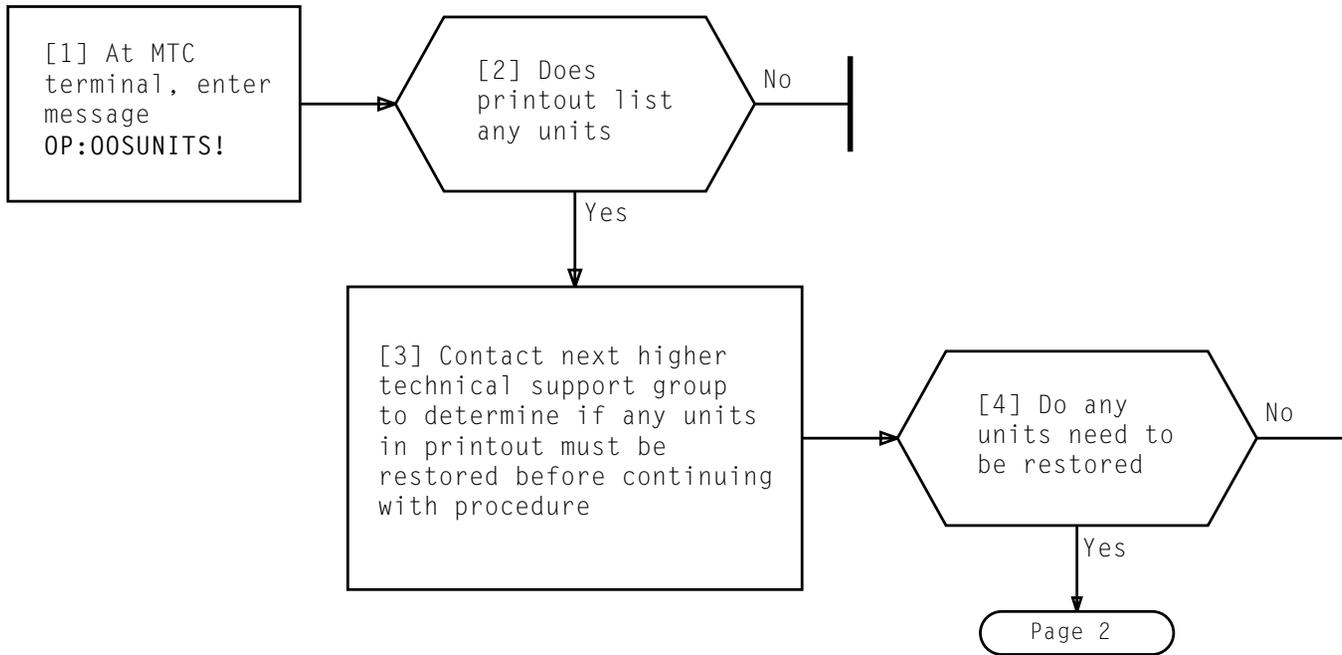
- INTERRUPTS
 - 1B PROCESSOR ≤ 1 PER MEMBER NUMBER PER DAY
≤ 3 PER DAY TOTAL
 - TMS, NC, PUB, IO, CCIS ≤ 2 PER MEMBER NUMBER PER DAY
≤ 4 PER DAY TOTAL
 - PERIPHERY, PER OPERATIONAL SP CORE (SP, DT, TSI) OR DIF (DIF, TSI COMPLEX) (THE ALLOWABLE DAILY INTERRUPT COUNT SHALL NOT EXCEED 25, REGARDLESS OF OFFICE SIZE) ≤ 3 PER DAY
 - PBFRs ≤ 1 PER DAY
- INTERJECTS ≤ 2 PER MEMBER NUMBER PER DAY
≤ 5 PER DAY TOTAL
- BASE LEVEL
ANALYZED, CORRECTED AND/OR UNDERSTOOD
- PHASES/DUPLEX FAILURES
 - DIRECTED PHASE 1 ≤ 1 IN 2 WEEKS
 - SYSTEM PHASE 1 ≤ 1 IN 1 WEEK
 - PHASE 2 OR 3 ≤ 1 IN 4 WEEKS
 - DT, VIF, OR EST ≤ 1 IN 4 WEEKS
 - TGR/TER LINK PAIR ≤ 1 IN 2 WEEKS
- OUT-OF-SERVICE UNITS ≤ 5 AT ANYTIME
 - NUMBER OUT-OF-SERVICE
 - CRITICAL UNITS:

CC	DIF	PS	TMS
CS	LN	PUB	TSI
CU	NCLK	SP	
- 3B COMPUTER
 - INTERRUPTS ≤ 3 PER DAY
 - PHASE 1 ≤ 1 IN 4 WEEKS
 - PHASE 2 OR 3 ≤ 1 IN 4 WEEKS
 - CNI RING INIT ≤ 1 IN 2 WEEKS
 - CNI RING TRANSPORT ERRORS ≤ 2 PER DAY
 - DLNE ERRORS ≤ 1 PER DAY

FIG. 1 - Office Stability Guidelines

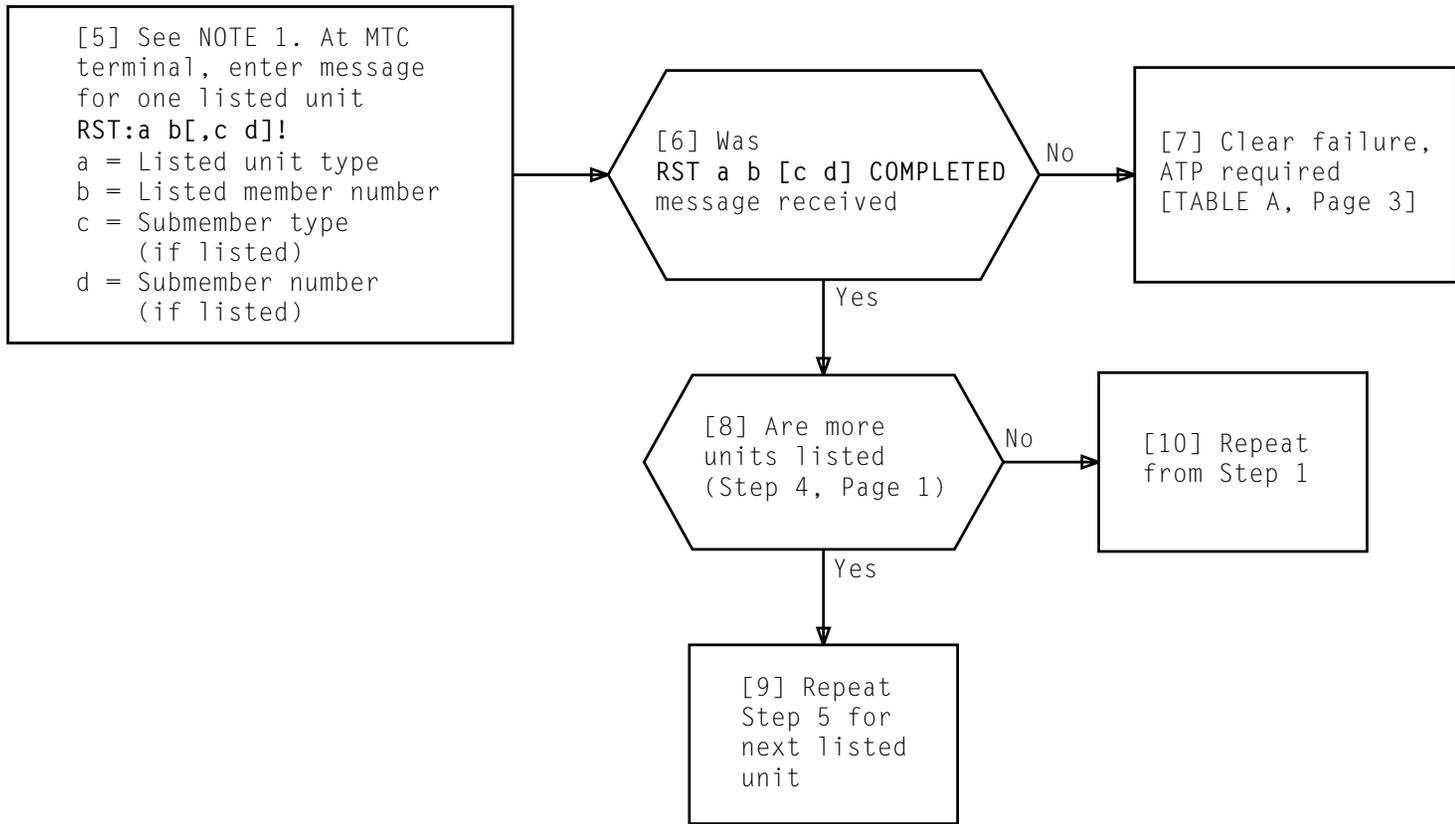
DETERMINE IF OFFICE IS STABLE

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ENSURE ALL UNITS ARE IN-SERVICE

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NOTE 1	
Variables c and d are only to be used if submember is listed	
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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	MFS	234-151-041
	254-301-813	MISC A, B, C	234-151-043
3B Computer Model 2/3	254-302-812	NCLK	234-151-013
ADS (TUC and DUS)	234-351-010	PCDF J5A007B	234-351-025
API	234-351-016	PCDF J5A007C	234-351-026
AUB	234-351-010	PUBB	234-151-015
CNI	234-151-120	SCS	234-151-077
DIF	234-151-055	SP1	234-151-031
DT	234-151-045	SP2	234-151-032
EST	234-151-050	TGR	234-151-033
IO J5A006A	234-351-020	TMS	234-151-011
IO J5A006C	234-351-021	TSI	234-151-012
IO J5A006D	234-351-022	VIF	234-151-025

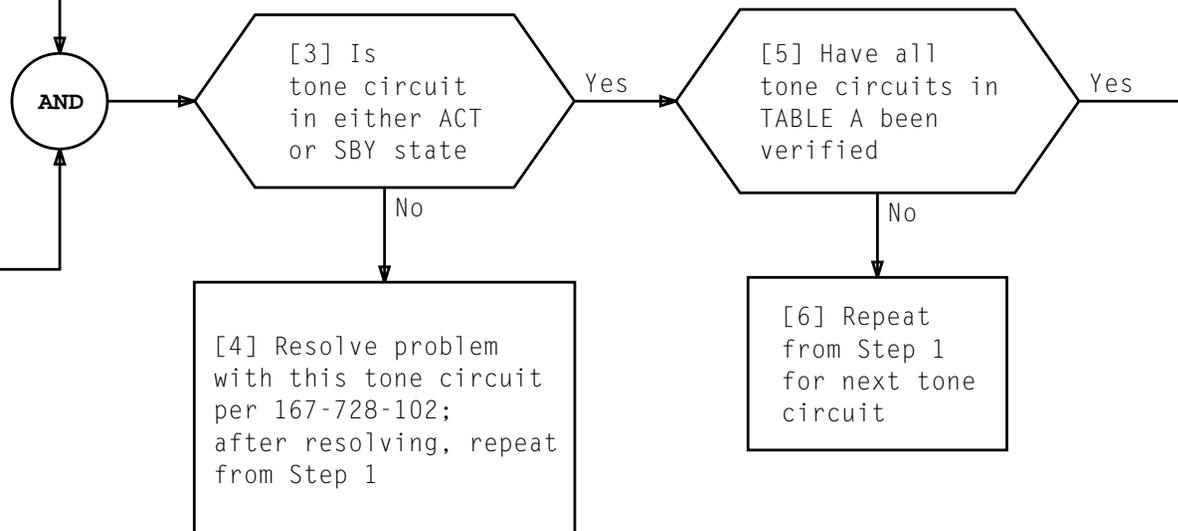
ENSURE ALL UNITS ARE IN-SERVICE

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[1] At 1B MTC terminal, enter one message from TABLE A

[2] Using printout and FIG. 1, determine what state tone circuit is in _____

TABLE A	
MESSAGE NUMBER	INPUT MESSAGES
1	OP:TONESTAT,BT60 0!
2	OP:TONESTAT,BT60 1!
3	OP:TONESTAT,BT120 0!
4	OP:TONESTAT,BT120 1!
5	OP:TONESTAT,AR 0!
6	OP:TONESTAT,AR 1!
7	OP:TONESTAT,TPT 0!
8	OP:TONESTAT,TPT 1!



STATE OF TONE CIRCUIT

OP:TONESTAT BT60 0 CIN OTAS* TONE *** (SBY) COMPL

FIG. 1 - Example of OP:TONESTAT Printout

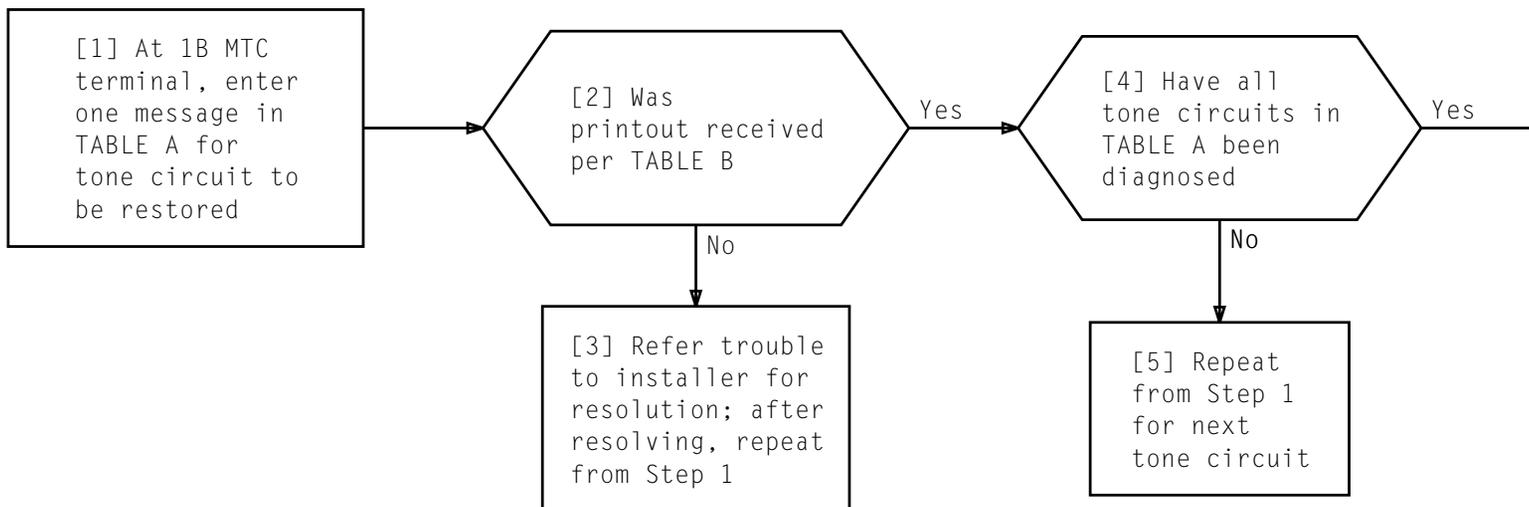


TABLE A	
MESSAGE NUMBER	INPUT MESSAGES
1	RST:TONE,BT60 a!
2	RST:TONE,BT120 a!
3	RST:TONE,AR a!
4	RST:TONE,TPT a!
a = Side that was removed (0 or 1)	

TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RST:TONE a b SBY COMPL REPT:CIN c ;MAN :STAT ACT:
a = Tone circuit (BT60, BT120, AR, or TPT) b = Side that was removed (0 or 1) c = CIN of tone circuit	

RESTORE TONE CIRCUITS

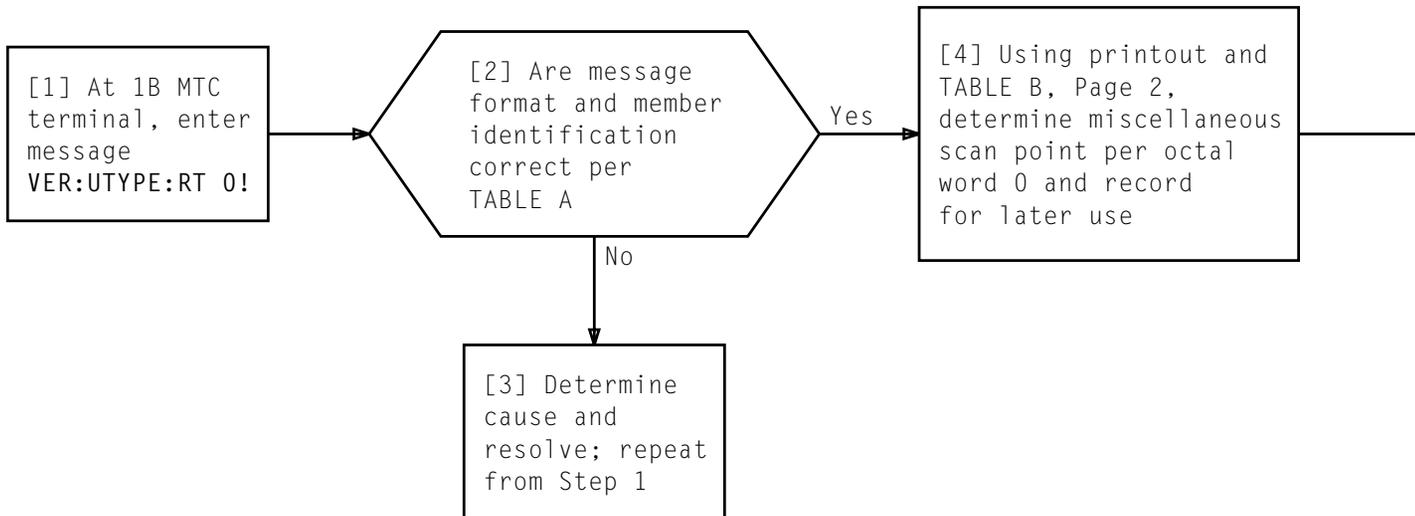


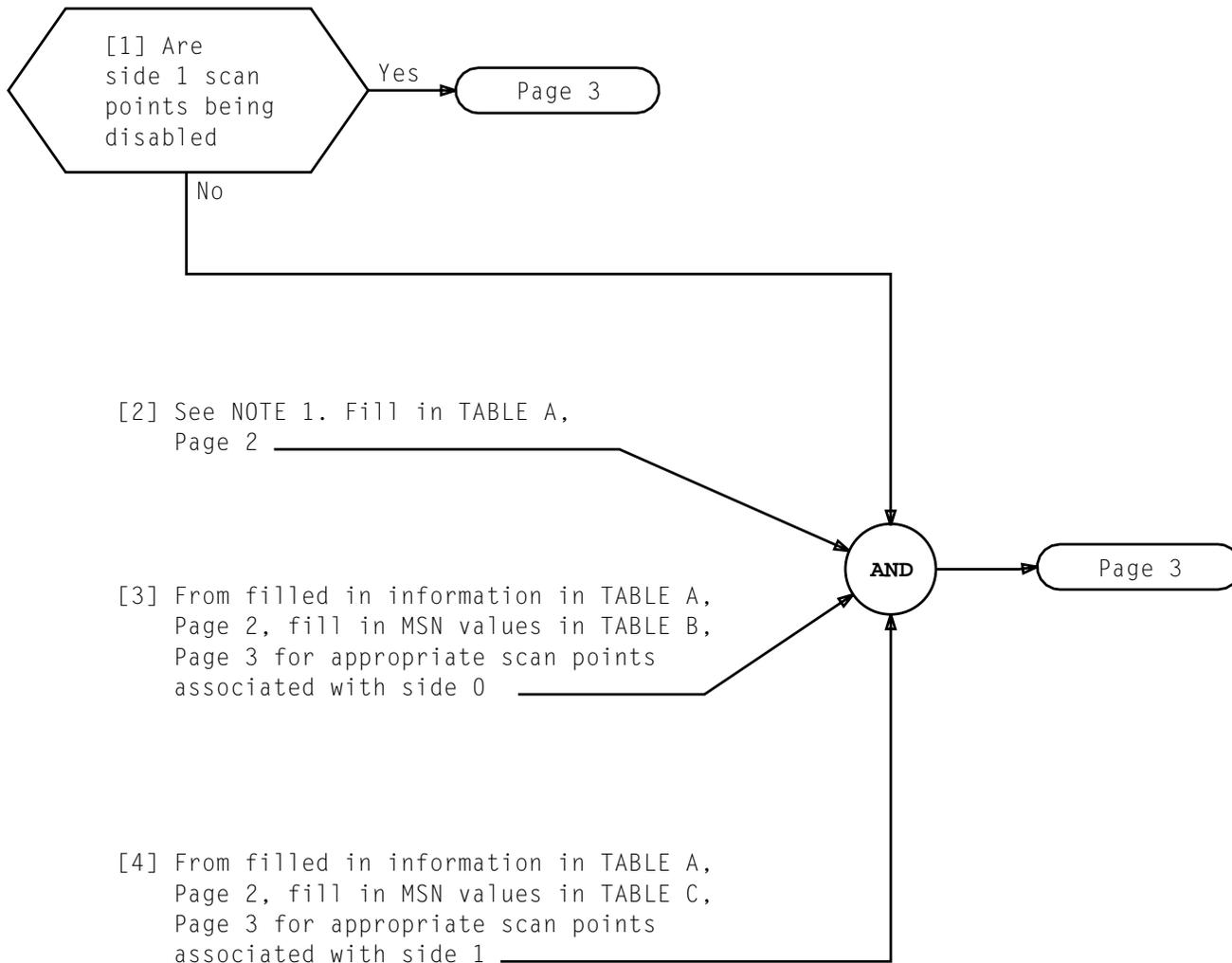
TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN RT, MEMN 0, ME OPER, ENTRY ADDRESS b, ENTRY SIZE 12, CUR WORD 0 (WORD 0) _____ _____ WORD 10 _____ _____
a = Floor location number b = Starting octal address for unit-type entry	

DETERMINE BASE MISCELLANEOUS SCAN POINT

TABLE B

UT ENTRY DATA AND WORD CONFIGURATION

ENTRY WORD (OCTAL)																												
0	entry data	6						0						Y			Y			Y			Y			Y		
	octal output																											
	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	1	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					SP ROW NUMBER						SP COLUMN NUMBER								
	BASE MISCELLANEOUS SCAN NUMBER																											
<p>X...X = Converts to decimal SP info as reflected in office record drawing T-nnnn-Hn-461 or equivalent</p> <p>Y = Octal Base Miscellaneous Scan Point that is to be recorded for later use</p>																												



NOTE 1	
TABLE A, Page 2 is to be filled in by adding octal 1 to previous MSN, starting with base MSN recorded earlier	
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TABLE A							
SCAN POINT	SIDE	MSN*	MSN PLUS OCTAL 1	SCAN POINT	SIDE	MSN*	MSN PLUS OCTAL 1
0	0		--	14	0	--	
1	0	--		15	1	--	
2	0	--		16	0	--	
3	0	--		17	1	--	
4	0	--		18	0	--	
5	0	--		19	1	--	
6	1	--		20	0	--	
7	1	--		21	1	--	
8	1	--		22	0	--	
9	1	--		23	0	--	
10	1	--		24	0	--	
11	1	--		25	0	--	
12	0	--		26	1	--	
13	1	--		27	1	--	
<p>* Enter base MSN recorded earlier in MSN column for scan point 0. Add octal 1 to base MSN and enter that value in MSN plus octal 1 column for scan point 1. Add octal 1 to value entered for scan point 1 and enter that value for scan point 2, and so on</p>							

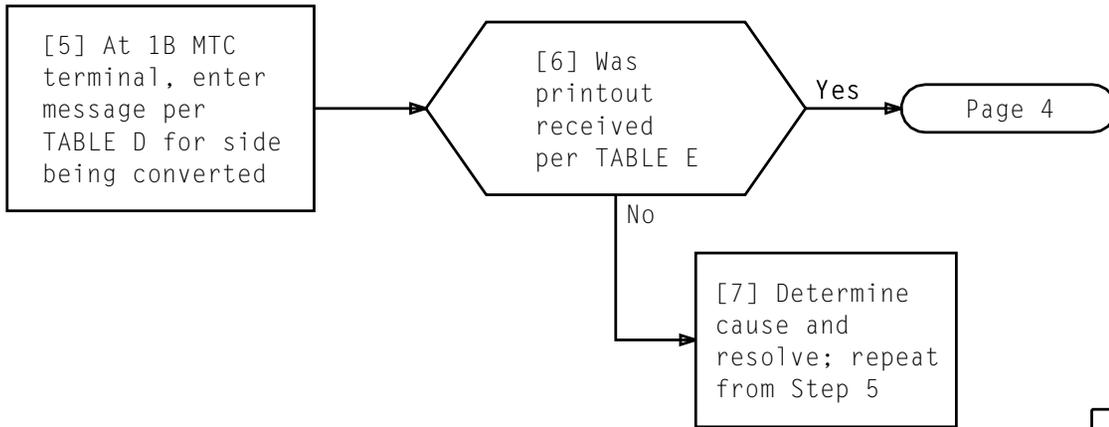


TABLE D	
MESSAGE NUMBER	INPUT MESSAGE
1	ORD:TBITS;IGNORE:MSN 0'aaaaaa!
aaaaaa = One MSN from TABLE B for side 0 or TABLE C for side 1	

TABLE E	
MESSAGE NUMBER	OUTPUT MESSAGE
1	ORD:TBITS;IGNORE:MSN xxxxxxxx, , COMPLETED

TABLE B - SIDE 0			
SCAN POINT	MSN	SCAN POINT	MSN
0		16	
1		18	
2		20	
3		22	
4		23	
5		24	
12		25	
14			

TABLE C - SIDE 1			
SCAN POINT	MSN	SCAN POINT	MSN
6		15	
7		17	
8		19	
9		21	
10		26	
11		27	
13			

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[8] Enter message
 ORD:TBITS;READ:MSN 0'aaaaaa!
 aaaaaa = Same MSN entered in
 Step 5, Page 3

[9] Using printout and TABLE F,
 determine if 40 or 41 is
 listed

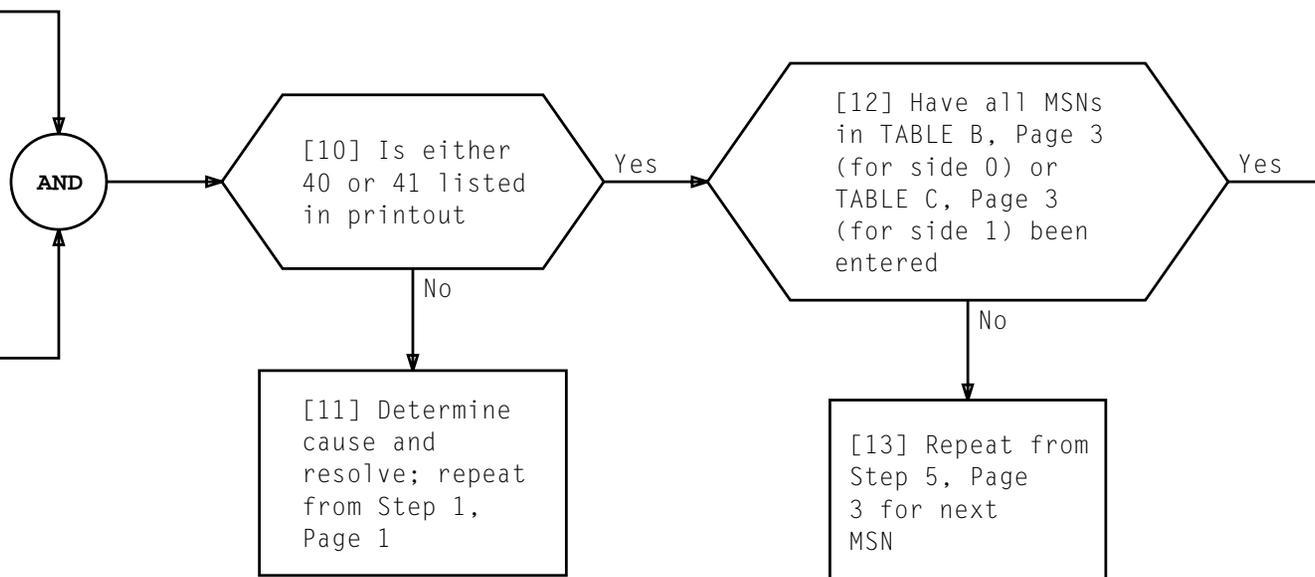


TABLE F	
MESSAGE NUMBER	OUTPUT MESSAGE
1	ORD:TBITS;READ:MSN 0'xxxxxxx, , COMPLETED a
a = 40 or 41	

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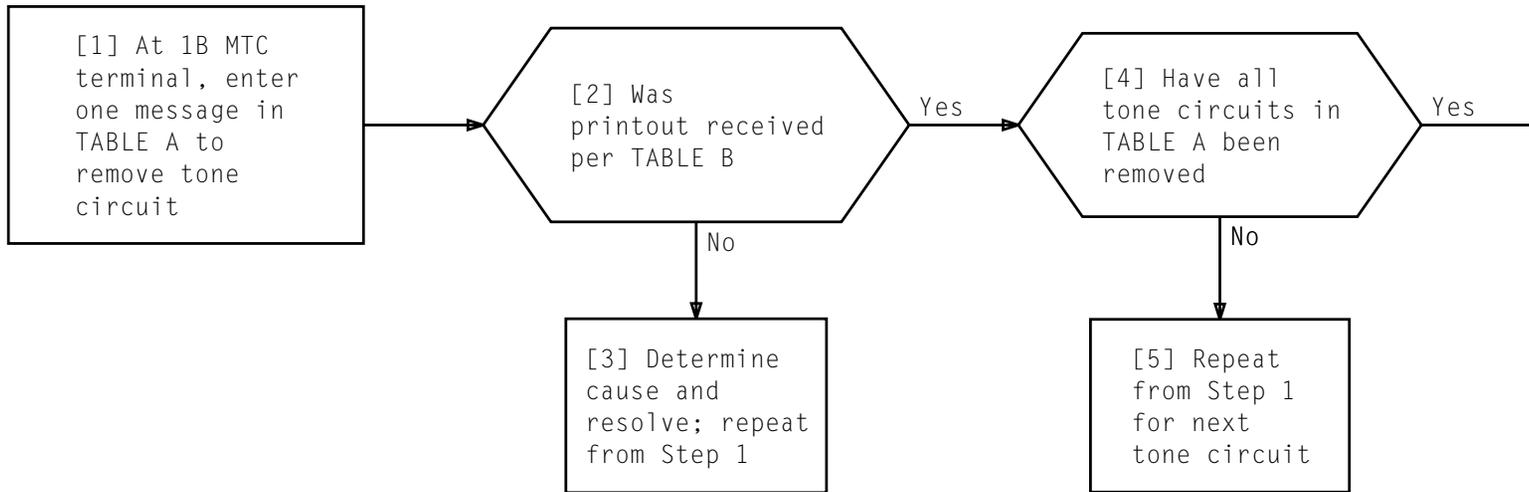


TABLE A	
MESSAGE NUMBER	INPUT MESSAGES
1	RMV:TONE,BT60 a!
2	RMV:TONE,BT120 a!
3	RMV:TONE,AR a!
4	RMV:TONE,TPT a!
a = Side being removed from service (0 or 1)	

TABLE B	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RMV:TONE a b CIN c COMPLETED MATE ACT REPT:CIN c ;MAN :STAT MTC:
a = Tone circuit (BT60, BT120, AR, or TPT) b = Side being removed (0 or 1) c = CIN of tone circuit	

[1] Obtain the MSN values from DLP-597
for scan points disabled earlier

[2] At 1B MTC terminal, enter message
ORD:TBITS;NORM:MSN 0'aaaaaa!
aaaaaa = MSN for one scan point
disabled earlier

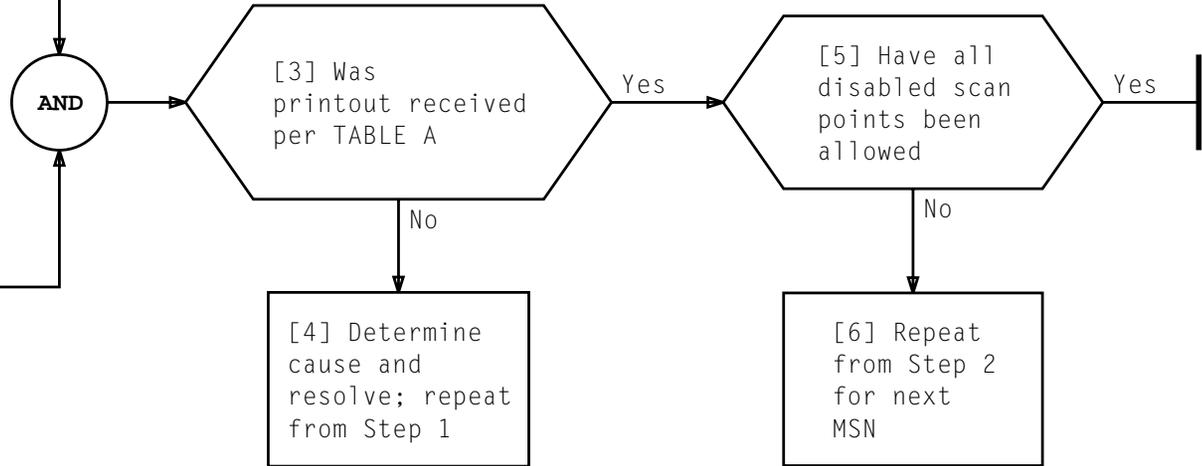


TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	ORD:TBITS;NORM:MSN xxxxxxx, , COMPLETED

ALLOW SCAN POINTS THAT WERE DISABLED EARLIER

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[1] At 1B MTC terminal, enter one message from TABLE A

[2] Using printout and FIG. 1, determine what state tone circuit is in _____

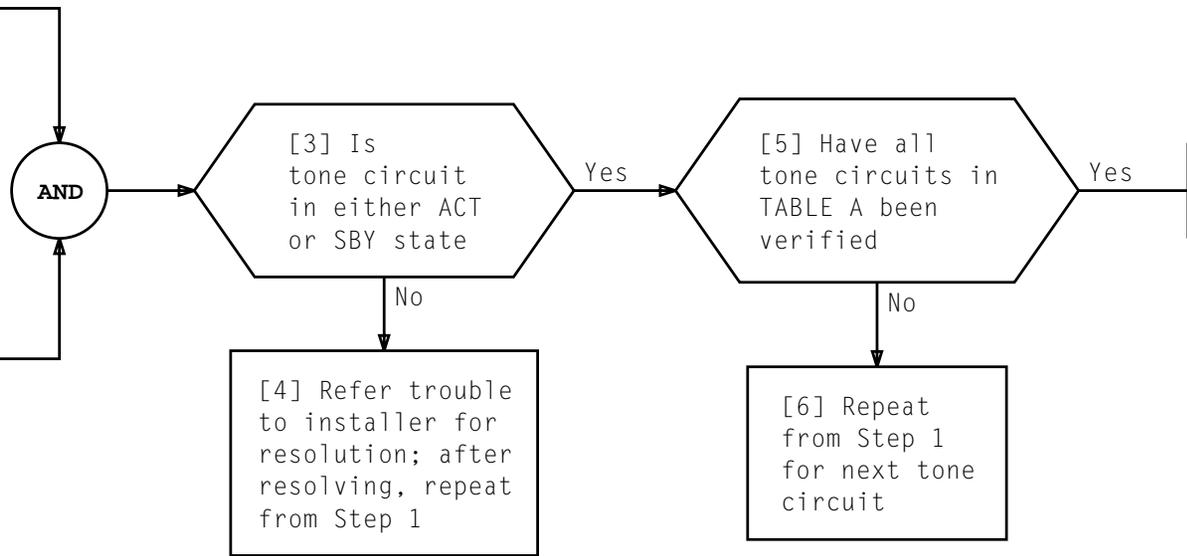


TABLE A	
MESSAGE NUMBER	INPUT MESSAGES
1	OP:TONESTAT,BT60 a!
2	OP:TONESTAT,BT120 a!
3	OP:TONESTAT,AR a!
4	OP:TONESTAT,TPT a!
a = Side number (0 or 1)	

STATE OF TONE CIRCUIT

OP:TONESTAT BT60 0 CIN OTAS* TONE *** SBY COMPL

FIG. 1 - Example of OP:TONESTAT Printout

[1] Using office floor plan drawing, determine decimal Frame Lineup Number and Frame Number

[2] At 1B MTC terminal, enter message VER:UTYPE:RT 0!

[3] Using printout and TABLE A, record ENTRY ADDRESS for later use

[4] Using printout and TABLE A, record octal word 1 for use as OLDDATA

[5] Convert information determined in Step 1 to octal per FIG. 1 and record for later use

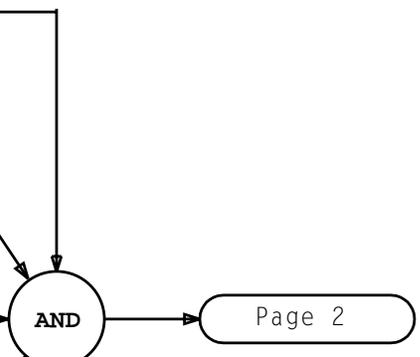


TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT (),CUR: FLN a, UTYN RT, MEMN 0, ME OPER, ENTRY ADDRESS b, ENTRY SIZE 12, CUR WORD 0 _____ (WORD 1) _____ _____ WORD 10 _____ _____
a = Floor location number b = Starting octal address for unit-type entry	

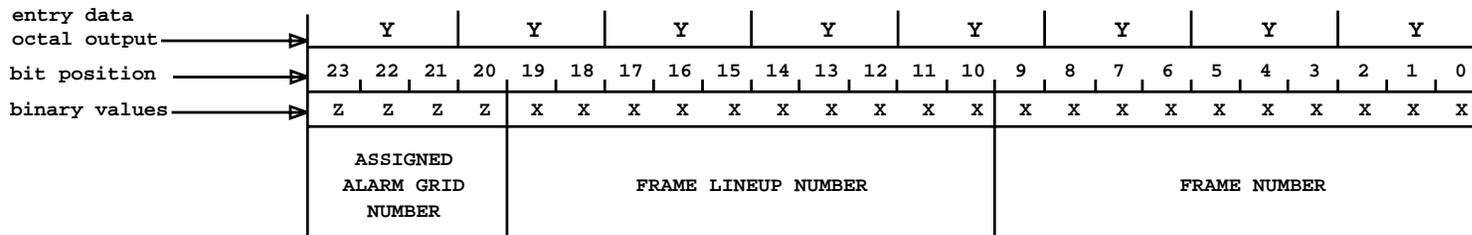
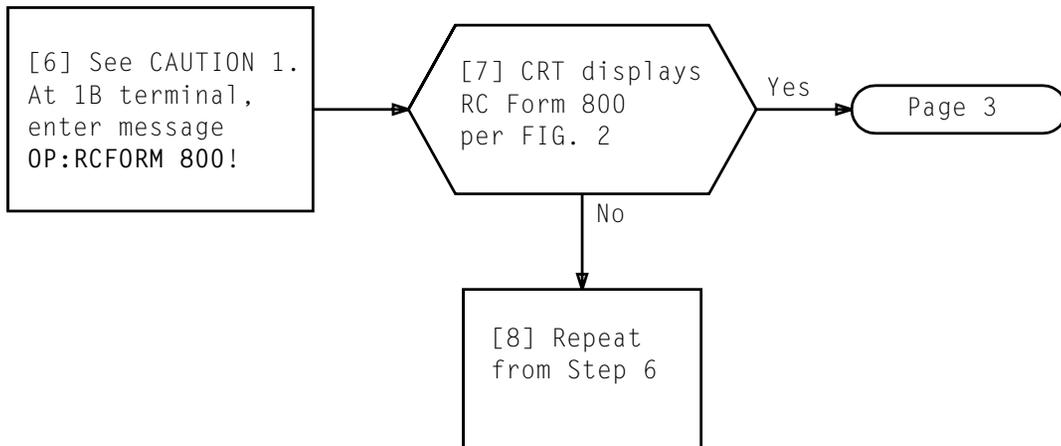


FIG. 1 - Octal Word 1 Layout

RECENT FRAME LOCATION INFORMATION

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```

RC:FUNC;CHG;OPT (ABSOLUTE), ___: FSONLY _ , ADDRESS _____,
ORNU _____,
WORDNO _____,
SIZE __ , DISP __ ,
BINOCT _ ,
NEWDATA _____,
OLDDATA _____,
REMARKS _____ !
  
```

FIG. 2 - Blank RC Form 800

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

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[9] Read NOTES 1 and 2. Using terminal and CRT display of RC Form 800, fill in blank fields on RC Form 800 per TABLE B and enter

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TABLE B	
MESSAGE NUMBER	INPUT MESSAGE
1	RC:FUNC;CHG;OPT(ABSOLUTE),a: FSONLY b, ADDRESS c, ORNU d, WORDNO e, SIZE f, DISP g, BINOCT h, NEWDATA i, OLDDATA j, REMARKS ----- !
a = TST b = N c = Address recorded in Step 3, Page 1 d = RC order number e = 1 f = 24 g = 0 (Zero) h = 0 (Capital Letter O) i = Octal data recorded in Step 5, Page 1 j = Octal data recorded in Step 4, Page 1	

NOTES

1. The quantity of binary bits to be entered as **NEWDATA** must be equal to decimal number entered as **SIZE**
2. The quantity of binary bits to be entered as **OLDDATA** must be equal to quantity of bits entered as **NEWDATA**

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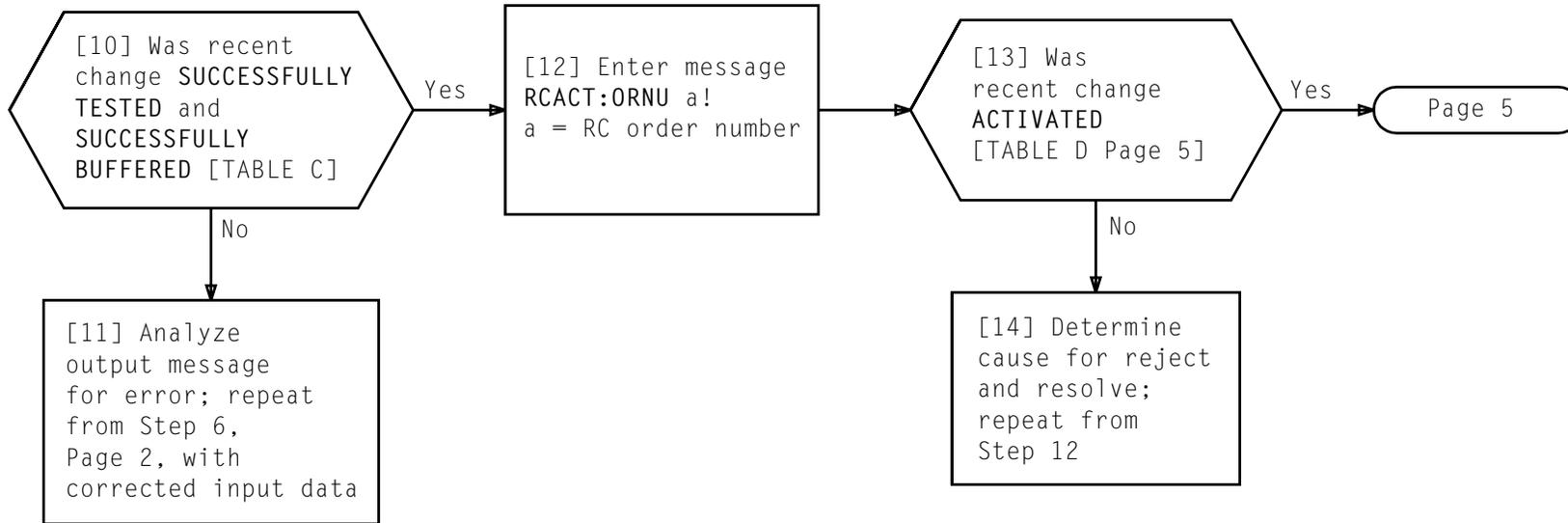


TABLE C	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a SUCCESSFULLY TESTED RC ORNU a SUCCESSFULLY BUFFERED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N,ADDRESS a, ORNU b, WORDNO 1, SIZE 24, DISP 0, BINOCT 0, NEWDATA c, OLDDATA d, REMARKS !
a = Entered address b = RC Order number c = Entered NEWDATA d = Entered OLDDATA	

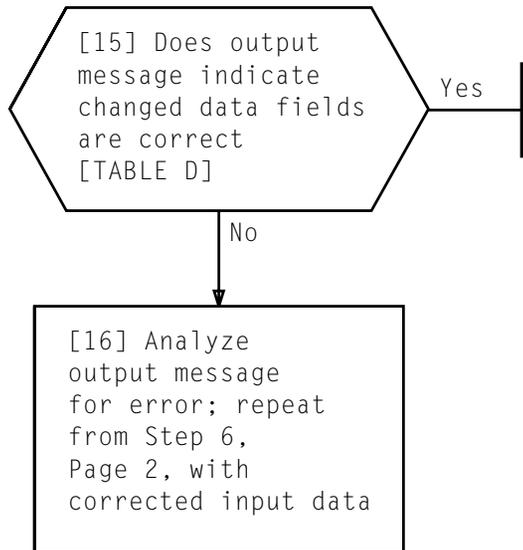


TABLE D	
MESSAGE NUMBER	OUTPUT MESSAGE
1	RC ORNU a ACTIVATED RC:FUNC;CHG;OPT(ABSOLUTE),BUF: FSONLY N,ADDRESS a, ORNU b, WORDNO 1, SIZE 24, DISP 0, BINOCT 0, NEWDATA c, OLDDATA d, REMARKS !
a = Entered address b = RC Order number c = Entered NEWDATA d = Entered OLDDATA	

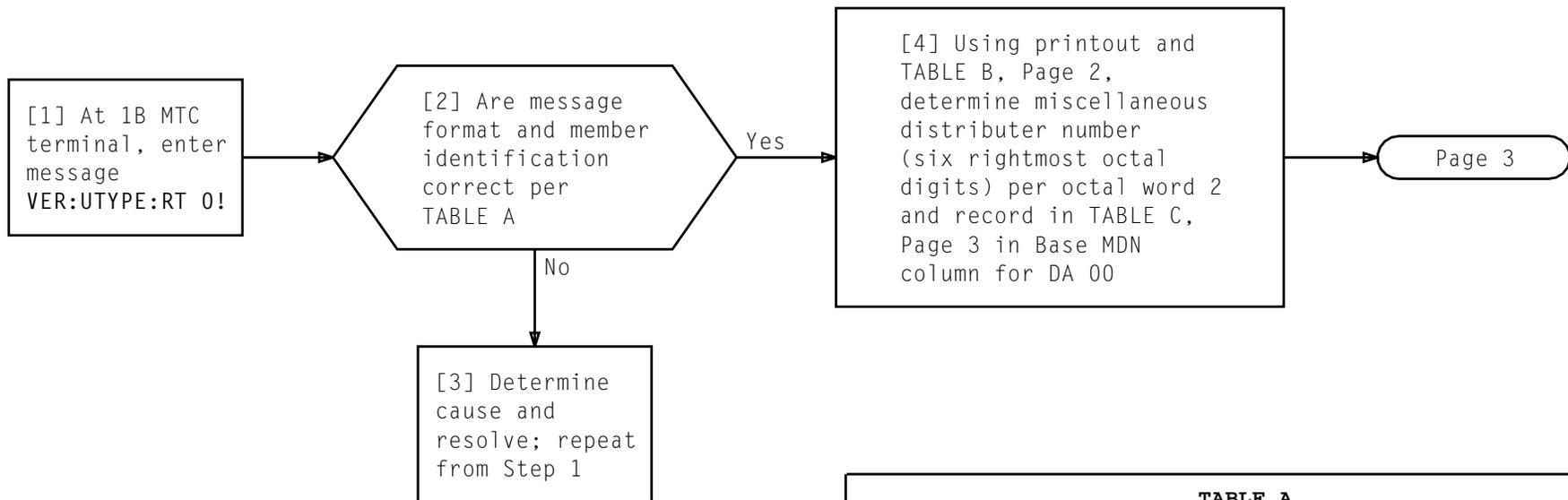


TABLE A	
MESSAGE NUMBER	OUTPUT MESSAGE
1	VER:UTMN;OPT(),CUR: FLN a, UTYN RT, MEMN 0, ME OPER, ENTRY ADDRESS b, ENTRY SIZE 12, CUR WORD 0 _____ _____ (WORD 2) _____ WORD 10 _____ _____ _____ _____
a = Floor location number b = Starting octal address for unit-type entry	

TABLE B

ENTRY WORD (OCTAL)		UT ENTRY DATA AND WORD CONFIGURATION																							
2	entry data	0	0	Y	Y	Y	Y	Y	Y																
	octal output																								
	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				SP ROW NUMBER				SP COLUMN NUMBER								
		BASE MDN POINT																							

Y = Octal Base MDN Point
To Be Recorded

[5] Add octal 1 to MDN value recorded in TABLE C for DA 00 and record the results in MDN column for DA 01

[6] Add octal 1 to MDN value recorded in TABLE C for DA 01 and record the results in MDN column for DA 02

[7] At 1B MTC terminal, enter message
ORD:SD;READ:MDN 0'a!
a = One MDN value in TABLE C

[8] Using printout and TABLE D, determine if 0 was received

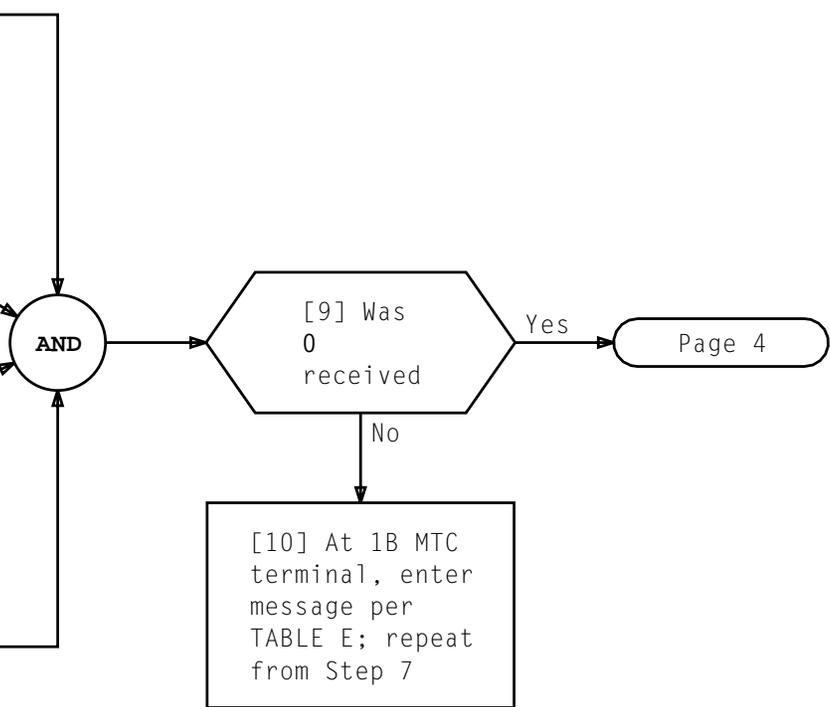


TABLE C	
DA	MDN VALUE*
00	
01	
02	
* Leading zeroes are not required	

TABLE D	
MESSAGE NUMBER	OUTPUT MESSAGE
1	ORD:SD;READ:MDN 0'nnnnnnn, , COMPLETED 0

TABLE E	
MESSAGE NUMBER	INPUT MESSAGE
1	ORD:SD;RLS:MDN 0'a!
a = MDN value entered in Step 7	

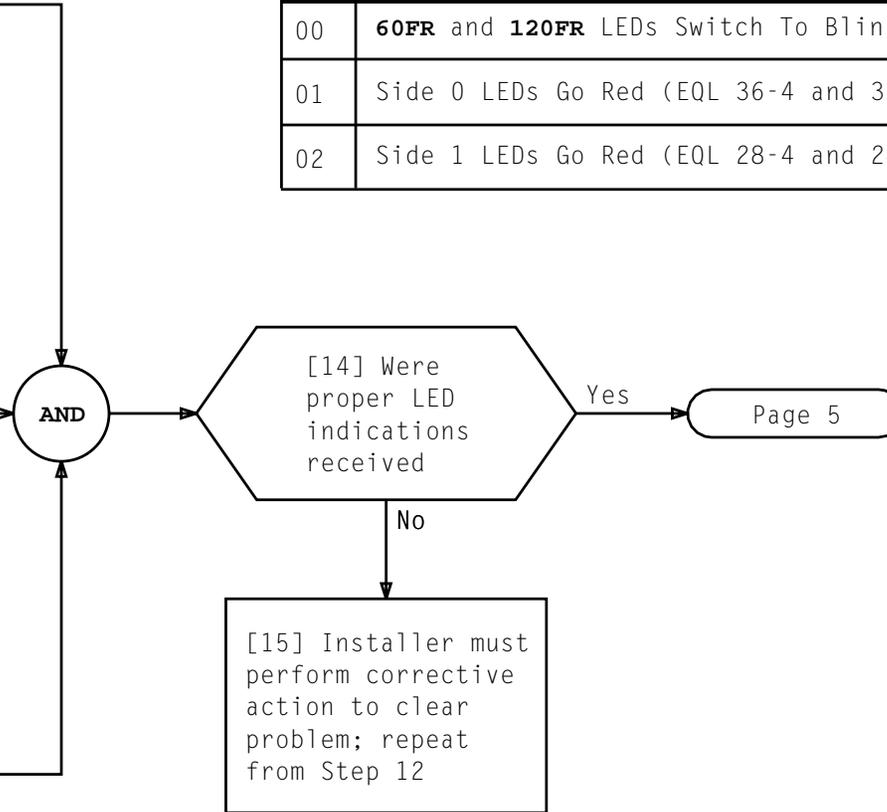
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[11] Request installer to verify which side has blinking **60FR** and **120FR** LEDs (side 0: 36-11 and 36-12 or side 1: 28-11 and 28-12)

[12] See NOTE 1. At 1B MTC terminal, enter message
ORD:SD;OPR:MDN 0'a!
 a = MDN value entered in Step 7, Page 3

[13] Notify installer to verify proper LED indications for associated SD point per TABLE F at new ring and tone plant

TABLE F	
DA	LED INDICATION
00	60FR and 120FR LEDs Switch To Blinking on Other Side
01	Side 0 LEDs Go Red (EQL 36-4 and 36-10)
02	Side 1 LEDs Go Red (EQL 28-4 and 28-10)



NOTE 1	
Installer should observe LEDs at new ring and tone plant	
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[16] At 1B MTC terminal,
 enter message
ORD:SD;RLS:MDN 0'a!
 a = MDN value entered in Step 7,
 Page 3

[17] Notify installer to verify
 proper LED indications
 for associated SD point
 per TABLE G at new
 ring and tone plant

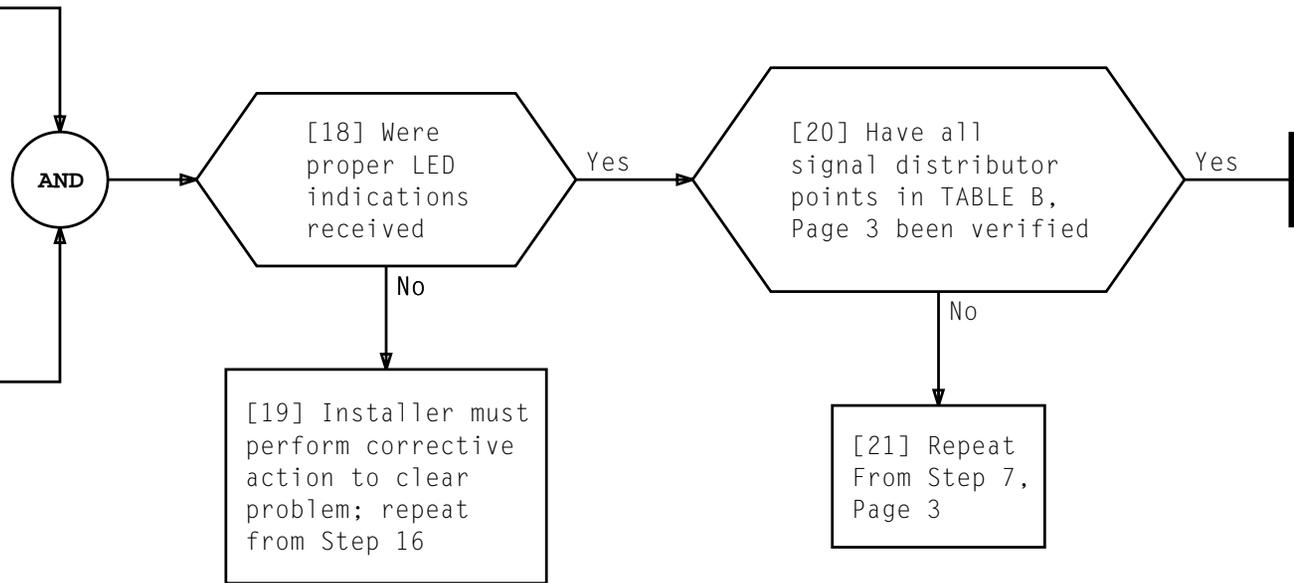


TABLE G	
DA	LED INDICATION
00	60FR and 120FR LEDs Switch Back to Blinking on Original Side
01	Side 0 LEDs Go Green (EQL 36-4 and 36-10)
02	Side 1 LEDs Go Green (EQL 28-4 and 28-10)

ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE	ITEM	ISSUE
IXL-001		DLP-505		DLP-540		DLP-575					
NTP-002		DLP-506		DLP-541		DLP-576					
NTP-003		DLP-507		DLP-542		DLP-577					
NTP-004		DLP-508		DLP-543		DLP-578					
NTP-005		DLP-509		DLP-544		DLP-579					
NTP-006		DLP-510		DLP-545		DLP-580					
NTP-007		DLP-511		DLP-546		DLP-581					
NTP-008		DLP-512		DLP-547		DLP-582					
NTP-009		DLP-513		DLP-548		DLP-583					
NTP-010		DLP-514		DLP-549		DLP-584					
NTP-011		DLP-515		DLP-550		DLP-585					
NTP-012		DLP-516		DLP-551		DLP-586					
NTP-013		DLP-517		DLP-552		DLP-587					
NTP-014		DLP-518		DLP-553		DLP-588					
NTP-015		DLP-519		DLP-554		DLP-589					
NTP-016		DLP-520		DLP-555		DLP-590					
NTP-017		DLP-521		DLP-556		DLP-591					
NTP-018		DLP-522		DLP-557		DLP-592					
NTP-019		DLP-523		DLP-558		DLP-593					
NTP-020		DLP-524		DLP-559		DLP-594					
NTP-021		DLP-525		DLP-560		DLP-595					
NTP-022		DLP-526		DLP-561		DLP-596					
NTP-023		DLP-527		DLP-562		DLP-597					
NTP-024		DLP-528		DLP-563		DLP-598					
NTP-025		DLP-529		DLP-564		DLP-599					
NTP-026		DLP-530		DLP-565		DLP-600					
NTP-027		DLP-531		DLP-566		DLP-601					
NTP-028		DLP-532		DLP-567		DLP-602					
NTP-029		DLP-533		DLP-568		CKL-891					
NTP-030		DLP-534		DLP-569		TNG-893					
DLP-500		DLP-535		DLP-570							
DLP-501		DLP-536		DLP-571							
DLP-502		DLP-537		DLP-572							
DLP-503		DLP-538		DLP-573							
DLP-504		DLP-539		DLP-574							

● REVISED OR ADDED ITEM

□ CANCELED ITEM

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CHECKLIST