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DMS-100 Family

Traffic Operator Position System

TOPS and TMS Maintenance Manual

LET0011 and up Standard 04.02 May 1999

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Publication history

May 1999

TOPS11 Standard 04.02

Section TOPS DA Subtending TMS is added to the Maintaining functionalities chapter. This section discusses congestion.

March 1999

TOPS11 Standard 04.01

The following chapters are added:

- Maintaining functionalities
- TOPS trouble locating and clearing procedures
- MP card replacement procedures
- MTM card replacement procedures
- TPC card replacement procedures
- TPC and TOPS recovery procedures
- TOPS routine maintenance procedures

The “Maintaining functionalities” chapter is written for personnel with a basic knowledge of the system. The remaining chapters in the manual are procedures, which do not require this basic knowledge.

April 1998

TOPS09 Standard 03.01

- The special bus formatter card (NT6X41AA) is replaced by the special bus formatter card (NT6X41AC)
- Minor editorial corrections and improvements are made.

June 1995

USTOPS 04 Standard 02.01

- PM TMS (ETMS_OCDL_OOS) major alarm is added.

November 1994

XPM03B Preliminary 01.01—first issue of this book

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About this document

When to use this document

This document contains maintenance information and procedures associated with the Traffic Operator Position System (TOPS) system and TOPS message switch (TMS). The intended user of the *TOPS and TMS Manual* uses call concentration functionality provided by the TMS and other TOPS peripherals, and has designed and implemented an operator position system or other application using Open Position Protocol (OPP) to communicate with the DMS switch.

How to check the version and issue of this document

The version and issue of the document are indicated by numbers, for example, 01.01.

The first two digits indicate the version. The version number increases each time the document is updated to support a new software release. For example, the first release of a document is 01.01. In the *next* software release cycle, the first release of the same document is 02.01.

The second two digits indicate the issue. The issue number increases each time the document is revised but rereleased in the *same* software release cycle. For example, the second release of a document in the same software release cycle is 01.02.

This document is written for all DMS-100 Family offices. More than one version of this document may exist. To determine whether you have the latest version of this document and how documentation for your product is organized, check the release information in *DMS-100 Family Guide to Northern Telecom Publications*,

References in this document

The following documents are referred to in this document:

- *DMS-100 Card Replacement Procedures*
- *DMS-100 Translations Guide*

- *DMS-100 Operational Measurements Reference Manual*
- *DMS-100 Family Commands Reference Manual*
- *DMS-100 Log Report Reference Manual*

What precautionary messages mean

The types of precautionary messages used in NT documents include danger, warning, and caution messages. Danger, warning, and caution messages indicate possible risks.

Examples of the precautionary messages follow.

DANGER Possibility of personal injury



DANGER

Risk of electrocution

Do not open the front panel of the inverter unless fuses F1, F2, and F3 have been removed. The inverter contains high-voltage lines. Until the fuses are removed, the high-voltage lines are active, and you risk being electrocuted.

WARNING Possibility of equipment damage



WARNING

Damage to the backplane connector pins

Align the card before seating it, to avoid bending the backplane connector pins. Use light thumb pressure to align the card with the connectors. Next, use the levers on the card to seat the card into the connectors.

CAUTION Possibility of service interruption or degradation



CAUTION

Possible loss of service

Before continuing, confirm that you are removing the card from the inactive unit of the peripheral module. Subscriber service will be lost if you remove a card from the active unit.

How commands, parameters, and responses are represented

Commands, parameters, and responses in this document conform to the following conventions.

Input prompt (>)

An input prompt (>) indicates that the information that follows is a command:

>BSY

Commands and fixed parameters

Commands and fixed parameters that are entered at a MAP terminal are shown in uppercase letters:

>BSY CTRL

Variables

Variables are shown in lowercase letters:

>BSY CTRL ctrl_no

The letters or numbers that the variable represents must be entered. Each variable is explained in a list that follows the command string.

Responses

Responses correspond to the MAP display and are shown in a different type:

```
FP 3 Busy CTRL 0: Command request has been submitted.  
FP 3 Busy CTRL 0: Command passed.
```

The following excerpt from a procedure shows the command syntax used in this document:

- 1 Manually busy the CTRL on the inactive plane by typing

>BSY CTRL ctrl_no
and pressing the Enter key.

where

ctrl_no is the number of the CTRL (0 or 1)

Example of a MAP response:

```
FP 3 Busy CTRL 0: Command request has been submitted.  
FP 3 Busy CTRL 0: Command passed.
```

TOPS and TMS maintenance

Maintenance is the overall process of ensuring system availability. Maintenance encompasses everything that keeps a system functioning in a “normal” state and everything that helps return the system to the normal state whenever it functions “abnormally.” For the TOPS message switch (TMS), the maintenance process begins with a continuous or periodic test. As soon as the trouble is verified, TMS-based maintenance automatically takes steps to protect service and ensure a working configuration. With respect to maintenance, the TMS should be treated as other DMS switch peripheral modules.

Maintenance philosophy

The maintenance philosophy as defined by this document is to maintain a desired customer level of service with minimal craft intervention.

Maintenance strategy

By using the MAP (maintenance and administration position) display, the craftsperson can perform the following maintenance activities:

- recognize and isolate the fault
- ensure that spare equipment is functioning properly

Recognizing and isolating faulty components

Any malfunctioning component must be immediately recognized and repaired. Troubleshooting involves identifying the possible cause(s) of a fault and running tests to isolate the fault.

Alarms indicate a trouble or condition that has an immediate or potential effect on operation of a peripheral. They appear concurrently by several different methods (audible, visual, and output messages at the MAP display).

The three level alarm structure provided is critical, major, and minor.

- **CRITICAL** – indicates severe service-affecting condition which must be acted upon immediately, regardless of time of day or day of week.

- MAJOR – indicates serious conditions (may be service affecting) which may require immediate attention
- MINOR – indicates troubles which do not have a serious effect on service and which should be given consideration for repair

Ensuring spare equipment is functioning properly

To test spare equipment, the craftsperson replaces a correctly functioning component with a spare component. After running specific tests or waiting a certain length of time, the craftsperson returns the original component and places the spare component in the spare closet.

The following chapters are intended for craftspersons when performing TMS recovery procedures, clearing alarms, or removing and replacing cards.

Escalating a problem

When troubleshooting, a problem may occur that requires the assistance of the local maintenance support group. This means that all relevant logs and reports should be gathered to help ensure that the next level of maintenance and support can isolate the problem.

The DMS logs are reported from the MAP display. Detailed information about these logs appears in the *Log Report Reference Manual*. For further detailed information about OMs, refer to *Operational Measurements Reference Manual*.

Maintaining functionalities

This chapter provides information for maintaining the TOPS and TMS systems. It is for use by maintenance personnel who already have a basic knowledge of these systems. It is not for use by personnel who need specific, step-by-step procedures when performing routine or maintenance tasks.

The topics are organized by functionalities that correlate to the *DMS-100 Translations Guide*

Other manuals that contain maintenance information are as follow:

- *TOPS OSSAIN User Guide*, 297–8403–901
- *TOPS LNP User Guide*, 297–8403–902

Position/Device Evolution IP

Ordering codes

Functional group ordering code: OSB00001

Functionality ordering code: not applicable

Release applicability

TOPS11 and up

Position/Device Evolution IP was introduced in TOPS11.

Description

This feature introduces the following enhancements to TOPS devices.

- Maintenance and Administration Position (MAP) levels TOPSIP and TOPSDEV are created.
- Communication of TOPS device application information to personal computers (PCs) using the Internet Protocol (IP) based Digital Multiplex Switch (DMS) Local Area Network (LAN). Refer to the *Translations Guide* for information.
- 30 minute, 6 hour, and 24 hour reports for Queue Management System (QMS) force management devices. Refer to the *Translations Guide* for information.

This functionality is provided by the following feature:

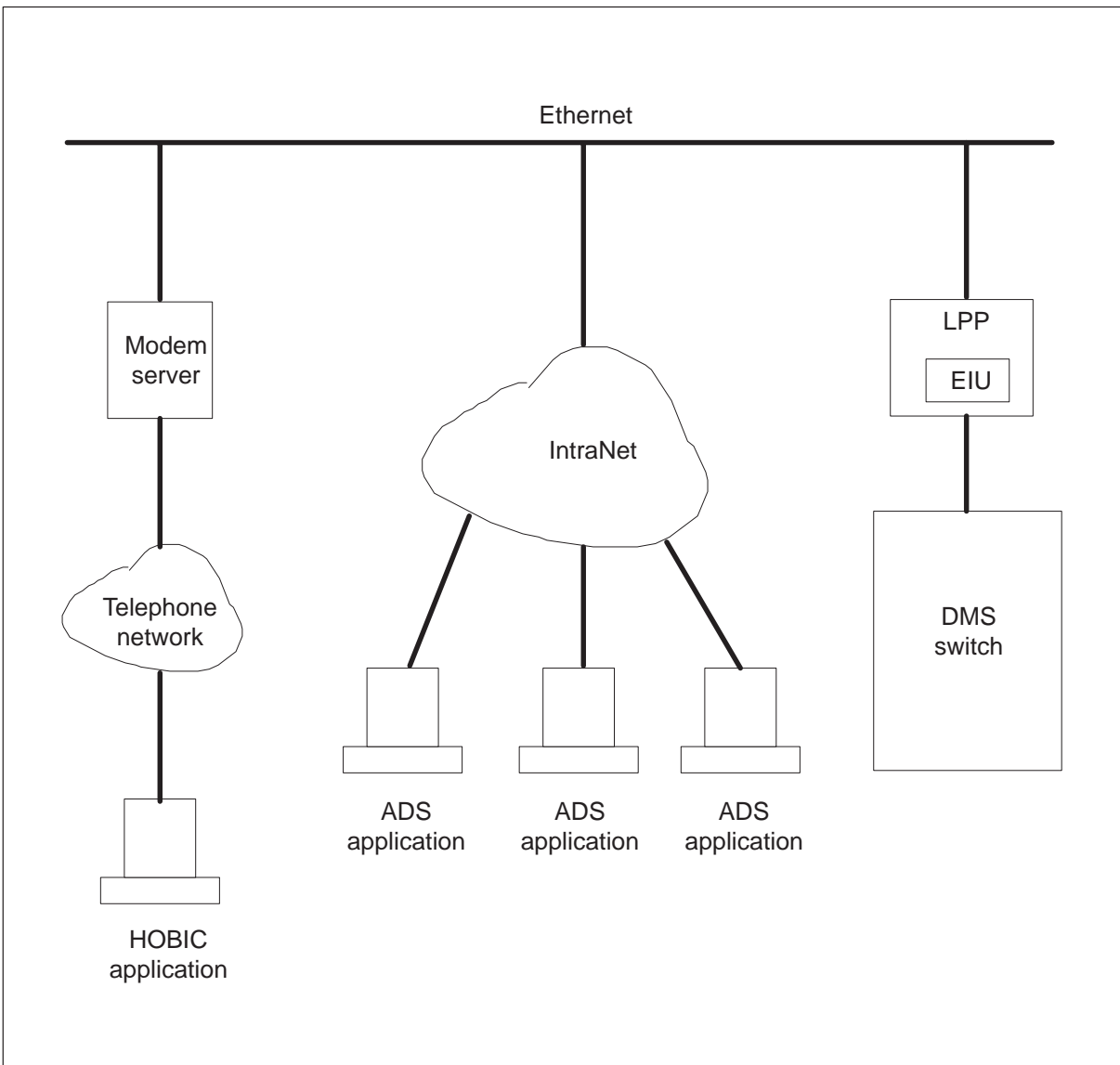
Feature number	Feature name
AF7827	TOPS Device Evolution

Background: TOPS device IP

Before this feature, TOPS device information was sent to teletypewriters (TTY) using digital modems (DMODEM). This feature provides access to the same information IP based DMS LAN to TOPS devices. In this configuration, device information is made available through Transmission Control Protocol (TCP) / IP telnet connections on the DMS Computing Module (CM). Personal computers (PC) with telnet client software are able to connect to a specific device application on the CM to access this information. The following figure is an example network.

Position/Device Evolution IP (continued)

Example IP network



The above DMS switch connects to the Ethernet with an Ethernet Interface Unit (EIU) in the Link Peripheral Processor (LPP). An LPP is also known as a Link Interface Module (LIM). Then, Administrative Data System (ADS) applications can access the DMS switch directly or through Operating Company provided intranet access. Remote access to hotel billing information center (HOBIC) applications can be provided with the telephone network and dial-up modem servers. Network security can be provided using firewalls and secure modem servers.

Position/Device Evolution IP (continued)

MAP levels

The new MAP level TOPSIP is available at the MAPCI->MTC->APPL level. This level provides access to TOPS device IP specific maintenance. The following figure illustrates this level:

MAP display example for TOPSIP level (MAPCI -> MTC -> APPL -> TOPSIP)

CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
TOPSIP			OAMAP		SDM		SWMTC		SDMBIL TOPSIP
0	Quit								
2									
3	TOPSDE		TOPSDEV						
V									
4			TOPSIP:						
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
TEAM3									
Time 11:01 >									

The TOPSIP level supports access to the TOPSDEV (TOPS IP Device) MAP level. This level is illustrated in the following figure:

Position/Device Evolution IP (continued)

MAP display example for TOPSDEV level (MAPCI -> MTC -> APPL -> TOPSIP -> TOPSDEV)

CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
TOPSIP			OAMAP		SDM		SWMTC		SDMBIL TOPSIP
0	Quit		TOPSDEV						
2	Post								
3	ListSet								
4									
5									
6			Status	Offl	ManB	InSv	CPB	SysB	
7	Bsy		TOPSDEV	0	0	5	10	2	
8	Rts								
9	Offl		TOPSDEV 25 InSv						
10			Size of Post set: 1						
11									
12	Next								
13									
14									
15									
16									
17									
18	Info								
TEAM3									
Time 11:01 >									

This level provides commands and status displays for monitoring and controlling the TCP/IP device application connections. A count of the number of devices in a given state is displayed at the top of the user window. Below this, the status of the currently posted device is displayed. At the bottom of the screen, the TOPS device post set is shown.

The following states are supported by TOPS IP devices.

- UNEQ – Device Is not datafilled.
- OFFL – Device is datafilled.
- MANB – Device has been manually taken out of service and is unavailable for new connections.
- DISC – Device is currently not disconnected but ready to accept client connections.
- CPB – Device has a connection established

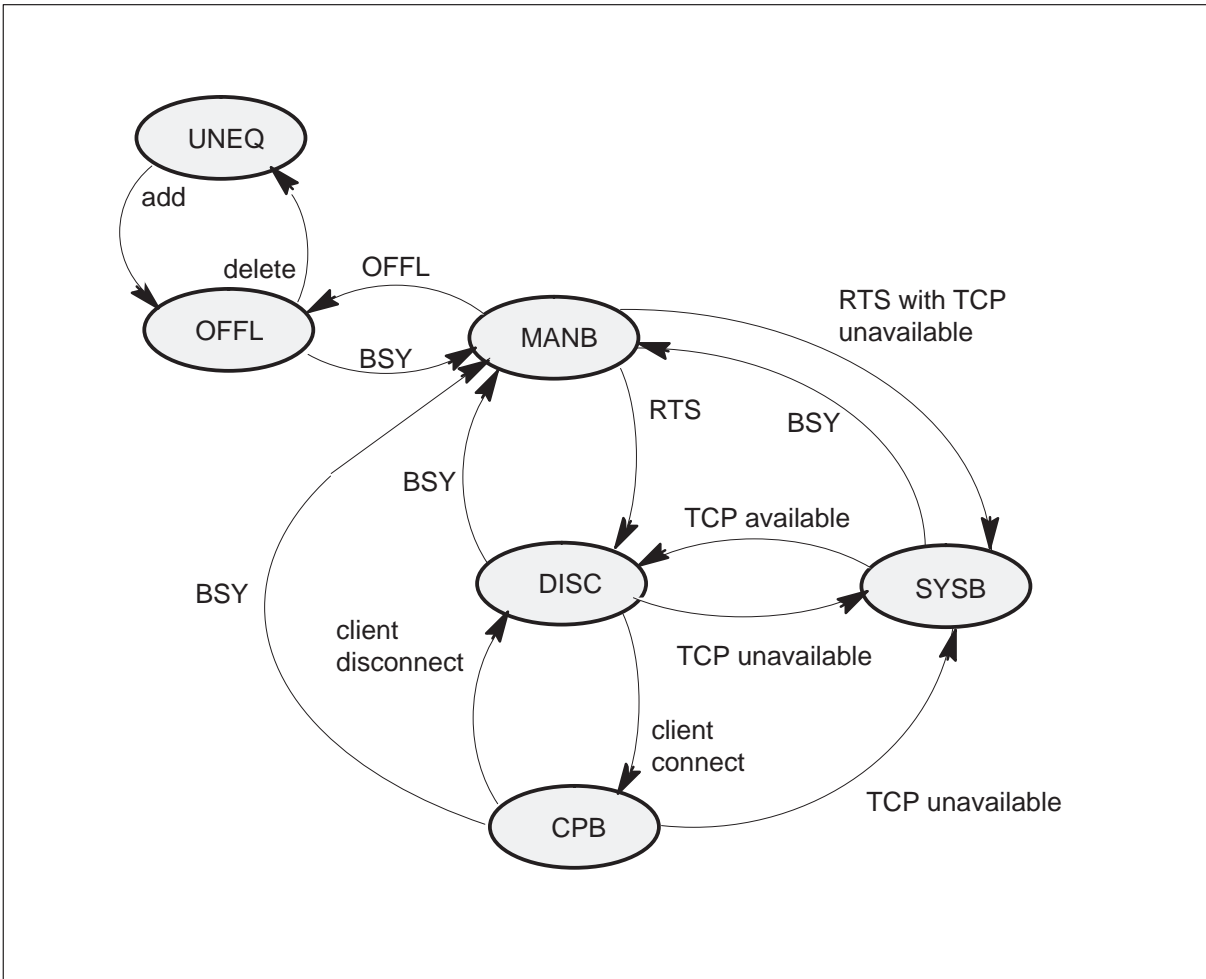
Position/Device Evolution IP (continued)

- **SYSB** – System has placed the device in a busy state. This occurs when the TCP transport service becomes unavailable. When the service becomes available, the system attempts to transition to the **DISC** state.

The left side of the screen shows the available MAP commands for TOPS devices. The following commands are available.

- **POST** – Post either a specific device or post all devices in a given state.
- **LISTSET** – List each device in the post set along with its state.
- **BSY** – Attempts to transition to the **MANB** state. When in the **MANB** state, the device is not available for new connections. **CPB** to **MANB** transitions cause the current connection to be dropped. **DISC** to **MANB** transitions simply make the device unavailable for connections.
- **RTS** – Initiates a transition from the **MANB** to **DISC** state. Once in the **DISC** state, the device is ready to accept client connections.
- **OFFL** – Transitions from the **MANB** to **OFFL** state.
- **INFO** – Displays the device type, such as **QFADS**, the IP address, and TCP connection state.
- **NEXT** – Selects the next device in the post set
- **QUIT** – Exits the **TOPSDEV MAP** level.

The following figure shows the available state transitions for TOPS IP devices.

Position/Device Evolution IP (continued)**TOPS IP Device state transition diagram**

State changes from MANB, DISC, and CPB to SYSB occur when the TCP service becomes unavailable or the device audit detects internal corruption of device data structures. Check ITN logs after a device goes system busy to help determine the problem. When the service becomes available again, the device changes to DISC. All device state changes to SYSB generate a TOPS302 trouble log and raise the new TDTrbl alarm at the TOPSDEV MAP display level.

State changes from CPB to DISC also cause the TDTrbl alarm and the TOPS 302 log to be generated. This log indicates the CM and device have lost connectivity. This problem can be due to any failure in the network between and including the CM and device. Check the network path with existing network management tools such as ping. When the network path becomes available, the device must re-establish the connection. This connection

Position/Device Evolution IP (continued)

clears the alarm and causes a log to be generated indicating the failure is resolved. End to end connectivity monitoring is provided using TCP keep-alive messages.

In order to clear the TDTrbl alarm, all devices must be moved out of the SYSB state and all devices that changed from CPB to DISC must be either reconnected or made MANB.

A TOPS501 information log is produced on any device state change.

Note: All maintenance on the EIU or LAN should be done from a MAP position, not from a TELNET session on a workstation. If the EIU goes out of service, TELNET sessions are terminated.

Device activation

In order to activate a device datafilled in table TOPSDEV, perform the following steps:

- 1 From the trunk test positions (TTP) level of the maintenance and administration position (MAP) terminal, post the device.
- 2 Place the device in the installation busy (INB) state.
- 3 Busy (command BSY) the device and return to service (command RTS).

For more details, refer to table TOPSDEV in data schema.

Commands

This section describes the changes for the command levels as follows:

- TOPSIP – A new level
- TOPSDEV – A new level
- PROG – This existing level has new command DEVDISP

Position/Device Evolution IP (continued)

TOPSIP level commands

Command	Description
TOPSDEV	<p>This command enters the TOPSDEV MAP level from the TOPSIP level where the MAP display is updated to show the TOPS IP Device MAP level. The following is an example entry:</p> <p style="padding-left: 40px;">>TOPSDEV</p> <p>To enter the TOPSDEV level from the CI level, enter the following:</p> <p style="padding-left: 40px;">>MAPCI ; MTC ; APPL ; TOPSIP ; TOPSDEV</p>
—continued—	

Position/Device Evolution IP (continued)

TOPSIP level commands (continued)

Command	Description
BSY <none or ALL>	<p>This command is valid when a device is OffL, Disc or SysB and places the device into the ManB state. Multiple devices may be busied using the ALL option. When in the MANB state, devices do not accept connection attempts from clients.</p> <p>There is only one parameter, ALL, which puts all devices in the posted set into the ManB state. If no parameter is entered, the posted device is put into the ManB state.</p> <p>The following are examples.</p> <pre>>BSY >BSY ALL</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • If the command is successful, the device is put into the ManB state, it refuses all attempts for a connection, and the following message is displayed: <pre>Bsy Passed</pre> • If a parameter other than ALL is entered, the following message is displayed: <pre>EITHER incorrect optional parameter(s) OR too many parameters.</pre> Use HELP BSY to determine the correct syntax. • If the post set is empty the following message is displayed. <pre>No device posted.</pre> • If the device is already in the ManB state, the following message is displayed: <pre>Request Invalid: Device <device number> IS <state></pre>
—continued—	

Position/Device Evolution IP (continued)

TOPSIP level commands (continued)

Command	Description
INFO	<p>This command displays the number, type, local port number and remote IP address for the posted device. There are no parameters. The following is an example entry.</p> <pre>>INFO</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none">• If a device is not posted, the following message is displayed. No device posted. Re-enter the POST command with the appropriate information.• If the command is successful and the remote client is connected, information on the posted device is displayed as shown in the following example: <pre>Device Number: 25 Device Type: QFADS Local Port: 8000 Remote IP Address: 47.192.0.39 3409</pre>• For a successful response when the remote client is not connected, the message is as follows: <pre>Device Number: 25 Device Type: QFADS Local Port: 8000 Remote IP Address: <not connected></pre>
—continued—	

Position/Device Evolution IP (continued)

TOPSIP level commands (continued)

Command	Description
LISTSET	<p>This command displays the device number and state for each device in the post set. The following is an example entry:</p> <pre>>LISTSET</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • There are no parameters. If a parameter is entered, post set information is still listed and the following message is displayed: <pre>ListSet does NOT utilize any parameters.</pre> • If the post set is empty the following message is displayed. <pre>No devices posted.</pre> • For a successful response, the device status is displayed as follows: <pre>TOPSDEV 30 Disc</pre>
NEXT	<p>This command steps the display to the next device in the post set. There are no parameters.</p> <pre>>NEXT</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • There are no parameters. If a parameter is entered, post set information is still listed and the following message is displayed: <pre>Next does NOT utilize any parameters.</pre> • If the post set is empty or no more devices are in the post set, the following message is displayed. <pre>End of post set</pre>
—continued—	

Position/Device Evolution IP (continued)

TOPSIP level commands (continued)

Command	Description
OFFFL <none or ALL>	<p>This command places the posted device in the off-line state.</p> <p>There is only one parameter, ALL, which places all devices in the posted set into off-line state. If no parameter is entered, the posted device is placed off-line.</p> <p>The following are example entries.</p> <pre>>OFFFL >OFFFL ALL</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • If the command is successful, the device is placed off-line and the following message is displayed: <pre>OFFFL Passed</pre> • If a parameter other than ALL is entered, the following message is displayed: <pre>EITHER incorrect optional parameter(s) OR too many parameters.</pre> <p>Use HELP OFFFL to determine the correct syntax.</p> • If the post set is empty the following message is displayed. <pre>No device posted.</pre> • If the device was not in the ManB state, the following message is displayed: <pre>Request Invalid: Device <device number> is <state></pre> <p>The device must be in the ManB state to issue the RTS command.</p>
—continued—	

Position/Device Evolution IP (continued)

TOPSIP level commands (continued)

Command	Description
POST <device number, all, or device state>	<p>This command displays the connection to a TOPS IP device. The parameters are as follows:</p> <ul style="list-style-type: none"> • device number—Post the specified TOPS IP device. The range is 0–9999. • all— Post all TOPS IP devices. • device state— Post the IP devices that are in the specified state. Valid values are OFF, MANB, DISC, SYSB, and CPB. <p>DMODEM based devices cannot be posted and maintained at this level. POST parameters based on device state or the ALL parameter only place IP devices in the post set.</p> <p>The following are examples:</p> <pre style="margin-left: 40px;"> >POST ALL >POST 5 >POST SYSB </pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • If incorrect parameters are entered, use the HELP POST command to determine the correct syntax. The error message is as follows: <pre style="margin-left: 40px;"> EITHER incorrect optional parameter(s) OR too many parameters. Invalid parameter. </pre> • If no parameters are entered, use the HELP POST command to determine the correct syntax. The error message is as follows: <pre style="margin-left: 40px;"> Missing device number. Could not create post set. </pre> • If the specified device is not entered, check table TOPSDEV for devices that are datafilled. The error message is as follows: <pre style="margin-left: 40px;"> <device number> - Invalid device number. Could not create post set. </pre> • If the specified device is not configured for IP, check table TOPSDEV for information on devices that are datafilled. The error message is as follows: <pre style="margin-left: 40px;"> <device number> - Device no datafilled for IP. Could not create post set. </pre>
—continued—	

Position/Device Evolution IP (continued)

TOPSIP level commands (continued)

Command	Description
QUIT <n levels, increment name, or all>	<p>This command exits the TOPSIP MAP level and returns to the previous level if no parameter or the level indicated by the parameter. The parameters are as follows:</p> <ul style="list-style-type: none"> • n levels—Specifies the number of MAP display levels to quit. • increment name—Indicates the MAP display level to quit up through. Valid values are TOPSIP, APPL, MTC, and MAPCI. • all—Quit all MAP display levels. <p>The following are examples:</p> <pre> >QUIT (quits one MAP display level) >QUIT 2 (quits 2 MAP display levels) >QUIT APPL (quits up through the APPL level) >QUIT ALL (quits all MAP display levels) </pre> <p>If an invalid level number is entered, the following error message is displayed and the level is not changed.</p> <pre> QUIT -- Unable to quit requested number of levels Last parameter evaluated was: 1 </pre>
—continued—	

Position/Device Evolution IP (continued)

TOPSIP level commands (continued)

Command	Description
RTS <none or ALL>	<p>This command brings the device into service. The device must have been in the ManB state. After successful completion of the RTS command, the device is ready to accept connections.</p> <p>There is only one parameter, ALL, which brings all devices in the posted set into service. If no parameter is entered, the posted device is returned to service.</p> <p>The following is an example entry.</p> <pre>>RTS</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • If the command is successful, the device is returned to service and the following message is displayed: <pre>RTS Passed</pre> • If a parameter other than ALL is entered, the following message is displayed: <pre>EITHER incorrect optional parameter(s) OR too many parameters.</pre> Use HELP RTS to determine the correct syntax. • If the post set is empty the following message is displayed. <pre>No device posted.</pre> • If the device was not in the ManB state, the following message is displayed: <pre>Request Invalid: Device <device number> is <state></pre> The device must be in the ManB state to issue the RTS command.
—end—	

Position/Device Evolution IP (continued)

PROG level commands

Command	Description
DEVDISP <device number and which>	<p>This new CI command displays internal TOPS device data structures, such as device permanent and protected store. This information can be used for testing and debugging purposes. The parameters are as follows:</p> <ul style="list-style-type: none"> • Device number—Indicate the device number to display. The range is 0–9999. This range is based on the device key from table TOPSDEV. • Which—Indicate the type of device store to display. The values are as follows: <ul style="list-style-type: none"> — PROT—protected store — PERM—permanent store — BOTH—both protected and permanent store <p>The following is an example entry:</p> <pre style="margin-left: 40px;">>DEVDISP 20 BOTH</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • If the specified device number is not datafilled in table TOPSDEV, the following message is displayed. <pre style="margin-left: 40px;">Device not datafilled.</pre> <p>Check table TOPSDEV for a list of devices.</p>
—continued—	

Position/Device Evolution IP (continued)

PROG level commands (continued)

Command	Description
	<ul style="list-style-type: none"> The following example is a successful display of protected store. <pre> DEVICE PROT DATA ----- TID.NODE_NO = 178 TID.TRMNL_NO_MSN = 0 TID.TRMNL_NO_LSB = 1 DATA_PRESENT = Y OFFLINE = N MAN_BUSY = N DEVICE_TYPE = AQ BAUD = BD300 LANG = FRE HACR = AQB LC = LF1 TEAM = 0 FPN = 20 CONTROLLER = NIL_TOPS_CONTROLLER DEV_GRP Overlay {TOPS_GRP}: CARD = 0 MFADS_FORMAT = FORMAT1 POSITION = SINGLE_PURPOSE DATATYPE = EIULAN_DEVICE PROTOTYPE = TOPS_ASCII DATATYPE Overlay {EIULAN_DEVICE}: ENDPOINT STATE = TLI_LISTENING_CONN LOCAL_IP_ADDR = 47.187.64.178 LOCAL_PORT = 8000 REMOTE_IP_ADDR = 0.0.0.0 REMOTE_PORT = 0 RCVD_BYTES_QUEUED = 0 SEND_BYTES_QUEUED = 0 IP_PORT = 8000 </pre>
—continued—	

Position/Device Evolution IP (continued)

PROG level commands (continued)

Command	Description
	<ul style="list-style-type: none"> The following example is a successful display of permanent store. <pre> DEVICE PERM DATA ----- DIGITAL_MODEM_CPID = <NIL> DEVICE_RES_TIME = 0 RU_Q_HDR = EMPTY RU_Q_LGTH = 0 PROCESS_RUNNING = N DEVICE_BITMAP = NO BITS SET AQ_MSG_COUNTER = 0 DEVICE_STATE = DEV_IDLE TK_STATE = TK_IDLE DEV_GRP Overlay {TOPS_GRP}: AUDIT = 0 SYSTEM_DIAG_FLAG = N RESERVED = N MAN_BUSY = N SYS_BUSY = N PM_BUSY = N SEND_DLMSG = N CARRIER_FAIL = N DIAG_NO = 191 MPMTC = Y </pre>
	—end—

TDTTrbl major alarm

The TDTTrbl alarm is raised when a TOPS IP device enters the system busy state or changes from CPB to DISC. This MAJOR alarm remains raised as long as at least one TOPS IP device is in the system busy state or at least one device has changed from CPB to DISC. This alarm is cleared when the last system busy TOPS IP device is transferred out of the system busy state and all devices which changed from CPB to DISC have reconnected or been made MANB.

Position/Device Evolution IP (end)

When the TDTrbl alarm is raised it is displayed at the MTC MAP display level under the APPL banner, at the APPL MAP display level under the TOPSIP banner, and at the TOPSIP MAP display level beside the TOPSDEV banner. All of these displays are dependent on the severities and priorities of any other alarms raised at the time.

OSSAIN 11 Enhancements

Ordering codes

Functional group ordering code: OSAN0001

Functionality ordering code: OSAN0006

Release applicability

TOPS11 and up

OSSAIN 11 Enhancements was introduced in TOPS11.

Description

For maintenance purposes, this functionality automatically moves session pools from the INSV to MANB state when a session pool DRAIN command is completed. The DRAIN command is complete when all sessions in the session pool are no longer connected to any call.

For further information on this functionality, refer to the *North American DMS-100 Translations Guide*, 297–8021–350.

This functionality is provided by the following features:

Feature number	Feature name
AF7631	OSSAIN Translations Enhancements
AF7712	OSSAIN Disposition & Connection Enhancements
AF7714	OSSAIN Enhancements IV
AF7804	800–To–TOPS Productization

DRAIN change

This feature provides changes for DRAIN as follows:

- prevent queuing during DRAIN
- move to MANB when done DRAINing

Prevent queuing during DRAIN

The DRAIN command at the MAP display is used to stop routing new calls to a specified session pool. Calls that are in progress and using one of the session pool's sessions when the DRAIN command is issued are allowed to complete normally. Before this feature, new calls destined for a DRAINEd session pool were queued in the DMS switch (provided the call queue for the service was datafilled to allow queuing in the first place). This feature

OSSAIN 11 Enhancements (continued)

changes the DRAIN functionality so that those new calls receive disposition routing as indicated in table OAFNDISP, rather than having those calls queued. Disposition routing starts immediately after the DRAIN command is issued.

Move to MANB when done DRAINing

Before this feature, a DRAINed session pool remained in the INSV state both during and after the DRAIN command. The BSY command was required at the MAP display before the session pool could be brought back into service. If the DRAIN was in progress (that is, some sessions in the pool were finishing up with their last call), the manual BSY action caused a warning message to be displayed that indicated the number of active calls still using sessions in the pool. Therefore, repeat tries of BSY and waiting were required until all calls had finished. This feature enhances OSSAIN to automatically transition from the INSV to MANB states when all sessions in the session pool are finished with call processing. Once the session pool is in the MANB state, manual action is still required to bring the session pool back into service.

Voice link connection enhancements

This section provides maintenance related information for the voice link enhancements of this functionality.

Voice link maintenance

OSSAIN voice trunks use a very simple maintenance strategy. In order to use a given voice trunk, both the switch and the service node must be on hook at that facility. If the service node goes off hook towards the switch, the trunk is shown on the MAP display as being in the RMB state.. Trunks in this state are not used by the switch for call processing.

When both the switch and the service node are on hook on the voice trunk facility, the trunk can be selected for call processing. Once the service node has received a positive acknowledgment to its voice connection request, it can proceed to use that facility immediately. Since OSSAIN voice trunks do not use standard supervision and signaling, the switch does not seize the trunk group facility nor does the switch expect a wink response from the node.

Other considerations

The switch and service node must have parallel datafill to ensure that both sides connect to the same voice circuit. The operating company and service node vendor are responsible for engineering the number of voice links that are used for a given node.

OSSAIN 11 Enhancements (end)

For SN applications, functions that require a voice link connection on every call, it is recommended that the number of voice links available for the function is equivalent to the maximum number of SN sessions serving that function.

Enhanced TOPS OC and Increased Remote Support

Ordering codes

Functional group ordering code: ENSV0001

Functionality ordering codes: ENSV0008 and ENSV0011

Release applicability

TOPS04 and later versions

Enhanced TOPS OC and Increased Remote Support were introduced in TOPS04.

Description

This functionality increases the maximum number of operator centralization (OC) nodes (hosts and remotes) that have support by the Enhanced TOPS Message Switch (ETMS). For a description of this functionality, refer to the *North American DMS-100 Translations Guide*, 297–8021–350, under these functionalities (ENSV0008 and ENSV0011).

For maintenance purposes, a new OC data link (OCDL) maintenance and administration (MAP) level, logs, operational measurements (OMs), and alarms are provided. The alarm is for an OC data link that goes out of service.

This feature addresses OC data link maintenance functionality only. It does not change the way OC voice links are maintained. They continue to be maintained at the Test Trunk Position (TTP) and CARRIER levels of the MAP display.

The following features provide this maintenance capability:

Feature number	Feature name
AF5930	ETMS OC: Table Changes and Maintenance
AN1130	ETMS OC: EISP Link Maintenance and LAPD Protocol
AN1134	ETMS OC: Maintenance and Logs

Hardware

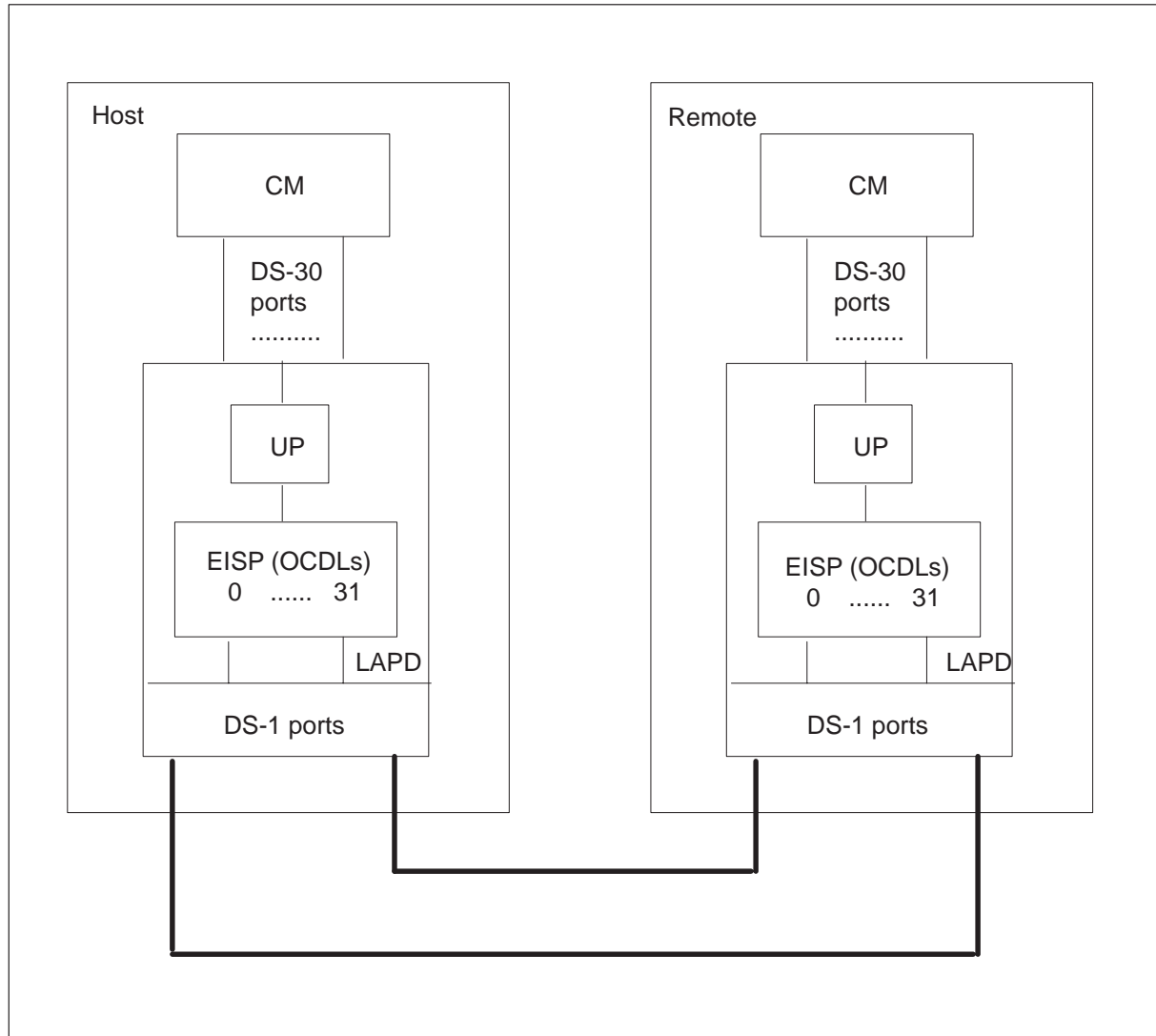
The only difference between ETMS OC and TMS OC is that ETMS OC does not require the EDCH (BX02BA). Instead, additional DS–1 cards (6X50xx) or PCM–30 cards (6X27xx) may be used in these slots as needed.

Enhanced TOPS OC and Increased Remote Support (continued)

The Enhanced TMS (ETMS) is equipped with the XPM Plus processors (UP and EISP). The ETMS OC functionality is not supported on the TMS platform with the MP/SP and ISP platforms.

The following figure shows the main components of the ETMS OC.

ETMS OC system



The CM sends OC messages to the ETMS over DS-30 links through the network. OC messages sent to the ETMS are first processed by the Unified Processor (UP). The OC messages then route to the EISP, which receives the messages as DS-30 messages. The EISP strips the DS-30 header information from the OC messages and repackages the OC messages into LAPD frames

Enhanced TOPS OC and Increased Remote Support (continued)

to send to the far-end node. The LAPD messages are then transmitted on the appropriate OC data link (that is, EISP channel). The OC data link is a DS-0 that is multiplexed into a DS-1 port.

The messages arrive through the DS-1 ports on the far-end, The DS-0 channels are broken out of the DS-1 and routed into the EISP as OC data links. The EISP then extracts the LAPD frames from the DS-0 data stream and processes them to determine which call process to receive the OC protocol message. The EISP then builds an appropriate DS-30 header, repackages the OC message with the new DS-30 header, and ships the message up to the CM through the UP for further processing.

MAP levels

The new MAP level OCDL provides access to TOPS OC data link maintenance. This level is available from the TMS level as menu option 16, which is accessed from the CI level as follows:

```
>mapci;mtc;pm;post tms #
```

In the above command, # is the number of the posted TMS. Note, the TMS must be configured as an OC in table LTCINV field OPTATTR; otherwise, the OCDL level cannot be accessed. The TMS level is shown in the following figure.

Enhanced TOPS OC and Increased Remote Support (continued)

MAP display example for TMS level (mapci;mtc;pm;post tms #)

CM	MS	IOD	Net	PM	CCS	LnS	Trks	Ext	APPL
TMS									
0	Quit			PM	0	0	0	0	60
2	Post_			TMS	0	0	0	0	2
3	ListSet								
4									
5	Trnsl_			TMS	0 InSv	Links_00S:	CSide	0, PSide	0
6	Tst_			Unit0:	Act	InSv			
7	Bsy_			Unit1:	Inact	InSv			
8	RTS_			PM:					
9	OffL_			POST:					
10	LoadPM_								
11	Disp_								
12	Next								
13	SwAct								
14	Query PM								
15	DCH								
16	OCDL								
17	PERFORM								
18	ISG								
Time 11:01 >									

As mentioned above, the OCDL level is available only for a TMS configured as an OC in table LTCINV. However, the ISG and DCH levels (shown in the above MAP display) are not allowed for a TMS configured as an OC.

The OCDL level can also be accessed from the CI level as follows:

```
>mapci;mtc;pm;post tms #;ocdl
```

The OCDL level is shown in the following figure.

Enhanced TOPS OC and Increased Remote Support (continued)**MAP display example for OCDL level (mapci;mtc;pm;post tms #;ocdl)**

CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
TMS				SysB	ManB	OffL	CBsy	ISTb	InSv
0	Quit		PM	0	0	0	0	0	60
2			TMS	0	0	0	0	0	2
3									
4									
5			TMS	0 InSv	Links_00S:	CSide	0, PSide	0	
6			Unit0:	Act	InSv				
7	Bsy_		Unit1:	Inact	InSv				
8	RTS_								
9	OffL_								
10			OCDL		1111111111	2222222222	33		
11				0123456789	0123456789	0123456789	01 Mtce Cong		
12									
13									
14									
15	Cont_								
16	Loopbk_								
17	OCPing_								
18	QOCDL_								
Time 11:01 >									

The Mtce and Cong are two flags that appear on the MAP at certain times. When maintenance is in progress on a link, the Mtce flag is shown. When the TMS is in congestion, the Cong flag is displayed.

In addition to the commands shown in the above figure, this feature also provides the non-menu (hidden) commands, QCHOM and POST. The following pages give detailed descriptions of all OCDL MAP level commands.

Note that the terms OC data link (OCDL) and channel are synonymous and used interchangeably in this document. Physically, an OCDL is an EISP channel. However from the application perspective, the channels are used as OC data links.

OCDL level commands

The following table describes the OCDL level commands.

Enhanced TOPS OC and Increased Remote Support (continued)

OCDL level commands

Command	Description
<p>BSY <chnl {0 to 31} or ALL></p>	<p>This command removes a link from service by placing it in the ManB state. To perform the command, the link must be an OD data link that is OffL, InSv, CBsy, or SysB. When in the MANB state, links do not accept connection attempts. The parameters are as follows:</p> <ul style="list-style-type: none"> • chnl {0 to 31} – busy the indicated channel(s); multiple channels can be entered • ALL – busy all channels <p>The following are example entries.</p> <pre>>BSY 0 16 31 >BSY ALL</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • If the BSY command is given for a link in the inservice state, the following message is displayed. <p>Operator services may be affected. Please confirm ("YES," "Y," "NO," or "N"):</p> <p>NO or N cancels the command and Y or YES enables the command.</p> <p>When busying an OffL, SysB, or CBsy channel, a confirmation request is not necessary since no inservice calls would be affected.</p> • If the command is successful, the channel is put into the ManB state, it refuses all attempts for a connection, an M is placed under the corresponding label at the MAP display, and the following message is displayed: <p>Channel <number> Bsy Passed</p> • If the BSY command is issued for a channel that is not in the proper state (ManB or Uneq), the following message is displayed. <p>Request Invalid: Channel <number> is <current state>.</p>
<p>—continued—</p>	

Enhanced TOPS OC and Increased Remote Support (continued)

OCDL level commands (continued)

Command	Description
<p>CONT <chnl {0 to 31}> <loopbktype {INT or EXT}></p>	<p>This command performs an internal or external continuity test on a specified ManB OC channel. The parameters are as follows:</p> <ul style="list-style-type: none"> • chnl {0 to 31} – test the indicated channel; multiple channels cannot be entered • loop back type – A continuity test is performed using an external or internal loopback. The choices are the following: <ul style="list-style-type: none"> — INT – Internal: Perform a continuity test using an internal loopback on an EISP card. This value is the default. — EXT – External: A message is sent to the DS-0s and requires a manual loopback to be set up external to the TMS. <p>The following is an example entry.</p> <pre>>CONT 5 INT</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • If an external loopback request is entered, the following message is displayed. <pre>Has the external loopback point been set? Please confirm ("YES", "Y", "NO", or "N"):</pre> <p>If YES or Y is entered, the test is performed, If NO or N is entered, the test is not performed.</p> • If the test is performed, one of the following messages as applicable is displayed. <pre>Internal continuity test passed External continuity test passed Please remove loopback point</pre>
<p>—continued—</p>	

Enhanced TOPS OC and Increased Remote Support (continued)

OCDL level commands (continued)

Command	Description
	<ul style="list-style-type: none"> • If the specified channel is not in the ManB state, the CONT command is rejected and the following message is displayed. Request Invalid: Channel <number> is <current state>. Ensure that the channel is in the ManB state and then try the CONT command again. • If the CM is unable to communicate with the ETMS peripheral, the following message is displayed. Channel <number> CONT Failed, no response from PM. Investigate the communication problem and then try to execute the command again. • If the PCM30 is datafilled in table LTCINV field OPTATTR for this TMS, the test cannot be conducted. Internal continuity tests are not supported by PCM-30. Therefore, the following message is displayed. Internal Continuity not supported for PCM-30. If the TMS is not using PCM-30, remove PCM30 tuple from table LTCINV. Otherwise, nothing can be done.
—continued—	

Enhanced TOPS OC and Increased Remote Support (continued)

OCDL level commands (continued)

Command	Description
LOOPBK <chnl {0 to 31}> <loopbackoption {SETUP, QUERY, or RLS}>	<p>This command allows a loopback point to be queried, set up, or taken down. The link must be a ManB OC data link. LOOPBK causes the incoming data from the far end to loop back to the far end for continuity tests. This command is used for external loopback tests. The parameters are as follows:</p> <ul style="list-style-type: none"> • chnl {0 to 31} – test the indicated channel, multiple channels cannot be entered • loop back type – A continuity test is performed using an external or internal loopback. The choices are the following: <ul style="list-style-type: none"> — SETUP – Sets a loopback point. — QUERY – Checks to see if a loopback point has been set. — RLS – Releases (takes down) a loopback point. <p>The following is an example entry.</p> <pre style="margin-left: 40px;">>LOOPBK 6 SETUP</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • If the command is successfully executed, the response varies according to the loopback option parameter as follows. <p style="margin-left: 40px;">A loopback point has been set for channel <number>.</p> <p style="margin-left: 40px;">A loopback point <is><is not> set for channel <number>.</p> <p style="margin-left: 40px;">The loopback point for channel <number> has been released.</p> • If communication with the peripheral can not be established, the loopback command does not execute, and the following message is displayed. <p style="margin-left: 40px;">Channel <number> LOOPBK Failed, no response from PM.</p> <p style="margin-left: 40px;">Investigate the communication problem and then attempt to execute the command again.</p> • If the specified channel is not in the ManB state, the LOOPBK command is rejected, and the following message is displayed. <p style="margin-left: 40px;">Request Invalid: Channel <number> is <current state>.</p> <p style="margin-left: 40px;">Ensure that the channel is in the ManB state, then try the LOOPBK command again.</p>
—continued—	

Enhanced TOPS OC and Increased Remote Support (continued)

OCDL level commands (continued)

Command	Description
<p>OCPING <chnl {0 to 31}></p>	<p>This command performs an OC PING test from either end of a link (host or remote). The link must be an inservice ETMS OC data link, A message with a time stamp is sent to the receiving office, which immediately returns it to the sending office. The sending office retrieves the time stamp from the message, subtracts it from the time at receipt, and reports the difference on the MAP display. This test indicates the end-to-end transit time for messages on the link under test and end-to-end continuity. If the OCPING message is not received back from the far end within ten seconds, an error message is displayed.</p> <p>PING is standard computer network test term for testing continuity in computer networks. A figure shows a functional diagram of OCPING is given at the end of the OCDL level commands.</p> <p>The parameter is as follows:</p> <ul style="list-style-type: none"> • chnl {0 to 31} – test the indicated channel; multiple channels cannot be entered <p>The following is an example entry.</p> <pre style="margin-left: 40px;">>OCPING 8</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • If command is executed successfully, the time is displayed in milliseconds as follows. Channel <number> End-to-End Transmission time: <number> ms. • If the specified channel is not in the InSv state, the OCPING command is rejected, and the following message is displayed. Request Invalid: Channel <number> is <current state>. Ensure that the channel is in the InSv state. Then try the OCPING command again. • If there is no response from the far end within ten seconds, the test fails, and the following message is displayed. Channel <number> OCPING Failed. Ensure that no faults exist with the far end, then try the OCPING command again.
—continued—	

Enhanced TOPS OC and Increased Remote Support (continued)

OCDL level commands (continued)

Command	Description
OFFL <chnl {0 to 31} or ALL>	<ul style="list-style-type: none"> • If the CM is unable to communicate with the ETMS peripheral, the following message is displayed. Channel <number> OCPING Failed, no response from PM. Investigate the communication trouble and then retry the command. <p>This command places the posted link in the off-line state. The link must ManB. The parameters are as follows:</p> <ul style="list-style-type: none"> • chnl {0 to 31} – off-line the indicated channel(s); multiple channels can be entered • ALL – off-line all channels <p>The following are example entries.</p> <pre>>OFFL 0 16 31 >OFFL ALL</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • If the command is successful, the channel is placed off-line and the following message is displayed: Channel <number> OffL Passed. • If the channel is not in the ManB state, the command fails, and the following message is displayed. Request Invalid: Channel <number> is <current state>. <p>Ensure that the channel is in the proper state before attempting the OFFL again.</p>
—continued—	

Enhanced TOPS OC and Increased Remote Support (continued)

OCDL level commands (continued)

Command	Description
QCHOM <chnl {0 to 31}>	<p>This command causes the LAPD messaging operational measurements (OMs) to be displayed for a specified channel (OC data link). The link must be InSv, MBsy, or SysB. The LAPD OMs are as follows:</p> <ul style="list-style-type: none"> • OCTXDSC: number of LAPD frames to be transmitted that were discarded by EISP • OCCRC: number of received LAPD frames with bad CRCs • OCRXDSC: number of received LAPD frames discarded due to link errors • OCS1TX: number of SAPI 1 frames transmitted • OCS1RX: number of SAPI 1 frames received • OCS0TX: number of SAPI 0 frames transmitted • OCS0RX: number of SAPI 0 frames received • OCLKRED: number of times the link has been reset by the EISP (local reset) • OCLKREP: number of times the link has been reset by the far end (remote reset) • OCRNRD: number of LAPD RNR frames transmitted • OCRNRP: number of LAPD RNR frames received • OCREJTX: number of LAPD REJ frames transmitted • OCREJRX: number of LAPD REJ frames received • OCRX: number of OC messages received successfully • OCRXF: number of OC messages received unsuccessfully • OCTX: number of OC messages transmitted successfully • OCTXF: number of OC messages transmitted unsuccessfully • OCRXD: number of OC messages received that were discarded • OCTXD: number of OC messages to be transmitted that were discarded <p>The parameter is as follows:</p> <ul style="list-style-type: none"> • chnl {0 to 31} – test the indicated channel, multiple channels cannot be entered
—continued—	

Enhanced TOPS OC and Increased Remote Support (continued)

OCDL level commands (continued)

Command	Description
	<p>The following is an example entry.</p> <pre>>QCHOM 8</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • If the command is successful, LAPD OMs for the specified channel are displayed as follows. <pre>OCTXDSC 0 OCCRC 0 OCRXDSC 0 OCS1TX 0 OCS1RX 0 OCS0TX 0 OCS0RX 0 OCLKRED 0 OCLKREP 0 OCRNRD 0 OCRNRP 0 OCREJTX 0 OCREJRX 0 OCRX 0 OCRXF 0 OCTX 0 OCTXF 0 OCRXD 0 OCTXD 0</pre> <p>These OMs are incremented until they reach their maximum value (32767) or after 15 minutes, at which time they are cleared and the count begins again. However, updates occur every minute. Exceptions to this rule are OMs that are updated instantaneously as follows.</p> <ul style="list-style-type: none"> — OCS1TX — OCS0TX — OCS1RX — OCS0RX — OCRX — OCTX <ul style="list-style-type: none"> • If the specified channel is not in the InSv, ManB, or SysB state, the command is rejected and the following message is displayed. <pre>Request Invalid: Channel <number> is <current state>.</pre> <p>Ensure that the channel is in a valid state, then try the QCHOM command again.</p>
—continued—	

Enhanced TOPS OC and Increased Remote Support (continued)

OCDL level commands (continued)

Command	Description
	<ul style="list-style-type: none"><li>• If the CM is unable to communicate with the ETMS peripheral, the following message is displayed. Channel <number> QCHOM Failed, no response from PM. Investigate the communication problem and then retry the command.
—continued—	

Enhanced TOPS OC and Increased Remote Support (continued)

OCDL level commands (continued)

Command	Description
QOCDL <option string > <chnl {0 to 31}>	<p>This command displays ETMS OC data link information according to the parameters as follow:</p> <ul style="list-style-type: none"> TMS – All data links datafilled on the posted TMS. ALL – All data links datafilled in table TMSOCDL. OFFL, MANB, SYSB, CBSY, INSV – All data links in the office that are in the specified state. <OCDLGRP group> – All data links in the specified OC data link group name in table OCDLGRP are displayed. Also, the corresponding voice link group is displayed. LINK <OCDL> – The specified OC data link number on the posted TMS is displayed. Also, the corresponding voice link group is displayed. chnl {0 to 31} – Test the indicated channel; multiple channels cannot be entered. <p>The following are successful responses.</p> <ul style="list-style-type: none"> If the ALL option is used, the following is displayed. <pre> >QOCDL ALL OCDLGRP DLINDEX TMS LINK# PROTLEVL STATE ===== CARYDL1 1 1 1 HIGH InSv CARYDL1 2 2 1 HIGH InSv RALEIGHDL2 3 1 2 MEDIUM SysB RALEIGHDL2 4 2 2 MEDIUM InSv DURHAMDL3 5 1 3 LOW SysB DURHAMDL3 6 2 3 LOW Of fL </pre> If the TMS option is used, the following is displayed. <pre> >QOCDL TMS OCDLGRP DLINDEX TMS LINK# PROTLEVL STATE ===== CARYDL1 1 1 1 HIGH InSv RALEIGHDL2 3 1 2 MEDIUM SysB DURHAMDL3 5 1 3 LOW SysB </pre>
—continued—	

Enhanced TOPS OC and Increased Remote Support (continued)

OCDL level commands (continued)

Command	Description
	<ul style="list-style-type: none"> If a maintenance state is entered, the following is displayed. <pre> >QOCDL INSV OCDLGRP DLINDEX TMS LINK# PROTLEVEL STATE ===== CARYDL1 1 1 1 HIGH InSv CARYDL1 2 2 1 HIGH InSv RALEIGHDL2 4 2 2 MEDIUM InSv </pre> If an OCDLGRP group is specified, the following is displayed. <pre> >QOCDL CARYDL1 OCOFC: CARY1 VLGRP: CARYVL1 VNODE: 288 OCDLGRP DLINDEX TMS LINK# PROTLEVEL STATE ===== CARYDL1 1 1 1 HIGH InSv CARYDL1 2 2 1 HIGH InSv </pre> <p>Note that the office name (OCOFC), the voice link group (VLGRP), and the virtual node (VNODE) are also displayed. The virtual node is the logical node for the OCDL group (OCDLGRP).</p> If a link number is specified, the following is displayed. <pre> >QOCDL LINK 1 OCOFC: CARY1 VLGRP: CARYVL1 VNODE: 288 OCDLGRP DLINDEX TMS LINK# PROTLEVEL STATE ===== CARYDL1 1 1 1 HIGH InSv </pre> <p>Again, note that the office name (OCOFC), the voice link group (VLGRP), and the virtual node (VNODE) are also displayed. The virtual node is the logical node for the OCDL group (OCDLGRP).</p>
—continued—	

Enhanced TOPS OC and Increased Remote Support (continued)

OCDL level commands (continued)

Command	Description
QUIT <none, n levels, increment name, or ALL>	<p>This command exits the TOPSIP MAP level and returns to the previous level if no parameter or the level indicated by the parameter. The parameters are as follows:</p> <ul style="list-style-type: none"> • n levels—Specifies the number of MAP display levels to quit. • increment name—Indicates the MAP display level to quit up through. Valid values are TOPSIP, APPL, MTC, and MAPCI. • all—Quit all MAP display levels. <p>The following are examples:</p> <pre> >QUIT (quit one MAP display level) >QUIT 2 (quit 2 MAP display levels) >QUIT APPL (quit up through the APPL level) >QUIT ALL (quit all MAP display levels) </pre> <p>If an invalid level number is entered, the following error message is displayed and the level is not changed.</p> <pre> QUIT -- Unable to quit requested number of levels Last parameter evaluated was: 1 </pre>
—continued—	

Enhanced TOPS OC and Increased Remote Support (continued)

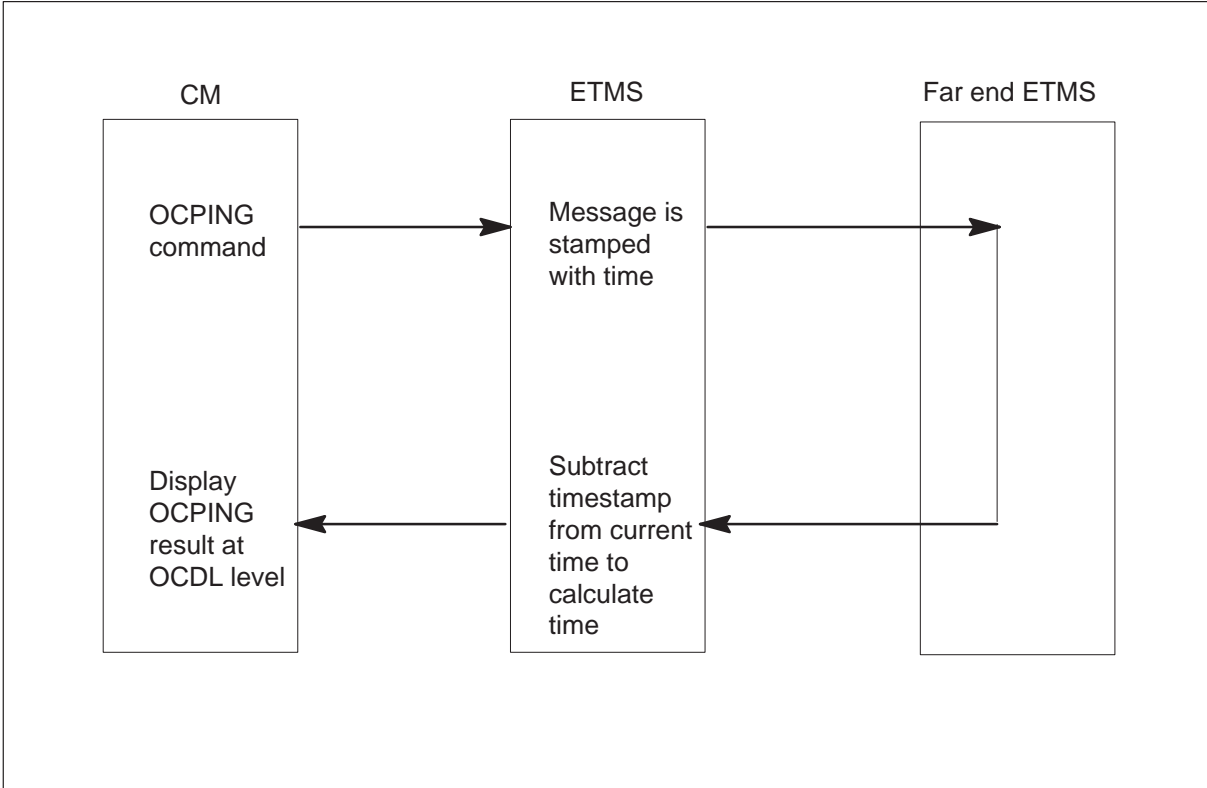
OCDL level commands (continued)

Command	Description
RTS <chnl {0 to 31} or ALL>	<p>This command brings the link into service. The link must be ManB. After successful completion of the RTS command, the link is ready to accept connections. The parameters are as follows:</p> <ul style="list-style-type: none"> • chnl {0 to 31} – rts the indicated channel(s); multiple channels can be entered • ALL – RTS all channels <p>The following are examples.</p> <pre style="margin-left: 40px;">>RTS 0 16 31 >RTS ALL</pre> <p>Possible responses are as follows:</p> <ul style="list-style-type: none"> • If the command is successful, the link is returned to service, a dot is placed under the corresponding label on the MAP display, and the following message is displayed: <pre style="margin-left: 40px;">Channel <number> RTS Passed</pre> • An RTS could fail for the following reasons: <ul style="list-style-type: none"> — no response from PM — loopback point set. — DS-1 carrier not INSV <p>If an RTS failure occurs, the following message is displayed.</p> <pre style="margin-left: 40px;">Channel <number> RTS Failed, <reason>.</pre> • If the ETMS OC SOCs are not in the correct state, the following message is displayed. <pre style="margin-left: 40px;">The ETMS OC SOC must be ON to use this command.</pre> <p>Go to the SOC MAP level and make sure the SOCs are in the correct states.</p> • If the RTS command is issued on a channel that is not manual busy, the following message is displayed. <pre style="margin-left: 40px;">Request Invalid: Channel <number> is <current state>.</pre> <p>Ensure that the channel is in the proper state before attempting the RTS again.</p>
—end—	

Enhanced TOPS OC and Increased Remote Support (continued)

The following figure shows signal flow for the OCPING command.

OCPING command signal flow diagram



OCDL level alarms

Major and minor PM alarms can be raised for OC data links.

Major PM alarm raised when OC data link is ManB or SysB

When an OC data link goes ManB or SysB, a major alarm is displayed at the alarm banner at the top of the MAPCI display. The ManB state is indicated by M and the SysB state is denoted by S under the OCDL number in the OCDL MAP level. If the trouble is caused by a ManB or SysB link, the PM alarm remains ON until there are no ManB or SysB OC data links. This alarm indicates a potential error condition.

The following commands can provide assistance:

- **QUERYPM FLT:** This command is at the PM level of the MAP and can help identify the cause of the PM alarm. If an ETMS OC data link is ManB or SysB, the following message is displayed:

An ETMS OCDL is out-of-service either ManB or SysB

Enhanced TOPS OC and Increased Remote Support (continued)

- QOCDL: This command can help identify the data link in trouble and the data link's attributes, such as the far end office. This information can assist the far end office (host or remote).

The following logs are produced:

- PM 128: This log indicates a node went IsTb because a data link is out-of-service. This log is not generated when the alarm is cleared.
- TOPS300: This log is a trouble log and indicates an ETMS OC data link is SysB due to an error condition. It is also generated when the error condition is cleared.
- TOPS500: This log is a state change log, so it is generated when an ETMS OC data link changes states. For example, the log reports a state change from inservice to manual busy.

Minor PM alarm raised when a TMS is in congestion

Another condition that can cause an alarm is congestion in the TMS. Then, a PM minor alarm is raised, the Cong flag is displayed at the OCDL level of the MAP display, and a PM128 log is produced. The PM128 log reason text is ISP Congestion.

Congestion in the TMS can be caused by several reasons. The most common is too much traffic on the TMS.

The alarm remains until the TMS sends a congestion abatement message to the CM. Also, congestion is cleared by restarts but probably returns after the restart.

Enhanced TOPS OC and Increased Remote Support (continued)

MAP display example at OCDL level with a minor alarm

CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
				1TMS					
				SysB	ManB	OffL	CBsy	ISTb	InSv
TMS									
0	Quit		PM	0	0	0	0	0	60
2			TMS	0	0	0	0	1	2
3									
4									
5			TMS	0 InSv	Links_00S:	CSide	0, PSide	0	
6			Unit0:	Act	InSv				
7	Bsy_		Unit1:	Inact	InSv				
8	RTS_								
9	OffL_								
10			OCDL		1111111111	2222222222	33		
11				0123456789	0123456789	0123456789	01 Mtce Cong		
12				S					
13									
14			QOCDL LINK 0						
15	Cont_								
16	Loopbk_		OCOFC: HOST1				VLGRP: CARYVL1		
17	OCPing_						VNODE: 288		
18	QOCDL_		OCDLGRP DLINDEX TMS LINK# PROTLEVL STATE						
			=====	=====	=====	=====	=====	=====	
			CARYDL1	1	0	0	HIGH	SYSB	
			Time 11:01 >						

Comparison of DCM OC and ETMS OC data link maintenance

The following table provides a comparison of DCM OC and ETMS OC data link maintenance.

Enhanced TOPS OC and Increased Remote Support (continued)

DCM OC and ETMS OC maintenance comparison

Event	DCM OC	ETMS OC
Access OC data link maintenance	mapci;mtc;pm;post dcm <#> (To post a DCM with the data link) mapci;mtc;trks;ttp (To post the data link CLLI)	mapci;mtc;pm;post tms <#>; occl (To access the new OCDL level to perform maintenance on the data link(s))
OC data link is out of service (that is, the link goes SysB)	The TTP data channel CLLI changes to a SysB (SB) state. A TRK103 log is generated indicating a state change in the OC data link.	A PM minor alarm is raised. The OC data link goes SysB. A TOPS300/500 log is generated indicating a state change in the OC data link. A PM128 log is generated indicating a PM alarm. (This scenario is also true for a ManB link except that no TOPS 300 is generated.)
The carrier is out of service	The trunk becomes carrier fail at the TTP level	The OC data link becomes system busy at the OCDL level The QueryPM Flt information indicates a carrier error condition.

ETMS OC troubleshooting guide

This section provides five possible system error conditions and solutions for an ETMS OC system. The following table gives a summary index of these conditions, followed by detailed descriptions of each condition.

Enhanced TOPS OC and Increased Remote Support (continued)**Summary of possible ETMS OC error conditions**

Condition number	Problem indicator	Problem description
1	<ul style="list-style-type: none"> • Status of S for an OCDL • TOPS 300 Log • PM Major Alarm (ETMS_OCDL_OOS) • PM 128 Log (ETMS OCDL OOS) • TMS Node ISTb 	An OC data link is system busy.
2	<ul style="list-style-type: none"> • TOPS 105 Log – No resources available 	An OC voice link is not available.
3	<ul style="list-style-type: none"> • Calls are going to treatment 	Calls go to treatment because not having enough OC voice links are provisioned or OC voice link trunks are MANB or BSY INB.
4	<ul style="list-style-type: none"> • PM Minor Alarm (ISP Processor) • PM 128 Log (ISP Congestion) • Congestion flag at the OCDL MAP level. • Overload flag at the OCDL MAP level. • TMS Node ISTb 	<p>A congestion flag at the OCDL level is caused by the TMS going into congestion.</p> <p>An overload flag is caused by the TMS being over-driven.</p>
5	<ul style="list-style-type: none"> • Status of M for an OCDL • TOPS 500 Log • PM Major Alarm (ETMS_OCDL_OOS) • PM 128 Log (ETMS OCDL OOS) • TMS Node ISTb 	An OC data link is ManB.
6	<ul style="list-style-type: none"> • Deflection from an OPP position 	Calls are deflected from an OPP position and a possible OPP maintenance log.
—continued—		

Enhanced TOPS OC and Increased Remote Support (continued)

Summary of possible ETMS OC error conditions (continued)

Condition number	Problem indicator	Problem description
7	<ul style="list-style-type: none"> • DA, PARS, or QMS MIS failures 	DA, PARS, or QMS MIS failures
—end—		

Condition 1: An OCDL has a link status of S

An OC data link is system busy.

Problem indicator

An S at the OCDL MAP level indicates that an OCDL link is system busy.

Supporting indications

Other problems which can occur for a system busy state include:

- PM Major Alarm
- PM 128 Log with a reason of ETMS OCDL OOS
- TOPS 300 Log
- TMS Node is ISTb
- The QOCDL SYSB command indicates which OCDL is system busy.

Problem isolation steps

The following steps can isolate where the problem is occurring:

- 1 Determine which link is system busy by noting which link is marked with an S at the OCDL MAP level.
- 2 The TOPS 300 log indicates which link went SysB.
- 3 Enter QOCDL SYSB at the OCDL level from any OC ETMS to show which link(s) are system busy.

Enhanced TOPS OC and Increased Remote Support (continued)

Possible causes and remedies

The following table provides possible solutions.

Possible causes and solutions

Possible cause for an OCDL with a status of S	Solution
The far end of the OCDL is ManB.	RTS the link at the far end and ensure that it goes to an InSV state at both ends.
Both ends of a TMSOCDL link are system busy.	<p>Perform the following steps.</p> <ol style="list-style-type: none"> 1.. Ensure that the carrier is inservice at the Carrier level of the MAP. 2.. If there are carrier problems, perform standard procedures in order to return it to service. 3.. From the OCDL MAP level, execute an internal CONT test. 4.. If the internal CONT test fails, then there is a problem with the peripheral. If this is the case, do the following: <p style="margin-left: 40px;">BSY, PMRESET, and RTS the peripheral. If this fails, then most likely, the EISP or the UP processor is bad.</p> 5.. If the internal CONT test passes, then set a loopback point on the far end. 6.. After setting the loopback point, perform an external continuity test. If the external continuity test passes, then most likely the SysB problem is due to datafill problems.
—continued—	

Enhanced TOPS OC and Increased Remote Support (continued)

Possible causes and solutions

Possible cause for an OCDL with a status of S	Solution
<p>The OCDLGRP for the TMSOCDL link at both ends have the same LAPDATTR value.</p>	<p>The two ends of an OCDL cannot have the same value datafilled in table OCDLGRP field LAPDATTR. One end must be NT and the other end must be TE. Reference the translations guide under this functionality for more details. Perform the following steps.</p> <ol style="list-style-type: none"> 1.. Determine which end of the link will have its LAPD attribute changed. 2.. Offline all of the links in the OCDL group by issuing the OffL command from the OCDL MAP level for each link in the group. 3.. Delete the links in table TMSOCDL that belong to the OCDLGRP. 4.. Delete the tuple for the group in table OCDLGRP. 5.. Re-add the tuple in table OCDLGRP with the new value in the LAPDATTR field. 6.. Re-add all of the links in table TMSOCDL for that group. 7.. BSY and RTS all of the OCDLs for the group at the OCDL MAP level.
<p>—continued—</p>	

Enhanced TOPS OC and Increased Remote Support (continued)

Possible causes and solutions

Possible cause for an OCDL with a status of S	Solution
<p>The PROTLEVEL field in table TMSOCDL is different for each end (OCDLGRP).</p> <p>or</p> <p>The PROTLEVEL field for each end is the same; but, it is not set at the proper level. This could be the case if the link repeatedly goes system busy.</p> <p>The ETMS OCDL was inadvertently connected to a DCM OCDL at the far end.</p>	<p>Perform the following steps.</p> <ol style="list-style-type: none"> 1.. Determine the proper protocol level. Note that the PROTLEVEL value must be datafilled with the same value at both ends of the TMSOCDL link. If necessary, refer to the LAPD parameters that are described under table TMSOCDL in the data schema section of the translations guide, for each protocol level. 2.. From the OCDL MAP level, busy the link which has an improper protocol level. 3.. Perform a CHAnge operation on the appropriate tuple in table TMSOCDL in order to specify the correct value in the PROTLEVEL field. 4.. From the OCDL MAP level, return the link to service. <p>DCM OC and ETMS OC datalink interfaces cannot be interfaced between a host and a remote. An OCDL must either terminate on DCMs or ETMSs at both ends.</p>
—end—	

Condition 2: TOPS 105 Log – No resources available

An OC voice link is not available.

Problem indicator

A TOPS 105 log is generated indicating that no resources are available.

Enhanced TOPS OC and Increased Remote Support (continued)

Supporting indications

Another problem which can occur when the TOPS 105 log (No resources available) is generated is that the call goes to treatment.

Problem isolation steps

The following steps can isolate where the problem is occurring

- 1 Does the datafill in table VLMEM match for both the host and the remote for this office?
- 2 Are there trunks datafilled in table TRKMEM for a particular trunk group where only some of the trunk members are datafilled in table VLMEM?

Possible causes and remedies

The following table provides possible solutions.

Possible causes and solutions

Possible cause for a TOPS105 log	Solution
A data mismatch for the host and remote in table VLMEM.	Make table VLMEM match in the host and the remote.
Are there trunks datafilled in table TRKMEM for a particular trunk group where only some of the trunk members are datafilled in table VLMEM?	All trunks in table TRKMEM for a given trunk group should also be datafilled in table VLMEM.

Condition 3: Call going to treatment

Calls go to treatment because not having enough OC voice links are provisioned or OC voice link trunks are MANB or BSY INB.

Problem indicator

A fast busy signal is generated when a call goes to treatment.

Supporting indications

If no TOPS105 log is generated, there is no way, other than the fast-busy tone, of knowing that the call has gone to treatment.

Enhanced TOPS OC and Increased Remote Support (continued)

Problem isolation steps

The following steps can isolate where the problem is occurring.

- 1 Check to see if enough voice links are provisioned.
- 2 Check to see if there are any MANB or BSY INB voice links.

Possible causes and remedies

The following table provides possible solutions.

Possible causes and solutions

Possible cause for calls going to treatment	Solution
There are MANB or BSY INB voice links.	Ensure that all members of the voice link trunk group are inservice by RTSing any links that are MANB or BSY INB at the carrier MAP level.
Not enough voice links are provisioned.	Provision an adequate number of voice links. Reference the translations guide under this functionality for more details.

Condition 4: An OC ETMS is in Congestion/Overload

A congestion flag at the OCDL level is caused by the TMS going into congestion.

An overload flag is caused by the TMS being over-driven.

Problem indicator

The CONG or OVLD flag at the OCDL level is present.

Supporting indications

Other problems which also occur when congestion is encountered include:

- PM Minor Alarm (PROCESSOR_CONGESTED)
- PM 128 Log with a reason of “ISP Processor Congestion.”
- TMS Node is ISTb

Enhanced TOPS OC and Increased Remote Support (continued)

Problem isolation steps

The following steps suggest two different methods to isolate where the problem is located and determine which ETMS is in congestion or overload:

- 1 Check the PM128 log, which indicates which TMS went into congestion/overload.
- 2 Determine which ETMS is in congestion or overload by checking the EXT 106 log. Or, enter the OCDL level on each ETMS until the CONG or OVLD flag is observed.

Possible causes and remedies

The following table provides possible solutions.

Possible causes and solutions

Possible cause for OC ETMS in congestion/overload	Solution
<p>The ETMS in congestion or overload is attempting to process traffic at a rate beyond its design intent (that is, beyond the rate recommended in the ETMS OC provisioning rules).</p>	<p>Perform the following steps:</p> <ol style="list-style-type: none"> 1 Reduce the amount of traffic through the ETMS to the levels recommended in the ETMS OC provisioning rules as follows. <ol style="list-style-type: none"> a Determine if there is an alternate ETMS that can process more traffic within the provisioning rules and reroute some traffic to that ETMS. b BSY voice links associated with that ETMS so that new calls are not routed through that ETMS. c If Night Closedown is available and can reduce traffic on the ETMS in congestion or overload, then go to Night Closedown. 2 Reevaluate the engineering for the OC network to ensure that all ETMS are engineered according to the ETMS OC provisioning rules in the translations guide under this functionality.

Condition 5: An OCDL has a link status of M

An OC data link is ManB.

Enhanced TOPS OC and Increased Remote Support (continued)

Problem indicator

The M at the OCDL MAP level indicates that an OCDL link is manual busied.

Supporting indications

Other problems which also can occur when a link is ManB include:

- PM Major Alarm (ETMS_OCDL_OOS)
- PM 128 Log with a reason of ETMS OCDL OOS
- TMS node is ISTb

Problem isolation steps

The following steps can isolate where the problem is occurring

- 1 Determine which link is ManB by noting which link is marked with an M at the OCDL MAP level.
- 2 The TOPS 500 log indicates which link changed to a ManB state.
- 3 Enter QOCDL MANB at the OCDL level from any OC ETMS to show which link(s) are ManB.

Possible causes and remedies

The following table provides possible solutions.

Possible causes and solutions

Possible cause for OC ETMS of M	Solution
The OCDL is manually busied.	RTS the link and ensure that it goes to an InSv state.

Condition 6: Deflection from an OPP position

Calls are deflected from an OPP position and a possible OPP maintenance log.

Problem indicator

When deflection occurs, an OPP maintenance log can be generated at the maintenance log reporting device when the OPP position receives a Call End message without receiving a Call Begin message. This depends upon the particular implementation of the OPP position. In addition, when the call deflects from the primary Host and OM group TOPSALT, register ALTDEF is pegged.

Enhanced TOPS OC and Increased Remote Support (continued)

Problem isolation steps

The following steps can isolate where the problem is occurring.

- 1 Determine whether one of the OPP positions on the host switch is using a pre-TOP04 compatible software load.
- 2 Determine whether the software release being used by the remote and host are TOP04 or greater.

Possible causes and remedies

The following table provides possible solutions.

Possible causes and solutions

Possible cause for deflection from an OPP position	Solution
The most likely cause for the deflection is incompatible software releases. That is, the remote and host switches are using software at release level TOP04 (or greater) and the OPP position is using a software release that is a pre-TOP04 compatible version.	The OPP position should be loaded with a TOP04 compatible version of software since the pre-TOP04 compatible version is not allowed.

Condition 7: DA, PARS, or QMS MIS failures

DA, PARS, or QMS MIS failures

Possible causes and remedies

The following table provides possible solutions.

Possible causes and solutions

Possible cause for DA, PARS, or QMS MIS failures	Solution
Incompatible versions of software	Make sure that the software in DA, PARS, or QMS is compatible with switch id's from 16–31 as this was the only change to these protocols for ETMS OC.

Enhanced TOPS OC and Increased Remote Support (continued)

Limitations and restrictions

This project provides numerous benefits over the existing DCM OC data link capabilities. However, it is important to note the restrictions and limitations identified below.

- A DCM OC data link cannot be interfaced to an ETMS OC data link due to the protocol incompatibilities. An OC data link must either terminate on DCMs at both ends or on ETMSs at both ends.
- A single ETMS peripheral cannot serve as both an OC server and position/database server simultaneously due to the hardware configuration and download data difference.
- The current limit of supporting a maximum of 15 OC nodes remains unchanged for the DCM OC configurations. The extension to 31 OC nodes is only supported with the ETMS OC platform. Using Base OC only, an office may connect up to 31 OC nodes. OC connections using DCM data links must use OC office numbers between 1 and 15. OC connections using ETMS data links may use OC office numbers between 1 and 31.
- This product does NOT change the existing maximum of 1022 operator positions in the host office.
- As with the existing TMS platform, the correct engineering analysis must be applied and the provisioning rules followed for proper OC network operation. For example, the ETMS OC peripheral can physically support up to 31 OC data links. However, the ETMS must be configured so that the message capacity is not exceeded. The amount of operator traffic and number of links configured dictates the proper engineering and provisioning of the ETMS OC peripheral. Refer to the *North American DMS-100 Translations Guide*, 297–8021–350, under these functionalities (ENSV0008 and ENSV0011) in the provisioning section for more information.
- The previous limit to the number of OC voice links was 255 members. This project extends this limit to 2047 OC voice link members. While there is no restriction to extending the number of OC voice links associated with DCM OC data links, no benefit is realized due to the existing and unchanged limit to the number of DCM OC data links provisionable.
- Specific ETMS OC product limits include:
 - a maximum of 31 OC nodes, controlled by table OCOFC
 - a maximum of 32 ETMS OC data links between a host and remote, controlled by table TMSOCDL;

Enhanced TOPS OC and Increased Remote Support (continued)

- a maximum of 256 ETMS OC data links in an office, controlled by table TMSOCDL
- a maximum of 2047 OC voice links per OC voice link group (that is, per OCGRP entry), controlled by table VLMEM
- In order for other TOPS applications to support more than 15 OC nodes, the far end configuration may need to be changed. In particular, the switch id (or office id) field in the following application protocols need to be extended from 15 to 31.
 - PARS (Personal Audio Response System)
 - QMSMIS (Queue Management System Management Information System)
 - OPP (Open Position Protocol)
 - Std DA (Standard Directory Assistance)
 - IBM DA (International Business Machines Directory Assistance)

Before the switch id (or office id) field is extended, it must be verified that the DA database system is capable of supporting office numbers greater than fifteen.

- With the introduction of ETMS OC, it is possible to have both DCM OC data links and ETMS OC data links interfacing from the same remote to the same host office. In this scenario, it is required that functionality Host/Remote Networking by Queue Type (ADVQ0005) be used to segregate traffic between the DCM OC data link set and ETMS OC data link set. The same OC traffic cannot be shared across the differing platforms even though the traffic originates from the same remote to the same host. This is because all datalinks in an OC datalink group must use the same platform as indicated by the DLSEL field value in table OCGRP.
- Before upgrading any switch in an OC network to TOPS04, it is required to upgrade OPP-compatible positions to a software version compliant with OPP Issue 4 if any of the following conditions are met in the host which serves the positions:
 - Traffic is being routed to the OPP-compatible positions from a remote datafilled in the host's OCOFC table with a value greater than 15.
 - or
 - Standalone traffic in the host is routed to the OPP-compatible positions when the host's SWITCH_NAME tuple in table OCPARMS points to an OCOFC value greater than 15.

Enhanced TOPS OC and Increased Remote Support (continued)

- Before datafilling a tuple in table OCGRP with an OFFICE defined in table OCOFC with a value greater than 15, field BCSLEVEL of that tuple must be set to 39 (TOPS04). Field BCSLEVEL represents the software load of the lower of the two connected switches. So, both switches (OC nodes) connected by this tuple in OCGRP should be upgraded to TOP04 before setting field BCSLEVEL to 39 (TOPS04).

TOPS DA Subtending TMS

Ordering codes

Functional group ordering code: EWSS0001

Functionality ordering code: EWSS0003

Release applicability

BCS35 and up

BCS35 introduced TOPS DA Subtending TMS.

Requirements

To operate, TOPS DA Subtending TMS requires the functional groups that follow:

- Base Generic, BAS00003
- Operator Services Basic, OSB00001
- Operator Services Directory Assistance, OSDA0001

Description

This module describes congestion and overload controls for an ISDN signaling processor (ISP) and D-channel handler (DCH) processor.

Congestion subsystem

The congestion subsystem handles detection and reports of a critical shortage of resources (CPU cycles, FIFO entries and Rockwell BUFFERS) in the ISP and DCH processor. It is an integral part of the ISP and DCH software. The Overload subsystem interacts with the congestion subsystem to take necessary actions (shutting down services in a graceful manner) to recover from a congestion/overload state in the DCH. CM logs (PM270 and, or PM271) are printed at the occurrence and abatement of congestion.

Congestion recognition

Detection of congestion requires recognition of the symptoms of congestion at the earliest possible time. Congestion here is defined as the critical shortage, or complete absence, of those resources necessary for the continued processing of incoming or outgoing D channel information. This includes messages requesting overhead services such as maintenance and diagnostics. Congestion due to shortage of layer 1 resources is considered and include the following layer 1 resources:

- Layer 1 buffers – free pool and dedicated transmit or receive channel buffers (that is, Rockwell Buffers).
- Layer 1 buffer processing capacity (that is, FIFO entries).

TOPS DA Subtending TMS (continued)

- ISP and DCH processor capacity (that is, CPU cycles).

Processing capacity is indirectly linked to the buffering capacity of the ISP and DCH. High buffer occupation indicates high use of processing capacity since full buffers represent queued events waiting for processing.

Conversely, many free buffers can indicate either under used processing capacity, or low traffic processing requirements. Regular monitoring of physical resource levels is required for early congestion detection. It is possible to monitor these resources, on a per Rockwell cell basis, with the interface described in AC0302 – ISDN HDLC Device R8071 Interface. This interface is used in the NTB01AB card, described in the Hardware Discription Manual, 297–8991–8055. Possible causes of resource shortage include:

- Incorrect engineering of layer 1 parameters.
- Unexpectedly high traffic peaks.
- Changes in traffic mix.
- Babbling channels.
- Hardware failures.

Free pool depth is used as a congestion indicator since it indirectly represents the number of buffers that require processing by the ISP or DCH. Processor availability is used as a congestion indicator because it directly represents the ability of the ISP or DCH to carry out its functionality.

Congestion occurs when one or more of these condition prevail:

- The ISP or DCH processor cannot keep up with buffer transmission and reception rate. That is, the number of buffers queued for service across all Rockwell cells exceeds processing capacity.
- The free pool of any Rockwell cell nears depletion (10% or less of free buffers are available).
- The number of available free processing cycles is insufficient for completion of ISP or DCH tasks not related to the processing of Rockwell buffers.

The ISP and DCH processor can service a finite number of buffers in a given time period. Consideration of protocol dictates that no more than 1/2 second (500 milliseconds) of backlog should exist in the ISP or DCH. Messages containing packet data require buffers as a function of the message length. Thus, the number of messages processed by a DCH is a function of the SAPI services required.

TOPS DA Subtending TMS (continued)

Some influence over traffic mix is possible by monitoring the traffic mix in a live office and configuring the office accordingly. It is estimated that D-channel packet traffic significantly exceeds call control traffic. Also, packet traffic is more buffer intensive; this is because DCH buffers are required only for SAPI 0 call set-up and take-down. Should congestion occur on a regular basis, packet traffic (SAPI16) through the DCH is the likely cause.

Congestion detection

Congestion detection is related to the following:

- CPU cycles available:

- Calibration:

At the initialization time (when no other application TASKs are running), a high priority calibration TASK (a priority 7 TASK) calibrates the CPU. (How many CPU cycles are required for executing a loop 80,000 times). This TASK is killed after calibration is complete. The calibration TASK computes the average time (over 8 samples) to execute a loop 80,000 times. This time is the least time (in CPU cycles) the CPU takes to execute the loop 80,000 times. The calibrated time is not changed thereafter.

- Monitoring CPU Availability:

A low priority application TASK (IDLER task at priority 0) is activated. When the CPU cycles are available, this TASK runs. Available CPU cycles are monitored through this IDLER TASK.

If IDLER TASK is running always (time to execute the loop or fraction thereof is comparable with that of the calibrated time), then the CPU is 100% available. There is about an 8% overhead for system TASKs in the ISP and DCH.

If the IDLER TASK didn't run at all, then the CPU may be congested. The CPU is considered congested if it is running at 95% or greater capacity.

- How is CPU availability calculated?

At every 250 millisecond interval, congestion control TASK is woken up to check the status of the three resources (CPU, FIFO, BUFFERS). A function, CPU-avail, determines CPU cycles (in percentage) consumed by IDLER TASK in the last quarter and computes the average of last 8 readings. The result is reported to the ava_chk procedure to calculate CPU availability.

TOPS DA Subtending TMS (continued)

Ava_chk computes CPU Availability by averaging out over the last 20 sample readings from CPU_avail.

A moving window of 20 samples is maintained to compute the average.

- **FIFO entries:**

If more than half of the FIFO is filled up, the ISP or DCH is considered congested as it will not be able to handle data in the FIFO in the next half-second. However, due to gross mis-calculations of FIFO queue depths, this criteria is not currently being used to determine congestion.

- **Buffers:**

Depth of free pool (of buffers) is calculated and compared with a predetermined processing capacity of the processor. (100 per second for ISP and 300 per second for DCH processor). This calculation is performed to determine the free pool buffer levels the system should enter and exit from the congestion state.

Buffer availability has a direct link to CPU usage. High buffer occupancy indicates high CPU occupancy because full buffers represent queued events waiting for processing.

Congestion reporting

When congestion has occurred and how often, can be vital information. Congestion is reported to the CM in the form of DMS-100 log messages and MAP postings. PM270 (DCH) and PM271 (ISP) log messages are generated to indicate:

- The onset of congestion.(with reason – CPU cycles/FIFO/BUFFER)
- The abatement of congestion.

Manual congestion

The ISP or DCH processor can be forced into congestion by PMDEBUG. Please refer to the PMDEUG Technical Assistance Manual, TAM-1001-004, for information regarding this command.

Overload subsystem

DCH overload is a state where more data is available at the inputs of a DCH than it is able to process in a finite amount of time. The DCH uses input buffers to queue incoming messages until it has time to process them. If these queues get too big then messages destined for the data link layer may be delayed sufficiently to violate the layer two protocol. It is this type of protocol violation that DCH overload control guards against.

TOPS DA Subtending TMS (end)

The DCH overload control system protects the SAPI0 subscriber service against disruptions caused by capacity limitations in the DCH. This is achieved at the expense of SAPI16 service to the subscriber.

An Overload system was not implemented in the ISP.

Overload recovery

Upon detection of an overload condition (less than 1% CPU cycles available), the following corrective action is taken:

Shedding of all SAPI16 frames (less than 1% CPU cycles available and CPU needs more than 3/4 second to process pending buffers)

When a DCH is overloaded, it is using most of its resources for call processing. As a result, many diagnostic actions on the DCH will either not run, because they are run at a lower priority, or they will fail through a timeout, because the DCH cannot allocate enough resources to complete the action within the prescribed time limits.

When a DCH recovers from the overload state, SAPI16 frames are no longer shed and call processing and diagnostic actions are performed based upon available resources.

Overload reporting

DCH overload uses the PM270 LOG when overload is detected or abated.

TOPS and TMS alarm clearing procedures

Note, this chapter is a duplicate of the procedures for the TOPS system in the Alarm Clearing Procedures manual.

This chapter provides procedures for clearing alarms. Each alarm description in this chapter contains the following elements:

- explanatory and context-setting information
- summary flowchart
- step-action instructions

Explanatory and context-setting information

The first page of each module contains the following headings:

- Indication (where the alarm appears on the MAP display)
- Meaning (what the alarm means)
- Impact (how it affects subscriber service)
- Common procedures (common procedures you will need to perform, if applicable)
- Action (how to use the flowchart and step-action instructions)

Summary flowchart

The flowchart is only a summary of the main actions, decision points, and possible paths you may take. Do not use the summary flowchart to perform the procedure. Instead, use it to preview what you will be doing and to prepare for it. For example, if you see that these instructions involve another office, you will know to advise that office before you begin the step-action instructions.

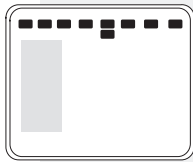
Step-action instructions

The step-action instructions tell you how to clear an alarm. Normally you will perform the steps in order, but you may be directed to return to a previous step and repeat a sequence. The successful completion of a step

may depend on previous steps; therefore, always perform the steps in the order specified.

While following the step-action instructions, you may be sent to the “Common procedures” chapter of this book to perform a set of instructions, or to another section of this NTP for a related procedure. If this happens, you will be told when to return to the original instructions, and to which point in those instructions you should go.

The step-action instructions provide the command syntax and machine output you use or see while performing the procedure. For help on DMS commands or output (for example, problems logging into a utility), see “Where to find information” for the appropriate NTP number.

**PM TMS
critical****Alarm display**

CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.	1TMS	.	.	.	.	.
				C					

Indication

A TMS, a number, and a *C* appear under the PM header of the alarm banner. The number precedes the TMS. The *C* follows the TMS. These items indicate a TOPS message switch (TMS) critical alarm. The number that precedes the TMS indicates the number of TMSs the alarm affects. The alarm banner is at the MTC level of the MAP display. An alarm banner with a TMS critical alarm appears in the preceding figure.

This procedure applies to all TOPS office configurations for the TMS, which follow:

- The TMS connects to an integrated TPC, which supports up to four integrated MP positions.
- The TMS connects to a virtual TPC, which supports MPX-IWS positions on a token ring.

Meaning

The TMS is system busy (SysB) or C-side busy (CBsy). A TMS is system busy if both units are system busy. A TMS is system busy if one unit is system busy and the other unit is manual busy (ManB). A TMS is C-side busy if both units are C-side busy.

Result

Service does not continue when a TMS is system busy or C-side busy.

Common procedures

This document refers to the following common procedures:

- Clearing PM C-side links
- Monitoring system maintenance

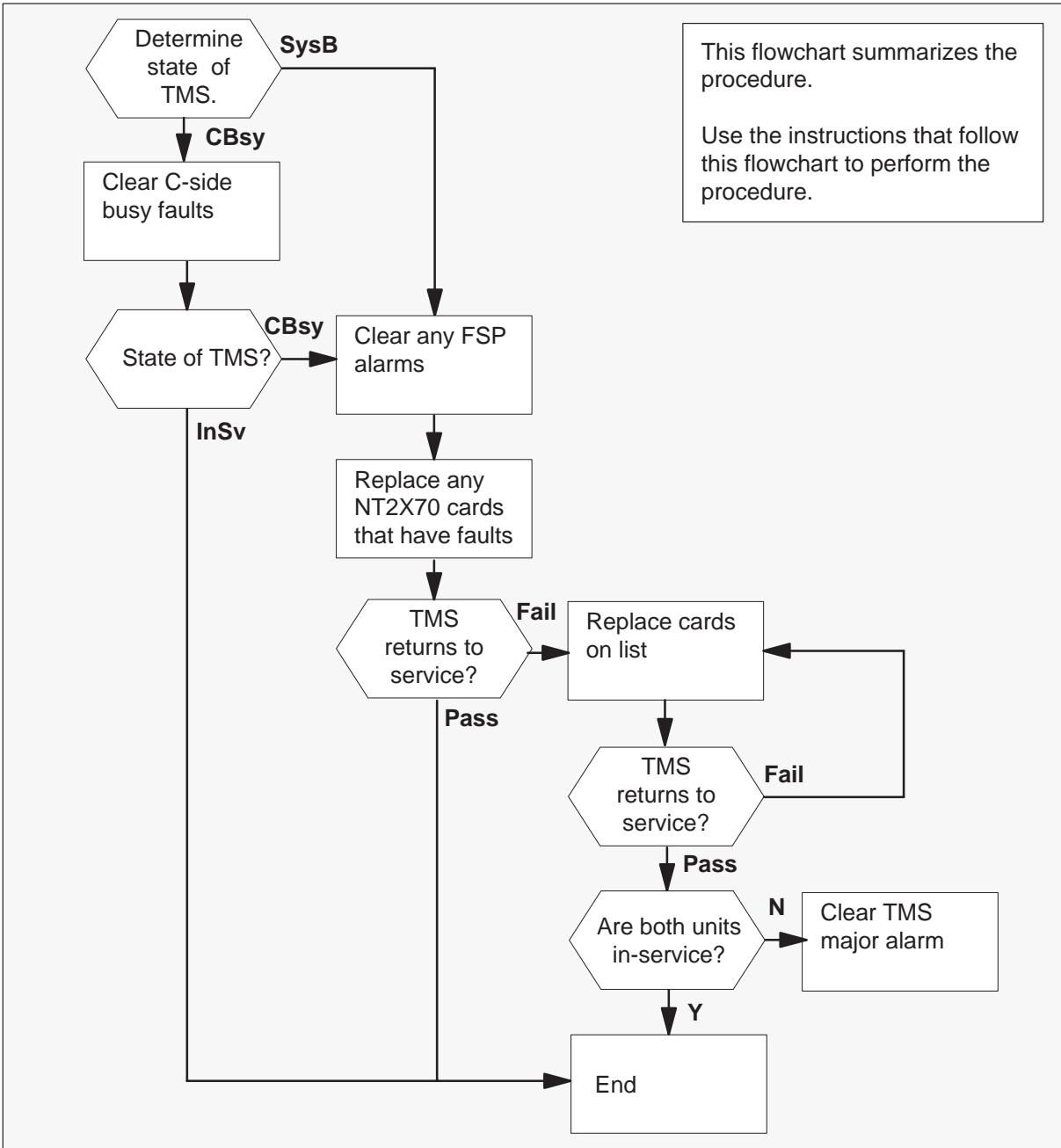
Go to the common procedures when the step-action procedure directs you to go.

PM TMS
critical (continued)

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to clear the alarm.

Summary of clearing a PM TMS critical alarm



PM TMS
critical (continued)

Layout of TMS shelf

		27
		26
NT2X70	Power converter card	25
NT0X50	Filler pack	24
NT0X50	Filler pack	23
NT6X40	DS30 C-interface card	22
NT6X41	Speech bus formatter card	21
NT6X42	Channel supervision message card	20
NT0X50	Filler pack	19
NT6X69	Message and tone card	18
NT0X50	Filler pack	17
NT6X92	Universal tone receiver card	16
NT6X92	Universal tone receiver card	15
NT6X44	Time switch card	14
NT7X05	Peripheral/Remote loader	13
NTMX77	Unified Processor (UP)	12
NT0X50	Filler pack	11
NT0X50	Filler pack	10
NT0X50	Filler pack	09
NT0X50	Filler pack	08
NT0X50	Filler pack	07
NT0X50	Filler pack	06
NT6X50	DS1 Interface	05
NT6X50	DS1 Interface	04
NT6X50	DS1 Interface	03
NT6X50	DS1 Interface	02
NT6X50	DS1 Interface	01

PM TMS critical (continued)

Clearing a PM TMS critical alarm

At the MAP display

- 1 To access the PM level of the MAP display, type
>MAPCI;MTC;PM
and press the Enter key.

Example of a MAP display response:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	1	3	5	7	6	12

If	Do
an audible alarm is ringing	step 2
the *C* indicator at the alarm banner is flashing	step 2

- 2 To silence the alarm, type
>SIL
and press the Enter key.

PM TMS critical (continued)

- 3 To determine if system-busy or C-side busy TMSs causes the critical alarm, type

>STATUS

and press the Enter key.

Example of a MAP display response:

	SysB	ManB	OffL	CBsy	ISTb	InSv
PM	2	0	0	2	0	25
TM8	0	0	0	0	0	2
MTM	0	0	0	0	0	3
LGC	1	0	0	0	0	3
LCM	0	0	0	2	0	0
TMS	1	0	0	0	0	1
LIM	0	0	0	0	0	1
LIU7	0	0	0	0	0	1
FRIU	0	0	0	0	0	1
DTC	0	0	0	0	0	1
LCME	0	0	0	0	0	1

MORE ...

Note: If TMSs are SysB and CBsy, work on the SysB TMSs first.

- 4 To display every CBsy or SysB TMSs, type

>DISP STATE state TMS

and press the Enter key.

where

state is CBsy or SysB, as you determined in step 2

Example of a MAP display response:

SysB TMS : 0

Note: If multiple TMSs are CBsy or SysB, select a TMS on which to work. Record the TMSs number.

If you	Do
recover a CBsy TMS	step 5
recover a SysB TMS	step 6

PM TMS critical (continued)

- 5 Go to the common procedure "Clearing PM C-side faults" in this document. Complete the procedure. Return to this step.

If	Do
the TMS remains CBsy	Treat the CBsy TMS as a SysB TMS. Go to step 23.
the TMS changes to SysB	step 6
one TMS unit returns to service	step 43
both TMS units return to service	step 45

- 6 Check the EXT header of the alarm banner for an FSP alarm.

If an FSP alarm	Do
is present	step 7
is not present	step 23

- 7 To locate the FSP alarm, type

>EXT; LIST FSP

and press the Enter key.

Example of a MAP display response:

FSPAISD

In this example, the alarm is an FSP alarm on Aisle D.

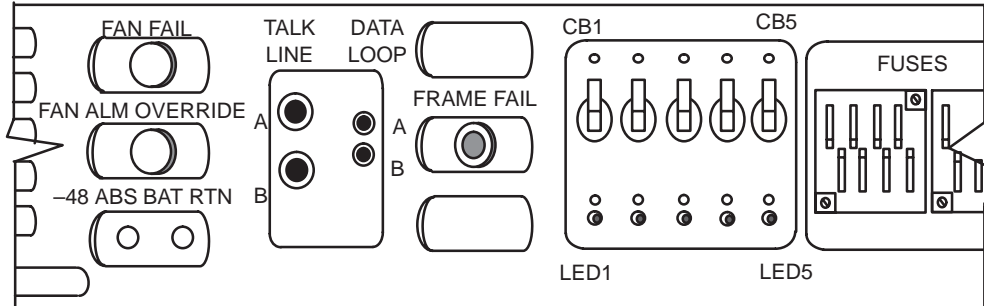
At the equipment aisle

- 8 Go to the aisle that step 7 identifies. The system illuminates the end aisle alarm.

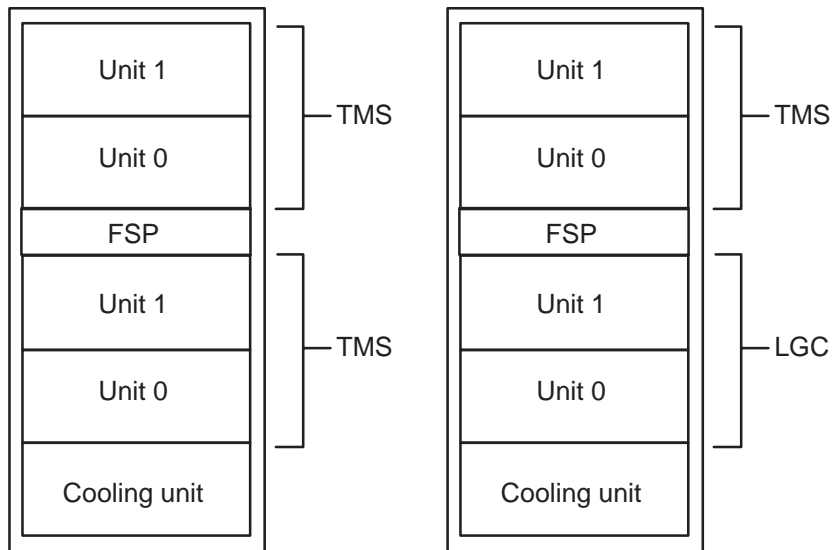
PM TMS
critical (continued)

At the equipment frame

- 9 Check the frame fail lamp on the frame supervisory panel (FSP) of each frame to identify the frame with the FSP alarm. The frame with the FSP alarm has an illuminated frame fail lamp. An FSP with an illuminated fail lamp appears in the following figure.



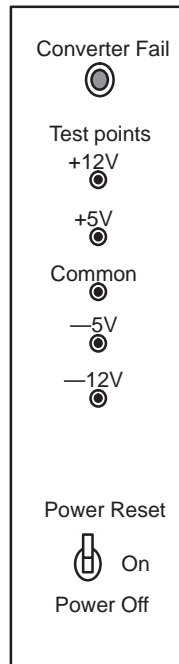
- 10 This alarm is a TMS critical alarm. The frame is a digital trunk equipment (DTE) frame or a line group equipment (LGE) frame. Identify the PMs in the frame. See the following figure for help.



PM TMS

critical (continued)

- 11 Check the Converter Fail LED on each NT2X70 power converter card in the frame. See the figure "Layout of TMS shelf" for assistance in locating this card. See the following figure of a NT2X70AE card for assistance in checking the Converter Fail LED.



If any LEDs	Do
are lit	step 12
are not lit	step 23

- 12 Note the TMS with the LED lights on.

PM TMS critical (continued)

At the MAP display

- 13** To post the system-busy TMS and identify the location of the TMS, type

>PM; POST TMS tms_no;QUERYPM

and press the Enter key.

where

tms_no is the number of the TMS you recorded in step 4. The range of the number is 0 to 255.

ATTENTION

Record the Active unit for use later in this procedure. When the TMS is manually-busied, unit activity does not appear. The active unit is 0 or 1.

Example of a MAP display response:

```
TMS      0          SysB Links_OOS:  CSide 32, PSide 0
Unit0:    Act      SysB
Unit1:    Inact   SysB

PM Type: TMS  PM No.: 0  PM Int. No: 0  Node_No.: 21
PMs Equipped: 38  Loadname: ECL06BB
Unit 0 is patched
Unit 1 is patched
WARM SWACT is supported but not possible:  node redundancy lost.
TMS 0 is included in the REX schedule.
REX on TMS 0 has not been performed.
Node Status:  {OK, FALSE}
Unit 0  Act, Status: {OK, FALSE}
Unit 1 Inact, Status: {OK, FALSE}
Site Flr RPos Bay_id Shf Description Slot  EqPEC
HOST 02  D01  DTE 00  51  TMS : 000      6X02NA
```

If a Mtce indicator	Do
appears next to one unit	step 14
does not appear	step 15

PM TMS

critical (continued)

- 14 Go the common procedure "Monitoring system maintenance" in this document. Complete this procedure. Return to this step.

If the critical alarm	Do
remains	step 15
changes	step 43
clears	step 45

- 15 Determine if the TMS is the TMS you identified in step 12.

If the TMS	Do
is different	step 33
is the same	step 16

- 16 To busy the TMS, type
>BSY PM
and press the Enter key.

- 17 Choose the active unit on which to work.

At the equipment frame

- 18 Change the NT2X70 card. Refer to the correct procedure in *Card Replacement Procedures*. Complete this procedure. Return to this step.

PM TMS critical (continued)

At the MAP display

- 19 The peripheral/remote loader-16 card (NT7X05) allows local loading of XPM data. This action reduces recovery time. To check if the NT7X05 card is provisioned, type

>QUERYPM FILES

and press the Enter key.

Example of a MAP display:

```

      CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
      .   .   .   .   1TMS .   .   .   .   .
                *C*

TMS
0 Quit      PM      2      0      2      0      2      25
2 Post      TMS     0      0      0      0      1      10
3 ListSet
4           TMS     0 ISTb Links_OOS: CSide 0, PSide 0
5 TRNSL_    Unit 0:  ManB
6 TST_      Unit 1:  ManB
7 BSY_      QueryPM files
8 RTS_      Unit 0:
9 OffL      NT7X05 load File: ECL06BD ← (NT7X05 load file name)
10 LoadPM_  NT7X05 Image File: ECL06BD
11 Disp_    NT7X05 Image Timestamp: 1996/01/17 16:01:52.944 WED.
12 Next_    Unit 1:
13 SwAct    NT7X05 load File: ECL06BD
14 QueryPM  NT7X05 Image File: ECL06BD
15         NT7X05 Image Timestamp: 1996/01/17 16:04:52.944 WED.
16
17 Perform
18

```

Note: If the NT7X05 card is not provisioned, the MAP response is:

NT7X05 not datafilled. QueryPm files invalid

If the NT7X05 card	Do
is provisioned	step 20
is not provisioned	step 22

PM TMS critical (continued)

- 20 To load the TMS from the local Image, type
>LOADPM PM LOCAL IMAGE
and press the Enter key.

If the load	Do
passed	step 34
failed	step 21

21



WARNING

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.



CAUTION

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

- To load the TMS from the local loadfile, type
>LOADPM PM LOCAL LOADFILE
and press the Enter key.

If the load	Do
passed	step 34
failed	step 22

PM TMS critical (continued)

- 22 To load the TMS from the CM, type

>LOADPM PM

and press the Enter key.

If the load	Do
failed, and the system generates a card list	step 35
failed, and the system does not generate a card list	step 44
passed	step 34

- 23 To post the TMS, type

>POST TMS tms_no

and press the Enter key.

where

tms_no is the number as you recorded in step 4. The number can be from 0 to 255.

Example of a MAP display response:

```
TMS    0          SysB Links_OOS:  CSide 32, PSide 0
Unit0:  Act      SysB
Unit1:  Inact   SysB
```

If a Mtce indicator	Do
appears next to one unit	step 24
does not appear	step 25

- 24 Go the common procedure "Monitoring system maintenance" in this document. Complete this procedure. Return to this step.

If the critical alarm	Do
remains	step 25
changes	step 43
clears	step 45

PM TMS

critical (continued)

- 25 To query the TMS for fault indications, type:

>QUERYPM FLT
and press the Enter key.

Example of a MAP display response:

Activity dropped

- 26 Record the MAP response.

If the MAP response	Do
is SWACT In Progress	step 27
is Load Corruption	step 28
is Load Failed	step 28
is Distributed Data Loading Failed	step 28
is Activity dropped	step 28
is other than listed here	step 33

- 27 The system switches activity between the two TMS units to attempt to recover the TMS. Wait until system maintenance is complete.

If	Do
a TMS unit does not return to service	step 33
one TMS unit returns to service	step 43
both TMS units return to service	step 45

- 28 To busy the TMS, type
>BSY PM
and press the Enter key.

PM TMS critical (continued)

- 29 The peripheral/remote loader-16 card (NT7X05) allows local loading of XPM data. Local loading reduces recovery time. To check if the NT7X05 card is provisioned, type

>QUERYPM FILES

and press the Enter key.

Example of a MAP display:

```

      CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
      .   .   .   .   1TMS
                *C*

TMS           SysB  ManB  OffL  CBsy  ISTb  InSv
0 Quit      PM    2     0     2     0     25
2 Post     TMS    0     0     0     0     10
3 ListSet
4          TMS    0 ISTb Links_OOS: CSide 0, PSide 0
5 TRNSL_   Unit 0:  ManB
6 TST_     Unit 1:  ManB
7 BSY_     QueryPM files
8 RTS_     Unit 0:
9 OffL     NT7X05 load File: ECL06BD ← (NT7X05 load file name)
10 LoadPM_ NT7X05 Image File: ECL06BD
11 Disp_   NT7X05 Image Timestamp: 1996/01/17 16:01:52.944 WED.
12 Next_   Unit 1:
13 SwAct   NT7X05 load File: ECL06BD
14 QueryPM NT7X05 Image File: ECL06BD
15        NT7X05 Image Timestamp: 1996/01/17 16:04:52.944 WED.
16
17 Perform
18

```

Note: If the NT7X05 card is not provisioned, the MAP response is:

NT7X05 not datafilled. QueryPm files invalid

If the NT7X05 card	Do
is provisioned	step 30
is not provisioned	step 32

PM TMS critical (continued)

- 30 To load the TMS from the local Image, type
>LOADPM PM LOCAL IMAGE
and press the Enter key.

If the load	Do
passed	step 34
failed	step 31

31



WARNING

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.



CAUTION

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

- To load the TMS from the local loadfile, type
>LOADPM PM LOCAL LOADFILE
and press the Enter key.

If the load	Do
passed	step 34
failed	step 32

PM TMS
critical (continued)

- 32 To load the TMS, type
>LOADPM PM
and press the Enter key.

If the load	Do
failed, and the system generates a card list	step 35
failed, and the system does not generate a card list	step 44
passed	step 34

- 33 To busy the TMS, type
>BSY PM
and press the Enter key.
- 34 To return the TMS to service, type
>RTS PM
and press the Enter key.

If	Do
the TMS failed to return to service and the system generates a card list	step 35
one TMS unit returns to service	step 43
both TMS units return to service	step 45

At the equipment frame

- 35 Replace the first card on the list. Refer to the correct procedure in *Card Replacement Procedures*. See the figure "Layout of TMS shelf" for assistance in locating this card.

The MAP response in step 26 can help you isolate the card that has faults. See the following table for support.

PM TMS
critical (continued)

MAP response	Suspect cards
PM Audit	NT6X45, NT6X46, NT6X47, NT6X69, NTMX77
Activity Dropped	NT6X45, NT6X46, NT6X47, NTMX77
No WAI Received	NT6X40, NT6X41, NT6X42, NT6X44, NT6X45, NT6X46, NT6X47, NT6X69, NTMX77
LINK Audit	NT6X40, NT6X41, NT6X42, NT6X44, NT6X45, NT6X46, NT6X47, NT6X69, NTMX77
Load Corruption	NT6X42, NT6X45, NT6X46, NT6X47, NTMX77
Load Failed	NT6X45, NT6X46, NT6X47, NTMX77
Distributed Data Loading Failed	NT6X45, NT6X46, NT6X47, NT6X69, NTMX77

If you	Do
replace an NT6X42, NT6X45, NT6X46, NT6X47, or NTMX77 card	step 36
replace any other card	step 41

At the MAP display

36 To load the active TMS unit from the local image on the NT7X05 card, type

>LOADPMT UNIT unit_no LOCAL IMAGE

and press the Enter key.

where

unit_no is the number of the active TMS unit.

If the load	Do
passed	step 41
failed	step 37

PM TMS
critical (continued)

37

**WARNING****Possible service interruption**

The LOCAL LOADFILE option of the LOADPDM command has a parameter of [<file> string]. The LOADPDM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

**CAUTION****Possible service interruption**

The LOCAL LOADFILE option of the LOADPDM command has a parameter of [<file> string]. The LOADPDM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

To load the active TMS unit from the local loadfile on the NT7X05 card, type

>LOADPDM UNIT unit_no LOCAL LOADFILE

and press the Enter key.

where

unit_no is the number of the active TMS unit.

If the load	Do
passed	step 41
failed	step 38

PM TMS critical (continued)

- 38 To load the active TMS unit from the CM, type

>LOADPM UNIT unit_no
and press the Enter key.

where

unit_no is the number of the active TMS unit you recorded in step 13.

- 39 To query the TMS counters for the firmware load on the NTMX77, type

>QUERYPM CNTRS
and press the Enter key.

Example of a MAP display:

```
Unsolicited MSG limit = 250, Unit 0 = 0, Unit 1 = 0
```

```
Unit 0:
```

```
Ram Load: ECL06BB
```

```
EPRom Version: AB02
```

```
EEPROM Load: Loadable: MX77NG03, Executable: MX77NG03
```

```
UP:MX77AA
```

```
Unit 1:
```

```
Ram Load: ECL06BB
```

```
EPRom Version: AB02
```

```
EEPROM Load: Loadable: MX77NG03, Executable: MX77NG03,
```

```
UP:MX77AA
```

↑
↑
NTMX77 Firmware loadname

If firmware	Do
is correct	step 41
is not correct	step 40

PM TMS
critical (continued)

- 40** To load the NTMX77 firmware, type
>LOADPM UNIT unit_no CC FIRMWARE
 and press the Enter key.

where

unit_no is the number of the active TMS unit you recorded in step13

If load	Do
passes	step 41
fails	step 44

- 41** To return the active TMS unit to service, type
>RTS UNIT unit_no
 and press the Enter key.

where

unit_no is the number of the active TMS unit you recorded in step 13

If the unit	Do
does not return to service (RTS) and you did not replace every card on the list of cards that have faults	step 42
does not RTS and you replaced every card on the list of cards that have faults	step 44
fails and the system does not generate a card list	step 44
RTS	step 43

PM TMS critical (end)

At the equipment frame

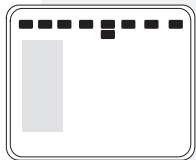
- 42 Replace the next card on the card list. Refer to the correct procedure in *Card Replacement Procedures*. See the figure "Layout of TMS shelf" for assistance in locating this card.

If you	Do
replace an NTMX77 or NT6X42 card	step 36
replace any other cards	step 41

- 43 The TMS critical alarm changed to another type of alarm. See the correct procedure in this document to clear the alarm. Go to step 45 .
- 44 You require additional maintenance action to clear this alarm. Contact the next level of support. Describe in detail the steps you performed in attempting to clear this alarm.
- 45 The procedure is complete.

PM TPC (for MP) critical

Alarm display



CM	MS	IOD	Net	PM	Lns	Trks	Ext	APPL
.	.	.	.	n TPC *C*	.	.	.	.

Indication

The n TPC indication is under the peripheral module (PM) subsystem header. The PM subsystem header is at the maintenance level of the MAP (maintenance and administration position). The TPC indicates a TPC alarm. The C indication under the n TPC indicates a critical alarm.

This procedure applies to an integrated TPC, which supports up to four integrated MP positions.

Meaning

The TPC alarm indicates the number (n) of PMs that are in the critical state.

Result

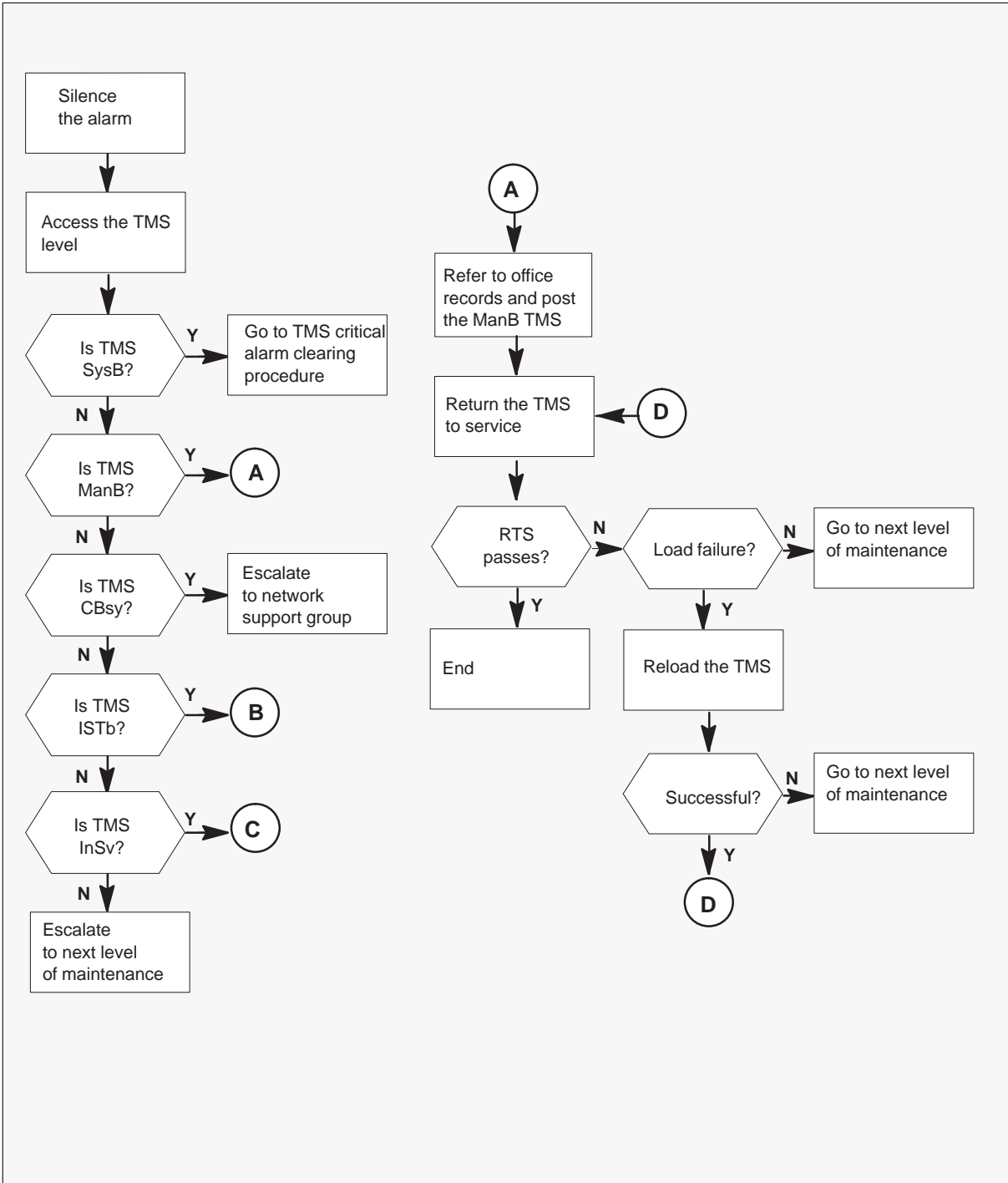
If you do not clear the TPC critical alarm immediately, the system loses call handling capabilities.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

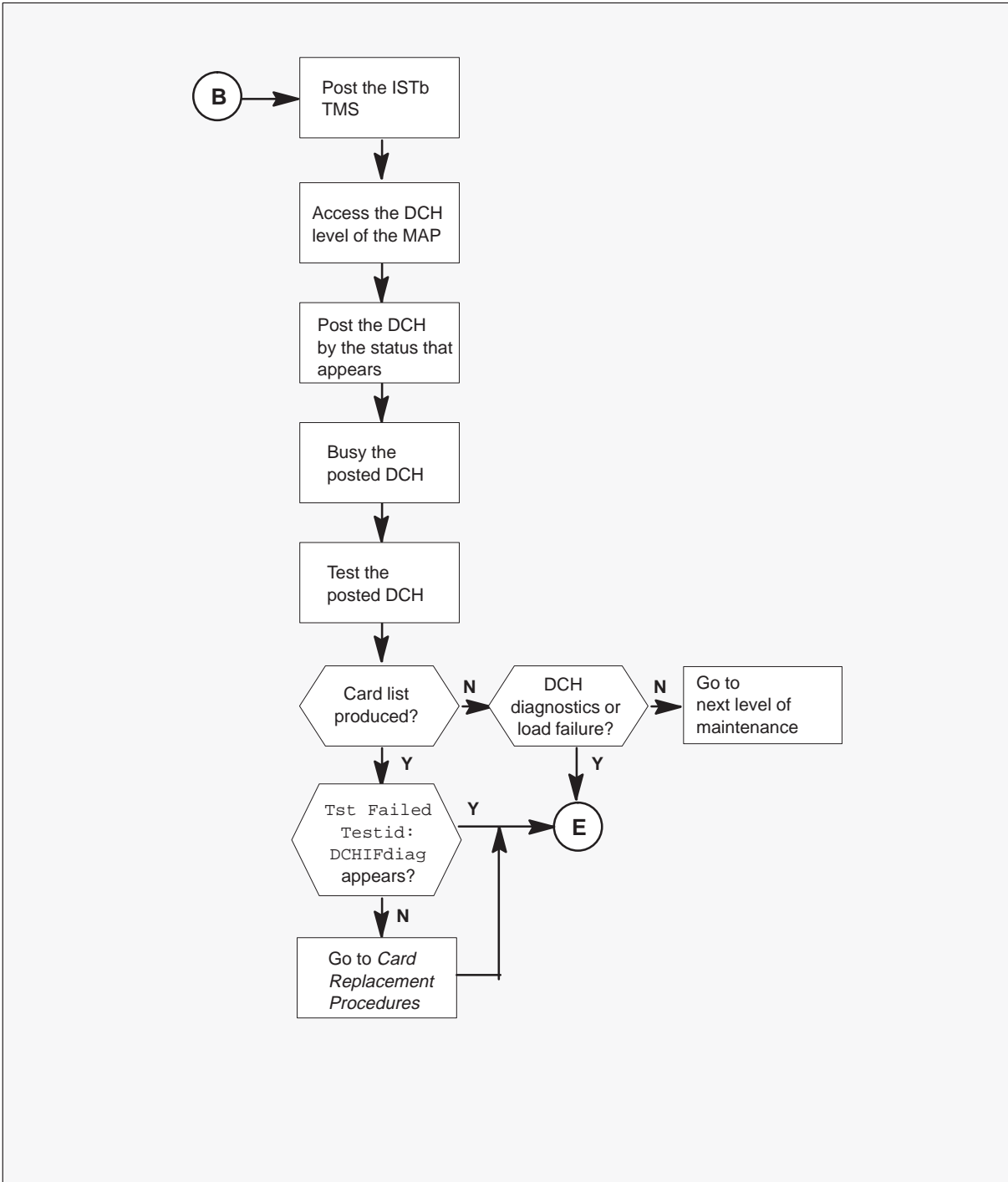
PM TPC (for MP)
critical (continued)

Summary of clearing a PM TPC (for MP) critical alarm



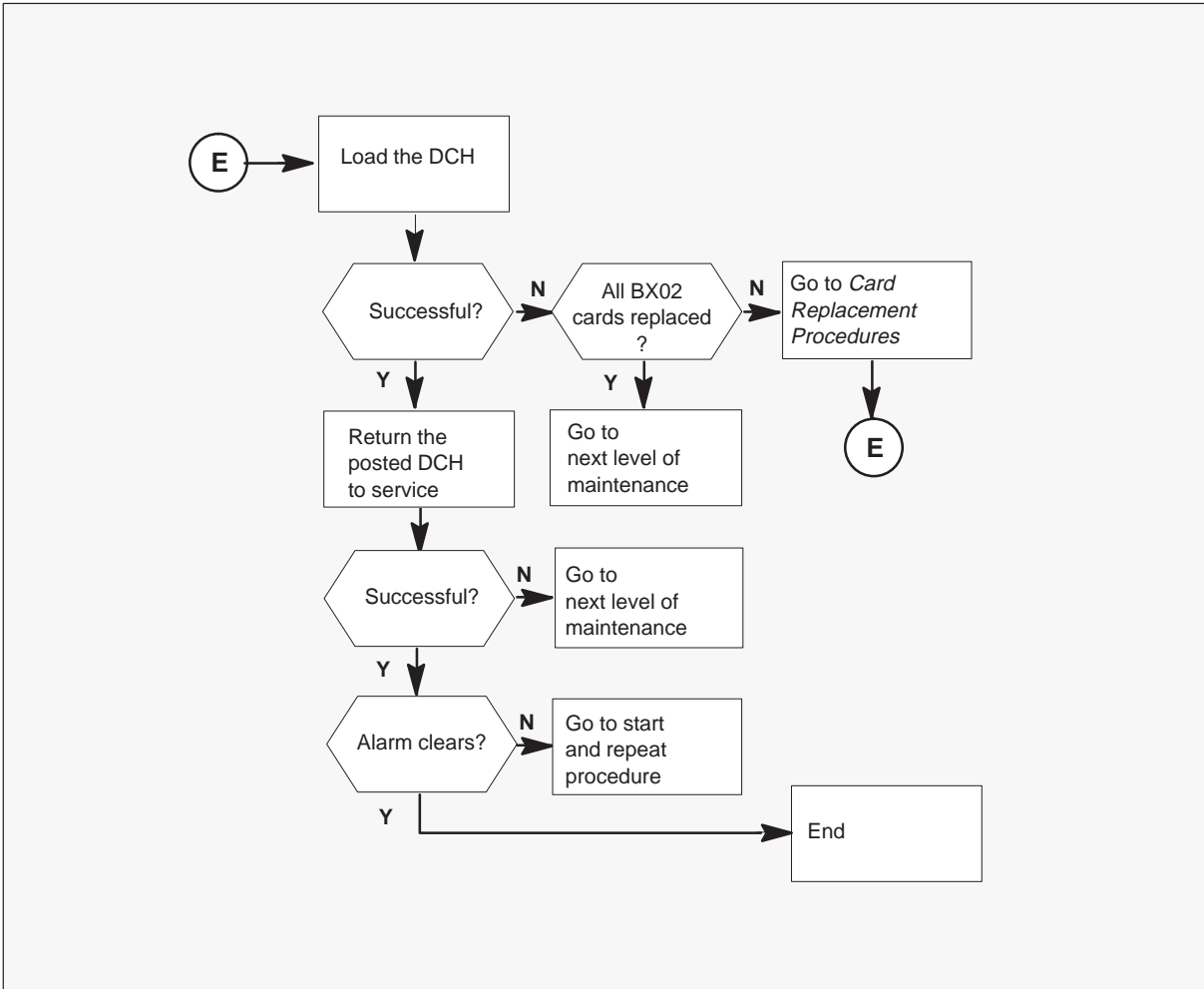
PM TPC (for MP) critical (continued)

Summary of clearing a PM TPC (for MP) critical alarm (continued)



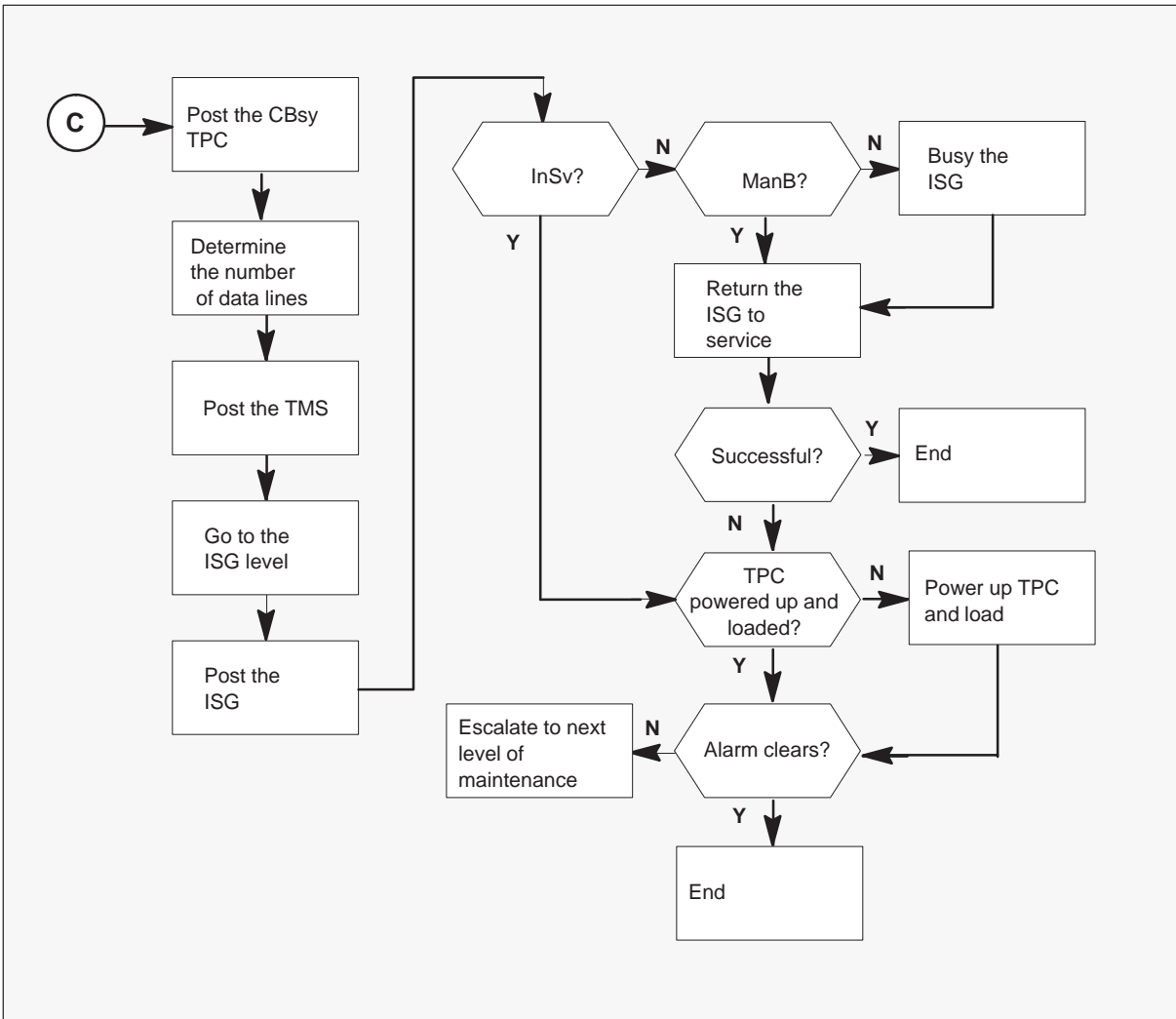
PM TPC (for MP) critical (continued)

Summary of clearing a PM TPC (for MP) critical alarm (continued)



PM TPC (for MP) critical (continued)

Summary of clearing a PM TPC (for MP) critical alarm (continued)



Clearing a PM TPC (for MP) critical alarm

At the MAP display

1

ATTENTION

You must enter this procedure from a step in the procedure to clear a PM system level alarm. This step identifies a defect in a TMS.

PM TPC (for MP)
critical (continued)

To silence the alarm, type

>MAPCI;MTC;SIL

and press the ENTER key.

- The TMS must be in service before you attempt to clear a TPC alarm. To obtain the status of the TMS, type

>PM;POST TMS ALL

and press the ENTER key.

Example of a MAP display

CM	MS	IOD	Net	PM	CCS	LnS	Trks	Ext	APPL
.	.	.	.	n TPC	.	.	.	1 FSP	.
				C				M	
TMS				SysB	ManB	OffL	CBsy	ISTb	InSv
0	Quit	PM		2	0	9	0	3	53
2	Post_	TMS		2	0	0	0	1	0
3	Listset								
4		TMS							Links_OOS: CSide , PSide
5	Trnsl_	Unit 0:							
6	Tst_	Unit 1:							
7	Bsy_	POST:							
8	RTS_	No PM posted							
9	OffL								
10	LoadPM_								
11	Disp_								
12	Next								
13	SwAct								
14	QueryPM								
15	DCH								
16									
17	PERFORM								
18	ISG								

In this example, two TMSs are SysB and one TMS is ISTb.

A power failure at a TMS causes an alarm at both PM and EXT subsystems. Make sure that the TMS is powered up and no power alarm is present. Repair all EXT subsystem power problems before you attempt to clear any PM subsystem alarms.

If the TMS status	Do
is SysB	Go to procedure to clear TMS critical alarm.
is ManB	step 17
—continued—	

PM TPC (for MP) critical (continued)

If the TMS status	Do
is CBsy	This status indicates a problem in the network. Contact the network support group for additional help.
is ISTb	This status indicates a problem in the DCH. Go to step 10.
is InSv	step 3
—end—	

- 3 If the TMS is in service and a TPC critical alarm occurs, the TPC is C-side busy. To post the C-side busy (CBsy) TPC, type

>POST TPC CBSY

and press the ENTER key.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.    .    .     .     n TPC   .     .     .     .
      *C*
TPC
0  Quit   PM     0     0     0     1     3     53
2  Post_  TPC    0     0     0     1     1     0
3
4
5  Trnsl  TPC 12 CBsy
6  Tst
7  Bsy
8  RTS   Post:
9  OffL
10
11 Disp_
12 Next
13
14 QueryPM
15 MP
16
17
18

```

If more than one TPC is CBsy, the system parts the TPCs one TPC at a time. In this example, TPC 12 is C-side busy.

PM TPC (for MP) critical (continued)

- 4 To determine the number of data lines, type

>TRNSL

and press the ENTER key.

Note: How many data lines are present, 1 or 2? Record the TMS number, the ISG number, and the ISG channel number for each data line.

Example of a MAP display

CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.	n TPC	.	.	.	.	.
				C					
TPC			SysB	ManB	OffL	CBsy	ISTb	InSv	
0	Quit	PM	0	0	0	1	3	53	
2	Post_	TPC	0	0	0	1	1	0	
3									
4		TPC	12	CBsy					
5	Trnsl_			Line		ISG		ISG	
6	Tst_	Trnsl		type		number		channel	
7	Bsy	TMS	0 0 5:	data;	ISG	2 5			
8	RTS	TMS	0 0 6:	data;	ISG	3 12			
9	OffL	TMS	0 0 1:	voice;	TOPSPOS	6;	MP	state:PMB: VT	state:PMB
10		TMS	0 0 2:	voice;	TOPSPOS	7;	MP	state:PMB: VT	state:PMB
11	Disp_	TMS	0 0 3:	voice;	TOPSPOS	8;	MP	state:PMB: VT	state:PMB
12	Next	TMS	0 0 4:	voice;	TOPSPOS	9;	MP	state:PMB: VT	state:PMB
13									
14	QueryPM								
15	MP								
16									
17									
18									

PM TPC (for MP) critical (continued)

- 5 To post the TMS identified in the previous step, type

>POST TMS n

and press the ENTER key.

where

n is the TMS number.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.   .   .   .   n TPC   .   .   .   .
      *C*
TMS
0  Quit   PM     0     0     0     1     0     53
2  Post_  TMS    0     0     0     1     0     0
3  Listset
4  TMS    0     CBsy   Links_OOS: CSide 0, PSide 0
5  Trnsl_ Unit 0: Act   CBsy
6  Tst_   Unit 1: InAct Cbsy
7  Bsy_   POST:
8  RTS_
9  OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG

```

TMS number 0 from previous example display

PM TPC (for MP)
critical (continued)

- 6 To go to the ISG level of the MAP and post the ISG that appears in step 4, type **>ISG;POST n** and press the ENTER key.

where

n is the ISG number.

A series of ISG channels appears. Locate the channel that appears in step 4.

Example of a MAP display

```

CM  MS  IOD  Net  PM  CCS  Lns  Trks  Ext  APPL
.   .   .   .   n TPC
          *C*

ISG
0  Quit  PM      2  0  9  0  3  53
2  Post_ TMS     2  0  0  0  1  0
3  Listset
4
5  Trnsl_ TMS 0  InSv  Links_OOS: CSide 0, PSide 0
6  Tst_   Unit 0: InAct InSv
7  Bsy_   Unit 1: Act   InSv
8  RTS_   ISG
9  OffL_  123456789 0123456789 0123456789 01
10         0000S0000 000000.000 0000000000 00
11
12 Next   ISG 2 DCH 2 ISTb TMS 0 port 17
13
14 QueryCH_ post 2
15 CONT_
16 Loopbk_
17
18

```

ISG channel
/

S = system busy
. = in-service channel

If the channel	Do
is SysB	step 7
is ManB	step 8
is InSv	step 9

**PM TPC (for MP)
critical** (continued)

- 7 To busy the ISG channel that is SysB, type

>BSY n

and press the ENTER key.

where

n is the ISG channel number.

When the system issues a BSY command while the ISG channel is in service, the system requires a confirmation. The system requires this confirmation before the system removes the ISG channel from service. If the system requests a confirmation, confirm the request for busy. To confirm the request, type

>YES

and press the ENTER key.

If the system receives a negative confirmation (NO) in response to the prompt, the ISG channel remains in the current state.

- 8 To return the busied ISG channel to service, type

>RTS n

and press the ENTER key.

where

n is the ISG channel number.

If RTS	Do
is successful and the alarm clears	step 21
is not successful	step 9

PM TPC (for MP)
critical (continued)

- 9 Verify that the TPC in step 3 is powered up and running TOPS MP applications.

If the TPC	Do
is not powered up	Power up the TPC. If necessary, refer the procedure in the <i>Trouble Locating and Clearing</i> to bring the HSDA links (card 1) in service and return to this point.
critical alarm clears after the TPC is powered up	step 21
is powered up. The TPC critical alarm remains.	step 20

- 10 To post the ISTb TMS, type
>POST ISTB
and press the ENTER key.

PM TPC (for MP) critical (continued)

- 11 To access the DCH level of the MAP, type

>DCH

and press the ENTER key.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.   .   .   .   n TPC   .   .   .   .   .
          *C*
DCH
0  Quit   PM      0     3     11    0     3     48
2  Post_  TMS      0     0     0     0     1     0
3
4          TMS   0     ISTb  Links_OOS:  CSide 0, PSide 4
5  Trnsl_ Unit 0:  InAct InSv
6  Tst_   Unit 1:  Act   InSv
7  Bsy_
8  RTS_   DCH     3     0     0     0     0     1
9  OffL
10 LoadPM_ DCH
11
12 Next
13
14 QueryPM
15 Disp
16
17
18

```

Indicates 3 DCHs that are SysB.

DCH status line

PM TPC (for MP)
critical (continued)

- 12 From the DCH status line in the previous step, post the status of the DCH. The status of the DCH can be SysB, ManB, CBsy, or ISTb. To post the status, type

>POST <state>
 and press the ENTER key.

The DCH and ISG information appears. The system reports the status of the DCH. Record the DCH number, the ISG number, and the port number.

Example of a MAP display

```

CM  MS  IOD  Net  PM  CCS  Lns  Trks  Ext  APPL
.   .   .   .   n  TPC  .   .   .   .
      *C*
DCH
0  Quit  PM    0  3  11  0  3  48
2  Post_  TMS   0  0  0  0  1  0
3
4          TMS  0  ISTb  Links_OOS:  CSide  0,  PSide  4
5  Trnsl_ Unit 0:  InAct  InSv
6  Tst_   Unit 1:  Act    InSv
7  Bsy_
8  RTS_   DCH  3  0  0  0  0  1
9  OffL
10 LoadPM_ DCH  5  ISG  5  SysB TMS  0  port 13  WAI
11
12 Next    post sysb
13
14 QueryPM
15 Disp
16
17
18
    
```

- 13 To busy the posted DCH, type

>BSY
 and press the ENTER key.

If the system issues a BSY command when the DCH is in service, the system requires a confirmation. The system requires this confirmation before the system removes the DCH from service. If the system requests this confirmation, confirm the request for busy. To confirm this request, type

>YES
 and press the ENTER key.

If the system receives a negative confirmation (NO) in response to the prompt, the DCH remains in the current state.

PM TPC (for MP) critical (continued)

14 To test the posted DCH, type

>TST

and press the ENTER key.

Example of a MAP display

```

CM  MS  IOD  Net  PM  CCS  Lns  Trks  Ext  APPL
.   .   .   .   n  TPC  .   .   .   .
      *C*
DCH
0  Quit  PM    0  2  11  0  3  49
2  Post_ TMS   0  0  0  0  1  0
3
4          TMS  0  ISTb  Links_OOS: CSide 0, PSide 4
5  Trnsl_ Unit 0: InAct InSv
6  Tst_   Unit 1: Act  InSv
7  Bsy
8  RTS_   DCH  2  1    0  0    0  1
9  OffL
10 LoadPM_ DCH  5  ISG  5  ManB TMS  0  port 13
11
12 Next    tst
13         DCH 5 Out-of-service test initiated
14 QueryPM Fail message received from PM
15 Disp    Site Flr RPos Bay_id Shf Description Slot EqPEC
16         HOST 01  B04  LTEI 00  51  TMS : 000  02  BX02
17         DCH 5 Tst Failed Testid : DCHIFdiag
18

```

Card list failure
message for DCH

If the system	Do
generates a card list	Go to <i>Card Replacement procedures</i> , and replace the card(s) listed. After card replacement procedure, go to step 15.
generates a card list and "Tst Failed Testid : DCHIF diag" appears	step 15
DCH diagnostics appear	step 15
generates a load failure message	step 15

PM TPC (for MP)
critical (continued)

- 15 Load the DCH if diagnostics appear, if a load failure message occurs, or after you replace the card. To load the DCH, type

>LOADPM

and press the ENTER key.

Example of a MAP display

```
loadpm
Request submitted on DCH 5
DCH 5 load Passed: EXC03BX
```

Note: The EXC03BX loadname that appears on the previous MAP display is the load that the improved D-channel handler (EDCH) uses.

If LOADPM	Do										
<p>completes</p> <p>fails and you did not replace the card</p>	<p>next step</p> <p>Replace the DCH card. To determine the location of the DCH card to replace without a card list, refer to the port number in step 14. Apply the port number to the following chart to determine the unit number and slot number. Refer to <i>Card Replacement Procedures</i> for BX02 replacement instructions.</p> <p>Return to step 15 after you replace the card.</p> <table border="0"> <thead> <tr> <th>If port no. is</th> <th>The card location that has faults is</th> </tr> </thead> <tbody> <tr> <td>13</td> <td>Unit 0 Slot 2</td> </tr> <tr> <td>15</td> <td>Unit 1 Slot 2</td> </tr> <tr> <td>17</td> <td>Unit 0 Slot 1</td> </tr> <tr> <td>19</td> <td>Unit 1 Slot 1</td> </tr> </tbody> </table>	If port no. is	The card location that has faults is	13	Unit 0 Slot 2	15	Unit 1 Slot 2	17	Unit 0 Slot 1	19	Unit 1 Slot 1
If port no. is	The card location that has faults is										
13	Unit 0 Slot 2										
15	Unit 1 Slot 2										
17	Unit 0 Slot 1										
19	Unit 1 Slot 1										
<p>fails and you replaced all the cards</p>	<p>step 20</p>										

PM TPC (for MP) critical (continued)

- 16 To return the DCH to service, type

>RTS

and press the ENTER key.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.    .    .     .     n TPC .    .    .    .
          *C*
DCH          SysB  ManB  OffL  CBSy  ISTb  InSv
0  Quit      PM    0    2    11   0    4    49
2  Post_     TMS   0    0    0    0    0    4
3
4          TMS   0    InSv  Links_OOS:  CSide 0, PSide 0
5  Trnsl_    Unit 0: Act  InSv
6  Tst_      Unit 1: InAct InSv
7  Bsy
8  RTS_      DCH   0    0    0    0    0    4
9  OffL
10 LoadPM_   RTS
11          DCH 5 Out-of-service test initiated
12 Next      DCH 5 Tst Passed
13          DCH 5 RTS Passed
14 QueryPM
15 Disp
16
17
18

```

If RTS	Do
is successful and alarm clears	step 21
is not successful	step 20
is successful and alarm does not clear	step 2 and repeat procedure

- 17 Refer to office records to determine why the TMS is ManB. The TMS must be returned to service immediately because all TOPS MP positions are down. To post the ManB TMS, type

>POST MANB

and press the ENTER key.

PM TPC (for MP)
critical (end)

- 18 To return the TMS to service, type
>RTS PM
and press the ENTER key.

If RTS	Do
is successful	step 21
is not successful and does not experience load failure	step 20
is not successful and experiences load failure	step 19

- 19 To load the TMS, type
>LOADPM PM
and press the ENTER key.

If LOADPM is	Do
successful	step 18
not successful	step 20

- 20 For additional support to clear this alarm, contact the next level of support.
- 21 The procedure is complete. If other alarms appear, refer to the correct alarm clearing procedures.

PM TPC (for IWS) critical

Alarm display

CM	MS	IOD	Net	PM	Lns	Trks	Ext	APPL
.	.	.	.	n TPC	.	.	.	.
				C				

Indication

A TPC indication indicates a TPC alarm. The TPC indication appears under the PM (peripheral module) subsystem header. The n indication is the number of TPCs in this state. This header is at the maintenance level of the MAP (maintenance and administration position). The C indication under the n TPC indicates a critical alarm.

Enter this procedure from a PM system level alarm clearing procedure step. This step identified a fault associated with a TPC.

This procedure applies to a virtual TPC, which supports MPX-IWS positions on a token ring.

The TOPS MPX system does not have a TOPS position controller (TPC). The operating company programs the TPC functionality in the type 2 TOPS MPX positions in the token ring. The type-2 TOPS MPX position is the virtual-position controller (VPC). Therefore, the n TPC indication indicates a VPC alarm.

Meaning

The indicated number (n) of PMs are in the critical state.

Result

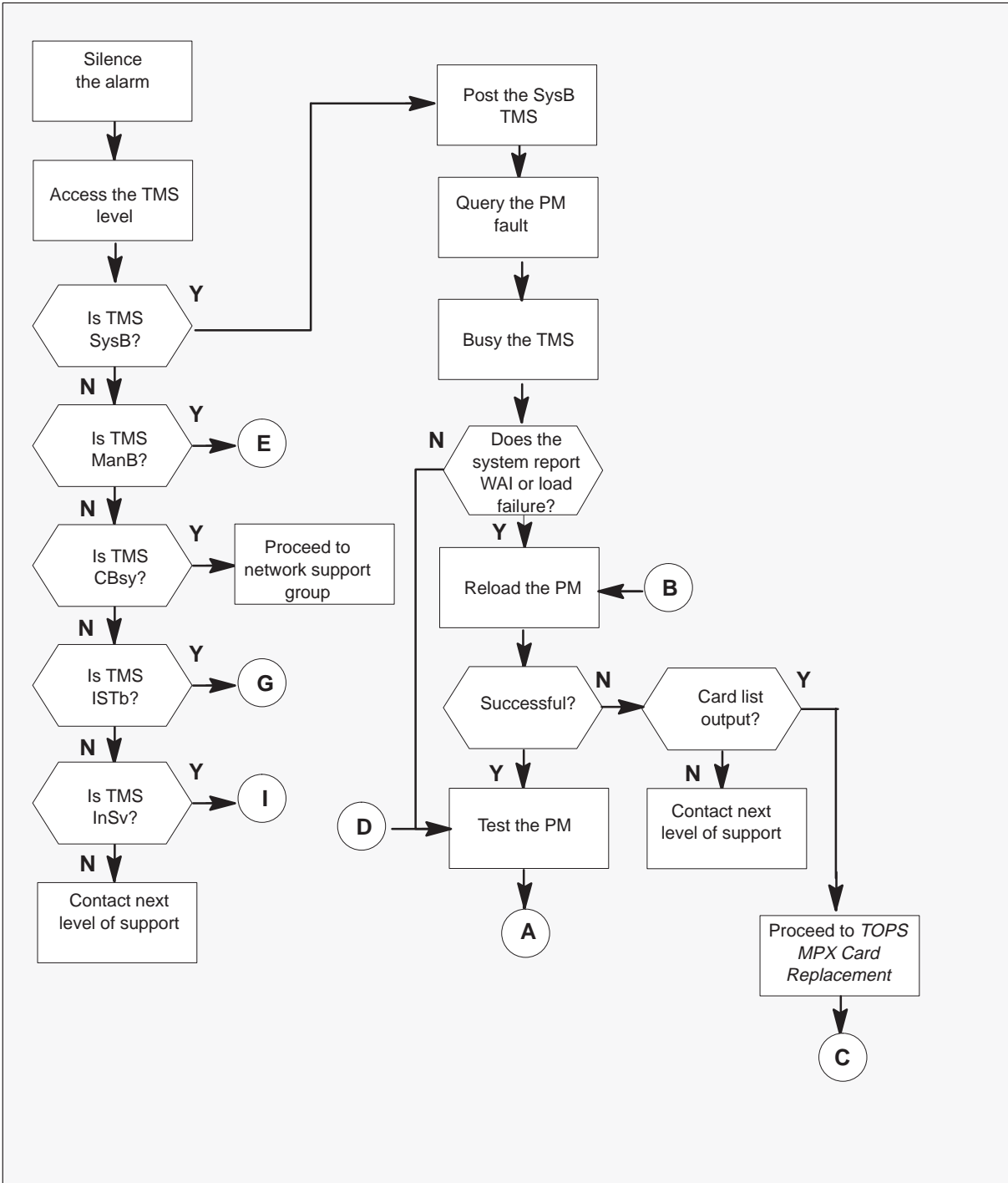
The VPCs are redundant in each token ring. A TPC critical alarm does not affect the handling abilities for a token ring. Clear this alarm fast. Loss of call handling abilities can occur if a fault occurs in the VPC units that remain.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

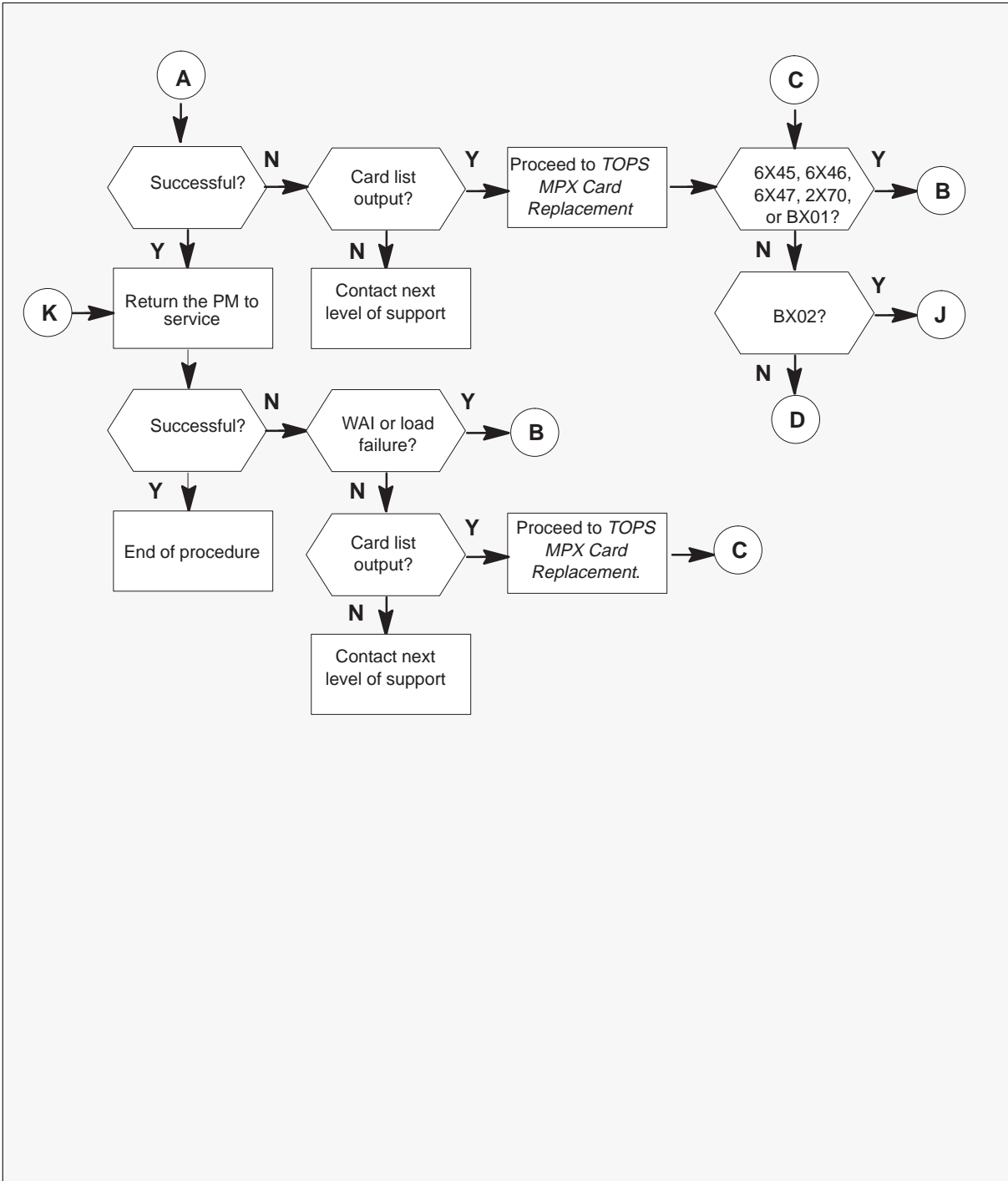
PM TPC (for IWS) critical (continued)

Summary of clearing a PM TPC critical alarm



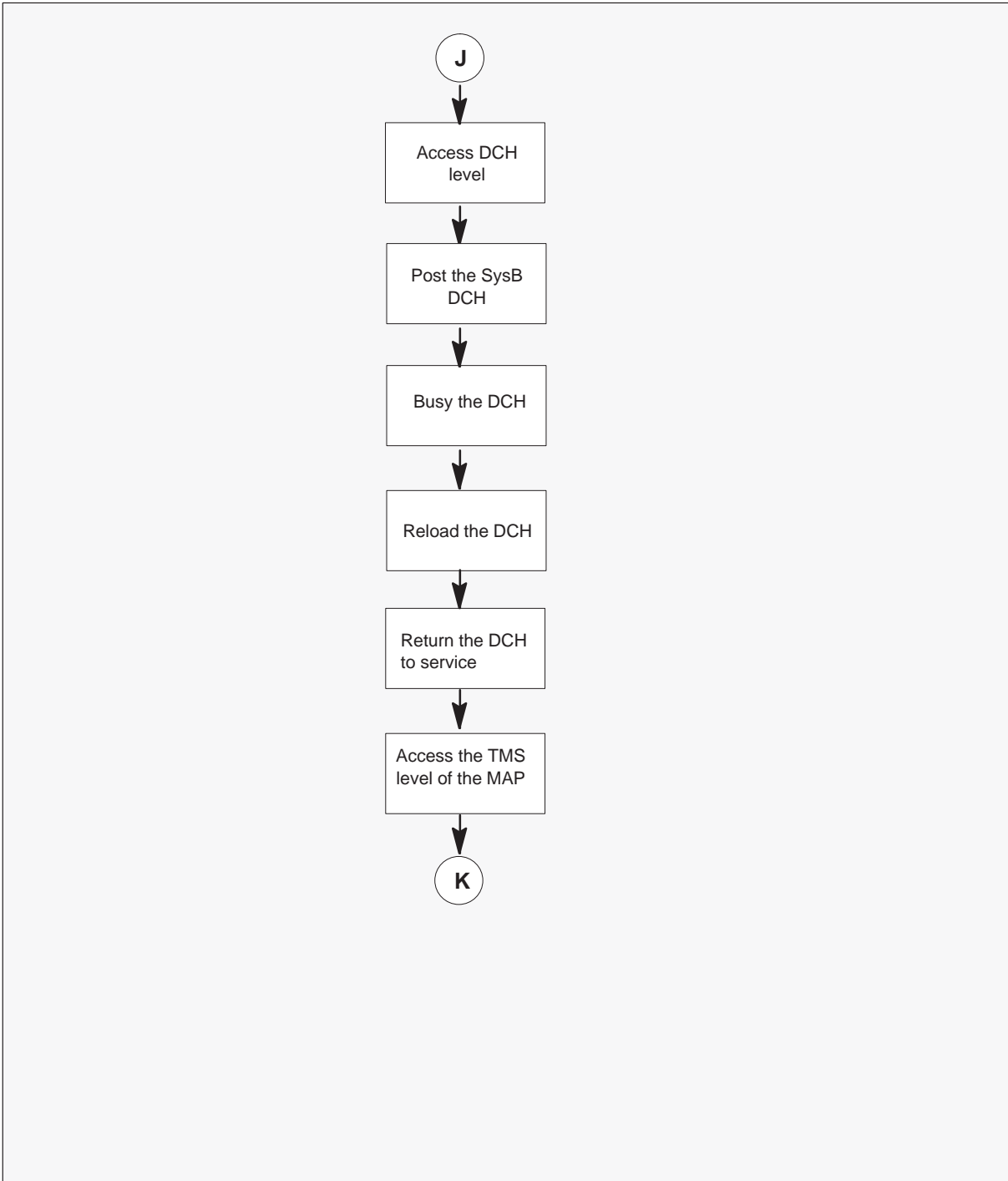
**PM TPC (for IWS)
critical (continued)**

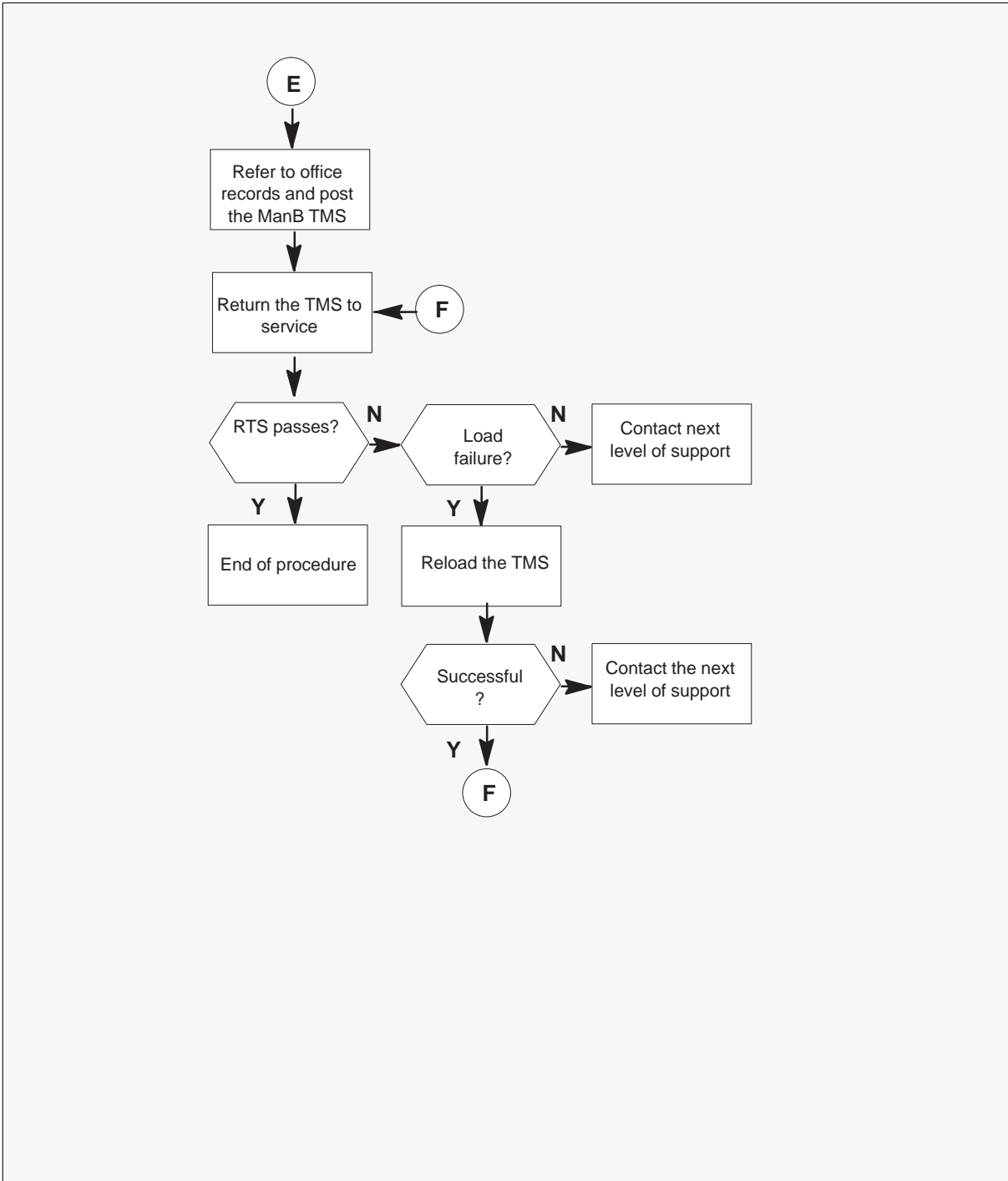
Summary of clearing a PM TPC critical alarm (continued)



PM TPC (for IWS)
critical (continued)

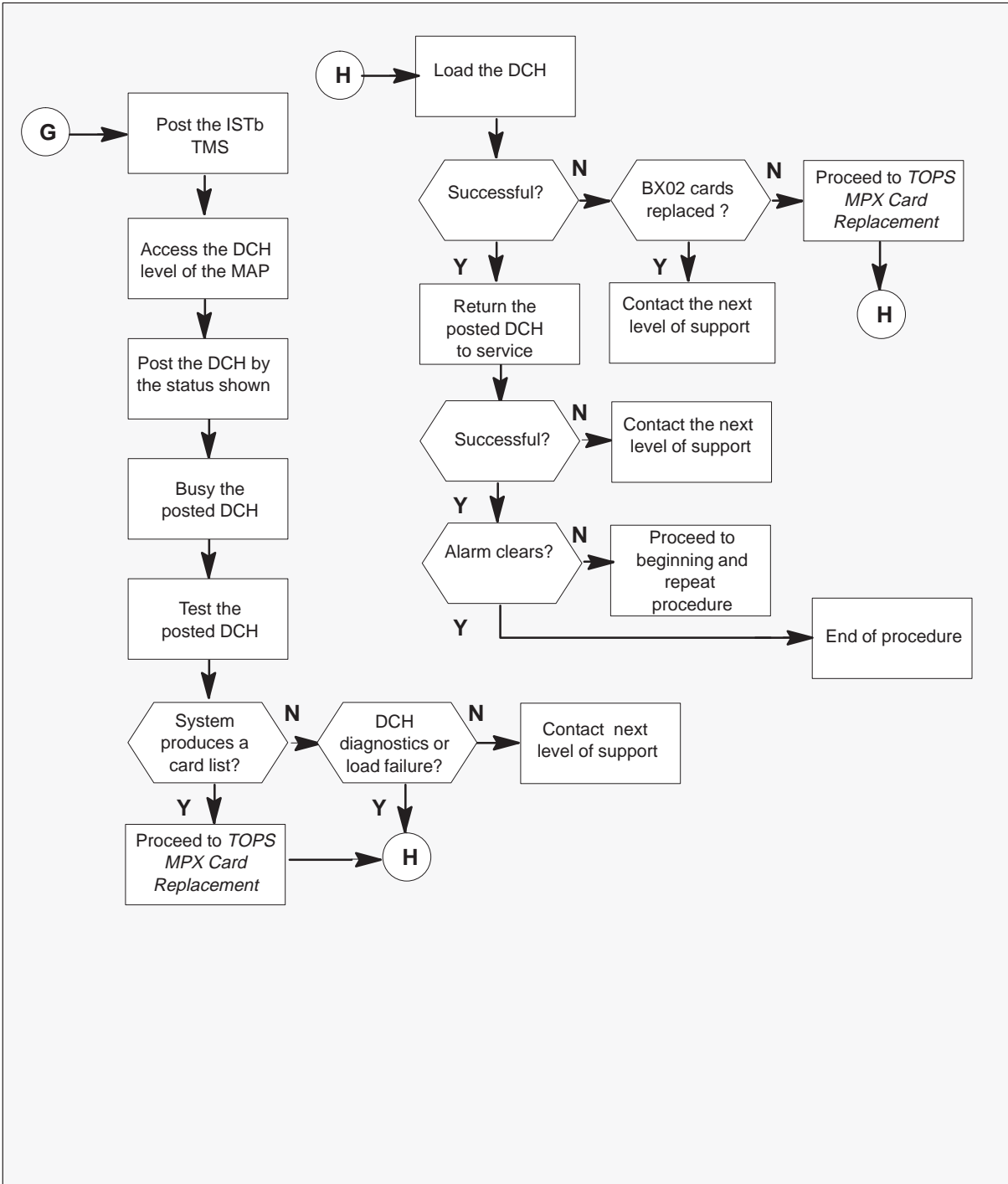
Summary of clearing a PM TPC critical alarm (continued)



**PM TPC (for IWS)
critical (continued)****Summary of clearing a PM TPC critical alarm (continued)**

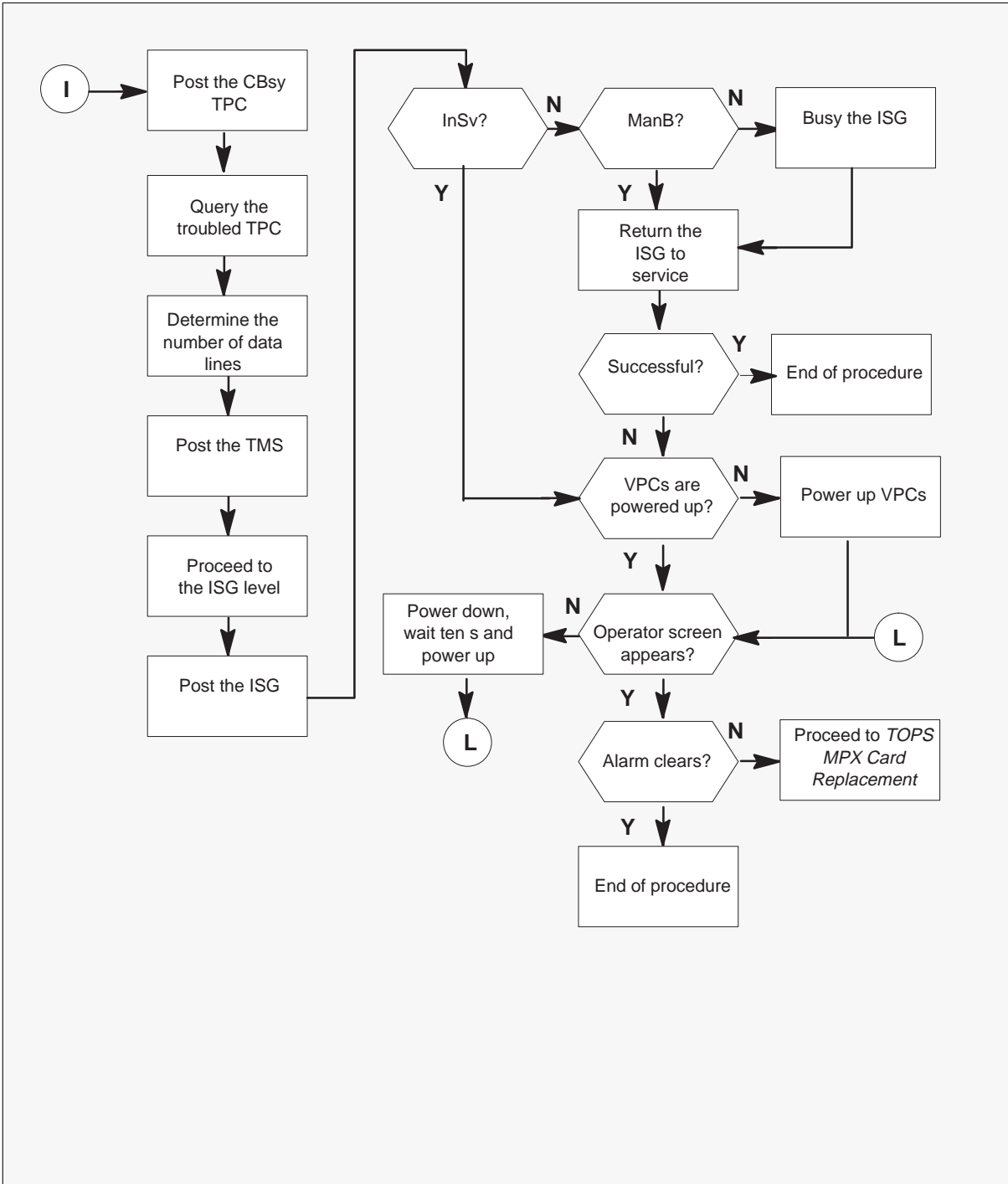
PM TPC (for IWS)
critical (continued)

Summary of clearing a PM TPC critical alarm (continued)



**PM TPC (for IWS)
critical (continued)**

Summary of clearing a PM TPC critical alarm (continued)



PM TPC (for IWS) critical (continued)

Clearing a PM TPC critical alarm

At the MAP display

1

ATTENTION

Enter this procedure from a PM system level alarm clearing procedure step that identifies a fault that associates with a TMS.

To silence the alarm, type

>MAPCI;MTC;SIL

and press the ENTER key.

2 To access the TMS level of the MAP and post the critical TMS, type

>PM;POST TMS

and press the ENTER key.

Normal response on the MAP display:

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      APPL
.       .       .       .       n TPC   .       .       .       .       .
          *C*
TMS
0 Quit      PM      0      0      9      0      3      53
2 Post_    TMS      1      0      0      0      0      0
3 Listset
4          TMS      Links_OOS:  CSide      ,      PSide
5 Trns1_   Unit0:
6 Tst_     Unit1:
7 Bsy_     POST:
8 RTS_     No PM posted
9 OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG
    
```

Note:
This is the Critical information. This TMS is SysB.

PM TPC (for IWS) critical (continued)

See the following table to determine the next action.

If TMS status	Do
is SysB	step 22
is ManB	step 19
is CBsy	This condition indicates a network related problem. Request help from the network support group.
is ISTb	This status indicates a DCH related problem. Proceed to step 12.
is InSv	step 3

- 3** To post the C-side busy (CBsy) TPC, type

>POST TPC CBSY

and press the ENTER key.

Normal response on the MAP display:

```

      CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
      .    .    .     .     n TPC
      .    .    .     .     *C*
      TPC
0  Quit      PM    0    0    0    0    3    53
2  Post_    TPC    0    0    0    1    0    0
3
4          post tpc cbsy
5  Trnsl    TPC 0 CBsy
6  Tst
7  Bsy
8  RTS
9  OffL
10
11 Disp_
12 Next
13
14 QueryPM
15 MP
16
17
18

```

PM TPC (for IWS) critical (continued)

- 4 To query the TPC that has problems, type

>QUERYPM

and press the ENTER key.

Record the TOPSPOS(position) numbers of the MP0 and MP1 VPCs.

Four TOPS MPX positions appear. Position MP0 is always the primary VPC. Position MP1 is the secondary VPC if the token ring is a redundant system.

Normal response on the MAP display:

CM	MS	IOD	Net	PM	CCS	LNS	Trks	Ext	APPL
.	.	.	.	n TPC	.	.	.	.	.
				C					
			SysB	ManB	OffL	CBsy	ISTb	InSv	
0	Quit	PM	0	0	9	0	3	53	
2	Post_	TPC	0	0	0	1	0	0	
3									
4		TPC	0	CBsy					
5	Trnsl								
6	Tst		TPC Load File: 0						
7	Bsy		PM Type: TPC Int. No.: 0 Node_No: 132						
8	RTS		Site Flr	RPos	Bay_id	Shf	Description	Slot	EqPEC
9	OffL		00	A00	PCE 00	00	TPC: 000		
10									
11	Disp_								
12	Next	MP	0:	TOPSPOS		6			
13		MP	1:	TOPSPOS		7			
14	QueryPM	MP	2:	TOPSPOS		8			
15	MP	MP	3:	TOPSPOS		9			
16									
17									
18									

Note:
This indicator is the Critical information. The MP0 is always primary. The MP1 is secondary if the MP1 is in redundant system. The TOPSPOS for MP0 is 6. For MP1 the TOPSPOS is 7.

PM TPC (for IWS) critical (continued)

- 5 To determine the number of data lines, type

>TRNSL

and press the ENTER key.

Note the number of data lines that are present. The number of lines can be 1 or 2. Record the TMS number, the ISG number, and the ISG channel number for each data line.

Normal response on the MAP display:

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   n TPC .   .   .   .   .
      *C*
      SysB  ManB  OffL  CBsy  ISTb  InSv
0  Quit      PM    0    0    0    0    3    53
2  Post_     TPC    0    0    0    1    0    0
3
4          TPC    0  CBsy  Line  ISG  ISG
5  Trnsl     TMS  0  0  5:  data; ISG  2  5
6  Tst
7  Bsy      TMS  0  0  6:  data; ISG  2  12
8  RTS      TMS  0  0  1:  voice;TOPSPOS  6; MP state:PMB: VT state:PMB
9  OffL     TMS  0  0  2:  voice;TOPSPOS  7; MP state:PMB: VT state:PMB
10          TMS  0  0  3:  voice;TOPSPOS  8; MP state:PMB: VT state:PMB
11  Disp_   TMS  0  0  4:  voice;TOPSPOS  9; MP state:PMB: VT state:PMB
12  Next
13
14  QueryPM
15  MP
16          TMS
17          number
18

```

See the following table to determine the next action.

If	Then
one data line appears, the token ring is a nonredundant system	A problem in the MP0 position, that appears the previous step, causes the alarm.
two data lines appear, the token ring is a redundant system	A failure of the VPCs, MP0, and MP1, that appears in the previous step, cause the alarm.

PM TPC (for IWS)
critical (continued)

6 To post the TMS that the previous step identifies, type

>POST TMS n

and press the ENTER key.

where

n is the TMS number

Normal response on the MAP display:

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      APPL
.      .      .      .      n TPC  .      .      .      .      .
      *C*
TMS
0 Quit      PM      0      0      OffL    CBSy    ISTb    InSv
2 Post_     TMS    0      0      0      0      0      48
3 Listset
4          TMS 0 InSv  Links_OOS: CSide 0 , PSide 0
5 Trnsl_   Unit 0: Act  InSv
6 Tst_     Unit 1: Inact InSv
7 Bsy_     POST:
8 RTS_
9 OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG
    
```

PM TPC (for IWS) critical (continued)

7 To proceed to the ISG level of the MAP, type

>ISG

and press the ENTER key.

Normal response on the MAP display:

```

CM   MS   IOD   Net   PM   CCS   LNS   Trks   Ext   APPL
.    .    .     .     n TPC .   .     .     .     .
          *C*
ISG
0 Quit      PM      0      0      12     0      3      48
2 Post_     TMS     0      0      0       0      0      1
3
4          TMS 0  InSv   Links_OOS:  CSide 0 , PSide 0
5          Unit0:   Inact InSv
6          Unit1:   Act   InSv
7 Bsy_
8 RTS_     ISG                      111111111 222222222 33
9 OffL_    123456789 0123456789 0123456789 01
10
11
12 Next      ISG
13
14 QueryCH_  ISG:
15 CONT_
16 Loopbk_
17
18

```

PM TPC (for IWS)
critical (continued)

8 To post the ISG from step 5, type

>POST n

where

n is the ISG number.

and press the ENTER key.

A series of ISG channels appear. Locate the channel from step 5.

Normal response on the MAP display:

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   .   .   .   .   .   .
          n TPC
          *C*
ISG
0  Quit      PM    0    0    12    0    3    48
2  Post_     TMS   0    0    0     0    0    1
3
4
5          TMS 0  InSv  Links_OOS:  CSide 0 , PSide 0
6          Unit0:  Inact  InSv
7          Unit1:  Act  InSv
7  Bsy_
8  RTS_      ISG                1111111111 2222222222 33
9  OffL_     123456789 0123456789 0123456789 01
10         0000.0000 000000.000 0000000000 00
11
12 Next      ISG 2  DCH  2  InSv  TMS  0  port 17
13
14 QueryCH_  post 2
15 CONT_
16 Loopbk_
17
18
    
```

. = An inservice ISG channel

See the following table to determine the next action.

If the channel	Do
is SysB	step 9
is ManB	step 10
is InSv	step 11

PM TPC (for IWS)
critical (continued)

- 9 To busy the ISG channel that is SysB, type

>BSY n

where

n is the ISG channel number.

and press the ENTER key.

To confirm request for busy, type:

>YES

and press the ENTER key.

When you enter the BSY command while the ISG channel is in service, the system requires confirmation (YES). The system requires this confirmation before removal of the ISG channel from service.

In this condition, enter a YES response to respond to the prompt.

You can enter the BSY command while the ISG channel is in service and the system receives a negative confirmation. When this condition occurs, the ISG channel remains in the current state.

- 10 To return the busied ISG channel to service, type

>RTS n

where

n is the ISG channel number.

and press the ENTER key.

If RTS	Do
passes, the fault clears, and the alarm also clears	step 36
does not pass	step 11

PM TPC (for IWS)
critical (continued)

- 11 Verify that the virtual-position controllers (VPCs) or type 2 TOPS MPX positions, from step 5, are powered up and run TOPS MPX applications.

If	Do
VPCs are not powered up	Power up the VPCs. Wait five min for VPCs to complete reboot. If necessary, start the operator screen.
Position powered-up and an operator screen does not appear	Power down, wait ten s, and power up.
TPC critical alarm clears after VPCs are powered up	step 36
VPCs are powered up and operator screen appears	Proceed to TOPS MPX power-on self test procedure in <i>TOPS MPX Trouble Locating and Clearing Procedures</i> . .

- 12 To post the ISTb TMS, type
>POST ISTB
and press the ENTER key.

PM TPC (for IWS) critical (continued)

13 To access the DCH level of the MAP, type

>DCH

and press the ENTER key.

Normal response on the MAP display:

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   n TPC .   .   .   .   .
    *C*
DCH  SysB  ManB  OffL  CBsy  ISTb  InSv
0  Quit  PM   0    3    11    0    3    48
2  Post_ TMS  0    0    0    0    1    0
3
4      TMS 0  ISTb  Links_OOS:  CSide 0  PSide 4
5  Trnsl Unit0:  Inact  InSv
6  Tst  Unit1:  Act  InSv
7  Bsy
8  RTS  DCH  3    0    0    0    0    1
9  OffL
10 LoadPM DCH
11
12 Next
13
14 QueryPM
15 Disp
16
17
18

```

Shows 3 DCHs that are SysB.

DCH status line

PM TPC (for IWS) critical (continued)

- 14 From the DCH status line in the previous step, post the status of the DCH. The status can be SysB, ManB, CBsy, or ISTb. To post the status of the DCH, type:

>POST <STATE>

and press the ENTER key.

The DCH and ISG information appears. The system reports the status of the DCH.

Record the DCH number, the ISG number, and the port number.

Normal response on the MAP display:

```

CM   MS   IOD   Net   PM   CCS   LNS   Trks   Ext   APPL
.    .    .    .    n TPC .    .    .    .    .
      *C*
DCH
0   Quit   PM    0    3    11   0    3    48
2   Post_  TMS    0    0    0    0    1    0
3
4           TMS 0  ISTb  Links_OOS:  CSide 0  PSide  4
5   Trnsl  Unit0:  Inact InSv
6   Tst    Unit1:  Act  InSv
7   Bsy
8   RTS    DCH   3    0    0    0    0    1
9   OffL
10  LoadPM_ DCH  5  ISG  5 SysB  TMS  0  port 13  WAI
11
12  Next    post sysb
13
14  QueryPM
15  Disp
16
17
18

```

Port number

DCH number and ISG number

Status and indication of S/W (WAI) problem.

Command to post problem type.

- 15 To busy the posted DCH, type

>BSY

and press the ENTER key.

To confirm request for busy, type

>YES

and press the ENTER key.

When you enter the BSY command while the DCH is in service, the system requires confirmation (YES). The system requires confirmation before removal of the DCH from service.

In this condition, enter a YES response to respond to the prompt.

PM TPC (for IWS) critical (continued)

You can enter a BSY command while the DCH is in service and the system receives negative confirmation. The confirmation is in response to the prompt. When this condition occurs, the DCH remains in the current state.

16 To test the posted DCH, type

>TST

and press the ENTER key.

Normal response on the MAP display:

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   n TPC .   .   .   .   .
      *C*
DCH
0  Quit      PM   0   2   11  0   3   49
2  Post_     TMS  0   0   0   0   1   0
3
4          TMS 0  ISTb  Links_OOS: CSide 0  PSide 4
5  Trnsl     Unit0:  Inact  InSv
6  Tst       Unit1:  Act  InSv
7  Bsy
8  RTS       DCH   2   1   0   0   0   1
9  OffL
10 LoadPM   DCH   5  ISG   5  ManB  TMS   0 port 13
11
12 Next      tst
13           DCH 5   Out-of-service test initiated
14 QueryPM   Fail message received from PM
15 Disp      Site Flr RPos  Bay_id Shf  Description  Slot  EqPEC
16           HOST 01  B04  LTEI 00 51  TMS : 000    02   BX02
17           DCH 5 Tst Failed Testid : DCHIFdiag
18

```

Card list failure
message for DCH

See the following table to determine the next action.

If	Do
the system produces a card list	Proceed to <i>TOPS MPX Card Replacement Procedures</i> , and replace the card(s) that appear. After card replacement procedure, proceed to step 17.
The system produces a card list and Tst fails. Testid : DCHIFdiag message appears.	step17
—continued—	

PM TPC (for IWS)
critical (continued)

If	Do
DCH diagnostics appear	step 17
the system generates a load failure message	step 17
—end—	

- 17** Load the DCH if diagnostics appear, if the system receives a load failure message, or you replaced the card. To load the DCH, type

>LOADPM

and press the ENTER key.

Normal response on the MAP display:

```
loadpm
Request submitted on DCH 5
DCH 5 load Passed:  EXC03BX
```

Note: The EXC03BX load name is the load in use in the enhanced D-channel handler (EDCH). This condition appears in the previous MAP example.

PM TPC (for IWS)
critical (continued)

See the following table to determine your next action.

If LOADPM	Do
passes	Next step
fails and you replaced each card	step 35
fails and you did not replace each card	<p>Replace the DCH card. To determine the location of the DCH card to replace without a card list, see the port number from step 14. The system generates the card list. Apply the port number to the following chart. Apply the number to determine the unit number and slot number. Refer to <i>TOPS MPX Card Replacement Procedures</i> for BX02 replacement instructions.</p> <p>Return to step 17 after you replace the card.</p>
If port no. is	Faulty card location is
13	Unit 0, Slot 2
15	Unit 1, Slot 2
17	Unit 0, Slot 1
19	Unit 1, Slot 1

PM TPC (for IWS)
critical (continued)

18 To return the DCH to service, type

>RTS

and press the ENTER key.

Normal response on the MAP display:

```

CM   MS   IOD   Net   PM   CCS   LNS   Trks   Ext   APPL
.    .    .     .     n   TPC  .     .     .     .
      *C*
DCH
0  Quit      PM   0   2   11  0   4   48
2  Post_     TMS  0   0   0   0   0   4
3
4          TMS 0  InSv  Links_OOS:  CSide 0  PSide  0
5  Trns1     Unit 0: Act  InSv
6  Tst       Unit 1: Inact  InSv
7  Bsy
8  RTS       DCH  0   0   0   0   0   4
9  OffL
10 LoadPM   RTS
11          DCH5 Out-of-service test initiated
12 Next     DCH5 Tst Passed
13          DCH5 RTS Passed
14 QueryPM
15 Disp
16
17
18

```

See the following table to determine the next action.

If RTS	Do
passes and alarm clears	step 36
does not pass	step 35
passes and alarm does not clear	step 2 and repeat procedure

19 Refer to office records to determine the reason that the TMS is ManB. Return the TMS to service immediately. Every position is down. To post the ManB TMS, type

>POST MANB

and press the ENTER key.

PM TPC (for IWS)
critical (continued)

- 20 To return the TMS to service, type
>RTSPM
and press the ENTER key.

If RTS	Do
passes	step 36
does not pass	step 35
has load failure	step 21

- 21 To load the TMS after you replace the card, type
>LOADPM PM
and press the ENTER key.

If LOADPM	Do
passes	step 20
does not pass	step 35

PM TPC (for IWS)
critical (continued)

22 To post the SysB TMS, type

>POSTSYSB

and press the ENTER key.

Normal response on the MAP display:

Note: A power failure at the TMS causes an alarm at PM and EXT subsystems. Make sure that the TMS is powered up and a power alarm is not present. Repair every EXT subsystem power problems before you attempt to clear PM subsystem alarms.

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      APPL
.       .       .       .       n TPC   .       .       .       1 FSP   .
          *C*
TMS
0 Quit      PM      1      0      0      0      0      0      48
2 Post_     TMS    1      0      0      0      0      0      4
3 Listset
4           TMS 0 SysB Links_OOS: CSide 0 , PSide 1
5 Trnsl_    Unit 0: Act      SysB Mtce
6 Tst_      Unit 1: Inact      SysB Mtce
7 Bsy_
8 RTS_      POST:
9 OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG
  
```

Note: To stop system maintenance activity, type **>ABTK** and press the ENTER key.

Note: A one (1) should appear under the SysB header for this alarm (as shown).

PM TPC (for IWS) critical (continued)

23 To determine possible TMS fault, type

>QUERYPM FLT

and press the ENTER key.

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.    .    .    .    n TPC
          *C*

TMS          SysB   ManB   OffL   CBSy   ISTb   InSv
0 Quit      PM      0      0      0      0      130
2 Post_     TMS     1      0      0      0      4
3 Listset
4           TMS 0 SysB  Links_OOS: CSide 1 , PSide 0
5 Trnsl_    Unit 0: Inact SysB
6 Tst_      Unit 1: Act  SysB
7 Bsy_
8 RTS_
9 OffL
10 LoadPM_  QueryPM FLT
11 Disp_
12 Next     CSide Links out of service
13 SwAct    Unit 0
14 QueryPM  System busy reason: Not loaded since power up
15 DCH      Unit 1
16          System busy reason: Not loaded since power up
17 PERFORM
18 ISG

```

Note: A one (1) should appear under the SysB header for this alarm (as shown).

See the following table to determine the next action.

If	Do
the system reports WAI	step 24
the system reports load failure	step 24
the system reports other message failures	step 27

24 To manually busy the TMS, type

>BSY PM

and press the ENTER key.

PM TPC (for IWS) critical (continued)

- 25 Load the TMS after load failure or other failure message occurs, or you replaced the card. To load the TMS, type

>LOADPM PM

and press the ENTER key.

If LOADPM	Do
passes	step 27
does not pass and the system does not produce a card list	step 35
does not pass and the system produces a card list	step 26

- 26 If this time is the first time to replace a card on the card list, replace the first card. If you return to this step, return the last replaced card to the TMS. Return the spare to the spare cabinet. Replace the next card on the list.

If the card replaced was a 6X45, 6X46, 6X47, 2X70, or a BX01, proceed to step 25.

If the card replaced was a BX02, proceed to step 29.

If the card replaced was not a 6X45, 6X46, 6X47, 2X70, BX01, or a BX02, proceed to step 27.

- 27 To test the posted TMS, type

>TST PM

and press the ENTER key.

If test	Do
passes	step 28
does not pass and the system produces a card list	step 26
fails and the system does not produce a card list	step 35

PM TPC (for IWS)
critical (continued)

- 28 To return the TMS to service, type

>RTS PM

and press the ENTER key.

If RTS	Do
passes	step 36
does not pass and the system produces a card list	step 26
fails and the system does not produce a card list	step 35
does not pass and has WAI or load failure	step 25

- 29 To access the DCH level of the MAP, type

>DCH

and press the ENTER key.

- 30 To post the affected DCH, type

>POST SYSB

and press the ENTER key.

- 31 To busy the posted DCH, type

>BSY

and press the ENTER key.

To confirm request for busy, type

>YES

and press the ENTER key.

When you issue the BSY command while the DCH is in service, the system requires confirmation (YES). The system requires confirmation before removal of the DCH from service.

In this condition, enter a YES response to respond to the prompt.

You can enter the BSY command when the DCH is in service and the system receives negative confirmation. The negative confirmation is in response to the prompt. When this condition occurs, the DCH remains in the current state.

- 32 To load the DCH, type

>LOADPM

and press the ENTER key.

PM TPC (for IWS)
critical (end)

- 33 To return the DCH to service, type
>RTS
and press the ENTER key.
- 34 To return to the TMS level of the MAP, type
>QUIT
and press the ENTER key.

If	Do
at the TMS level of the MAP	step 28

- 35 For additional help to clear this alarm, contact the next level of support.
- 36 The procedure is complete. If other alarms appear, reference the correct procedures to clear alarms for the specified alarms.

PM DCH (in a TMS) major

Alarm display

CM	MS	IOD	Net	PM	Lns	Trks	Ext	APPL
.	.	.	.	n DCH	.	.	.	.
				M				

Indication

An n D-channel handler (DCH) indication indicates a DCH alarm. An n DCH indication appears under the peripheral module (PM) subsystem header. This header is at the maintenance level of the maintenance and administration position (MAP).

This procedure applies to a DCH in a TOPS message switch (TMS) for all TOPS office configurations of the TMS, which follow:

- The TMS connects to an integrated TPC, which supports up to four integrated MP positions.
- The TMS connects to a virtual TPC, which supports MPX-IWS positions on a token ring.

Meaning

The indicated number (n) of DCHs or enhanced D-channel handlers (EDCHs) are in the system busy (SysB) state.

Result

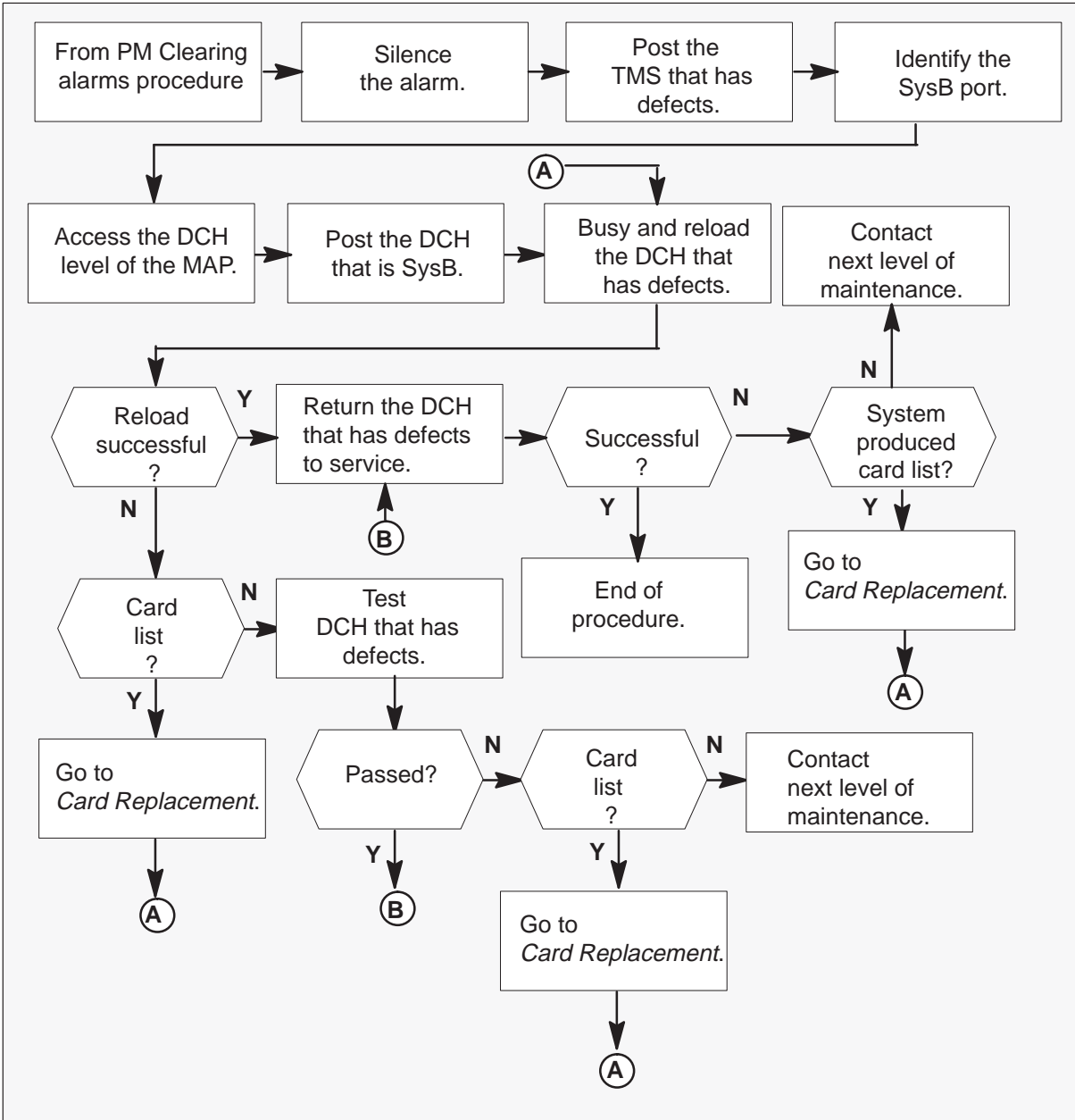
The DCH problem affects call handling equipment that subtends the TOPS message switch (TMS). The DCH problem does not affect the equipment if subtending lines are SysB. If the primary DCH or EDCH has defects, the secondary or redundant DCH or EDCH activates. Call handling abilities remain.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM DCH (in a TMS) major (continued)

Summary of Clearing a PM DCH major alarm



PM DCH (in a TMS) major (continued)

Clearing a PM DCH major alarm

At the MAP:

1

ATTENTION

Enter this procedure from a PM system level clearing alarm procedure step. This step identifies the fault that associates with a DCH.

To silence the alarm, type:

>MAPCI;MTC;SIL
and press the ENTER key.

- 2 To access the TMS level through the PM level at the MAP, and post the in-service trouble (ISTb) TMS, type:

>PM;POST TMS ISTb
and press the ENTER key.

Normal response on the MAP display:

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      APPL
.       .       .       .       1 DCH   .       .       .       .       .
      M
TMS
0 Quit      PM       0       1       2       0       2       18
2 Post_     TMS     0       0       0       0       1       0
3 Listset
4           TMS  0  ISTb  Links_OOS:  CSide 0, PSide 1
5 Trnsl_    Unit0:   Act      InSv
6 Tst_      Unit1:   InAct    InSv
7 Bsy_
8 RTS_
9 OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG

```

PM DCH (in a TMS) major (continued)

- 3 To identify the system busy (SysB) port and associated DCH, type:

>TRNSL P

and press the ENTER key.

Normal response on the MAP display:

```

      CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      APPL
      .      .      .      .      1 DCH      .      .      .      .      .
      M
TMS
0 Quit          SysB      ManB      OffL      CBsy      ISTb      InSv
2 Post_        TMS      0      0      0      0      1      0
3 Listset
4              TMS 0      ISTb      Links_OOS: CSide 0, PSide 1
5 TrnsL_      Unit0:      Act      InSv
6 Tst_        Unit1:      InAct      InSv
7 Bsy_
8 RTS_        Trnasl      P
9 OffL        Link 0:      Multiple Nodes 0;Cap MS ;Status:OK MssCond:OPN
10 LoadPM_    Link 1:      Carrier of Class - Trunk ;Status:OK
11 Disp_      Link 13:      DCH 5;Status:OK
12 Next       Link 15:      DCH 4;Status:OK
13 SwAct      Link 17:      DCH 2;Status:OK
14 QueryPM    Link 19:      DCH 3;Status:SBsy
15 DCH
16
17 PERFORM
18 ISG

```

PM DCH (in a TMS) major (continued)

- 4 To access the DCH level through the PM level at the MAP, type:

>DCH

and press the ENTER key.

Normal response on the MAP display:

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      APPL
.       .       .       .       1 DCH   .       .       .       .       .
      M
DCH
0  Quit      PM      0      0      10     0      1      130
2  Post_     TMS     0      0      0      0      1      4
3
4
5  Trnsl     TMS 0   ISTb   Links_OOS:  CSide 0   PSide 1
6  Tst       Unit 0: Act   InSv
7  Bsy       Unit 1: Inact InSv
8  RTS      DCH     1      0      0      0      0      3
9  OffL
10 LoadPM
11
12 Next
13
14 QueryPM
15 Disp
16
17
18

```

PM DCH (in a TMS) major (continued)

- 5 To post the DCH that is SysB and that requires clearing, type:

>POST n

where

n = DCH number

and press the ENTER key.

Normal response on the MAP display:

```

CM   MS   IOD   Net   PM   CCS   LNS   Trks   Ext   APPL
.   .   .   .   1 DCH .   .   .   .   .
      M
DCH           SysB   ManB   OffL   CBsy   ISTb   InSv
0  Quit      PM      0      0      10     0      1     130
2  Post_     TMS     0      0      0      0      1      4
3
4           TMS 0   InSv           Links_OOS: CSide 0   PSide 1
5  Trnsl     Unit 0: Act   InSv
6  Tst       Unit 1: Inact InSv
7  Bsy
8  RTS       DCH   1      0      0      0      0      3
9  OffL
10 LoadPM   DCH 3 ISG 3 SysB TMS 0 port 19 Access Error
11
12 Next
13
14 QueryPM
15 Disp
16
17
18

```

PM DCH (in a TMS) major (continued)

- 6 To busy the DCH that requires clearing, type:

>BSY

and press the ENTER key.

Type:

>YES

and press the ENTER key.

Explanation:

If you issue the BSY command when the DCH is in service, the system requires confirmation, YES. The system requires confirmation before removal of the DCH from service.

You must give a YES response when you respond to the prompt.

The DCH remains in the current state if you issue the BSY command when the DCH is in service. The DCH remains in the current state when the system receives negative confirmation in response to the prompt.

Normal response on the MAP display:

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      APPL
.      .      .      .      1 DCH   .      .      .      .      .
      M
DCH
0  Quit      PM      0      0      0      0      1      130
2  Post_     TMS     0      0      0      0      1      4
3
4          TMS 0  InSv      Links_OOS:  CSide 0  PSide  1
5  Trnsl     Unit 0:  Act      InSv
6  Tst       Unit 1:  Inact   InSv
7  Bsy
8  RTS       DCH     1      0      0      0      0      3
9  OffL
10 LoadPM    BSY
11 Operator Services may be affected.
12 Next      Please confirm ("YES" or "NO"):
13 YES
14 QueryPM   DCH 0 Bsy Passed
15 Disp
16
17
18

```

PM DCH (in a TMS) major (continued)

7 To reload the DCH that has defects, type:

>LOADPM

and press the ENTER key.

Normal response on the MAP display:

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      APPL
.      .      .      .      1 DCH  .      .      .      .      .
      M
DCH
0  Quit      PM      0      0      18      1      2      44
2  Post_     TMS     0      0      0      0      1      0
3
4          TMS 0  ISTb  Links_OOS:  CSide 0  PSide 1
5  Trnsl     Unit 0:  InSv
6  Tst      Unit 1:  InSv
7  Bsy
8  RTS      DCH     0      1      0      0      0      3
9  OffL
10 LoadPM   DCH 3  ISG 3  ManB  TMS 0  port 19
11
12 Next     LoadPM
13          Request submitted on DCH 3
14 QueryPM  DCH 3  load Passed  :XCH36CR
15 Disp
16
17
18
    
```

See the following table to determine the next action.

If reload	Do
is successful	step 9
is not successful and the system produces a card list	Go to <i>Card Replacement Procedures</i> and replace the first card on the list. Go to step 7.
is not successful	step 8

PM DCH (in a TMS) major (end)

- 8 To test the DCH that has defects, type:

>TST

and press the ENTER key.

If test	Do
passes	step 9
is not successful and the system produces a card list	Go to <i>Card Replacement Procedures</i> and replace the first card on the list. Go to step 7.
is not successful and the system does not generate a card list	step 10

- 9 To return the tested DCH to service, type:

>RTS

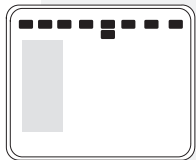
and press the ENTER key.

If RTS	Do
is successful	step 11
is not successful and the system produced a card list	Go to <i>Card Replacement Procedures</i> and replace the first card on the list. Go to step 7.
is not successful	step 10

- 10 For additional help, contact the next level of maintenance.
- 11 The procedure is complete. If other alarms appear, reference the correct clearing alarm procedures for the indicated alarms.

PM SysB (OSNM) major

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	APPL
.	.	.	.	SysB	.	.	.	.	.
				M					

Indication

At the MTC level of the MAP display, an M can appear under the PM header of the alarm banner. The M indicates a major alarm.

Meaning

A peripheral module is system busy. An Operator Service Node Maintained (OSNM) module is system busy.

One of the following conditions is present:

- The OSNM loses contact with the computing module.
- The OSNM fails to respond to the system audit.
- The OSNM exceeds the invalid message threshold.
- The OSNM did not return to service after a system restart.

Result

All session pools on the OSNM are out of service. Call processing on the OSNM does not occur.

Common procedures

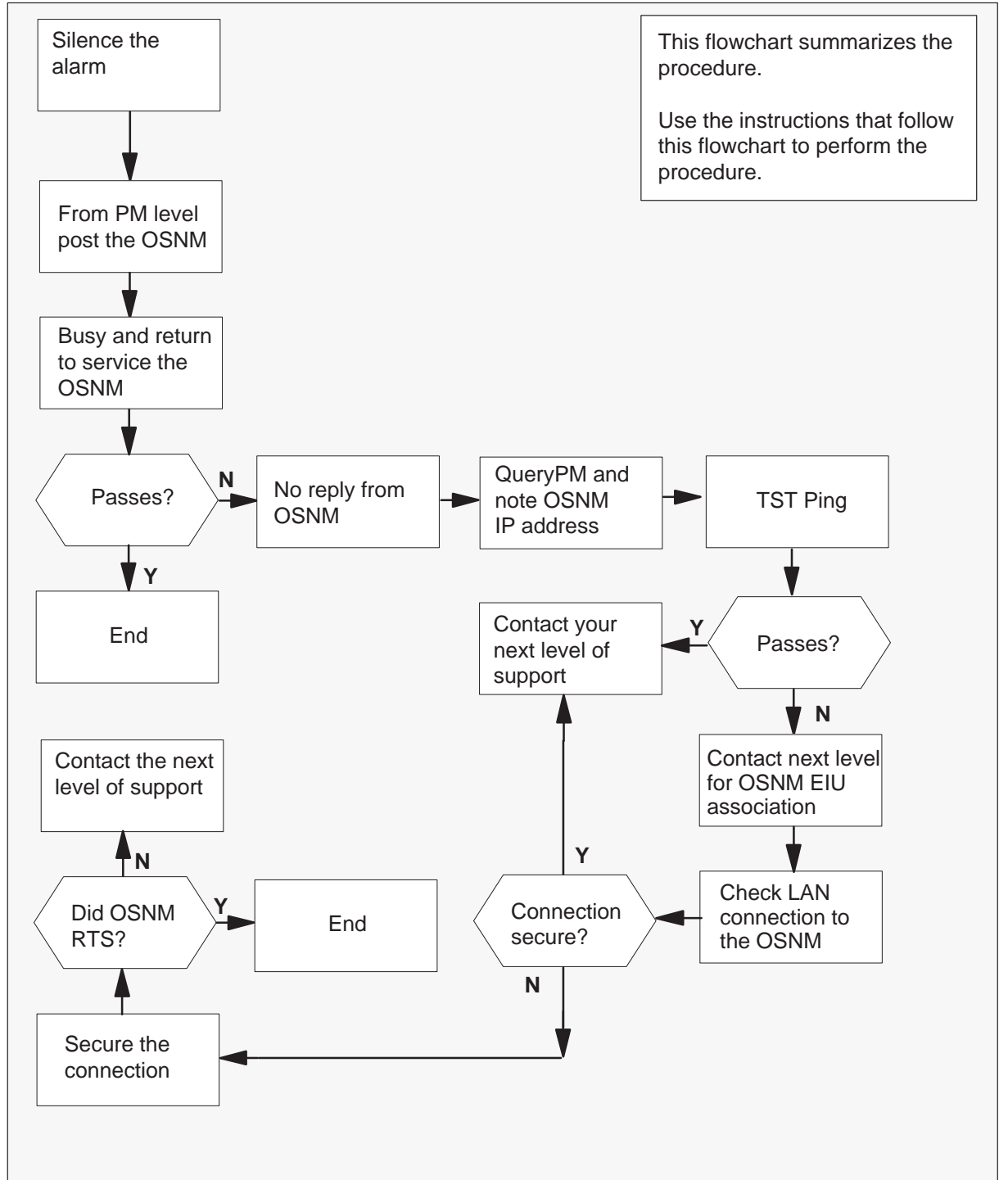
Does not apply

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM SysB (OSNM) major (continued)

Summary of Clearing an OSNM SysB Major alarm



PM SysB (OSNM) major (continued)

Clearing a PM SysB (OSNM) OSNM SysB alarm

At the MAP display

- 1 To silence the alarm, type
>MAPCI;MTC;SIL
and press the Enter key.
- 2 To access the PM level of the MAP display, type
>PM
and press the Enter key.

Example of a MAP display:

SysB	ManB	OffL	CBsy	ISTb	InSv
1	0	0	0	0	0

PM

- 3 To post the system busy OSNM, type
>POST OSNM SysB
and press the Enter key.

Example of a MAP display:

SysB	ManB	OffL	CBsy	ISTb	InSv
1	0	0	0	0	0

PM
OSNM

OSNM 0
NONE
SysB

**PM SysB (OSNM)
major (continued)**

- 4 To busy and return to service the OSNM, type
>BSY;RTS
and press the Enter key.

If RTS	Do
passes	step 12
fails	step 5

- 5 Note the failure reason.

If failure	Do
is no reply from OSNM	step 6
is other condition	step 11

- 6 To perform a ping test on the OSNM, type
>TST PING
and press the Enter key.

If the ping test	Do
passes	step 11
fails	step 7

- 7 Contact next level of support. Provide the results of the ping test and ask network personnel for Ethernet Interface Unit (EIU) to OSNM connections. Return to this point in the procedure.
- 8 Check the LAN connection to the OSNM at the associated EIU.

If the connection	Do
is secure	step 11
is not secure	step 9

- 9 Secure the connection to the EIU.

PM SysB (OSNM)
major (end)

10 Determine if the OSNM returned to service?

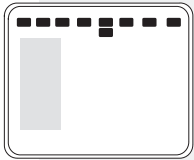
If	Do
Yes	step 12
No	step 11

11 For additional help, contact the next level of support.

12 The procedure is complete.

PM TMS major

Alarm display



CM	MS	IOD	Net	PM	Lns	Trks	Ext	APPL
.	.	.	.	n TMS M	.	.	.	.

Indication

An n TOPS message switch (TMS) indication appears under the peripheral module (PM) subsystem header at the maintenance level of the MAP. The n TMS indication indicates a TMS alarm. An M indication under the n TMS indicates a major alarm.

This procedure applies to all TOPS office configurations for the TMS, which follow:

- The TMS connects to an integrated TPC, which supports up to four integrated MP positions.
- The TMS connects to a virtual TPC, which supports MPX-IWS positions on a token ring.

Meaning

The n indicates the number of TMSs in the state of in-service trouble.

Result

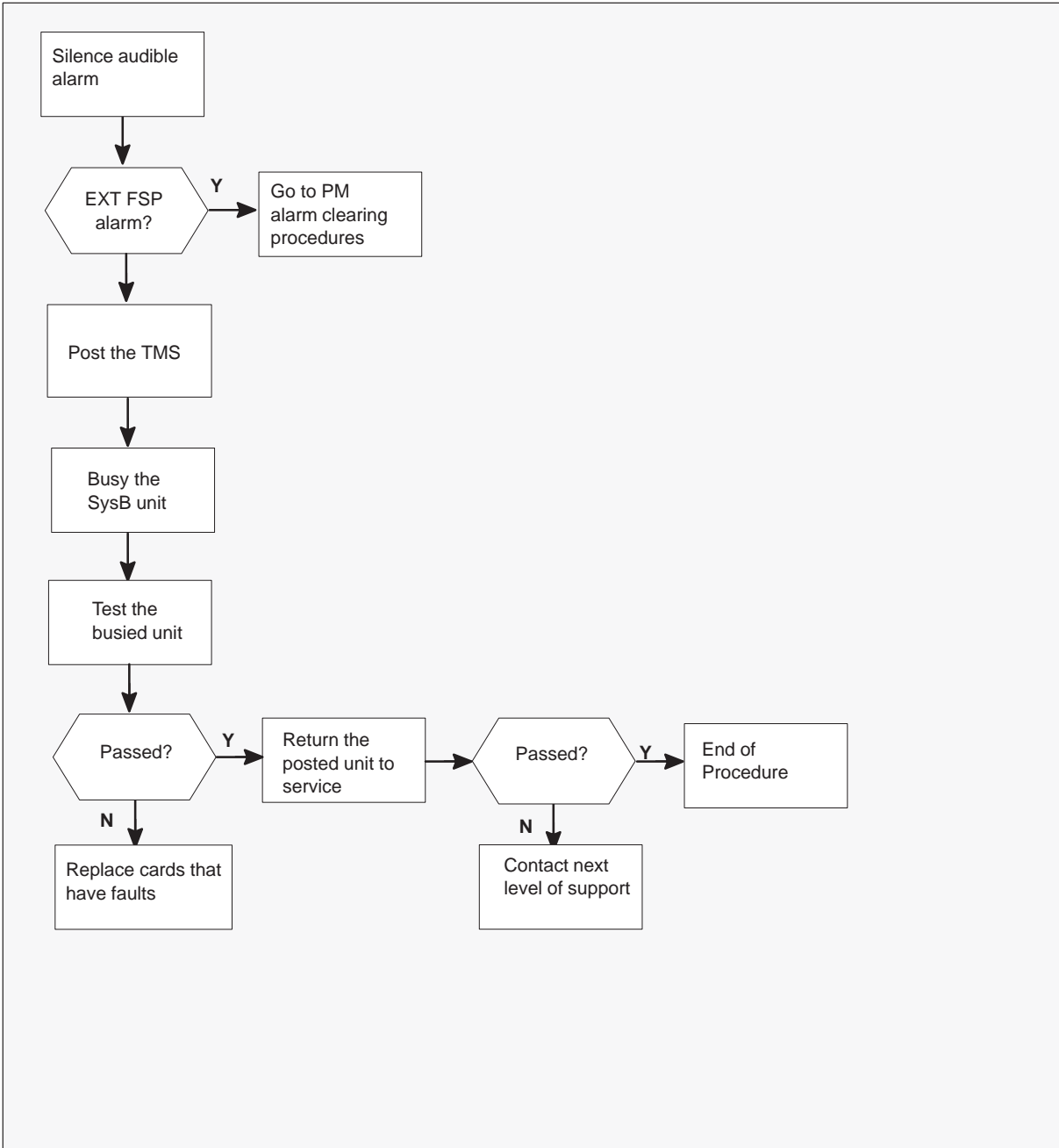
The TMS is a redundant unit. A TMS major alarm does not affect call handling because of this condition. If a fault occurs in the remaining unit, the system can lose the ability to handle a call. You must clear this alarm as soon as possible to prevent the loss of call handling.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM TMS major (continued)

Summary of clearing a PM TMS major alarm



PM TMS
major (continued)

Clearing a PM TMS major alarm***At the MAP terminal*****1****ATTENTION**

Enter this procedure from a PM system level alarm clearing procedure step. This step identified a fault associated with a TMS.

To silence the audible alarm, type

>MAPCI;MTC;SIL

and press the ENTER key.

- 2** A power problem can cause this alarm. Check the EXT subsystem level for an FSP major alarm.

If an EXT FSP major alarm	Do
is not present	step 3
is present and caused the FSP alarm	Follow EXT subsystem alarm clearing procedures. If TMS alarm is present after power problem cleared, go to appropriate alarm clearing procedure.

PM TMS major (continued)

- To access the PM level of the MAP and determine the status of the TMS units, type

>PM;POST TMS

and press the ENTER key.

Note: The status can be ISTb.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.   .   .   .   n TMS   .   .   .   .   .
      M
TMS           SysB  ManB  OffL  CBsy  ISTb  InSv
0  Quit   PM      0    0    0    0    1    130
2  Post_  TMS      0    0    0    0    1     4
3  Listset
4           TMS           Links_OOS: CSide , PSide
5  Trnsl_ Unit  0:
6  Tst_   Unit  1:
7  Bsy_   POST:
8  RTS_   No PM posted
9  OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG
    
```

Note: The number 1 appears under the ISTb header of this alarm.

PM TMS major (continued)

- 4 To post the in-service trouble (ISTb) TMS, type

>POST ISTB

and press the ENTER key.

On the TMS MAP display, examine the status information for the TMS units. The status information appears in the highlighted area of the following example

Unit 0 or unit1 is SysB, record the unit number.

Example of a MAP display

```

CM  MS  IOD  Net  PM  CCS  Lns  Trks  Ext  APPL
.  .  .  .  n TMS  .  .  .  .  .
      M
TMS      SysB  ManB  OffL  CBsy  ISTb  InSv
0  Quit  PM      0    0    0    0    1   130
2  Post_ TMS      0    0    0    0    1    4
3  Listset
4      TMS 0  ISTb  Links_OOS:  CSide 1,  PSide 0
5  Trnsl_ Unit 0: InAct SysB Mtce
6  Tst_   Unit 1: Act   InSv
7  Bsy_
8  RTS_
9  OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG

```

Note: To stop system maintenance activity, type

>ABTK

and press the ENTER key.

Note: The number 1 appears under the ISTb header of this alarm.

PM TMS major (continued)

- 5 To determine unit fault, type

>QUERYPM FLT

and press the ENTER key.

Example of a MAP display

```

CM  MS  IOD  Net  PM  CCS  Lns  Trks  Ext  APPL
.   .   .   .   n TMS  .   .   .   .
      M
TMS          SysB  ManB  OffL  CBsy  ISTb  InSv
0  Quit      PM    0    0    0    0    1   130
2  Post_     TMS   0    0    0    0    1    4
3  Listset
4          TMS  0  ISTb  Links_OOS:  CSide 1, PSide 0
5  Trnsl_    Unit 0:   InAct SysB (or CBsy or ManB) Mtce
6  Tst_      Unit 1:   Act   InSv
7  Bsy_
8  RTS_
9  OffL
10 LoadPM_  QueryPM FLT
11 Disp_     Inactive unit out of service
12 Next      CSide Links out of service
13 SwAct     Unit 0
14 QueryPM   System busy reason:  Not loaded since power up
15 DCH       Unit 1
16          no fault exists
17 PERFORM
18 ISG
    
```

Note: The number 1 appears under the ISTb header for this alarm.

PM TMS major (continued)

6 To busy the SysB unit, type

>BSY UNIT n

and press the ENTER key.

where

n is the unit number you found in step 4.

Example of a MAP display

```

CM  MS  IOD  Net  PM  CCS  Lns  Trks  Ext  APPL
.   .   .   .   n TMS  .   .   .   .
      M
TMS          SysB  ManB  OffL  CBsy  ISTb  InSv
0  Quit      PM    1    0    2    0    1    18
2  Post_     TMS   0    0    0    0    1    1
3  Listset
4           TMS  0  ISTb  Links_OOS:  CSide  0,  PSide  0
5  Trnsl_    Unit 0:    InAct  ManB
6  Tst_      Unit 1:    Act    InSv
7  Bsy_
8  RTS_      Bsy Unit 0
9  OffL      TMS 0 Unit 0 Bsy Passed
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG

```

PM TMS major (continued)

- 7 To test the posted unit, type

>TST UNIT n

and press the ENTER key.

where

n is the unit number you found in step 4.

Note the system response. The following MAP response appears when all the tests pass.

Example of a MAP response

```
TMS n   Unit n   Non-Destructive ROM test and
          OSvce tests will be run
TMS n   Tst Passed
```

The following is an example of a MAP response when a test fails.

Example of a MAP display

```
TMS n   Unit n   Non-Destructive ROM test and
          OSvce tests will be run
TMS n   Tst Failed
          Diagnostic TESTALL failed.
          ROM Level Test Failed
          Replace the Cards in the Card List
          and applicable Paddleboards (i.e. 6x12) :
Site  Flr  RPos  Bay_id  Shf  Description  Slot  EqPEC
HOST  00  D006  LTEI 00  32  TMS : 000  18  6Xnn
HOST  00  D006  LTEI 00  32  TMS : 000  21  6Xnn
```

If a test	Do
passes	step 15
fails and the system generates a card list that has faults	step 8
fails and the system does not generate a card list that has faults	step17

PM TMS major (continued)

- 8 Record the product engineering code (PEC) and shelf location of each card in the list. Use the *Card Replacement Procedures document* to replace the first card on the list. When you return from the card replacement procedure, proceed to the next step.
- 9 A replaced card can be one of the following:
- NT6X45
 - NT6X46
 - NT6X47
 - BX01
 - MX77
 - BX02

If the replaced card	Do
appears in the above list	step 10
does not appear in the above list	step12

- 10 If the replaced card is a BX02, access the DCH level of MAP. Post and reload the DCH. Proceed to step 15. If the replaced card is not a BX02, load the affected unit. To load the affected unit, type

>LOADPM UNIT n

and press the ENTER key.

where

n is the unit number found in step 4.

If the load completes, the following response appears:

LoadPM Passed

- 11 Determine if the reload completes.

If the reload occurs AFTER a card replacement and the reload	Do
completes	step 15
does not complete	step 13

PM TMS major (continued)

- 12 To test the unit that has faults, type

>TST UNIT n

and press the ENTER key.

where

n is the unit number you found in step 4.

Examine the system response and determine if the test passed or failed.

If the test	Do
passes	step 15
fails and the system generates a card list of the cards that have faults	step 13
fails and the system does not generate a card list of the cards that have faults	step17

- 13 Examine the cards that appear on the card list you received in step 8. Determine if replacement of all the cards on the list occurred.

If replacement of all the cards on the list	Do
occurred	step 20
did not occur	step 14

PM TMS
major (continued)

14 Replace the next card on the list of cards that have faults. Refer to *Card Replacement Procedures*. After you replace the card, return to step 9.

15 To return the posted unit to service, type

>RTS UNIT n

and press the ENTER key.

where

n is the unit number you found in step 4.

Note the system response. The following is the system response when the return to service (RTS) is successful:

OK

The status of the TMS unit is INSV or ISTb. The unit remains ISTb for a maximum of 10 min while dynamic data synchronization is in progress. If an alarm is present after 10 min, proceed to the appropriate alarm clearing procedure.

If the RTS fails, the system responds with a failure message. The system can include a card list of the cards that have faults with the message.

If RTS	Do
is successful	step 21
is not successful	step 16

16 Examine the cards that appear on the card list you received in step 8. Determine if replacement occurred for all the cards on the list.

If replacement for all cards on list	Do
occurred	step 21
did not occur	step 14

PM TMS major (continued)

At the MAP terminal

- 17 The peripheral/remote loader-16 card (NT7X05) allows local loading of XPM data. This action reduces recovery time. To verify if the NT7X05 card is available, type

>QUERYPM FILES

and press the Enter key.

Example of a MAP display:

```

      CM   MS   IOD   Net   PM   CCS   LNS   Trks   Ext   APPL
      .   .   .   .   1DTC   .   .   .   .   .

TMS
0 Quit      PM      2      0      2      0      2      25
2 Post     TMS     0      1      0      0      0      10
3 ListSet
4           TMS     0 ManB  Links_OOS: CSide 0, PSide 0
5 TRNSL_   Unit 0:   Act   ManB
6 TST_     Unit 1:   InAct ManB
7 BSY_
8 RTS_     QUERYPM files
9 OffL     Unit 0:
10 LoadPM_ NT7X05 load File: ETM06BB
11 Disp_   NT7X05 Image File:
12 Next_   NT7X05 Image Timestamp: 1996/02/07 13:56:25.663 WED
13 SwAct
14 QueryPM Unit 1:
15         NT7X05 load File: ETM06BB ←
16         NT7X05 Image File:
17 Perform NT7X05 Image Timestamp: 1996/02/07 13:54:09.523 WED
18

```

(NT7X05 load file name)

If the NT7X05 card is not available, the MAP response is

NT7X05 not datafilled, QueryPm files invalid

If the NT7X05 card	Do
is available	step 18
is not available	step 19

PM TMS
major (continued)

18

**WARNING****Possible service interruption**

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

**CAUTION****Possible service interruption**

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the loadfile when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

To load the TMS software from the local loadfile, type

>LOADPM PM LOCAL LOADFILE

If LOADPM	Do
passed	step 20
failed	step 19

PM TMS major (continued)

- 19 To load the TMS unit that has faults, type

>LOADPM UNIT n

and press the ENTER key.

where

n is the unit number you found in step 4.

If the load completes, the following response appears

LoadPM Passed

The unit status is in-service (INSV) or in-service trouble (ISTb). If the load fails, a failure message appears.

If reload	Do
completes	step 18
does not complete	step 20

- 20 To return the posted unit to service, type

>RTS UNIT n

and press the ENTER key.

where

n is the unit number you found in step 4.

Note the system response. If the RTS completes, the system responds with:

OK

The status of the TMS unit is INSV or ISTb.

If the RTS fails, the system responds with a failure message. This message can include a list of cards that have faults.

- 21 Determine if the return to service (RTS) completed. If the RTS completes the status of the unit is INSV or ISTb.

If RTS	Do
completes	step 21
does not complete	step 20

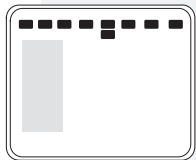
- 22 The fault remains. You replaced all of the cards on the list, or the reload was not successful. For additional help, contact the next level support.

PM TMS
major (end)

- 23** The procedure is complete. If other alarms appear, refer to the appropriate alarm clearing procedures for the alarms that appear.

PM TMS (ETMS_OCDL_OOS) major

Alarm display



CM	MS	IOD	Net	PM	Lns	Trks	Ext	APPL
.	.	.	.	1TMS M	.	.	.	.

Indication

At the MTC level of the MAP display, M and a number appears under the PM header of the alarm banner. The number precedes M, which indicate a major PM alarm.

Meaning

An ETMS_OCDL_OOS alarm occurs under the PM alarm system.

Result

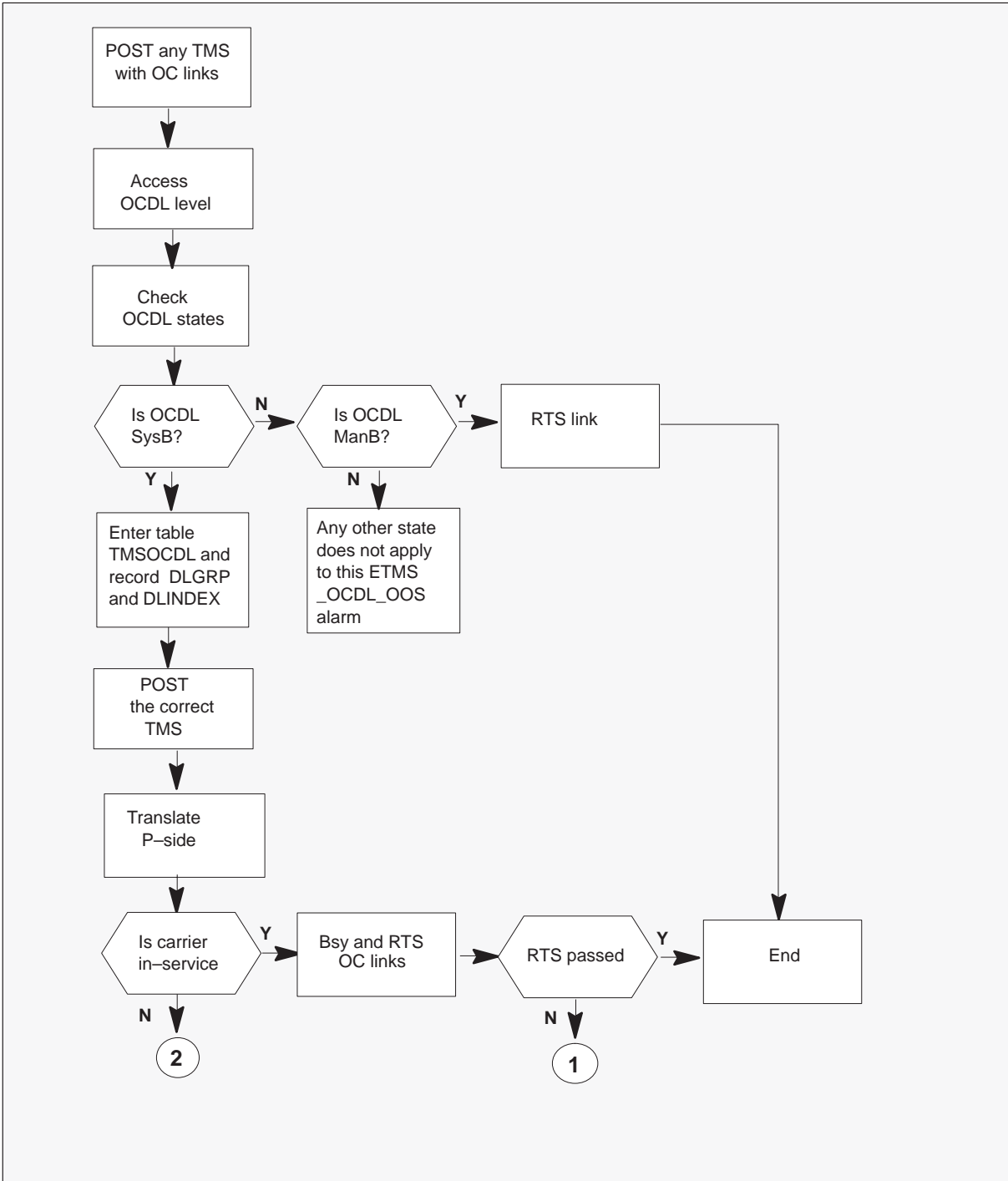
An ETMS_OCDL_OOS alarm indicates operator centralization from a remote toll center to a host DMS TOPS toll center was affected. A reduction of remote links to the TOPS toll center occurs.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

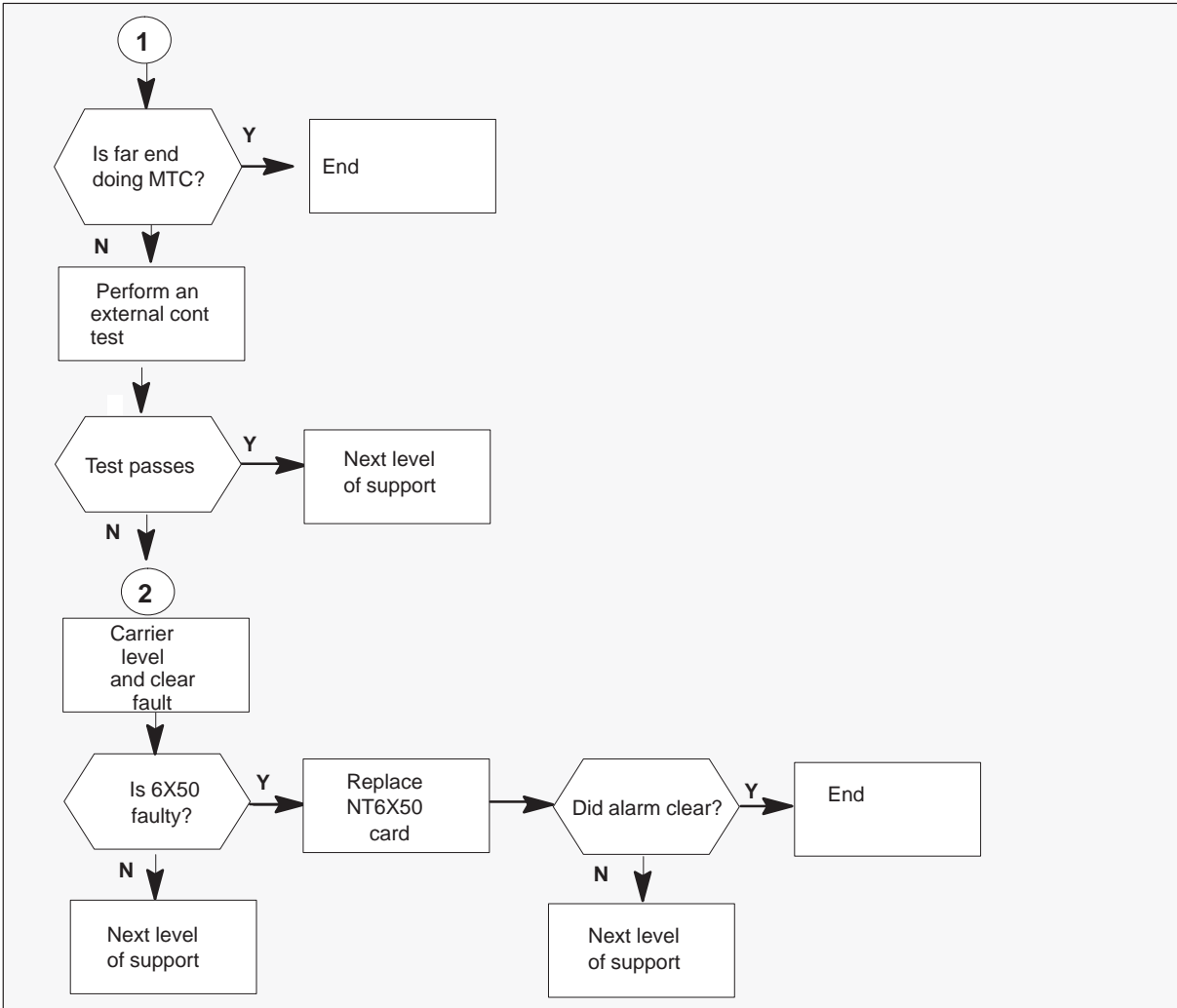
**PM TMS (ETMS_OCDL_OOS)
major (continued)**

Summary of clearing a PM TMS (ETMS_OCDL_OOS) major alarm



PM TMS (ETMS_OCDL_OOS) major (continued)

Summary of clearing a PM TMS (ETMS_OCDL_OOS) major alarm (continued)



PM TMS (ETMS_OCDL_OOS) major (continued)

Clearing a PM TMS (ETMS_OCDL_OOS) major alarm

At the MAP terminal

1

ATTENTION

You must enter this procedure from a PM system level alarm clearing procedure step that identifies a OCDL system busy fault.

To post any TOPS Message Switch (TMS) with Operator Centralization (OC) links, type

>PM;POST TMS tms_no
and press the ENTER key.

where

tms_no is the number of the TMS is 0–255

Note: To determine a TMS with OC links, enter table LTCINV, position on each TMS, and check the field OPTATTR for OC link.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.   .   .   .   .   .   .   .   .   .

TMS
0  Quit      PM      0      0      0      0      0      48
2  Post_    TMS      0      0      0      0      0      4
3  Listset
4
4      TMS 0  InSv  Links_OOS:  CSide 0,  PSide 0
5  Trnsl_   Unit 0:  Act      InSv
6  Tst_     Unit 1:  InAct   InSv
7  Bsy_     POST
8  RTS_
9  OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16 OCDL
17 PERFORM
18 ISG

```

2 To enter OCDL level of the MAP and query the system busy OC links, type

>OCDL;QOCDL SYSB
and press the ENTER key.

PM TMS (ETMS_OCDL_OOS) major (continued)

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.    .    .    .    .    .    .    .    .    .

TMS
0  Quit          PM      0      0      0      0      0      48
2              TMS      0      0      0      0      0      4
3
4              TMS 0  ISTb  Links_OOS:  CSide 0,  PSide 0
5              Unit 0:  Act      InSv
6              Unit 1:  InAct    InSv
7  Bsy_
8  RTS_          OCDL                1111111111 2222222222 33
9  OffL          0123456789 0123456789 0123456789 01
10                 0000--0000 0000--0000  -----  --
11
12              OCDLGRP  DLINDEX  TMS  OCDL#      PROTLEVEL  STATE
13              =====  =====  ===  =====  =====  =====
14              HOSTDL    0          2      1          LOW      SYSB
15  Cont
16  Loopbk_
17  OCPing_
18  QOCDL_

```

- 3 Record the system busy OCDLGRP, DLINDEX, TMS Number and OCDL#.
- 4 To leave the MAP maintenance level, type
>QUIT ALL
and press the ENTER key.

PM TMS (ETMS_OCDL_OOS) major (continued)

- 5 Enter table TMSOCDL and position on the OCDLGRP and DLINDEX you recorded in step 3.

>Table TMSOCDL; POS <OCDLGRP> <DLINDEX>
and press the ENTER key.

Example of a MAP display

TABLE : TMSOCDL					
TOP					
OCDLKEY	PROTLEVL	TMS	PORT	CHANNEL	OCDL
HOSTDL 1	LOW	2	0	1	1
REMOTEDL 1	LOW	0	0	2	2
HOST2DL 1	LOW	0	1	3	3
REMOTE2DL 1	LOW	2	2	4	4

- 6 To record the TMS, port, and channel, and quit table TMSOCDL. To quit table TMSOCDL, type

>QUIT
and press the ENTER key.

- 7 To post the TMS with the system busy OC links you recorded in step 3, type

>MAPCI;MTC;PM;POST TMS tms_no
and press the ENTER key.

where

tms_no is the number of the TMS is 0–255

PM TMS (ETMS_OCDL_OOS) major (continued)

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.   .   .   .   .   .   .   .   .   .

TMS
0  Quit      PM      0    0    0    0    0    48
2  Post_     TMS     0    0    0    0    0    4
3  Listset
4          TMS  2  InSv  Links_OOS:  CSide  0,  PSide  0
5  Trnsl_    Unit 0:  Act    InSv
6  Tst_      Unit 1:  InAct  InSv
7  Bsy_      POST
8  RTS_
9  OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16 OCDL
17 PERFORM
18 ISG

```

- 8 To translate the Peripheral side (P-side) of the TMS, type **>TRNSL P** and press the ENTER key.

PM TMS (ETMS_OCDL_OOS) major (continued)

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.   .   .   .   .   .   .   .   .   .

TMS
0  Quit      PM      0      0      0      0      0      48
2  Post_    TMS      0      0      0      0      0      4
3  Listset
4          TMS 2  InSv  Links_OOS:  CSide 0,  PSide 0
5  Trnsl_   Unit 0:  Act   InSv
6  Tst_     Unit 1:  InAct InSv
7  Bsy_     TRNSL P
8  RTS_
9  OffL     LINK 0   CARRIER CLASS OF - TRUNK :STATUS OK
10 LoadPM_ LINK 1   CARRIER CLASS OF - TRUNK :STATUS OK
11 Disp_    LINK 2   CARRIER CLASS OF - TRUNK :STATUS OK
12 Next     LINK 3   CARRIER CLASS OF - TRUNK :STATUS OK
13 SwAct    LINK 4   CARRIER CLASS OF - TRUNK :STATUS OK
14 QueryPM LINK 5   CARRIER CLASS OF - TRUNK :STATUS OK
15 DCH      LINK 6   CARRIER CLASS OF - TRUNK :STATUS OK
16 OCDL     LINK 7   CARRIER CLASS OF - TRUNK :STATUS OK
17 PERFORM
18 ISG

```

9 Is the carrier busy?

If	Do
INSV	step 10
SYSB	step 34

10 To enter the OCDL level of the MAP, type

>OCDL

and press the ENTER key.

11 To busy the OC link you recorded in step 3, type

>BSY <CHNL>

and press the ENTER key.

where

CHNL is the specified channel from 0–31

PM TMS (ETMS_OCDL_OOS)
major (continued)

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.   .   .   .   .   .   .   .   .   .

TMS
0  Quit      PM      0  0      0  0      0  48
2  TMS      TMS      0  0      0  0      0  4
3
4          TMS  2  InSv  Links_OOS:  CSide  0,  PSide  0
5          Unit 0:  Act      InSv
6          Unit 1:  InAct   InSv
7  Bsy_
8  RTS_      OCDL                1111111111 2222222222 33
9  OffL      0123456789 0123456789 0123456789 01
10         OMO0--0000 0000--0000  -----  --
11
12
13
14
15  Cont
16  Loopbk_
17  OCPing_
18  QOCDL_
    
```

12 To return the OC link to service, type

>RTS <CHNL>
 and press the ENTER key.

where

CHNL is the specified channel from 0–31

13 Did return to service pass?

If	Do
YES	step 47
NO	step 14

14 To perform an internal continuity test, type

>CONT <CHNL> INT
 and press the ENTER key.

where

CHNL is the specified channel from 0–31

PM TMS (ETMS_OCDL_OOS) major (continued)

15 Did test pass?

If	Do
YES	step 28
NO	step 16

16 To switch the processing activity to the inactive unit, type

>SWACT

and press the ENTER key.

The system determines the type of SwAct the system can perform. The type can be a warm SwAct or a cold SwAct. The system displays a confirmation prompt for the SwAct the system selects.

Note: The PM major alarm clears after the SWACT.

17 To busy the inactive TMS unit with the system busy OC links, type

>BSY UNIT unit_no

and press the ENTER key.

where

unit_no is the TMS unit number 0 or 1

18 To return-to-service the TMS unit, type

>RTS UNIT unit_no

and press the ENTER key.

where

unit_no is the TMS unit number 0 or 1

19 Did the RTS pass?

If	Do
YES	step 28
NO	step 20

PM TMS (ETMS_OCDL_OOS) major (continued)

20 Does the system indicate the BX01 EISP card has faults?

If	Do
YES	step 21
NO	step 24

21 Go to the *Card Replacement Procedures* document. Use the BX01 card replacement procedure to replace the card. Return to this point.

At the MAP terminal

22 The peripheral/remote loader-16 card (NT7X05) allows local loading of XPM data. Local loading of XPM data reduces recovery time. To check if the NT7X05 card is provisioned, type

>QUERYPM FILES

and press the Enter key.

Example of a MAP display:

```

      CM   MS   IOD   Net   PM   CCS   LNS   Trks   Ext   APPL
      .    .    .    .    1DTC  .    .    .    .    .

TMS
0 Quit      PM      2      0      2      0      2      25
2 Post      TMS     0      1      0      0      0      10
3 ListSet
4           TMS     0 ManB Links_OOS: CSide 0, PSide 0
5 TRNSL_    Unit 0:  Act  ManB
6 TST_      Unit 1:  InAct ManB
7 BSY_
8 RTS_      QUERYPM files
9 OffL      Unit 0:
10 LoadPM_  NT7X05 load File: ETM06BB
11 Disp_    NT7X05 Image File:
12 Next_    NT7X05 Image Timestamp: 1996/02/07 13:56:25.663 WED
13 SwAct
14 QueryPM  Unit 1:
15          NT7X05 load File: ETM06BB ←
16          NT7X05 Image File:
17 Perform  NT7X05 Image Timestamp: 1996/02/07 13:54:09.523 WED
18

```

(NT7X05 load file name)

PM TMS (ETMS_OCDL_OOS) major (continued)

Note: If the NT7X05 card is not provisioned, the MAP response is: NT7X05 not datafilled, QueryPm files invalid

If the NT7X05 card	Do
is provisioned	step 23
is not provisioned	step 24

23

**WARNING****Possible service interruption**

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the load file when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

**CAUTION****Possible service interruption**

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. The LOADPM command does not patch the load file when you use this parameter. Do not use this parameter unless you need to use the NOPATCH option of the loadfile.

To load the TMS software from the local loadfile, type:

>LOADPM PM LOCAL LOADFILE

If LOADPM	Do
passed	step 26
failed	step 24

PM TMS (ETMS_OCDL_OOS)

major (continued)

- 24 To load the inactive unit of the TMS from the CC, type

>LOADPM UNIT unit_no

and press the ENTER key.

where

unit_no is the TMS unit number 0 or 1

- 25 Did the load pass?

If	Do
YES	step 26
NO	step 45

- 26 To return-to-service the TMS unit, type

>RTS UNIT unit_no

and press the ENTER key.

where

unit_no is the TMS unit number 0 or 1

- 27 Did the RTS pass?

If	Do
YES	step 28
NO	step 45

- 28 Does the far-end office perform maintenance?

If	Do
YES	step 29
NO	step 30

- 29 Ask the far-end office to contact you when maintenance is complete. Return to step 12.

PM TMS (ETMS_OCDL_OOS) major (continued)

30 Ask the far-end office to manually busy the far-end office end of the OC link(s) and setup a loopback. The command at the far-end office is LOOPBK <CHNL> SETUP.

31 To perform an external continuity test on the OC links, type

>CONT <CHNL> PM
and press the ENTER key.

where

CHNL is the channel number 0–31

32 To confirm the external continuity test, type

>YES
and press the ENTER key.

Note: After you complete the test, ask the far-end office to release the loopback. The command at the far-end office is LOOPBK <CHNL> RLS.

33 Did the test pass?

If	Do
YES	step 46
NO	step 34

34 Go to the carrier level of the MAP and POST the TMS with the system busy carrier or OC link. To post the TMS with the system busy carrier or OC, type

>TRKS;CARRIER;POST TMS tms_no
and press the ENTER key.

where

tms_no is the number of TMS 0–255

PM TMS (ETMS_OCDL_OOS) major (continued)

Example of a MAP display

CLASS	ML	OS	ALARM	SYSB	MANB	UNEQ	OFFL	CBSY	PBSY	INSV
TRUNKS	2	0	4	1	0	22	5	0	0	255
REMOTE	1	1	3	5	1	0	0	1	0	10

N	CLASS	SITE	TMS	CK	D	ALARM	SLIP	FRME	BER	ES	SES	STATE
0	TRUNKS	BRSC	0	4	C		0	0	<-6.3	0	0	InSv
1	TRUNKS	BRSC	0	5	C		0	0	<-6.3	0	0	InSv
2	TRUNKS	BRSC	0	6	C	LCGA	11	OS	ML	.0	0	SysB-T
3	TRUNKS	BRSC	0	7	C		0	0	<-6.3	0	0	InSv
4	TRUNKS	BRSC	0	8	C		0	0	<-6.3	0	0	InSv

MORE

- 35** To busy the carrier with the system busy OC links, type

>BSY <tst_no>

and press the ENTER key.

where

tst_no is the N number at carrier level 0–4

Note: To determine the carrier with the OC links, check table TMSOCDL under the field PORT. The PORT number in table TMSOCDL is the same as the CK number (circuit number) at carrier level. The CK number maps to the N (test number) at carrier level 0–4

- 36** To test the carrier, type

>TST <tst_no>

and press the ENTER key.

where

tst_no is the N number at carrier level 0–4

PM TMS (ETMS_OCDL_OOS)
major (continued)

37 Did the test pass?

If	Do
YES	step 42
NO	step 38

38 Does the system indicate the 6X50 circuit pack has defects?

If	Do
YES	step 39
NO	step 46

39 Go to the card replacement procedure in this document and replace the 6X50 card. Return to this point.

40 To return the carrier to service, type

>RTS <tst_no>
and press the ENTER key.

where

tst_no is the N number at carrier level 0–4

41 Did the return to service pass?

If	Do
YES	step 42
NO	step 45

42 Did the alarm clear?

If	Do
YES	step 47
NO	step 46

PM TMS (ETMS_OCDL_OOS)
major (end)

43 Are there additional system busy OC links?

If	Do
YES	step 44
NO	step 47

44 Use PM major OCDL_SysB procedure in this document to clear additional system busy OC links.

45 The OCDL system busy major escalates to a higher priority alarm condition. Use the procedure in this document to clear this alarm.

46 Contact the next level of support. Give details of OCDL_SYSB procedure that you perform.

47 The procedure is complete.

PM TPC (for MP and IWS) major

Alarm display

CM	MS	IOD	Net	PM	Lns	Trks	Ext	APPL
.	.	.	.	n TPC M	.	.	.	.

Indication

A TPC indication indicates a TPC alarm. The TPC indication appears under the PM (peripheral module) subsystem header. The n indication is the number of TPCs in this state. This header is at the maintenance level of the MAP (maintenance and administration position). The M indication under the n TPC indicates a major alarm.

Enter this procedure from a PM system level alarm clearing procedure step. This step identified a fault associated with a TPC.

This procedure applies to both types of TPCs as follow:

- An integrated TPC, which supports up to four integrated MP positions.
- A virtual TPC, which supports MPX-IWS positions on a token ring.

The TOPS MPX system does not have a TOPS position controller (TPC). The operating company programs the TPC functionality in the type 2 TOPS MPX positions in the token ring. The type-2 TOPS MPX position is the virtual-position controller (VPC). Therefore, the n TPC indication indicates a VPC alarm.

Meaning

The indicated number (n) of PMs are in the major state.

Result

The result depends on the type of TPC and failure (determined by this procedure) as covered in this procedure as follow:

- For failure of a database link of either TPC:
 - Clear this alarm as soon as possible. For an MP position, the links to the DAS (Directory Assistance System) are out of service. For an IWS position, the links to an external database are out of service.
- For failures other than a database link of a VPC:

PM TPC (for MP and IWS)

major (continued)

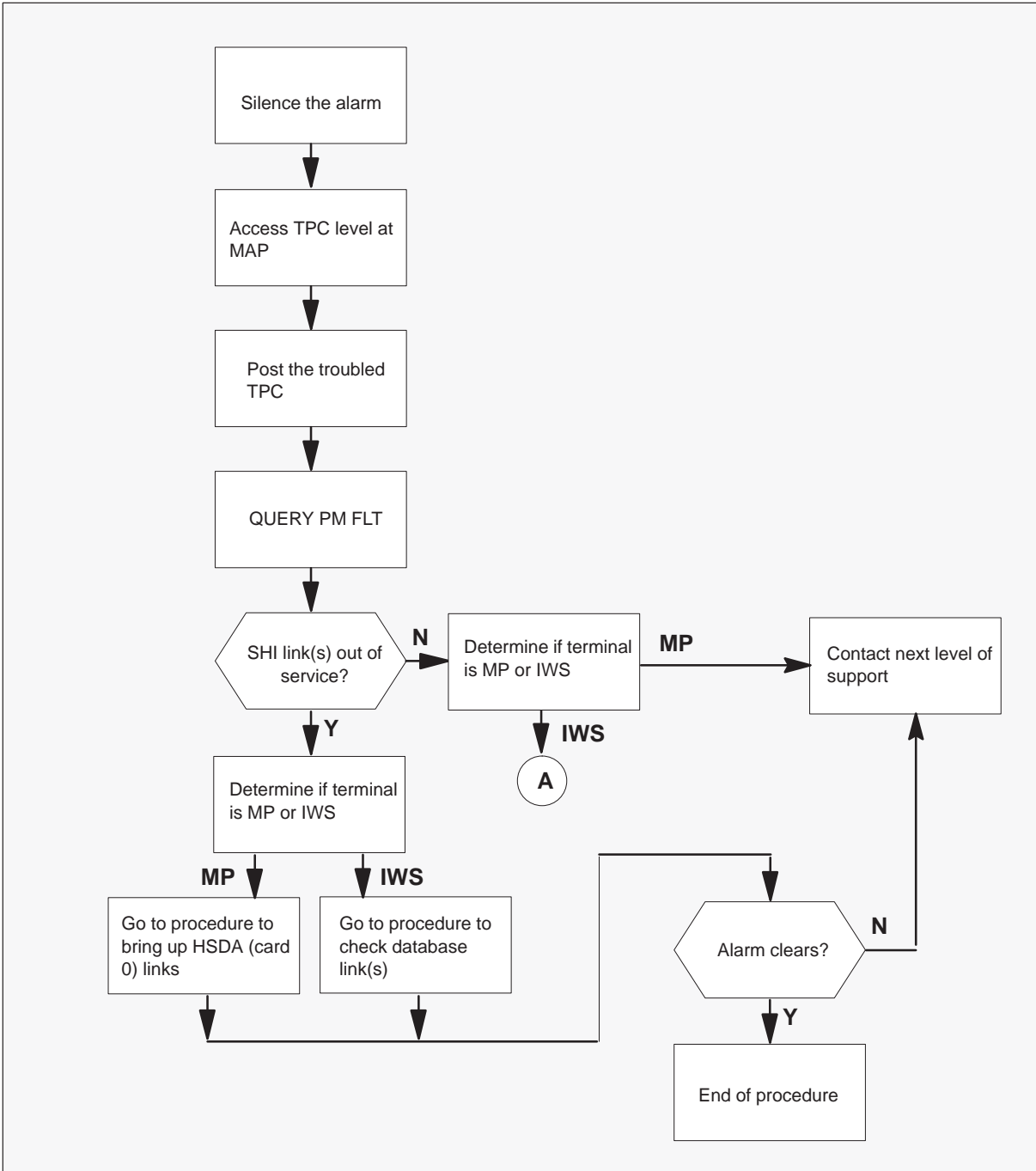
The VPCs are redundant in each token ring. A TPC major alarm does not affect call handling abilities for a token ring. Clear this alarm immediately. Loss of call handling abilities can occur if a fault occurs in the remaining VPC unit.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

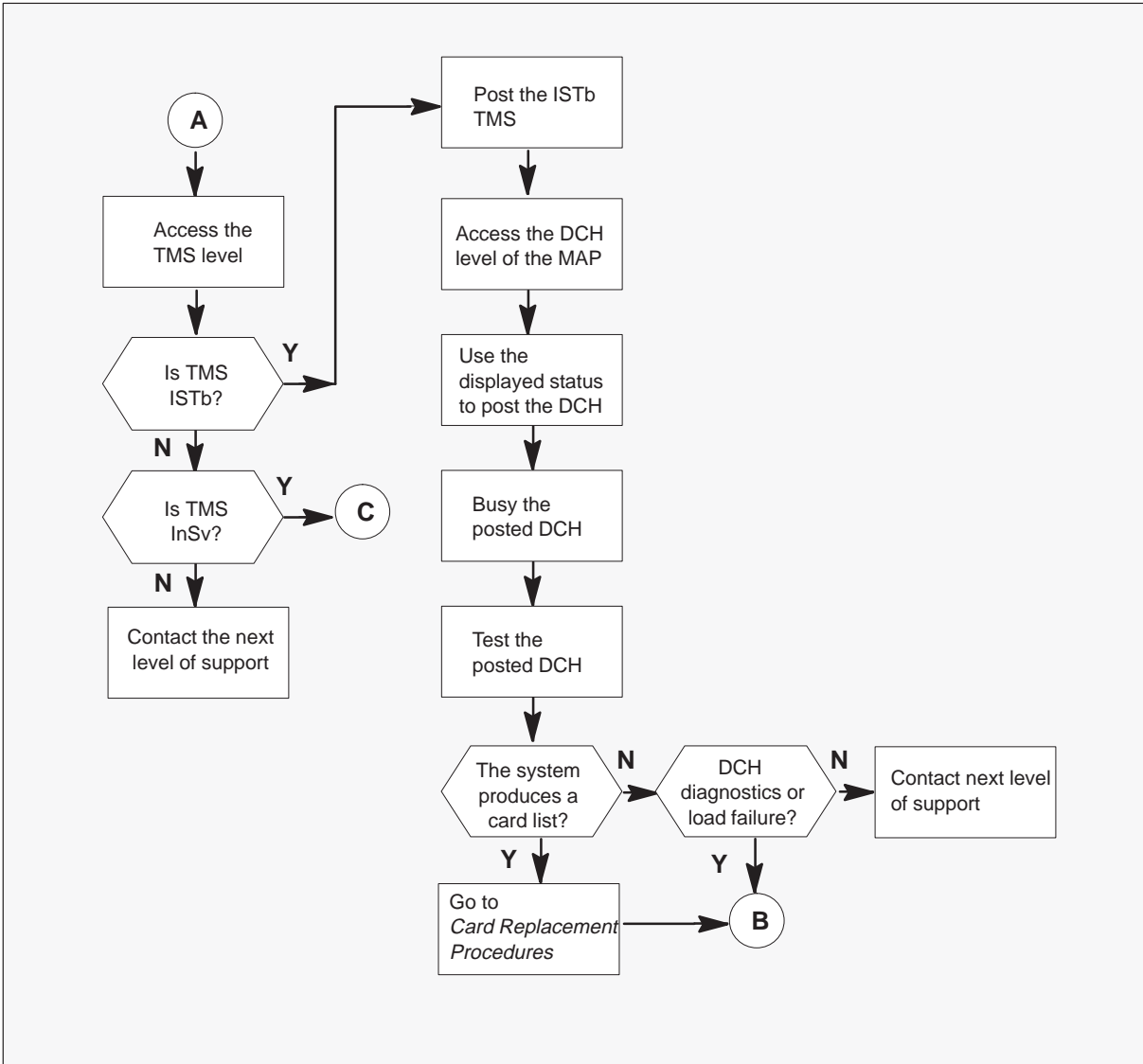
PM TPC (for MP and IWS) major (continued)

Summary of how to clear a PM TPC major alarm



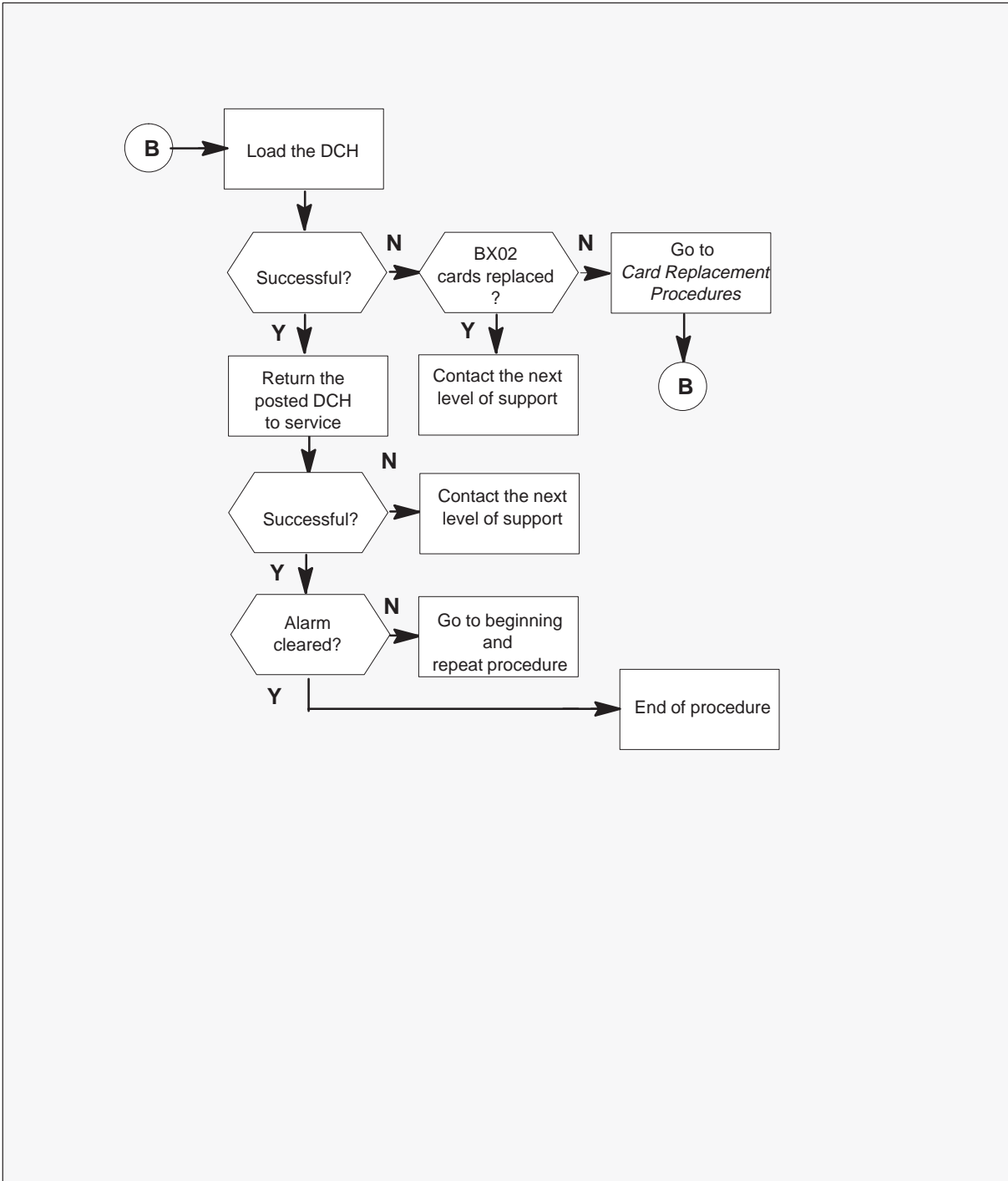
PM TPC (for MP and IWS) major (continued)

Summary of how to clear a PM TPC major alarm (continued)



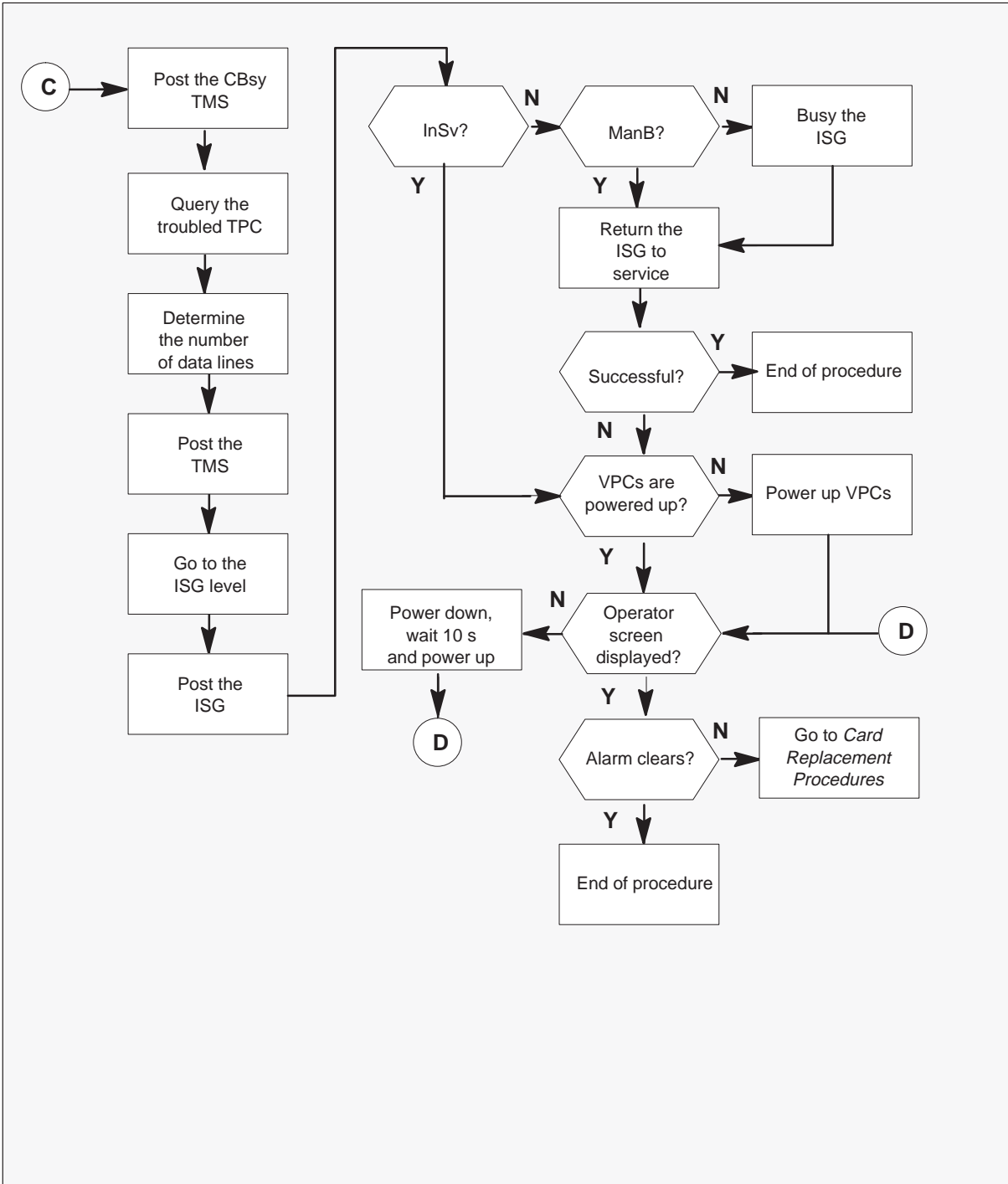
**PM TPC (for MP and IWS)
major (continued)**

Summary of how to clear a PM TPC major alarm (continued)



PM TPC (for MP and IWS)
major (continued)

Summary of how to clear a PM TPC major alarm (continued)



PM TPC (for MP and IWS) major (continued)

Clearing a PM TPC (for MP and IWS) major alarm

At the MAP terminal

- 1 To silence the alarm, type
>MAPCI;MTC;SIL
and press the Enter key.
- 2 To access the TPC level of the MAP and post the alarm that has defects, type
>PM;POST TPC ISTB
and press the Enter key.

Example of a MAP response

```

          SysB   ManB   OffL   CBsy   ISTb   InSv
    PM      0     0     10     0     1     130
    TPC     0     0     0      0     1     4
TPC 20  ISTb

```

- 3 To query for fault indicators, type
>QUERYPM FLT
and press the Enter key.

Example of a MAP response

```

QueryPM flt
The following node in-service trouble exist:
SHI link(s) out of service

```

If trouble message	Do
is SHI link(s) out of service	step 4
is another message	step 7

PM TPC (for MP and IWS) major (continued)

- 4 The position type requires identification, whether MP or IWS, The MAP display is at the TPC level from the command in step 3. Enter the following series of commands to determine a sample position number connected to the ISTB TPC, type

>POST TPC 20

>MP

>POST TPC 20

The positions connected to the TPC are listed as shown in the following example.

Example of a MAP response

```
POS 200 TPC 20 MP 0 InSv
Size of post set: 4
post tpc 20
```

The above display indicates that the TPC serves position number 20.

- 5 Determine the type of position, type

>TABLE TOPSPOS; POS 200

Example of a MAP response for an MP position

```
200 TMS 1 1 6 NPDGP DS1SIG TMS MP ASCII 107 3 OPR 5
TOPSACD ALL ALL
```

The above example is for an MP position because the protocol is ASCII.

Example of a MAP response for an IWS position

```
200 TMS 1 1 6 NPDGP DS1SIG TMS MP OPP 107 3 OPR 5
TOPSACD ALL ALL
```

PM TPC (for MP and IWS) major (continued)

The above example is for an IWS position because the protocol is OPP.

If position type	Do
MP	Go to the <i>Trouble Locating and Clearing Procedures Manual</i> , routine "TOPS MP Operator compliant (standalone/integrated) Clearing DA access trouble" to bring the HSDA links (card 0) in service and return to step 6.
IWS	Go to the <i>Trouble Locating and Clearing Procedures Manual</i> , routine "TOPS IWS Operator compliant Clearing database access trouble" to restore access to the database and return to step 6.

- 6 Enter this step from the correct trouble locating and clearing procedure as indicated in step 5.

If alarm	Do
clears	step 27
does not clear	step 26

PM TPC (for MP and IWS) major (continued)

- 7 The position type requires identification, whether MP or IWS, The MAP display is at the TPC level from the command in step 3. Enter the following series of commands to determine a sample position number connected to the ISTB TPC, type

>POST TPC 20

>MP

>POST TPC 20

The positions connected to the TPC are listed as shown in the following example.

Example of a MAP response

```
POS 200  TPC 20  MP 0  InSv
Size of post set:  4
post tpc 20
```

The above display indicates that the TPC serves position number 20.

- 8 Determine the type of position, type

>TABLE TOPSPOS; POS 200

Example of a MAP response for an MP position

```
200 TMS 1 1 6 NPDGP DS1SIG TMS MP ASCII 107 3 OPR 5
      TOPSACD ALL ALL
```

The above example is for an MP position because the protocol is ASCII.

Example of a MAP response for an IWS position

```
200 TMS 1 1 6 NPDGP DS1SIG TMS MP OPP 107 3 OPR 5
      TOPSACD ALL ALL
```

PM TPC (for MP and IWS) major (continued)

The above example is for an IWS position because the protocol is OPP.

If position type	Do
MP	Go to step 26.
IWS	Go to step 9.

- 9 To access the TMS level of the MAP and post the TMS, type

>PM;POST TMS

and press the ENTER key.

Typical response on the MAP display:

CM	MS	IOD	Net	PM	CCS	Ln	Trks	Ext	APPL
.	.	.	.	n TPC	.	.	.	.	.
				M					
TMS		SysB	ManB	OffL	CBsy	ISTb	InSv		
0 Quit		PM	0	0	9	0	3	53	
2 Post_		TMS	1	0	0	0	0	0	
3 Listset									
4		TMS	Links_OOS:	CSide	,	PSide			
5 Trnsl_		Unit0:							
6 Tst_		Unit1:							
7 Bsy_		POST:							
8 RTS_		No PM posted							
9 OffL									
10 LoadPM_									
11 Disp_									
12 Next									
13 SwAct									
14 QueryPM									
15 DCH									
16									
17 PERFORM									
18 ISG									

Note:
This indicator is the Critical information.
This TMS is SysB.

See the following table to determine the next action.

If TMS status	Do
is ISTb	This status indicates a problem that relates to a DCH. Go to step 19.
is InSv	step 10

PM TPC (for MP and IWS) major (continued)

10 To post the C-side busy (CBSy) TPC, type

>POST TPC CBSY
and press the ENTER key.

Typical response on the MAP display:

```

CM   MS   IOD   Net   PM   CCS   LNS   Trks   Ext   APPL
.    .    .    .    n TPC .    .    .    .    .
      M
      SysB  ManB  OffL  CBSy  ISTb  InSv
0  Quit      PM    0    0    0    0    3    53
2  Post_    TPC    0    0    0    1    0    0
3
4                post tpc cbsy
5  Trnsl    TPC 0 CBSy
6  Tst
7  Bsy
8  RTS
9  OffL
10
11  Disp_
12  Next
13
14  QueryPM
15  MP
16
17
18

```


PM TPC (for MP and IWS) major (continued)

- 11 To query the TPC that has faults, type

>QUERYPM

and press the ENTER key.

Record the TOPSPOS(ition) numbers of the MP0 and MP1 VPCs.

Four TOPS MPX positions appear. Position MP0 is always the primary VPC. Position MP1 is the secondary VPC. The token ring is a redundant system.

Typical response on the MAP display:

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   n TPC .   .   .   .   .
                                     M
TPC
0  Quit      PM    0    0    9    0    3    53
2  Post_     TPC    0    0    0    1    0    0
3
4          TPC    0  CBsy
5  Trnsl
6  Tst      TPC Load File: 0
7  Bsy      PM Type:  TPC  Int. No.: 0  Node_No: 132
8  RTS      Site Flr RPos Bay_id Shf  Description      Slot      EqPEC
9  OffL      00  A00  PCE 00    00  TPC: 000
10
11 Disp_
12 Next      MP    0:  TOPSPOS  6
13           MP    1:  TOPSPOS  7
14 QueryPM   MP    2:  TOPSPOS  8
15 MP        MP    3:  TOPSPOS  9
16
17
18

```

Note: This indicator is the Critical information. The MP0 is always primary. The MP1 is secondary in redundant system. The TOPSPOS(ition) for MP0 is 6. The TOPSPOS(ition) for MP1 is 7.

PM TPC (for MP and IWS) major (continued)

12 To determine the data lines and link information, type

>TRNSL

and press the ENTER key.

Two data lines appear. The two lines indicate that the system is redundant. A failure of one of the VPCs causes the alarm. Record the TMS number, the ISG number, and the ISG channel number for the two data lines.

Typical response on the MAP display:

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   n TPC .   .   .   .   .

                                M
TPC                               SysB  ManB  OffL  CBsy  ISTb  InSv
0  Quit          PM      0      0      0      0      3     53
2  Post_         TPC      0      0      0      2      0      0
3
4                TPC  0  CBsy  Line  ISG  ISG
5  Trnsl         TPC  0  CBsy  type  number  channel
6  Tst          Trnsl
7  Bsy          TMS  0  0  5: data;  ISG  2  5
8  RTS          TMS  0  0  6: data;  ISG  3  12
9  OffL         TMS  0  0  1: voice; TOPSPOS  6;  MP  state:PMB: VT state:PMB
10              TMS  0  0  2: voice; TOPSPOS  7;  MP  state:PMB: VT state:PMB
11  Disp_       TMS  0  0  3: voice; TOPSPOS  8;  MP  state:PMB: VT state:PMB
12  Next        TMS  0  0  4: voice; TOPSPOS  9;  MP  state:PMB: VT state:PMB
13
14  QueryPM
15  MP
16
17
18

```

Annotations in the image:

- Arrows point from the text "Line type" to the "5: data;" and "6: data;" entries in lines 7 and 8.
- Arrows point from the text "ISG number" to the "2 5" and "3 12" entries in lines 7 and 8.
- An arrow points from the text "ISG channel number" to the "6;" and "7;" entries in lines 9 and 10.
- An arrow points from the text "TMS number" to the "0 0" entries in lines 7, 8, 9, 10, 11, and 12.

PM TPC (for MP and IWS) major (continued)

13 To post the TMS from the previous step, type

>POST TMS n

and press the ENTER key.

where

n is the TMS number.

Typical response on the MAP display:

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      APPL
.      .      .      .      n TPC      .      .      .      .      .
      M
TMS
0 Quit      PM      0      0      0      0      1      48
2 Post_     TMS      0      0      0      0      0      4
3 Listset
4
5 Trns1_    TMS 0  InSv  Links_OOS: CSide 0 , PSide 0
6 Tst_     Unit 0: Act  InSv  Mtce
7 Bsy_     Unit 1: Inact InSv Mtce
8 RTS_     POST:
9 OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG

```

Note:

To stop system maintenance activity, type **>ABTK** and press the ENTER key.

PM TPC (for MP and IWS) major (continued)

- 14 To go to the ISG level of the MAP display, type
>ISG
and press the ENTER key.

Typical response on the MAP display:

```

      CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
      .   .   .   .   n TPC .   .   .   .   .
      M
ISG
0  Quit      PM   0   0   12   0   3   48
2  Post_     TMS  0   0   0    0   1   0
3
4          TMS 0  ISTb  Links_OOS:  CSide 0 , PSide 4
5          Unit0:  Inact  InSv
6          Unit1:  Act  InSv
7  Bsy_
8  RTS_     ISG          1111111111 2222222222 33
9  OffL     123456789 0123456789 0123456789 01
10
11
12 Next_     ISG
13
14 QueryCH_  ISG:
15 CONT_
16 Loopbk_
17
18

```

PM TPC (for MP and IWS) major (continued)

15 To post one of the ISGs from step 12, type

>POST n

where

n is the ISG number.

and press the ENTER key.

A series of ISG channels appear. Locate the channel from step 12.

Typical response on the MAP display:

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   n TPC .   .   .   .   .
M
ISG
0  Quit  PM  0  0  12  0  3  48
2  Post_ TMS 0  0  0  0  0  1
3
4          TMS 0 InSv  Links_OOS: CSide 0 , PSide 4
5          Unit0:  Inact  InSv
6          Unit1:  Act  InSv
7  Bsy_
8  RTS_  ISG          1111111111 2222222222 33
9  OffL_ 123456789 0123456789 0123456789 01
10         0000.0000 0000000000 0000000000 00
11
12 Next  ISG  2 DCH  2 InSv  TMS  0 port 17
13
14 QueryCH_ post 2
15 CONT_
16 Loopbk_
17
18

```

└──────────┘ Port number

. = An in-service ISG channel

See the following table to determine the next action.

If the channel	Do
is SysB	step 16
is ManB	step 17
is InSv and you did not post the ISG InSv of the second VPC and you posted the two ISGs of the VPC	Repeat this step and post the ISG you did not post the first time. Go to step 18

PM TPC (for MP and IWS) major (continued)

- 16 To busy the ISG channel that is SysB, type

>BSY n

where

n is the ISG channel number.

and press the ENTER key.

To confirm request for busy, type

>YES

and press the ENTER key.

Explanation: When you issue the BSY command while the ISG channel is in-service, the system requires confirmation (YES). You must confirm before the system removes the ISG channel from service.

For this condition, respond to the prompt with YES.

If the system receives a negative confirmation, the ISG channel remains in the current state.

- 17 To return the busied ISG channel to service, type

>RTS n

where

n is the ISG channel number.

and press the ENTER key.

If RTS	Do
passes, the fault and alarm clear	step 27
does not pass	step 18

PM TPC (for MP and IWS) major (continued)

- 18** Verify that the two virtual-position controllers (VPCs) or type 2 TOPS MPX positions from step 12 are powered up and run TOPS MPX applications. The operator screen appears when the controllers and TOPS MPX positions run TOPS MPX applications.

If	Do
VPCs are not powered up	Power up the VPCs. Wait 5 min for VPCs to reboot. If necessary, bring up the operator screen.
VPCs are powered up and a operator screen does not appear	Power down the VPC. Wait 10 s and power up.
TPC major alarm clears after VPCs are powered up	step 27
VPCs are powered up and operator screen appears	step 26

- 19** To post the ISTb TMS, type
>POST ISTB
and press the ENTER key.

PM TPC (for MP and IWS) major (continued)

20 To access the DCH level of the MAP, type

>DCH

and press the ENTER key.

Typical response on the MAP display:

```

      CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
      .  .  .  .  n TPC .  .  .  .  .
      M
DCH  SysB  ManB  OffL  CBsy  ISTb  InSv
0 Quit  PM    0    3    11    0    3    48
2 Post_ TMS    0    0    0    0    1    0
3
4      TMS 0  ISTb  Links_OOS:  CSide 0  PSide 4
5 Trnsl  Unit0:  Inact  InSv
6 Tst    Unit1:  Act  InSv
7 Bsy
8 RTS    DCH   3    0    0    0    0    1
9 OffL
10 LoadPM  DCH
11
12 Next
13
14 QueryPM
15 Disp
16
17
18

```

Indicates the 3 DCHs that are SysB.

DCH status line

PM TPC (for MP and IWS) major (continued)

- 21 From the DCH status line in the previous step, post the status of the DCH. The status can be SysB, ManB, CBSy, or ISTb. To post the status of the DCH, type

>POST <STATE>

and press the ENTER key.

The DCH and ISG information appear. The system reports a status of the DCH. Record the DCH number, the ISG number, and the port number.

Typical response on the MAP display:

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   n TPC .   .   .   .   .
M
DCH          SysB  ManB  OffL  CBSy  ISTb  InSv
0  Quit      PM    0    3    11   0    3    48
2  Post_     TMS   0    0    0    0    1    0
3
4
5  Trnsl     TMS 0  ISTb  Links_OOS:  CSide 0  PSide 4
6  Tst       Unit0:  Inact  InSv
7  Bsy       Unit1:  Act  InSv
8  RTS      DCH   3    0    0    0    0    1
9  OffL
10 LoadPM   DCH  5  ISG  5  SysB  TMS  0  port 13  WAI
11
12 Next     post sysb
13
14 QueryPM
15 Disp
16
17
18

```

Port number

Command to post problem type.

DCH number and ISG number

Status and indication of S/W (WAI) problem.

- 22 To busy the posted DCH, type

>BSY

and press the ENTER key.

To confirm request for busy, type

>YES

and press the ENTER key.

Explanation: When you issue the BSY command while the DCH is in service, the system requires confirmation (YES). The system requires confirmation before removal of the DCH from service.

For this condition, respond to the prompt with YES.

If the system receives a negative confirmation, the DCH remains in the current state

PM TPC (for MP and IWS) major (continued)

23 To test the posted DCH, type

>TST

and press the ENTER key.

Typical response on the MAP display:

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   n TPC .   .   .   .   .
M
DCH          SysB  ManB  OffL  CBsy  ISTb  InSv
0  Quit      PM    0    2    11    0    3    49
2  Post_     TMS   0    0    0    0    1    0
3
4          TMS 0  ISTb  Links_OOS:  CSide 0  PSide 4
5  Trnsl     Unit0:  Inact  InSv
6  Tst       Unit1:  Act  InSv
7  Bsy
8  RTS      DCH   2    1    0    0    0    1
9  OffL
10 LoadPM   DCH   5 ISG  5 ManB  TMS   0 port 13
11
12 Next     tst
13          DCH 5  Out-of-service test initiated
14 QueryPM  Fail message received from PM
15 Disp     Site FlrRPos  Bay_id  Shf  Description  Slot  EqPEC
16          HOST 01  B04    LTEI 00  51 TMS : 000  02    BX02
17          DCH 5 Tst Failed Testid : DCHIFdiag
18

```

Card list failure message for DCH

See the following table to determine the next action.

If	Do
the system produces a card list	Go to <i>Card Replacement Procedures</i> and replace the card(s) that appear. After you replace the card, go to step 24.
The system produces a card list and TST fails, a Testid : DCHIFdiag message appears	step 24
DCH diagnostics appear	step 24
the system generates a load failure message	step 24

PM TPC (for MP and IWS) major (continued)

24 Load the DCH when the following actions occur:

- diagnostics appear
- the system receives a load failure message
- you replace the card

To load the DCH, type

>LOADPM

and press the ENTER key.

If LOADPM	Do
passes	step 25
fails and you replace the cards	step 26
fails and you do not replace the cards	<p>Replace the DCH card. To determine the location of the DCH card to replace without a card list, refer to the port number in step 21. The system generates the card list. Apply the port number to the following chart. Apply this number to determine the unit number and slot number. Refer to <i>Card Replacement Procedures</i> for BX02 replacement instructions.</p> <p>Return to step 24 after you replace the card.</p>
If port no. is	Faulty card location is
13	Unit 0, Slot 2
15	Unit 1, Slot 2
17	Unit 0, Slot 1
19	Unit 1, Slot 1

PM TPC (for MP and IWS) major (end)

25 To return the DCH to service, type

>RTS

and press the ENTER key.

Typical response on the MAP display:

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   n TPC .   .   .   .   .
      M
DCH          SysB  ManB  OffL  CBsy  ISTb  InSv
0 Quit      PM    0    2    11    0    4    48
2 Post_     TMS   0    0    0    0    0    4
3
4           TMS 0  InSv  Links_OOS:  CSide 0  PSide  0
5 Trns1     Unit 0: Act  InSv
6 Tst       Unit 1: Inact  InSv
7 Bsy
8 RTS       DCH   0    0    0    0    0    4
9 OffL
10 LoadPM   RTS
11          DCH5 Out-of-service test initiated
12 Next     DCH5 Tst Passed
13          DCH5 RTS Passed
14 QueryPM
15 Disp
16
17
18
    
```

See the following table to determine the next action.

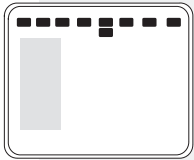
If RTS	Do
passes and the alarm clears	step 27
does not pass	step 26
passes and the alarm does not clear	step 9, and repeat procedure
does not pass and the system does not produce a card list	step 26

26 For additional help, contact the next level of maintenance.

27 The procedure is complete. If other alarms occur, refer to the appropriate alarm clearing procedures for the specified alarms.

PM DCH (in a TMS) minor

Alarm display



CM	MS	IOD	Net	PM	Lns	Trks	Ext	APPL
.	.	.	.	n DCH	.	.	.	.

Indication

An n DCH indication indicates a DCH alarm. An n DCH (D-channel handler) indication appears under the peripheral module (PM) subsystem header. This header is at the maintenance level of the maintenance and administration position (MAP).

This procedure applies to a DCH in a TOPS message switch (TMS) for all TOPS office configurations of the TMS, which follow:

- The TMS connects to an integrated TPC, which supports up to four integrated MP positions.
- The TMS connects to a virtual TPC, which supports MPX-IWS positions on a token ring.

Meaning

The indicated number (n) of DCHs or enhanced D-channel handler (EDCH) are in the in-service trouble state (ISTb).

Result

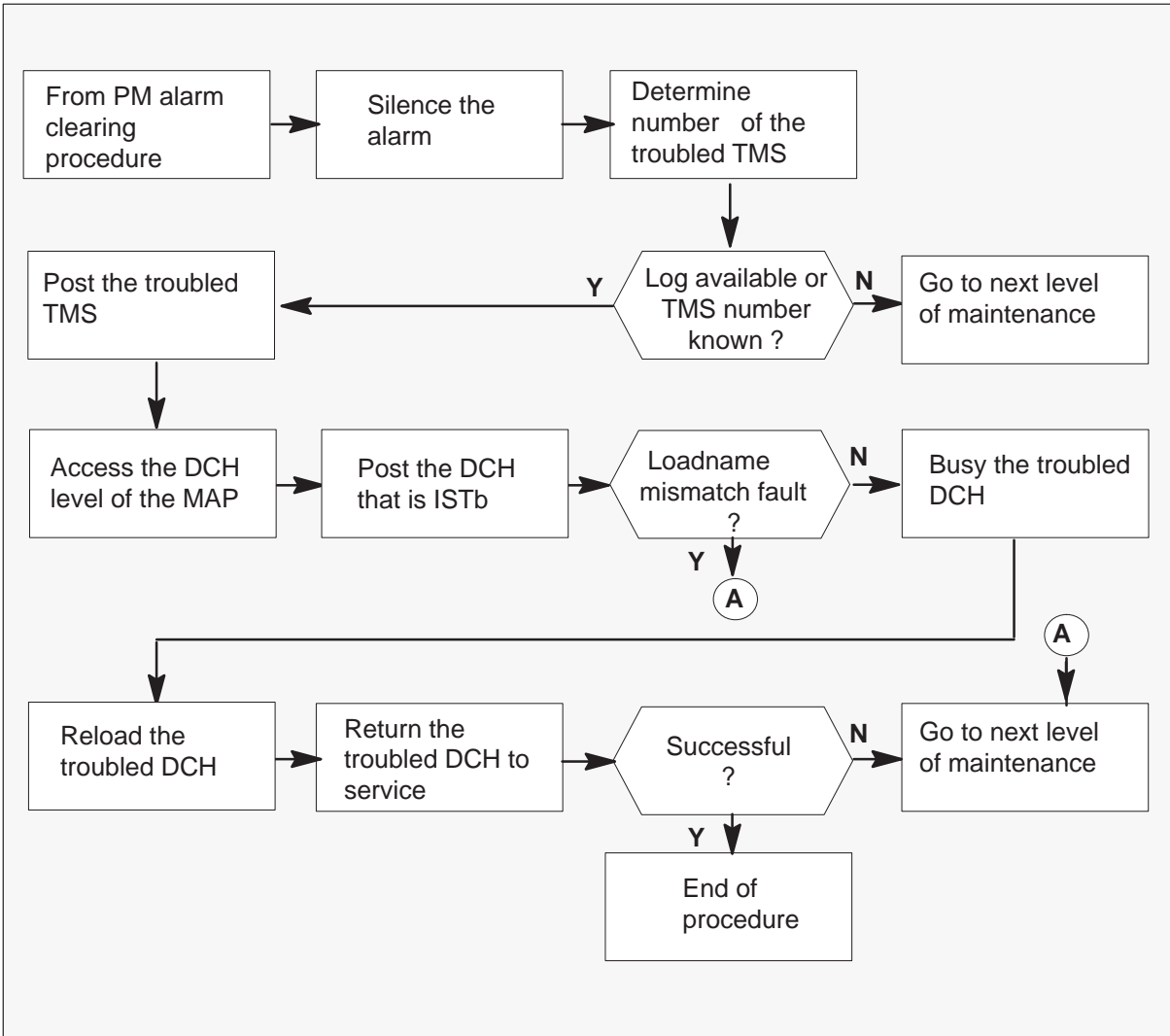
The DCH trouble affects call handling equipment that subtends the TOPS message switch (TMS). If subtending lines are system busy (SysB), the DCH trouble does not affect the equipment. If the primary DCH or EDCH has defects, the secondary or redundant DCH or EDCH activates. The system does not lose call handling capabilities.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM DCH (in a TMS)
minor (continued)

Summary of clearing a PM DCH (in a TMS) minor alarm



PM DCH (in a TMS) minor (continued)

Clearing a PM DCH (in a TMS) minor alarm

At the MAP terminal

1

ATTENTION

Enter this procedure from a step in the procedure to clear a PM system level alarm. This step identifies a fault associated with a DCH.

To silence the alarm, type

>MAPCI;MTC;SIL
and press the ENTER key.

- 2 Determine the number of the TMS that contains the DCH that has defects. To determine the number of the TMS, retrieve one of the DCH logs, DCH 100 to DCH 106. The system generates these logs at the printer.

DCH 100 Report format:

```
DCH100 mmdd hh: mm: ss ssdd SYSB Chnl
ISG vvv CHNL ww chnltyp pmid PORT yy CHNL zz
rempmid
FROM: chnlstate REASON: reasontext
```

Example:

```
DCH100 MAR 19 14: 22: 00 1988 SYSB Chnl
ISG 3 CHNL 10 TDC TMS 0 PORT 1 CHNL 5
TPC 20
FROM: InSv REASON: Sync Loss
```

Note:
pmid = the peripheral module identifier for TMS. This identifier includes the PMS type of the TMS and the external PM number.

If	Do
the system does not generate a DCH log	step 10
TMS number is known	step 3

PM DCH (in a TMS) minor (continued)

- 3 To access the TMS level through the PM level at the MAP and post the TMS, type

>PM;POST TMS n

and press the ENTER key.

where

n is the TMS number.

Example of a MAP display

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   1 DCH .   .   .   .   .

TMS
0 Quit  PM    0    0    2    0    1    18
2 Post_ TMS  0    0    0    0    0    1
3 Listset
4      TMS 0  InSv  Links_OOS: CSide 0, PSide 0
5 Trnsl_ Unit0: Act  InSv
6 Tst_   Unit1: InAct InSv
7 Bsy_
8 RTS_
9 OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG

```


PM DCH (in a TMS) minor (continued)

- 4 To access the DCH level through the PM level at the MAP, type

>DCH

and press the ENTER key.

Example of a MAP display

```

CM   MS   IOD  Net   PM   CCS  LNS   Trks   Ext   APPL
.   .   .   .   1 DCH .   .   .   .   .

DCH
0 Quit   PM      0     0    10    0     1    130
2 Post_  TMS     0     0     0     0     0     5
3
4                TMS 0   InSv  Links_OOS:  CSide 0, PSide 0
5 Trnsl_  Unit 0: Act  InSv
6 Tst_   Unit 1: InAct InSv
7 Bsy_
8 RTS_   DCH    0     0     0     0     1     3
9 OffL
10 LoadPM_
11
12 Next
13
14 QueryPM
15 Disp
16
17
18

```

PM DCH (in a TMS) minor (continued)

- 5 To post the DCH that is in-service trouble (ISTb) and requires clearing, type **>POST ISTB** and press the ENTER key.

Example of a MAP display

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   1  DCH  .   .   .   .

DCH
0  Quit PM    0    0    10    0    1    130
2  Post_TMS  0    0    0    0    0    5
3
4          TMS 0    InSv  Links_OOS: CSide 0, PSide 0
5  Trnsl_ Unit 0:  Act    InSv
6  Tst_   Unit 1:  InAct  InSv
7  Bsy_
8  RTS_   DCH    0    0    0    0    1    3
9  OffL
10 LoadPM_ DCH 5  ISG 3  ISTb TMS 0  port 17  Loadname
11
12 Next
13
14 QueryPM
15 Disp
16
17
18

```

PM DCH (in a TMS) minor (continued)

- 6 To check that the loadnames in table DCHINV and the DCH card are the same, type

>QUERYPM FLT

and press the ENTER key.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   LNS   Trks   Ext   APPL
.    .    .    .    1 DCH .    .    .    .    .

DCH
0  Quit  PM      0      0      10     0      1     130
2  Post_ TMS    0      0      0      0      0      5
3
4
5      TMS 0  InSv  Links_OOS:  CSide 0, PSide 0
6  Trnsl_ Unit 0:  Act   InSv
7  Tst_   Unit 1:  InAct InSv
8  Bsy_
9  RTS_   DCH    0      0      0      0      1      3
10 OffL
11 LoadPM_ DCH 5  ISG 3  ISTb  TMS 0  port 17  Loadname
12      querypm flt
13 Next      Site Flr RPos Bay_id Shf  Description  Slot  EqPEC
14      HOST 01  B04  LTEI 00 51  TMS : 000    01  BX02
15 QueryPM  Loadnames : DCHINV -EXC03BX , DCH -EXC03BX ; INTL INDEX 2
16 Disp      DCH is ISTb
17      The following in-service trouble conditions exist:
18      Loadname
                                loadname

```

Note: The EXC03BX loadname appears in the previous MAP example. This loadname is the load that the system uses in the EDCH.

If	Do
mismatch is present	step 10
a mismatch is not present	step 7

PM DCH (in a TMS) minor (continued)

- 7 To busy the DCH that requires clearing, type

>BSY

and press the ENTER key.

If you issue a BSY command when the ISDN service group (ISG) channel is in service, the system requires a confirmation. The system requires this request before removal of the ISG channel from service. If requested, confirm the request for busy. To confirm this request, type:

>YES

and press the ENTER key.

If you receive a negative confirmation (NO) in response to the prompt, the ISG channel remains in the current state.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   LNS   Trks   Ext   APPL
.   .   .   .   1 DCH .   .   .   .   .

DCH
0  Quit  PM      0     0     0     0     1     24
2  Post_ TMS    0     0     0     0     1     0
3
4          TMS 0  InSv Links_OOS: CSide 0, PSide 0
5  Trnsl_ Unit 0:  InSv
6  Tst_   Unit 1:  InSv
7  Bsy_
8  RTS_   DCH    0     0     0     0     1     3
9  OffL
10 LoadPM_ DCH  5  ISG  3  ISTb  TMS  0  port  17  Loadname
11
12 Next          BSY
13              Operator Services may be affected.
14 QueryPM      Please confirm ("YES" or "NO"):
15 Disp         YES
16              DCH 5 Bsy Passed
17
18

```

PM DCH (in a TMS) minor (continued)

- 8 To reload the affected DCH, type

>LOADPM

and press the ENTER key.

Example of a MAP display

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   1 DCH .   .   .   .   .

DCH
0  Quit  PM      0      0      0      0      1      24
2  Post_ TMS    0      0      0      0      1      0
3
4          TMS 0  InSv  Links_OOS:  CSide 0, PSide 0
5  Trnsl_ Unit 0:  InSv
6  Tst_   Unit 1:  InSv
7  Bsy_
8  RTS_   DCH    0      0      0      0      1      3
9  OffL
10 LoadPM_ DCH  5  ISG  3  ISTb  TMS  0  port  17  Loadname
11
12 Next          LoadPM
13              Request submitted on DCH 5
14 QueryPM      DCH 5 load Passed : EXC03BX
15 Disp
16
17
18

```

loadname

Note: The EXC03BX loadname appears in the previous MAP display. This loadname is the load that the system uses in the EDCH.

- 9 To return the tested DCH to service, type

>RTS

and press the ENTER key.

If RTS	Do
is complete	step 11
is not complete	step 10

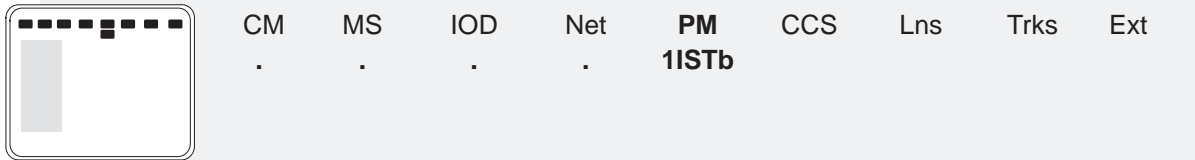
- 10 For additional help, contact the next level of maintenance.

PM DCH (in a TMS)
minor (end)

- 11 The procedure is complete. If other alarms appear, reference the correct procedure to clear the specified alarms.

PM ISTb minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext
.	.	.	.	1ISTb				

Indication

At the MTC level of the MAP display, ISTb (preceded by a number) appears under the PM header of the alarm banner. The ISTb indicates a minor alarm for an in-service trouble (ISTb).

This alarm applies to the following PMs:

- maintenance trunk module (MTM)
- service trunk module (STM)
- trunk module 8 (TM8)

Meaning

The indicated number of PMs are ISTb.

Result

The alarm does not affect service.

Common procedures

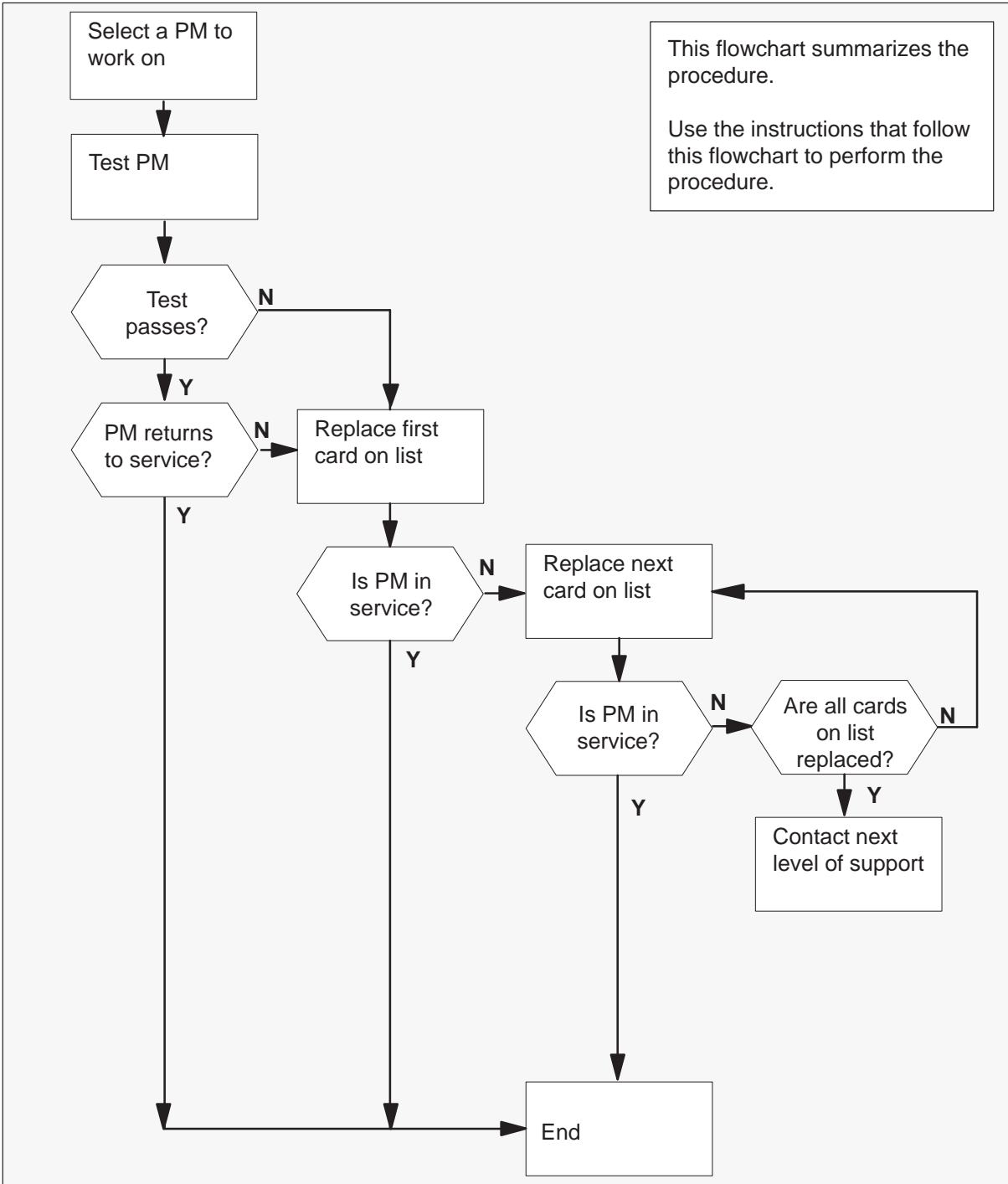
This procedure refers to *Monitoring system maintenance*.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

PM ISTb minor (continued)

Summary of clearing a PM ISTb minor alarm



PM ISTb
minor (continued)

Layout of a TM shelf

		21
NT2X09	Power converter card	20
	Trunk interface circuit	19
	Trunk interface circuit	18
	Trunk interface circuit	17
	Trunk interface circuit	16
	Trunk interface circuit	15
	Trunk interface circuit	14
	Trunk interface circuit	13
	Trunk interface circuit	12
	Trunk interface circuit	11
	Trunk interface circuit	10
	Trunk interface circuit	09
	Trunk interface circuit	08
	Trunk interface circuit	07
	Trunk interface circuit	06
	Trunk interface circuit	05
NT2X59	Codec and tone card	04
NT2X53	Control card	03
NT0X70	Processor card	02
NT2X45	Network interface card	01

PM ISTb
minor (continued)

Layout of an MTM shelf

NT2X06	Power converter card	21
-OR-		
NT2X70	Power converter card	20
NT0X50	Filler card	19
		18
NT2X09	Power converter card	17
	Trunk interface circuit	16
	Trunk interface circuit	15
	Trunk interface circuit	14
	Trunk interface circuit	13
	Trunk interface circuit	12
	Trunk interface circuit	11
	Trunk interface circuit	10
	Trunk interface circuit	09
	Trunk interface circuit	08
	Trunk interface circuit	07
	Trunk interface circuit	06
	Trunk interface circuit	05
NT2X59	Codec and tone card	04
NT2X53	Control card	03
NT0X70	Processor card	02
NT2X45	Network interface card	01

PM ISTb minor (continued)

Clearing a PM ISTb minor alarm

At the MAP terminal

- To access the PM level of the MAP terminal, type
>MAPCI;MTC;PM
and press the Enter key.

Example of a MAP response:

```

          SysB      ManB      OffL      CBsy      ISTb      InSv
PM       1         3         5         7         6         12

```

If an audible alarm	Do
rings	step 2
does not ring	step 3

- To silence the alarm, type
>SIL
and press the Enter key.
- To display all the ISTb PMs, type
>DISP STATE ISTb
and press the Enter key.

Example of a MAP response:

```
MTM 4 ISTb
```

Note: If multiple types of PMs are ISTb, work on MTMs first. If multiple PMs of the same type are ISTb, select one to use.

Record the number for the PM.

At the MAP terminal

- To post the PM, type
>POST pm pm_no
and press the Enter key.

where

```

pm       is the type of PM (MTM, STM, or TM8)
pm_no   is the number (0 to 2047) of the PM

```

PM ISTb
minor (continued)

If a Mtce flag	Do
appears next to the PM	step 5
does not appear	step 6

- 5 Go to the common procedure *Monitoring system maintenance* in this document. Complete the procedure and return to this point.

If the minor alarm	Do
changes	step 22
remains	step 6
clears	step 24

- 6 To test the PM, type
>TST
and press the Enter key.

If the TST command	Do
fails, a card list is generated, and the PM type is neither an MTM or TM8	step 1
fails, a card list is generated, the PM type is an MTM or TM8, and the office is not a TOPS office (that is, a DMS-100 office, or a DMS-200 or DMS-100/200 office without the TOPS functionality)	step 1
fails, a card list is generated, the PM type is either an MTM or TM8, and the office is a TOPS office (that is, a DMS-200 or DMS-100/200 office with the TOPS functionality)	step 7
—continued—	

PM ISTb minor (continued)

If the TST command	Do
fails and a card list is not generated	step 23
passes and the alarm clears	step 24
—end—	

- 7 Check the PM module (MTM or TM8) posted in step 4 for any associated TOPS positions in table TOPSPOS by typing

>table TOPSPOS

>list 20

and pressing the Enter key.

The following figure shows sample datafill for table TOPSPOS.

MAP display example for table TOPSPOS

POSNO	VCCKT	VCPDGRP	CARDCODE	DATAPATH	POSAREA
110	TM8 2 10	NPDGP	2X72AA		
	DMODEM BP ASCII	TM8	2 11 NPDGP	BELL108	
			IC 1	DASERV INTCSERV	\$
370	TM8 0 26	NPDGP	2X72AA		
	DMODEM SP ASCII	TM8	0 27 NPDGP	BELL108	
			OPR 3	TOPSACD TASERV	\$ GEN \$
570	TM8 8 20	NPDGP	2X88AA		
	DMODEM MP ASCII	TM8	8 21 NPDGP	BELL202	

In the above example, the first tuple is for TOPS position 110 that uses TM8 number 2, circuit 10, for a BP (basic purpose) type position. The other tuples show position types SP (single purpose) and MP (multi-purpose). A TM8 is only used on these position types (BP, SP, and MP). Additional information on these position types follows:

- An SP position refers to a TOPS 04 position. The TM8 is connected to the position either directly (on older systems with the TOPS 04 ASCII protocol) or through a TOPS 04 Controller (using the newer AOSS ASCII protocol). For further information on a TOPS 04 Controller (PEC NT4X73), refer to documents PLN-2281-001, *TOPS MP/04 Technical Specification*, and NED-297-0003, *DMS-100F Maintenance and Operations Manual*.

PM ISTb
minor (continued)

- A BP position is a dedicated directory assistance/intercept terminal. The TM8 connects to the position through a TOPS 04 Controller using AOSS ASCII protocol.
- An MP position connects to the TM8 through a standalone TOPS Position Controller (sTPC). An sTPC cannot be posted on the MAP display and does not generate alarms on the DMS switch. The sTPC is accessed through the TPC Maintenance and Administration Interface (TAMI). For more information, refer to the *TOPS MP TAMI User Guide*, 297–2281–530.

Check the remaining tuples in table TOPSPOS for any other associated positions and note the position numbers. Repeatedly, type the following command and check the displayed tuples until all tuples are examined

>list 20
 and pressing the Enter key.

If any TOPS positions are supported by the posted PM in step 4, check with an operator Force Management supervisor to see if these TOPS positions are actively processing calls. This is possible since a PM could fail the test in step 6 and still be handling calls.

Are associated positions handling calls?	Do
no	step 1
yes (note, it is important not to continue with step 1; otherwise, active positions would be disabled and lose calls)	step 22

- 8** To busy the PM, type
>BSY
 and press the Enter key.

At the equipment frame

- 9** Replace the first or next card on the list. Refer to the correct procedure in *Card Replacement Procedures*. Refer to the figures *Layout of a TM shelf* and *Layout of an MTM shelf* for help to locate the card.

If the card	Do
is an NT0X70, NT2X06, NT2X09, NT2X45, NT2X53, or NT2X70	step 10
is other than listed here	step 16

PM ISTb minor (continued)

At the MAP terminal

- 10** To load the PM, type

>LOADPM

and press the Enter key.

where

pm is the type of PM (MTM, STM, or TM8)

pm_no is the number (0 to 2047) of the PM

If the LOADPM	Do
fails, the system generates a card list, and you have not replaced all the cards that have faults	step 9
fails, the system generates a card list, and you replaced all the cards that have faults on the list	step 23
fails, and the system does not generate a card list	step 23
fails, and the response is <code>loadfile not found in directory</code>	step 11
passes	step 16

- 11** Check office records to determine the device and volume that contains the PM load files.

If your device	Do
is an SLM	step 12
is a DDU	step 14

- 12** To access the DISKUT level, type

>DISKUT

and press the Enter key.

- 13** To list the PM load file to the user directory, type

>LF device_volume_name

and press the Enter key.

where

PM ISTb minor (continued)

device_volume_name is the location and name of the PM load file

Example of input: LF S00DPMLOADS

Go to step 10.

- 14 To access the DSKUT level, type

>DSKUT

and press the Enter key.

- 15 To list the PM load file to the user directory, type

>LIV device_volume_name

and press the Enter key.

where

device_volume_name is the location and name of the PM load file

Example of input: LIV D01PMLoads

Go to step 10.

- 16 To return the PM to service, type

>RTS

and press the Enter key.

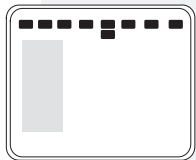
If the PM	Do
does not return to service, the system generates a card list, and you did not replace all the cards that have faults on the list	step 9
does not return to service, the system generates a card list, and you replaced all the cards that have faults on the list	step 23
does not return to service and the system does not generate a card list	step 23
returns to service	step 17

**PM ISTb
minor (end)**

- 17 To access the TTP level, type
>TRKS;TTP
and press the Enter key.
- 18 To post the PM, type
>POST P pm pm_no
and press the Enter key.
where
pm is the type of PM (MTM, STM, or TM8)
pm_no is the number (0 to 2047) of the PM
- 19 To busy all trunk circuits, type
>BSY ALL
and press the Enter key.
- 20 To post the PM again, type
>POST P pm pm_no
and press the Enter key.
where
pm is the type of PM (MTM, STM, or TM8)
pm_no is the number (0 to 2047) of the PM
- 21 To return to service all trunk circuits, type
>RTS ALL
and press the Enter key.
Go to step 24.
- 22 The ISTb minor alarm changed to another type of alarm. Refer to the correct procedure in this document to clear the alarm. Go to step 24.
- 23 You require additional help to clear this alarm. Contact the next level of support. Describe in detail the steps that you performed to attempt to clear this alarm.
- 24 The procedure is complete.

PM ISTb (OSNM) minor

Alarm display



CM	MS	IOD	Net	PM	CCS	LnS	Trks	Ext	APPL
.	.	.	.	1ISTb	.	.	.	.	.

Indication

At the MTC level of the MAP display, a 1ISTb can appear under the PM header of the alarm banner. This condition indicates an inservice trouble minor alarm.

Meaning

A peripheral module is inservice trouble. An Operator Service Node Maintained (OSNM) module is inservice trouble.

One of the following conditions is present:

- A user manually busies (ManB) an OSNM
- A user manually busies (ManB) a Session Pools
- Session Pools are system busy (SysB)

Result

Session pools on the OSNM are out of service. Limited call processing can occur on the OSNM.

Common procedures

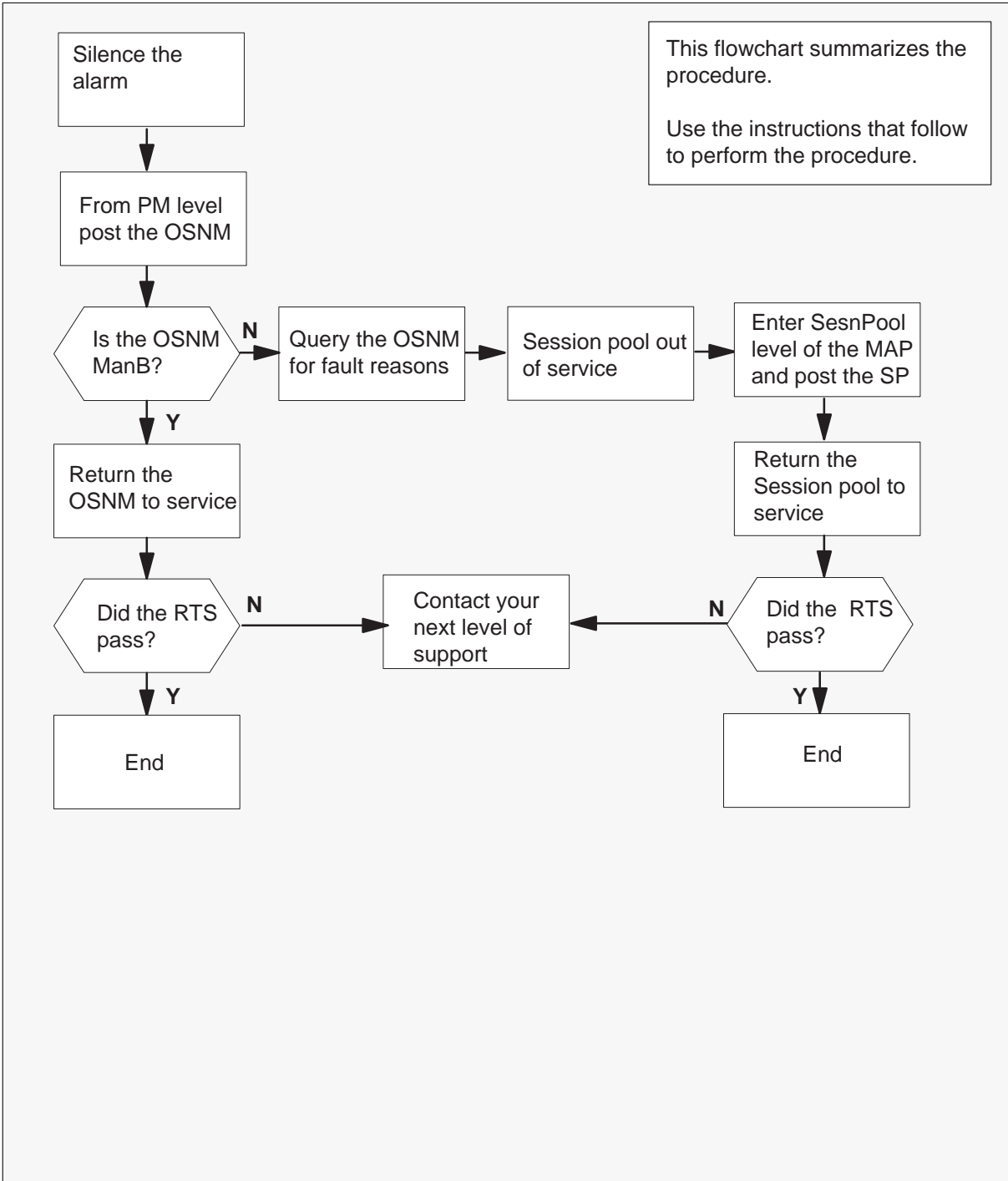
Does not apply

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

**PM ISTb (OSNM)
minor (continued)**

Summary of clearing an OSNM SysB minor alarm



PM ISTb (OSNM) minor (continued)

Clearing an OSBN SysB alarm

At the MAP

- 1 To silence the alarm, type
>MAPCI;MTC;SIL
and press the Enter key.
- 2 To access the PM level of the MAP display, type
>PM
and press the Enter key.

Example of a MAP display:

SysB	ManB	OffL	CBsy	ISTb	InSv
0	0	0	0	1	50

PM

- 3 To post the in service trouble OSNM, type
>POST OSNM ISTb
and press the Enter key.

Example of a MAP display:

SysB	ManB	OffL	CBsy	ISTb	InSv
0	0	0	0	1	10

PM
OSNM

OSNM 0
NONE
ISTb

**PM ISTb (OSNM)
minor (continued)**

- 4 Check the status of the OSNM

If the OSNM	Do
is ManB	step 5
is ISTb	step 7

- 5 To return the OSNM to service, type

>RTS

and press the Enter key.

- 6 Proceed according to the following table:

If the RTS	Do
passes	step 19
fails	step 18

- 7 To query the PM for fault reason, type

>QUERYPM FLT

and press the Enter key.

Example of a MAP display:

```

          SysB   ManB   OffL   CBsy           ISTb   InSv
             0     0     0     0             1     10

PM
OSNM

OSNM    0
NONE
ISTb

Session pool out of service
```

PM ISTb (OSNM)
minor (continued)

- 8 Note the OSNM in service trouble reason

If the ISTb reason	Do
is session pool out of service	step 9
is anything else	step 18

- 9 To enter the SesnPool level of the MAP, type

>SESNPOOL

and press the Enter key.

Example of a MAP display:

```

          SysB      ManB      OffL      CBsy          ISTb      InSv
            0         0         0         0             1         10

PM
OSNM

OSNM    0
NONE
ISTb

Status  SysB      ManB      OffL      CBsy          InSv
  SP      1         0         0         0             14

SESNPOOL:
    
```

- 10 Observe the session pool status display

If the session pools	Do
are system busy	step 11
are manual busy	step 15

**PM ISTb (OSNM)
minor (continued)**

11 To post the system busy session pool, type

>POST SP SysB

and press the Enter key.

Example of a MAP display:

	SysB	ManB	OffL	CBsy	ISTb	InSv
	0	0	0	0	1	10
PM						
OSNM						
OSNM	0					
NONE						
ISTb						
Status	SysB	ManB	OffL	CBsy		InSv
SP	1	0	0	0		14
OSNM	1	SP	5	SysB		
Size of Post set:				1		

PM ISTb (OSNM) minor (continued)

- 12 To manually busy the session pool, type
>BSY
 and press the Enter key.
- 13 To return the session pool to service by type
>RTS
 and press the Enter key.
- 14 Proceed according to the following table:

If the RTS	Do
passes	step 19
fails	step 18

- 15 To post the manual busy session pool, type
>POST SP ManB
 and press the Enter key.

Example of a MAP display:

```

                SysB   ManB   OffL   CBsy           ISTb   InSv
                  0       0       0       0             1       0

    PM
    OSNM

    OSNM   0
    NONE
    ISTb

    Status SysB   ManB   OffL   CBsy           InSv
    SP      1       0       0       0             14

    OSNM   1 SP    5   MANB
    Size of Post set: 1
    
```


**PM ISTb (OSNM)
minor (end)**

16 To return the session pool to service, type
>RTS
and press the Enter key.

17 Proceed according to the following table:

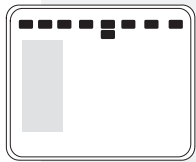
If the RTS	Do
passes	step 19
fails	step 18

18 For additional help, contact the next level of support.

19 The procedure is complete.

PM TMS minor

Alarm display



CM	MS	IOD	Net	PM	Lns	Trks	Ext	APPL
.	.	.	.	n TMS	.	.	.	.

Indication

A TMS (TOPS message switch) indication indicates a TMS alarm. The TMS indication appears under the peripheral module (PM) subsystem header at the maintenance level of the MAP (maintenance and administration position).

This procedure applies to all TOPS office configurations for the TMS, which follow:

- The TMS connects to an integrated TPC, which supports up to four integrated MP positions.
- The TMS connects to a virtual TPC, which supports MPX-IWS positions on a token ring.

Meaning

The indicated number of TMSs (n) are in the in-service trouble state.

Impact

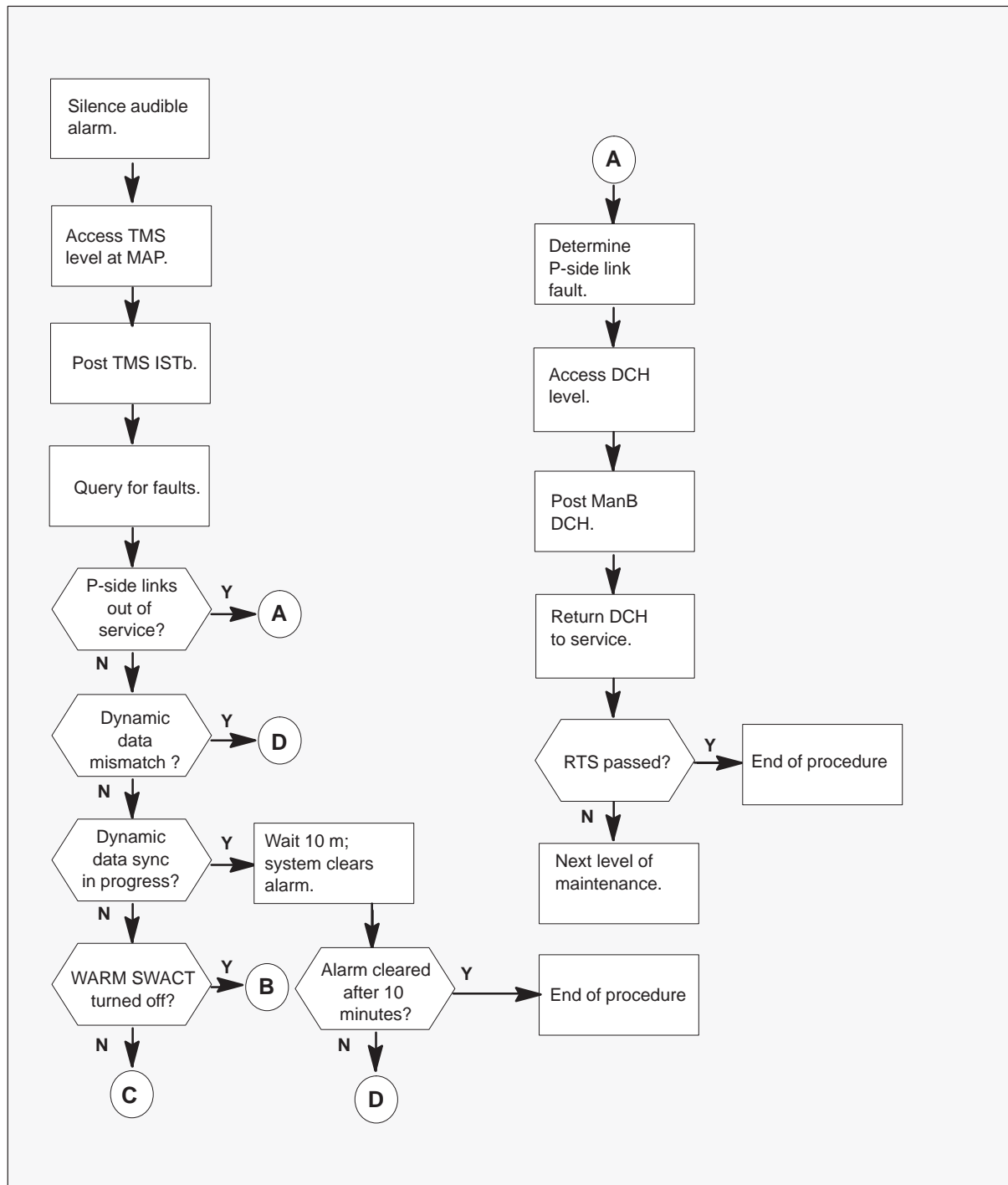
The TMS is a redundant unit. A TMS minor alarm does not affect call handling abilities. You must clear this alarm immediately. If a fault occurs in the remaining unit, the system can lose call handling abilities.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

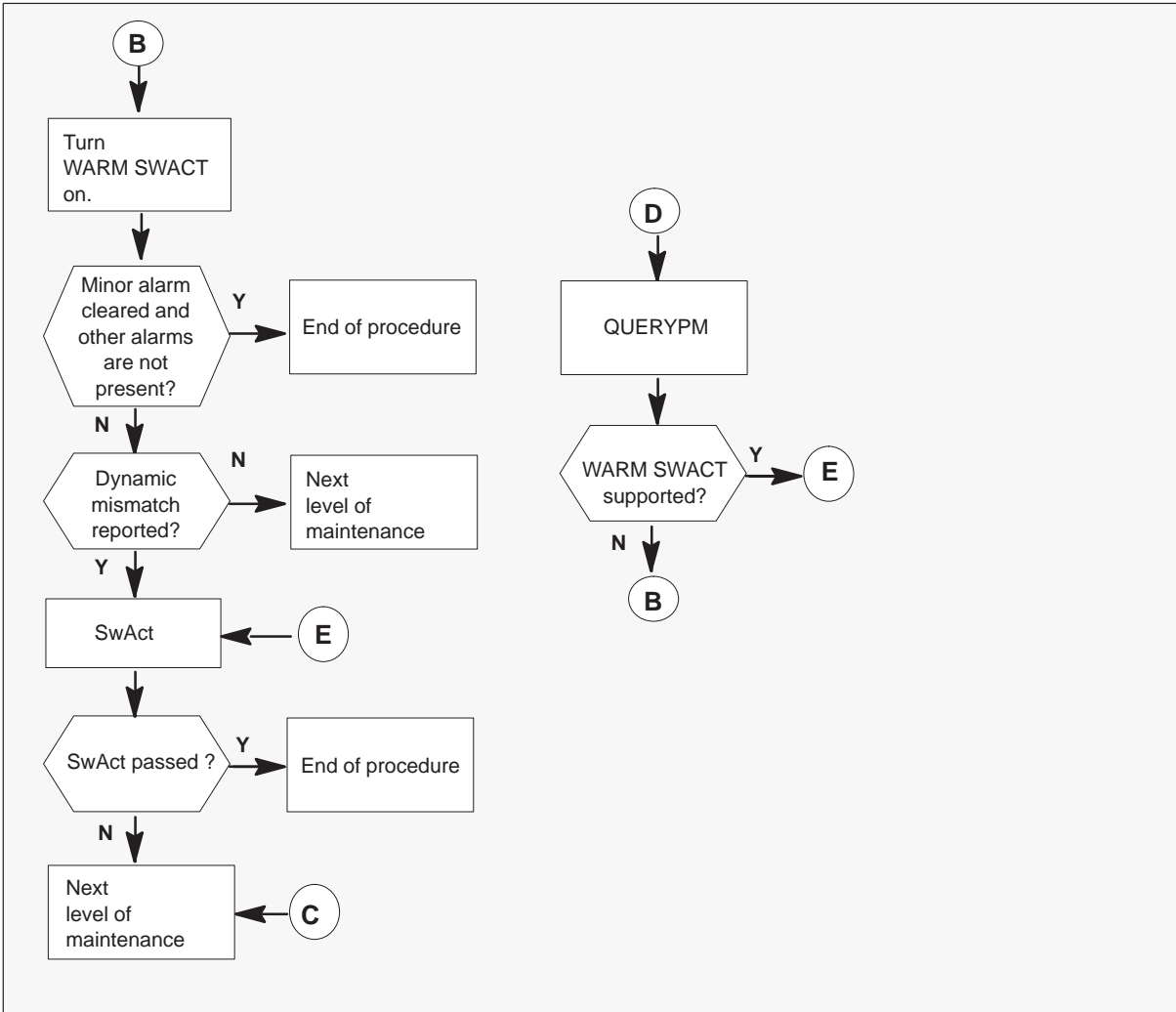
PM TMS
minor (continued)

Summary of Clearing a PM TMS minor alarm



PM TMS
minor (continued)

Summary of Clearing a PM TMS minor alarm (continued)



Clearing a PM TMS minor alarm

At the MAP terminal

1

ATTENTION

Enter this procedure from a PM system level clearing alarm procedure step that identifies a TMS associated fault.

PM TMS minor (continued)

To silence the alarm, type

>MAPCI;MTC;SIL

and press the ENTER key.

- 2 To post the in-service trouble (ISTb) TMS, type

>PM;POST TMS ISTB

and press the ENTER key.

Examine the status information for the TMS units on the TMS MAP display. This status information appears in the following example

Note: Determine which unit, 0 or 1, is ISTb. Record the unit number.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.    .    .     .     n TMS .    .    .     .

TMS
0  Quit      PM      0    0    0    0    1    48
2  Post_     TMS    0    0    0    0    1    4
3  Listset
4
5  Trnsl_    TMS 0  ISTb Links_OOS: CSide 0, PSide 1
6  Tst_      Unit 0: Act   InSv
7  Bsy_      Unit 1: InAct InSv
8  RTS_      POST
9  OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG

```

Note:

To stop system maintenance activity, type

>ABTK

and press the ENTER key.

Note: A 1 appears under the ISTb header for this alarm, as appears in the preceding figure.

PM TMS minor (continued)

- 3 To determine unit fault, type

>QUERYPM FLT

and press the ENTER key.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.    .    .    .    n TMS .    .    .    .

TMS
0  Quit      PM      0    0    0    0    1    48
2  Post_    TMS      0    0    0    0    1    0
3  Listset
4          TMS 0  ISTb  Links_OOS:  CSide 0,  PSide 1
5  Trnsl_   Unit 0:  InAct  InSv
6  Tst_     Unit 1:  Act    InSv
7  Bsy_     POST:
8  RTS_
9  OffL     QueryPM FLT
10 LoadPM_ Node is ISTb
11 Disp_    PSide Links out of service
12 Next     Unit 0
13 SwAct    no fault exists
14 QueryPM  Unit 1
15 DCH      no fault exists
16
17 PERFORM
18 ISG
    
```

Note: A 1 appears under the ISTb header for this alarm, as appears in the preceding figure.

- 4 Check TMS MAP display for P-side link failure or error messages.

If	Do
error message indicates dynamic data synchronization in progress	Wait ten minutes. The system clears the alarm. End of procedure. Go to step 13.
error message indicates the system does not support the WARM SWACT	step 6
P-side links out of service	step 8
error message indicates dynamic data mismatch or dynamic data synchronization in progress that takes more than ten minutes	step 5

PM TMS minor (continued)

- 5 To check to see if the system supports WARM SWACT, type

>QUERYPM

and press the ENTER key.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.   .   .   .   n TMS   .   .   .   .   .

TMS
0  Quit      PM      0      0      0      0      1      48
2  Post_     TMS     0      0      0      0      1      0
3  Listset
4          TMS  0  ISTb  Links_OOS:  CSide  0,  PSide  1
5  Trnsl_    Unit 0:  InAct  InSv
6  Tst_      Unit 1:  Act    InSv
7  Bsy_      POST:
8  RTS_
9  OffL      QueryPM
10 LoadPM_   WARM SWACT not supported
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG

```

Note: A 1 appears under the ISTb header for this alarm, as appears in the preceding figure.

If the system	Do
supports a WARM SWACT	step 7
does not support a WARM SWACT	step 6

PM TMS minor (continued)

- 6 To enable WARM SWACT, type

>WARMSWACT ON

and press the ENTER key.

Note: This action can take a minimum of ten minutes to data synchronization.

To confirm request for WARM SWACT, type

>YES

and press the ENTER key.

If	Do
minor alarm clears and other alarms are not present	step 13
the system reports a dynamic data mismatch	step 7
other problem are present	step 12

- 7 To switch activity, type

>SWACT

and press the ENTER key.

To confirm SWACT, type

>YES

and press the ENTER key.

If	Do
SWACT is successful (SWACT Passed)	step 13
SWACT is not successful	step 12

PM TMS minor (continued)

- 8 To determine cause of P-side link fault, type

>TRNSL P

and press the ENTER key.

Example of a MAP display

```

CM  MS  IOD  Net  PM  CCS  Lns  Trks  Ext  APPL
.   .   .   .   n TMS  .   .   .   .   .

TMS
0  Quit      PM      0    0    0    0    1    48
2  Post_     TMS     0    0    0    0    1    0
3  Listset
4           TMS  0  ISTb  Links_OOS:  CSide  0,  PSide  1
5  Trnsl_    Unit 0:  InAct  InSv
6  Tst_      Unit 1:  Act    InSv
7  Bsy_      POST:
8  RTS_
9  OffL      Trnsl P
10 LoadPM_  Link 0:  Multiple Nodes0;CapMS;Status:OK;MssCond:OPN
11 Disp_    Link 1:  Carrier of Class-Trunk;Status:OK
12 Next     Link13:  DCH 5;Status:OK
13 SwAct    Link15:  DCH 4;Status:OK
14 QueryPM  Link17:  DCH 2;Status:OK
15 DCH      Link19:  DCH 3;Status:MBsy
16
17 PERFORM
18 ISG

```

PM TMS minor (continued)

- 9 To access the DCH level of the PM level of the MAP, type
>DCH
 and press the ENTER key.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.   .   .   .   n TMS   .   .   .   .   .

TMS
0  Quit      PM      0    0    10    0    1    48
2  Post_     TMS     0    0     0    0    1     0
3  Listset
4           TMS  0  ISTb  Links_OOS:  CSide  0,  PSide  1
5  Trnsl_    Unit 0:  Act    InSv
6  Tst_      Unit 1:  InAct  InSv
7  Bsy_
8  RTS_      DCH     0    1     0    0    0     3
9  OffL
10 LoadPM_
11
12 Next
13
14 QueryPM
15 Disp
16
17
18
    
```

PM TMS minor (continued)

- 10 To post the manual busy (ManB) DCH, type

>POST MANB

and press the ENTER key.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.   .   .   .   n TMS   .   .   .   .   .

TMS
0  Quit      PM      0      0      10     0      1      48
2  Post_     TMS     0      0       0     0      1       0
3  Listset
4           TMS  0  ISTb  Links_OOS:  CSide  0,  PSide  1
5  Trnsl_    Unit 0:  Act    InSv
6  Tst_      Unit 1:  InAct  InSv
7  Bsy_
8  RTS_      DCH     0      1       0     0      0       3
9  OffL
10 LoadPM_  DCH 3  ISG 3  ManB  TMS 0  port 19
11
12 Next
13
14 QueryPM
15 Disp
16
17
18

```

PM TMS minor (end)

- 11 To return the ManB DCH to service, type

>RTS

and press the ENTER key.

Example of a MAP display

```

CM   MS   IOD   Net   PM   CCS   Lns   Trks   Ext   APPL
.    .    .     .     n TMS .    .    .     .

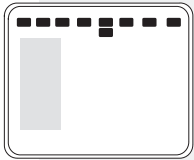
TMS
0  Quit      PM      0    0    10    0    1    48
2  Post_     TMS     0    0     0    0    1     0
3  Listset
4          TMS 0  ISTb  Links_OOS:  CSide 0, PSide 1
5  Trnsl_    Unit 0:  Act   InSv
6  Tst_     Unit 1:  InAct InSv
7  Bsy_
8  RTS_     DCH     0    0     0    0    0     4
9  OffL
10 LoadPM_  RTS
11          RTS Passed
12 Next     DCH 3 ISG 3 InSv TMS 0 port 19
13
14 QueryPM
15 Disp
16
17
18
    
```

If RTS	Do
passed	step 13
failed	step 12

- 12 For additional help to clear the alarm, contact the next level of support.
- 13 The procedure is complete. If other alarms appear, refer to the correct alarm clearing procedures for the indicated alarms.

PM TPC (for MP and IWS) minor

Alarm display



CM	MS	IOD	Net	PM	CCS	Trks	Ext	APPL
.	.	.	.	n TPC	.	.	.	.

Indication

A TPC indication indicates a TPC alarm. A TPC indication appears under the peripheral module (PM) subsystem header. This header is at the maintenance level of the MAP.

Enter this procedure from a PM system level alarm clearing procedure step. This step identifies a fault that associates with a TPC.

This procedure applies to both types of TPCs, which follow:

- An integrated TPC, which supports up to four integrated MP positions.
- A virtual TPC, which supports MPX-IWS positions on a token ring.

Meaning

The n indicates the number of TPCs in the in-service trouble state.

Result

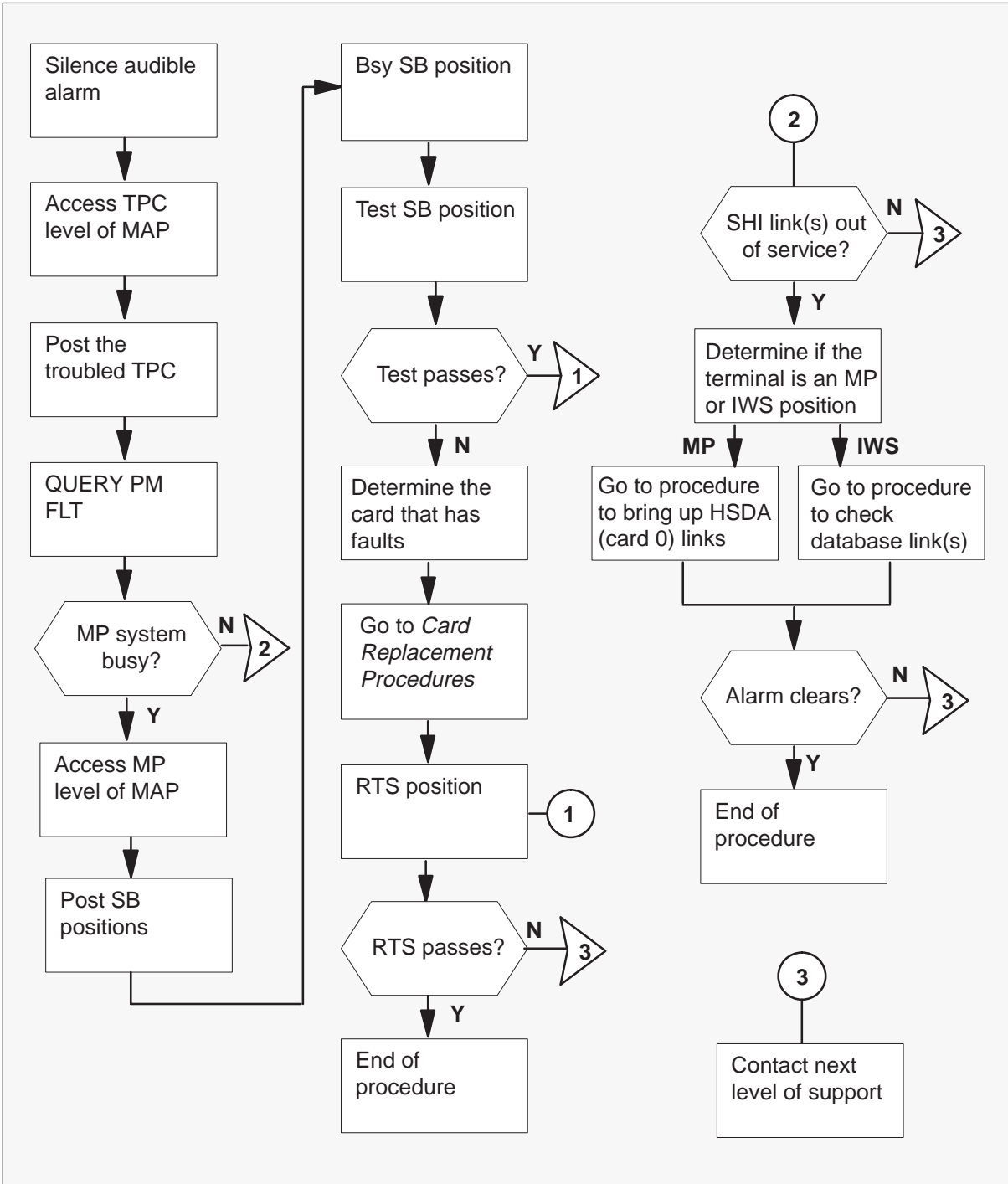
Clear this alarm as soon as possible. This alarm affects the call handling abilities of an integrated MP or IWS position.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Use the steps to perform the procedure.

PM TPC (for MP and IWS) minor (continued)

Summary of clearing a PM TPC (for MP and IWS) minor alarm



PM TPC (for MP and IWS) minor (continued)

Clearing an PM TPC (for MP and IWS) minor alarm

At the MAP terminal

- To silence the alarm, type
>MAPCI;MTC;SIL
and press the Enter key.
- To access the TPC level of the MAP and post the alarm that has defects, type
>PM;POST TPC ISTB
and press the Enter key.

Example of a MAP response

```

          SysB   ManB   OffL   CBsy   ISTb   InSv
    PM      0     0     10     0     1     130
    TPC     0     0     0      0     1     4
TPC 20  ISTb

```

- To query for fault indicators, type
>QUERYPM FLT
and press the Enter key.

Example of a MAP response

```

QueryPM flt
The following node in-service trouble exist:
MP system busy

```

If trouble message	Do
is MP system busy	step 4
is SHI link(s) out of service	step 11
is another message	step 14

PM TPC (for MP and IWS) minor (continued)

- 4 To access the MP level of the MAP, type
>MP
and press the Enter key.

Example of a MAP response

```
                VTB  SB  MB  PMB  RES  RTRN  INB
Status         0   1   0   0     0     0     5
      MP
MP:
```

- 5 To post the SB position, type
>POST SB
and press the Enter key.

Example of a MAP response

```
POS 200  TPC 20  MP 0  SB
Size of post set:  1
Post p sb
```

- 6 To busy the SB position, type
>BSY
and press the Enter key.

Example of a MAP response

```
POS 200  TPC 20  MP 0  MB
Size of post set:  1
Bsy
Bsy Passed
```


PM TPC (for MP and IWS) minor (continued)

- 7 To test the SB position, type

>TST

and press the Enter key.

Example of a MAP response

```

POS 200  TPC 20  MP 0 MB
Size of post set:  1
Tst
Tst Failed:  HSLI_card_not_present_unable_to_run_
              diags
              Error code:  203
              Additional value:  0000  0000
  
```

If test	Do
passes	step 10
fails	step 8

- 8 Determine which card has defects.
- 9 See *Card Replacement Procedures* to replace the NTN62 card that has faults. Return to this point.

PM TPC (for MP and IWS) minor (continued)

- 10 To return the tested position to service, type

>RTS

and press the Enter key.

Example of a MAP response

```
POS 200  TPC 20  MP 0  Mtce
Size of post set:  1
Rts
Rts Passed
```

If RTS	Do
passes	step 15
fails	step 14

- 11 The position type requires identification, whether MP or IWS, The MAP display is at the TPC level from the command in step 3. Enter the following series of commands to determine a sample position number connected to the ISTB TPC, type

>POST TPC 20

>MP

>POST TPC 20

The positions connected to the TPC are listed as shown in the following example.

Example of a MAP response

```
POS 200  TPC 20  MP 0  InSv
Size of post set:  4
post tpc 20
```

The above display indicates that the TPC serves position number 200.

PM TPC (for MP and IWS) minor (continued)

- 12 Determine the type of position, type

>TABLE TOPSPOS; POS 200

Example of a MAP response for an MP position

```
200 TMS 1 1 6 NPDGP DS1SIG TMS MP ASCII 107 3 OPR 5
      TOPSACD ALL ALL
```

The above example is for an MP position because the protocol is ASCII.

Example of a MAP response for an IWS position

```
200 TMS 1 1 6 NPDGP DS1SIG TMS MP OPP 107 3 OPR 5
      TOPSACD ALL ALL
```

The above example is for an IWS position because the protocol is OPP.

If position type	Do
MP	Go to the <i>Trouble Locating and Clearing Procedures Manual</i> , routine "TOPS MP Operator compliant (standalone/integrated) Clearing DA access trouble" to bring the HSDA links (card 0) in service and return to step 13.
IWS	For a Nortel database, go to the <i>Trouble Locating and Clearing Procedures Manual</i> , routine "TOPS IWS Operator compliant Clearing database access trouble" to restore access to the database and return to step 13. Note, for a Nortel database, this link alarm is currently (RIs09) only generated by the TOPS IWS NTDA application. For a database other than Nortel, go to the appropriate documentation.

PM TPC (for MP and IWS)
minor (end)

- 13 Enter this step from the correct trouble locating and clearing procedure as indicated in step 12.

If alarm	Do
clears	step 15
does not clear	step14

- 14 For additional help, contact the next level of support.
- 15 The procedure is complete.

TOPS Trouble locating and clearing procedures

Introduction

Note, this chapter is a duplicate of the procedures for the TOPS system in the Trouble Locating – Clearing Procedures manual.

This chapter contains procedures to locate and clear trouble in TOPS positions. The procedures contain the following sections:

- Application
- Definition
- Common procedures
- Action

Application

This section describes the purpose of the procedure.

Definition

This section provides context-setting information for trouble locating and clearing procedures. For example, a trouble locating and clearing procedure that has an associated log report provides a description of the associated log.

Common procedures

This section lists common procedures to use during the trouble locating and clearing procedure. A common procedure is a series of steps that repeat within maintenance procedures. An example of a common procedure is the procedure for the removal and the replacement of a card. Trouble locating and clearing common procedures reside in a common procedures chapter in this Northern Telecom publication. Do not use common procedures unless the step-action procedure directed you to use common procedures.

Action

This section contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

TOPS MP Operator complaint (standalone/integrated) Clearing DA access trouble

Application

Use this Clearing directory assistance (DA) access trouble procedure to replace the high-speed data access (HSDA) card.

Definition

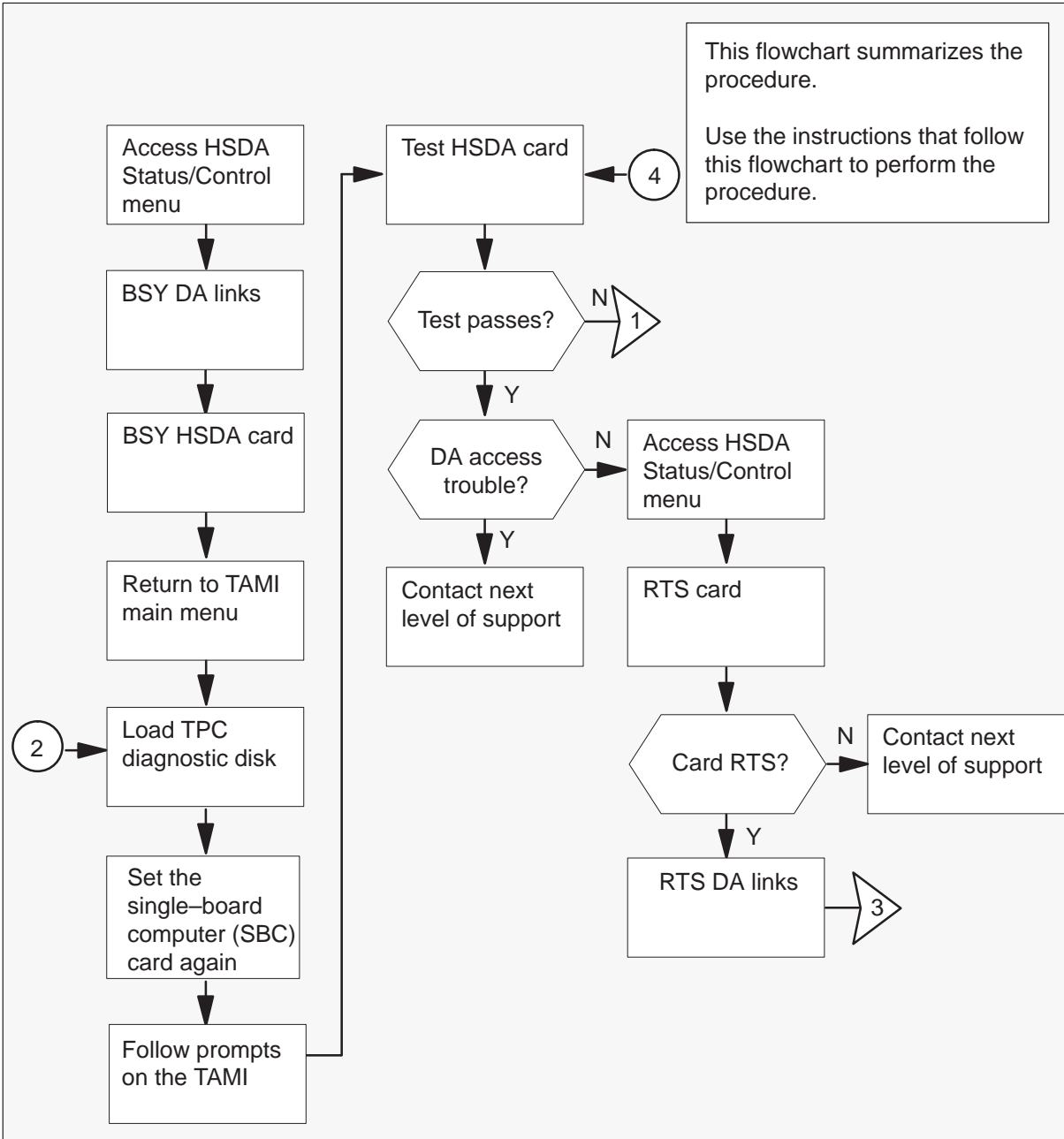
An operator submits DA access trouble after NO DA appears on the MP position screen.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

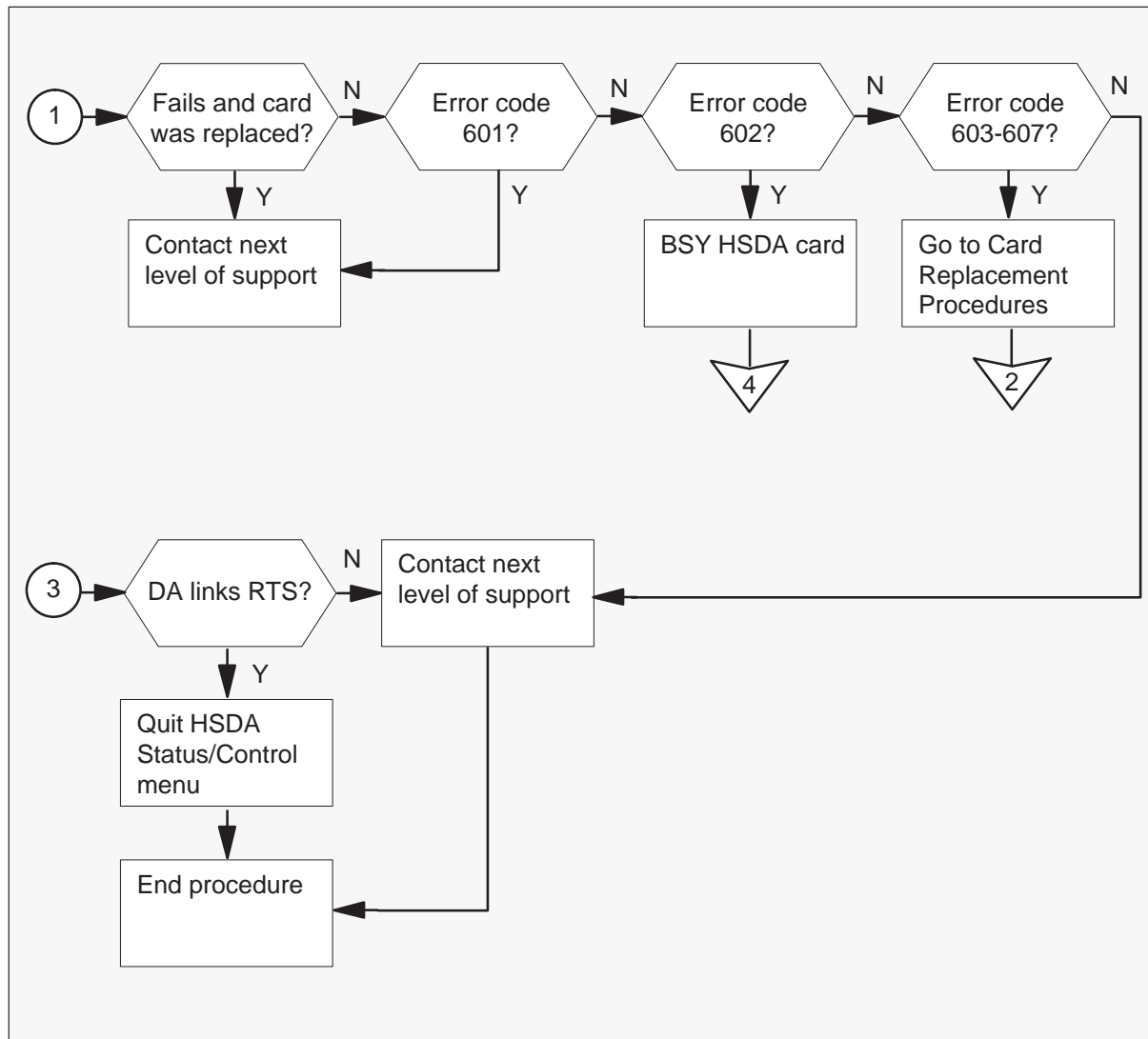
TOPS MP Operator complaint (standalone/integrated)
Clearing DA access trouble (continued)

Summary of clearing DA access trouble



TOPS MP Operator complaint (standalone/integrated) Clearing DA access trouble (continued)

Summary of clearing DA access trouble (continued)



TOPS MP Operator complaint (standalone/integrated) Clearing DA access trouble (continued)

Clearing DA access trouble

At the TAMI

- 1 To access the HSDA Status/Control menu from the TOPS position controller (TPC) Administration and Maintenance (TAMI) main menu type:

>3

Press the Enter key.

Example of a TAMI response:

```

                                HSDA STATUS/CONTROL
                                for card 1
1. Bsy Card                      5. Bsy Link
2. RTS Card                      6. RTS Link
3. OffL Card                    7. OffL Link
4. FrIs Card                    8. Next Card

CARD STATUS  CARD SUBSTATUS  APPLID LINK 0 STATUS  LINK 0 STATUS
InSv         Comact         HSDA3386   InSv     InSv

MAKE CHOICE :
```

Note: If you suspect that card 0 has faults in Dual HSDA configuration, choose selection 8 (Next Card) before this step. This action causes card 0 status to display.

- 2 To busy the DA links, use the following procedure:

- a. Type

>5

Press the Enter key.

where

5 is BSY link

- b. Type

>0

Press the Enter key.

where

0 is the link number

TOPS MP Operator complaint (standalone/integrated) Clearing DA access trouble (continued)

- c. Type
>5
 Press the Enter key.
where
 5 is BSY Link

- d. Type
>1
 Press the Enter key.
where
 1 is the link number

Example of a TAMI response

CARD STATUS	CARD SUBSTATUS	APPLID	LINK 0 STATUS	LINK 0 STATUS
InSv	Comact	HSDA3386	ManB	ManB

- 3 To busy the HSDA card, type:
>1
 Press the Enter key.

Example of a TAMI response

CARD STATUS	CARD SUBSTATUS	APPLID	LINK 0 STATUS	LINK 0 STATUS
ManB	Comact	HSDA3386	ManB	ManB

- 4 To return to the TAMI main menu, press the PF3 key one time.

At the TPC

- 5 To test the HSDA card, load the diskettes into the disk drive of the TPC. Insert the Diagnostic Boot diskette into the disk drive of the TPC and push the lever to lock the diskette in place.

Note: Make sure the edge that has notches is at the top and the label faces the hard disk.

TOPS MP Operator complaint (standalone/integrated) Clearing DA access trouble (continued)

6



CAUTION

Service interruption

Use of the reset switch takes all MP positions associated with the TPC out of service. Make sure you return to service all MP positions associated with this TPC at the end of the procedure.

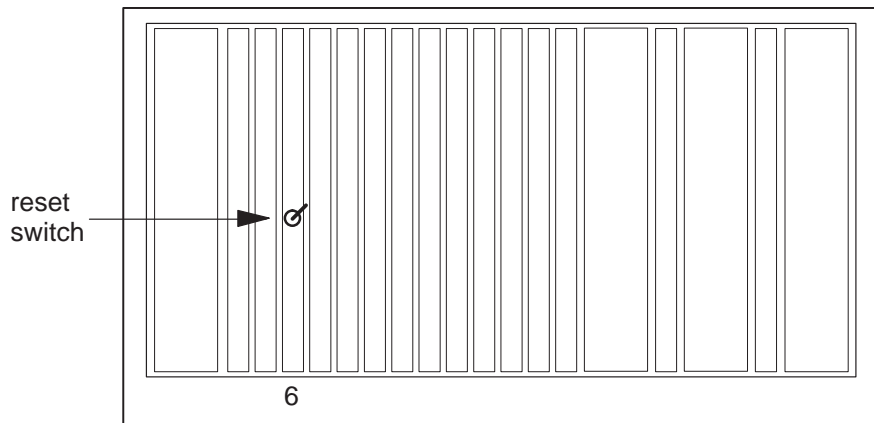


CAUTION

Service interruption

Use of the reset switch takes all MP positions associated with the TPC out of service. Make sure you return to service all MP positions associated with this TPC at the end of the procedure.

To set the TPC again, move the switch on the SBC card in slot 6 to the down position. Return the switch to the up position.



TPC packfill SBC card

- 7 Remove the Diagnostic Boot diskette and insert the Diagnostic Run diskette. Leave the Diagnostic Run diskette in the disk drive until the system requests you to remove it.

TOPS MP Operator complaint (standalone/integrated) Clearing DA access trouble (continued)

- 8 To run the diagnostic tests on the HSDA card, type:

>HSDADIAG n

Press the Enter key

where

n is the card number

Example of a TAMI response

```
Performing Basic HSDA Diagnostic (Circuit Pack Reset)
Performing Basic HSDA Diagnostic (Query Status)
Performing Basic HSDA Diagnostic (SBC-HSDA Loopback)
Performing Extensive HSDA Diagnostic (System Memory,
this is long test)
Performing Extensive HSDA Diagnostic (Timers and
Interrupts)
Performing Extensive HSDA Diagnostic (Data
Communication)
HSDA Diagnostic Passed
```

- 9 Determine if the test passes.

If test	Do
passes	step 12
passes and No DA displays	step 10
fails and HSDA card replaced	step 10
fails and error code is 601	step 10
fails and error code is 602	Busy the card. Perform step 8.
fails and error code is 603-607	step 11

- 10 For additional help, contact the next level of support.

TOPS MP Operator complaint (standalone/integrated) Clearing DA access trouble (continued)

At the TPC

11



CAUTION

Service interruption

When you replace an HSDA card in the TPC, all four operator positions cannot process calls.



CAUTION

Service interruption

When you replace an HSDA card in the TPC, all four operator positions cannot process calls.

Replace HSDA card in slot 13 (or slot 8 in the optional Dual HSDA configuration). Refer to *Card Replacement Procedures*. Return to step 5.

At the TAMI

12 To access the HSDA Status/Control menu from the TAMI main menu, type:

>3

Press the Enter key.

Example of a TAMI response

```

                                HSDA STATUS/CONTROL
                                for card 1
1. Bsy Card                      5. Bsy Link
2. RTS Card                      6. RTS Link
3. OffL Card                    7. OffL Link
4. Frls Card                    8. Next Card

CARD STATUS  CARD SUBSTATUS  APPLID  LINK 0 STATUS  LINK 0 STATUS
ManB         Contact        HSDA3386  ManB      ManB

MAKE CHOICE :
```

Note: This menu includes the Dual HSDA option. If card 0 has faults in Dual HSDA configuration, choose selection 8 (Next Card) before this step. This action causes card status to display.

TOPS MP Operator complaint (standalone/integrated) Clearing DA access trouble (continued)

13 To return the card to service, type:

>2

Press the Enter key.

Example of a TAMI response

CARD STATUS	CARD SUBSTATUS	APPLID	LINK 0 STATUS	LINK 0 STATUS
InSv	Comact	HSDA3386	ManB	ManB

If card	Do
returns to service	step 14
does not return to service	step 10

14 To return the DA links to service, use the following procedure:

a. Type

>6

Press the Enter key.

where

6 is RTS

b. Type

>0

Press the Enter key.

where

0 is the link number

c. Type

>6

Press the Enter key.

where

6 is RTS

TOPS MP Operator complaint (standalone/integrated) Clearing DA access trouble (end)

- d. Type
>1
Press the Enter key.
where
1 is the link number

Example of a TAMI response

```
CARD STATUS  CARD SUBSTATUS  APPLID  LINK 0 STATUS  LINK 0 STATUS
InSv          Comact          HSDA3386      InSv          InSv
```

- 15** Determine link status.

If links	Do
return to service	step 16
do not return to service	step 10

- 16** To quit the HSDA Status/Control menu, press the PF3 key.
- 17** This procedure is complete.

TOPS MP Operator complaint (standalone) Clearing link trouble

Application

Use this Clearing link trouble procedure to clear Traffic Operator Position System (TOPS) Multipurpose (MP) link problems.

Definition

Submit this problem when the MP VDU message `Link problems encountered` appears and the operator cannot log on to the MP position. When this message appears, a fault is present on the data link between the VDU controller and the DMS.

Common procedures

This procedure contains the following references:

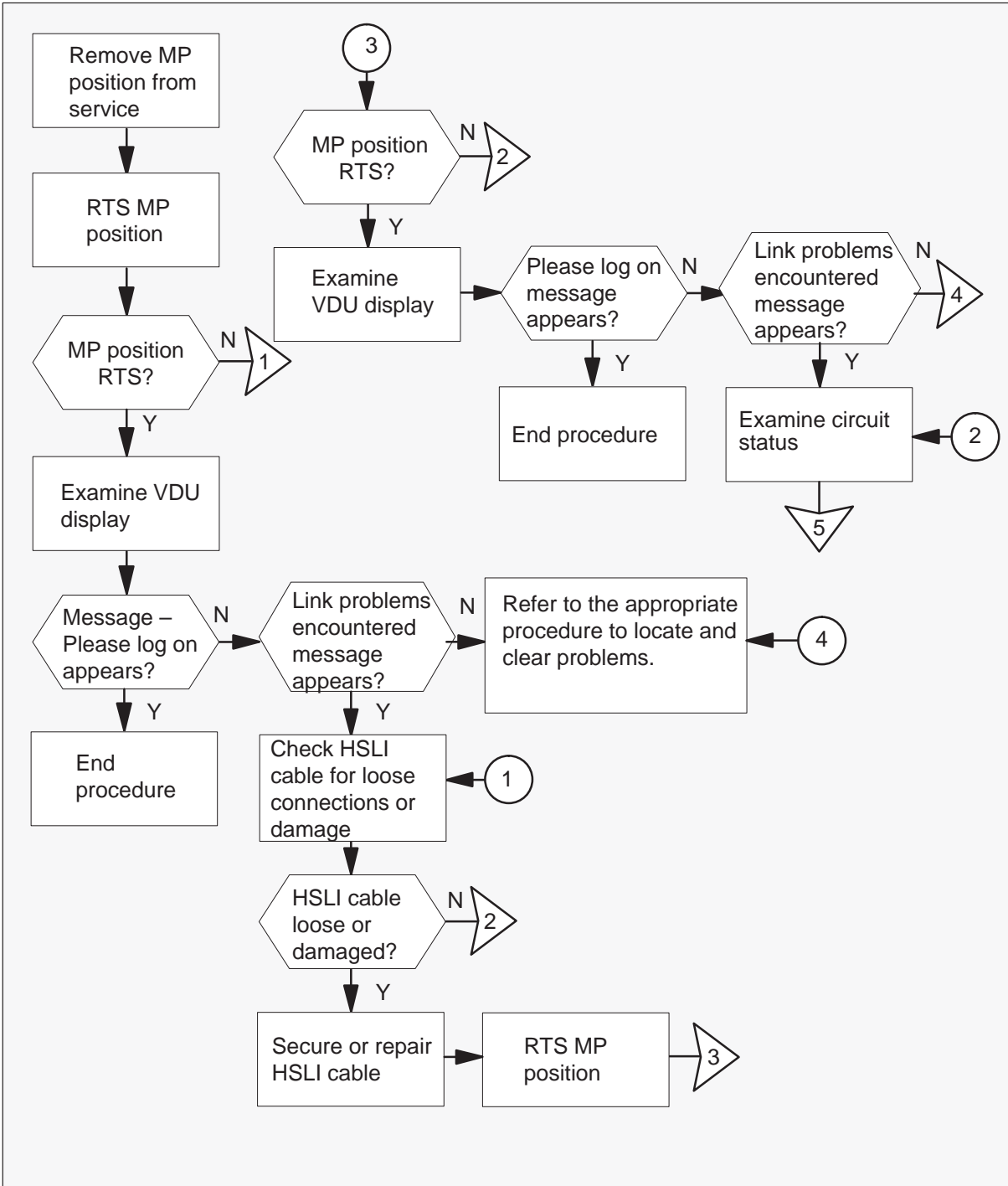
- Removing MP position from service (standalone)
- Placing MP position in service (standalone)

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

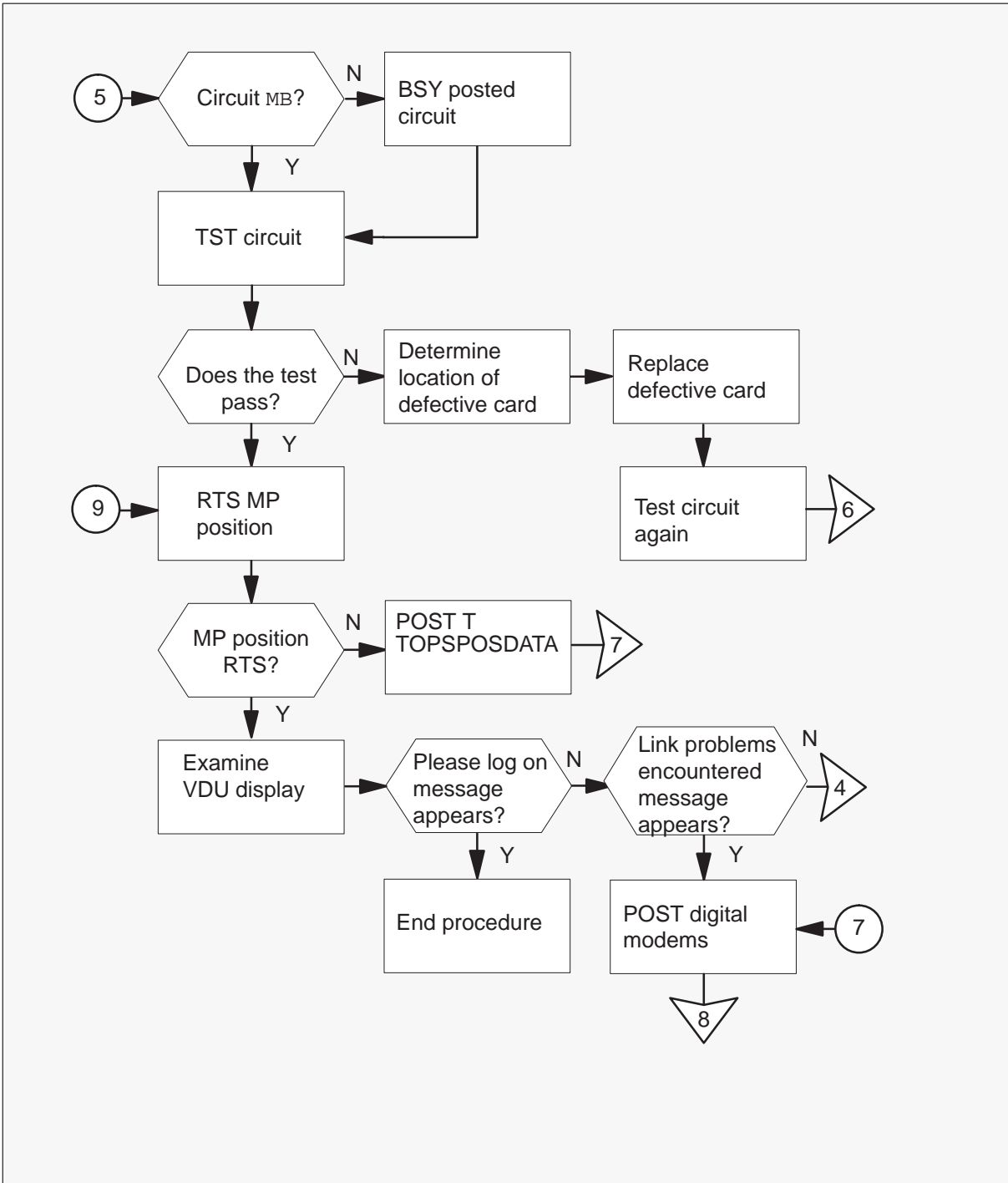
TOPS MP Operator complaint (standalone)
Clearing link trouble (continued)

Summary of Clearing link trouble



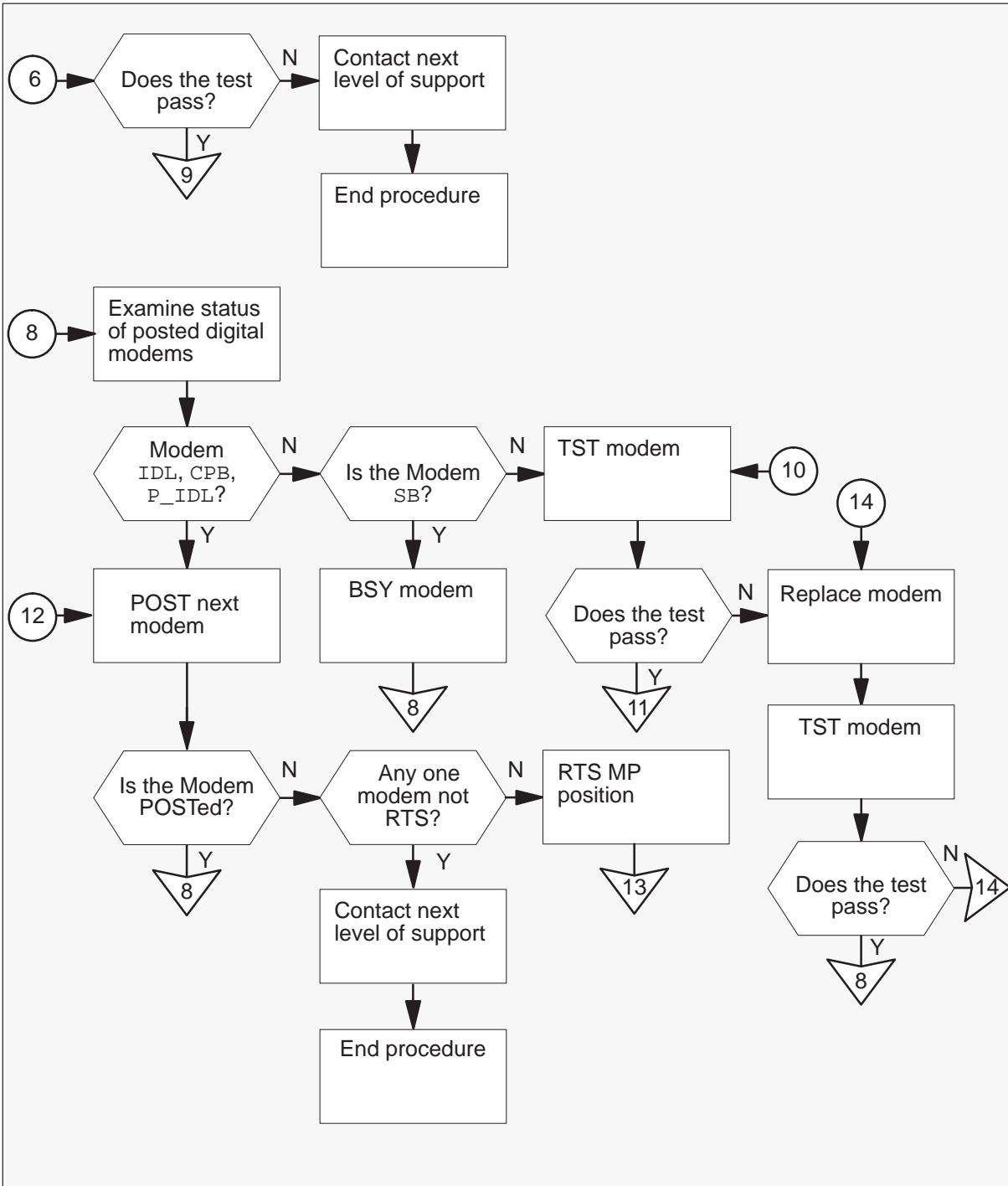
TOPS MP Operator complaint (standalone) Clearing link trouble (continued)

Summary of Clearing link trouble TOPS MP (continued)



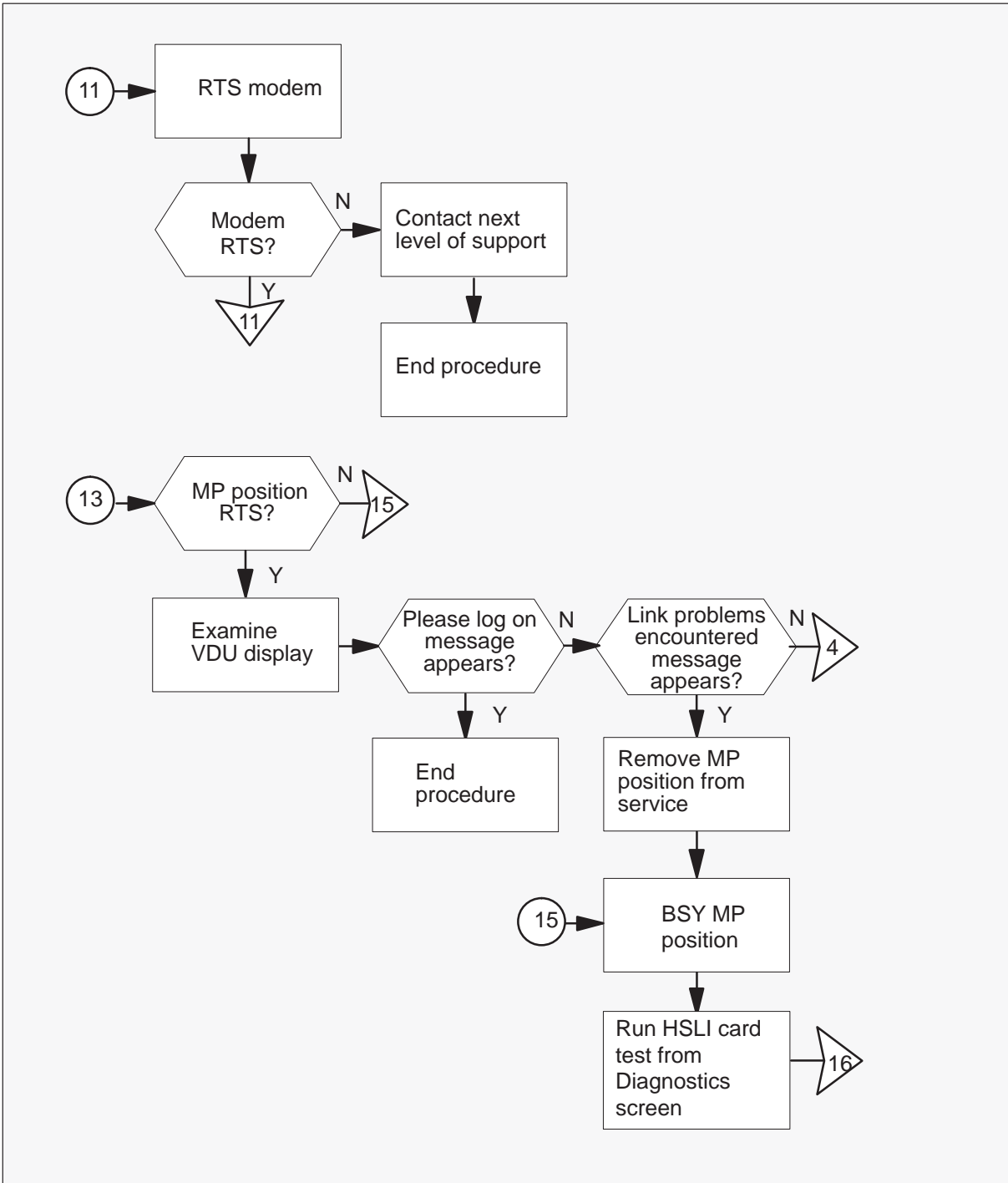
TOPS MP Operator complaint (standalone) Clearing link trouble (continued)

Summary of Clearing link trouble TOPS MP (continued)



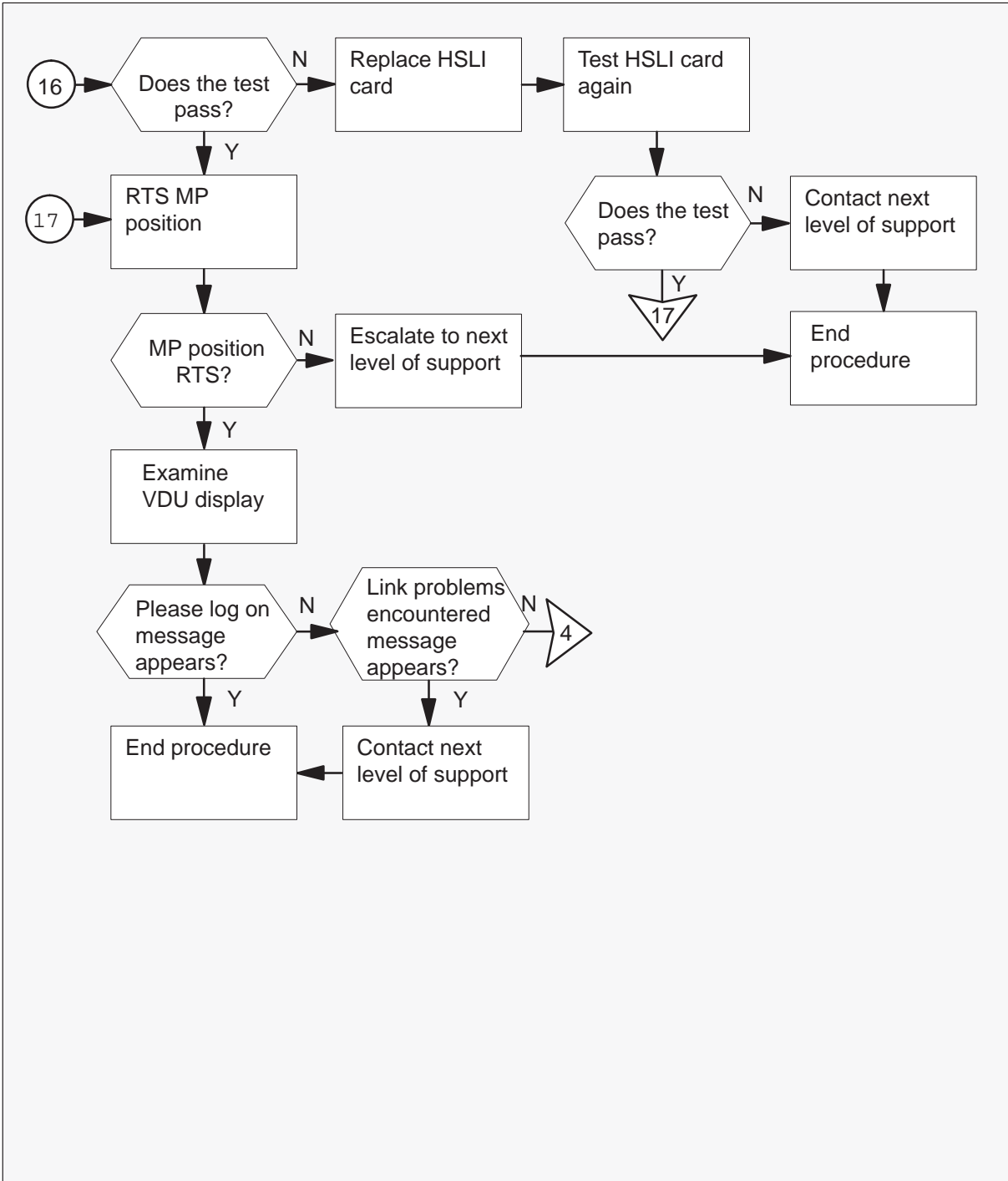
TOPS MP Operator complaint (standalone) Clearing link trouble (continued)

Summary of Clearing link trouble TOPS MP (continued)



TOPS MP Operator complaint (standalone)
Clearing link trouble (continued)

Summary of Clearing link trouble (continued)



TOPS MP Operator complaint (standalone) Clearing link trouble (continued)

Clearing link trouble (standalone)

At your current location

- 1 Perform the common procedure *Removing the MP position from service (standalone)*.
- 2 Perform the common procedure *Placing the MP position in service (standalone)*.
- 3 Determine if the MP position returns to service.

If the MP position	Do
returns to service and RES appears	step 4
fails return to service	step 5

At the affected MP position

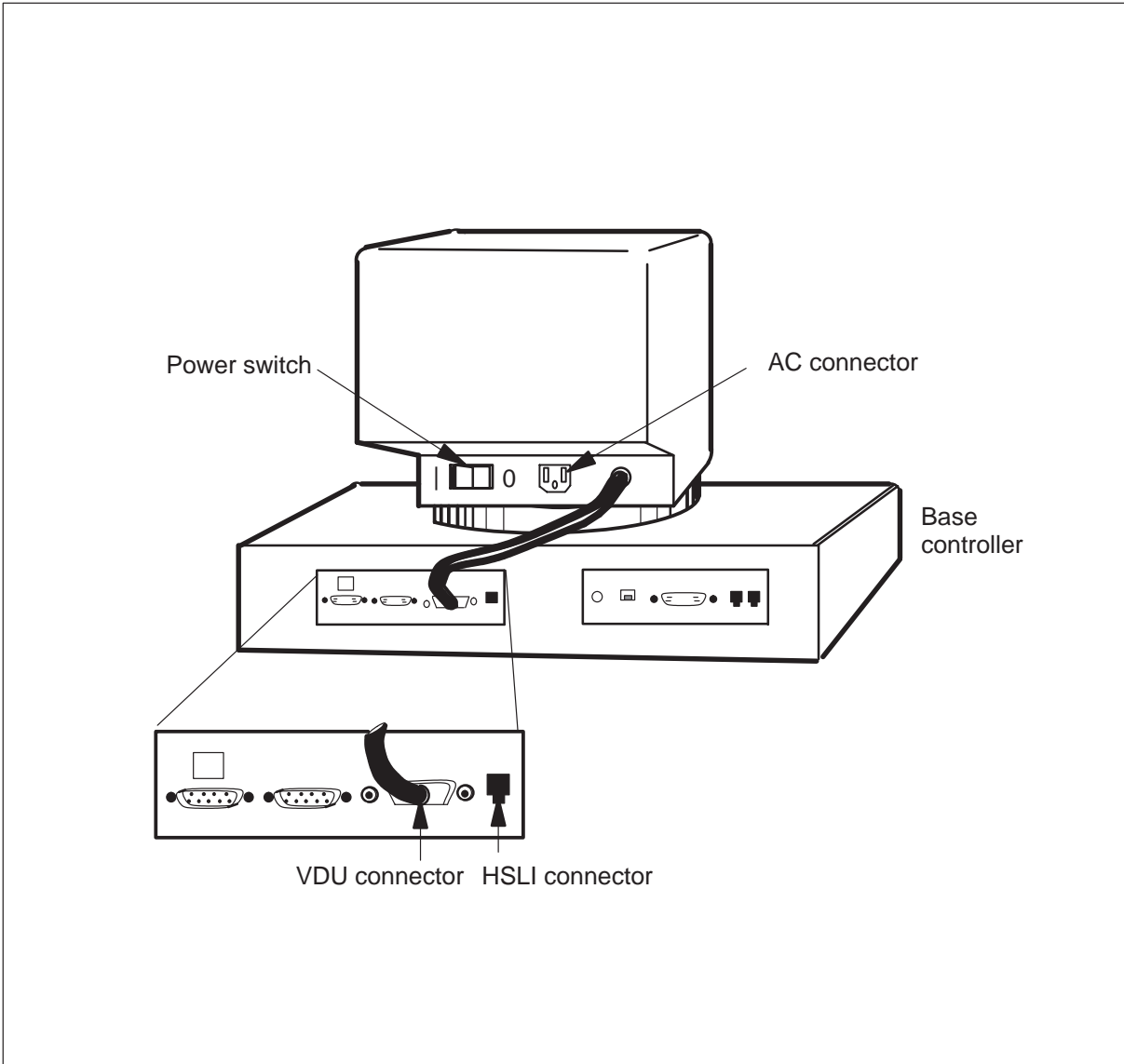
- 4 Examine the VDU display.

If the message from MP VDU	Do
is Please log on	step 38
is Link problems encountered	step 5
is other than listed here	step 37

- 5 Check the HSLI cable for loose connections or damage.

TOPS MP Operator complaint (standalone) Clearing link trouble (continued)

Rear view MP position



If the HSLI cable	Do
is loose or damaged	secure or repair the cable and go to step 6
is not loose or damaged	step 9

TOPS MP Operator complaint (standalone) Clearing link trouble (continued)

- 6 Perform the common procedure *Placing the MP position in service (standalone)*.
- 7 Determine if the MP position returns to service.

If the MP position	Do
returns to service with RES displayed	step 8
fails to return to service	step 9

- 8 Examine the VDU screen.

If the MP VDU message	Do
is Please log on	step 38
is Link problems encountered	step 9
is other than listed here	step 37

At the MAP

- 9 Examine the circuit status display for the TOPSPOS circuit.

If the circuit status	Do
is SB	step 10
is MB	step 11
is RES	step 10

- 10 Perform the common procedure *Removing the MP position from service (standalone)*.

TOPS MP Operator complaint (standalone) Clearing link trouble (continued)

- 11 To test the circuit, enter:

>TST

and press the Enter key.

If test	Do
passes	step 14
fails	step 12
fails with card replaced	step 36

- 12 To determine the location of the card that has faults, type:

>CKTLOC

and press the Enter key.

- 13 Replace faulty circuit card. Refer to the *Card Replacement procedures* and return to step 11.
- 14 Perform the common procedure *Placing the MP position in service (standalone)*.

If TOPSPOS circuit	Do
returns to service and RES appears	step 15
fails to return to service	step 16

At the affected MP position

- 15 Examine the VDU display.

If MP VDU message	Do
is Please log on	step 38
is Link problems encountered	step 16
is other than listed here	step 37

TOPS MP Operator complaint (standalone) Clearing link trouble (continued)

- 16 Determine if the system allocated a digital modem to the data trunk. To post the MP position data trunk, type:

>POST T TOPSPOSDATA nnn

and press the Enter key.

where

nnn is the position number

Example of a MAP response

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .

TTP
0  Quit_ POST      DELQ      BUSYQ      DIG
2  Post_ TTP      6-025
3  Seize_      CKT TYPE      PM NO.      COM LANG      STA S R DOT TE RESULT
4      DESK      TM8      2 17      TOPSPOSDATA 200      CPB      MODEM      19
5  Bsy_      P_IDL
6  RTS_
7  Tst_
8
9  CktInfo_
10 CktLoc_
11 Hold_
12 Next_
13 Rls_
14 Ckt_
15 TrnslVf_
16 StkSdr_
17 Pads_
18 Level_
    
```

Digital modem
and number

If digital modem	Do
is allocated	step 28
is not allocated	step 17

TOPS MP Operator complaint (standalone) Clearing link trouble (continued)

At the MAP

17 To post the digital modem group, type:

MAPCI;MTC;TRKS;TTP

and press the Enter key.

POST G DMODEM

and press the Enter key.

Example of a MAP response

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .

TTP
0  Quit_ POST      DELQ      BUSYQ      DIG
2  Post_ TTP 6-025
3  Seize_ CKT TYPE  PM NO.      COM LANG  STA S R DOT TE RESULT
4      DATA  MTM  4  7  DMODEM      19  CPB  TOPSPOSDATA 200
5  Bsy_
6  RTS_
7  Tst_
8
9  CktInfo_
10 CktLoc_
11 Hold_
12 Next_
13 Rls_
14 Ckt_
15 Trnslvf_
16 StkSdr_
17 Pads_
18 Level_
    
```

18 Examine the status of the posted digital modem in group.

If the status of digital modem	Do
is IDL, CPB, or P_IDL	step 19
is SB	step 20
is MB	step 21

TOPS MP Operator complaint (standalone) Clearing link trouble (continued)

- 19 To post the digital modem group, type:

>NEXT

and press the Enter key.

If the status of digital modem is	Do
posted	step 18
the message NO CKT, SET IS EMPTY appears and a modem from step 22 cannot RTS (IDL on MAP)	step 36
the message NO CKT, SET IS EMPTY appears, and all modems from step 22 are RTSed (IDL on MAP)	step 25

- 20 To busy the posted digital modem group, type:

>BSY

and press the Enter key.

- 21 To test the posted digital modem, type:

>TST

and press the Enter key.

If test	Do
passes	step 22
fails	step 23

- 22 To return the posted digital modem to service, type:

>RTS

and press the Enter key.

If digital modem	Do
returns to service	step 19
does not return to service	Record the number of the modem for later use. Go to step 19.

TOPS MP Operator complaint (standalone) Clearing link trouble (continued)

- 23 Record the posted digital modem number and replace the defective DMS digital modem circuit card. Refer to the *Card Replacement Procedures* and return to this point.

At the MAP

- 24 To test the posted digital modem, type:

>TST

and press the Enter key.

If test	Do
passes	step 19
fails	Record its number for later use and go to step 36

- 25 Perform the common procedure *Placing the MP position in service (standalone)*.

- 26 Determine if the MP position returns to service.

If the MP position	Do
returns to service and RES appears	step 27
fails return to service	step 30

At the affected MP position

- 27 Examine the VDU display.

If MP VDU message	Do
is Please log on	step 38
is Link problems encountered	step 28
is other than listed here	step 37

- 28 Perform the common procedure *Removing the MP position from service (standalone)*.

TOPS MP Operator complaint (standalone) Clearing link trouble (continued)

At the TAMI

- 29** To access the Diagnostics screen from the TAMI menu, type:

>5
and press the Enter key.

TAMI response

Enter TPC Diagnostics command:

- 30** Make sure that the MP position is busy. To run the HSLI card test from the Diagnostics screen, type:

>POSDIAG nnn HSLI
and press the Enter key.

where

nnn is the position number

TAMI response

Downloading MP.
Performing HSLI Loopback Diagnostic

If test	Do
passes	step 36
fails	step 31
passes with card replaced	step 32
fails with card replaced	step 36

- 31** Replace HSLI card. Refer to *Card Replacement Procedures* and return to step 30.

At the TAMI

- 32** To quit the Diagnostics screen, type:

>QUIT
and press the Enter key.

- 33** Perform the common procedure *Placing the MP position in service (standalone)*.

TOPS MP Operator complaint (standalone)

Clearing link trouble (end)

- 34 Determine if the MP position returns to service.

If the MP position	Do
returns to service and RES appears	step 35
fails return to service	step 36

At the affected MP position

- 35 Examine the VDU display.

If MP VDU displays	Do
Please log on	step 38
Link problems encountered	step 36
any other message	step 37

- 36 For further assistance, contact the personnel responsible for the next level of support.
- 37 Refer to the appropriate trouble locating and clearing procedure for the indicated trouble.
- 38 You have completed this procedure.

TOPS MP Operator complaint (integrated) Clearing MP keyboard trouble

Application

Use this Clearing MP keyboard trouble procedure to clear Traffic Operator Position System (TOPS) Multipurpose (MP) keyboard trouble.

Definition

Submit this complaint when there are problems with a keyboard.

Common procedures

The following common procedures are referenced:

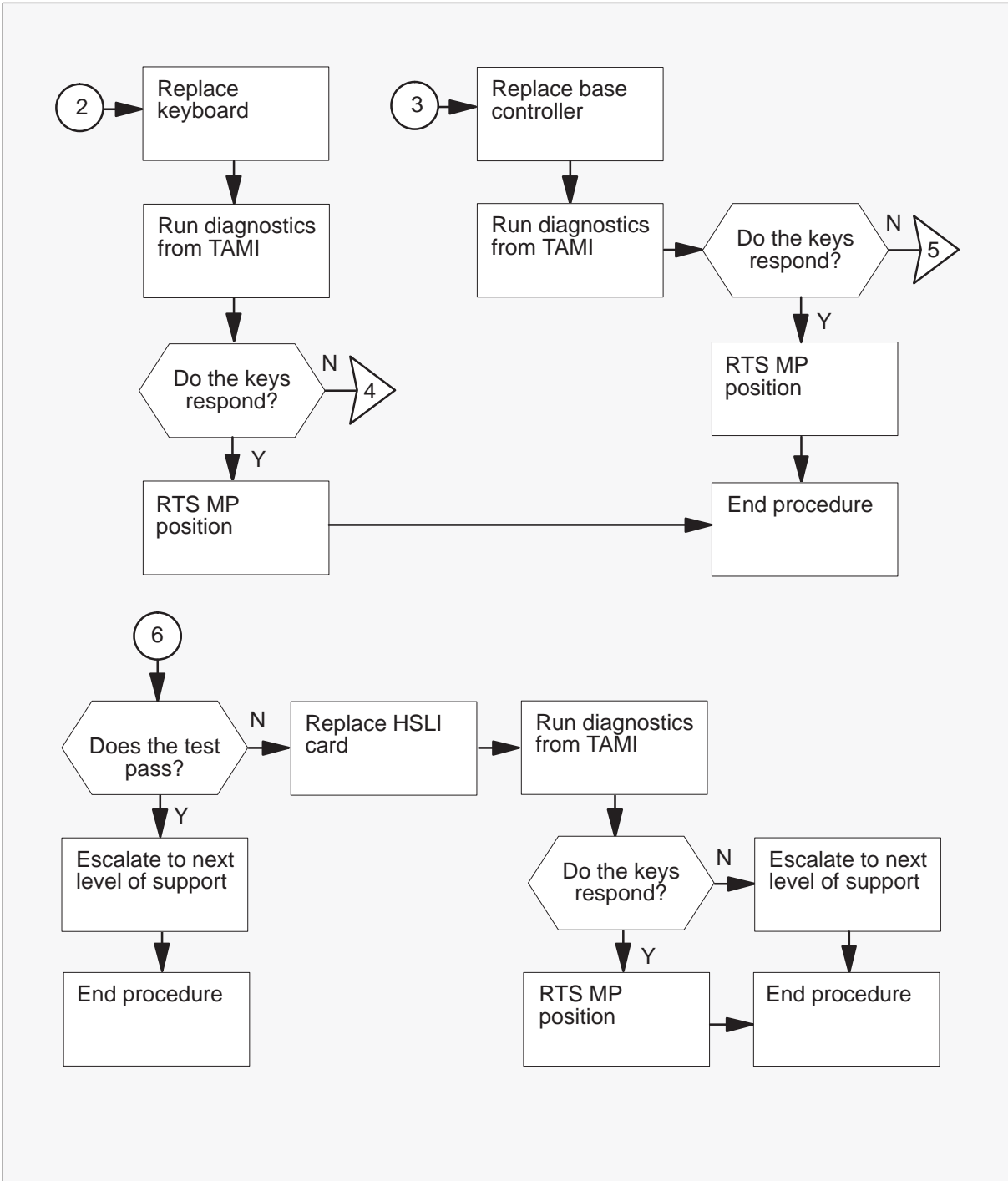
- Removing the MP position from service (integrated)
- Placing the MP position in service (integrated)

Action

This procedure contains a flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

TOPS MP Operator complaint (integrated) Clearing MP keyboard trouble (continued)

Summary of clearing MP keyboard trouble (continued)



TOPS MP Operator complaint (integrated)

Clearing MP keyboard trouble (continued)

Clearing the MP keyboard trouble

At your current position

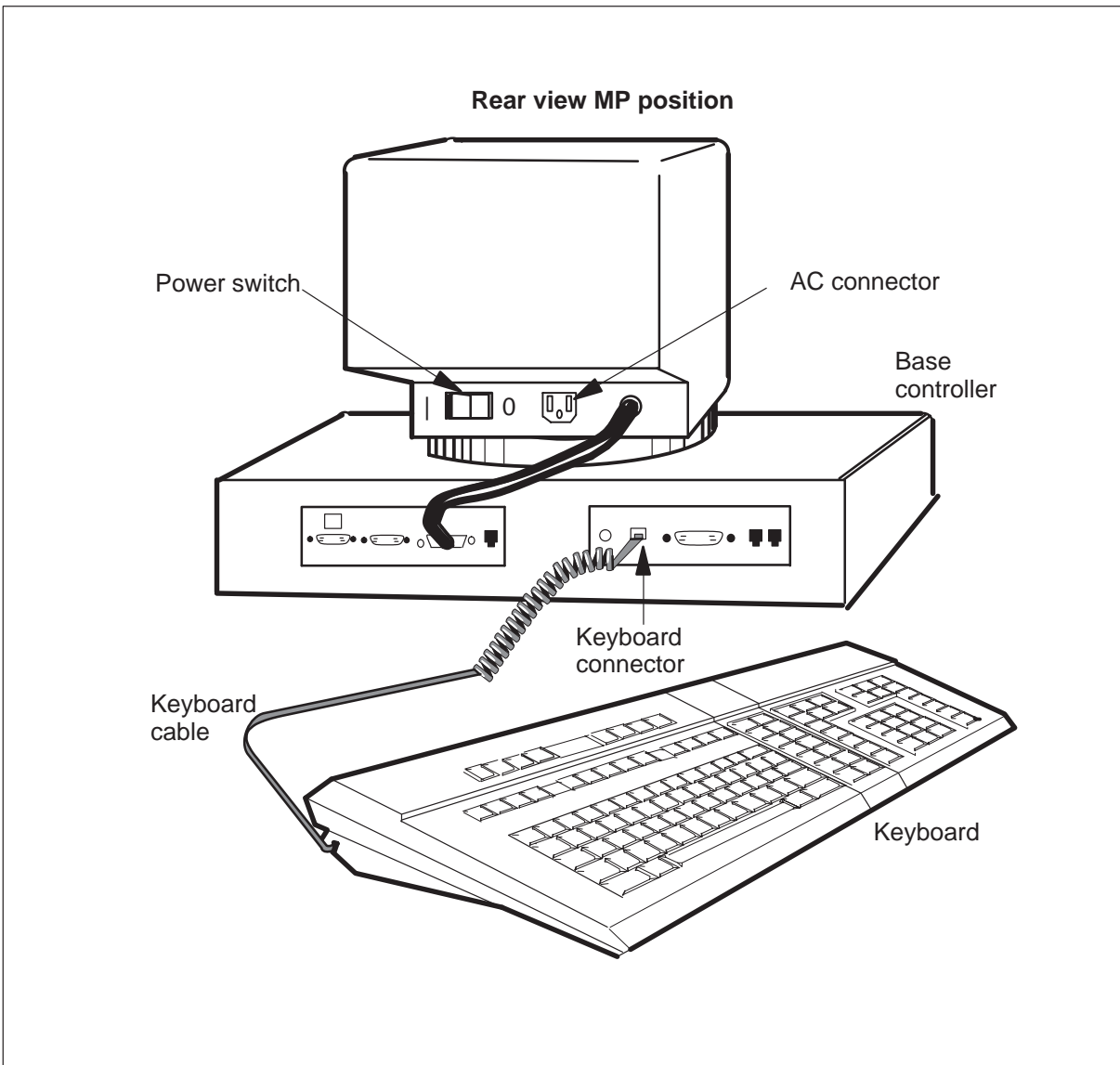
- 1 Perform the common procedure *Removing the MP position from service (integrated)*.
- 2 Perform the common procedure *Placing MP position from service (integrated)*.
- 3 Test the keyboard to determine if the keys respond.

If the keys	Do
respond	step 30
do not respond	step 4

TOPS MP Operator complaint (integrated) Clearing MP keyboard trouble (continued)

At the affected MP position

- 4 Secure the MP keyboard cable to the base controller.



TOPS MP Operator complaint (integrated) Clearing MP keyboard trouble (continued)

- 5 Test the keyboard again to determine if the keys respond.

If the keys	Do
respond	step 30
do not respond	step 6

- 6 Perform the common procedure *Removing the MP position from service (integrated)*.
- 7 Replace the keyboard cable.
- 8 Perform the common procedure *Placing the MP position from service (integrated)*.
- 9 Test the keyboard again to determine if the keys respond.

If the keys	Do
respond	step 30
do not respond	step 10

- 10 Perform the common procedure *Removing the MP position from service (integrated)*.

Note: Remove from service all of the positions associated with the TPC.

At the TPC

- 11 Insert the Diagnostic Boot floppy drive of the TPC and push the lever to lock the floppy diskette in place.

Note: Make sure the edge with the notch is at the top and the label faces the hard disk.

TOPS MP Operator complaint (integrated) Clearing MP keyboard trouble (continued)

12



CAUTION

Service interruption

The reset switch will take all MP positions associated with the TPC out of service. At the end of this procedure, make sure you return all MP positions associated with this TPC to service.

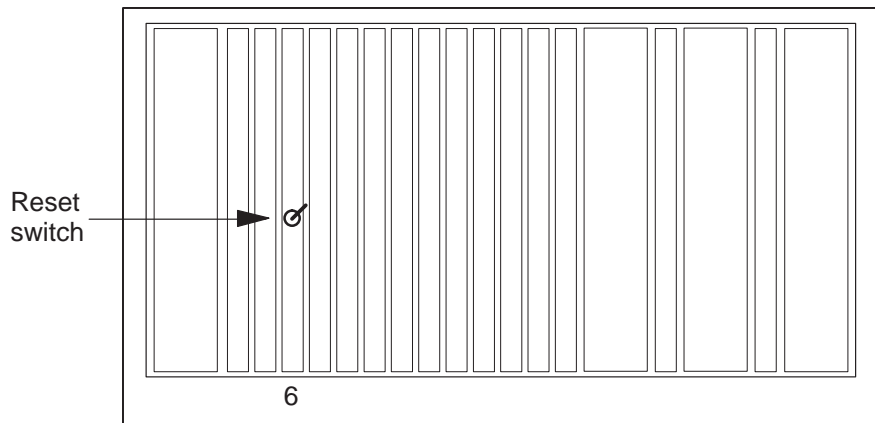


CAUTION

Service interruption

The reset switch will take all MP positions associated with the TPC out of service. At the end of this procedure, make sure you return all MP positions associated with this TPC to service.

To reset the TPC, move the switch on the SBC card in slot 6 down, return the switch to the up position.



TPC packfill SBC card

- 13 Remove the Diagnostic Boot floppy and insert the Diagnostic Run floppy. Leave the Diagnostic Run floppy in the disk drive unit. The system will indicate when to remove the disk.

At the TAMI

- 14 To run the diagnostic test on the keyboard, type:

>POSDIAG n MANKEY
and press the Enter key.

TOPS MP Operator complaint (integrated) Clearing MP keyboard trouble (continued)

where

n is the position number (0, 1,2, or 3)

- 15 Press every key on the MP keyboard. Verify that the system highlights the keys on the MP display. Follow the prompts to exit the diagnostic.

If	Do
test passes	step 19
any key fails	step 16

- 16 Replace the keyboard. Refer to *Card Replacement Procedures* and return to this point.

- 17 To run the diagnostic test on the keyboard, type:

>POSDIAG n MANKEY
and press the Enter key.

where

n is the position number (0, 1,2, or 3)

- 18 Press every key on the MP keyboard. Verify that the system highlights the keys on the MP display. Follow the prompts to exit the diagnostic.

If	Do
test passes	step 29
any key fails	step 19

- 19 To access the PM level of the MAP, use the procedure that follows:

- a. Enter

>MAPCI;MTC;PM;POST TPC x
and press the Enter key.

where

x is the TPC number

- b. Enter

>MP;POST P n
and press the Enter key.

**TOPS MP Operator complaint (integrated)
Clearing MP keyboard trouble (continued)**

where

n is the MP position number (0, 1, 2, or 3)

- 20 To run the terminal controller test from the MAP, type:

>TST TERM

and press the Enter key.

If test	Do
passes	step 24
fails	step 21

- 21 Replace the position base. Refer to *Card Replacement Procedures* and return to this point.

At the TAMI

- 22 To run the diagnostic test on the keyboard, type:

>POSDIAG n MANKEY

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3)

- 23 Press every key on the MP keyboard. Verify that the system highlights the keys on the MP display. Follow the prompts to exit the diagnostic.

If the keys	Do
respond	step 29
do not respond	step 24

TOPS MP Operator complaint (integrated) Clearing MP keyboard trouble (end)

At the MAP

24 To run the HSLI test, type:

>TST HSLI

and press the Enter key.

>QUIT ALL

and press the Enter key.

If test	Do
passes	step 28
fails	step 25

25 Replace the HSLI card. Refer to *Card Replacement Procedures* and return to this point.

At the TAMI

26 To run the diagnostic test on the keyboard, type:

>POSDIAG n MANKEY

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3)

27 Press every key on the MP keyboard. Verify that the system highlights the keys on the MP display. Follow the prompts to exit the diagnostic.

If keys	Do
respond	step 29
do not respond	step 28

28 For additional help, contact the next level of support.

29 Perform the common procedure *Placing the MP position in service (integrated)*.

Note: Return to service all of the positions associated with the TPC.

30 The procedure is complete.

TOPS MP Operator complaint (standalone) Clearing MP keyboard trouble

Application

Use this Clearing MP keyboard trouble procedure to clear Traffic Operator Position System (TOPS) Multipurpose (MP) keyboard trouble.

Definition

Operators submit this trouble after the operators experience problems with a keyboard.

Common procedures

The following common procedures are referenced:

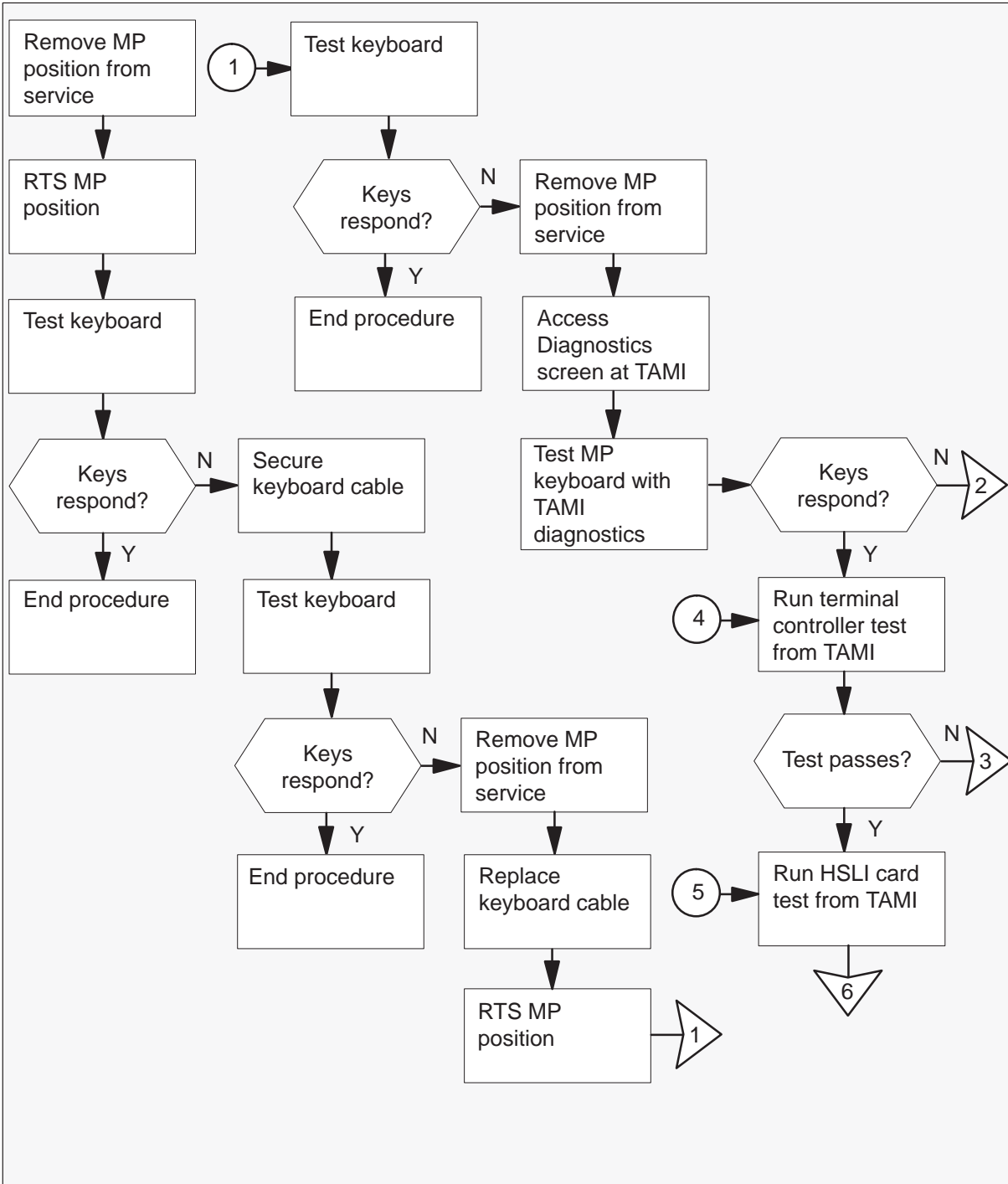
- Removing MP position from service (standalone)
- Placing MP position in service (standalone)

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart as an overview of the procedure. Use the steps to perform the procedure.

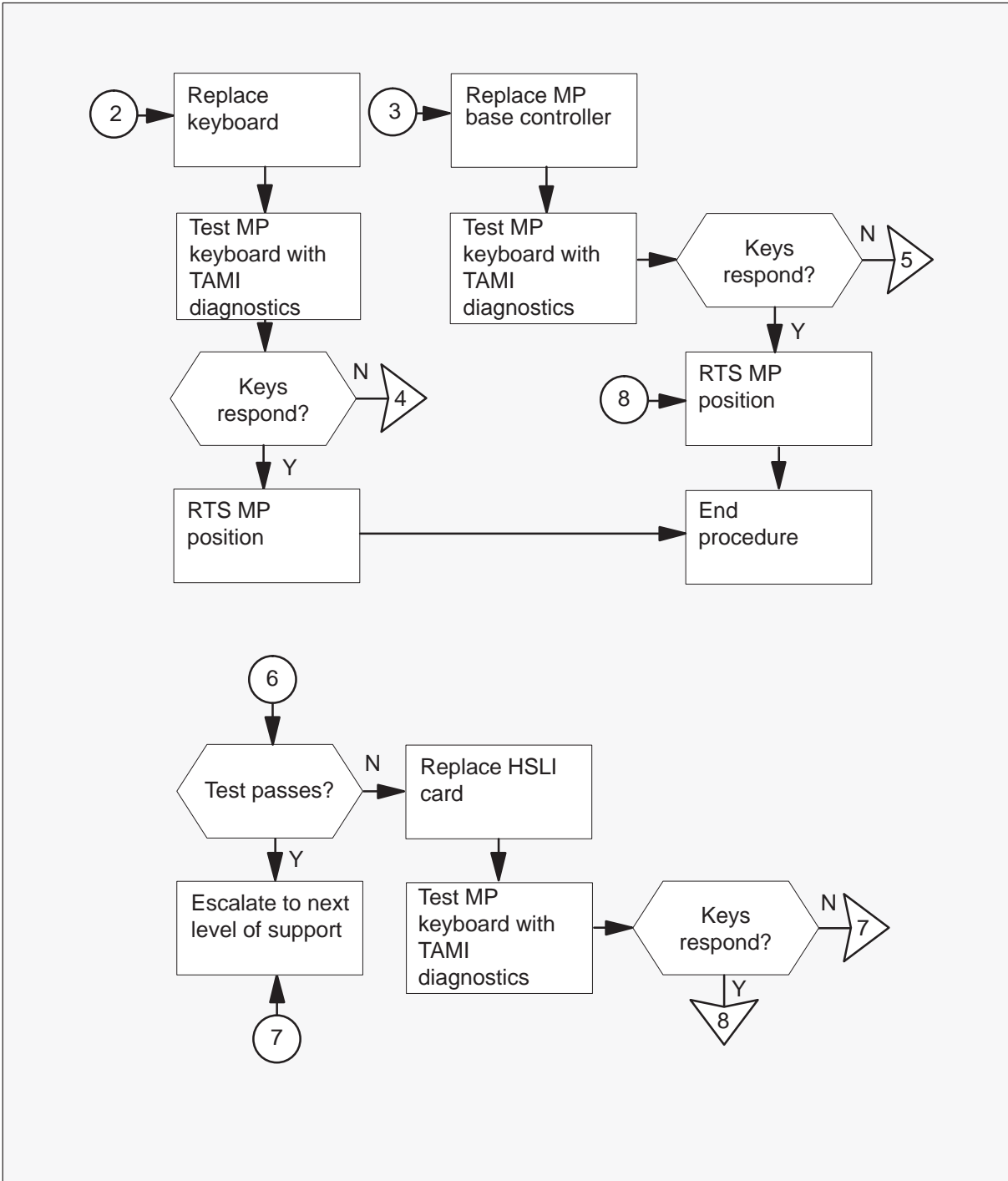
TOPS MP Operator complaint (standalone)
Clearing MP keyboard trouble (continued)

Summary of Clearing MP keyboard trouble



TOPS MP Operator complaint (standalone) Clearing MP keyboard trouble (continued)

Summary of Clearing MP keyboard trouble (continued)



TOPS MP Operator complaint (standalone)

Clearing MP keyboard trouble (continued)

Clearing MP keyboard trouble

At your current location

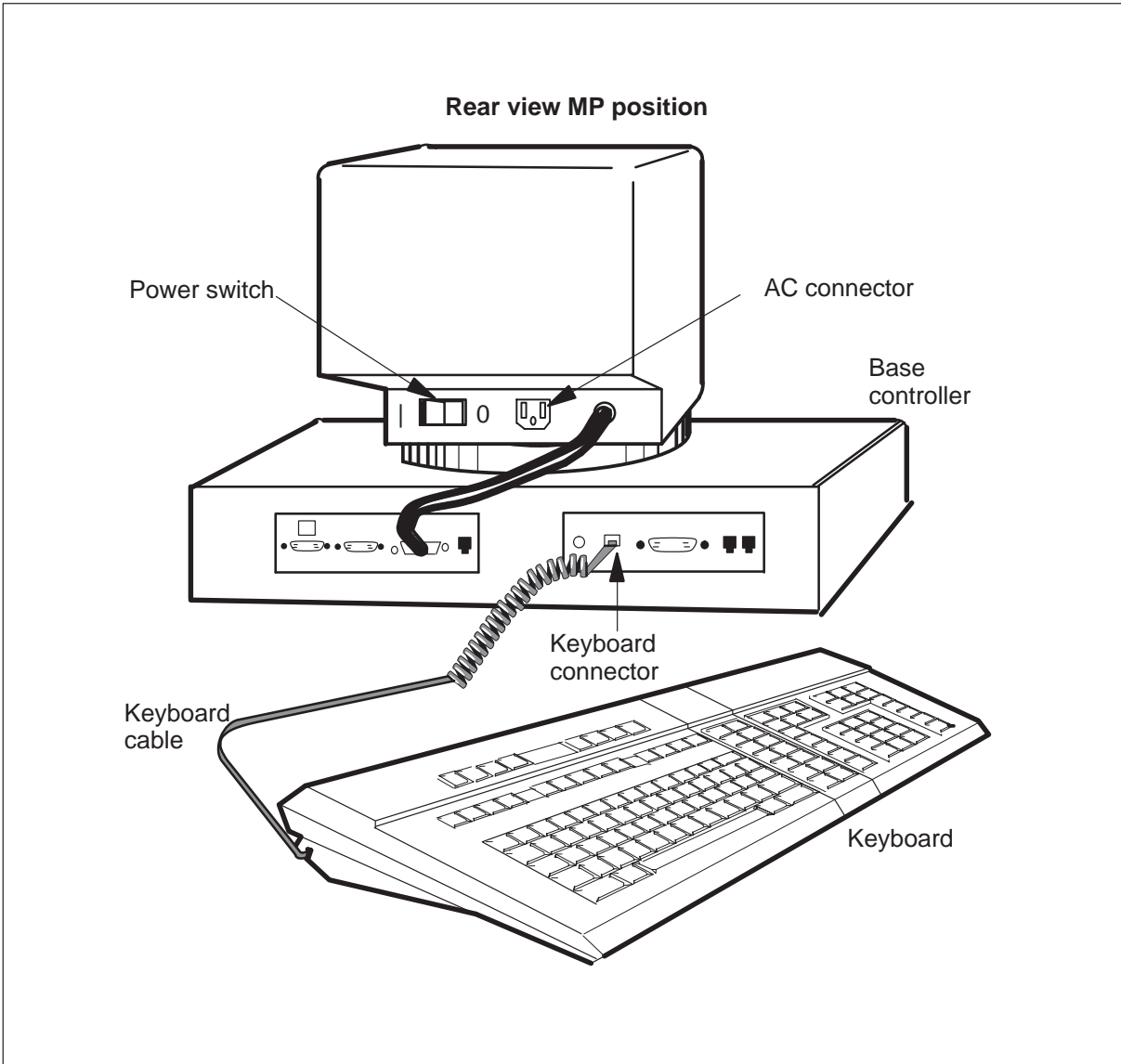
- 1 Perform the common procedure *Removing MP position from service (standalone)*.
- 2 Perform the common procedure *Placing MP position from service (standalone)*.
- 3 Test to see if the keys respond on the keyboard.

If the keys	Do
respond	step 27
do not respond	step 4

TOPS MP Operator complaint (standalone) Clearing MP keyboard trouble (continued)

At the affected MP position

- 4 Secure the MP keyboard cable to the base controller.



TOPS MP Operator complaint (standalone) Clearing MP keyboard trouble (continued)

- 5 Test again to see if the keys respond on the keyboard..

If the keys	Do
respond	step 27
do not respond	step 6

- 6 Perform the common procedure *Removing MP position from service (standalone)* in this document.
- 7 Replace the keyboard cable.
- 8 Perform the common procedure *Placing MP position from service (standalone)*.
- 9 Test again to see if the keys respond on the keyboard.

If the keys	Do
respond	step 27
do not respond	step 10

- 10 Perform the common procedure *Removing MP position from service (standalone)*.

At the TAMI

- 11 To access the Diagnostics screen from the TAMI main menu, enter:
>5
and press the Enter key.

TAMI response

Enter TPC Diagnostics command:

- 12 To run the diagnostic test on the keyboard, enter:

>POSDIAG n MANKEY
and press the Enter key.

where

n is the position number (0, 1,2, or 3)

Note: The user can only select ManB positions.

TOPS MP Operator complaint (standalone) Clearing MP keyboard trouble (continued)

- 13 Press every key on the MP keyboard and check that the keys are highlighted on the MP display. Follow the prompts to exit the diagnostic.

If	Do
test passes	step 17
any key fails	step 14

- 14 Replace the keyboard. Refer to *Card Replacement Procedures* and return to this point.

At the TAMI

- 15 To run the MP manual keyboard test, enter:

>POSDIAG n MANKEY
and press the Enter key.

where

n is the position number (0, 1,2, or 3)

Note: The user can only select ManB positions.

- 16 Press every key on the MP keyboard and check that the keys are highlighted on the MP display. Follow the prompts to exit the diagnostic.

If	Do
test passes	step 26
any key fails	step 17

- 17 To run the terminal controller test from the Diagnostics screen of the TAMI, enter:

>POSDIAG n TCD
and press the Enter key.

where

n is the position number (0, 1,2, or 3)

TOPS MP Operator complaint (standalone) Clearing MP keyboard trouble (continued)

If test	Do
passes	step 21
fails	step 18

- 18 Replace the MP position base. Refer to *Card Replacement Procedures* and return to this point.

At the TAMI

- 19 To run the MP manual keyboard test, enter:

>POSDIAG n MANKEY
and press the Enter key.

where

n is the position number (0, 1,2, or 3)

Note: The user can only select ManB positions.

- 20 Press every key on the MP keyboard and check that the keys are highlighted on the MP display. Follow the prompts to exit the diagnostic.

If test	Do
passes	step 26
fails	step 21

- 21 To run the HSLI card test from the Diagnostics screen of the TAMI, enter:

>POSDIAG n CARD
and press the Enter key.

where

n is the position number (0, 1,2, or 3)

TOPS MP Operator complaint (standalone) Clearing MP keyboard trouble (continued)

TAMI response

```

Performing ROM Terminal Component Diagnostic...
Performing CPU Terminal Component Diagnostic...
Performing Exceptions Terminal Component Diagnostic...
Performing RAM Terminal Component Diagnostic...
Performing HSLI Port Terminal Component Diagnostic...
Performing UART Terminal Component Diagnostic...
Performing Keyboard Terminal Component Diagnostic...
Performing Telephony Terminal Component Diagnostic.
    
```

If test	Do
passes	step 25
fails	step 22

- 22** Replace the HSLI card. Refer to *Card Replacement Procedures* and return to this point.

At the TAMI

- 23** To run the MP manual keyboard test, enter:

```

>POSDIAG n MANKEY
    
```

and press the Enter key.

where

n is the MAP position number (0, 1,2, or 3)

Note: The user can only select ManB positions.

- 24** Press every key on the MP keyboard and check that the keys are highlighted on the MP display. Follow the prompts to exit the diagnostic.

If keys	Do
respond	step 26
do not respond	step 25

- 25** Contact the next level of support for more help.
- 26** Perform the common procedure *Placing MP position from service (standalone)*.

TOPS MP Operator complaint (standalone)
Clearing MP keyboard trouble (end)

Note: Make sure you return all positions associated with the TPC to service.

27 You have completed this procedure.

TOPS MP Operator complaint (standalone) Clearing screen trouble

Application

Use this procedure to repair Traffic Operator Position System (TOPS) Multipurpose (MP) screen trouble.

Definition

An operator submits TOPS MP screen trouble when the MP position screen is dark. Press the spacebar to make sure the screen saver is not on before use of this procedure.

Common procedures

Refer to the following common procedures:

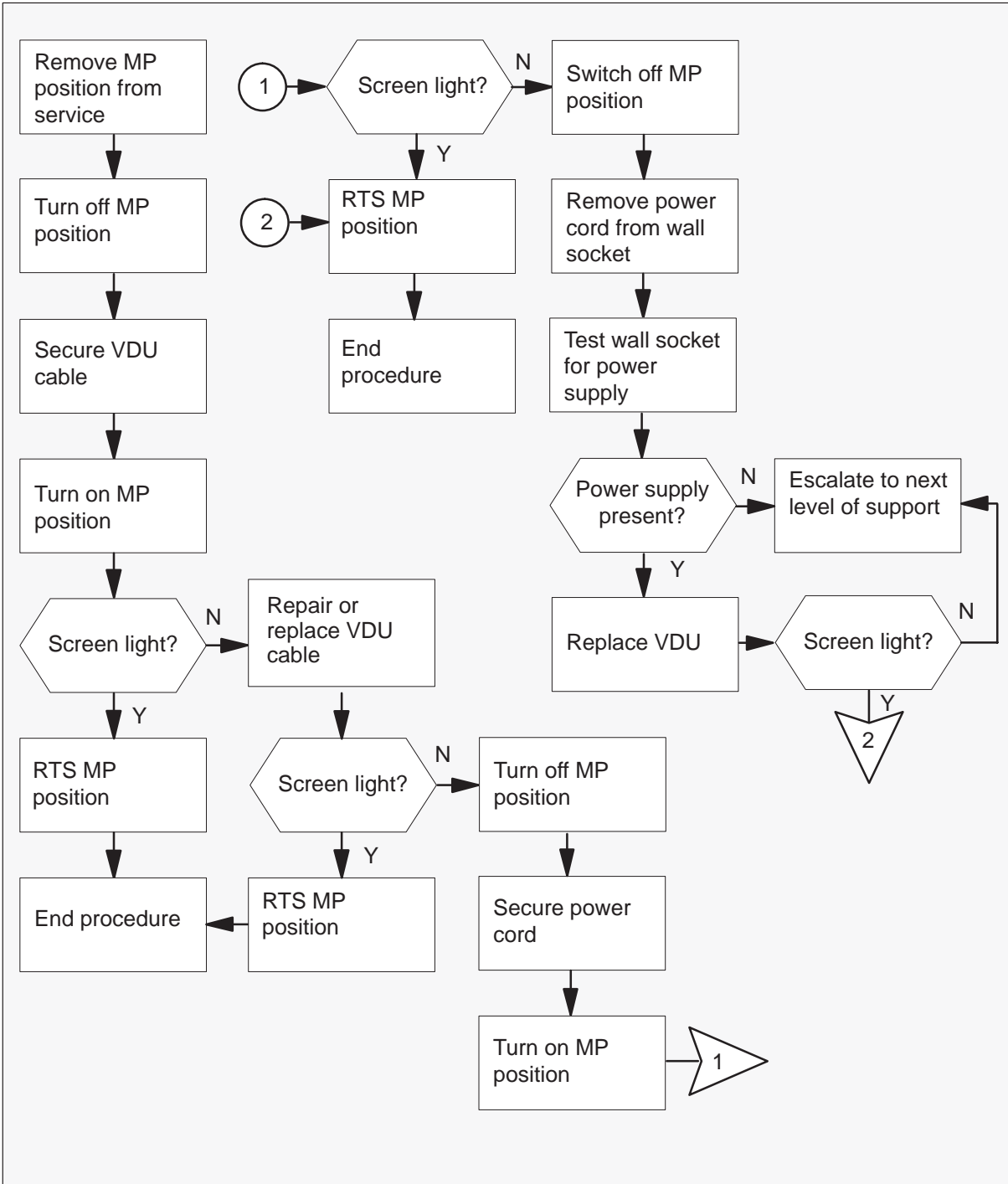
- Placing an MP position in service (standalone)
- Removing an MP position from service (standalone)

Action

This procedure contains a flowchart and a list of steps. Use this flowchart to review this procedure. Follow the steps to perform this procedure.

TOPS MP Operator complaint (standalone) Clearing screen trouble (continued)

Summary of clearing screen trouble TOPS MP Operator complaint (standalone)

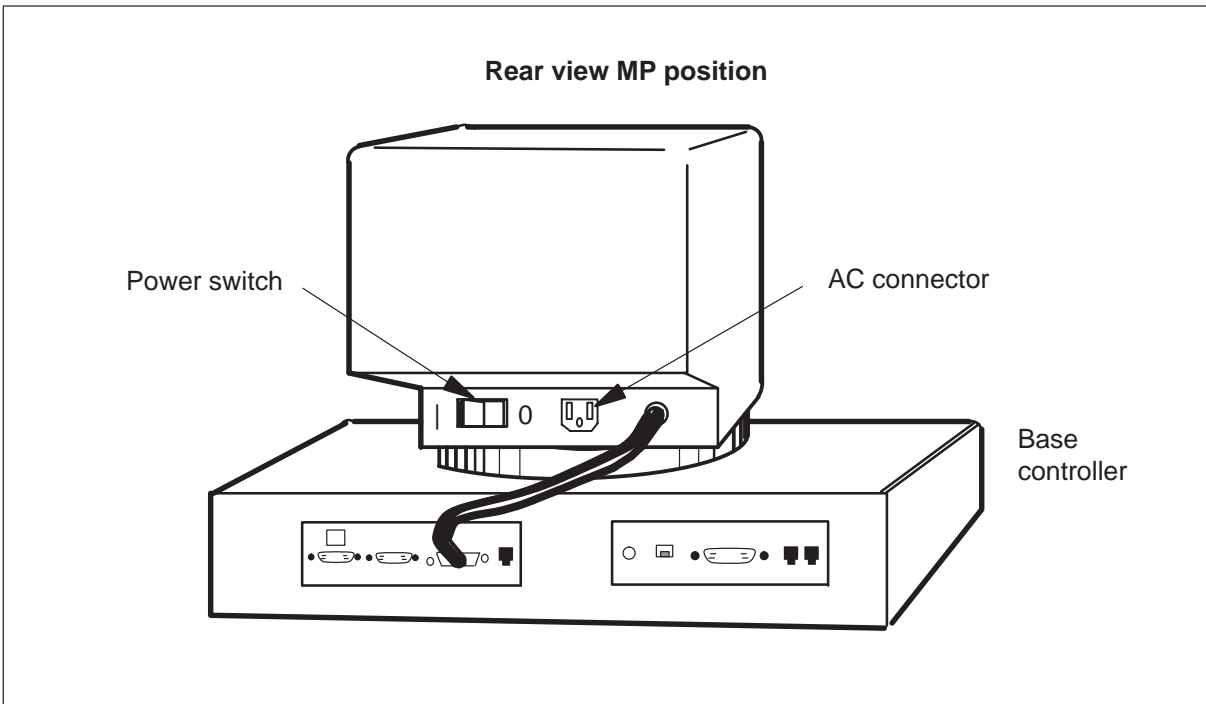


TOPS MP Operator complaint (standalone) Clearing screen trouble (continued)

Clearing screen trouble TOPS MP Operator complaint (standalone)

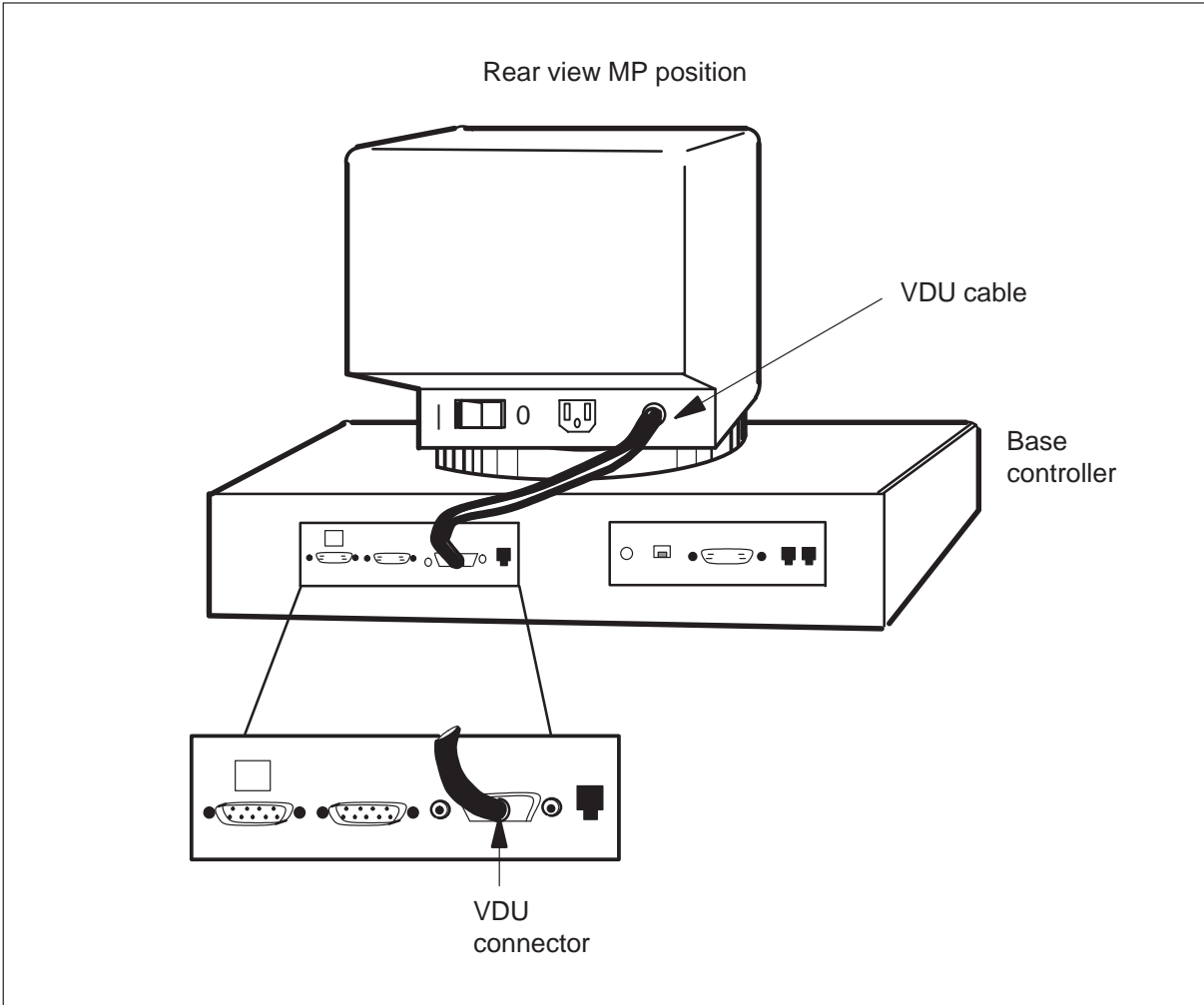
At your current location

- 1 Perform the common procedure *Removing an MP position from service (standalone)*.
- 2 To turn off the MP position, move the power switch on the MP VDU to the off (0) position.



TOPS MP Operator complaint (standalone) Clearing screen trouble (continued)

- 3 Secure the MP VDU cable to the base controller.



- 4 To turn on the MP position, move the power switch on the MP VDU to the on (I) position. Refer to the figure in step 2.

If the VDU screen	Do
lights	step 14
stays dark	step 5

**TOPS MP Operator complaint (standalone)
Clearing screen trouble (continued)**

- 5 Repair or replace the MP VDU cable. Refer to the figure in step 3.

If the VDU screen	Do
lights	step 14
stays dark	step 6

- 6 Turn off the MP position.
- 7 Secure the MP VDU power cord to the AC connector. Refer to the figure in step 2.
- 8 Turn on the MP position.

If the VDU screen	Do
lights	step 14
stays dark	step 9

- 9 Turn off the MP position.
- 10 Remove the MP VDU power cord from the wall socket.
- 11 Test the wall socket for power supply.

If power is	Do
present	step 12
not present	step 13

- 12 Replace MP VDU. Refer to *Card Replacement Procedures* and return to this point.

If the VDU screen	Do
lights	step 14
stays dark	step 13

TOPS MP Operator complaint (standalone)
Clearing screen trouble (end)

- 13 For additional help, contact the next level of support.
- 14 Perform the common procedure *Placing an MP position in service (standalone)*.
- 15 This procedure is complete.

TOPS MP Operator complaint (standalone/integrated) Clearing ORDB access trouble

Application

Use this Clearing operator reference database (ORDB) access trouble procedure when the high speed data access (HSDA) card has faults. Use this procedure if you must replace the HSDA card.

Definition

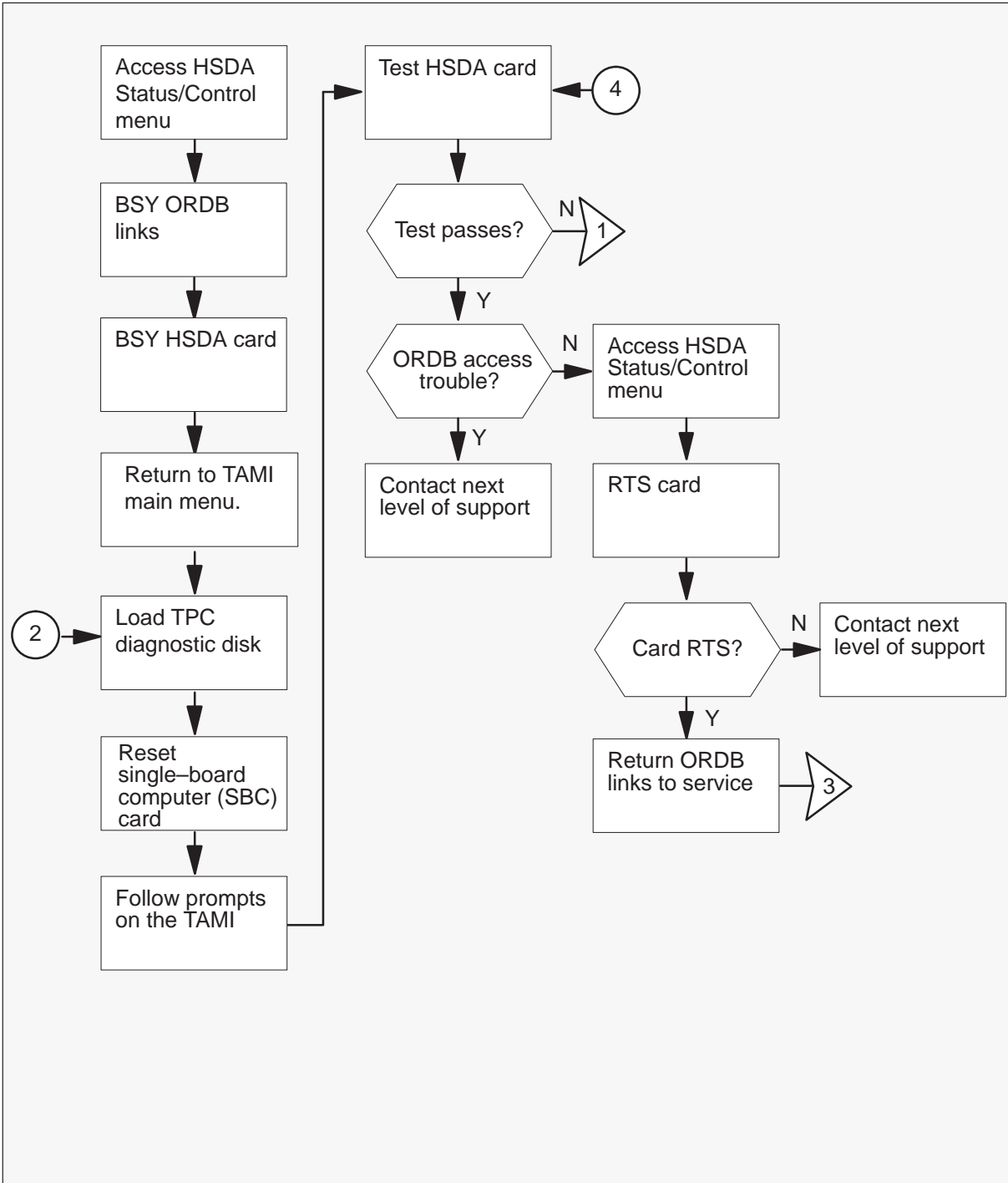
An operator submits ORDB access trouble after NO ORDB appears on the TOPS multipurpose (MP) position screen.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

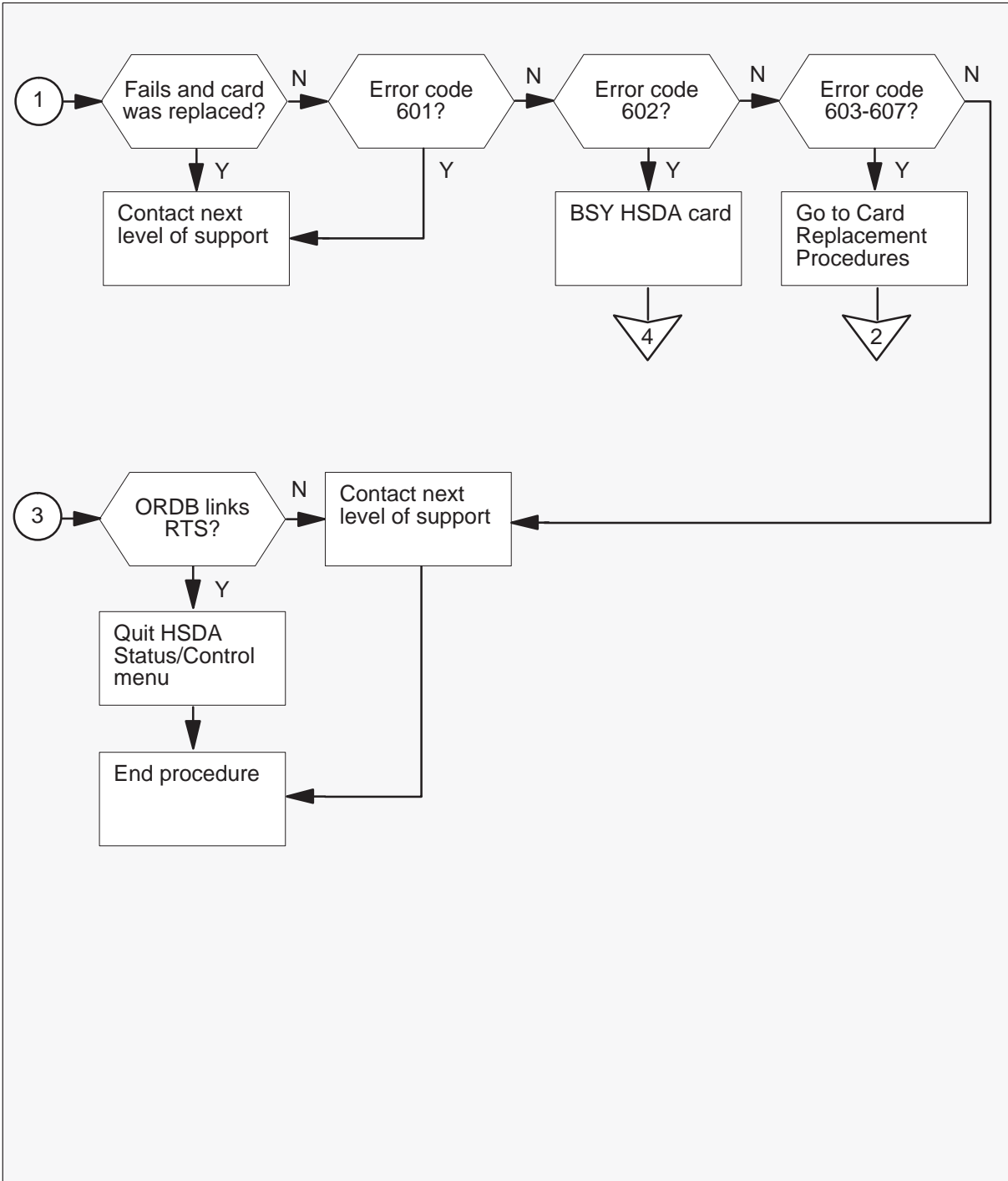
TOPS MP Operator complaint (standalone/integrated)
Clearing ORDB access trouble (continued)

Summary of clearing ORDB access trouble



TOPS MP Operator complaint (standalone/integrated) Clearing ORDB access trouble (continued)

Summary of clearing ORDB access trouble (continued)



TOPS MP Operator complaint (standalone/integrated) Clearing ORDB access trouble (continued)

Clearing ORDB access trouble

At the TAMI

- 1 To access the HSDA Status/Control menu from TAMI main menu type:
>3
press the Enter key.

Example of TAMI Response

```

                                     HSDA STATUS/CONTROL
                                     for card 1
1. Bsy Card                          5. Bsy Link
2. RTS Card                           6. RTS Link
3. OffL Card                          7. OffL Link
4. Frls Card                          8. Next Card

CARD STATUS  CARD SUBSTATUS  APPLID      LINK 0 STATUS  LINK 0 STATUS
InSv         Comact         HSDA3386   InSv           InSv

MAKE CHOICE:
```

Note: If in stand alone arrangement, enter selection 8 (Next Card) before this step. This action causes card 0 status to display.

- 2 To busy the ORDB links, use the following procedure:
 - a. Type
>5
press the Enter key.
where
5 is BSY link
 - b. Type
>0
press the Enter key.
where
0 is the link number

TOPS MP Operator complaint (standalone/integrated) Clearing ORDB access trouble (continued)

- c. Type
>5
 press the Enter key.
where
 5 is BSY link

- d. Type
>1
 press the Enter key.
where
 1 is the link number

Example of TAMI Response

CARD STATUS	CARD SUBSTATUS	APPLID	LINK 0 STATUS	LINK 0 STATUS
InSv	Comact	HSDA3386	ManB	ManB

- 3 To busy the HSDA card, type:

>1
 press the Enter key.

Example of TAMI Response

CARD STATUS	CARD SUBSTATUS	APPLID	LINK 0 STATUS	LINK 0 STATUS
ManB	Comact	HSDA3386	ManB	ManB

- 4 To return to the TAMI main menu, press the PF3 key one time.

At the TPC

- 5 To test the HSDA card, load the diskette in the disk drive of the TPC. Insert the Diagnostic Boot diskette in the disk drive of the TPC. Push the lever to lock the diskette in place.

Note: Make sure the edge that has notches is at the top and the label faces the hard disk.

TOPS MP Operator complaint (standalone/integrated) Clearing ORDB access trouble (continued)

6



CAUTION

Service interruption

Use of the reset switch takes all MP positions associated with the TPC out of service. Make sure you return to service all MP positions associated with this TPC at the end of the procedure.

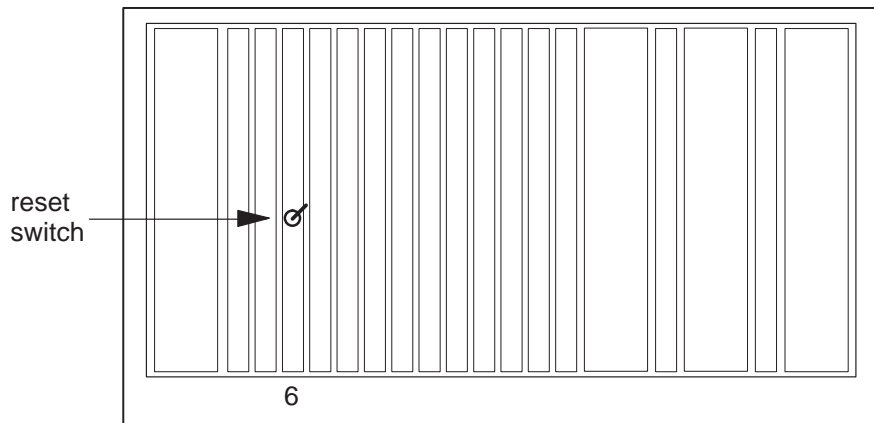


CAUTION

Service interruption

Use of the reset switch takes all MP positions associated with the TPC out of service. Make sure you return to service all MP positions associated with this TPC at the end of the procedure.

To set the TPC again, move the switch on the SBC card in slot 6 to the down position. Return the switch to the up position.



TPC packfill SBC card

- 7 Remove the Diagnostic Boot diskette and insert the Diagnostic Run diskette. Leave the Diagnostic Run diskette in the disk drive until the system requests you to remove it.

**TOPS MP Operator complaint (standalone/integrated)
Clearing ORDB access trouble (continued)**

- 8 To run the diagnostic test on the HSDA card type:

>HSDADIAG n

press the Enter key.

where

n is the card number

Example of TAMI Response

```
Performing Basic HSDA Diagnostic (Circuit Pack Reset)
Performing Basic HSDA Diagnostic (Query Status)...
Performing Basic HSDA Diagnostic (SBC-HSDA Loopback)...
Performing Extensive HSDA Diagnostic (System Memory, this
is long test)
Performing Extensive HSDA Diagnostic (Timers and
Interrupts)
Performing Extensive HSDA Diagnostic (Data Communication)
HSDA Diagnostic Passed
```

- 9 Determine if the test passes.


If test	Do
passes	step 12
passes and No ORDB displays	step 10
fails and HSDA card replaced	step 10
fails and error code is 601	step 10
fails and error code is 602	Busy the card. Perform step 8
fails and error code is 603-607	step 11

- 10 For additional help, contact the next level of support.


TOPS MP Operator complaint (standalone/integrated) Clearing ORDB access trouble (continued)

At the TPC

11



CAUTION
Service interruption
When you replace an HSDA card in the TPC, all four operator positions cannot process calls.



CAUTION
Service interruption
When you replace an HSDA card in the TPC, all four operator positions cannot process calls.

Replace the HSDA card in slot 13 (integrated) or 8 (standalone). Refer to *Card Replacement Procedures* and return to step 5.

At the TAMI

- 12 To access the HSDA Status/Control menu from the TAMI main menu, type:
>3
press the Enter key.

Example of TAMI Response

```

HSDA STATUS/CONTROL
for card 1
1. Bsy Card                5. Bsy Link
2. RTS Card                6. RTS Link
3. OffL Card               7. OffL Link
4. FrIs Card               8. Next Card

CARD STATUS  CARD SUBSTATUS  APPLID    LINK 0 STATUS  LINK 0 STATUS
ManB         Comact       HSDA3386  ManB           ManB

MAKE CHOICE :
```

Note: If in stand alone arrangement, enter selection 8 (Next Card) before this step. This action causes card 0 status to display.

**TOPS MP Operator complaint (standalone/integrated)
Clearing ORDB access trouble (continued)**

13 To return the card to service, type:

>2

press the Enter key.

where

2 is RTS

Example of TAMI Response

CARD STATUS	CARD SUBSTATUS	APPLID	LINK 0 STATUS	LINK 0 STATUS
InSv	Comact	HSDA3386	ManB	ManB

If card	Do
returns to service	step 14
does not return to service	step 10

14 To return the ORDB links to service, use the following procedure:

a. Type

>6

press the Enter key.

where

6 is RTS

b. Type

>0

press the Enter key.

where

0 is the link number

c. Type

>6

press the Enter key.

where

6 is RTS

TOPS MP Operator complaint (standalone/integrated) Clearing ORDB access trouble (end)

- d. Type
>1
press the Enter key.
where
1 is the link number

Example of TAMI Response

```
CARD STATUS  CARD SUBSTATUS  APPLID  LINK 0 STATUS  LINK 0 STATUS
InSv          Comact          HSDA3386  InSv          InSv
```

If links	Do
return to service	step 15
do not return to service	step 10

- 15** To quit the HSDA Status/Control menu, press the PF3 key.
- 16** This procedure is complete.

TOPS MP Operator complaint (standalone) Clearing position failure – cannot reboot TPC

Application

Use this procedure to clear Traffic Operator Position System (TOPS) Position Controller (TPC) reboot trouble.

Definition

An operator submits TOPS TPC reboot trouble when the operator cannot reboot the TPC. The TPC Administration and Maintenance Interface (TAMI) video display unit (VDU) displays an asterisk (*), `autobooting` or 1 meg of memory.

Common procedures

Refer to the following common procedures:

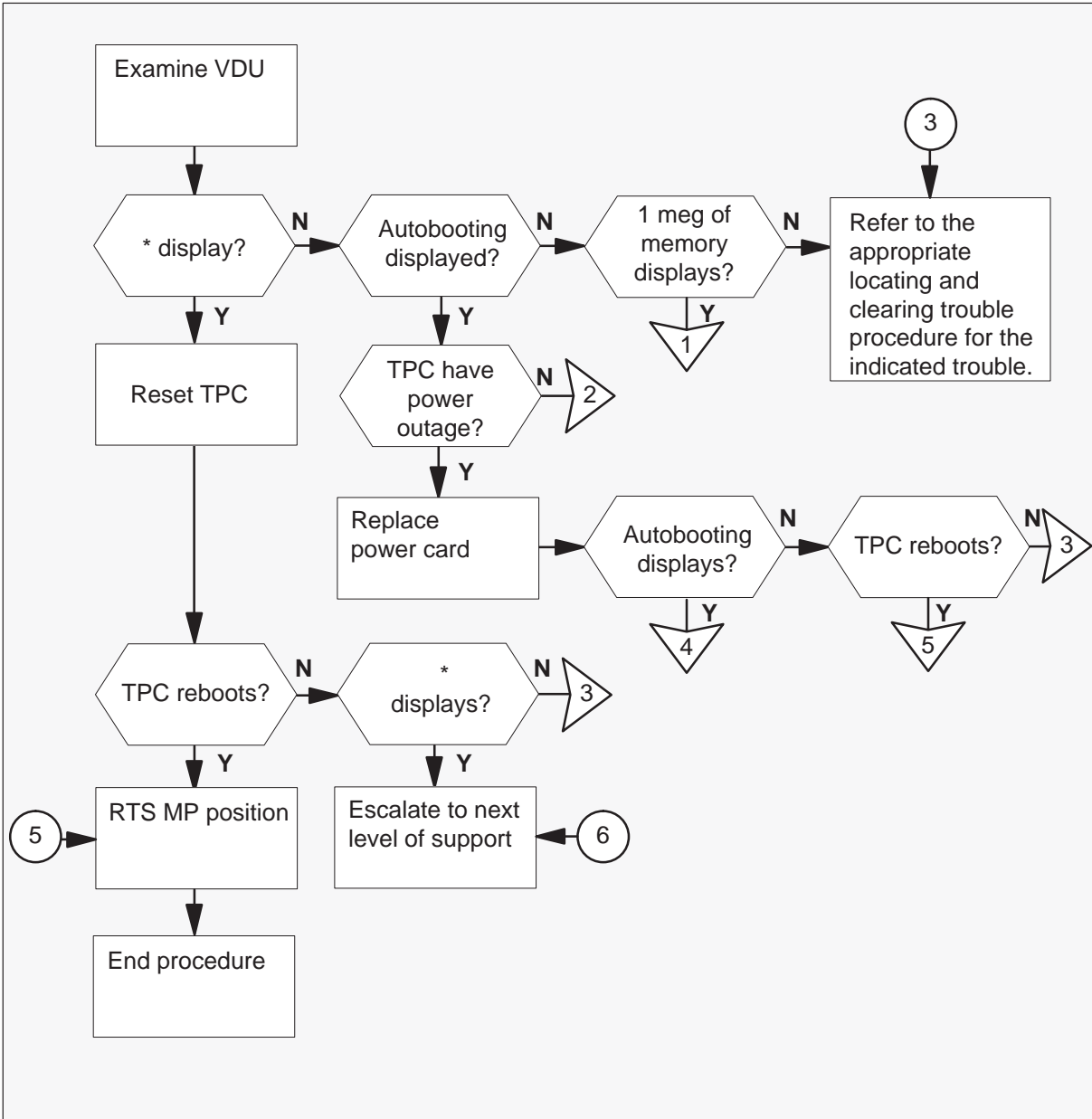
- Placing an MP position in service (standalone)
- Removing an MP position from service (standalone)

Action

This procedure contains a flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform this procedure.

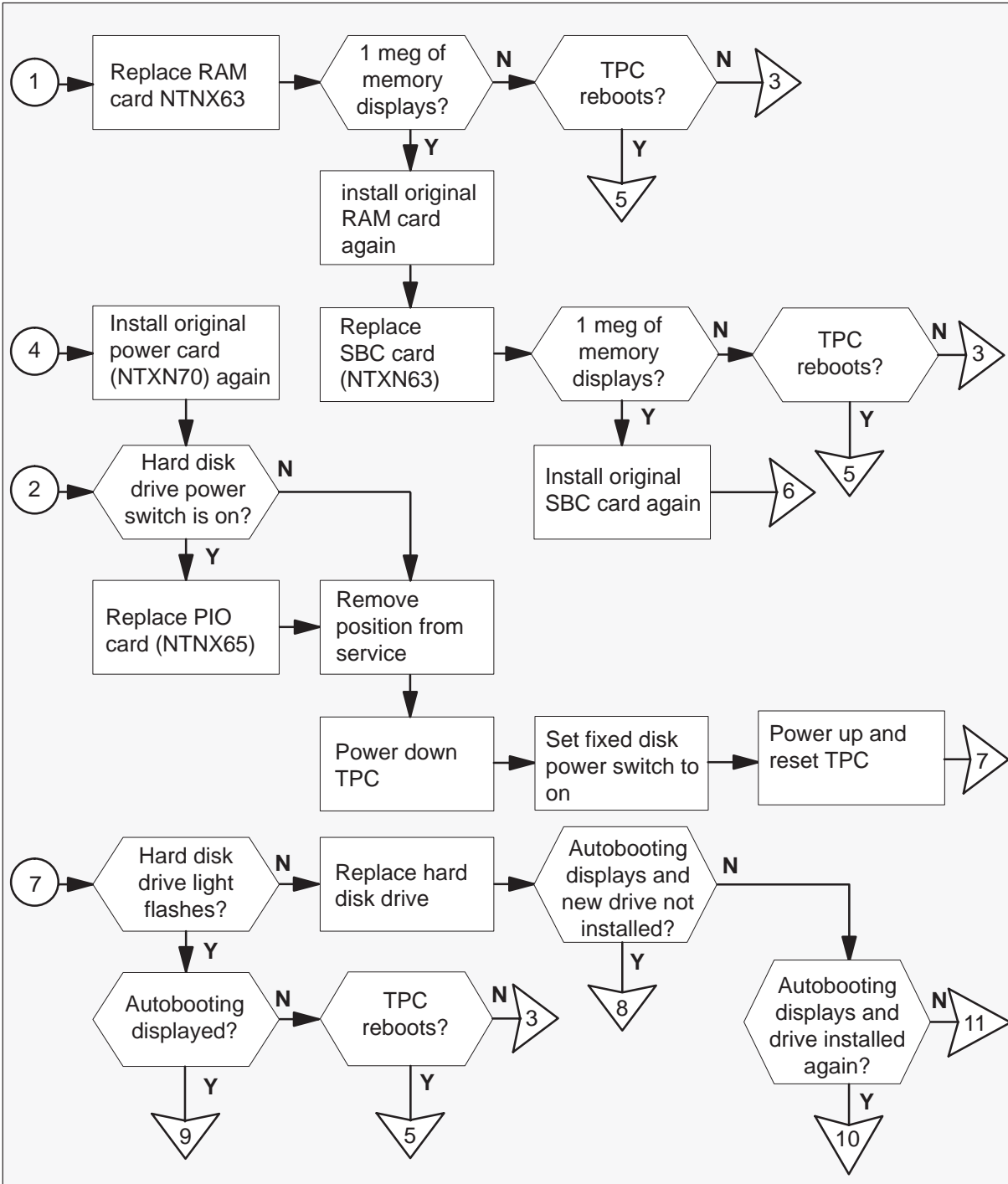
TOPS MP Operator complaint (standalone)
Clearing position failure – cannot reboot TPC (continued)

Summary of Clearing position failure – cannot reboot TPC



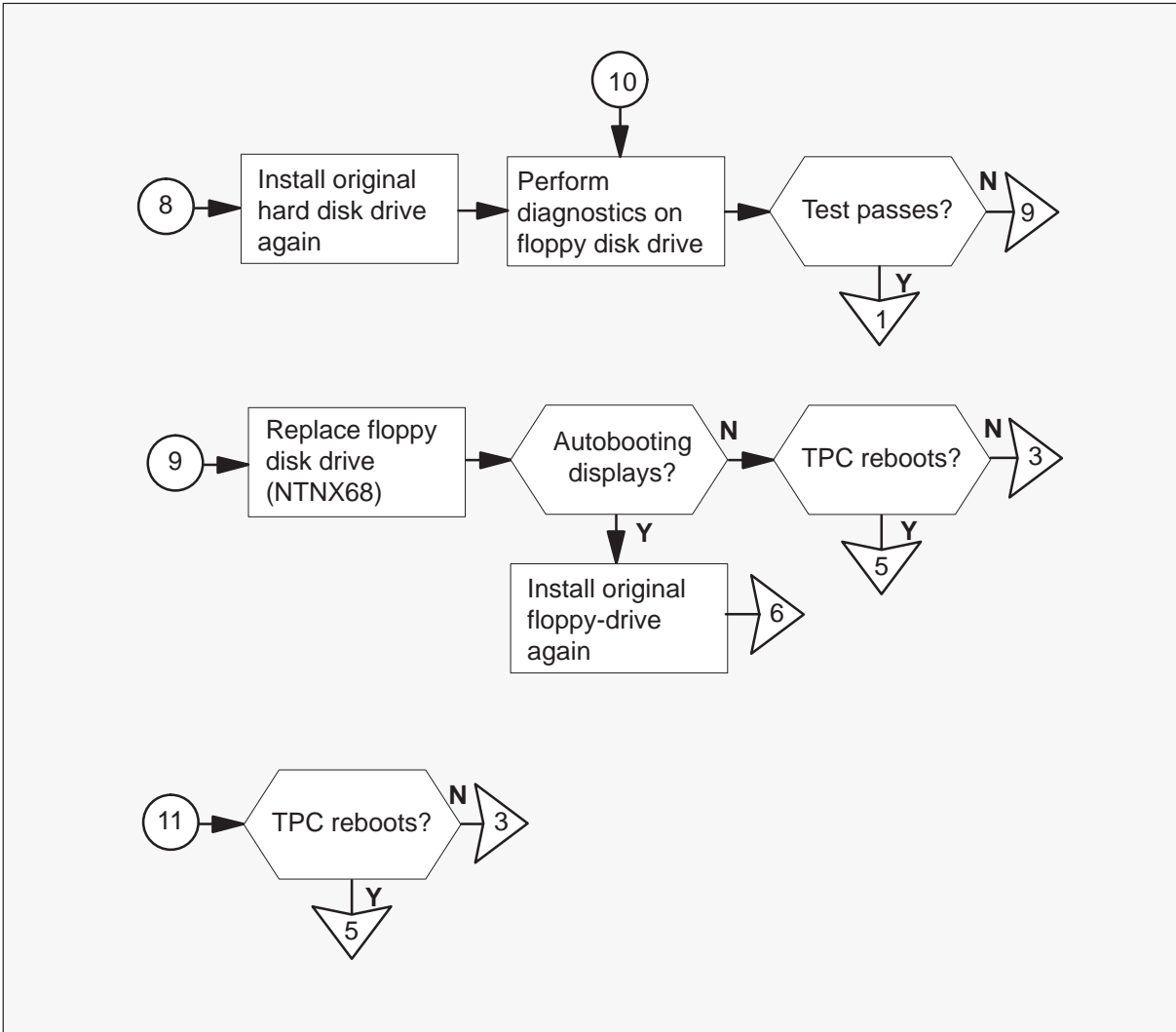
TOPS MP Operator complaint (standalone) Clearing position failure – cannot reboot TPC (continued)

Summary of Clearing position failure – cannot reboot TPC (continued)



TOPS MP Operator complaint (standalone) Clearing position failure – cannot reboot TPC (continued)

Summary of Clearing position failure – cannot reboot TPC (continued)



TOPS MP Operator complaint (standalone)
Clearing position failure – cannot reboot TPC (continued)

Clearing position failure – cannot reboot TPC

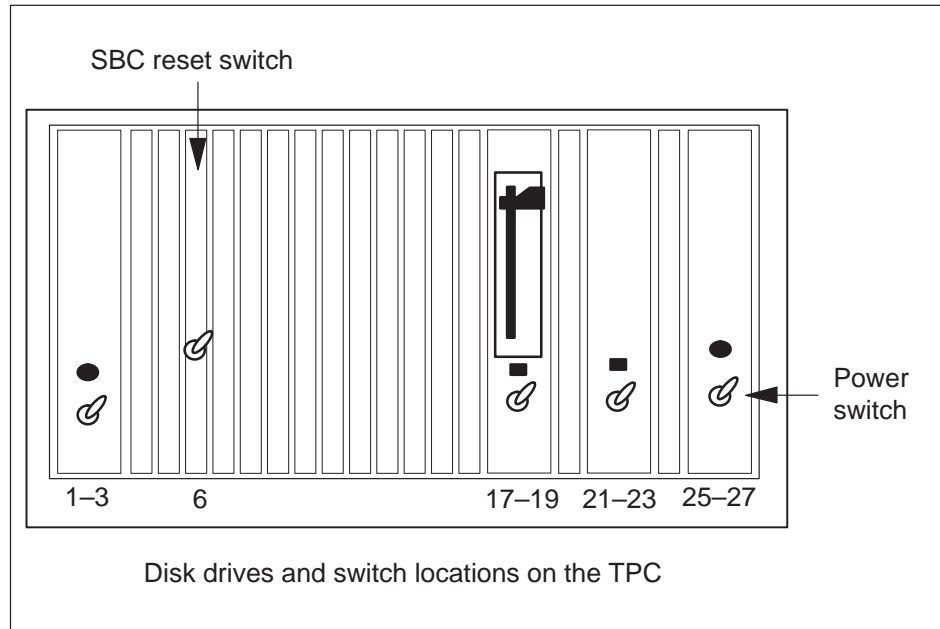
At the affected MP position

- 1 Determine the error message that appears on the MP VDU.

If the error message is	Do
an asterisk (*)	step 2
autobooting...	step 3
1 meg of memory	step 20
any other message	Refer to the correct locating and clear trouble procedure for the indicated trouble.

TOPS MP Operator complaint (standalone) Clearing position failure – cannot reboot TPC (continued)

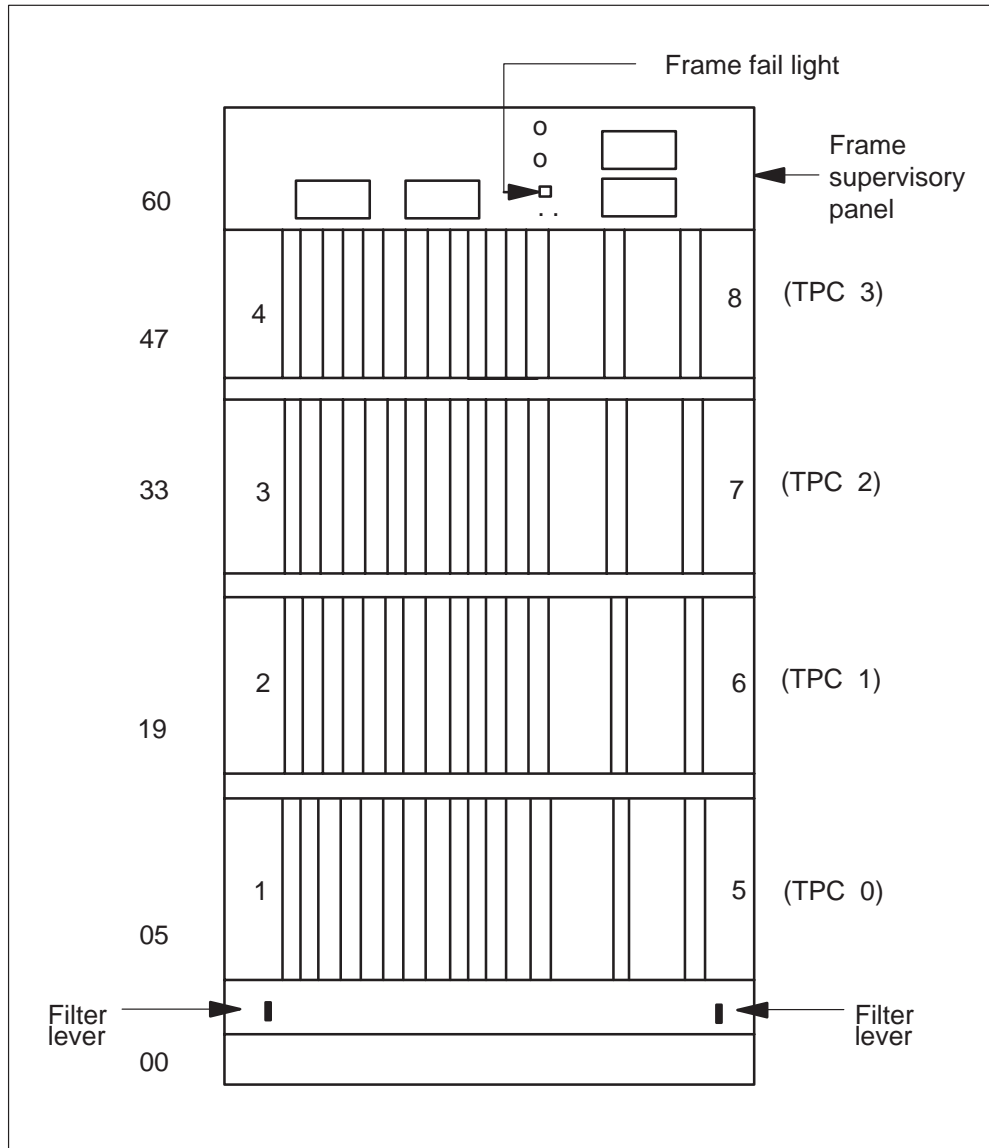
- 2 To set the TPC again, lower and lift the single-board computer (SBC) reset switch.



If	Do
the TPC reboots	step 25
the VDU displays an asterisk (*)	step 24
the VDU displays any other message	Refer to the correct locating and clear trouble procedure for the indicated trouble.

TOPS MP Operator complaint (standalone) Clearing position failure – cannot reboot TPC (continued)

- 3 To determine if the TPC has a power outage, check the frame fail light on the frame supervisory panel (FSP).



If a power outage	Do
occurs	step 4
does not occur	step 6

TOPS MP Operator complaint (standalone)
Clearing position failure – cannot reboot TPC (continued)

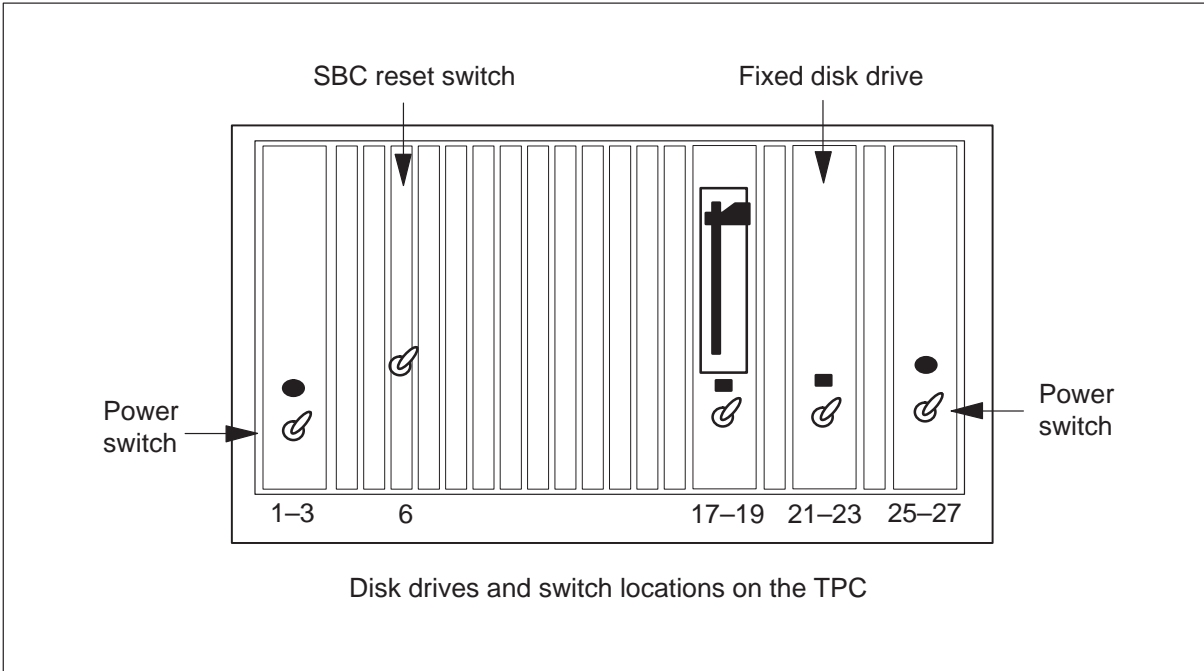
- 4 Replace the power card in slot 25. Refer to *Card Replacement Procedures* and return to this step.

If	Do
autobooting... continues to appear	step 5
the TPC reboots	step 25
any other message appears	Refer to the correct locating and clear trouble procedure for the indicated trouble.

- 5 Replace the new power card with the power card removed in step 4. Refer to *Card Replacement Procedures* and return to step 6.

TOPS MP Operator complaint (standalone) Clearing position failure – cannot reboot TPC (continued)

- 6 Determine if the hard disk drive is on.



If the hard disk drive power switch is	Do
set to the on position	step 7
set to the off position	step 9

- 7 Replace the PIO card. Refer to *Card Replacement Procedures* and return to step 8.
- 8 Perform the common procedure *Removing an MP position from service (standalone)*.

Note: Remove all MP positions for the TPC from service.

TOPS MP Operator complaint (standalone) Clearing position failure – cannot reboot TPC (continued)

9



WARNING

Equipment damage

Turn off power to the TPC when you replace cards in the TPC. If you do not turn power off, equipment damage can occur.

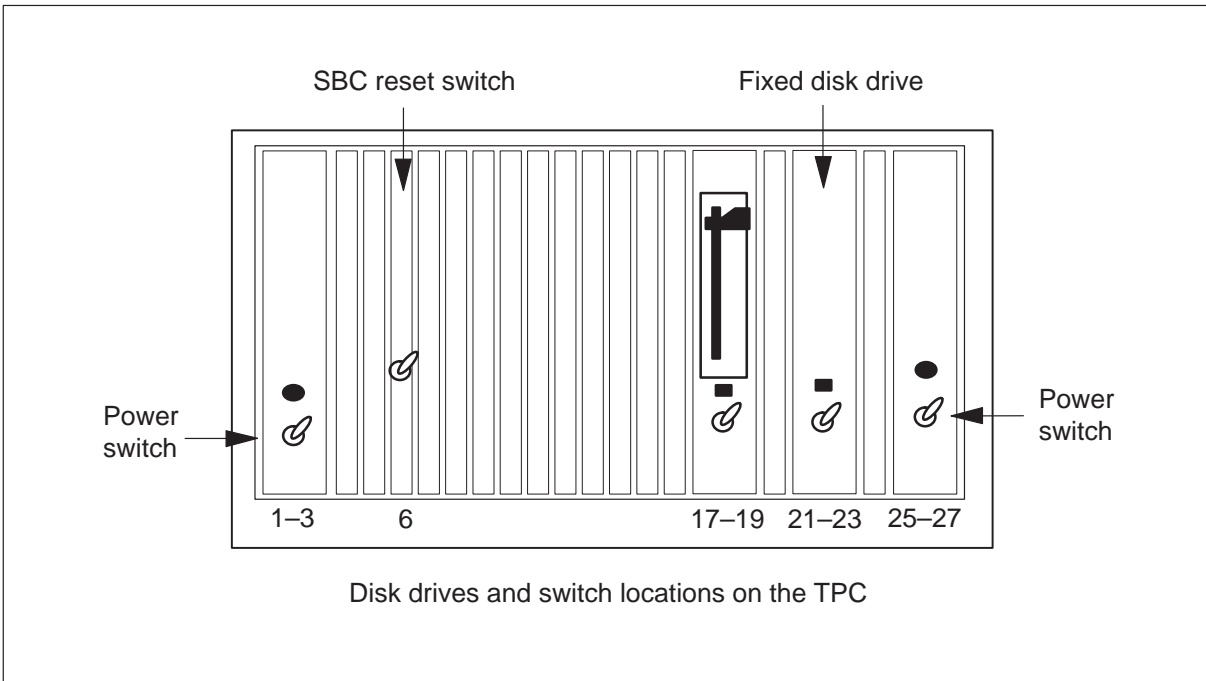


WARNING

Equipment damage

Turn off power to the TPC when you replace cards in the TPC. If you do not turn power off, equipment damage can occur.

To power down the TPC, turn the switches on the power converters in slots 1-3 and slots 25-27 to the down position.



10 Set the hard disk drive power switch in slots 21-23 to the up (on) position.

TOPS MP Operator complaint (standalone)
Clearing position failure – cannot reboot TPC (continued)

- 11 To power up the TPC, turn the switches on the power converters in slots 1-3 and slots 25-27 to the up position.
- 12 To set the TPC again, lower and lift the SBC reset switch in slot 6.
- 13 Determine if the hard disk drive light flashes.

If the hard disk drive light	Do
flashes	step 14
does not flash	step 15

- 14 Examine the VDU display.

If	Do
autobooting... continues to appear	step 18
the TPC reboots	step 25
any other message appears	Refer to the correct locating and clearing trouble procedure for the indicated trouble.

- 15 Replace the hard disk drive. Refer to *Card Replacement Procedures* and return to this step.

If	Do
autobooting... continues to appear	step 16
autobooting... continues to appear and the original hard disk drive is installed again	step 17
the TPC reboots	step 25
any other message appears	Refer to the correct locating and clearing trouble procedure for the indicated trouble.

- 16 Replace the new hard disk drive with the original hard disk drive removed in step 15. Refer to *Card Replacement Procedures* and return to step 18.

TOPS MP Operator complaint (standalone) Clearing position failure – cannot reboot TPC (continued)

At the TAMI

- 17 To perform diagnostics on the floppy disk drive, type:

>FDISK DIAG

and press the Enter key.

Note: Place a floppy diskette in the floppy disk drive before you enter the FDISK command.

If the test	Do
passes	step 20
fails	step 18

- 18 Replace the floppy disk drive (NTNX68). Refer to *Card Replacement Procedures* and return to this step.

If	Do
autobooting... continues to appear	step 19
the TPC reboots	step 25
any other message appears	Refer to the correct locating and clearing trouble procedure for the indicated trouble.

- 19 Replace the new floppy disk drive with the original floppy disk drive removed in step 18. Refer to *Card Replacement Procedures* and go to step 24.

- 20 Replace the RAM card in slot 5. Refer to *Card Replacement Procedures* and return to this step.

If	Do
1 meg of memory continues to appear	step 21
the TPC reboots	step 25
any other message appears	Refer to the correct locating and clearing trouble procedure for the indicated trouble.

TOPS MP Operator complaint (standalone)
Clearing position failure – cannot reboot TPC (end)

- 21 Replace the new RAM card with the original RAM card removed in step 20. Refer to *Card Replacement Procedures* and return to step 22.
- 22 Replace the SBC card. Refer to *Card Replacement Procedures* and return to this procedure.

If	Do
1 meg of memory continues to appear	step 23
the TPC reboots	step 25
any other message appears	Refer to the correct locating and clearing trouble procedure for the indicated trouble.

- 23 Replace the new SBC card with the original SBC card removed in step 22. Refer to *Card Replacement Procedures* and go to step 24.
- 24 For additional help, contact the next level of support.
- 25 Perform the procedure *Placing MP position in service (standalone)*.
- 26 This procedure is complete.

TOPS MP Operator complaint (standalone) Clearing position failure – cannot RTS position

Application

Use this procedure to clear Traffic Operator Position System (TOPS) Multipurpose (MP) position Return to Service (RTS) trouble.

Definition

Submit TOPS MP RTS trouble when the Tops Position Controller (TPC) is booted and the MP position fails to RTS. The Position Status/Control menu displays the MP position status as system busy (*Sysb*) or *initializing MP* appears.

Common procedures

Refer to the following common procedures:

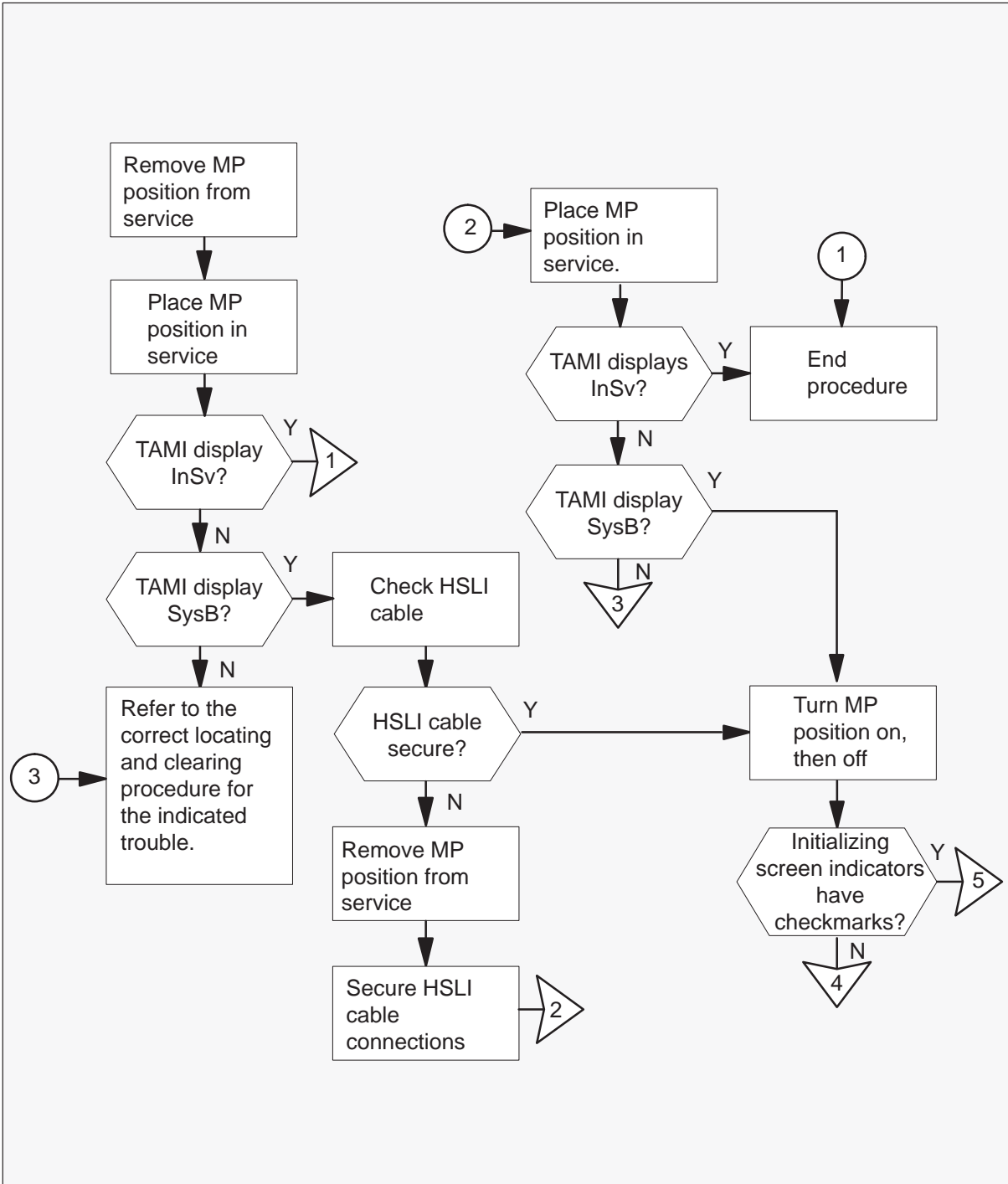
- Placing an MP position in service (standalone)
- Removing an MP position from service (standalone)

Action

This procedure contains a flowchart followed and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform this procedure.

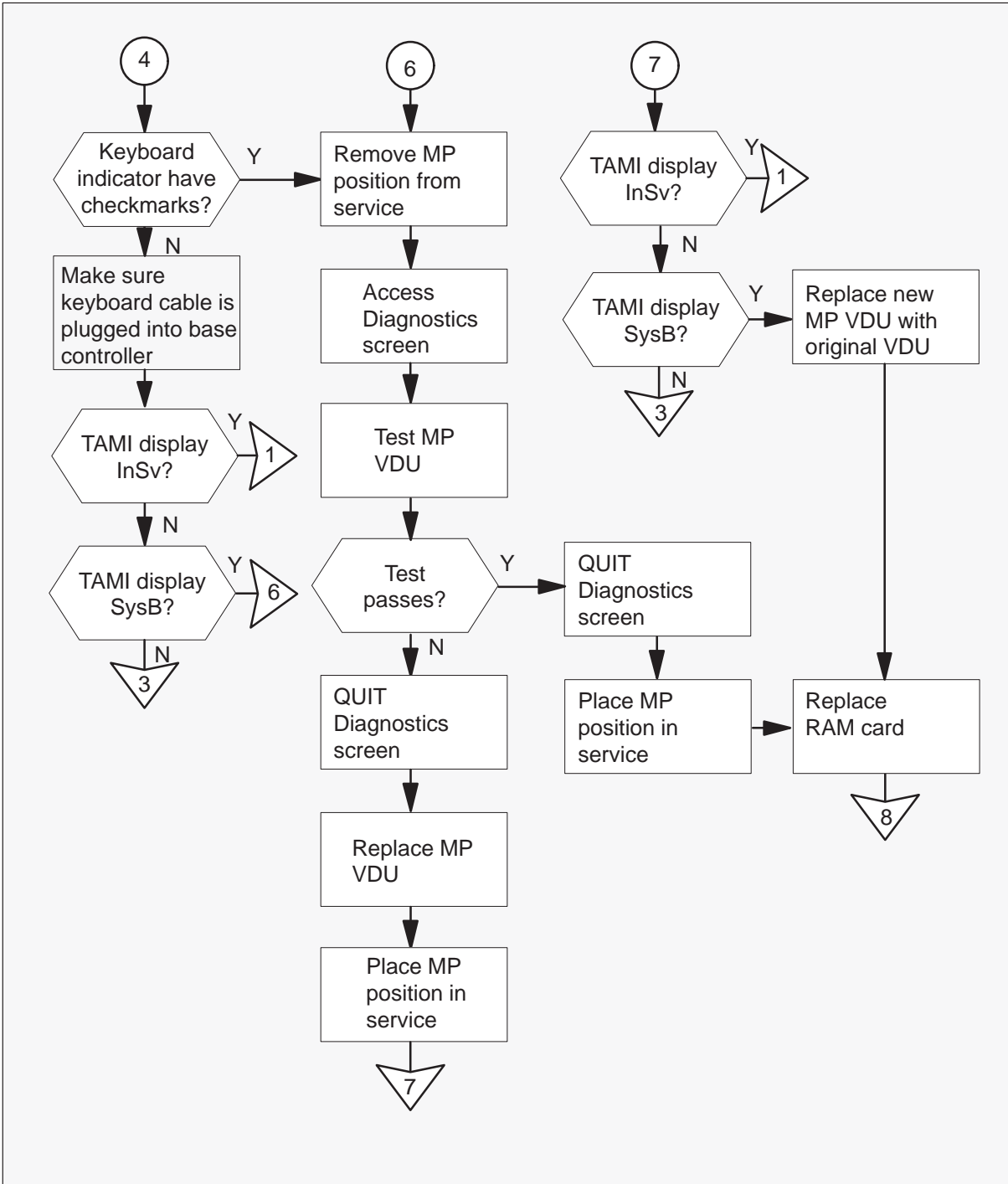
TOPS MP Operator complaint (standalone) Clearing position failure – cannot RTS position (continued)

Summary of Clearing position failure – cannot RTS position



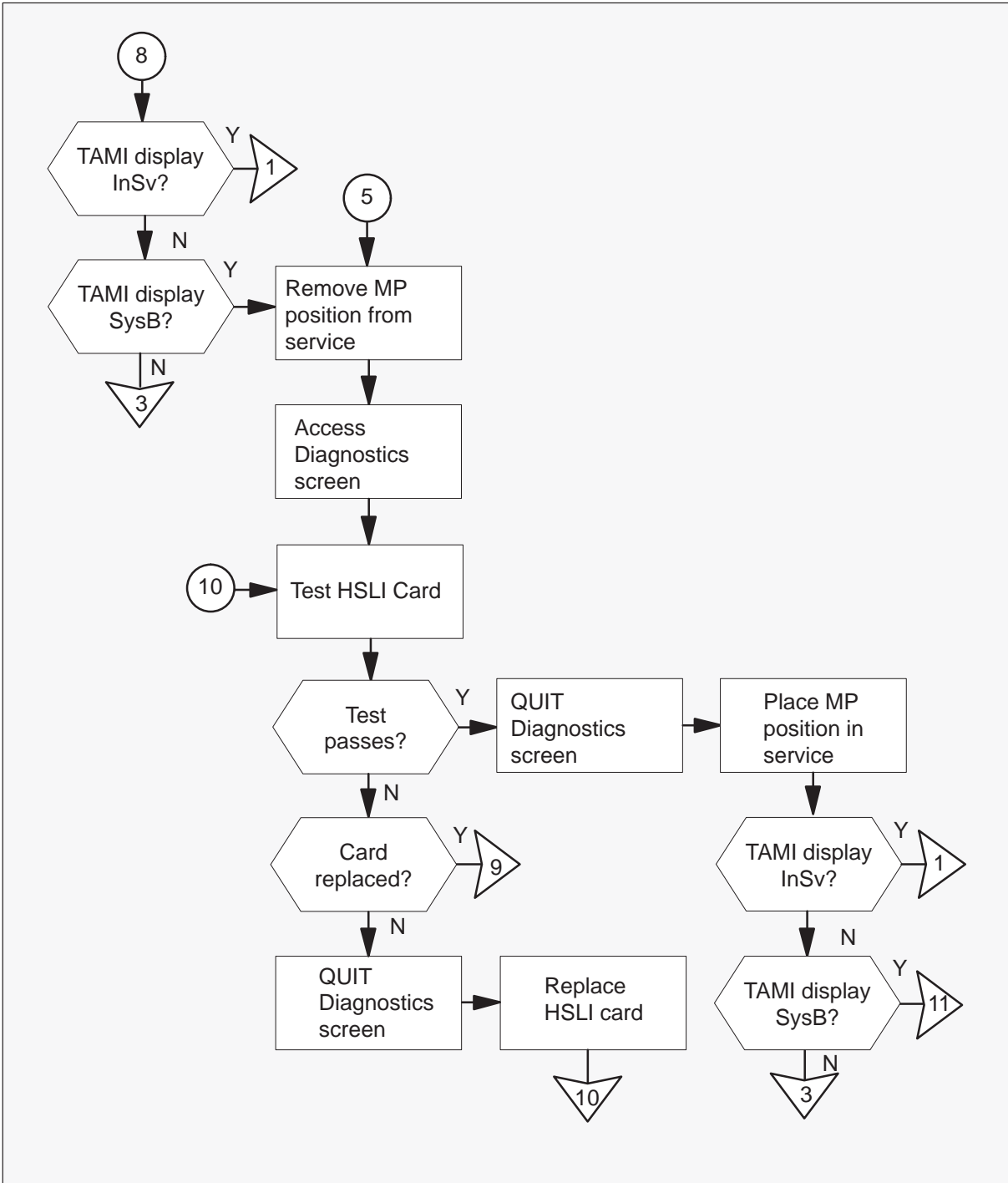
TOPS MP Operator complaint (standalone)
Clearing position failure – cannot RTS position (continued)

Summary of Clearing position failure – cannot RTS position (continued)



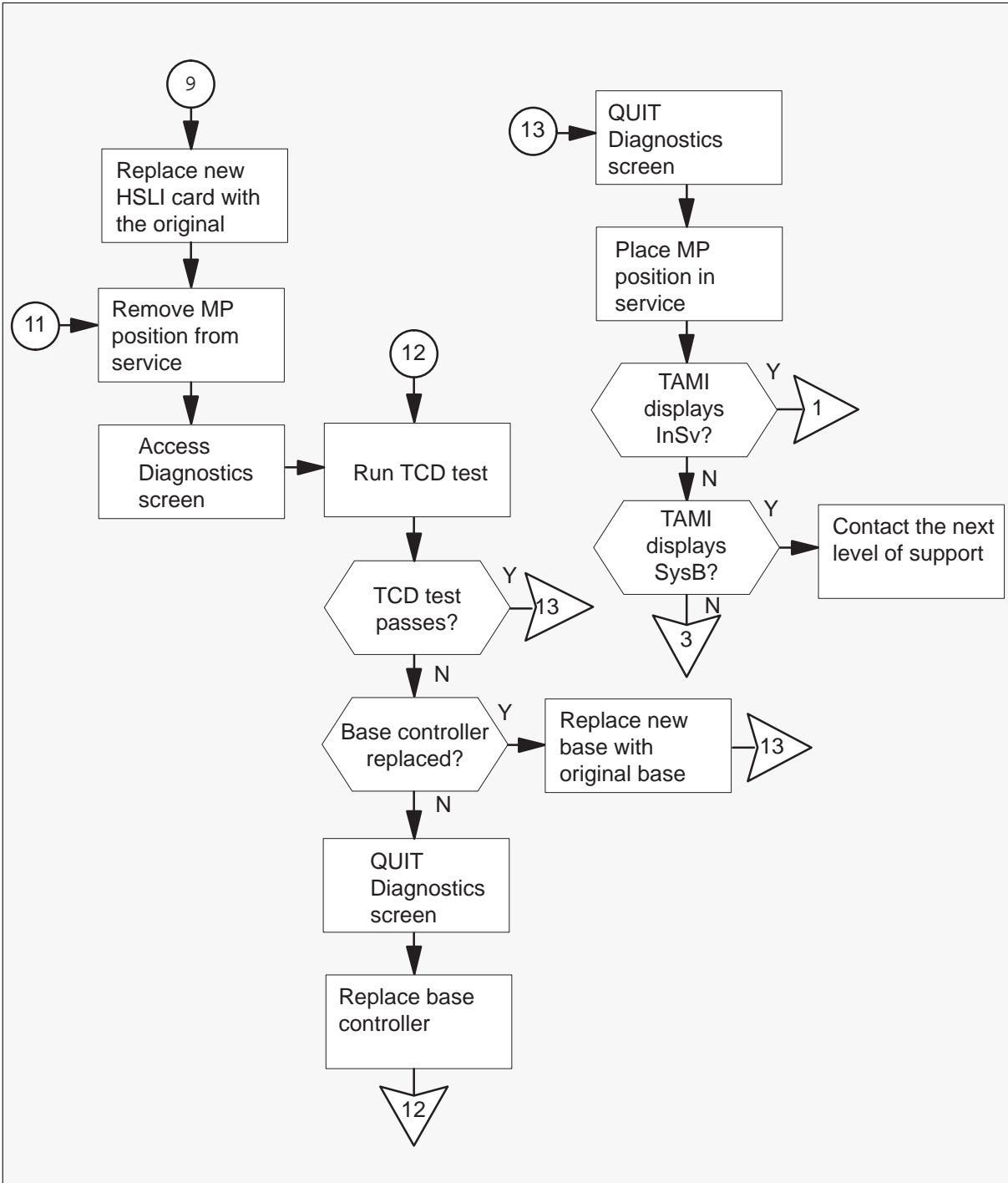
TOPS MP Operator complaint (standalone) Clearing position failure – cannot RTS position (continued)

Summary of Clearing position failure – cannot RTS position (continued)



TOPS MP Operator complaint (standalone)
Clearing position failure – cannot RTS position (continued)

Summary of Clearing position failure – cannot RTS position (continued)



TOPS MP Operator complaint (standalone)
Clearing position failure – cannot RTS position (continued)

Clearing position failure – cannot RTS position

At your current position

- 1 Perform the common procedure *Removing an MP position from service (standalone)*.
- 2 Perform the common procedure *Placing an MP position in service (standalone)*.

At the TAMI

- 3 Examine the Position Status/Control menu.

If the VDU displays	Do
InSv	step 45
SysB	step4
any other message	Refer to the correct locating and clearing trouble procedure for the indicated trouble.

At the affected MP position

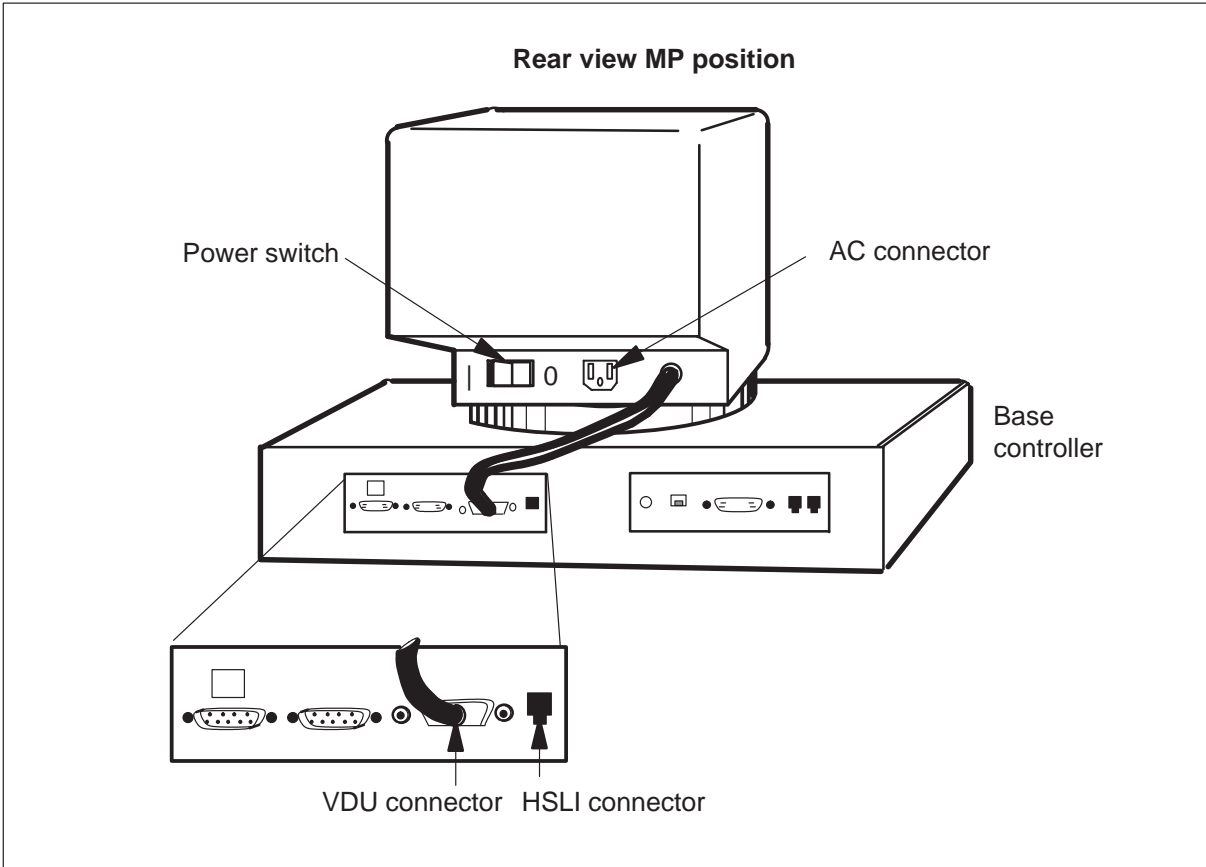
- 4 Check the HSLI cable. Make sure that the HSL cable is secure.

If the HSLI cable connections are	Do
secure	step 9
not secure	step 5

- 5 Perform the common procedure *Removing an MP position from service (standalone)*.

TOPS MP Operator complaint (standalone) Clearing position failure – cannot RTS position (continued)

- 6 Secure the HSLI cable connections on the MP position, BIX box, and TPC.



- 7 Perform the common procedure *Placing an MP position in service (standalone)*.

At the TAMI

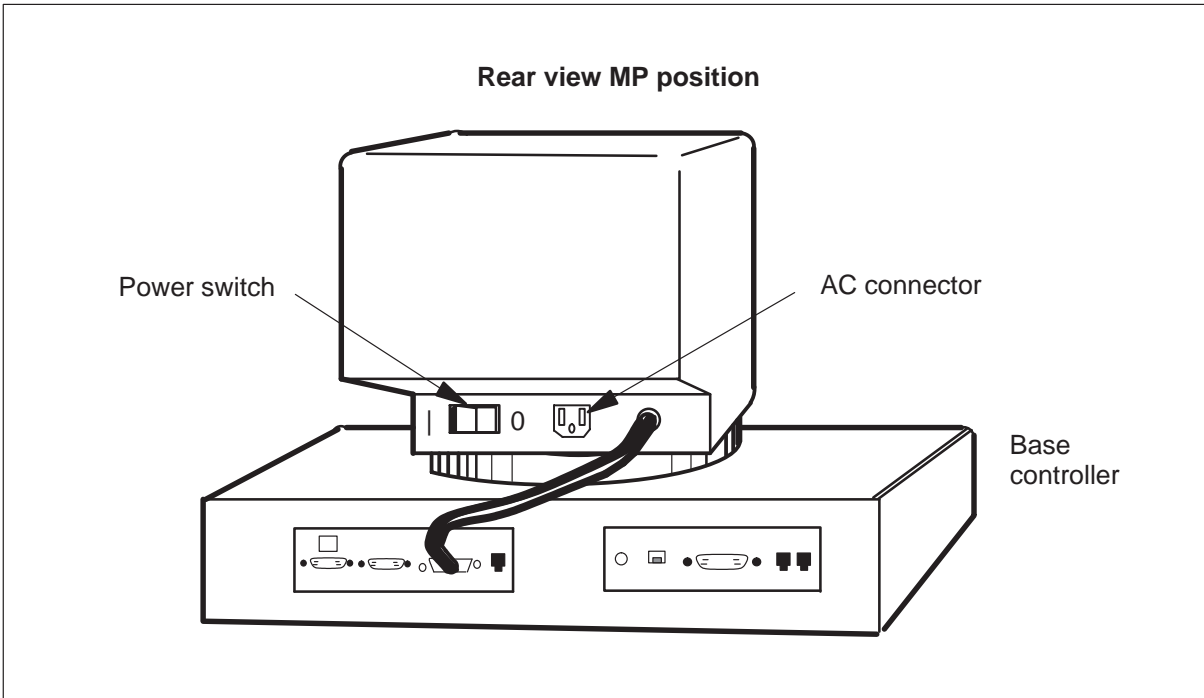
- 8 Check the Position Status/Control menu.

If the VDU displays	Do
InSv	step 45
SysB	step 9
any other message	Refer to the correct locate and clear trouble procedure for the indicated trouble.

TOPS MP Operator complaint (standalone) Clearing position failure – cannot RTS position (continued)

At the affected MP position

- 9 To turn the MP position on and off, move the power switch on the MP VDU. Move the power switch on the MP VDU to the off (0) position and then to the on (I) position. Refer to the figure below.



- 10 Check the four icon indicators on the initializing screen of the MP VDU.

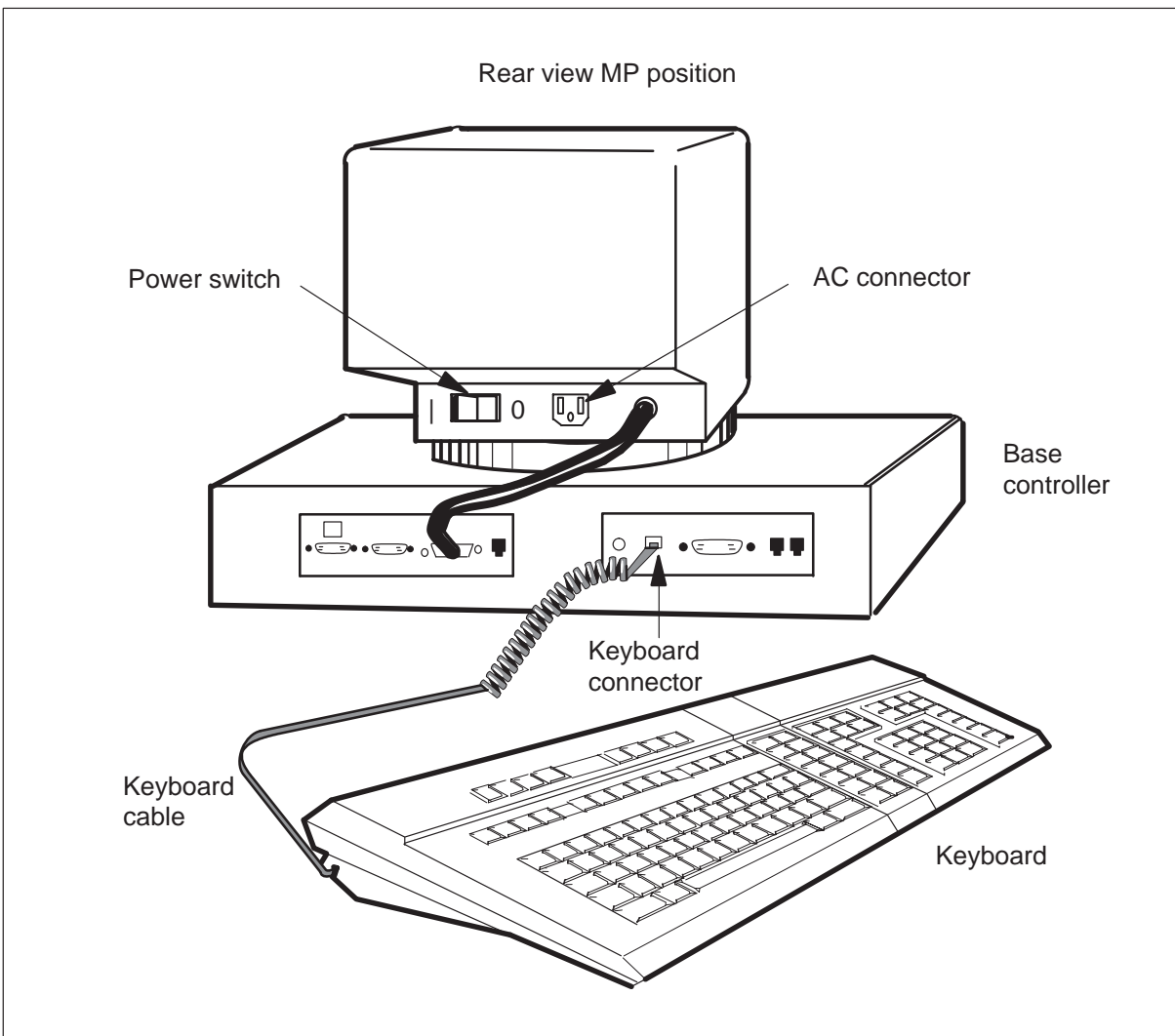
If initializing screen indicators	Do
have checkmarks (✓)	step 26
are not correct	step 11

TOPS MP Operator complaint (standalone) Clearing position failure – cannot RTS position (continued)

11 Check the keyboard indicator.

If the keyboard indicator is	Do
a checkmark (✓)	step 14
not a checkmark	step 12

12 Make sure the keyboard cable plugs in the base controller.



TOPS MP Operator complaint (standalone) Clearing position failure – cannot RTS position (continued)

At the TAMI

- 13 Examine the Position Status/Control menu.

If the VDU displays	Do
InSv	step 45
SysB	step 14
any other message	Refer to the correct locating and clearing trouble procedure for the indicated trouble.

- 14 Perform the common procedure *Removing an MP position from service (standalone)*.

- 15 To access the Diagnostic screen from the TAMI main menu, type:

>5

and press the Enter key.

Example of a TAMI response

Enter TPC Diagnostics command:

- 16 To test the MP position VDU, type:

>POSDIAG n SCREEN

and press the Enter key.

where:

n is the MP position number (0, 1, 2, or 3)

If screen diagnostics test	Do
passes	step 22
fails	step 17

- 17 To exit the Diagnostics screen, type:

>QUIT

and press the Enter key.

TOPS MP Operator complaint (standalone) **Clearing position failure – cannot RTS position** (continued)

At the affected MP position

- 18 Replace the MP VDU. Go to *Card Replacement Procedures* and return to the next step.
- 19 Perform the common procedure *Placing an MP position in service (standalone)*.

At the TAMI

- 20 Check the Position Status/Control menu.

If the VDU displays	Do
InSv	step 45
SysB with new MP VDU	step 21
any other message	Refer to the correct clearing and locating trouble procedure for the indicated trouble.

At the affected MP position

- 21 Replace the new MP VDU with the original MP VDU removed in step 18. Go to *Card Replacement Procedures* and return to step 24.

At the TAMI

- 22 To exit the Diagnostics screen, type:
>QUIT
and press the Enter key.
- 23 Perform the common procedure *Placing an MP position in service (standalone)*.

At the TPC

- 24 Replace the RAM card in slot 7. Go to *Card Replacement Procedures* and return to the next step.

TOPS MP Operator complaint (standalone) Clearing position failure – cannot RTS position (continued)

At the TAMI

- 25 Check the Position Status/Control menu.

If the VDU displays	Do
InSv	step 45
SysB	step 26
any other message	Refer to the correct locating and clearing trouble procedure for the indicated trouble.

- 26 Perform the common procedure *Removing an MP position from service (standalone)*.
- 27 Press the PF3 key to exit the Position Status/Control menu and enter the TAMI main menu. To access the Diagnostics screen, type:

>5

and press the Enter key.

Example of a TAMI response

Enter TPC Diagnostics command:

- 28 To test the HSLI card, type:

>POSDIAG n CARD

and press the Enter key.

where:

n is the card position on the TPC (0, 1, 2, or 3)

TOPS MP Operator complaint (standalone) Clearing position failure – cannot RTS position (continued)

Example of a TAMI response

```

Performing CBT Port Register Test...
Performing CC Port Register Test...
Performing CBT Port Internal Loopback Test...
Performing CC Port Internal Loopback Test...
Performing HSLI Port Register Test...
Performing HSLI Port Ram Test...
    
```

If card diagnostics test	Do
passes	step 31
fails	step 29
fails with HSLI card replaced	step 34

Note: You can select ManB positions only.

- 29 To exit the Diagnostics screen, type:
>QUIT
and press the Enter key.
- 30 Replace the HSLI card. Go to *Card Replacement Procedures* and return to step 28.
- 31 To exit the Diagnostics screen, type:
>QUIT
and press the Enter key.
- 32 Perform the common procedure *Placing an MP position in service (standalone)*.

At the TAMI

- 33 Examine the Position Status/Control menu.

If the VDU displays	Do
InSv	step 45
SysB	step 35
any other message	Refer to the correct locating and clearing trouble procedure for the indicated trouble.

TOPS MP Operator complaint (standalone) Clearing position failure – cannot RTS position (continued)

- 34 Replace the new HSLI card with the original HSLI card removed in step 30. Go to *Card Replacement Procedures*, and return to step 37.
- 35 Perform the common procedure *Removing an MP position from service (standalone)*.
- 36 To exit and the Position Status/Control menu and enter the TAMI main menu, press the PF3 key. To access the Diagnostics screen, type:

>5
and press the Enter key.

Example of a TAMI response

Enter TPC Diagnostics command:

- 37 To run the terminal controller diagnostics (TCD) test, type:

>POSDIAG n TCD
and press the Enter key.

where:

n is the MP number on the TPC (0,1, 2, or 3)

Note: You can only select ManB positions.

Example of a TAMI response

```
Performing ROM position Component Diagnostic...
Performing CPU position Component Diagnostic...
Performing Exceptions position Component Diagnostic...
Performing RAM position Component Diagnostic...
Performing HSLI Port position Component Diagnostic...
Performing UART position Component Diagnostic...
Performing Keyboard position Component Diagnostic...
Performing Telephony position Component Diagnostic...
```

If TCD diagnostics test	Do
passes	step 41
fails	step 38
fails with base controller replaced	step 40

TOPS MP Operator complaint (standalone) Clearing position failure – cannot RTS position (end)

- 38 To exit the Diagnostics screen, type:
>QUIT
and press the Enter key.
- 39 Replace the base controller. Go to *Card Replacement Procedures* and return step 37.
- 40 Replace the new base controller with the original base controller replaced in step 39. Go to *Card Replacement Procedures* and return to the next step.
- 41 To exit the Diagnostics screen, type:
>QUIT
and press the Enter key.
- 42 Perform the common procedure *Placing MP positions in service (standalone)*.
At the TAMI
- 43 Examine the Position Status/Control menu.

If the VDU displays	Do
InSv	step 45
SysB	step 44
any other message	Refer to the correct locating and clearing trouble procedure for the indicated trouble.

- 44 For additional help, contact the next level of support.
- 45 This procedure is complete.

TOPS MP Operator complaint (integrated) Clearing voice communication path trouble

Application

Use this procedure to clear Traffic Operator Position System (TOPS) Multipurpose (MP) voice communication path trouble.

Definition

Submit this complaint when the system loses voice communication.

Common procedures

This procedure contains the following references:

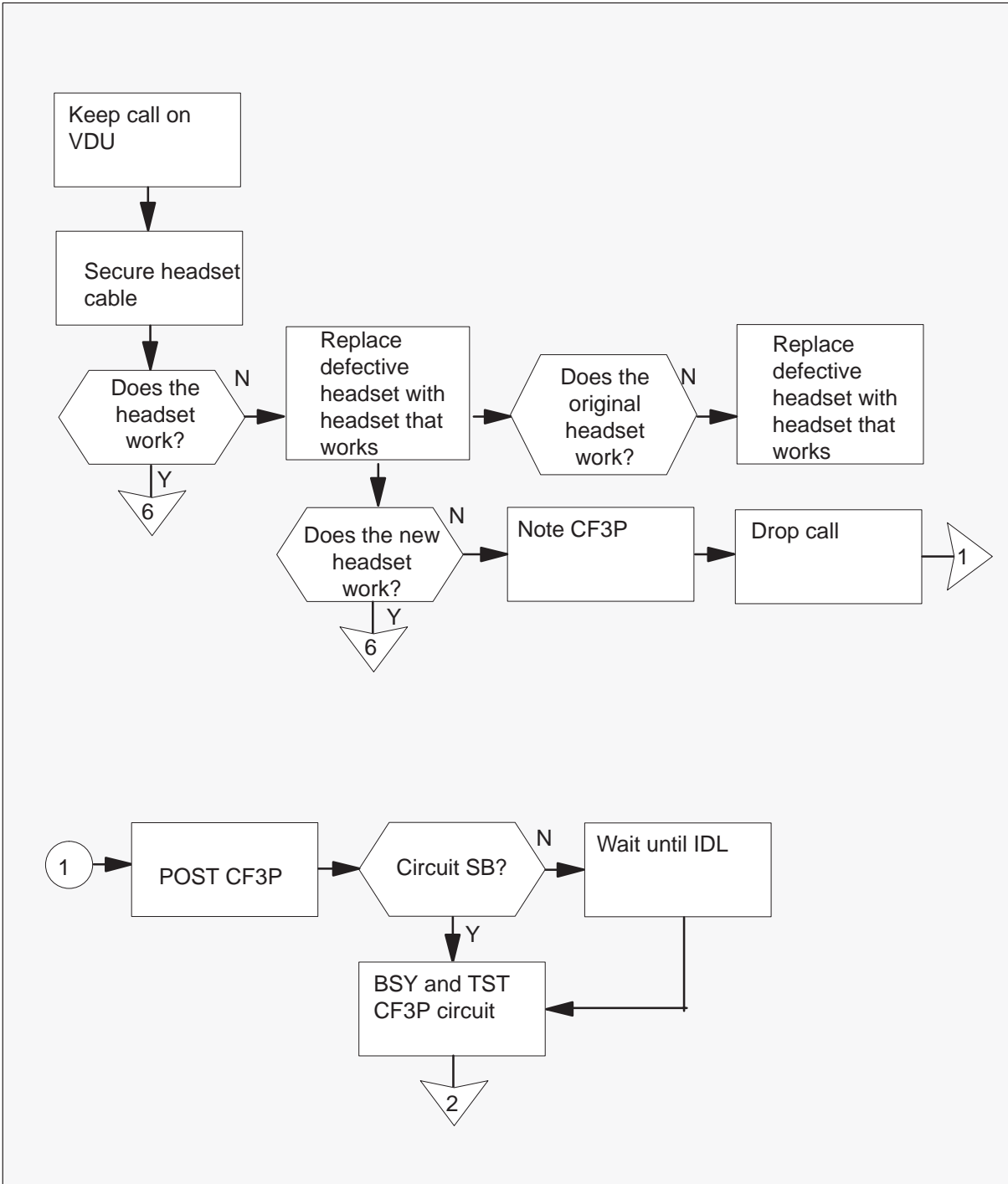
- Placing the MP position in service (integrated)
- Removing the MP position from service (integrated)

Action

This procedure contains a flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

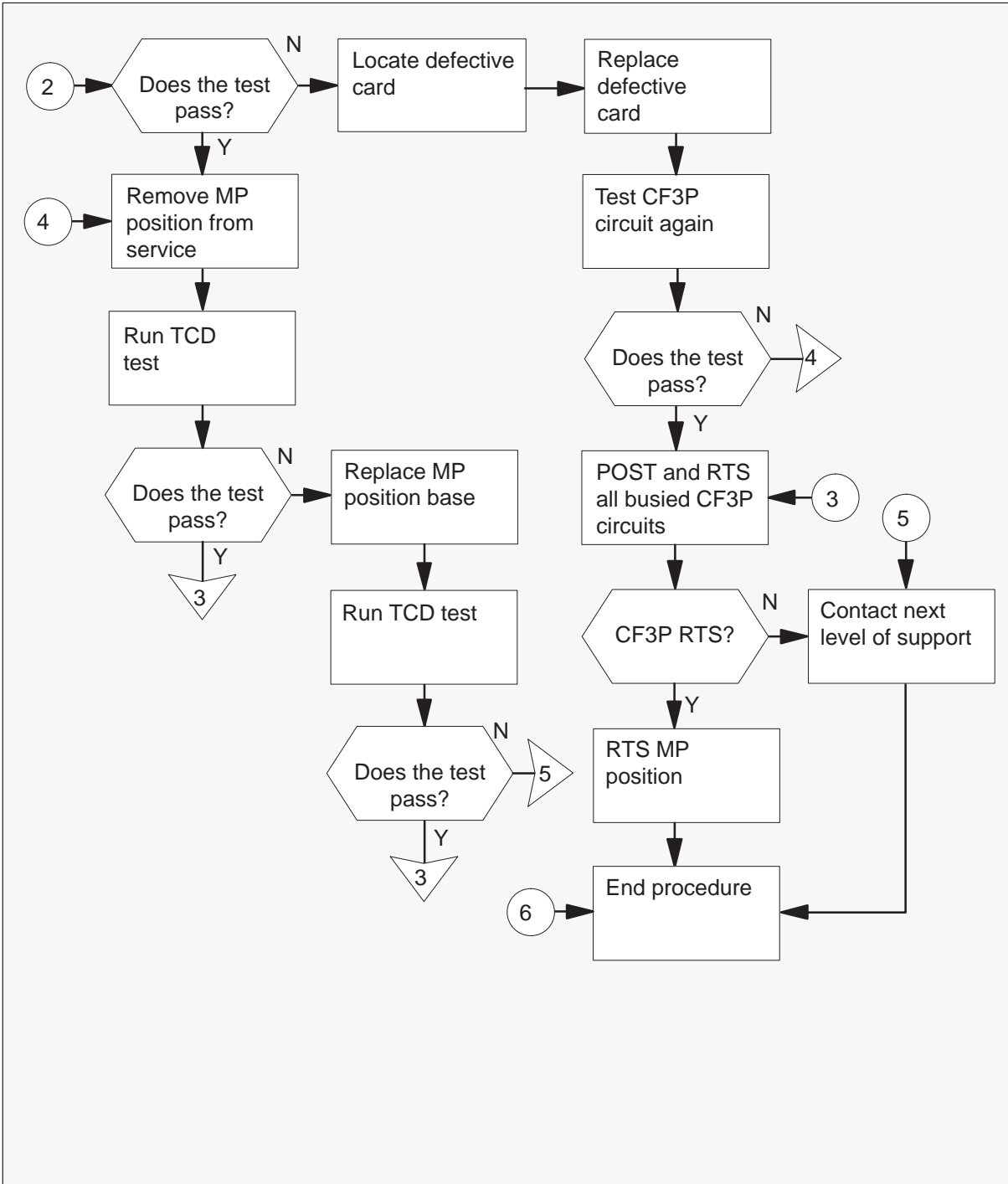
TOPS MP Operator complaint (integrated) Clearing voice communication path trouble (continued)

Summary of clearing voice communication path trouble



TOPS MP Operator complaint (integrated) Clearing voice communication path trouble (continued)

Summary of clearing voice communication path trouble (continued)

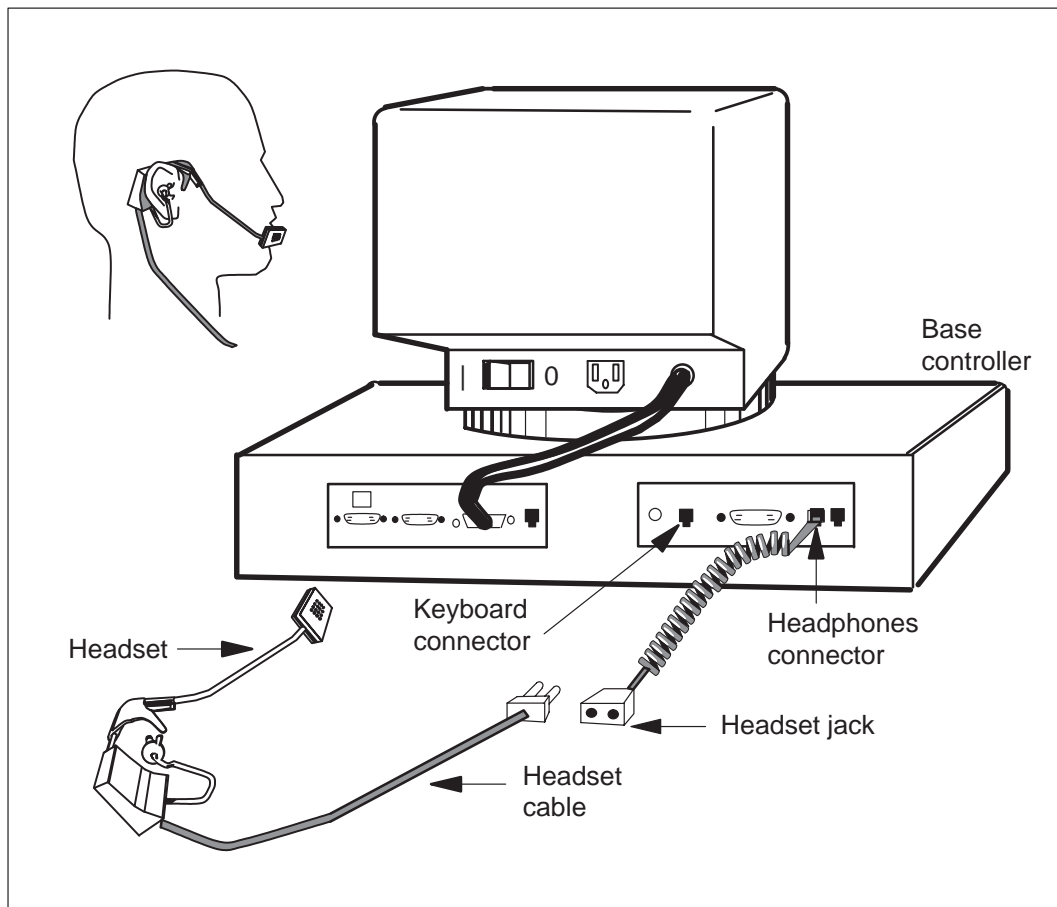


TOPS MP Operator complaint (integrated) Clearing voice communication path trouble (continued)

Clearing voice communication path trouble

At the affected MP position

- 1 Keep the call on the VDU.
- 2 Secure the headset cable to the headset jack. Secure the headset jack to the headphones connector.



- 3 Confirm that the headset works.

If headset	Do
works	step 19
does not work	step 4

TOPS MP Operator complaint (integrated) Clearing voice communication path trouble (continued)

- 4 Replace the defective headset with a headset that works.
- 5 Determine if the headset works.

If the	Do
replaced headset works	step 19
replaced headset does not work	step 6
original headset does not work at the other position	Replace with a headset that works. Follow local procedure for defective equipment.

At the MAP

- 6 To note which CF3P is in use, type:

>MAPCI;MTC;TRKS;TTP

and press the Enter key.

>POST G TOPSPOS nnn

and press the Enter key.

where

nnn is the position number

Example of a MAP response

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .
TTP
0  Quit_      POST      DELQ      BUSYQ      DIG
2  Post_      TTP      6-025
3  Seize_      CKT TYPE      PM NO      COM LANG      STA S R DOT TE RESULT
4      DESK      TM8 2 16      TOPSPOS 200      CPB      CF3P      1
5  Bsy_
6  RTS_
7  Tst_
8
9  CktInfo_
10 CktLoc_
11 Hold_
12 Next_
13 Rls_
14 Ckt_
15 Trnslvf_
16 StkSdr_
17 Pads_
18 Level_
    
```

CF3P number

TOPS MP Operator complaint (integrated) Clearing voice communication path trouble (continued)

At the affected MP position

7 To drop the call, press the Pos Rls key.

At the MAP

8 To post the CF3P circuit, type:

>POST G CF3P n
and press the Enter key.

where

n is the CF3P noted in the MAP display from step 6

Example of a MAP response

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.       .       .       .       .       .       .       .       .       .
TTP
0  Quit_          POST      DELQ      BUSYQ      DIG
2  Post_          TTP 6-025
3  Seize_         CKTTYPE  PM NO.  COM LANG  STA S R DOT TE RESULT
4                      CONF3   TM8 0 26 CF3P  1      CPB
5  Bsy_
6  RTS_
7  Tst_
8
9  CktInfo_
10 CktLoc_
11 Hold_
12 Next_
13 Rls_
14 Ckt_
15 Trnslvf_
16 StkSdr_
17 Pads_
18 Level_

```

If the circuit is	Do
CPB	wait until IDL and go to step 9
SB	step 9

TOPS MP Operator complaint (integrated) Clearing voice communication path trouble (continued)

- 9 To busy and test the posted CF3P circuit, type:

>BSY

and press the Enter key.

>TST

and press the Enter key.

If test	Do
passes	step 13
fails	step 10

- 10 To locate the circuit card that has faults, type:

>CKTLOC

and press the Enter key.

- 11 Replace the conference circuit card. Refer to *Card Replacement Procedures* and return to this point.

- 12 To test the posted CF3P circuit again, type:

>TST

and press the Enter key.

If test	Do
passes	step 16
fails	step 13

- 13 Perform the common procedure *Removing the MP position from service (integrated)*.

TOPS MP Operator complaint (integrated) Clearing voice communication path trouble (continued)

At the MAP

- 14 To run the position component diagnostics (TCD) test, type:

>TST TERM

and press the Enter key.

Example of a MAP response

```
Performing ROM position Component Diagnostic...
Performing CPU position Component Diagnostic...
Performing Exceptions position Component Diagnostic...
Performing RAM position Component Diagnostic...
Performing HSLI Port position Component Diagnostic...
Performing UART position Component Diagnostic...
Performing Keyboard position Component Diagnostic...
Performing Telephony position Component Diagnostic...
```

If test	Do
passes	step 16
fails	step 15
fails with base controller replaced	step 17

At the affected MP position

- 15 Replace base controller. Refer to the *TOPS MP Card Replacement Procedures* and return to step 14.

TOPS MP Operator complaint (integrated)
Clearing voice communication path trouble (end)

At the MAP

16 To return to service, the busy CF3P from step 9, type

>POST G CF3P n

and press the Enter key.

where

n is the busy CF3P from step 9

>RTS

and press the Enter key.

If the CF3P	Do
returns to service	step 18
does not return to service	step 17

17 For additional help, contact the next level of support.

18 Perform the procedure *Placing an MP position in service (integrated)*.

19 The procedure is complete.

TOPS MP Operator complaint (standalone) Clearing voice communication path trouble

Application

Use this procedure to clear Traffic Operator Position System (TOPS) Multipurpose (MP) voice communication path trouble.

Definition

An operator submits TOPS MP voice communication path trouble when the operator loses voice communication.

Common procedures

Refer to the following common procedures:

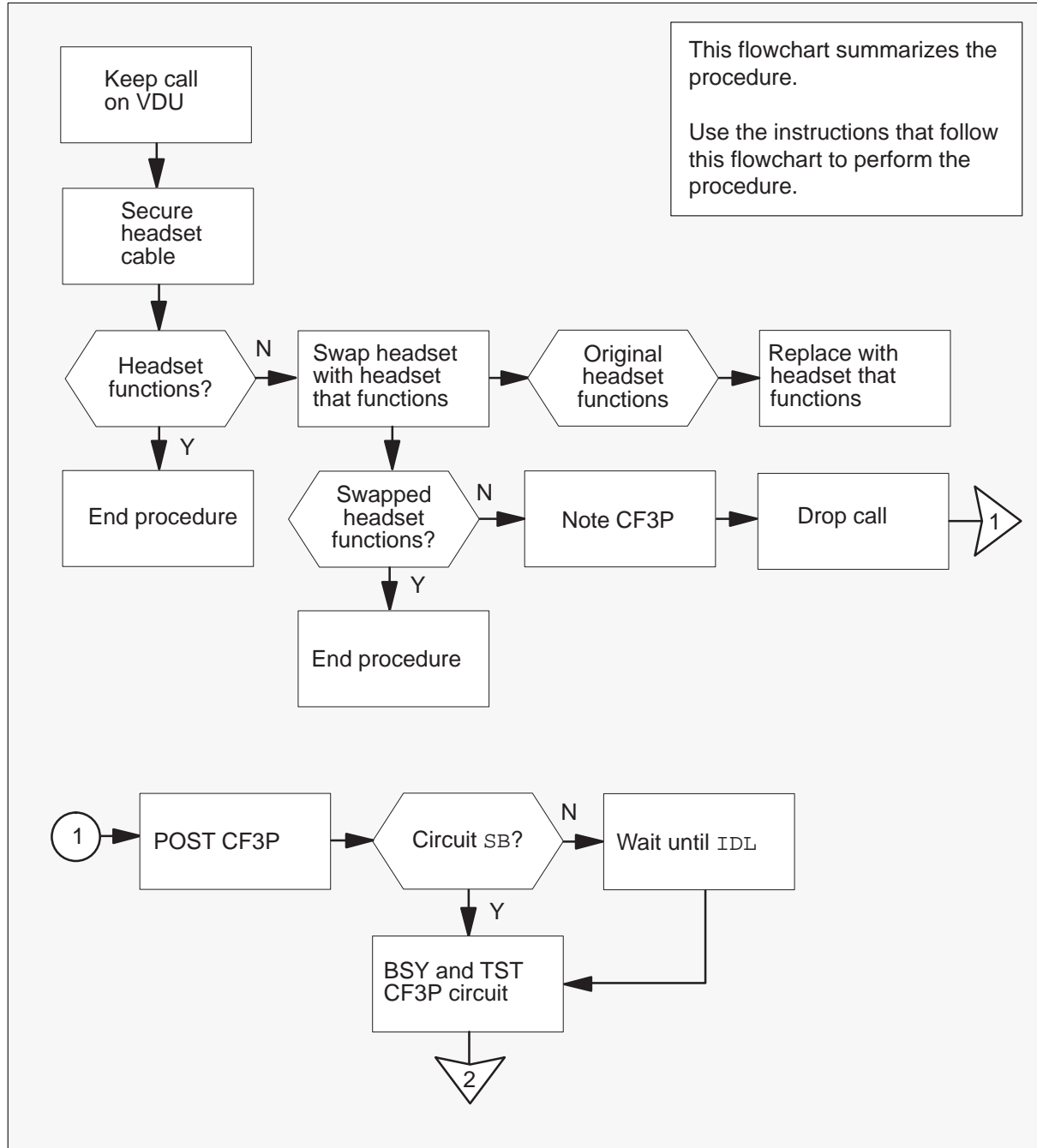
- Removing an MP position from service (standalone)
- Placing an MP position in service (standalone)

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review of the procedure. Follow the steps to perform the procedure.

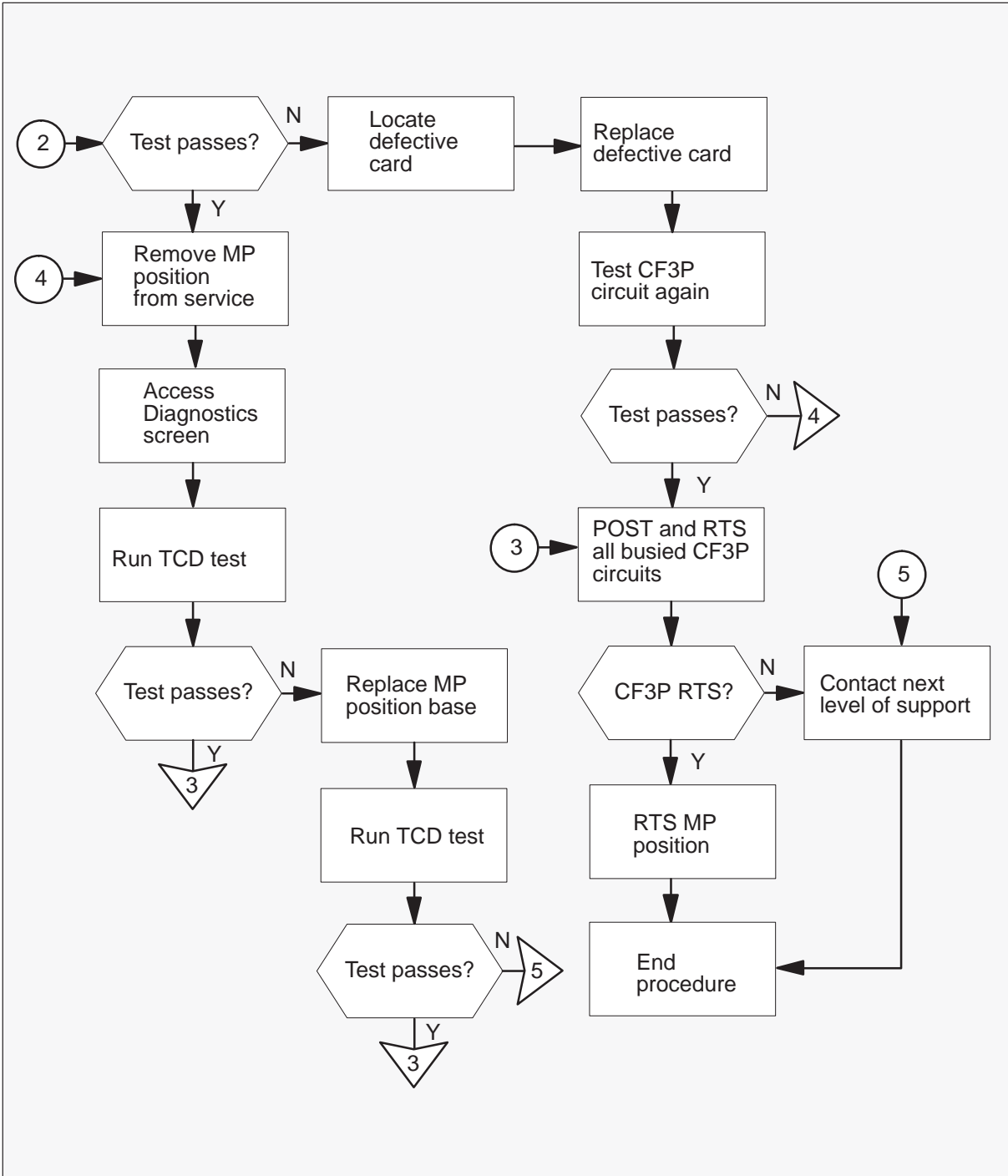
TOPS MP Operator complaint (standalone) Clearing voice communication path trouble (continued)

Summary of Clearing voice communication path trouble



TOPS MP Operator complaint (standalone)
Clearing voice communication path trouble (continued)

Summary of Clearing voice communication path trouble (continued)

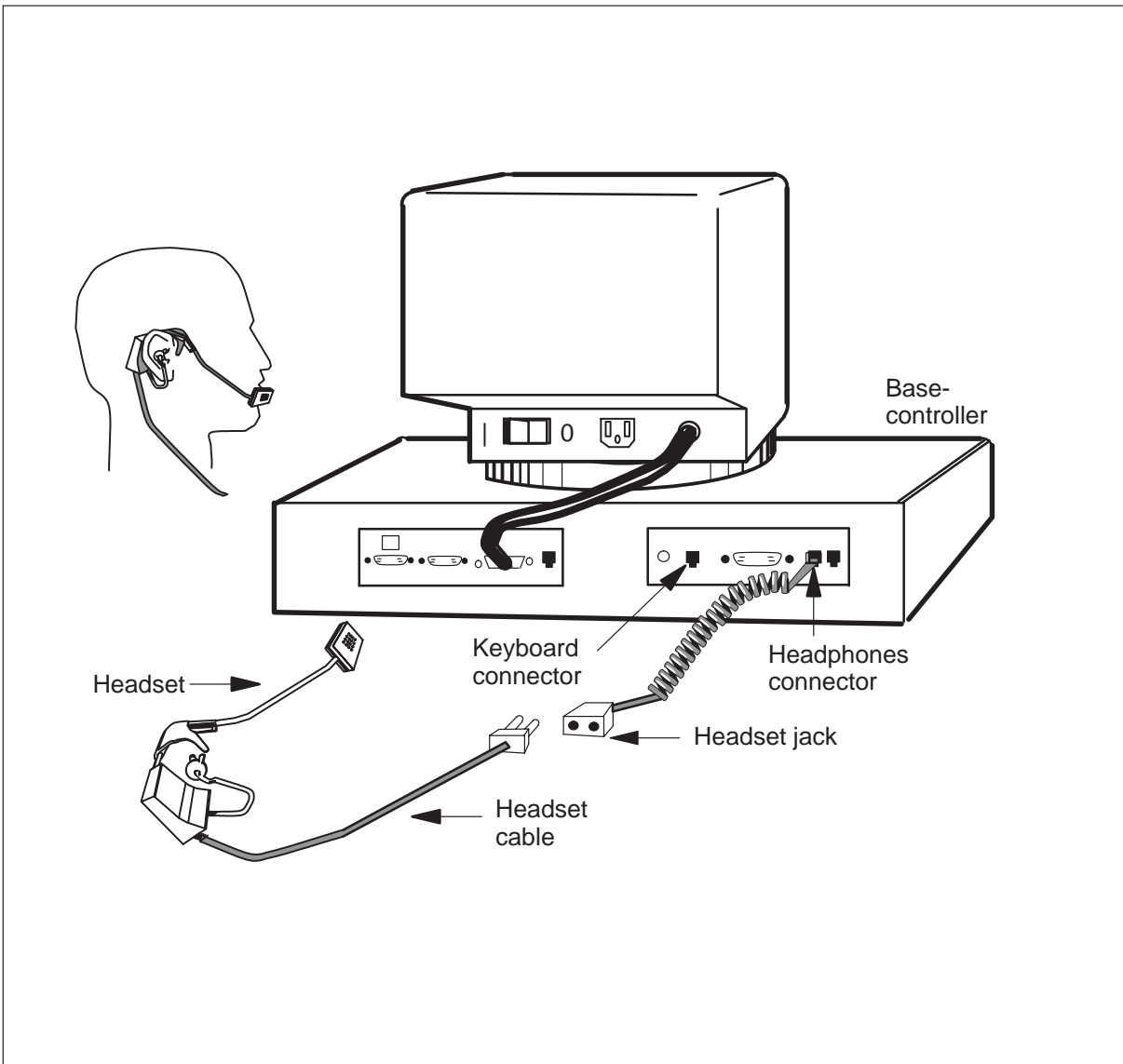


TOPS MP Operator complaint (standalone) Clearing voice communication path trouble (continued)

Clearing voice communication path trouble

At the affected MP position

- 1 Keep the call on the VDU.
- 2 Secure the headset cable to the headset jack. Secure the headset jack to the headphones connector.



TOPS MP Operator complaint (standalone)
Clearing voice communication path trouble (continued)

- 3 Determine if the headset functions.

If headset	Do
functions	step 20
does not function	step 4

- 4 Replace the headset with a headset that functions.

- 5 Determine if the headsets functions.

If the	Do
changed headset functions	step 20
changed headset does not function	step 6
original headset does not function at the other position	Replace with a headset that functions. Follow local procedure for defective equipment

TOPS MP Operator complaint (standalone) Clearing voice communication path trouble (continued)

At the MAP

6 To note the CF3P that the operator uses, type:

>MAPCI;MTC;TRKS;TTP

and press the Enter key.

>POST G TOPSPOS nnn

and press the Enter key.

where

nnn is the position number

Example of a MAP response

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .

TTP
0  Quit_ POST      DELQ      BUSYQ      DIG
2  Post_ TTP 6-025
3  Seize_      CKT TYPE  PM NO.      COM LANG  STA S R DOT TE      RESULT
4      DESK      TM8 2 16      TOPSPOS      200 CPB      CF3P      1
5  Bsy_
6  RTS_
7  Tst_
8
9  CktInfo_
10 CktLoc_
11 Hold_
12 Next_
13 Rls_
14 Ckt_
15 TrnslVf_
16 StkSdr_
17 Pads_
18 Level_
    
```

CF3P number

At the affected MP position

7 To drop the call, press the Pos RIs key.

TOPS MP Operator complaint (standalone) Clearing voice communication path trouble (continued)

At the MAP

8 To post the CF3P circuit, type:

>POST G CF3P n

and press the Enter key.

where

n is the CF3P noted in the MAP display from step 6

Example of a MAP response

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .

TTP
0  Quit_ POST      DELQ      BUSYQ      DIG
2  Post_ TTP 6-025
3  Seize_   CKT TYPE  PM NO.      COM LANG      STA S R DOT TE RESULT
4      CONF3   TM8   0  26   CF3P      1   CPB
5  Bsy_
6  RTS_
7  Tst_
8
9  CktInfo_
10 CktLoc_
11 Hold_
12 Next_
13 Rls_
14 Ckt_
15 TrnslVf_
16 StkSdr_
17 Pads_
18 Level_
    
```

If the circuit is	Do
CPB	wait until IDL and go to step 9
SB	step 9

TOPS MP Operator complaint (standalone) Clearing voice communication path trouble (continued)

- 9 To busy and test the posted CF3P circuit, type:

>BSY

and press the Enter key.

>TST

and press the Enter key.

If test	Do
passes	step 13
fails	step 10

- 10 To locate the defective circuit card, type:

>CKTLOC

and press the Enter key.

- 11 Replace the conference circuit card. Refer to *Card Replacement Procedures* and return to this step.

- 12 To test the posted CF3P circuit again, type:

>TST

and press the Enter key.

If test	Do
passes	step 17
fails	step 13

- 13 Perform the common procedure *Removing an MP position from service (standalone)*.

At the TAMI

- 14 To access the Diagnostics screen from the TAMI main menu, type:

>5

and press the Enter key.

Example of a TAMI response

Enter TPC Diagnostics command:

TOPS MP Operator complaint (standalone) Clearing voice communication path trouble (continued)

- 15 To run the position component diagnostics (TCD) test, type:

>POSDIAG n TCD

and press the Enter key.

where

n is the MP position number (0,1, 2, or 3)

Example of a TAMI response

```
Performing ROM position Component Diagnostic...
Performing CPU position Component Diagnostic...
Performing Exceptions position Component Diagnostic...
Performing RAM position Component Diagnostic...
Performing HSLI Port position Component Diagnostic...
Performing UART position Component Diagnostic...
Performing Keyboard position Component Diagnostic...
Performing Telephony position Component Diagnostic...
```

If test	Do
passes	step 17
fails	step 16
fails with base controller replaced	step 18

At the affected MP position

- 16 Replace the base controller. Refer to *Card Replacement Procedures* and return to step 15.

TOPS MP Operator complaint (standalone) Clearing voice communication path trouble (end)

At the MAP

17 To return the CF3P busied in step 9 to service, type:

>POST G CF3P n

and press the Enter key.

where

n is the CF3P busied in step 9

>RTS

and press the Enter key.

If the CF3P	Do
returns to service	step 19
does not return to service	step 18

18 For additional help, contact the next level of support.

19 Perform the common procedure *Placing an MP position in service (standalone)*.

20 This procedure is complete.

TOPS MP TAMI trouble (integrated) Clearing TAMI response failure

Application

Use this procedure to troubleshoot a problem when the Tops Position Controller (TPC) Administration and Maintenance Interface (TAMI) fails to respond.

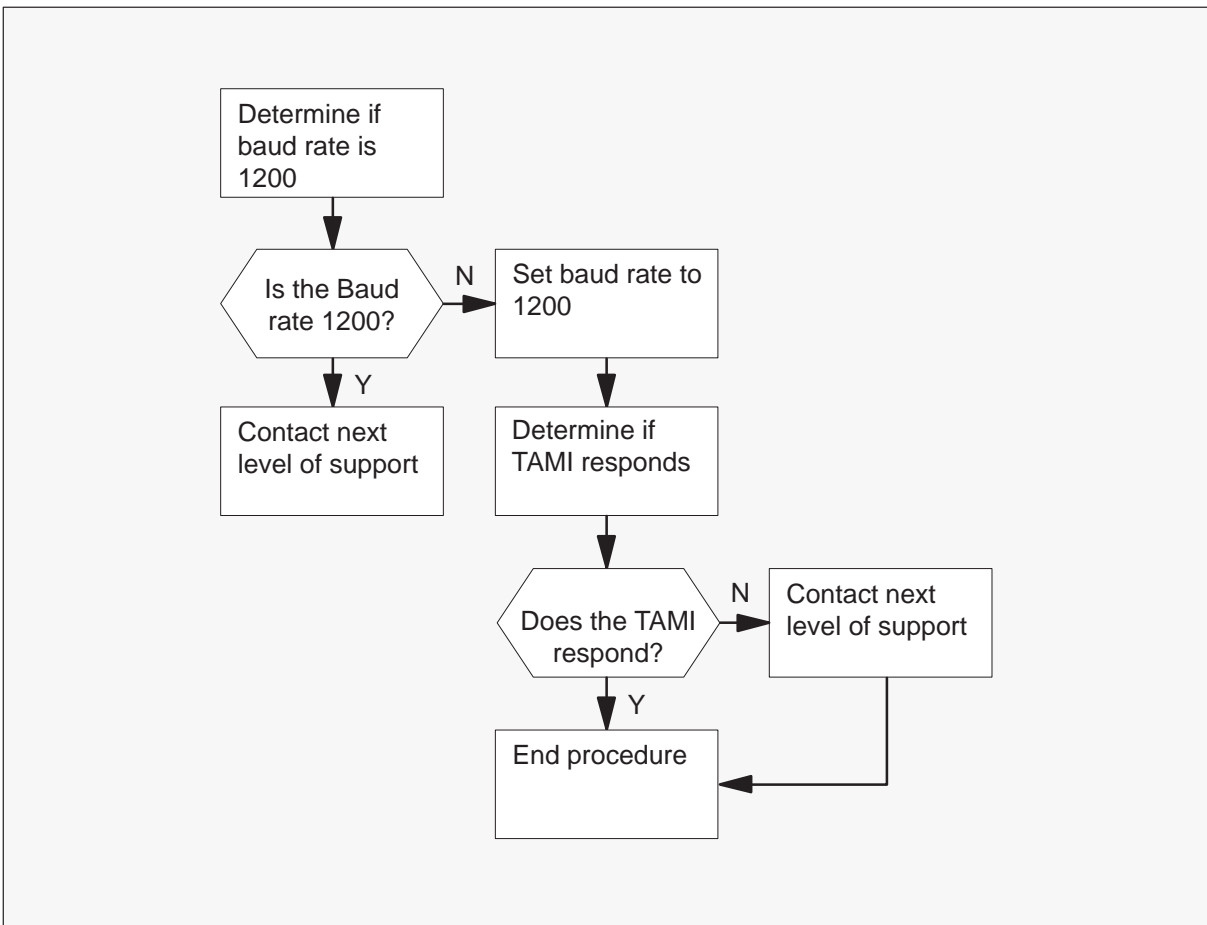
Definition

Submit this problem when the TAMI does not respond and the MP positions do not have problems.

Action

This procedure contains a flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform this procedure.

Summary of Clearing TAMI response failure



**TOPS MP TAMI trouble (integrated)
Clearing TAMI response failure (end)**

Clearing TAMI a response failure

At the TAMI

- 1 To determine if the TAMI baud rate is set at 1200 baud, refer to the appropriate documentation. The vendor supplies the documentation.

If TAMI baud rate	Do
is 1200	step 4
is not 1200	step 2

- 2 To set the baud rate to 1200, use the documentation from the vendor.
- 3 Determine if TAMI responds.

If TAMI	Do
responds	step 5
does not respond	step 4

- 4 For additional help, contact the personnel responsible for the next level of support.
- 5 The procedure is complete.

TOPS MP TAMI trouble (standalone) Clearing TAMI response failure

Application

Use this Clearing TAMI response failure procedure to troubleshoot when the Tops Position Controller (TPC) Administration and Maintenance Interface (TAMI) does not respond.

Definition

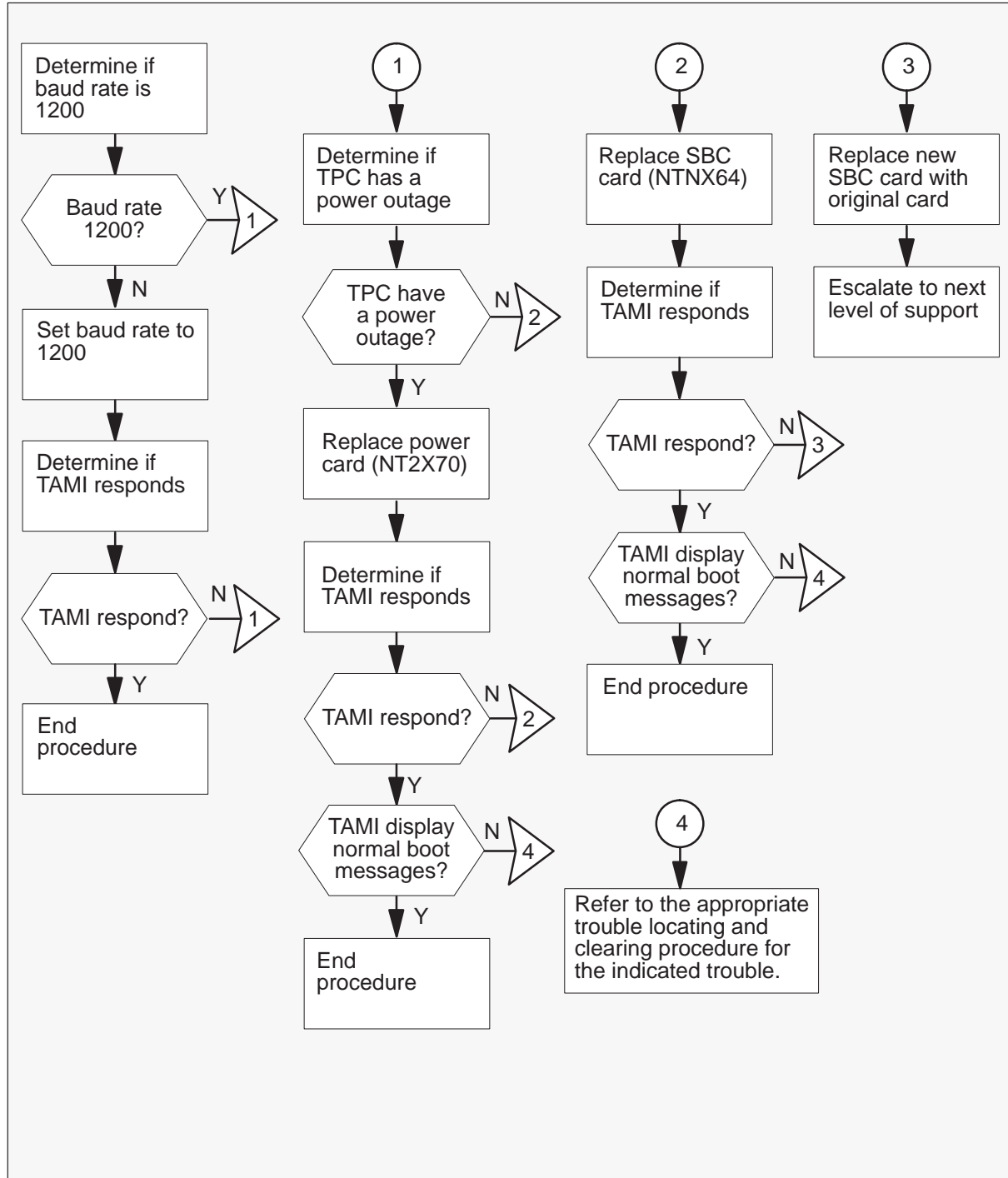
The system reports this trouble when the TAMI does not respond.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart as an overview of the procedure. Follow the steps to perform the procedure.

TOPS MP TAMI trouble (standalone) Clearing TAMI response failure (continued)

Summary of Clearing TAMI response failure



TOPS MP TAMI trouble (standalone)

Clearing TAMI response failure (continued)

Clearing TAMI response failure

At your current location

- 1 Use the documentation of the manufacturer to determine if the TAMI baud rate is set at 1200 baud.

If TAMI baud rate is	Do
1200	step 4
not 1200	step 2

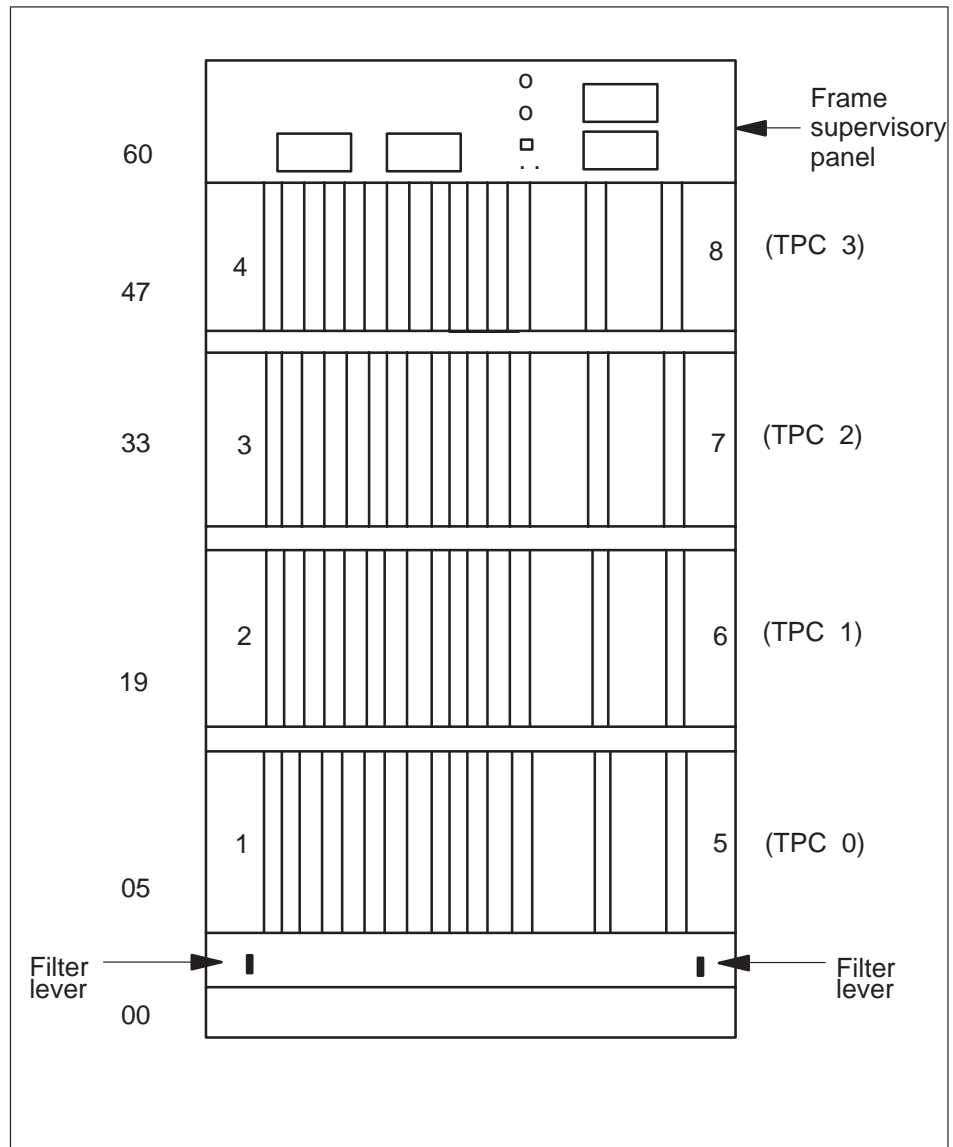
- 2 Use the documentation of the manufacturer to set the baud rate to 1200.
- 3 Determine if TAMI responds.

If TAMI	Do
responds	step 9
does not respond	step 4

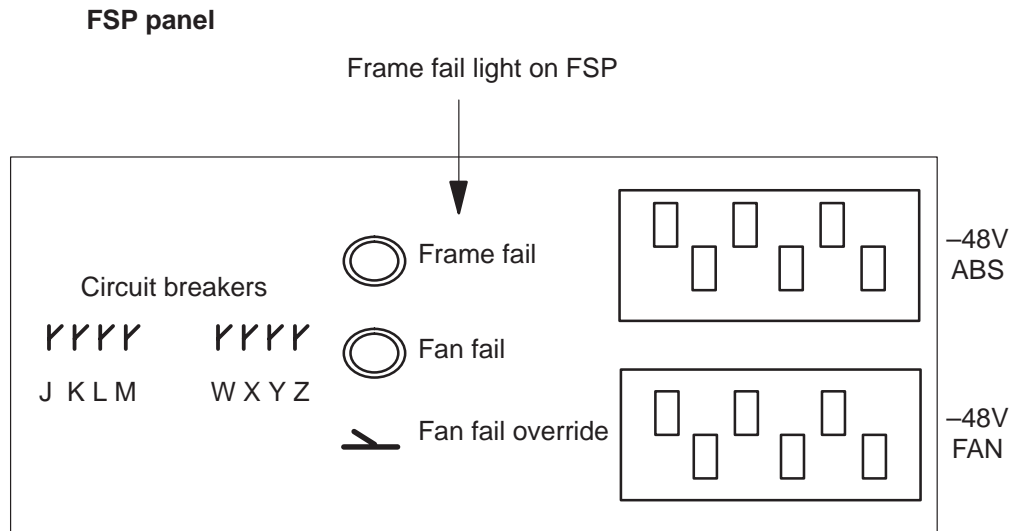
TOPS MP TAMI trouble (standalone) Clearing TAMI response failure (continued)

- 4 Check the frame fail light on the frame supervisory panel (FSP) to determine if the TPC has a power outage.

TPC cabinet



TOPS MP TAMI trouble (standalone)
Clearing TAMI response failure (continued)



If a power outage	Do
has occurred	step 5
has not occurred	step 6

- 5 Replace the power card in slots 1-3. Refer to *Card Replacement Procedures* and return to this point.

If TAMI	Do
responds with normal boot messages	step 9
does not respond	step 6
displays any other message	Refer to the correct clearing trouble procedure.

TOPS MP TAMI trouble (standalone)
Clearing TAMI response failure (end)

- 6 Replace the SBC card. Refer to *Card Replacement Procedures* and return to this point.

If TAMI	Do
responds with normal boot messages	step 9
does not respond	step 7
displays any other message	Refer to the correct clearing trouble procedure.

- 7 Replace the new SBC card with the original SBC card removed in step 6. Refer to *Card Replacement Procedures* and return to step 8.
- 8 For additional help, contact the personnel responsible for the next level of support.
- 9 This procedure is complete.

TOPS MPX Operator complaint audio/headset malfunction

Application

Use this procedure to determine an audio fault or headset malfunction that an operator reports.

Definition

An unsolicited operator complaint of audio trouble is a trouble report that an operator submits after the operator experiences trouble with a terminal.

Common procedures

You must NOT go to common procedures unless the step-action procedures direct you to.

The following common procedures support the removal and replacement of a Traffic Operator Multipurpose Extended (TOPS MPX) position. When you must replace a TOPS MPX position, perform the following procedures in the order given.

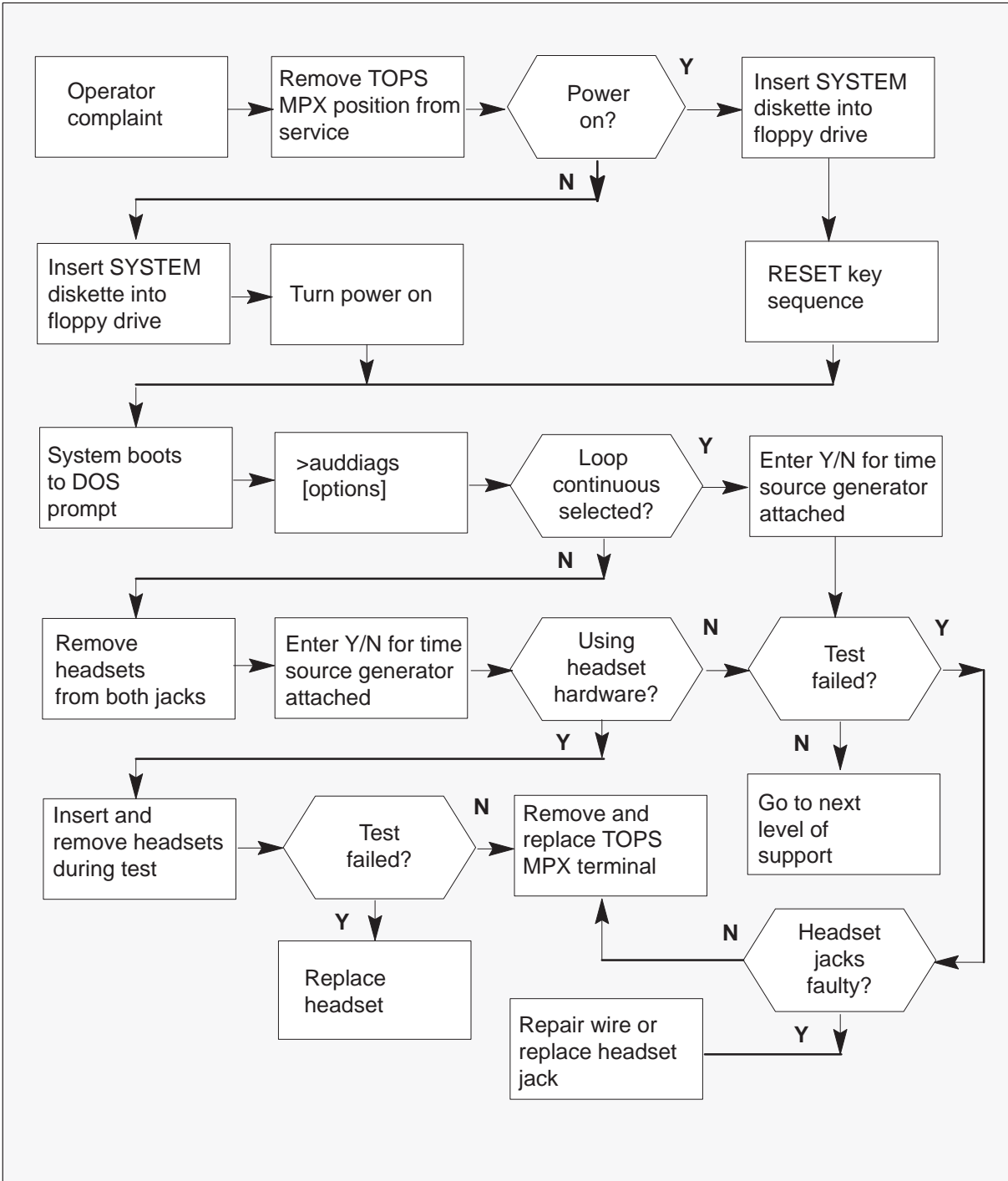
- 1 Remove a TOPS MPX terminal from service.
- 2 Disconnect a TOPS MPX terminal.
- 3 Replace a TOPS MPX terminal.
- 4 Place a TOPS MPX terminal in service.
- 5 Install, reinstall, or change TOPS MPX software.
- 6 Save key, screen, status messages, command privileges, and option definitions.
- 7 Install key and option definitions.
- 8 Update TOPS MPX software.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart as an overview of the procedure. Follow the steps to perform the procedure.

TOPS MPX Operator complaint audio/headset malfunction (continued)

Summary of operator complaint – audio/headset malfunction



TOPS MPX Operator complaint audio/headset malfunction

(continued)

Operator complaint – audio/headset malfunction

At your current location

1



CAUTION

Potential risk to service

If a voice trunk in the CPB state is force released while a call is the attached to its associated TOPS MPX position, the call will be lost.



CAUTION

Potential risk to service

If a voice trunk in the CPB state is force released while a call is the attached to its associated TOPS MPX position, the call will be lost

Use a known operating spare headset to replace the headset that you suspect is malfunctioning.

If	Do
malfunction clears	End of procedure.
malfunction does not clear	Perform common procedure to remove a TOPS MPX from service and return to this procedure and begin with step 2.

- 2 You must be entering this procedure from common procedure to remove a TOPS MPX terminal from service procedure.
- 3 Turn power off.
- 4 Insert System Disk in floppy drive.
- 5 Turn power on.
- 6 The system boots to DOS prompt display as appears below:

TOPS MPX Operator complaint audio/headset malfunction (continued)

TOPS MPX System Diskette successfully booted

Services available:

AUDDIAGS - MPX Audio Card Diagnostics

DFIRUN - Token Ring Diagnostics

To run one of these services, type the indicated name at the DOS prompt, followed by the ENTER key. Most of the standard DOS commands are available on this diskette. For a detailed description of all the commands available, type the command 'INFO' followed by the ENTER key.

A:|>

Note: At this point several commands are available. To execute a command, type the command name and press the DOS ENTER key. You can follow the command name with a space and any parameters.

For detailed descriptions of DOS internal commands, refer to your DOS manual. The following DOS and nonDOS external commands are available:

INFO	Describes commands. Run INFO for this list, or run INFO <command> for help on a correct command.
ATTRIB	DOS command to change file attributes.
CHKDSK	DOS command to verify and restore accuracy of the file system.
COMP	DOS command to compare two files.
DISKCOMP	DOS command to compare two diskettes.
DISKCOPY	DOS command to make a copy of a diskette.
FDISK	DOS command to read and set hard disk partition table.
FORMAT	DOS command to format hard disks and floppy diskettes.
LABEL	DOS command to set volume labels.
MEM	DOS command to report amount of available memory.
MODE	DOS command to set screen mode, redirect printer, etc.
PRINT	DOS print spooler.
SYS	DOS command to make a diskette bootable.
TREE	DOS command to display directories and subdirectories.
XCOPY	DOS extended copy command.
AUDDIAGS	Diagnostics for TOPS MPX audio card.

- 7 To select audio diagnostics, type the following command:

>AUDDIAGS [OPTIONS]

and press the DOS ENTER key.

where

options equals "e" or "l" or "e l"

e = extended error descriptions if a failure occurs during a test.

TOPS MPX Operator complaint audio/headset malfunction

(continued)

Note: Select the e (extended option) or do not select an option to check out the headset detection circuitry on the audio card. Select an option also to check out the circuitry on the audio path to and from the headset jacks. This action checks for faults in the headset wiring and headset jacks. When you use the headsets with a volume adjustment, set the level to the mid-range. You must use the headset hardware option for each new installation.

I = for loop continuous and stop on first failure.

Note: Select the I (loop continuous option) to check out the headset detection circuitry on the audio card. This action does not check faults in the headset wiring from the TOPS MPX to the headsets.

8 System prompts removal of headsets from both jacks.

Remove headsets from both jacks
and press the DOS ENTER key.

9 System queries if composite clock is attached:

Answer yes if the digital audio cable is attached and the composite clock in the time source generator is operational.

If you answer yes, the system asks you during testing to insert and remove headsets to/from the headset jacks. This action tests the headset detection circuitry on the audio card. This action also tests the wiring from the TOPS MPX to the headsets. Type

>Y

and press the DOS ENTER key.

or

Answer no if the digital audio cable is NOT attached or the composite clock in the time source generator is NOT operational.

If you answer no, the diagnostics use the onboard loopback relays to check the headset detection circuitry. Type

>N

and press the DOS ENTER key.

After you answer Y or N, the screen prompts as follows:

"Do you want to use your headset hardware to test? [Y/N]"

Answer prompts until all tests are complete.

TOPS MPX Operator complaint audio/headset malfunction (end)

10 System test report identifies defective components.

If	Do
audio card test failed, and the failure is one of the Headset in Detect tests	Perform the following steps: <ol style="list-style-type: none"> 1 Verify that the headset jacks on the position are operational (e.g. broken wire on jack). 2 If problem is not found in the headset jacks, use common procedures to replace TOPS MPX terminal.
audio card test failed	Perform the following steps: <ol style="list-style-type: none"> 1 Verify cable to digital telephony card is connected and operational. 2 If you find and correct a problem with the digital telephony card cable, return to step 7. 3 If you do not find a problem with the digital telephony card cable, use common procedures to replace TOPS MPX terminal.
audio card test passes	step 11
the headset or audio card are not defective	Go to the next level of support.

11 This procedure is complete and successful. Remove the system disk from the drive and return to common procedures to place a TOPS MPX terminal in service.

TOPS MPX Power-on self test

Application

Perform the power-on self test when a failure of the Traffic Operator Position System Multipurpose Extended (TOPS MPX) position hardware occurs.

Definition

This procedure performs the power-on self test of the TOPS MPX terminal. This procedure includes error messages and recommended actions to correct the failure.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart as an overview of the procedure. Follow the steps to perform the procedure.

Key Equivalents

Some DOS applications execute on a TOPS MPX and require the user to press exact keys on an IBM keyboard. If you use the TOPS MPX keyboard, you must press the TOPS MPX key that is equivalent to the requested IBM key. The necessary key equivalents appear in the following table:

IBM DOS KEY	EQUIVALENT TOPS MPX KEY
ENTER	Bus.
Backspace	Nes Req
Ctrl	<—
\	OGT
Cursor Left	Rls Cld
Cursor Right	ORDB
Cursor Down	Ca Call
Cursor Up	Key directly above Ca Call
Page Down	Sta
Page Up	Key directly above Sta
Delete	Clg
—continued—	

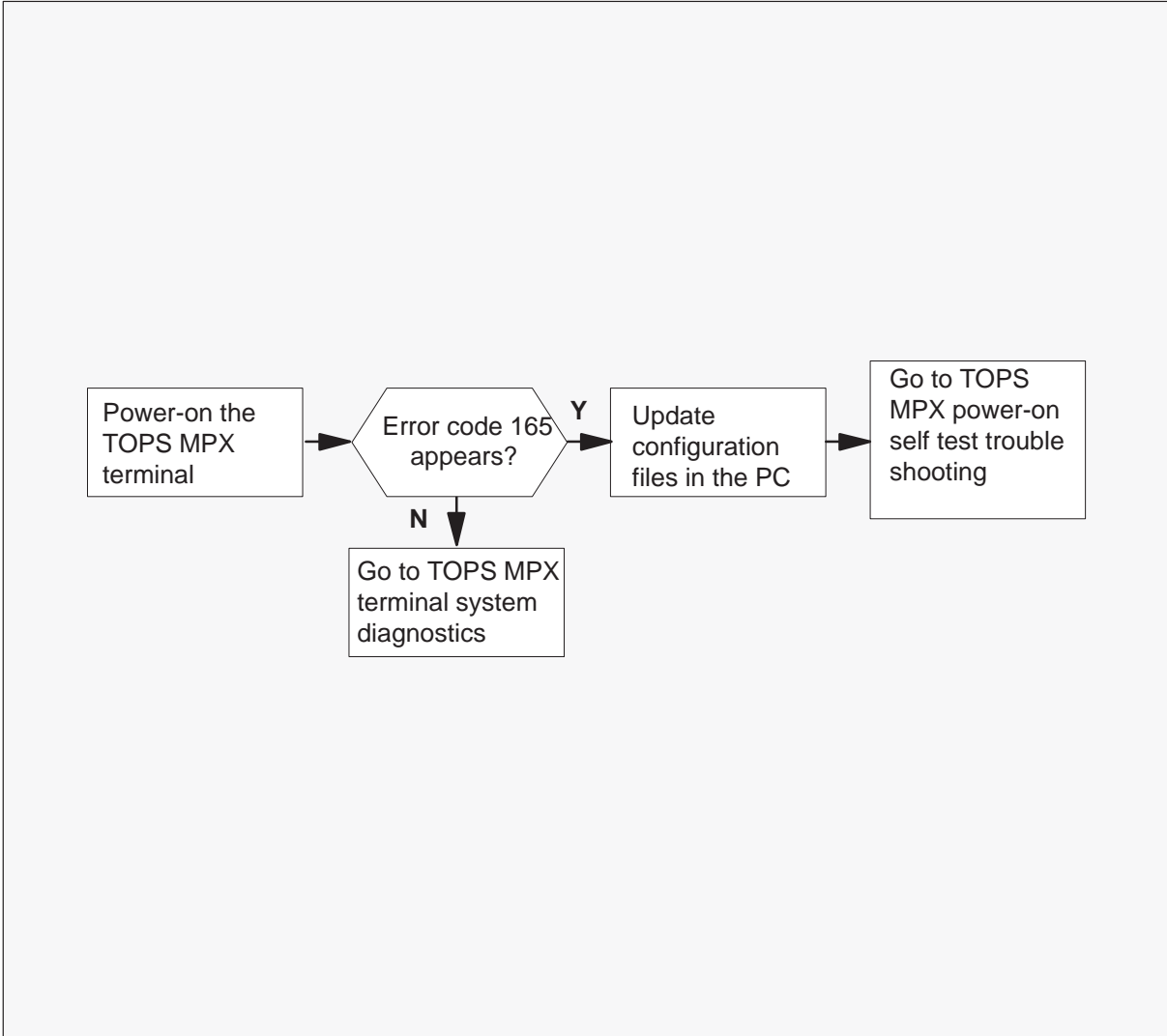
TOPS MPX Power-on self test
(continued)

IBM DOS KEY	EQUIVALENT TOPS MPX KEY
Insert	Key directly above Clg
End	Per
Home	Key directly above Per
Esc	Clear Field
F1	Key directly above Clear Field
F3	CMD
F4	ENTER
—end—	

TOPS MPX Power-on self test

(continued)

Summary of TOPS MPX terminal power-up self test



TOPS MPX Power-on self test (continued)

TOPS MPX terminal power-on self test

At the TOPS MPX terminal

- 1 Begin the power-on self test.

If	Do
power is already on	Activate the POWER OFF switch on the front of the controller to turn the TOPS MPX off. Wait 5 s. Turn the power on. Go to step 2.
power is off	Activate the POWER ON switch on the front of the controller to turn the TOPS MPX on. Go to step 2.

- 2 Observe the upper left hand corner of the screen.

As the system unit and memory are tested, the memory size appears in the upper left corner of the screen.

Note: If an error occurs, a three to five digit error code number will appear in the upper left corner of the display.

If	Then
no error code appeared and the system beeped once	The test is complete. Go to TOPS MPX terminal system diagnostic procedure.
MPX Initialization Failure: Function 3	Indicates that no composite clock is present on the digital telephony card. Check the digital telephony card cable and the time source generator. If cable and TSG are operational, go to the common procedure to remove and replace a TOPS MPX terminal
error code 165 appears and the screen is blank	Go to step 3.
—continued—	

TOPS MPX Power-on self test

(end)

If	Then
error code other than 165 appears and the screen is blank, or no error codes appear with a combination of beeps and the screen is blank	Go to the TOPS MPX Power-on self test troubleshooting procedure.
—end—	

- 3 Insert Hardware Reference Diskette.
- 4 Run Automatic Configuration
Explanation: A 165 error indicates an unidentified adapter in the PC.
Press F1 to continue the booting process.
- 5 Access the configuration menu.
The IBM logo screen appears on the terminal.
Press ENTER to continue.
The configuration menu appears with the following choices:
 - View Configuration
 - Change Configuration
 - Backup Configuration
 - Restore Configuration
 - Run Automatic Configuration
- 6 Update the Configuration files in the PC.
Select Run Automatic Configuration from the configuration menu.
The PC will read the adaptor IDs from the reference diskette and update the configuration files in the PC.
- 7 The update of the configuration files in the PC is correct and the power-on self test is complete. You can follow the sequence of tests that the system goes through to further test the TOPS MPX. To perform this action, go to TOPS MPX terminal system diagnostics.

TOPS MPX Power-on self-test troubleshooting

Application

Perform this troubleshooting procedure after a failure during the TOPS MPX power-on procedure.

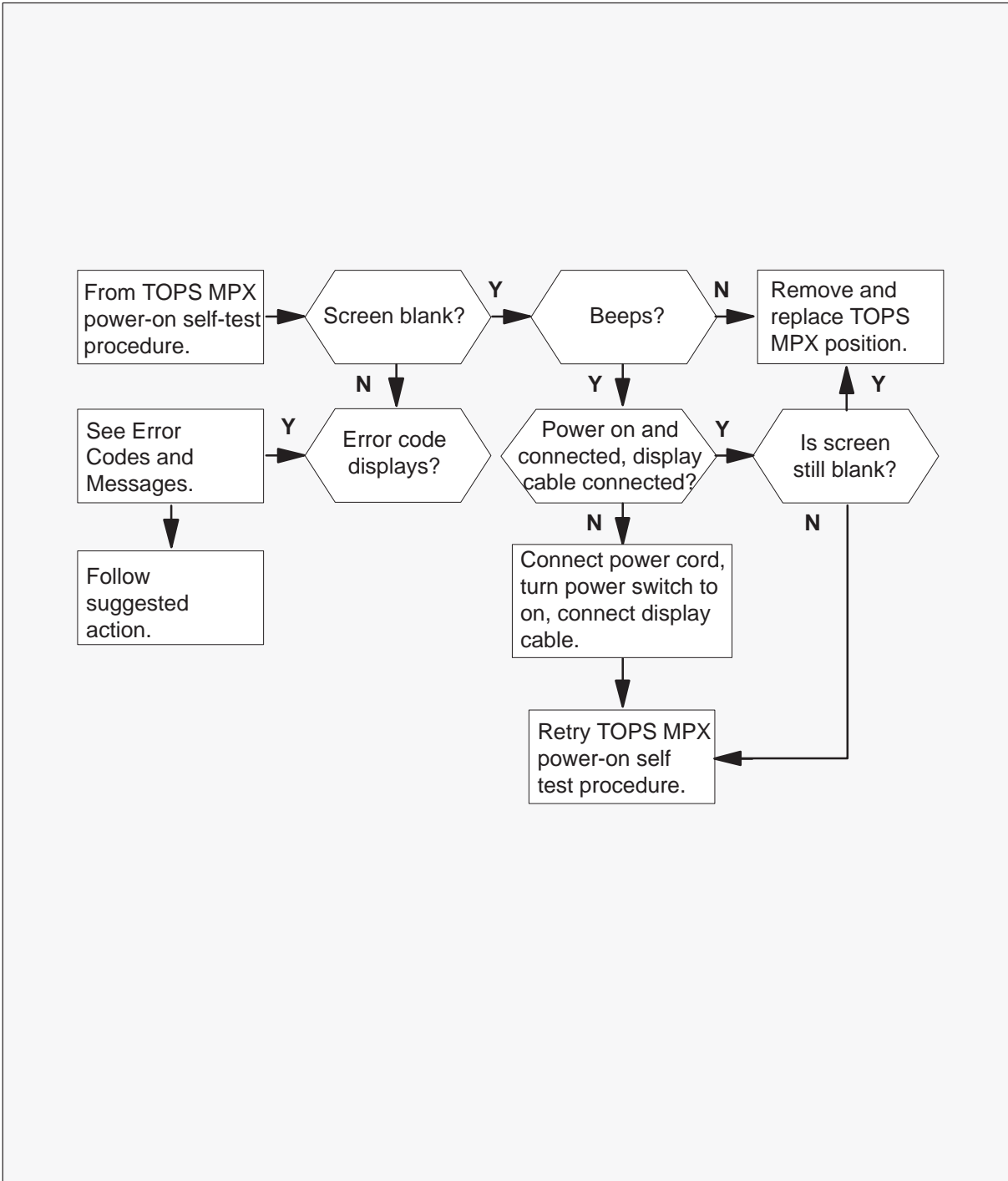
Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart as an overview of the procedure. Follow the steps to perform the procedure.

TOPS MPX Power-on self-test troubleshooting

(continued)

Summary of TOPS MPX power-on self-test troubleshooting



TOPS MPX Power-on self-test troubleshooting (continued)

TOPS MPX power-on self-test troubleshooting

At your current location

- 1 Continue if a step in a maintenance procedure directs you to this procedure. The use of this procedure without direction of a maintenance procedure, can cause equipment damage or service interruption.
- 2 After you attempt the power-on self-test and:

If	Do
<p>you do not understand the beeps screen is blank plus one beep</p>	<p>Turn the system off and on again. Check to see:</p> <ul style="list-style-type: none"> • If the display power cord plugs into a electrical outlet that works and into the system unit. • If the display is turned on and the brightness and contrast controls are turned up. • If the display signal cable plugs in to the correct connector on the system unit. • If the power switch is on. • If the above items are correct and screen remains blank, go to step 4.

TOPS MPX Power-on self-test troubleshooting

(continued)

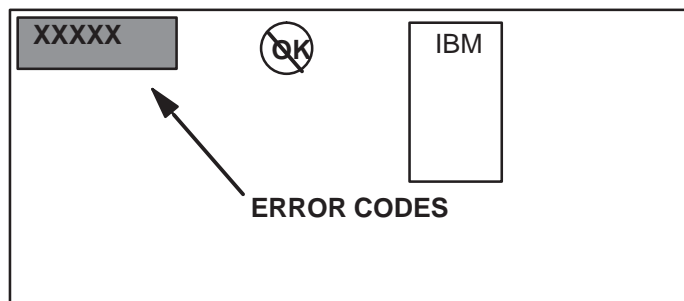
After you attempt the power-on self test and, (continued)

If	Do
Screen is blank and there are no beeps.	Check to see: <ul style="list-style-type: none">• If the system unit power cord is plugged in to a electrical outlet that works and in to the system unit.• If cables connected to the system are tight.• If the power switch is on.• If the above items are correct and screen remains blank, go to step 4.
Screen is blank plus two or more beeps.	step 4.
Only the cursor “_” displays.	step 4.
You cannot read the screen and the screen is distorted.	step 4.
Wrong characters display on the screen.	step 4.

TOPS MPX Power-on self-test troubleshooting (continued)

- 3 The internal self-test of the system finds an error with a code that is not 165.

Error Prompt displays on the screen. Consult the error codes and messages table on the last pages of this procedure.



If	Do
The internal self-test of the system finds an error.	Perform the following steps: <ol style="list-style-type: none"> 1 Write down the error number. 2 Compare error number with Error Codes and Messages chart and follow Suggested Action. 3 If you cannot see the IBM portion of the screen go to step 4.

- 4 Replace the unit with the common procedures sequence of removing and replacing a TOPS MPX terminal. To begin, go to *Removing a TOPS MPX terminal from service*. If the TOPS MPX position is replaced and the problem persists, contact the next level of maintenance.

Error Codes and Messages

Error Code	Description of Failure or Error	Suggested Action
101	Interrupt failure	1
102	Timer failure	1
103	Timer interrupt failure	1
—continued—		

TOPS MPX Power-on self-test troubleshooting

(continued)

Error Codes and Messages (continued)

Error Code	Description of Failure or Error	Suggested Action
104	Protected mode failure	1
105	Keyboard controller command failure	1
107	Hot NMI test	1
108	Timer bus test	1
109	Memory select	1
110	System board parity	1
111	I/O parity	1
112	Watchdog time-out	1
113	DMS arbitration time-out	1
114	External ROM checksum	1
160	System board ID recognized	1
161	Bad battery or configuration	1
162	CMOS checksum or adapter ID mismatch	1
163	Date and time not set	2
164	Memory size mismatch	1
165	Adapter ID mismatch	3
166	Card busy	1
167	System clock does not update	1
201	Memory miscompare or parity	1
202	Memory address line error (address line 00-15)	1
203	Memory address line error (address line 00-15)	1
211	Memory Base 64K on system board fails	1
—continued—		

TOPS MPX Power-on self-test troubleshooting (continued)

Error Codes and Messages (continued)

Error Code	Description of Failure or Error	Suggested Action
215	Memory Base 64K on daughter/SIP 2 fails	1
216	Memory Base 64K on daughter/SIP 1 fails	1
221	ROM to RAM copy	1
225	Wrong speed memory on system board	1
301	Keyboard interface	4
303	Keyboard or system board	4
304	Keyboard clock failure	1
305	Keyboard +5v error	1
601	Diskette drive or controller	1
602	Diskette boot record	5
1101	Async error	1
2401	System board video	1
8601	Mouse time-out	1
8602	Mouse interface	1
8603	Mouse interrupt	1
10480	Drive C seek failure	1
10481	Drive D seek failure	1
10482	Drive failed controller test	1
10483	Drive controller did not reset	1
10490	Drive C read failure	1
10491	Drive D read failure	1
—continued—		

TOPS MPX Power-on self-test troubleshooting (continued)

Error Codes and Messages (continued)

Error Code	Description of Failure or Error	Suggested Action
12901	Processor board test fails	1
12902	Cache portion of processor board test fails	1
—end—		

If Suggested Action is	Do
1	Power off the PC and try the procedure again. If the problem persists, go to step 4.
2	This indicates the user has not loaded the system software. Load system software or the hardware reference diskette and try the procedure again.
3	This indicates that the unit detects an adapter board that identifies to the system configuration. Go to <i>TOPS MPX power on self test</i> and perform Automatic Configuration.
—continued—	

TOPS MPX Power-on self-test troubleshooting (end)

If Suggested Action is	Do
4	<p>This indicates a problem the keyboard interface.</p> <ul style="list-style-type: none"> • Make sure the keyboard is plugged into the correct port on the back of the unit. • Check for keys on the keyboard that are pressed or stuck down. If this action does not correct the problem, try another keyboard and cable. • If the problem persists, go to step 4.
5	<p>This indicates a problem with the diskette in the A drive is present.</p> <ul style="list-style-type: none"> • To load the diskette again turn off the power to the PC, wait 10 s and power back on. • If the error occurs again, try another diskette.
—end—	

TOPS MPX terminal system diagnostic

TOPS MPX

Application

This procedure follows the sequence of tests that the system performs to complete system diagnostics.

Requirement

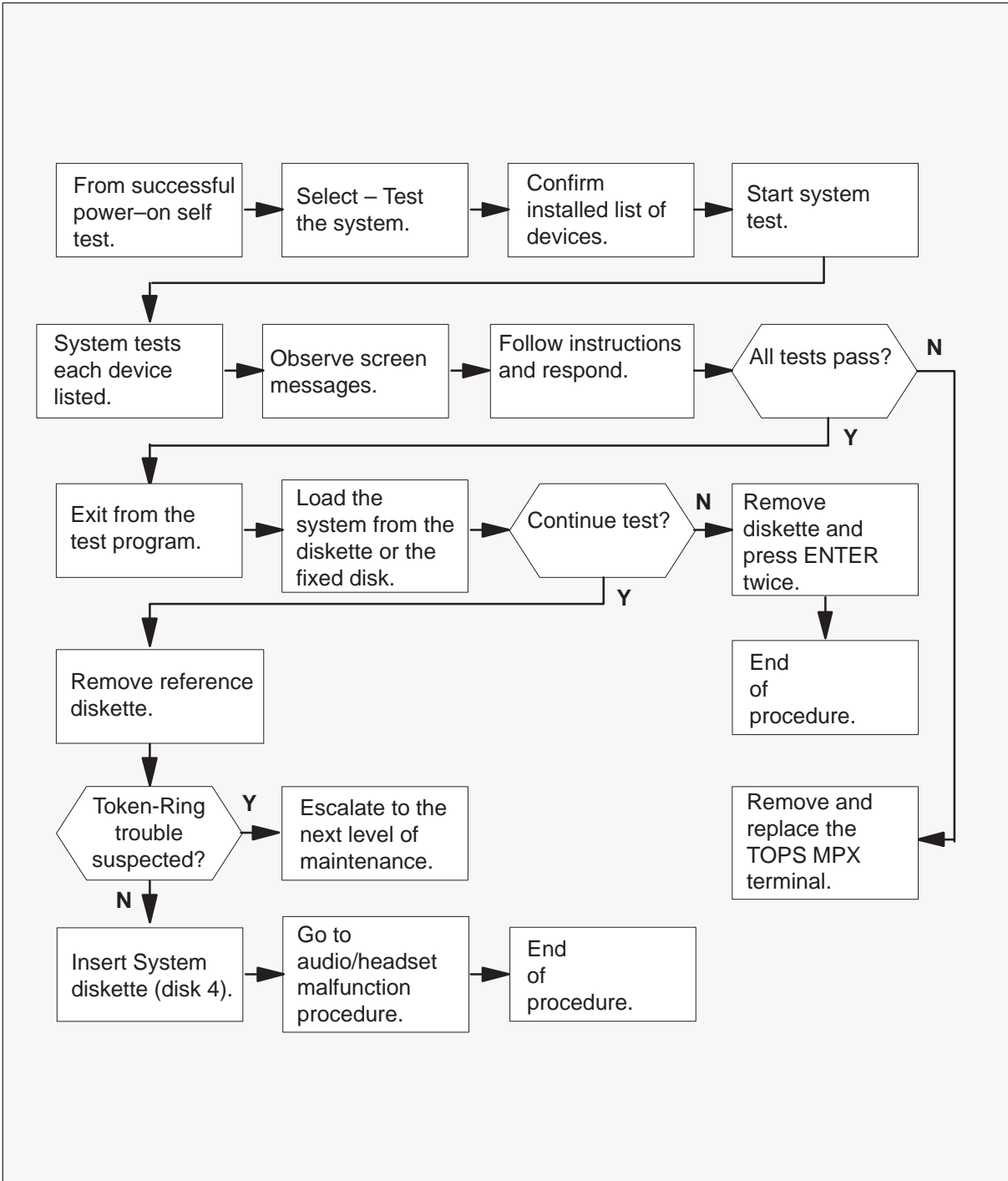
Do not perform this procedure unless the TOPS MPX power-on self-test completes.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart as an overview of the procedure. Follow the steps to perform the procedure.

TOPS MPX terminal system diagnostic TOPS MPX (continued)

Summary of TOPS MPX terminal system diagnostic



TOPS MPX terminal system diagnostic

TOPS MPX (continued)

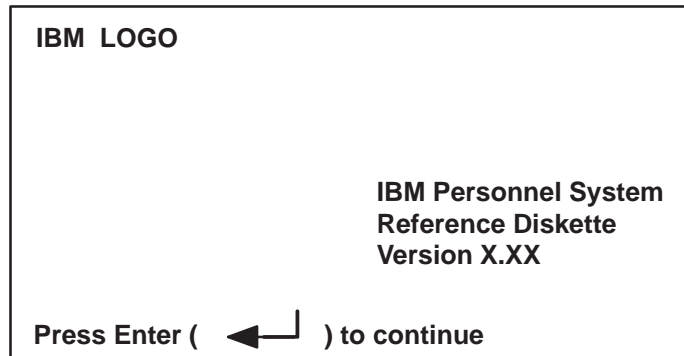
TOPS MPX terminal system diagnostic

At the TOPS MPX terminal

- 1 Begin the terminal system diagnostic.

If	Do
Power is on	To turn the TOPS MPX off, activate the POWER OFF switch on the front of the controller. Wait 5 s. Go to step 2.
Power is off	Go to step 2.

- 2 Insert Hardware Reference Diskette.
- 3 To turn power on, activate the POWER ON switch on the front of the controller.
- 4 After the self-test completes, the screen that follows displays:



TOPS MPX terminal system diagnostic TOPS MPX (continued)

- 5 To access the main menu, press

ENTER

The main menu appears on the screen.

MAIN MENU

- 1) Learn about the system
- 2) Backup the reference diskette
- 3) Set configuration
- 4) Set features
- 5) Copy (merge) an Option Diskette
- 6) Move the system
- 7) Test the system

Use the arrow keys to select. Press ENTER
ESC = Quit F1 = Help

- 6 Test the system.

With the Ca Call (Cursor Down) key, select 7 -Test the system and Press ENTER

The message screen that follows displays:

MESSAGE **Page 1 of 1**

The tests are being loaded. Please standby....

TOPS MPX terminal system diagnostic

TOPS MPX (continued)

- 7 Confirm the list of devices is the same list the test program sees installed in your computer.

When the tests are loaded, the message screen that follows displays:

MESSAGE	Page 1 of 1
System Unit	
1920 KB Memory	
Keyboard	
Parallel Port	
1 Diskette Drive	
System Board Async Port	
1 Video Graphic Array	
1 Multiport/2 or X.25 Mouse port	
1 ESD1 Fixed Disks	
Primary Token Ring Adapter	

Question	Page 1 of 1
This list shows the devices that the testing program sees as being installed in your computer. Is this list correct?	
Press Y or N	

- 8 Start the system test. The system tests each device, in sequence, as shown in step 4.

Press Y

and then

Press ENTER

TOPS MPX terminal system diagnostic TOPS MPX (continued)

The screen displays that follow indicate the beginning and the completion of the tests:

MESSAGE	Page 1 of 1
 Testing System Unit Do not power off or reboot the system.	

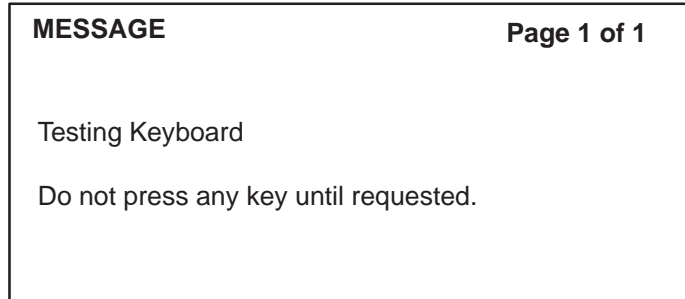
MESSAGE	Page 1 of 1
 COMPLETED System Test 1	

MESSAGE	Page 1 of 1
 1920 KB Memory To terminate test, press 'CTRL C'.	

MESSAGE	Page 1 of 1
 This test can take up to 5 minutes. Please standby...	

TOPS MPX terminal system diagnostic

TOPS MPX (continued)



9 Test keyboard keys.

A keyboard picture displays. When the keyboard picture appears, press each key on the keyboard. A character that identifies the key appears on the key that matches, in the picture.

To test the typematic function, hold the key and the character blinks.

After you test each key:

If	Do
Keyboard test passes	Press P and Enter.
Keyboard test fails	Press F and Enter.

TOPS MPX terminal system diagnostic
TOPS MPX (continued)

MESSAGE

Page 1 of 1

Complete -

Keyboard 3

MESSAGE

Page 1 of 1

Testing Parallel Port.

To terminate tests, press CTRL C.

MESSAGE

Page 1 of 1

Completed Testing

Parallel Port.

INSTRUCTIONS

Page 1 of 1

Please insert a scratch, high density diskette
into Drive A.

ENTER = Continue

TOPS MPX terminal system diagnostic

TOPS MPX (continued)

- 10 Remove Diskette 4 of 4, Hardware Reference Diskette from Drive A and insert a scratch, high density diskette into Drive A.

Press ENTER to continue.

MESSAGE	Page 1 of 1
Speed Test Running	

MESSAGE	Page 1 of 1
Formatting Diskette	

- 11 To format the diskette takes 3 min.

MESSAGE	Page 1 of 1
Random Read Testing	

TOPS MPX terminal system diagnostic
TOPS MPX (continued)

12 This test takes 5 min.

MESSAGE	Page 1 of 1
Write Protect Line	
Test Running	

INSTRUCTIONS	Page 1 of 1
Take out your scratch disk in Drive A, write protect the diskette and reinsert the diskette in the drive.	
ENTER = Continue	

TOPS MPX terminal system diagnostic

TOPS MPX (continued)

- 13 Take the scratch disk out of Drive A. Flip the write protect tab on back of the diskette to down position to see through the tab (write protect position). Insert the scratch disk in Drive A again.

Press ENTER to continue

MESSAGE	Page 1 of 1
Write Protect Line	
Test Running	

INSTRUCTIONS	Page 1 of 1
Now remove your scratch disk in Drive A. Remove the write protection and reinsert the diskette.	
ENTER = Continue	

- 14 Take the scratch disk out of Drive A. Flip the write protect tab on back of the diskette to the up position, so you cannot see through the opening (write enable position). Insert the scratch disk in Drive A again.

Press ENTER to continue

TOPS MPX terminal system diagnostic
TOPS MPX (continued)

MESSAGE

Page 1 of 1

Completed Testing of Diskette Drives - 6

MESSAGE

Page 1 of 1

Completed testing of System
Board Async Port

MESSAGE

Page 1 of 1

Running Controller Tests

MESSAGE

Page 1 of 1

Running Seek Tests

TOPS MPX terminal system diagnostic

TOPS MPX (continued)

- 15 This action test takes 2 min.

MESSAGE	Page 1 of 1
Running Read Tests	

MESSAGE	Page 1 of 1
Running Video Graphic Test	

- 16 The screen is blank for 7 s. A picture of all characters the keyboard can accept appears.

MESSAGE	Page 1 of 1
Does your screen show all characters that can be entered from the keyboard and the grey & white bar?	
Press 'Y' or 'N'	

TOPS MPX terminal system diagnostic
TOPS MPX (continued)

17 Display problem?

QUESTION	Page 1 of 1
Does your display have a problem?	
Press Y or N	

If	Do
A display problem is present.	Press Y and press ENTER. The test terminates. Remove and replace the defective unit. Mark the defective unit with the failed test. Replace the defective unit and begin the test sequence with the <i>TOPS MPX terminal power up self test</i> .
A display is not present.	Press N and press ENTER. Test continues.

TOPS MPX terminal system diagnostic
TOPS MPX (continued)

MESSAGE **Page 1 of 1**

Completed Video Graphic Array - 24

MESSAGE **Page 1 of 1**

Testing Multiport/2 or X.25/2 tests

18 This test takes 2 min.

MESSAGE **Page 1 of 1**

X.25/2 tests are running

QUESTION **Page 1 of 1**

Do you want to use a wrap plug to test the X.25/2 adapter in slot 1?

(To answer 'Y', you must have an IBM cable and wrap plug, and you must disconnect from the network.)

Press 'Y' or 'N'

TOPS MPX terminal system diagnostic
TOPS MPX (continued)

Press N

and

Press ENTER

MESSAGE	Page 1 of 1
Slot #1 Adapter reset in progress....	

MESSAGE	Page 1 of 1
Testing - Mouse Port	
Do not use keyboard or mouse until requested.	

QUESTION	Page 1 of 1
Is a mouse attached to the computer?	
Press 'Y' or 'N'	

TOPS MPX terminal system diagnostic

TOPS MPX (continued)

Press N

and

Press ENTER

MESSAGE	Page 1 of 1
Completed Testing - Mouse Port A	

MESSAGE	Page 1 of 1
Testing ESD1 Fixed Disk C is configured as a 30mb drive Is this correct? Note: It is possible that the disk is configured at 40mb. Press 'Y' or 'N'	

TOPS MPX terminal system diagnostic
TOPS MPX (continued)

Press Y

and

Press ENTER

MESSAGE	Page 1 of 1
Running ESD1 Seek Test	

MESSAGE	Page 1 of 1
Running Read Write Test	

MESSAGE	Page 1 of 1
Running Read Verify Test	

19 This test takes 3 min.

TOPS MPX terminal system diagnostic

TOPS MPX (continued)

MESSAGE

Page 1 of 1

Testing - Primary Token Ring Adapter

To terminate Press CTRL- C

MESSAGE

Page 1 of 1

Primary Adapter Select Cable Type

1. Token Ring Network Adapter Cable

2. Type 3 Media Filter Cable

To terminate Press CTRL- C

Use 'CA Call' key to select 1. Token Ring Network Adapter Cable.

Press ENTER

ESC = Quit F1 = Help

INSTRUCTIONS

Page 1 of 2

If not already done, disconnect the Primary adapter cable from the network.

Make sure the other end still connects to the Primary Token ring network adapter. remove the cable from the adapter board will result in a "16691 error" (Open Phase Test Failure).

Press 'ENTER'

TOPS MPX terminal system diagnostic TOPS MPX (continued)

INSTRUCTIONS

Page 2 of 2

You must compare the contents of the following screen with the parameters you recorded while viewing the configuration of the token ring adapter. If you did not configure the Token Ring Adapter, record the address of the adapter on the TOPS MPX Configuration Worksheet. Use the field labeled TOKEN RING ADAPTER ID. Also record any other information known about this terminal in the appropriate fields.

Press ENTER then the STA key to move to the second page of the adapter information. Record the address of the Token Ring Adapter on the TOPS MPX Configuration Worksheet.

Press ENTER

MESSAGE

Page 1 of 1

Testing - Primary Token Ring Adapter

Please wait, this test takes up to 2 min.

INSTRUCTIONS

Page 1 of 1

All tests passed.

You should now connect the Primary Token Ring Adapter cable to the network.

ENTER = Continue

TOPS MPX terminal system diagnostic
TOPS MPX (continued)

INSTRUCTIONS

Page 1 of 1

Remove the diskette in drive A. The computer hardware tests are complete. If testing found errors and you continue to have problems with the computer, refer to What If Testing Cannot Find the Problem in your Quick Reference manual.

ENTER = Continue

INSTRUCTIONS

Page 1 of 1

You are leaving the testing program. If you want to start your operating system from diskette, remove the diskette in drive A and insert the system diskette. If you want to start your operating system from the fixed disk, remove the diskette in drive A.

TOPS MPX terminal system diagnostic
TOPS MPX (end)

20 Reference Diskette test complete.

If	Do
There is no additional test required.	Remove the reference diskette from Drive A. Press ENTER twice. System now boots.
Additional test is necessary.	Remove the reference diskette, and insert the System disk (disk # 4 of 4). Press ENTER twice for 'A:>' to appear on screen. Go to audio/headset malfunction procedure.
Token Ring LAN diagnostics are necessary.	Go to Token Ring LAN troubleshooting procedure.

TOPS IWS Operator complaint Clearing database access trouble

Application

Use this Clearing TOPS IWS operator database system (DBS) access trouble procedure to check the external links to the database.

Definition

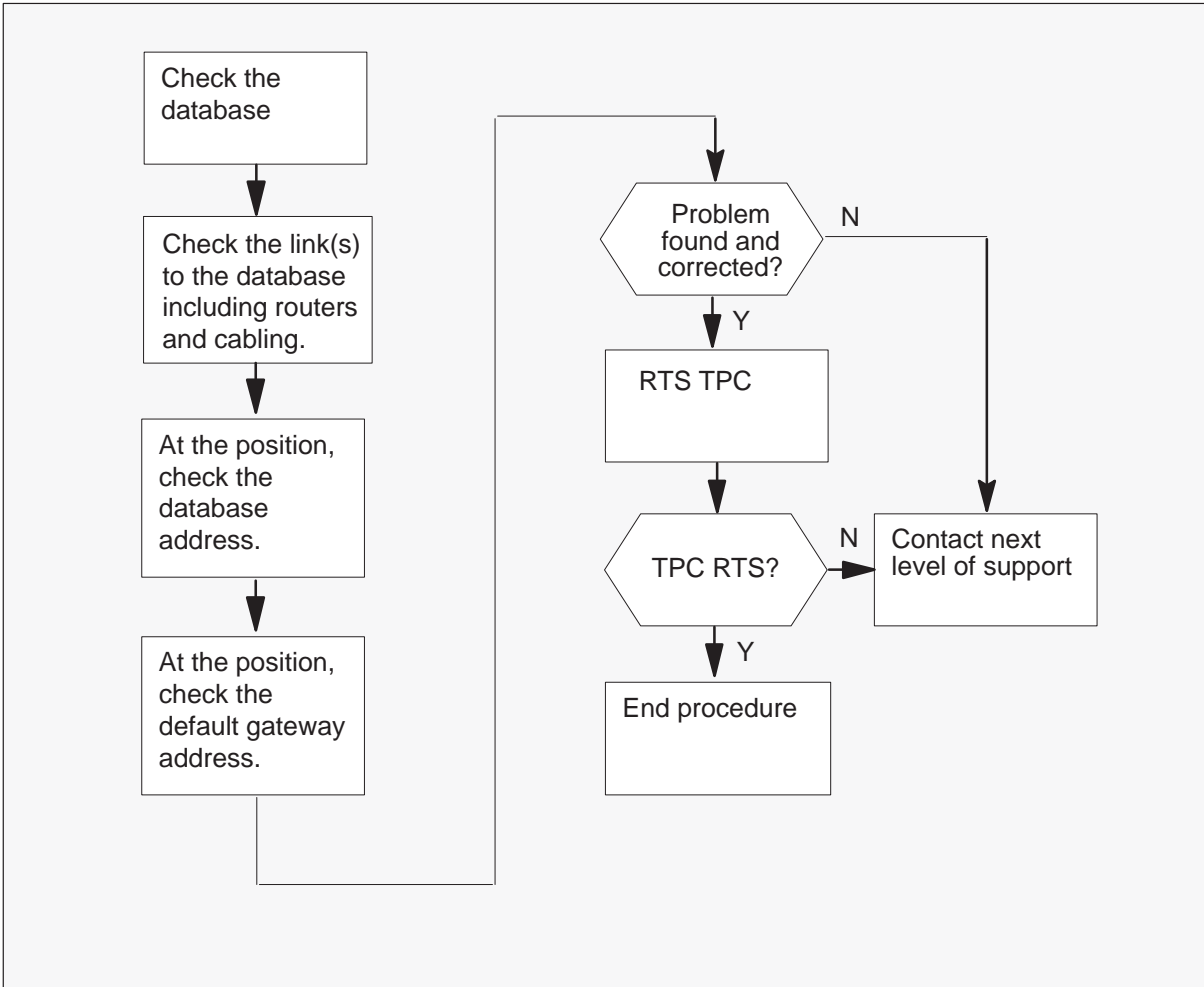
A PM TPC minor alarm or major alarm occurs for an SHI link to the database. In IWS R1s06, the TOPS IWS NTDA application was able to request an alarm for an external database link. As of R1s09, IWS NTDA is the only application that can generate this link alarm.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

TOPS IWS Operator complaint Clearing database access trouble (continued)

Summary of clearing database access trouble



Clearing database access trouble

At the database

- 1 Check the database. For a link alarm, the problem is not expected to be on the position or the IWS LAN. The reason is because the position and LAN must be functioning to generate the alarm. Check the database for proper operation using the documentation for that database. The following are example items to check:

- The database power is on.
- The database IP address is correct or recently changed.
- The database application software has not failed.
- The database datafill has changed or is not correct.

TOPS IWS Operator complaint Clearing database access trouble (continued)

- 2 For the Nortel NTDA database, refer to Helmsman disk *Directory One*, HLM-5001-001. This disk contains the following documents that may be helpful:
 - Directory One System Troubleshooting Manual, 203-5001-503
 - Directory One System Hardware Installation, 203-5001-201 (contains procedures to validate operation of the database and link)
 - Directory One Lite System Troubleshooting Manual, 203-5041-503
 - LION Troubleshooting Guide, 203-3061-503
 - NT DA Access IWS Installation and User Guide, 203-3171-300 (contains the database IP address and references to router documents)

At the link, including the router(s)

- 3 Check the connectivity between the position LAN and the database that includes any associated routers. As necessary, use network analysis tools at the database, routers, and, or, the position. For network tools for IWS positions, refer to the *IWS Base Platform Guide*, 297-2251-010. An example of a useful tool in this guide is the ping utility.

The Directory One System Troubleshooting Manual contains information on the link and routers. The following are example items to check:

- The router(s) power is on.
- The router(s) software has not failed.
- The cabling has a problem.

At the position

- 4 At the position, verify that the database IP address is correct. For an IWS position connected to an IWS NTDA database, use the NTDA MPX Setup datafill utility. Refer to the *IWS NTDA Application Guide*, 297-2251-017. Note that the NTDA MPX Setup tool name changed to NTDA Setup in IWS RIs08. The database IP address may not be correct because the database address changed.
- 5 At the position, verify that the default gateway address is correct. For an IWS position, use the Wollongong Pathway PWSETUP tool. Refer to the *IWS Base Platform Guide*, 297-2251-010, for information on using PWSETUP and network communication settings. Note, the company name of Wollongong changed to Attachmate, but the current documentation refers to Wollongong. Also note in IWS RIs11, the Wollongong Pathway package is no longer used for network communications. This change is because of the move from the Windows 3.11 platform to either the Window 95 or Windows 98 platform.

TOPS IWS Operator complaint
Clearing database access trouble (end)

- 6 Consider the results of troubleshooting.

If problem	Do
found and corrected	step 7
not found and corrected	step 8

- 7 Attempt to return the TPC to service, type
>RTS
press the Enter key.

If TPC	Do
returns to service	step 9
does not return to service	step 8

- 8 Contact the next level of support for additional help.
- 9 This procedure is complete.

TOPS MPX Token Ring LAN troubleshooting

Error codes

Ring Diagnostic output error codes (166nn)

Error Code	Meaning	Action
16689	<p>Microcode download failure</p> <p>The adapter microcode download fails.</p>	<p>Make sure the adapter is firmly seated in the adapter slot.</p> <p>Make sure the adapter microcode is loaded to the correct disk or diskette.</p> <p>Run the diagnostics again. If the failure continues to occur, follow the remove and replace procedures for the TOPS MPX position. This procedure is located in the common procedures section of this manual.</p>
16690	<p>Adapter card test failure</p> <p>The diagnostics detect a failure during initialization of the adapter.</p>	<p>Make sure the adapter is firmly seated in the adapter slot.</p> <p>Check the established configuration. If necessary run the automatic configuration procedure.</p> <p>Run the diagnostics again. If the failure continues to occur, follow the remove and replace procedures for the TOPS MPX position. These procedures are located in the common procedures section of this manual.</p>
—continued—		

TOPS MPX Token Ring LAN troubleshooting (continued)

Ring Diagnostic output error codes (166nn) (continued)

Error Code	Meaning	Action
16691	Open phase test failure	<p>Replace the adapter cable with a spare working cable until the problem is fixed.</p> <p>Run the diagnostics again. If the failure continues to occur, follow the remove and replace procedures for the TOPS MPX position. These procedures are in the common procedures section of this manual.</p> <p>If the failure does not occur again, the adapter cable is defective. Replace the damaged cable.</p>
16692	<p>Computer problem</p> <p>The computer detects an error.</p>	<p>Use the test on the Reference diskette to run the diagnostics on the computer. Follow the instructions the diagnostics provide.</p>
—continued—		

TOPS MPX Token Ring LAN troubleshooting

(continued)

Ring Diagnostic output error codes (166nn) (continued)

Error Code	Meaning	Action
16693	Transmit/receive test failure	<p>Replace the adapter cable with a spare working cable until the problem is fixed.</p> <p>Run the diagnostics again. If the failure continues to occur, follow the remove and replace procedures for the TOPS MPX position. These procedures are in the common procedures section of this manual.</p> <p>If the failure does not occur again, the adapter cable is defective. Replace the damaged cable.</p>
16699	<p>General error</p> <p>The diagnostics detect a failure during initialization of the adapter.</p>	<p>Make sure the adapter is firmly seated in the adapter slot.</p> <p>Check the established configuration. If necessary, run the automatic configuration procedure.</p> <p>Run the diagnostics again. If the failure continues to occur, follow the remove and replace procedures for the TOPS MPX position. These procedures are in the common procedures section of this manual.</p>
—end—		

The Ring Diagnostic**Description**

The Ring Diagnostic analyzes events on the ring and displays information about the ring. The Ring Diagnostic determines if the ring works and determines problems on the ring. The Ring Diagnostic only views events on the ring attached to the terminal that runs the software. To view other Token Rings, load the Ring Diagnostic on a terminal attached to the ring you want to view.

TOPS MPX Token Ring LAN troubleshooting (continued)

The Ring Diagnostic output appears on the screen. The Ring Diagnostic can send the data area messages to a printer. To use the print feature, a locally attached printer is configured and installed. Install the printer on the TOPS MPX position that is running the Ring Diagnostic.

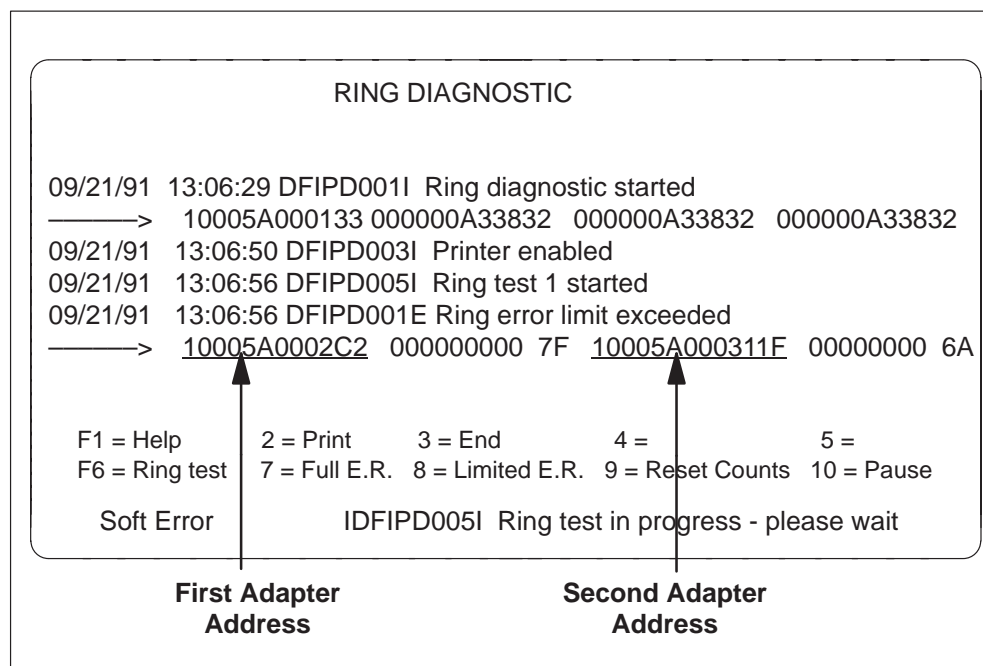
The Ring Diagnostic displays the information in three categories. Each category appears in a separate area of the screen. Data Area Messages appear in the upper portion of the screen. Ring Status and Ring Diagnostic Status appear on the bottom line of the screen. A vertical bar (|) separates Ring Status and Diagnostic Status information.

Ring Status: The most important information is Ring Status. The Ring Status indicates the different conditions of the ring. These conditions range from normal ring operation to a wire fault.

Ring Diagnostic Status: This information indicates the operating status of the Ring Diagnostic.

Data Area Messages: The most detailed information supplied by the Ring Diagnostic is Data Area Messages. The Ring Diagnostic supplies this information to find a problem on the ring.

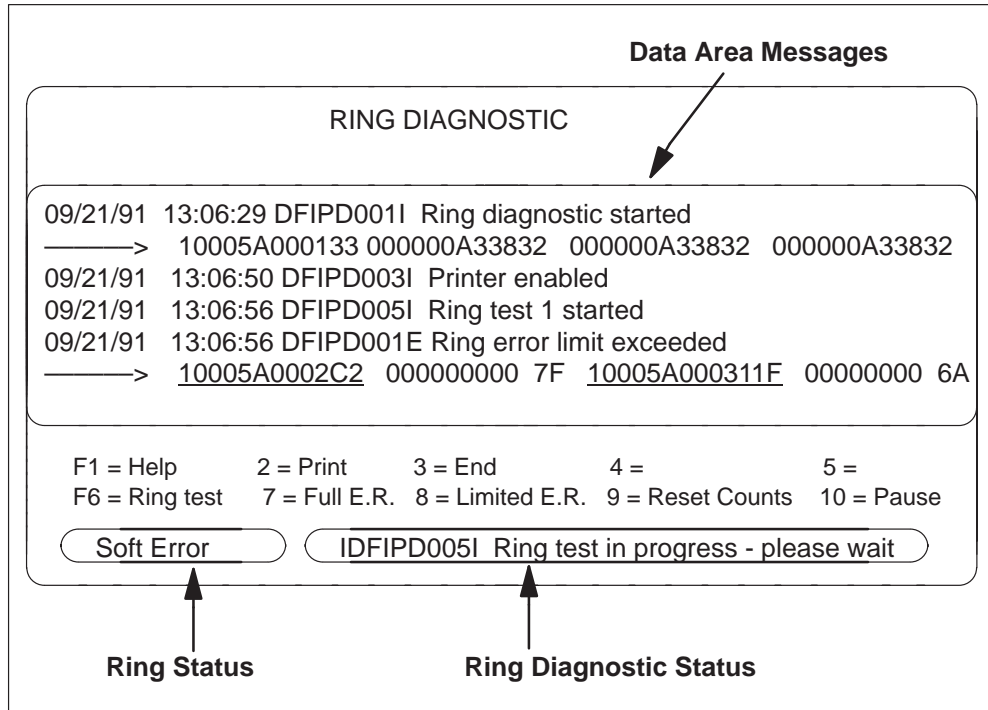
Ring Diagnostic screen



TOPS MPX Token Ring LAN troubleshooting

(continued)

Ring Diagnostic screen



TOPS MPX Token Ring LAN troubleshooting (continued)

The Function Keys

The function keys are the only active Ring diagnostic keys. The PC beeps if any other keys are pressed.

Ring Diagnostic screen

RING DIAGNOSTIC

```

09/21/91 13:06:29 DFIPD001I Ring diagnostic started
-----> 10005A000133 000000A33832 000000A33832 000000A33832
09/21/91 13:06:50 DFIPD003I Printer enabled
09/21/91 13:06:56 DFIPD005I Ring test 1 started
09/21/91 13:06:56 DFIPD001E Ring error limit exceeded
-----> 10005A0002C2 000000000 7F 10005A000311E 00000000 6A
    
```

F1 = Help	2 = Print	3 = End	4 =	5 =
F6 = Ring test	7 = Full E.R.	8 = Limited E.R.	9 = Reset Counts	10 = Pause

Soft Error IDFIPD005I Ring test in progress - please wait

Function Key Descriptions

TOPS MPX Token Ring LAN troubleshooting

(continued)

Ring Diagnostic Function Keys

Key	Description
F1 Help Key	<p>To view Help, press F1.</p> <p>The Help panels provide a description of the function keys. The Help panels display the address of the adapter that runs the ring Diagnostic and the code level of the adapter. The Help panel also displays the Adapter Support Interface and the Ring Diagnostic.</p> <p>After each Help panel appears, the screen is in the Pause mode. When you view the Help panels, two functions are available and appear on the screen:</p> <ul style="list-style-type: none"> • F3 (End) • F10 (Pause) <p>To view the next Help panel, press F10 (Pause) to cancel Pause.</p> <p>To cancel Help and return to the Ring Diagnostic mode in use before you used the Help function, press F3 (End).</p>
F2 Print	<p>To print all Data Area Messages. When Data Area Messages appear, press F2.</p> <p>To cancel printing, press F2 again.</p> <p>Data area messages continue to appear when the Print function is active. The function key 2 = Print is highlighted when the Print function is active.</p> <p>If the printer is not ready, F4 (Retry Print) is displayed.</p>
F3 End	<p>To end the Ring Diagnostic and return to DOS, press F3.</p> <p>To cancel Help and return to the Ring Diagnostic mode in use before you used the Help function, press F3 (End).</p>
F4 Retry Print	<p>This key appears when a printer error occurs.</p> <p>To start the printer after you remove the cause of the printer error, press F4 (Printer Retry).</p>
—continued—	

TOPS MPX Token Ring LAN troubleshooting (continued)

Ring Diagnostic Function Keys (continued)

Key	Description
F5 Dump	<p>This key appears if an error occurs when you attempt to start the Ring Diagnostic. This key also appears if an error does not allow the Ring Diagnostics to continue.</p> <p>To save the dumped computer memory information, insert a blank, formatted diskette in A Drive.</p> <p>To access the prompt messages to write a portion of the computer memory to a diskette, press F5 (Dump).</p>
F6 Ring Test	<p>To test the Adapter Support Interface and the ability of the Token Ring to pass data, press F6.</p> <p>A test result message appears when each step of the two-step test completes.</p>
F7 Full E.R.	<p>To monitor all error report messages the system sends to the data area of the display, press F7.</p> <p>This mode displays all beacon status updates when you perform manual recovery actions.</p> <p>The function key 7 = Full E.R. is highlighted when you activate the Full Error Reporting function.</p> <p>To cancel Full Error Reporting, press F7 (Full E.R.) again.</p>
F8 Limited E.R.	<p>To monitor only soft error reports from the adapters that meet a defined error level, press F8.</p> <p>The error reports appear in the data area of the display. The system sends the messages to the data area when the ring error limit reaches the halfway point. Ring response can be slow when the ring error limit reaches the halfway point.</p> <p>The function key 8 = Limited E.R. is highlighted when you activate the Full Error Reporting function.</p> <p>To cancel Limited Error Reporting, press F8 (Limited E.R.) again.</p>
—continued—	

TOPS MPX Token Ring LAN troubleshooting

(continued)

Ring Diagnostic Function Keys (continued)

Key	Description
F9 Reset Counts	<p>To reset the error counts that the error reporter function of the Ring Diagnostic maintains, press F9.</p> <p>Press this key if you received message 120.</p> <p>The system saves messages that are in the print or display buffers.</p>
F10 Pause	<p>To stop the scrolling of messages in the data area, press F10. Messages scroll in the data area because the data area fills.</p> <p>The function key 10 = Pause is highlighted when you activate the Pause function.</p> <p>When Pause is active, the system sends new messages to a display buffer. If this buffer fills to 80% of the buffer capacity, a message appears in the Ring Diagnostic status area. To bring the messages in the display buffer to the data area of the screen, cancel Pause.</p> <p>To start scrolling again or cancel Pause, press F10 (Pause) again.</p>
—end—	

TOPS MPX Token Ring LAN troubleshooting (continued)

The Ring Status Area

All ring status conditions appear in the list below. All ring status conditions, except Normal, are highlighted on the screen and status conditions remain highlighted until normal ring status returns. Generate a data area message when ring status changes. Refer to Data Area Messages.

RING DIAGNOSTIC

```

09/21/91 13:06:29 DFIPD001I Ring diagnostic started
-----> 10005A000133 000000A33832 000000A33832 000000A33832
09/21/91 13:06:50 DFIPD003I Printer enabled
09/21/91 13:06:56 DFIPD005I Ring test 1 started
09/21/91 13:06:56 DFIPD001E Ring error limit exceeded
-----> 10005A0002C2 000000000 7F 10005A000311F 00000000 6A
    
```

F1 = Help 2 = Print 3 = End 4 = 5 =
 F6 = Ring test 7 = Full E.R. 8 = Limited E.R. 9 = Reset Counts 10 = Pause

Soft Error IDFIPD005I Ring test in progress - please wait

↑
Ring Status

TOPS MPX Token Ring LAN troubleshooting

(continued)

Ring Status Conditions

Condition	Description
Normal	The Ring Diagnostic processes information, and the ring operates normally.
Soft Error	The ring experiences intermittent problems. Data transmitted on the ring more than once are received correctly.
Beaconing	The ring does not work. A broken wire or a defective adapter can cause the ring to stop. When the problem is isolated to one adapter, the system displays the logical address of the problem to an operator. The system displays the address of the problem in a data area message.
Adapter Closed	This IBM Token Ring Network PC Adapter is not actively attached to the network.
Wire Fault	A problem occurs with the connection between the attaching device and the multi-station access unit (MAU).

TOPS MPX Token Ring LAN troubleshooting (continued)

Ring Diagnostic Status Area Messages

The Ring Diagnostic Status area messages appear with the message number and message text.

RING DIAGNOSTIC

```

09/21/91 13:06:29 DFIPD001I Ring diagnostic started
-----> 10005A000133 000000A33832 000000A33832 000000A33832
09/21/91 13:06:50 DFIPD003I Printer enabled
09/21/91 13:06:56 DFIPD005I Ring test 1 started
09/21/91 13:06:56 DFIPD001E Ring error limit exceeded
-----> 10005A0002C2 000000000 7F 10005A000311E 00000000 6A
    
```

F1 = Help 2 = Print 3 = End 4 = 5 =
 F6 = Ring test 7 = Full E.R. 8 = Limited E.R. 9 = Reset Counts 10 = Pause

Soft Error IDFIPD005I Ring test in progress - please wait

↑
Ring Diagnostic Status

The following Ring Diagnostic Status messages are listed by message number. The message number is the **3 numeric digits** in the message identifier.

TOPS MPX Token Ring LAN troubleshooting (continued)

Ring Diagnostic Status Area Messages

Message Number	Message/Text/Meaning/Action
DFIPD002I	<p>Message: Operation in progress – please wait</p> <p>Meaning: The program performs an operation. This message appears when the Ring Diagnostic performs an operation. This operation occurs a function key is pressed.</p> <p>Action: Wait for the operation to complete</p>
DFIPD005I	<p>Message: Ring test in progress – please wait</p> <p>Meaning: To initiate a ring test, press F6 (Ring Test). This message displays until the ring test completes.</p> <p>Action: Wait for the ring test to complete. Look for the results in the data area.</p>
DFIPD008I	<p>Message: Ring adapter open in progress – please wait</p> <p>Meaning: The program opens the ring adapter. This message displays until initialization is complete or data area message DFIPD040E displays.</p> <p>Action: Wait for the adapter to open.</p>
DFIPD080W	<p>Message: Display buffer 80% full</p> <p>Meaning: The display buffer is 80% full. The display buffer is an area in memory that holds the Ring Diagnostic output. The display buffer holds Ring Diagnostic output until the system can send the output to the display. The display buffer can hold up to 100 lines of data. When the buffer becomes full, new data is lost. This message occurs when the data area is in the Pause mode.</p> <p>Action: To return the Ring Diagnostic in the Help mode, press F3 (End). If you are not in Help mode, deactivate Pause, Full E.R., or Limited E.R. functions, if active.</p>
—continued—	

TOPS MPX Token Ring LAN troubleshooting (continued)

Ring Diagnostic Status Area Messages (continued)

Message Number	Message/Text/Meaning/Action
DFIPD081E	<p>Message: Display buffer overflow – data lost</p> <p>Meaning: The display buffer is full. The latest data is lost.</p> <p>Action: To return to the Ring Diagnostic in Help mode, press F3 (End). If you are not in Help mode, deactivate Pause, Full E.R., or Limited E.R. functions, if active.</p>
DFIPD090W	<p>Message: Printer needs attention</p> <p>Meaning: There is no response from the printer. The printer is not connected, off-line, jammed, or out of paper.</p> <p>Action: Check to see if the printer is:</p> <ul style="list-style-type: none"> • Powered on • On-line • Supplied with paper • Connected to the PC <p>To try the printer again, correct the print problem and press F4 (Retry Print).</p> <p>If this action does not correct the printer error, press F2 (Print). F2 disables the printer and allows continued use of the Ring Diagnostic.</p>
—continued—	

TOPS MPX Token Ring LAN troubleshooting

(continued)

Ring Diagnostic Status Area Messages (continued)

Message Number	Message/Text/Meaning/Action
DFIPD990E	<p>Message: XX</p> <p>Meaning: (The two Xs represent an error code in the form of two hexadecimal digits.) This code indicates an abnormal end occurs.</p> <p>Action: If the error code is 45, press F3 (End) and try a different System Disk.</p> <p>If the code is not 45, press F3 (End) and do the following:</p> <ol style="list-style-type: none">1 Start the PC again with the System diskette in the A Drive.2 Start the Ring Diagnostics again.3 If the same message occurs, try a different System Diskette.4 If the problem is not corrected, press F5 (Dump). Follow the actions in the messages that display.
—end—	

TOPS MPX Token Ring LAN troubleshooting (continued)

Data Area Messages

Data Area Messages

RING DIAGNOSTIC

09/21/91 13:06:29 DFIPD001I Ring diagnostic started
 ———> 10005A000133 000000A33832 000000A33832 000000A33832

09/21/91 13:06:50 DFIPD003I Printer enabled

09/21/91 13:06:56 DFIPD005I Ring test 1 started

09/21/91 13:06:56 DFIPD001E Ring error limit exceeded
 ———> 10005A0002C2 000000000 7F 10005A000311F 00000000 6A

F1 = Help 2 = Print 3 = End 4 = 5 =
 F6 = Ring test 7 = Full E.R. 8 = Limited E.R. 9 = Reset Counts 10 = Pause

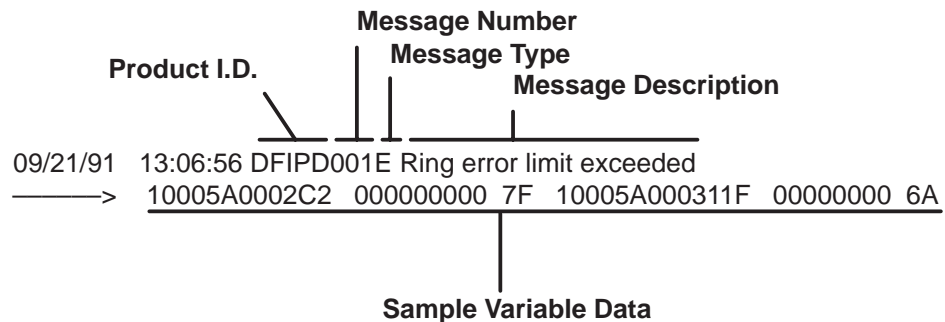
Soft Error IDFIPD005I Ring test in progress - please wait

Data area messages have one or two lines. The number of lines depends on if variable data is associated with the message. When two lines display, the second line is variable data.

The three types of messages are:

- **I – Information**
- **W – Warning**
- **E – Error**

The identification of the Data Area Message components appears below.



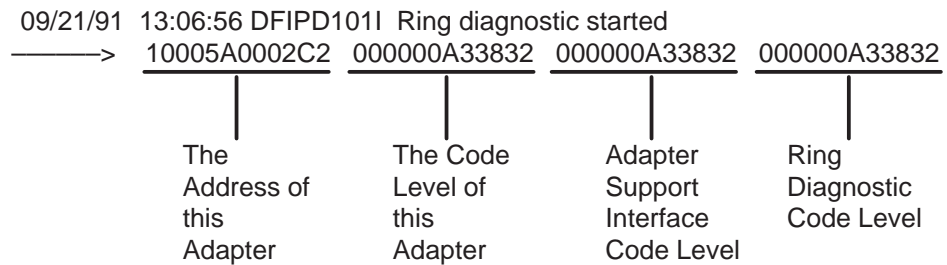
TOPS MPX Token Ring LAN troubleshooting

(continued)

The following table lists the data area messages and probable causes.

Data Area Message Descriptions

Message Number	Message/Meaning/Action/Variable Data
DFIPD001I	<p>Message: Ring diagnostic started</p> <p>Meaning: The Ring Diagnostic completes initialization. When this message displays, ring status is Normal.</p> <p>Action: None required, unless you have not recorded the address of the adapter. If the address is not recorded, record the adapter address at this time. The first Help panel contains the adapter address.</p> <p>Variable Data:</p>



TOPS MPX Token Ring LAN troubleshooting (continued)

Message Number	Explanation
DFIPD003I	<p>Message: Printer enabled</p> <p>Meaning: The printer is active. The user pressed F2 (Print) or started the Ring Diagnostic with the /P parameter in effect.</p> <p>Action: There is no action required.</p> <p>Variable Data: Does not apply</p>
DFIPD004I	<p>Message: Printer disabled</p> <p>Meaning: The printer is disabled. The user pressed F2 (Print) while the print was activated.</p> <p>Action: There is no action required.</p> <p>Variable Data: Does not apply</p>
DFIPD010I	<p>Message: Full error reporting enabled</p> <p>Meaning: Full Error Reporting is active. The user pressed F7 (Full E.R.) or started the Ring Diagnostic with the /F parameter in effect.</p> <p>Action: There is no action required.</p> <p>Variable Data: Does not apply</p>
DFIPD011I	<p>Message: Full error reporting disabled</p> <p>Meaning: Full Error Reporting is disabled. The user pressed F7 (Full E.R.) when Full E.R. was in effect.</p> <p>Action: There is no action required.</p> <p>Variable Data: Does not apply</p>
—continued—	

TOPS MPX Token Ring LAN troubleshooting

(continued)

Message Number	Explanation
DFIPD012I	<p>Message: Limited error reporting enabled</p> <p>Meaning: Limited Error Reporting is active. The user pressed F8 (Limited E.R.) or started Ring diagnostic with the /L parameter in effect.</p> <p>Action: There is no action required.</p> <p>Variable Data: Does not apply</p>
DFIPD013I	<p>Message: Limited error reporting disabled</p> <p>Meaning: Limited Error Reporting is disabled. The user pressed F8 (Limited E.R.) when Limited Full E.R. was in effect.</p> <p>Action: There is no action required.</p> <p>Variable Data: Does not apply</p>
DFIPD014I	<p>Message: Error counters reset</p> <p>Meaning: The error counters for the soft error reporter function of the Ring Diagnostic are reset. The user pressed F9 (Reset Counts). When this message displays, a ring status of Soft Error changes to Normal.</p> <p>Action: There is no action required.</p> <p>Variable Data: Does not apply</p>
DFIPD015I	<p>Message: Ring test 1 started</p> <p>Meaning: Ring test 1 started. The user pressed F6 (Ring Test). The Ring Diagnostic sends a message to test the Adapter Support Interface and the adapter in this computer.</p> <p>Action: Wait for another message that indicates the result of ring test 1.</p> <p>Variable Data: Does not apply</p>
—continued—	

TOPS MPX Token Ring LAN troubleshooting (continued)

Message Number	Explanation
DFIPD016I	<p>Message: Ring test 1 successful – test 2 started</p> <p>Meaning: Ring test 1 completed and ring test 2 starts. Ring diagnostic sends a message to complete the test of the Adapter Support Interface in this computer. This message appears after message number DFIPD015I.</p> <p>Action: Wait for a message that indicates the result of ring test 2.</p> <p>Variable Data: Does not apply</p>
DFIPD017E	<p>Message: Ring test 1 failed – test stopped</p> <p>Meaning: The Ring Diagnostic could not complete ring test 1</p> <p>Action: When ring status is Normal, run the Adapter Diagnostics. Make sure the diagnostics indicate that the adapter functions and the message repeats. Remove and replace the TOPS MPX position. Follow the common procedures. Install the replacement TOPS MPX. Begin the test. Use the TOPS MPX power-on self test. If the known working TOPS MPX position flags this error, there is a problem with the adapter cable or the MAU.</p> <p>Variable Data: Does not apply</p>
DFIPD018I	<p>Message: Ring test 2 successful – test complete</p> <p>Meaning: Ring test 2 is complete. The Adapter Support Interface and adapter sent out a message that returned correctly. This message appears after the message number DFIPD016I.</p> <p>Action: There is no action required.</p> <p>Variable Data: Does not apply</p>
—continued—	

TOPS MPX Token Ring LAN troubleshooting

(continued)

Message Number	Explanation
DFIPD019E	<p>Message: Ring test 2 failed – test is complete</p> <p>Meaning: Ring test 2 did not send a message around the ring. The Adapter Support Interface or this adapter does not send or receive the message correctly.</p> <p>This message appears when message DFIPD230E displays and the Ring Diagnostic starts.</p> <p>Action: When ring status is Normal, run the Adapter Diagnostics. Make sure the diagnostics indicate that the adapter functions and the message repeats. Remove and replace the TOPS MPX position. Follow the common procedures. Install the replacement TOPS MPX. Begin the test. Use the TOPS MPX power-on self test. If the known working TOPS MPX position flags this error, a problem with the adapter cable or the MAU is present.</p> <p>Variable Data: Does not apply</p>
DFIPD040E	<p>Message: Ring Diagnostic initialization failed.</p> <p>Meaning: The Ring diagnostic cannot start correctly. The error is caused by an internal program error or by the creation of the back-up copy of the System Disk.</p> <p>Action: Refer to the variable data and to the chart below to determine the reason for failure.</p> <p>Variable Data:</p>
—end—	

```

09/21/91 13:06:56 DFIPD040E Ring diagnostic initialization failed
-----> 0010 10005A00133 000000A33832 000000A33832 000000A33832
          |           |           |           |           |
          Reason    The         The Code   Adapter   Ring
          Code      Address of  Level of  Support   Diagnostic
                   of this     this     Interface Code Level
                   Adapter
    
```

TOPS MPX Token Ring LAN troubleshooting (continued)

Reason Code	Reason	Action
0002	Initialize command fails.	Refer to Action #1 after this table.
0003	Open command fails.	Refer to Action #1 after this table.
0007	Status command fails.	Refer to Action #1 after this table.
0008	Adapter already in use.	Use optional parameter /I to invoke the Ring diagnostic.
000A	Parameters were not passed to the Ring Diagnostic.	Use a different System Diskette. A problem with the Ring Diagnostic is present.
000E	Wrong optional parameter.	Use a different System Diskette. A problem with the Ring Diagnostic is present.
000F	Printer initialization fails.	Remedy the problem with the printer.
0010	Help initialization fails.	Use a different System Diskette. A problem with the Ring Diagnostic is present.
0015	Error reporter fails.	Use a different System Diskette. A problem with the Ring Diagnostic is present.
0018	The wrong level of DOS is used.	Make sure you use the DOS version 4.0 or higher.
0001A	Formatter initialization fails.	Use a different System Diskette. A problem with the Ring Diagnostic is present.
All other numbers		Refer to Action #2 after this table.

TOPS MPX Token Ring LAN troubleshooting (continued)

Message Number	Explanation
DFIPD040E (cont)	<p>Action #1: A second message appears after message DFIPD040E. The second message provides additional information. Take the action the other message indicates.</p> <p>Action #2:</p> <ul style="list-style-type: none"> • To start the PC again, turn off the power. Wait 5 s. Turn the power back on with the system disk in the A Drive. • To start the Ring Diagnostics again, type DFIRUN and press ENTER. • If the message continues to display, run the Adapter Diagnostics. • If the message continues to display, try a different System diskette. • If the problem continues a problem with the adapter or the PC is present. Remove and replace the TOPS MPX position. Follow the common procedures. Install the replacement TOPS MPX. Begin the test. Use the TOPS MPX power-on self test.
DFIPD040E	<p>Message: Ring Diagnostic ended</p> <p>Meaning: The user pressed F3 (End) or the initialization failed and caused the Ring Diagnostic to end. When this message displays because the user pressed F3 (End), ring status is Adapter Closed or Wire Fault.</p> <p>Action: If the user did not press F3 (End), refer to the previous messages for more information.</p> <p>Variable Data: Does not apply</p>
—continued—	

TOPS MPX Token Ring LAN troubleshooting (continued)

Message Number	Explanation
DFIPD081E	<p>Message: Display buffer overflow – data lost</p> <p>Meaning: The area that stores display messages is full. New data is lost. This problem can occur because the Ring Diagnostic remains in Pause or Help too long. This problem can also occur because the system generates messages too fast for the display.</p> <p>The system generates messages too fast when the user activates Full E.R. or Limited E.R. on a ring with a high error rate.</p> <p>Action: To return to the Ring Diagnostic in the Help mode, press F3 (End). If you are not in the Help mode, deactivate Pause, Full E.R., or Limited E.R. functions.</p> <p>Variable Data: Does not apply</p>
—continued—	

TOPS MPX Token Ring LAN troubleshooting

(continued)

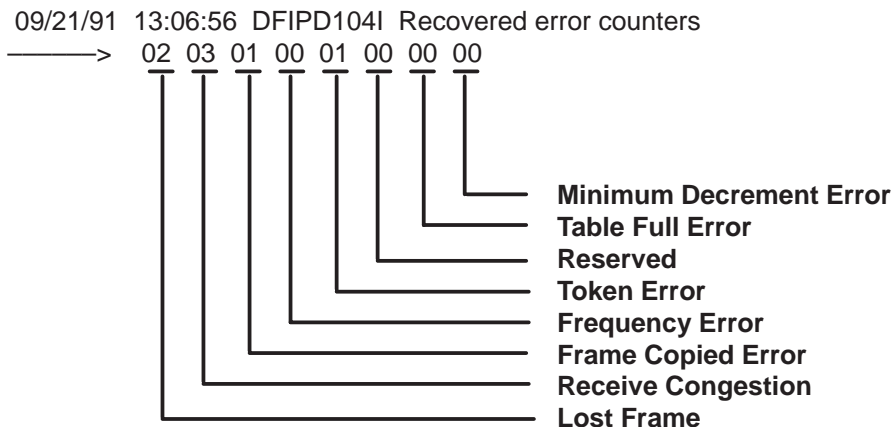
Message Number	Explanation
DFIPD101E	<p>Message: Ring error limit exceeded</p> <p>Meaning: The number of soft errors exceeds the limit. This can degrade the performance of the ring. When this message appears, ring status is Soft Error.</p> <p>Action: Record the ring status. Write down the addresses of the first and second adapters.</p> <ul style="list-style-type: none"> • To clear the error counters, press the F9 (Reset Counts) key. If the errors continue, disconnect the adapters that cause the errors. Reset the counters again. If errors do not continue, troubleshoot the terminals that cause the problems. Look for defective cables, connectors, or loose connections. • If the preceding action does not solve the problem, a defective MAU can be the cause of the problem. Isolate the MAU where the terminals were connected and run the test again. If this action does not solve the problem, replace the MAU. • If the problem persists, it is possible that there is more than one defective MAU. Continue troubleshooting to locate any additional defective MAUs or adapters. <p>Variable Data:</p> <p style="text-align: center;">—end—</p>

```

09/21/91 13:06:56 DFIPD101E Ring diagnostic error limit exceeded
-----> 10005A00133 00000000 7F 000000A35890 00000000 6A
              |         |         |         |         |         |
              |         |         |         |         |         |
            First   First   Error   Second   Second   Error
            Adapter Adapter Count Adapter Adapter Count
            Address Physical Address Physical Address
    
```

TOPS MPX Token Ring LAN troubleshooting (continued)

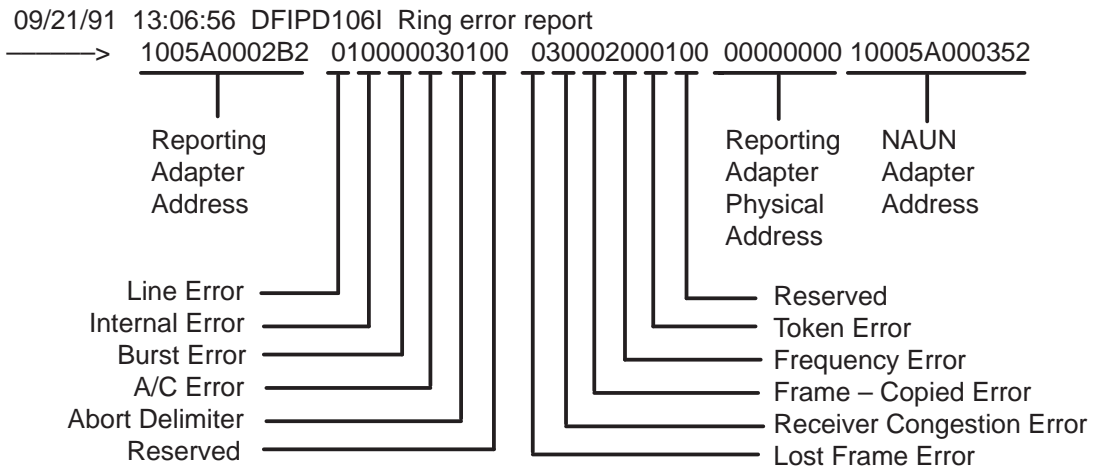
Message Number	Explanation
DFIPD104I	<p>Message: Recovered error counters</p> <p>Meaning: The number of recovered errors exceeds the reporting limit. The source of these errors cannot be determined. This message displays only when Full E.R. is activated. This message is a normal function of the ring. When this message appears, the ring status is Normal or Soft Error.</p> <p>Action: There is no action required.</p> <p>Variable Data:</p>



TOPS MPX Token Ring LAN troubleshooting

(continued)

Message Number	Explanation
DFIPD106I	<p>Message: Ring error report</p> <p>Meaning: A soft error is detected. This message is a normal function of the ring. This message occurs only when Full E.R. or Limited E.R. is activated. When this message appears, ring status is Normal or Soft Error.</p> <p>Action: There is no action required.</p> <p>Variable Data: Does not apply</p>



NAUN (Nearest Active Upstream Neighbor): The NAUN device is the first device (in the ring sequence) involved with the error. The beaoning device is the last device (in the ring sequence) involved with the error.

TOPS MPX Token Ring LAN troubleshooting (continued)

Message Number	Explanation
DFIPD107E	<p>Message: Adapter congested</p> <p>Meaning: More traffic is sent to the adapter than the adapter can manage. The adapter cannot receive a surplus number of frames. This message is an alert.</p> <p>Action: If the problem continues, it is possible that the adapter has a hardware or software problem. Run the Adapter Diagnostics.</p> <p>Variable Data: Does not apply</p>
DFIPD108I	<p>Message: Ring poll failure</p> <p>Meaning: The ring poll, also called neighbor notification, process encounters an error, and recovery occurs. This message displays only when Full E.R. is activated. When this message displays, ring status is Normal or Soft Error.</p> <p>Action: There is no action required.</p> <p>Variable Data:</p>

```

09/21/91 13:06:56 DFIPD081I Ring poll failure
----->  10005A0002B2 10005A000352
           |           |
           |           |
         Reporting   Address of
         Adapter     Last Adapter
         Address     Responding to
                   Ring Poll
```

TOPS MPX Token Ring LAN troubleshooting

(continued)

Message Number	Explanation
DFIPD109I	<p>Message: Ring monitor error – ring recovered</p> <p>Meaning: The ring recovers after a ring monitor error occurs. This message appears only when Full E.R. is activated. When this message appears, ring status is Normal or Soft Error.</p> <p>Action: There is no action required.</p> <p>Variable Data:</p>

```

09/21/91 13:06:56 DFIPD109I Ring monitor error – ring recovered
-----> 1005A0002B2 0002 00000000 10005A000352
          |         |         |         |
          Ring      Error      Ring      NAUN
          Monitor   Reason     Monitor   Adapter
          Address   Code       Physical  Address
                   Code       Address
    
```

Message Number	Explanation
DFIPD110I	<p>Message: Error reporter failed – processing continues</p> <p>Meaning: The system logs the message when the Ring Diagnostic detects an adapter that is not congested any longer.</p> <p>Action: There is no action required.</p> <p>Variable Data: Does not apply</p>
—continued—	

TOPS MPX Token Ring LAN troubleshooting (continued)

Message Number	Explanation
DFIPD120E	<p>Message: Error reporter failed – processing continues</p> <p>Meaning: The soft error reporter function of the Ring diagnostic fails. The Ring diagnostic continues to process other information.</p> <p>Action: To set the soft error reporter function again, press F9 (Reset Counts). If this message occurs again, do the following:</p> <ol style="list-style-type: none"> 1 Start the PC again (remove power, wait 5 seconds, and apply power again). 2 Start the Ring Diagnostic. 3 If the same message occurs, use a different System Diskette and run the test again. 4 If the preceding action does not correct the problem, record the variable data. Check for problems with the PC and the adapter card. <p>Variable Data:</p>
—end—	

```

09/21/91 13:06:56 DFIPD120E Error reporter failed – processing continue
-----> 0002
          |
          | Error
          | Reason
          | Code
    
```

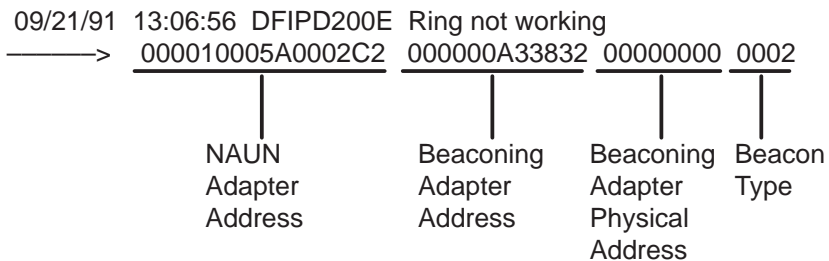
TOPS MPX Token Ring LAN troubleshooting

(continued)

Message Number	Explanation
DFIPD140I	<p>Message: Only adapter on ring</p> <p>Meaning: The Ring diagnostic detects that this is the only active adapter on the ring.</p> <p>Action: If you know other devices are active on the ring, check the other devices to make sure they are operational.</p> <p>Variable Data: Does not apply</p>
DFIPD141I	<p>Message: Additional adapters on ring.</p> <p>Meaning: The Ring Diagnostic detects at least one other adapter on the ring becomes active.</p> <p>Action: There is no action required.</p> <p>Variable Data: Does not apply</p>
—continued—	

TOPS MPX Token Ring LAN troubleshooting
(continued)

Message Number	Explanation
DFIPD200E	<p>Message: Ring not working</p> <p>Meaning: The Ring Diagnostic determines that the ring is beaoning. Recovery can take a some time. If the Ring Diagnostic was running, auto-recovery is in progress. If starting the Ring Diagnostic, auto-recovery failed. When Full E.R. is active and you enter manual recovery, this message can appear often. This message indicates how the recovery actions affect the ring. When this message displays, ring status is Beaoning.</p> <p>Action: Wait at least one minute and observe ring status.</p> <p>If ring status does not change, record ring status and do the following:</p> <ol style="list-style-type: none"> 1 Disconnect the beaoning adapter from the ring. If this corrects the problem, run the Adapter Diagnostics on that PC. 2 Isolate the problem to the PC or the cable, and replace the damaged element. 3 If the problem persists, it is possible that the MAU has faults. Break the ring into separate MAUs and trouble-shoot the problem. Replace the defective MAU and restore the ring to operation. To properly install the new MAU (per MAU reset procedure), use the reset tool. <p>Variable Data:</p>



TOPS MPX Token Ring LAN troubleshooting

(continued)

Message Number	Explanation
DFIPD201E	<p>NAUN (Nearest Active Upstream Neighbor): The NAUN device is the first device (in the ring sequence) involved with the error. The beaconing device is the last device (in the ring sequence) involved with the error.</p> <p>Message: Ring not working – this adapter beaconing</p> <p>Meaning: The Ring Diagnostic determines that this adapter is Beaconing. When this message displays, ring status is Beaconing.</p> <p>Action: Wait for the next message and follow the actions for the message.</p> <p>Variable Data: Does not apply</p>
DFIPD202E	<p>Message: Ring recovery failed</p> <p>Message: The auto-recovery of the adapter did not work. When this message displays, the ring status is Beaconing.</p> <p>Action: This action requires manual recovery. Record ring status and attempt recovery as described in DFIPD200E – Ring not working.</p> <p>Variable Data: Does not apply</p>
DFIPD203I	<p>Message: Ring recovered</p> <p>Meaning: The ring recovers and operates normally. When this message displays, ring status is Normal or Soft Error.</p> <p>Action: There is no action required.</p> <p>Variable Data: Does not apply</p>
<p>—continued—</p>	

TOPS MPX Token Ring LAN troubleshooting (continued)

Message Number	Explanation
DFIPD204I	<p>Message: Ring recovered – adapter removed</p> <p>Meaning: The adapter, indicated in the following variable data, is logically removed from the active ring. The ring recovers. When this message displays, ring status is Normal or Soft Error.</p> <p>Action: Record the ring status. Run the Adapter Diagnostics on the removed adapter.</p> <p>Variable Data:</p>
—end—	

```

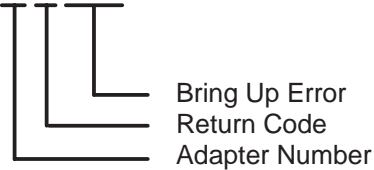
09/21/91 13:06:56 DFIPD204I Ring recovered – adapter removed
-----> 10005A0002C2
          |
          | Removed
          | Adapter
          | Address
    
```

TOPS MPX Token Ring LAN troubleshooting

(continued)

Message Number	Explanation
DFIPD210E	<p>Message: Unable to initialize ring adapter</p> <p>Meaning: The Ring Diagnostic is not able to start this adapter.</p> <p>Action: Verify that the indicated adapter is installed and the switches are set correctly. Correct any errors found. If the message repeats, do the following:</p> <p>Run the Adapter Diagnostics. If diagnostics indicate the adapter is operational, and this message repeats, record the variable data and troubleshoot the problem as for DFIPD200E – Ring not working.</p> <p>Variable Data:</p>

09/21/91 13:06:56 DFIPD210E Unable to initialize ring adapter
-----> 00070007



TOPS MPX Token Ring LAN troubleshooting

(continued)

Message Number	Explanation
DFIPD211E	<p>Message: Unable to open ring adapter</p> <p>Meaning: This adapter did not respond to the attempt of the Ring Diagnostic to open the adapter.</p> <p>Action: Determine the return code from the variable data as shown in Variable Data:</p> <p>If the return code is 07 or FF, record the problem described in the data area message. If the return code is 27, verify the adapter data rate. If the return code continues to be 27, run the Ring Diagnostic on a different terminal on the the same ring. When the return code is 07 or FF, do the following:</p> <p>Action:</p> <ol style="list-style-type: none">1 Start the PC containing the adapter that generates the message again.2 Start the Ring Diagnostic.3 If the same message occurs, try a different System Diskette.4 If the preceding action does not correct the problem, record the variable data. Check for problems with the PC and the adapter card. <p>Variable Data:</p>

TOPS MPX Token Ring LAN troubleshooting

(continued)

```
09/21/91 13:06:56 DFIPD210E Unable to open ring adapter
-----> 00070007
```

Bring Up Error
Return Code
Adapter Number

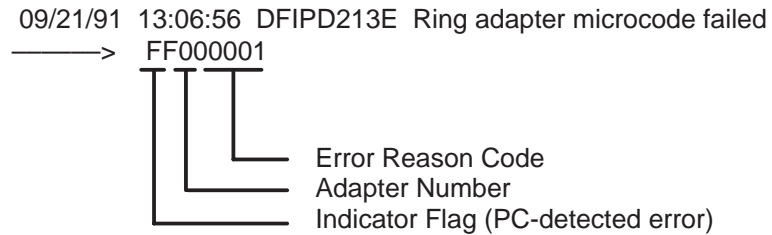
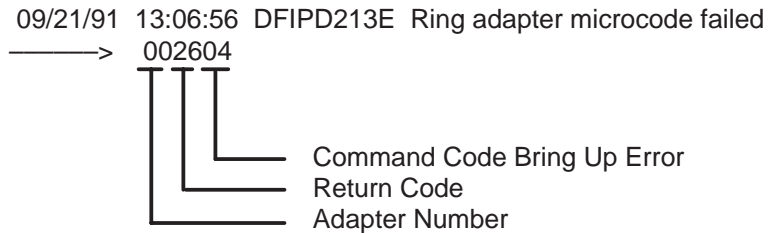
Message Number	Explanation
DFIPD212E	<p>Message: Ring adapter hardware failed</p> <p>Meaning: The adapter hardware fails.</p> <p>Action: Run the Adapter Diagnostics. If the diagnostics indicate that the adapter functions correctly and the message repeats, record the variable data. Manually Troubleshoot the PC and the connections to the MAU.</p> <p>Variable Data:</p>

```
09/21/91 13:06:56 DFIPD212E Ring adapter hardware failed
-----> 000000001004 0000002000000103
```

Adapter Number Error Data

TOPS MPX Token Ring LAN troubleshooting (continued)

Message Number	Explanation
DFIPD213E	<p>Message: Ring adapter microcode failed</p> <p>Meaning: The Adapter Support Interface code fails.</p> <p>Action: Do the following:</p> <ol style="list-style-type: none"> 1 Verify that the indicated adapter is installed and the switches are set correctly. Correct any errors found. 2 Start the PC again. 3 Start the Ring Diagnostic. 4 If the same message occurs, try a different System Diskette. 5 If the preceding action does not correct the problem, record the variable data. Perform manual troubleshooting procedures. <p>Variable Data:</p>



TOPS MPX Token Ring LAN troubleshooting

(continued)

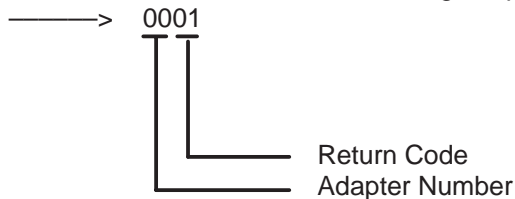
Message Number	Explanation
DFIPD214E	<p>Message: Unable to close ring adapter</p> <p>Meaning: This adapter did not respond correctly to the attempt of the Ring Diagnostic to close the adapter.</p> <p>Action: Run the Adapter Diagnostics on this adapter. If the diagnostics indicate that the adapter functions correctly and the message repeats, perform the following function:</p> <ol style="list-style-type: none">1 Verify that the indicated adapter is installed and that the switches are set correctly. Correct any errors found.2 Start the PC again.3 Start the Ring Diagnostic.4 If the same message occurs, try a different System Diskette.5 If the preceding action does not correct the problem, record the variable data. Perform manual troubleshooting procedures. <p>Variable Data:</p>

```
09/21/91 13:06:56 DFIPD214E Unable to close ring adapter
-----> 0011
          |
          |
          | Return Code
          | Adapter Number
```

TOPS MPX Token Ring LAN troubleshooting (continued)

Message Number	Explanation
DFIPD215E	<p>Message: Ring adapter or lobe failed</p> <p>Meaning: The Ring Diagnostic determines if a wire fault is present. When this message displays, ring status is Wire Fault.</p> <p>Action: Record the ring status. Replace the defective cable and run the Ring Diagnostic again to verify the problem is corrected.</p> <p>Variable Data: Does not apply.</p>
DFIPD216I	<p>Message: Ring adapter Closed</p> <p>Meaning: This message can occur because the user presses F3 (End). The message can also occur when an error forces the adapter to close. When this message displays, ring status is Adapter Closed.</p> <p>Action: If the reason code is 00, there is no action required. If the reason code is 01 or 03, run the Adapter Diagnostics. If the diagnostics determine the adapter is defective, replace the position in according to standard practices.</p> <p>Variable Data:</p>

09/21/91 13:06:56 DFIPD216I Ring adapter closed



TOPS MPX Token Ring LAN troubleshooting

(continued)

Message Number	Explanation
DFIPD230E	<p>Message: Unable to open ring adapter interface</p> <p>Meaning: The Adapter Support Interface cannot open the ring adapter interface.</p> <p>Action: Run the Adapter Diagnostics on this adapter. If the diagnostics indicate the adapter functions correctly and the message repeats, perform the following procedure:</p> <ol style="list-style-type: none">1 Verify that the indicated adapter is installed and the switches are set correctly. Correct any errors found.2 Start the PC again.3 Start the Ring Diagnostic.4 If the same message occurs, try a different System Diskette.5 If the preceding action does not correct the problem, record the variable data. Perform manual troubleshooting procedures. <p>Variable Data:</p>

```
09/21/91 13:06:56 DFIPD230E Unable to open ring adapter interface
-----> 0001
          |
          |
          |----- Return Code
          |----- Adapter Number
```

TOPS MPX Token Ring LAN troubleshooting (continued)

Message Number	Explanation
DFIPD231E	<p>Message: Unable to close ring adapter interface</p> <p>Meaning: The Adapter Support Interface code does not accept the close command for the Ring Diagnostic.</p> <p>Action: Run the Adapter Diagnostics on this adapter. If the diagnostics indicate the adapter functions correctly and the message repeats, perform the following procedure:</p> <ol style="list-style-type: none"> 1 Verify that the indicated adapter is installed and the switches are set correctly. Correct any errors found. 2 Start the PC again. 3 Start the Ring Diagnostic. 4 If the same message occurs, try a different System Diskette. 5 If the preceding action does not correct the problem, record the variable data. Perform manual troubleshooting procedures. <p>Variable Data:</p>

09/21/91 13:06:56 DFIPD231E Unable to close ring adapter interface



TOPS MPX Token Ring LAN troubleshooting

(end)

Message Number	Explanation
DFIPD991I	<p>Message: Insert formatted diskette in drive A</p> <p>Meaning: The user pressed F5 (Dump) that requests a dump of Ring Diagnostic information in memory. This information can be given to the service supplier. Message number DFIPD992I follows this message.</p> <p>Action: Insert a formatted diskette with 150 Kb of free space into drive A.</p> <p>Variable Data: Does not apply</p>
DFIPD992I	<p>Message: Press any key when ready</p> <p>Meaning: The Ring Diagnostic is ready to create a file on the diskette in drive A.</p> <p>Action: Press any key.</p> <p>Variable Data: Does not apply</p>
DFIPD993I	<p>Message: Memory image file created</p> <p>Meaning: The file was created.</p> <p>Action: Take or send the diskette to the service supplier.</p> <p>Variable Data: Does not apply</p>
DFIPD994I	<p>Message: Memory image file not created</p> <p>Meaning: The file was not created.</p> <p>Action: There is no action required.</p> <p>Variable Data: Does not apply</p>
—end—	

Placing an MP position in service (integrated)

Application

Use this procedure to return integrated Traffic Operator Position System (TOPS) Multipurpose (MP) positions to service.

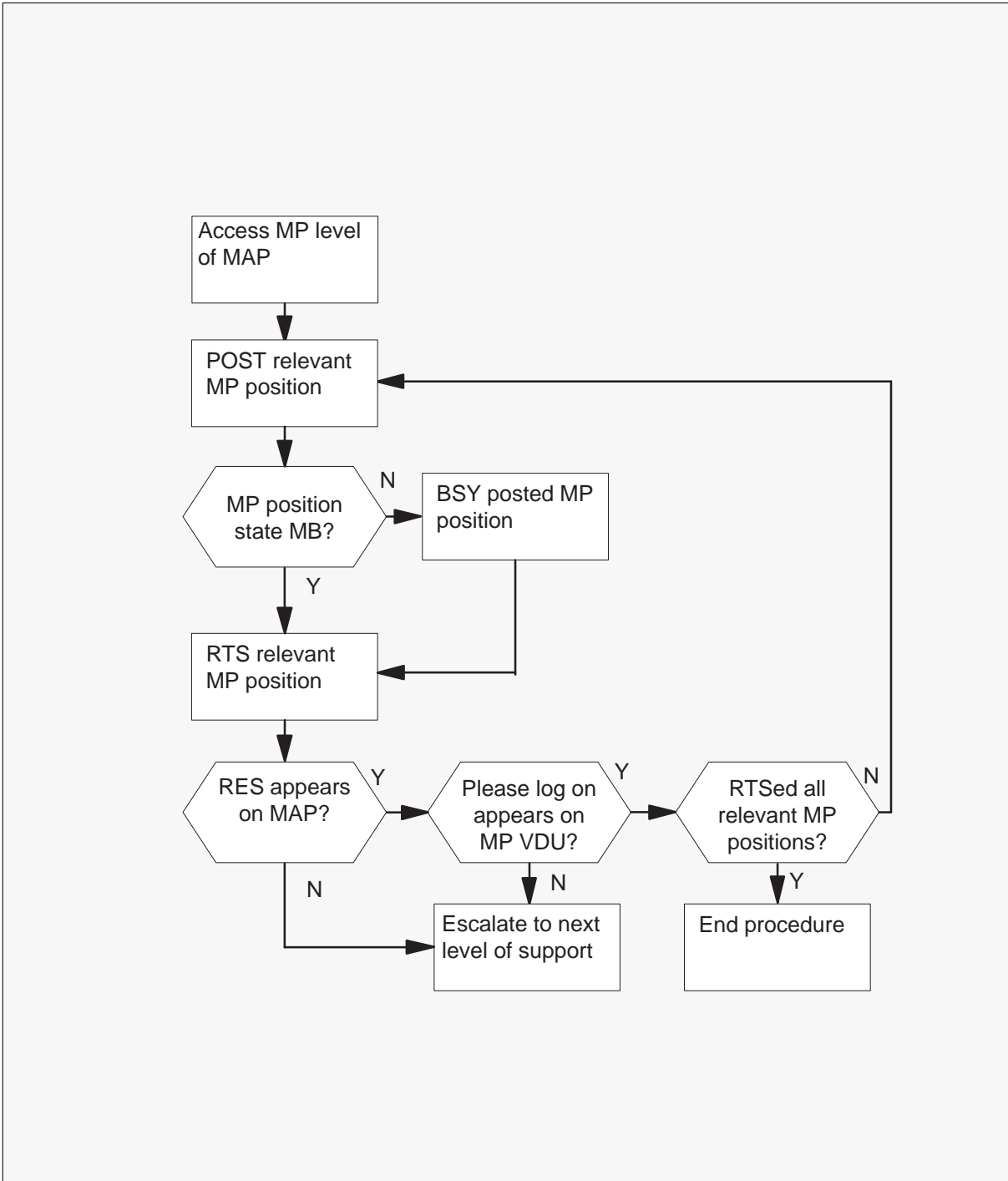
Action

This procedure contains a flowchart and a list of steps. The flowchart provides an overview of the procedure. Follow the list of steps to perform this procedure.

Placing an MP position in service (integrated)

(continued)

Summary of placing an MP position in service (integrated)



Placing an MP position in service (integrated)

(continued)

Placing an MP position in service (integrated)

ATTENTION

Continue if a step in a maintenance procedure directs you to this procedure. If you use this procedure without direction from a maintenance procedure, equipment damage or service interruption can occur.

At the MAP

- 1 To access the MP level, enter:

>MAPCI;MTC;PM

and press the Enter key.

>POST TPC x;MP

and press the Enter key.

where

x is the TPC number.

Placing an MP position in service (integrated) (continued)

- 2 To post the relevant MP position, enter:

>POST P n

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3).

If MP position state is	Do
MB	step 4
SB	step 3

Example of a MAP response

CM	MS	IOD	Net	PM	CCS	LNS	Trks	Ext	EIO	
MP	.	.	SysB	ManB	OffL	CBsy	ISTb	InSv	.	
0	Quit	PM	0	0	10	0	0	130		
2	Post	TPC	0	0	0	0	0	4		
3										
4			TPC 0	InSv						
5	Trnsl									
6	Tst		Status	VTB	SB	MB	PMB	RES	RTRN	INB
7	Bsy		MP	0	0	1	0	5	0	2
8	RTS									
9			POS	201	TPC	0	MP	1	MB	
10			Size of Post set:				1			
11	Disp_									
12	Next									
13	FRLs									
14	QueryMP									
15										
16										
17										
18										

MP position number and state

- 3 To busy the MP position, enter:

>BSY

and press the Enter key.

Placing an MP position in service (integrated) (continued)

- 4 To return the MP position to service, enter:

>RTS

and press the Enter key.

Example of a MAP response

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      EIO
.       .       .       .       .       .       .       .       .       .
MP      Quit    PM      0       0       10      0       0       130
2 Post   TPC     0       0       0       0       0       4
3
4       TPC 0   InSv
5 Trnsl
6 Tst     Status VTB  SB  MB  PMB  RES  RTRN  INB
7 Bsy     MP      0   0   1   0   5   0   2
8 RTS
9       POS  201  TPC  0   MP  1   RES
10      Size of Post set:      1
11 Disp_
12 Next
13 FRls
14 QueryMP
15
16
17
18
    
```

MP position number and state

- 5 Determine if the MP position returns to service.

If MP position	Do
returns to service and RES appears on MAP display.	step 7
fails to return to service	step 6

- 6 For additional help, contact the next level of support.

Placing an MP position in service (integrated)

(end)

At the affected position

- 7 Examine the MP VDU.

If	Do
Please log on appears	step 8
Any other message appears	step 6

- 8 Determine if all relevant MP positions return to service.

If all relevant MP positions	Do
return to service	step 9
do not return to service	step 2

- 9 The procedure is complete. Return to the main procedure that referred you to this procedure and continue.

Placing MP position in service (standalone)

Application

Use this procedure to place a standalone Traffic Operator Position System (TOPS) Multipurpose (MP) in service.

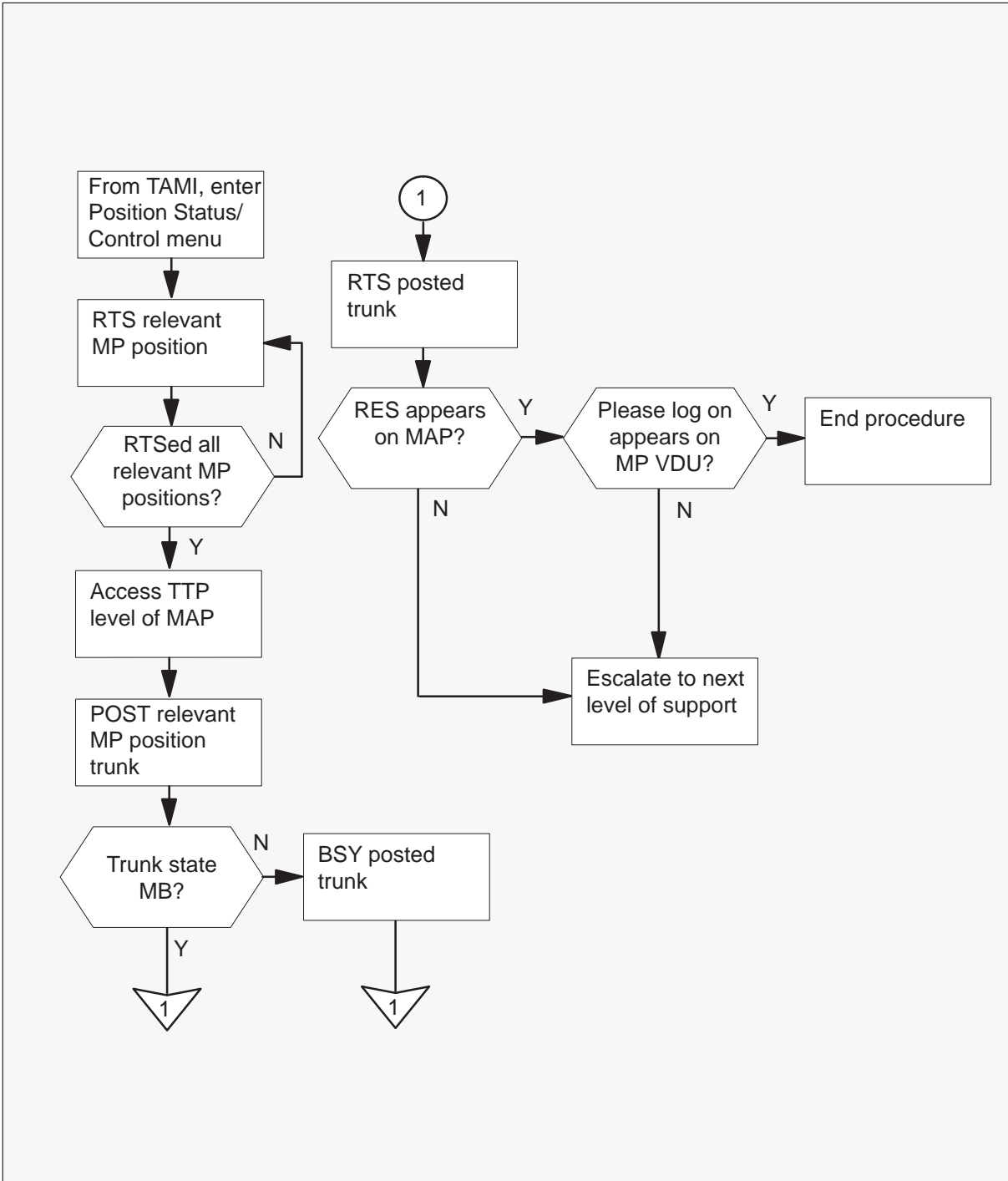
Action

This procedure contains a flowchart and a list of steps. The flowchart provides an overview of the procedure. Follow the list of steps to perform this procedure.

Placing MP position in service (standalone)

(continued)

Summary of placing an MP position in service (standalone)



Placing MP position in service (standalone)

(continued)

Placing an MP position in service (standalone)

At your current location

- 1 Proceed if a step in a maintenance procedure directs you to this procedure. If you omit the directions of a previous step, equipment damage or service interruption can result when you use this procedure.

At the TAMI

- 2 To access the Position Status/Control menu from the TAMI main menu, enter:
>3
 and press the Enter key.

Example of a TAMI response

```

                                POSITION STATUS/CONTROL
1.  Bsy
2.  RTS
3.  OffL
4.  RTS ALL POSITIONS

POSITION NUMBER          STATUS          CARD
PRESENT
  0.                    InSv             YES
  1.                    InSv             YES
  2.                    InSv             YES
  3.                    ManB             YES
MAKE CHOICE:
```

- 3 To return the relevant MP position to service, enter:

>2
and press the Enter key.

>n
and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3)

Note: Repeat this step until all relevant positions return to service.

Placing MP position in service (standalone)

(continued)

At the MAP

- 4 To access the TTP level, enter:
>MAPCI;MTC;TRKS;TTP
and press the Enter key.
- 5 To post the relevant MP position trunk, enter:
>POST T TOPSPOS n
and press the Enter key.
where
n is the MP position number (0, 1, 2, or 3)
- 6 Note the state of the trunk circuits.

If the trunk state is	Do
MB	step 8
SB	step 7

- 7 To busy the posted trunk, enter:
>BSY
and press the Enter key.

Placing MP position in service (standalone) (continued)

8



CAUTION

Trunk goes system busy

Do not RTS the TOPSPOS trunk until the system fully downloads the MP position. When the download is complete, Link problems encountered appears in the VDU. The trunk goes system busy if you RTS the trunk before Link problems encountered appears on the VDU.



CAUTION

Trunk goes system busy

Do not RTS the TOPSPOS trunk until the system fully downloads the MP position. When the download is complete, Link problems encountered appears in the VDU. The trunk goes system busy if you RTS the trunk before Link problems encountered appears on the VDU.

To return the posted trunk to service, enter:

>RTS

and press the Enter key.

Note: Repeat steps 5 through 8 until all relevant positions return to service.

9 Determine if trunk returns to service.

If trunk	Do
Returns to service and RES appears on MAP display	step 11
Does not return to service	step 10

10 For additional help, contact the next level of support.

Placing MP position in service (standalone)

(end)

At the affected position

- 11 Examine the MP VDU.

If	Do
Please log on appears	step 12
Any other message appears	step 10

- 12 This procedure is complete. Return to the main procedure that referred you to this procedure and continue.

Removing an MP position from service (integrated)

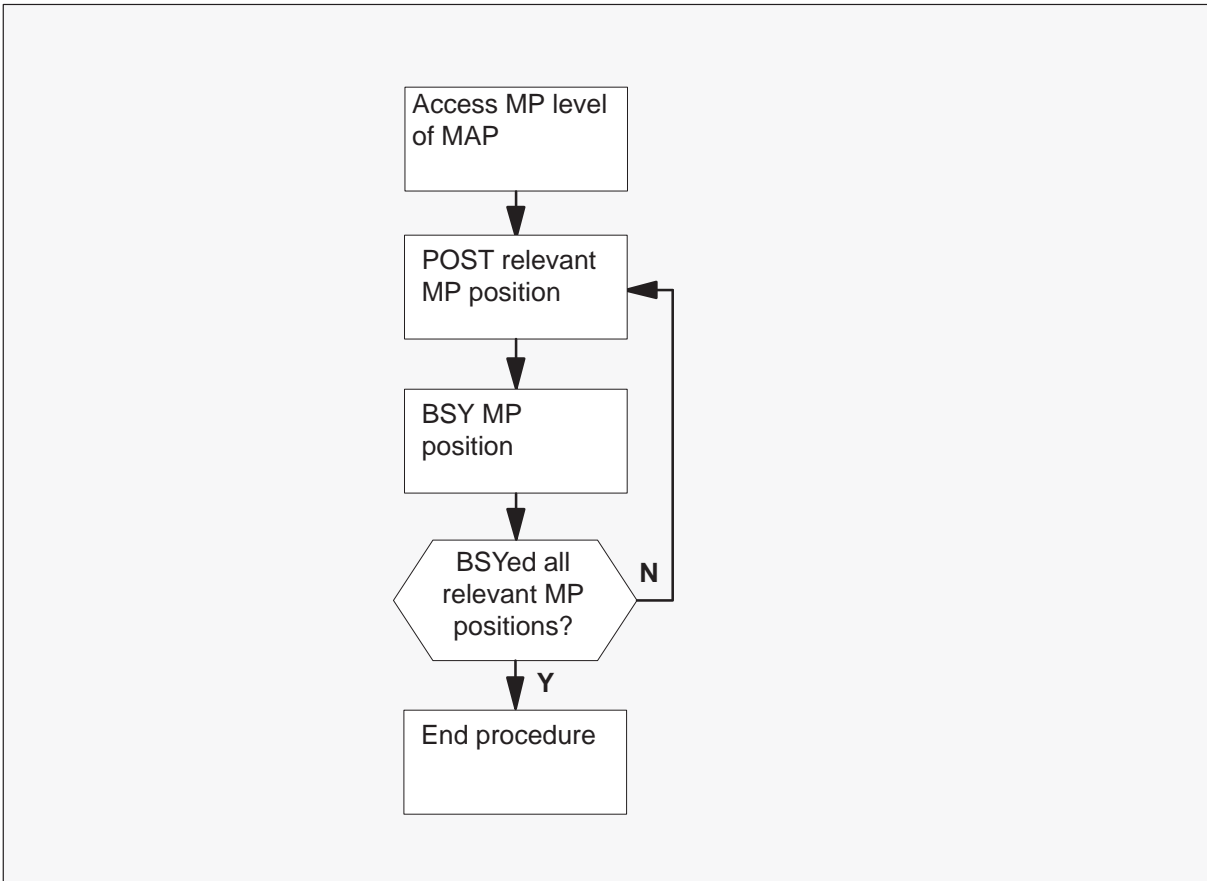
Application

Use this procedure to remove integrated Traffic Operator Position System (TOPS) Multipurpose (MP) positions from service.

Action

This procedure contains a flowchart and a list of steps. The flowchart provides an overview of the procedure. Follow the list of steps to perform this procedure.

Summary of removing an MP position from service (integrated)



Removing an MP position from service (integrated)

(continued)

Removing an MP position from service (integrated)

At the MAP

1

ATTENTION

Continue if a step in a maintenance procedure directs you to this procedure. If you use this procedure without direction from a maintenance procedure, equipment damage or service interruption can occur.

To access the MP level, type:

>MAPCI;MTC;PM

and press the Enter key.

>POST TPC x;MP

and press the Enter key.

where

x is the TOPS position controller (TPC) number

2 To post the relevant MP position, type:

>POST P n

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3)

Removing an MP position from service (integrated) (continued)

Example of a MAP response

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      EIO
.       .       .       .       .       .       .       .       .       .
MP      SysB    ManB    OffL    CBsy    ISTb    InSv
0  Quit      PM      0      0      10     0      0      130
2  Post      TPC     0      0      0      0      0      4
3
4          TPC 0  InSv
5  Trnsl
6  Tst      Status  VTB  SB  MB  PMB  RES  RTRN  INB
7  Bsy      MP      0  0  1  0  5  0  2
8  RTS
9          POS  201  TPC  0  MP  1  RES
10         Size of Post set: 1
11  Disp_
12  Next
13  FRls
14  QueryMP
15
16
17
18

```

**MP position number
and status**

Removing an MP position from service (integrated) (end)

- 3 To busy the MP position, type:

>BSY

and press the Enter key.

Example of a MAP response

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      EIO
.       .       .       .       .       .       .       .       .       .
MP      Quit    PM      0      0      10     0      0      130
2      Post    TPC     0      0      0      0      0      4
3
4          TPC 0  InSv
5      Trnsl
6      Tst          Status  VTB  SB  MB  PMB  RES  RTRN  INB
7      Bsy          MP      0  0  1  0  5  0  2
8      RTS
9          POS  201  TPC  0  MP  1  MB
10         Size of Post set: 1
11      Disp_
12      Next
13      FRls
14      QueryMP
15
16
17
18

```

MP position number and status

- 4 Determine if all relevant MP positions are removed from service.

If all relevant MP positions	Do
are removed from service	step 5
are not removed from service	step 2

- 5 This procedure is complete. Return to the main procedure that directed you to this procedure. Continue as directed.

Removing an MP position from service (standalone)

Application

Use this procedure to remove a standalone Traffic Operator Position System (TOPS) Multipurpose (MP) from service.

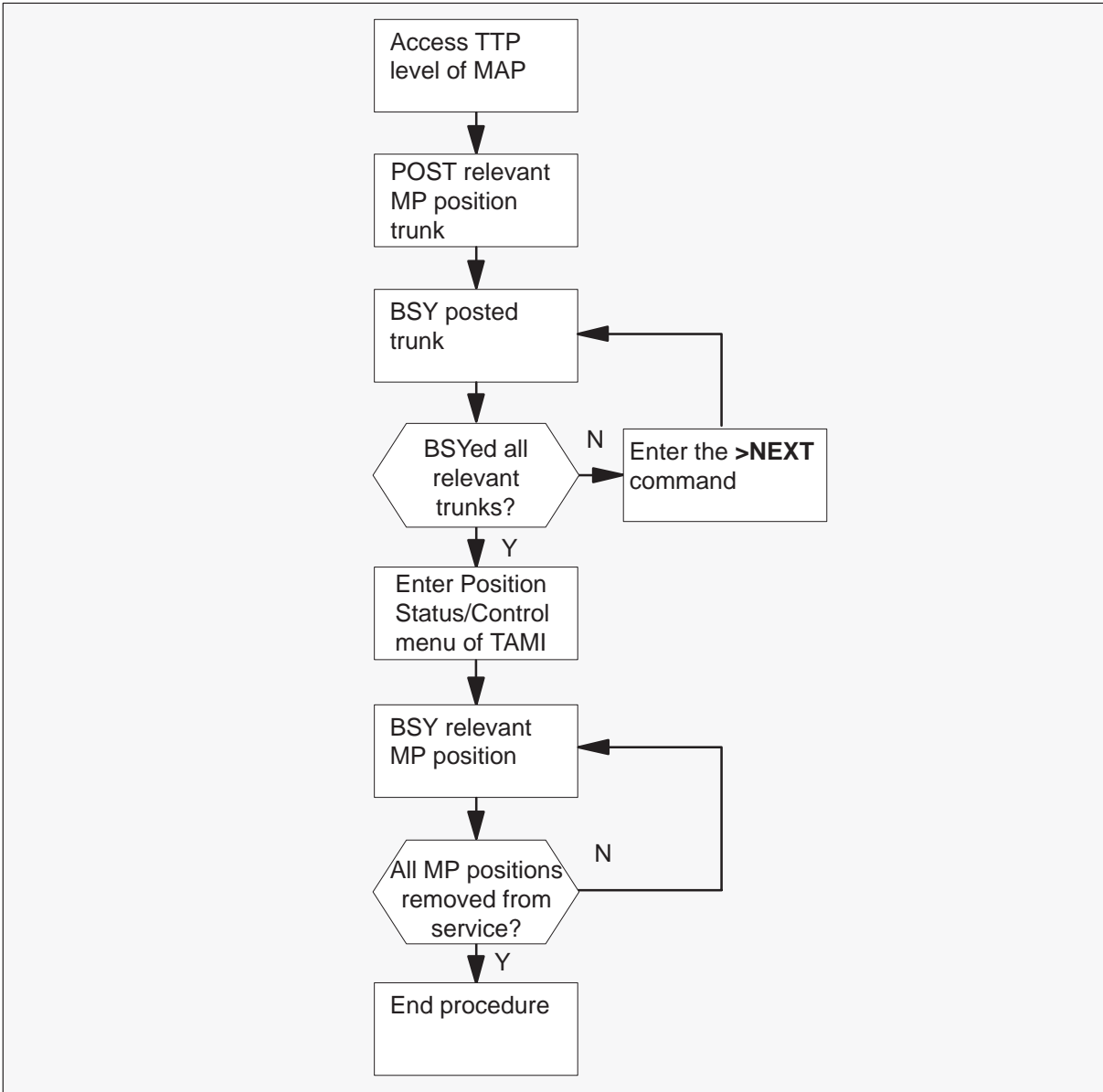
Action

This procedure contains a flowchart and a list of steps. The flowchart provides an overview of the procedure. Follow the list of steps to perform this procedure.

Removing an MP position from service (standalone)

(continued)

Summary of Removing an MP position from service (standalone)



Removing an MP position from service (standalone) (continued)

Removing an MP position from service (standalone)

At the MAP

1

ATTENTION

Continue if a step in the maintenance procedure directs you to this procedure. If you use this procedure without direction from a maintenance procedure, equipment damage or service interruption can occur.

To access the TTP level, type:

>MAPCI;MTC;TRKS;TTP

and press the Enter key.

Example of a MAP response

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .
TTP
0 Quit_      POST      DELQ      BUSYQ      DIG
2 Post_      TTP 16
3 Seize_     CKT TYPE  PM NO      COM LANG  STA      S R DOT TE  RESULT
4           DESK      TMS 0 5 18  TOPSPOS  221 STATE  RES
5 Bsy_
6 RTS_
7 Tst_
8
9 CktInfo
10 CktLoc
11 Hold
12 Next_
13 Rls_
14 Ckt_
15 TrnslVf_
16 StkSdr_
17 Pads_
18 Level_

User ID
    
```

2 To post the relevant MP position trunk, type:

>POST G TOPSPOS n

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3)

Removing an MP position from service (standalone) (continued)

- 3 To busy the posted trunk, type:

>BSY

and press the Enter key.

Example of a MAP response

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .
TTP
0 Quit_      POST 14  DELQ      BUSYQ      DIG
2 Post_      TTP 6-024
3 Seize_     CKT TYPE  PM NO.    COM LANG  STA      S R DOT TE  RESULT
4           DESK      TM8 2 16  TOPSPOS  200 MB
5 Bsy_
6 RTS_
7 Tst_
8
9 CktInfo
10 CktLoc
11 Hold
12 Next_
13 Rls_
14 Ckt_
15 TrnslVf_
16 StkSdr_
17 Pads_
18 Level_

User ID
    
```

- 4 Refer to step 3 to determine if all relevant trunks are busy from the MAP.

If all relevant trunks	Do
are busy	step 6
are not busy	step 5

- 5 To post the next trunk, type:

>NEXT

and press the Enter key. Return to step 3.

Removing an MP position from service (standalone) (continued)

At the TAMI

- 6 To access the Position Status/Control menu from the TAMI main menu, type:
>3
 and press the Enter key.

Example of a TAMI response

```

        POSITION STATUS/CONTROL

    1. Bsy

    2. RTS

    3. OffL

    4. RTS ALL POSITIONS

POSITION NUMBER          STATUS          CARD PRESENT
0.                      InSv              YES
1.                      InSv              YES
2.                      InSv              YES
3.                      InSv              YES

    MAKE CHOICE :
```

- 7 To busy the relevant MP position, use the following procedure:
- a. Enter
>1
 and press the Enter key.
where
 1 is busy
 - b. Enter
>n
 and press the Enter key.
where
 n is the MP position number (0, 1, 2, or 3)
 - c. Enter
>Y
 and press the Enter key.

Removing an MP position from service (standalone)

(end)

where

y is yes, the position is busied at the MAP

- 8 Determine if all relevant positions are removed from service from the TAMI.

If all relevant MP positions	Do
are removed from service	step 9
are not removed from service	step 7

- 9 To return to the TAMI main menu, press the PF3 key.
- 10 This procedure is complete. Return to the main procedure that directed you to this procedure. Continue as directed.

Removing a TOPS MPX terminal from service TOPS MPX

Application

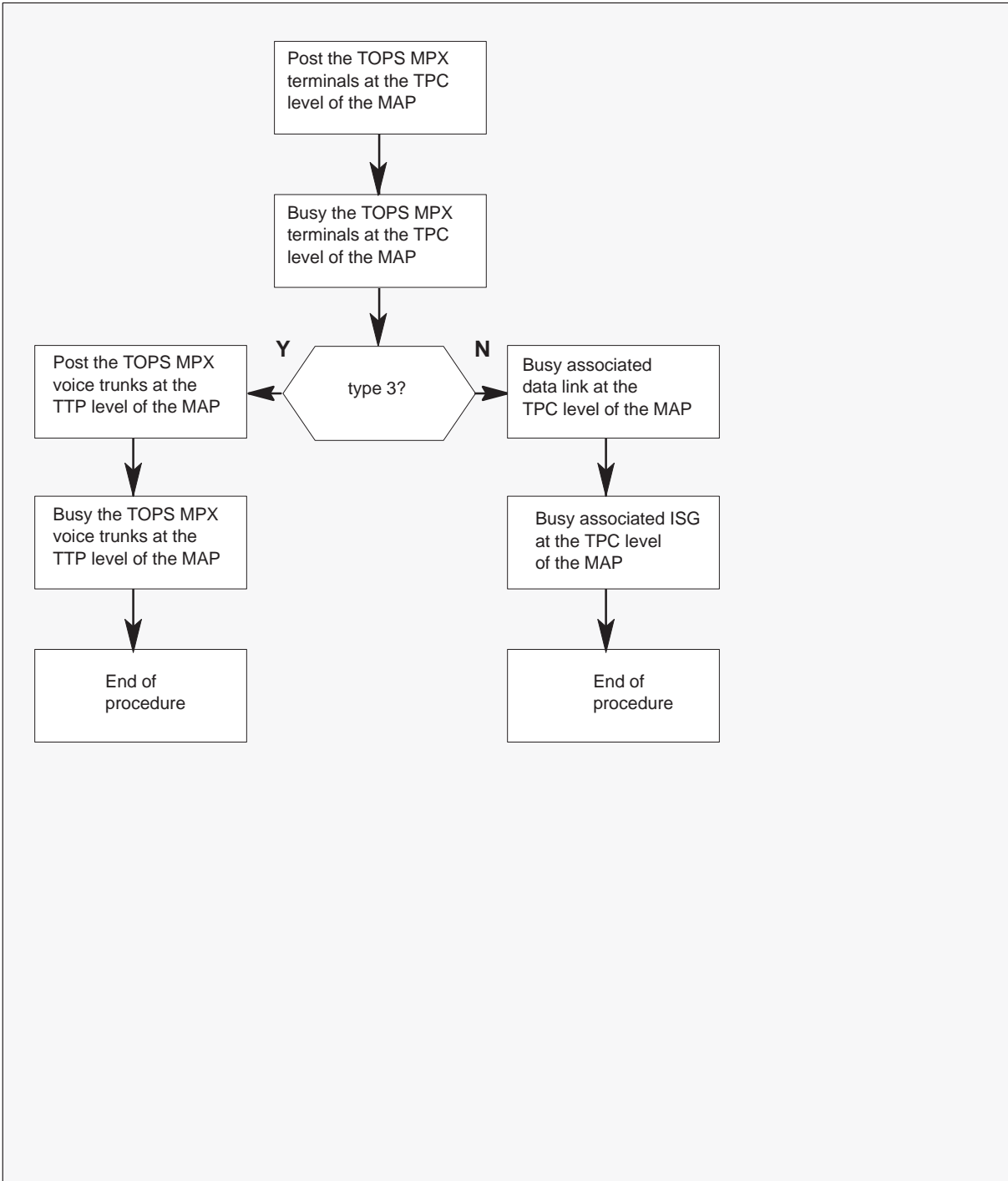
Use this procedure to remove a TOPS MPX terminal from service.

Action

The following flowchart provides a summary of the procedure. To perform this procedure, use the instructions in the list of steps that follows the flowchart.

Removing a TOPS MPX terminal from service TOPS MPX (continued)

Removing a TOPS MPX terminal from service



Removing a TOPS MPX terminal from service

TOPS MPX (continued)

Removing a TOPS MPX terminal from service



WARNING

Potential risk to service

When you prepare a TOPS MPX for a test, make sure that the user logged out. The terminal is not in service.

Busy the TOPS MPX position from the MAP before you remove the TOPS MPX.



WARNING

Potential risk to service

When you prepare a TOPS MPX for a test, make sure that the user logged out. The terminal is not in service. Busy the TOPS MPX position from the MAP before you remove the TOPS MPX.

At the MAP terminal

- 1 To access the Position Status/Control Menu from the main menu of the MAP, type:

>MAPCI;MTC;PM;POST TPC;MP
and press the Enter key.

Removing a TOPS MPX terminal from service

TOPS MPX (continued)

Example of a MAP display:

CM	MS	IOD	Net	PM	CCS	LNS	Trks	Ext	APPL
.
MP		SysB	ManB	Offl	CBsy	ISTB	InSv		
0	Quit	PM	0	1	2	0	0	18	
2	Post_	TPC	0	1	0	0	0	0	
3									
4		Status	VTB	SB	MB	PMB	RES	RTRN	INB
5	Trnsl	MP	0	0	2	0	16	0	0
6	Tst_								
7	Bsy_	PM:							
8	RTS_	POST:							
9		NO PM POSTED							
10		MP:							
11	Disp_								
12	Next								
13	Frls								
14	QueryMP								
15									
16									
17									
18									

Removing a TOPS MPX terminal from service

TOPS MPX (continued)

- 2 To post the TOPS MPX from the MAP, type:

>POST P n

and press the Enter key.

where

n is number of position

- 3 To busy the selected position from the MAP, type:

>BSY

and press the Enter key.

Example of a MAP display:

BSY Passed

- 4 Are all the correct positions busy?

If position busy in step 3	Do
is a redundant VPC (type 2)	step 5 Examine the status display line to view the associated TPC#. Note the TPC#.
is a type 1 or 3 position	step 9
is a VPC that is not redundant (type 2) busy the TOPS MPX positions that remain in the cluster.	step 2
is last TOPS MPX position to busy in a cluster	step 5 Examine the status display line to view the associated TPC#. Note the TPC#.

Removing a TOPS MPX terminal from service

TOPS MPX (continued)

5



CAUTION

Both VPCs can go out of service.

DO NOT BUSY the TPC. This action takes both VPCs out of service.

NOTE: You can only busy the TPC if the TPC is not redundant.



CAUTION

Both VPCs can go out of service.

DO NOT BUSY the TPC. This action takes both VPCs out of service.

NOTE: You can only busy the TPC if the TPC is not redundant.

To post the TPC that associates with the type 2 position at the TPC level, type:

>PM;POST TPC n

and press the Enter key.

where

Removing a TOPS MPX terminal from service TOPS MPX (continued)

n equals TPC#

- 6 To determine if the position # is MP0 or MP1, type:

>QUERYPM

and press the Enter key.

Example of a MAP display:

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      APPL
.       .       .       .       .       .       .       .       .       .

TPC
          SysB      ManB      OffL      CBsy      ISTb      InSv
0  Quit      PM      0      0      6      0      0      35
2  Post_     TPC      0      0      1      0      0      1
3
4          TPC      0      InSv
5  Trnsl
6  Tst      QueryPM
7  Bsy      TPC Load File: 0
8  RTS      PM Type: TPC  Int.No.: 0 Node_No: 132
9  Offl     Site Flr RPos Bay_id  Shf Description  Slot EqPEC
10          00  A00 PCE 00      00 TPC: 000
11  Disp_   MP 0:  TOPSPOS      6
12  Next    MP 1:  TOPSPOS      7
13          MP 2:  TOPSPOS      8
14  QueryMP MP 3:  TOPSPOS      9
15  MP
16
17
18
      ITAS
TIME 11:43

```

Note: In this example, MP0 is position 6 and MP1 is position 7.

Removing a TOPS MPX terminal from service TOPS MPX (continued)

- To determine and note the ISG and Port # along with the TMS # for the appropriate position, type:

>TRNSL

and press the Enter key.

Example of a MAP display:

Note: In the example below, MP0 (Primary VPCs) is the top line of data information and MP1 (Secondary VPCs) is the second line of data information.

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      APPL
.      .      .      .      .      .      .      .      .      .

TPC
      SysB      ManB      OffL      CBSy      ISTb      InSv
0  Quit      PM      0      0      6      0      0      35
2  Post_     TPC      0      0      1      0      0      1
3
4      TPC      0      InSv
5  Trns1
6  Tst      Trns1      TMS#      ISG#      ISG Port#
7  Bsy      TMS 0 0 5: data; ISG 2 5
8  RTS      TMS 0 0 6: data; ISG 3 5
9  Offl     TMS 0 0 1: voice; TOPSPOS      6; MP state:RES ; VT state:RES
10      TMS 0 0 2: voice; TOPSPOS      7; MP state:MB ; VT state:RES
11  Disp_   TMS 0 0 3: voice; TOPSPOS      8; MP state:RES ; VT state:RES
12  Next    TMS 0 0 4: voice; TOPSPOS      9; MP state:RES ; VT state:RES
13
14  QueryMP
15  MP
16
17
18
      ITAS
TIME 11:47

```

Removing a TOPS MPX terminal from service

TOPS MPX (continued)

- 8 To busy the ISG noted in the previous step, type:

>PM; POST TMS n; ISG; POST x; BSY y

and press the Enter key.

where

n equals TMS#

x equals ISG#

y equals ISG Port#

Example of a MAP response:

For VPC that is not redundant.

"Operator services may be affected.

Please confirm ("Y" or "No")

Removing a TOPS MPX terminal from service

TOPS MPX (continued)

- 9 To busy the voice trunk, access the TTP level at the MAP and type:

>TRKS;TTP

and press the Enter key.

Example of a MAP response:

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      APPL
.       .       .       .       .       .       .       .       .       .
TTP
0  Quit_          POST   DELQ          BUSYQ          DIG
2  Post_          TTP   6-007
3  Seize_         CKT  TYPE PM NO    COM LANG STA   S R DOT TE RESULT
4
5  Bsy_
6  RTS_          TRKS:
7  Tst_          TTP ID IS: 6-007
8                    NOCKT: SET IS EMPTY
9  CktInfo       TTP:
10 CktLoc
11 Hold
12 Next_
13 Rls_
14 Ckt_
15 TrnslVf_
16 StkSdr_
17 Pads_
18 Level_
User ID

```

Note: CktLoc, TrnslVf, StkSdr, and Pads appear in command menus only at offices equipped with these features.

- 10 To post the TOPS MPX voice trunk from the MAP, type:

>POST T TOPSPOS n

and press the Enter key.

where

n is number of position

Removing a TOPS MPX terminal from service TOPS MPX (end)

- 11 To busy the selected TOPS MPX voice trunk from the MAP, type the following:

>BSY

and press the Enter key.

Example of a MAP response:

BSY state changed.

If the position is not out of service at the MP MAP level, the following message appears.

Request Invalid: Associated MP must be out of service.

- 12 This procedure is complete. Complete off line maintenance and refer to common procedure *Replacing a TOPS MPX terminal*.

Disconnecting a TOPS MPX terminal TOPS MPX

Application

Use this procedure to remove defective TOPS MPX position equipment. Replace the defective equipment with TOPS MPX equipment.

Action

Refer to the following cable list when you remove or replace a TOPS MPX position component.

Cable list reference table

Nomenclature	From	To	Part No.
Display power cord	Power strip	Monitor	Power strip A0368941
Display signal cable	Base unit display signal cable connector	Monitor	Supplied with work station
Keyboard cable	Keyboard	Base unit keyboard connector	Keyboard equipped
Headset jacks	Headset jack	Base unit FGND, HS1, HS2	NTNX5303
Base unit power	Power strip	Base unit power cord connector	Power strip A0368941
Wiring closet cable	Base unit TR and DT	Wiring closet TR to MAU, DT to BIX block voice teledapt	NTNX36DJ Note: Use with NTNX51BC or NTNX51BD card
Wiring closet cable	Base unit TR and DT	Wiring closet TR to MAU, DT to BIX block voice teledapt	NTNX36QB Note: Use with NTNX51BD card only
Wiring closet data cable	DSU DDS connector	Wiring closet to BIX block data teledapt	NTNX36DP
DSU modem cable	DSU DTE connector	Base unit RTIC card connector	NTNX36DM
—continued—			

Disconnecting a TOPS MPX terminal
TOPS MPX (continued)

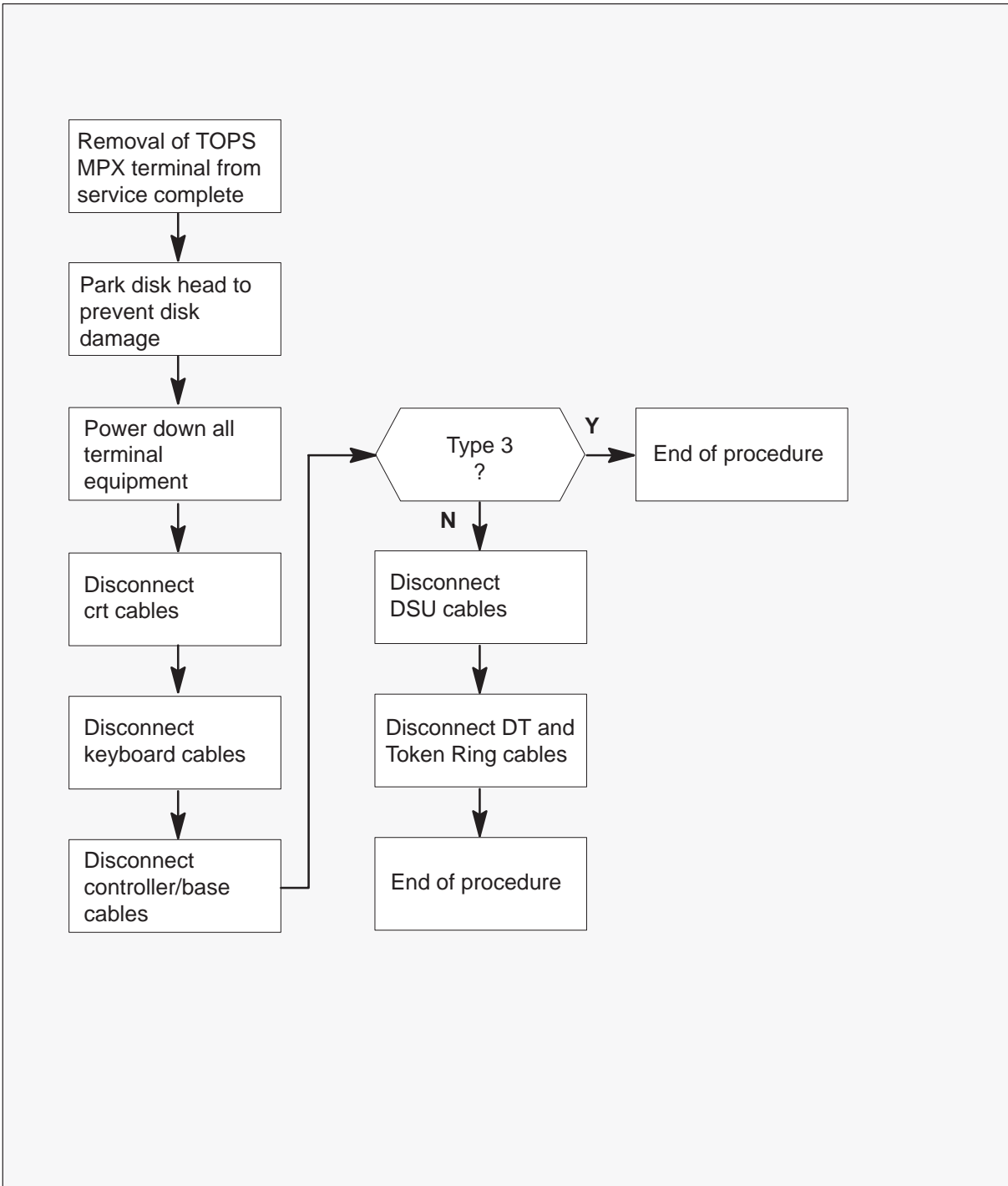
Cable list reference table (continued)

Nomenclature	From	To	Part No.
MAU to MAU	MAU RI	MAU RO	NTNX36DK As token-ring configuration requires
TSG cable	Miscellaneous frame	TSG	NTNX36DQ
Channel bank	Miscellaneous frame BIX block	Channel bank	NTNX36DN
—end—			

The following flowchart summarizes the procedure. Use the instructions that follow this flowchart to perform the procedure.

Disconnecting a TOPS MPX terminal TOPS MPX (continued)

Summary of Disconnecting a TOPS MPX terminal



Disconnecting a TOPS MPX terminal TOPS MPX (continued)

Disconnecting a TOPS MPX terminal

At your current location

1



CAUTION

Potential risk to equipment

Place the defective TOPS MPX position equipment in an INB state. Perform the correct power down procedures before you disconnect.



CAUTION

Potential risk to equipment

Place the defective TOPS MPX position equipment in an INB state. Perform the correct power down procedures before you disconnect.



CAUTION

Potential risk to personnel and equipment

Make sure that all appropriate power down procedures are complete. Take appropriate precautions to protect personnel. Before you disconnect TOPS MPX controller, make sure you busy the TOPS MPX from the MAP.



CAUTION

Potential risk to personnel and equipment

Make sure that all appropriate power down procedures are complete. Take appropriate precautions to protect personnel. Before you disconnect TOPS MPX controller, make sure you busy the TOPS MPX from the MAP.

Disconnecting a TOPS MPX terminal

TOPS MPX (continued)



DANGER

Risk of electrocution

Disconnect the 120-V ac power cord before you disconnect the TOPS MPX monitor.



DANGER OF ELECTRIC SHOCK

Risk of electrocution

Disconnect the 120-V ac power cord before you disconnect the TOPS MPX monitor.

You must enter this procedure from the procedure Removing a TOPS MPX terminal from service . Refer to Office Records to determine the type of position.

- type 1 Bisync token-ring access point
- type 2 TOPS MPX virtual position controller
- type 3 TOPS MPX only
- type 3 TOPS MPX with screen server

Record for later use.

- 2 Park the disk heads before you remove power. This action prevents damage to the disk. Follow this procedure when you disconnect or move the TOPS MPX terminal:
 - a. Insert Hardware Reference diskette #4 of 4 into A Drive.
 - b. Turn power off. Wait 5 seconds.
 - c. Turn power on.
The system boots to an IBM prompt display.
 - d. Press Enter to display the menu. Press item #6. This item is the MOVE command.

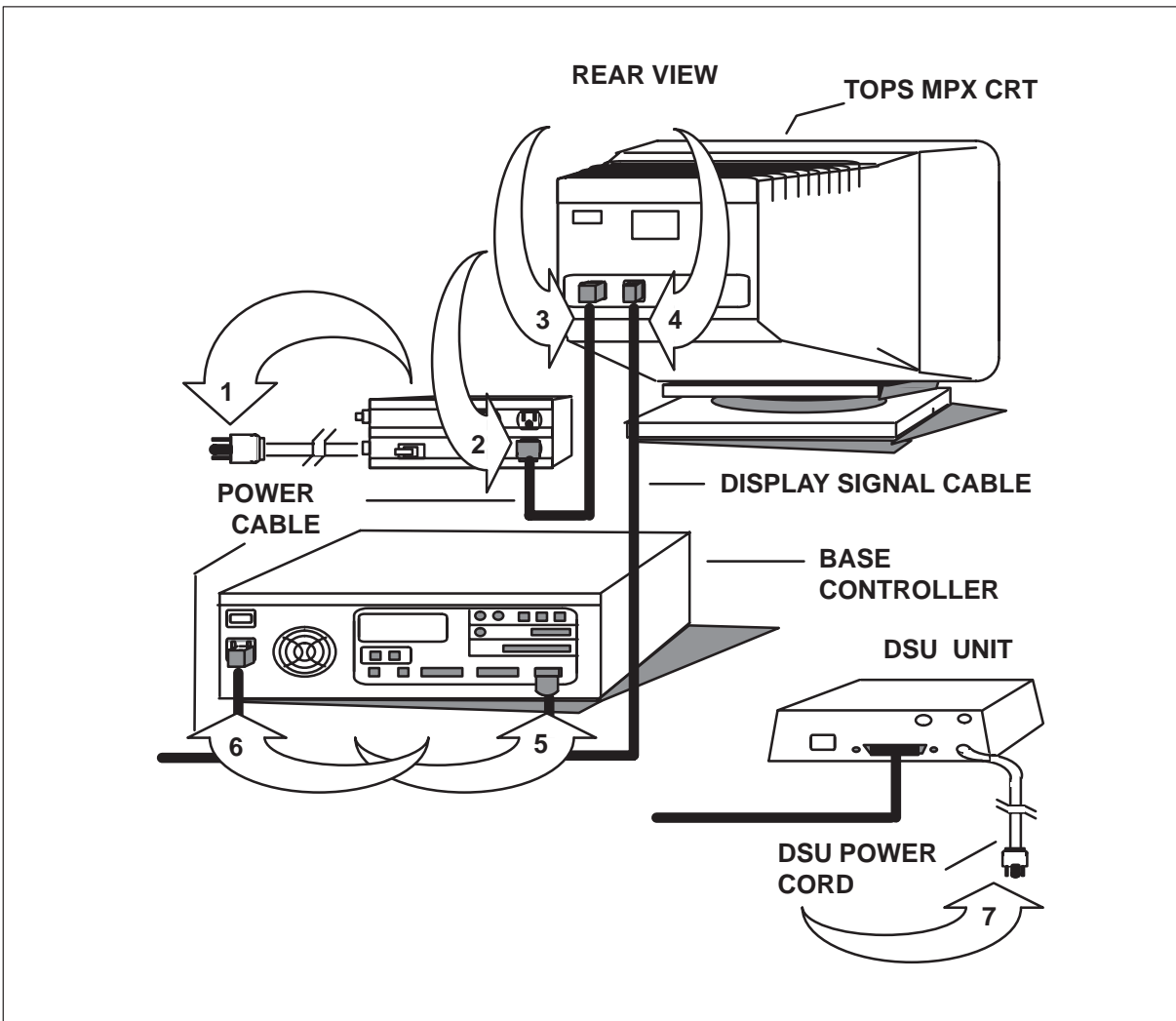
Disconnecting a TOPS MPX terminal TOPS MPX (continued)

- 3 Remove diskette from Drive A. Power down the TOPS MPX position and remove power cords and display cables from TOPS MPX CRT.

Remove power cords (1, 2, 3, 6, and 7) and display cables (4 and 5).

Note: Removal of DSU power cord (7) applies to type 1 or type 2 TOPS MPX positions.

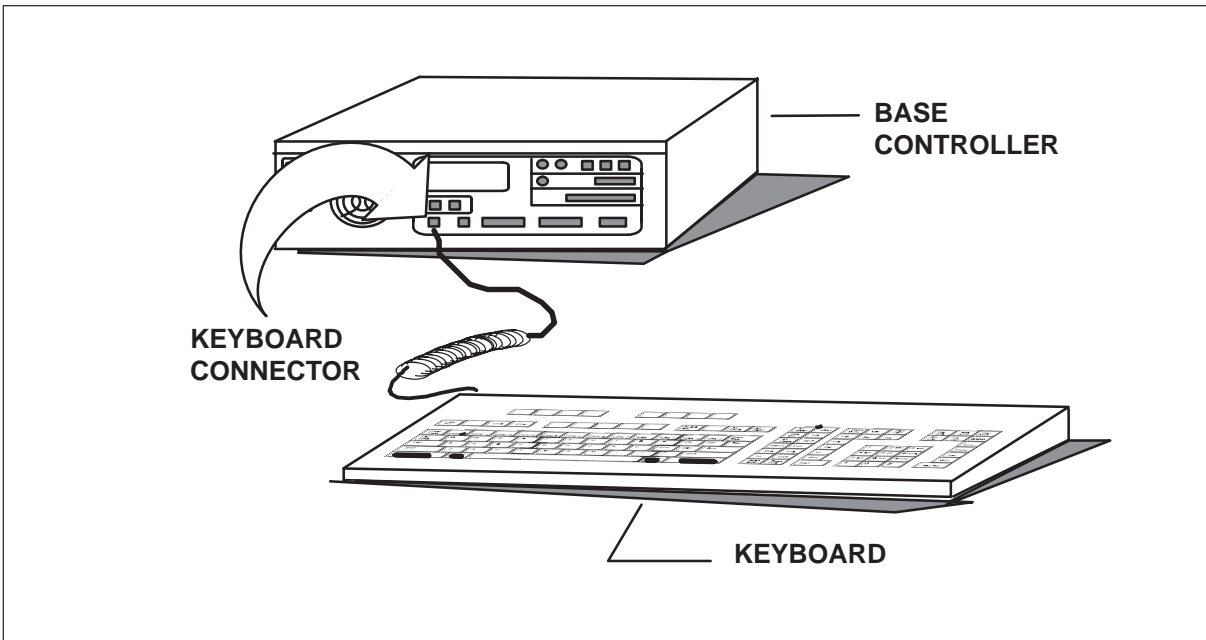
Move TOPS MPX crt (display) to local maintenance area.



Disconnecting a TOPS MPX terminal

TOPS MPX (continued)

- 4 Disconnect the keyboard connector to remove the TOPS MPX keyboard.
Disconnect keyboard from base controller and move keyboard to local maintenance area.

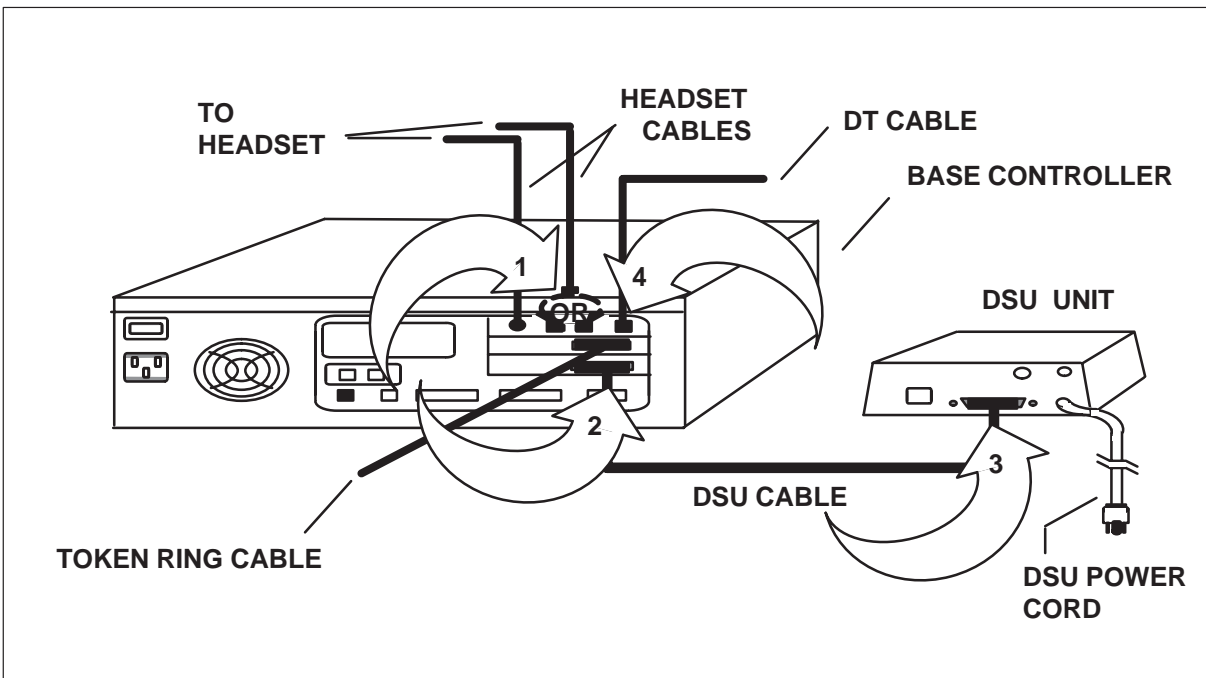


Disconnecting a TOPS MPX terminal TOPS MPX (end)

- 5 To remove the TOPS MPX terminal controller/base, complete the following:
 - a. Disconnect headset cables (1) and DSU cables (2) from the base controller.
 - b. Disconnect DSU cable (3) from DSU.
 - c. Disconnect DT cable and Token Ring cable (4) from the base controller.

Note: Removal of DSU cables applies to type 1 or type 2 TOPS MPX positions.

 - d. Move base controller to local maintenance area.



Replacing a TOPS MPX terminal TOPS MPX

Application

Use this procedure to replace the defective TOPS MPX position equipment that you removed, with spare operational TOPS MPX equipment.

Action

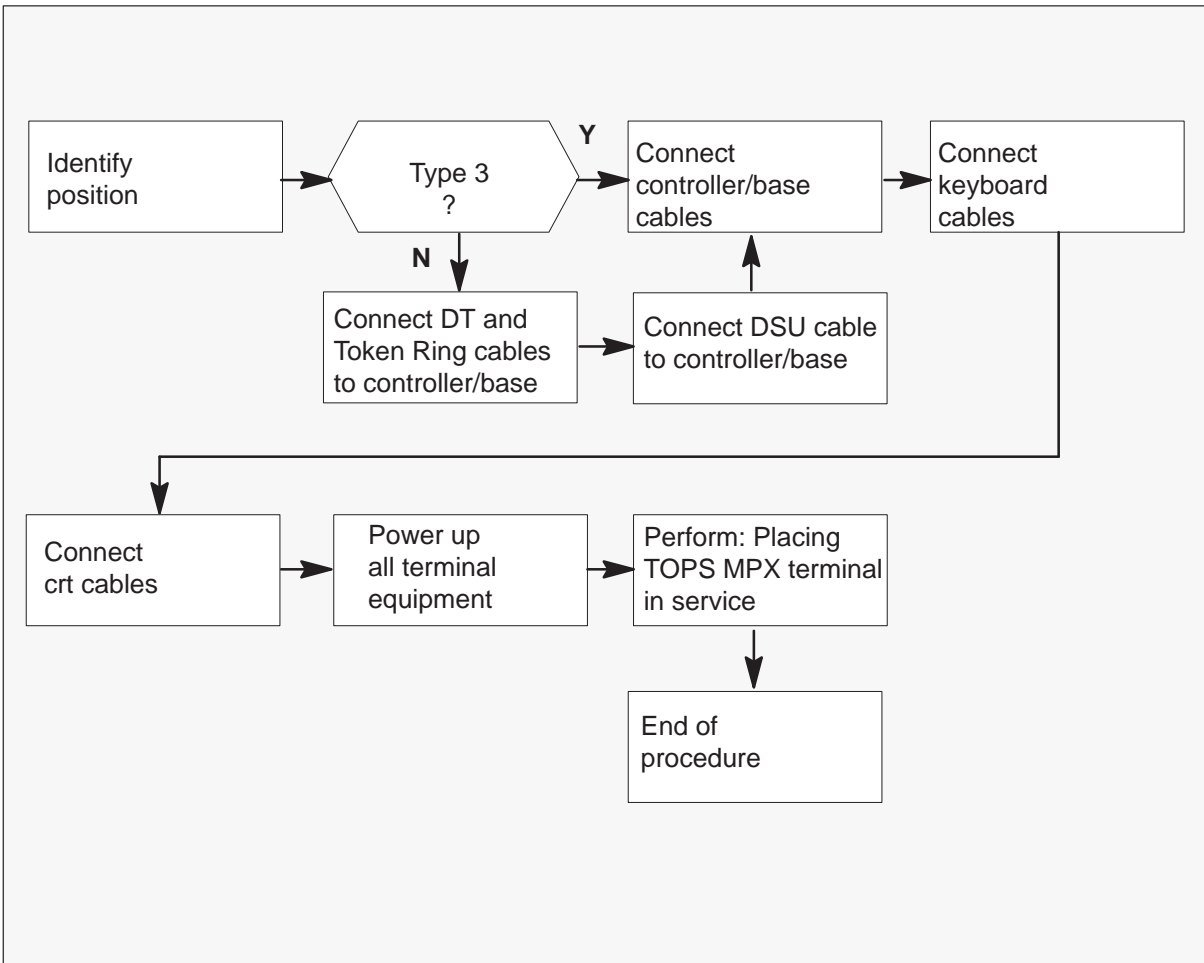
Refer to the following cable list when you remove or replace a TOPS MPX position component.

Nomenclature	From	To	Part No.
Display power cord	Power strip	Monitor	Power strip A0368941
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Base unit power	Power strip	Base unit power cord connector	Power strip A0368941
Wiring closet cable	Base unit TR and DT	Wiring closet TR to MAU, DT to BIX block voice teledapt	NTNX36DJ Note: Use with NTNX51BC or NTNX51BD card
Wiring closet cable	Base unit TR and DT	Wiring closet TR to MAU, DT to BIX block voice teledapt	NTNX36QB Note: Use with NTNX51BD card only
Wiring closet data cable	DSU DDS connector	Wiring closet to BIX block data teledapt	NTNX36DP
DSU modem cable	DSU DTE connector	Base unit RTIC card connector	NTNX36DM
MAU to MAU	MAU RI	MAU RO	NTNX36DK As token-ring arrangement requires
TSG cable	Misc. frame	TSG	NTNX36DQ
Channel bank	Misc. frame BIX block	Channel bank	NTNX36DN

Replacing a TOPS MPX terminal TOPS MPX (continued)

The following flowchart summarizes the procedure. Use the instructions that follow this flowchart to perform the procedures.

Summary of Replacing a TOPS MPX terminal



Replacing a TOPS MPX terminal

TOPS MPX (continued)

Replacing a TOPS MPX terminal



CAUTION

Potential risk to equipment

After you complete the installation, make sure you completed the following steps on the TOPS MPX:

1. You performed the TOPS MPX diagnostic
2. You installed the TOPS MPX software
3. You installed the position TYPE and NPID
4. You installed the position applications software that the operating company defines.



CAUTION

Potential risk to equipment

After you complete the installation, make sure you completed the following steps on the TOPS MPX:

1. You performed the TOPS MPX diagnostic
2. You installed the TOPS MPX software
3. You installed the position TYPE and NPID
4. You installed the position applications software that the operating company defines.

At the TOPS MPX terminal

- 1 Determine position type. Use the type recorded when you perform the the procedure Disconnecting a TOPS MPX terminal

type 1 Bisync token-ring access point
type 2 TOPS MPX virtual position controller
type 3 TOPS MPX only
type 3 TOPS MPX with screen server

Record for later use.

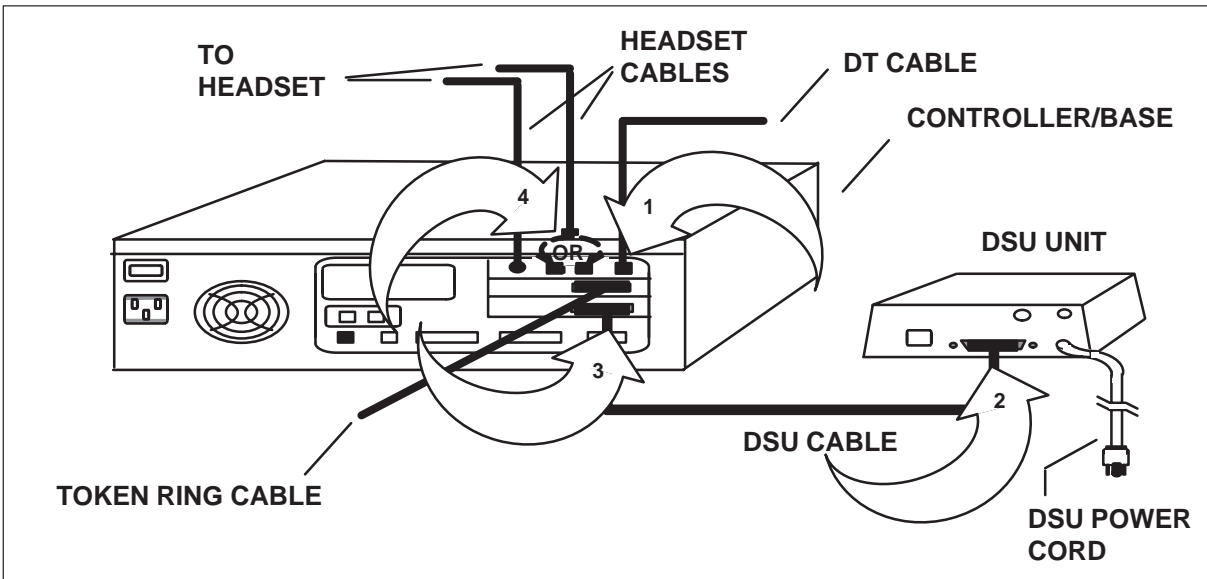
- 2 To replace the TOPS MPX terminal controller/base, complete the following steps:

- a. Connect Token Ring cable and DT cable (1) to the controller/base.
- b. Connect DSU cable (2) to DSU.

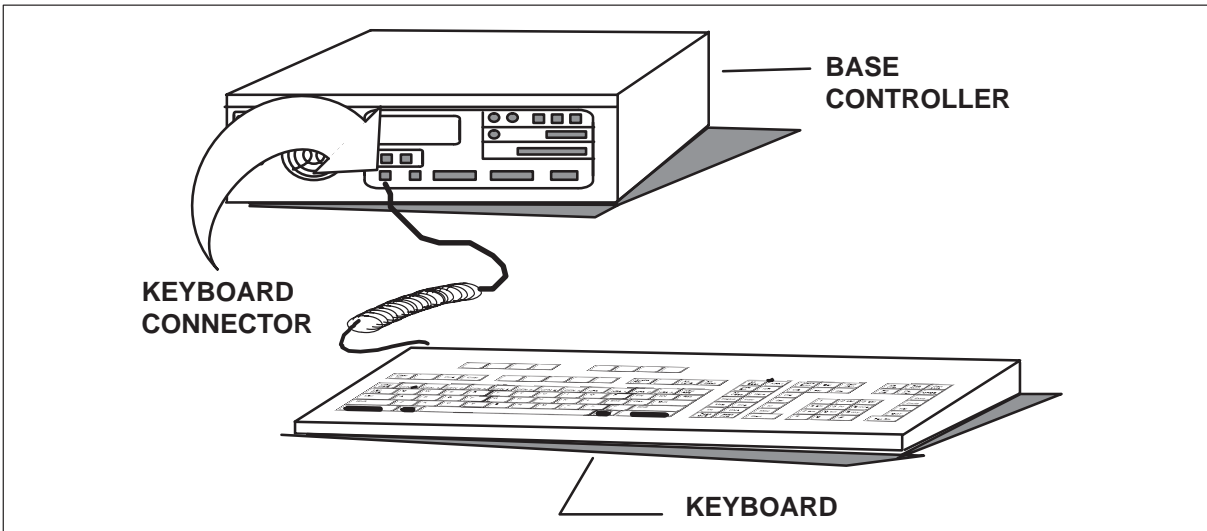
Replacing a TOPS MPX terminal TOPS MPX (continued)

c. Connect DSU cables (3) and headset cables (4) to the controller/base.

Note: Connection of DSU cables applies to type 1 or type 2 TOPS MPX positions.



3 Connect the keyboard connector to replace the TOPS MPX keyboard.

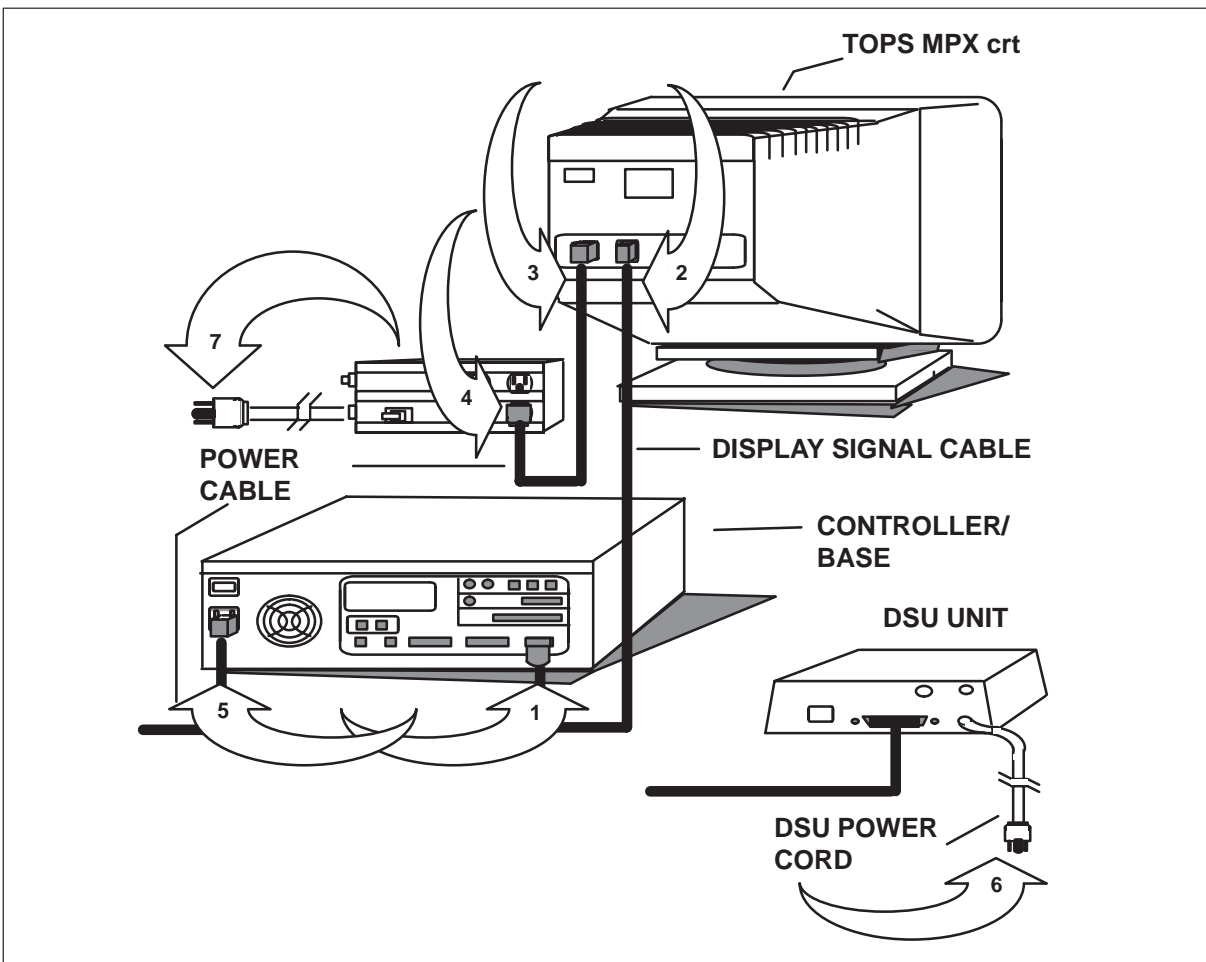


Replacing a TOPS MPX terminal TOPS MPX (end)

- 4 Connect power cords and display cables to TOPS MPX crt again.
 - a. Connect display cables from controller/base to TOPS MPX crt (1, 2).
 - b. Connect power cords. Connect power strip to TOPS MPX crt (3, 4), DSU and controller/base (5, 6) power cords, and power strip to outlet (7).

Note: Connection of DSU power cord (6) applies to type 1 or type 2 TOPS MPX positions.

 - c. Turn power on for all TOPS MPX position equipment.



- 5 You completed this procedure correctly. Go to common procedure *Placing a TOPS MPX terminal in service*.

Placing a TOPS MPX terminal in service TOPS MPX

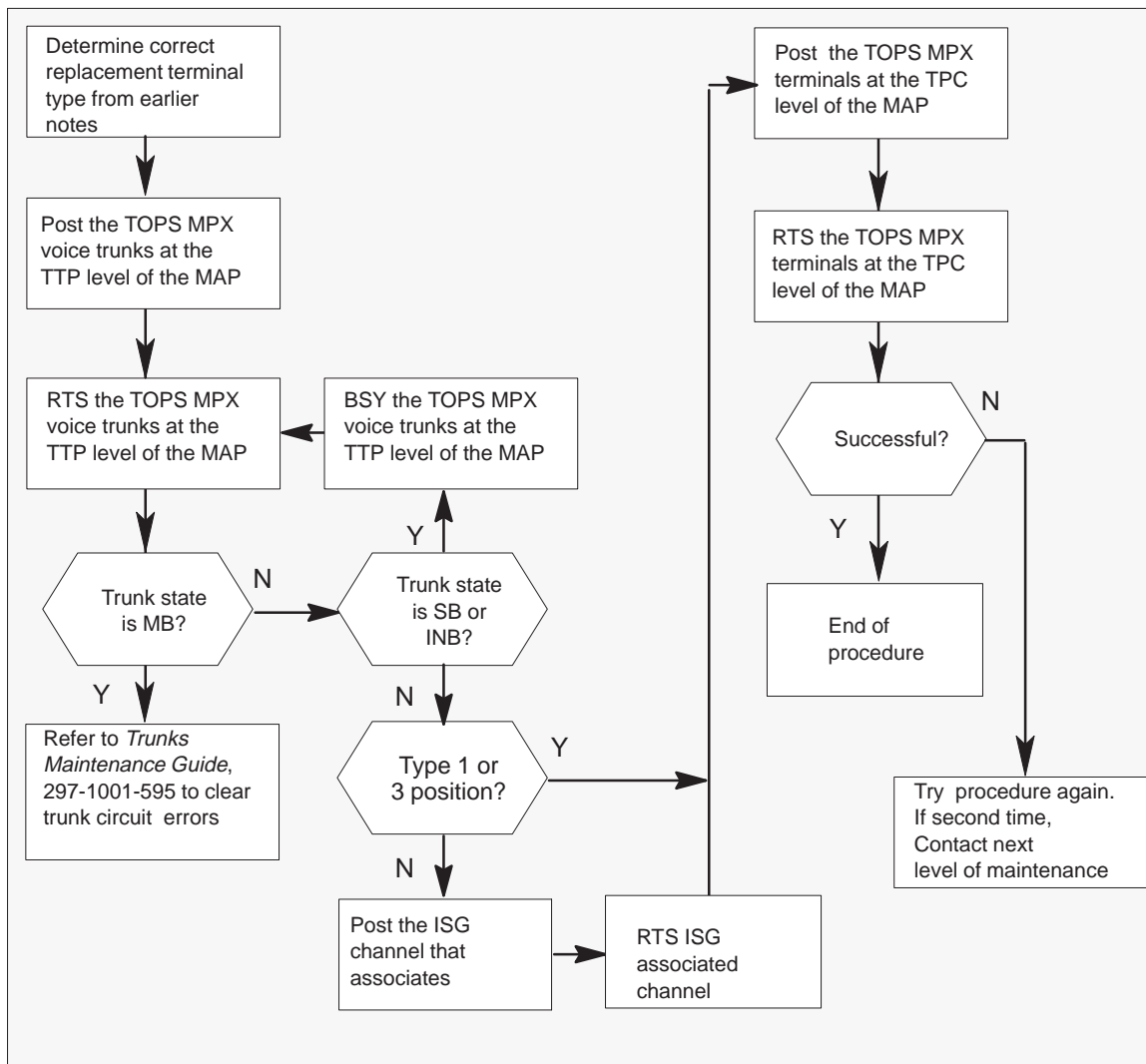
Application

Use this procedure to place a TOPS MPX terminal in service.

Action

The following flowchart is a summary of the procedure. To perform this procedure, use the instructions that follow the flowchart.

Summary of placing a TOPS MPX terminal in service



Placing a TOPS MPX terminal in service

TOPS MPX (continued)

Placing a TOPS MPX terminal in service

At your current location

1 To make sure the type of position you place in service is the same as the type you removed from service, check previous notes.

2 To access TTP level of the MAP, type the following string:

MAPCI;MTC;TRKS;TTP

and press the Enter key.

3 To post the TOPS MPX digital voice trunk from the MAP type the following string:

>POST T TOPSPOS n

where

n is the position number

and press the Enter key.

Example of a MAP display:

```

TTP
  POST      DELQ      BUSYQ      DIG
TTP 6-007
CKT TYPE PM NO  COM LANG STA S R DOT  TE RESULT
DESK  TMS  0  0  1  TOPSPOS 6  MB

```

MB
 ↑

```

  POST TOPSPOS 6
  POSTED CKT IDLED
  SHORT CLLI IS: TOPV
  OK, CKT POSTED

```

Note the state of
 the posted TOPS
 MPX position.

If position is	Do
ManB	step 4
Not ManB	Type the following: BSY and press the Enter key. Go to step 4

Placing a TOPS MPX terminal in service

TOPS MPX (continued)

- 4 To return the voice trunk to service, type the following:

>RTS

and press the Enter key.

If trunk state is	Do
MB	step 6
SB	step 5
INB	step 5
RES and a VPC position	step 7
RES and a type 1 or 3 position	step 9

- 5 To busy the posted trunk, type the following string:

>BSY

and press the Enter key. Return to step 4.

- 6 Refer to *Trunks Maintenance Guide*, 297-1001-595 to clear trunk circuit errors.

- 7 To view the state of the ISG channel, type the following string:

>PM; POST TMS n; ISG; POST x

where

n equals TMS #

x equals ISG #

and press the Enter key.

- 8 To return the posted ISG channel to service, type the following:

>RTS y

where

y equals ISG channel #

and press the Enter key.

Note: The ISG channel # must be in the MB state to return to service.

- 9 To post the associated TPC, type the following string:

>PM; POST TPC n

where

n equals the TPC # recorded earlier

and press the Enter key.

Placing a TOPS MPX terminal in service

TOPS MPX (end)

- 10 To go to the MP level of the MAP, type the following:
>MP
and press the Enter key.
- 11 To post the associated TOPS MPX position, type the following string:
>POST P n
where
n equals the TOPS MPX position #
and press the Enter key.
- 12 To return the posted TOPS MPX position to service, type the following:
>RTS
Note: If you return a-VPC that is not redundant to service, RTS all the other busied positions. To perform this action at this time, go to step 11.
and press the Enter key.

If RTS is	Do
Successful	step 13
Not successful	Attempt this procedure again. Perform step 1 first. If this attempt is the second attempt of the procedure, contact the next level of maintenance.

- 13 The procedure is complete. If other alarms occur, refer the correct alarm clearing procedures.

Installing, reinstalling or changing TOPS MPX software

TOPS MPX

Application

Use this procedure to load, reinstall or change the TOPS MPX position software.

TOPS MPX software version MPX00200 includes DOS version 5.0. This upgrade does not affect the operation of the TOPS MPX position. Perform a full INSTALL on any position that does not contain DOS 5.0.

Note: Install the correct hardware before you install TOPS MPX software.

You must perform an initial installation procedure if the position is not installed or if the update spans many releases. Perform an initial installation procedure if you suspect a problem and want to install the software again.

Perform an initial installation procedure if changes are made to the type of position and the token ring address.

For other conditions, go to the procedure Updating TOPS MPX software.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

All TOPS MPX positions on a specified token ring must be at the same release level. Busy out all positions on the specified token ring, reload the positions and return them to service. The user can update separate token rings at different times.

The user can install the TOPS MPX position software either before or after the DMS CC load. To make sure all TOPS MPX positions are at the same release level, complete the following procedure:

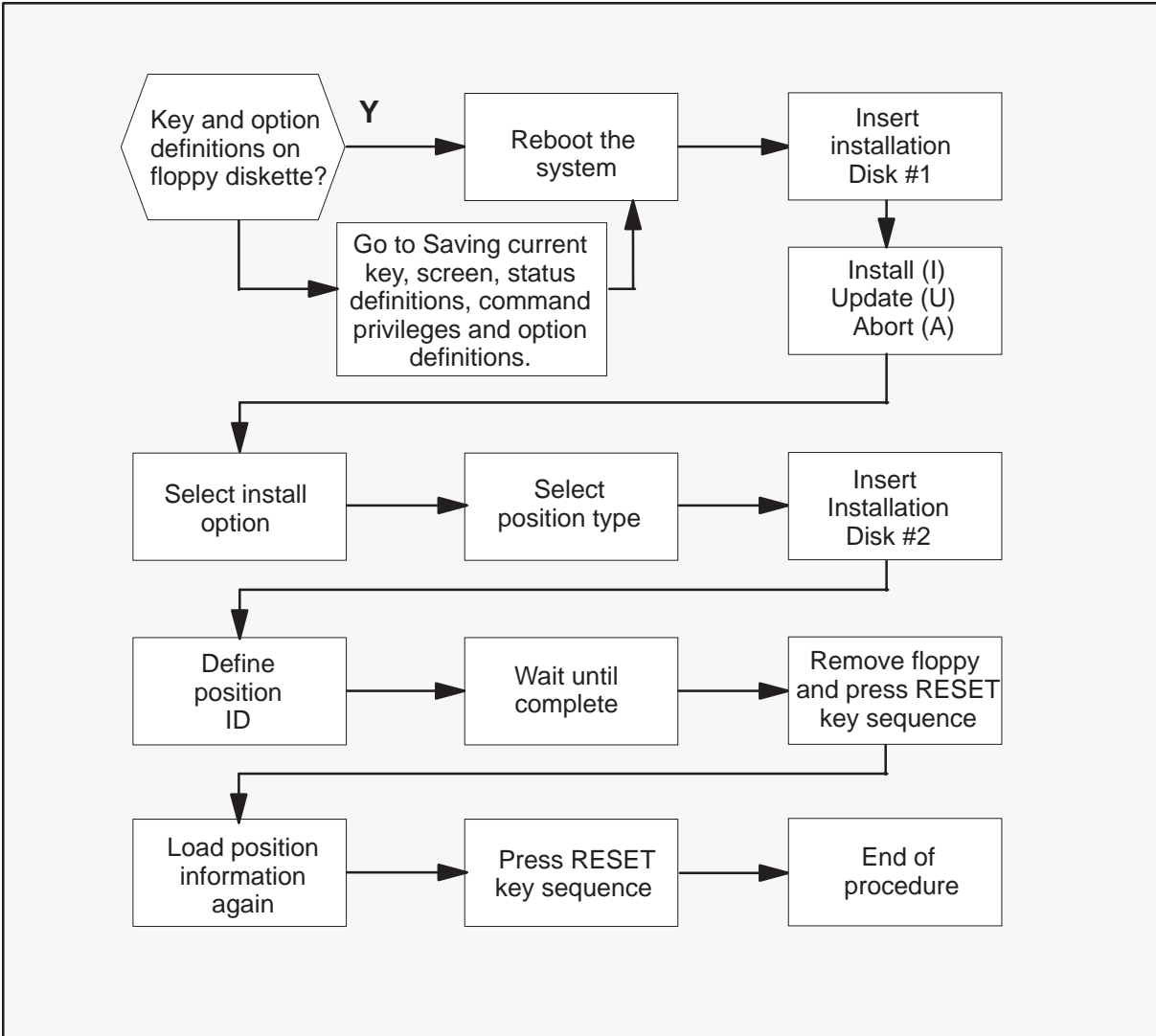
- busy out all positions on the specified token ring
- load the positions again
- return the positions to service

Tools

The user requires installation disks #1 and #2 to install TOPS MPX software. These installation disks contain the latest version of the TOPS MPX software. The two disks install DOS version 5.0 to the hard drive.

Installing, reinstalling or changing TOPS MPX software TOPS MPX (continued)

Summary of installing, reinstalling or changing to TOPS MPX software



Installing, reinstalling or changing TOPS MPX software TOPS MPX (continued)

Installing, reinstalling, or changing TOPS MPX software

At the TOPS MPX position

1



CAUTION

Loss of previous key or option definitions

The initial installation procedure destroys any previous key, screen, status messages, command privileges and option definitions. You can save defined keys, screen, status messages, command privileges and options on a floppy diskette before you perform the installation procedure.



CAUTION

Loss of previous key or option definitions

The initial installation procedure destroys any previous key, screen, status messages, command privileges and option definitions. You can save defined keys, screen, status messages, command privileges and options on a floppy diskette before you perform the installation procedure.

Key and option definitions.

If	Do
There are no saved keys, screen, status messages, command privileges or option definitions on a diskette.	Perform the procedure to save current keys, screen, status messages, command privileges and option definitions.
The TOPS MPX software is installed and the current keys, screen, status messages, command privileges and option definitions are not saved on diskette.	Perform the procedure to save current keys, screen status messages, command privileges, and option definitions.

Installing, reinstalling or changing TOPS MPX software

TOPS MPX (continued)

If	Do
The TOPS MPX software is installed and the current keys, screen status messages, command privileges and options definitions are saved on diskette.	Perform Step 2

- 2 Make sure that a copy of the position key, screen status messages, command privileges and options is available. Determine position type to install from the following four choices:

- Type I – Token–ring access point (Bisync or X.25)
- Type II – TOPS MPX virtual position controller
- Type III – TOPS MPX only without screen server
- Type III – TOPS MPX with screen server

Record for later use.

Note: For an initial installation refer to office records to obtain the position type and the network ID of the position you want to install. Record the position type and network ID for later use and go to the next step.

The following table provides equivalent TOPS MPX keys/sequences for IBM keys. The user can request these keys/sequences under the DOS application.

KEY/SEQUENCE	IBM keyboard	TOPS MPX keyboard
DOS-ENTER KEY	<— Enter	Bus.
DAS CMD KEY	F3	DAS Cmd.
TOPS DAS-ENTER KEY	F4	DAS Enter.
RESET KEY SEQUENCE	Press and hold Ctrl, Alt, and Del keys.	Press and hold: <— and Word <— keys Press Clg key.
ESC KEY	Esc	Clear Field.

Installing, reinstalling or changing TOPS MPX software TOPS MPX (continued)

3 Load Installation diskette #1 in Drive A.

If TOPS MPX is	Do
not on	Set the TOPS MPX to on state and go to Step 4.
on	Set the TOPS MPX power to off state. Wait 5 seconds. Set the TOPS MPX to on state and go to Step 4.

4 Choose the installation option.

The system prompts the user for an install (I) or update (U) of the TOPS MPX. To select the install option, type the following:

>I

A prompt appears and requests the user to enter the position type that the user wants to install.

5 Enter position type, as follows:

- For Type I, (Bisync Token ring access point) type T.
- For Type I, (X.25 Token ring access point) type C.
- For Type II, (to use this type as a VPC), type V.
- For Type III (without screen server), type M.
- For Type III (with screen server), type S.

Note: If the TOPS MPX position is installed you can install the same position type again. Press the DOS-ENTER key to perform this action.

6 When the system prompts the user to press <ENTER> to continue, or <ESC> to ABORT appears, press the DOS-ENTER key.

Several lines of information appear on the screen. The system prompts the user to insert installation disk #2.

In response to the prompt:

- a. Remove installation disk #1 from the Drive A.
- b. Insert installation disk #2 into the Drive A.
- c. Press the DOS-ENTER key.

Installing, reinstalling or changing TOPS MPX software

TOPS MPX (continued)

- 7 Run IBM DEFPOS and display the IBM logo screen. Several lines of information appear on the screen.

When prompt reads	Do
Press ENTER to continue...	Press the space bar. DEFPOS runs and displays an IBM logo.
Press the ENTER to continue...	Press the DOS-ENTER key.

- 8 Enter the network identification information for the TOPS MPX station:
Type the numbers in each of the three fields. After each field, press the DOS-ENTER key to advance to the next field.
When you complete this action, press the DOS-ENTER key.

- 9 The following text displays:

```
"To change the personality of this machine, use the command:  
CHANGE. MPX installation is complete. The system will now  
re-boot. Please remove the disk from drive A: and press  
<ENTER> when ready."
```

The installation procedure is complete.

Remove installation disk #2 from drive A: and press the DOS-ENTER key. The system reboots, and runs in MPX software.

To change the personality of this machine, use the CHANGE command.

Note: If you use the CHANGE command, IBM DEFPOS must run again to make sure the token ring addresses are correct. If any token-ring addressing changes, update the IBM gateway to match the IBM DEFPOS screen.

- 10 Reload the TOPS MPX position application software. The operating company defines this software. Perform the following procedure:
To exit the TOPS MPX software, power off the position. Insert the system disk and power on the position. Remove the system disk when booting is complete.
At the A:\ prompt type:
>C:
The following DOS prompt appears:
C:\> (root directory of the C drive)

Installing, reinstalling or changing TOPS MPX software TOPS MPX (end)

Insert the TOPS MPX position application software diskette in the floppy drive. The operating company defines this diskette. Type the following:

>COPY A:*.*

and press the DOS ENTER key. The names of the files that you copy appear on the screen. Return to the DOS prompt.

Remove the diskette from the floppy drive. Perform the RESET key sequence to return to the TOPS MPX software.

KEY/SEQUENCE	IBM Keyboard	TOPS MPX Keyboard
RESET KEY SEQUENCE	Press and hold Ctrl, Alt, and Del keys.	Press and hold ← and Word ← keys. Press Clg key.

Saving key, screen, status messages, command privileges and option definitions

Application

Use this procedure to save the following:

- current key
- screen
- Status messages
- command privileges
- option descriptions

Save these elements on diskette before you first load, reinstall or change the TOPS MPX position software. To install or save these elements on a disk, perform the procedure Installing key and option definitions. Do not continue the save procedure.

Action

This procedure contains a summary flowchart and a list of steps. The flowchart provides an overview of the procedure. Follow the list of steps to perform the procedure.

Tools

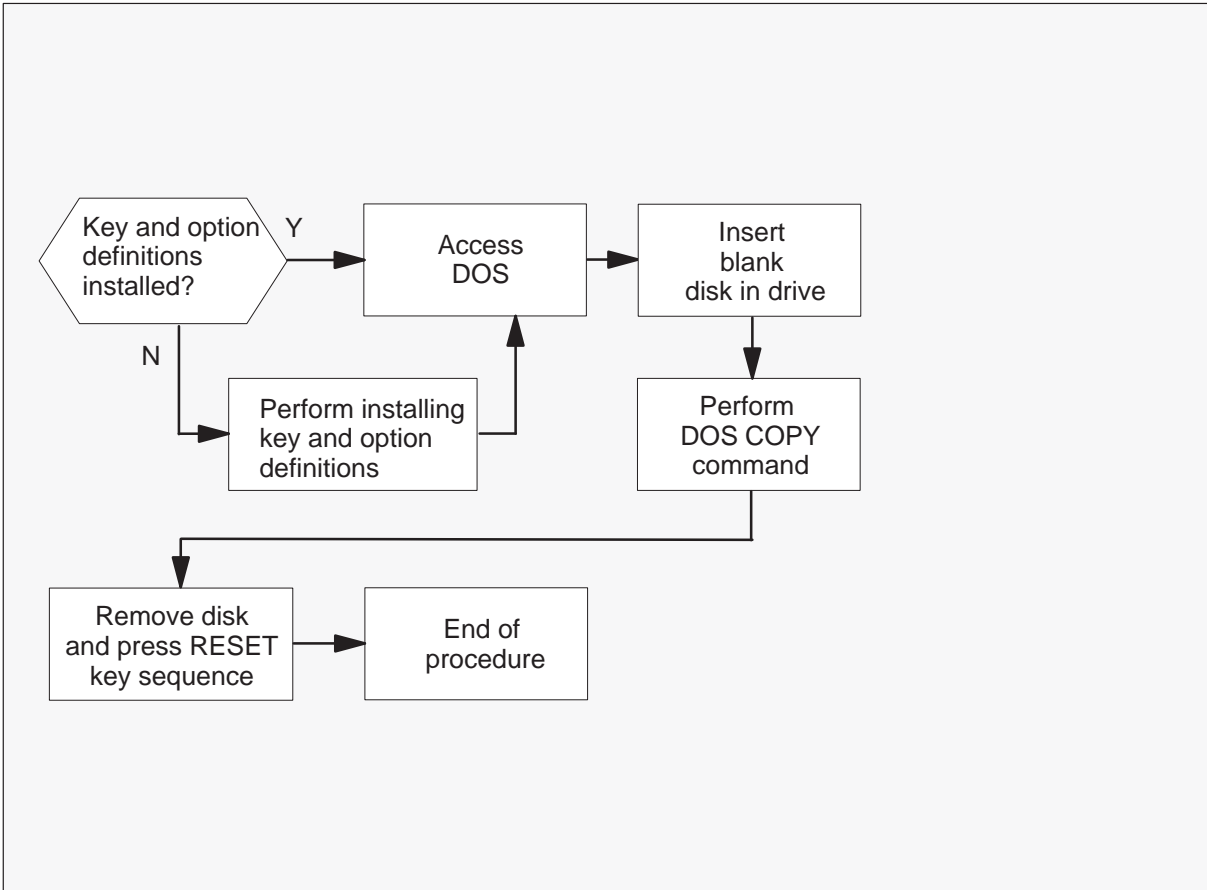
This procedure requires one blank formatted disk.

Note: The TOPS MPX release MPX00200 contains a large number of new terminal options. The DEFOPT utility defines the terminal options. The DAS.OPT file stores the options. The DAS.OPT file from versions that precede MPX00200 cannot propagate to MPX00200. The steps in this procedure do not apply to the DAS.OPT file. References to the DAS.OPT file remain.

After you install the terminal with the MPX00200 software, you must execute the DEFOPT utility to generate a new DAS.OPT file. You can copy the DAS.OPT file to a disk, as this procedure describes. Use the procedure Saving key, screen, status messages, command privileges and option definitions to copy the file to other positions.

Saving key, screen, status messages, command privileges and option definitions (continued)

Summary of Saving key, screen, Status messages, command privileges and option definitions



Saving key, screen, status messages, command privileges and option definitions (continued)

Saving key, screen, status messages, command privileges and option definitions

At your current location

1



CAUTION

Loss of previous key, screen, status messages, command privileges or option definitions

The first installation procedure destroys any previous key or option definitions. You must save keys and options defined on a disk before you perform the installation procedure.



CAUTION

Loss of previous key, screen, status messages, command privileges or option definitions

The first installation procedure destroys any previous key or option definitions. You must save keys and options defined on a disk before you perform the installation procedure.

Key and option definitions.

If	Do
The user did not install key, screen, Status messages, command privileges, or option definitions.	Go to Installing key, screen, status messages, command privileges, and option definitions procedure to make these definitions.
The user installed TOPS MPX. The user did not save the current key, screen, Status messages, command privileges, and option definitions on a disk.	Step 2

2 At the TOPS MPX, access DOS at the C:\> prompt.

Saving key, screen, status messages, command privileges and option definitions (continued)

Note: Perform this file copy procedure on a disk for OPR positions. Perform this procedure again for SA positions.

If	Do
TOPS MPX software runs	Turn TOPS MPX power off. Insert system disk. Turn TOPS MPX power on.
the A:\ prompt shows	Remove diskette in Drive A and type C:
the C:\ prompt does not appear	Step 3.

3 Type the following to access the root directory of the hard drive:

```
>CD\  
and press the DOS-ENTER key.  
The system displays the prompt:
```

```
>C:\>
```

4 Copy the following files to a disk:

- DAS.KEY – keyboard layout file
- DAS.SCR – screen layout file
- DAS.OPT – options file
- DAS.CMD – command privileges file
- DAS.STA – Status message file
- DAS.SAV – screen server file (If you copied this file to your disk, use the DOS DEL command to delete the file from the disk. This file must be on the hard disk of ONLY ONE screen server position for each token ring.)

Insert a blank formatted disk in Drive A:

Type the following string:

```
>COPY DAS.* a:  
and press the DOS-ENTER key.
```

*To save all 20 (max.) screen files type the following:

```
>COPY *.SCR A:  
and press the DOS-ENTER key.
```

After you complete this copy process for all the files, remove the disk and store for future use.

Saving key, screen, status messages, command privileges and option definitions (end)

The following table provides TOPS MPX keys/sequences for IBM keys the user can request through the DOS application.

KEYS/SEQUENCE	IBM Keyboard	TOPS MPX Keyboard
DOS-ENTER KEY	<— Enter	Bus
DAS CMD KEY	F3	DAS Cmd
TOPS DAS-ENTER KEY	F4	DAS Enter
RESET KEY SEQUENCE	Press and hold Ctrl, Alt and Del keys	Press and hold <— and Word <— keys. Press Clg key
ESC KEY	Esc	Clear Field

Installing key and option definitions

Application

Use this procedure to install the current key and option definitions. These definitions are saved on floppy diskette. Perform the procedures to install, reinstall or change TOPS MPX software first. Install the key and option definitions from a floppy diskette.

Tools

To perform this procedure, use a floppy diskette that contains the current key and option definitions.

Note: The TOPS MPX release MPX00200 contains a large number of new terminal options. The DEFOPT utility is used to define these terminal options. The DAS.OPT file stores these options. The DAS.OPT file from versions that precede MPX00200 cannot propagate to MPX00200. The steps in this procedure do not apply to the DAS.OPT file. References to the DAS.OPT file remain.

After you install the terminal with the MPX00200 software, activate the DEFOPT utility to generate a new DAS.OPT file. You can copy the new DAS.OPT file to a diskette, as this procedure describes. Use the procedure Installing key and option definitions to copy the diskette to other positions.

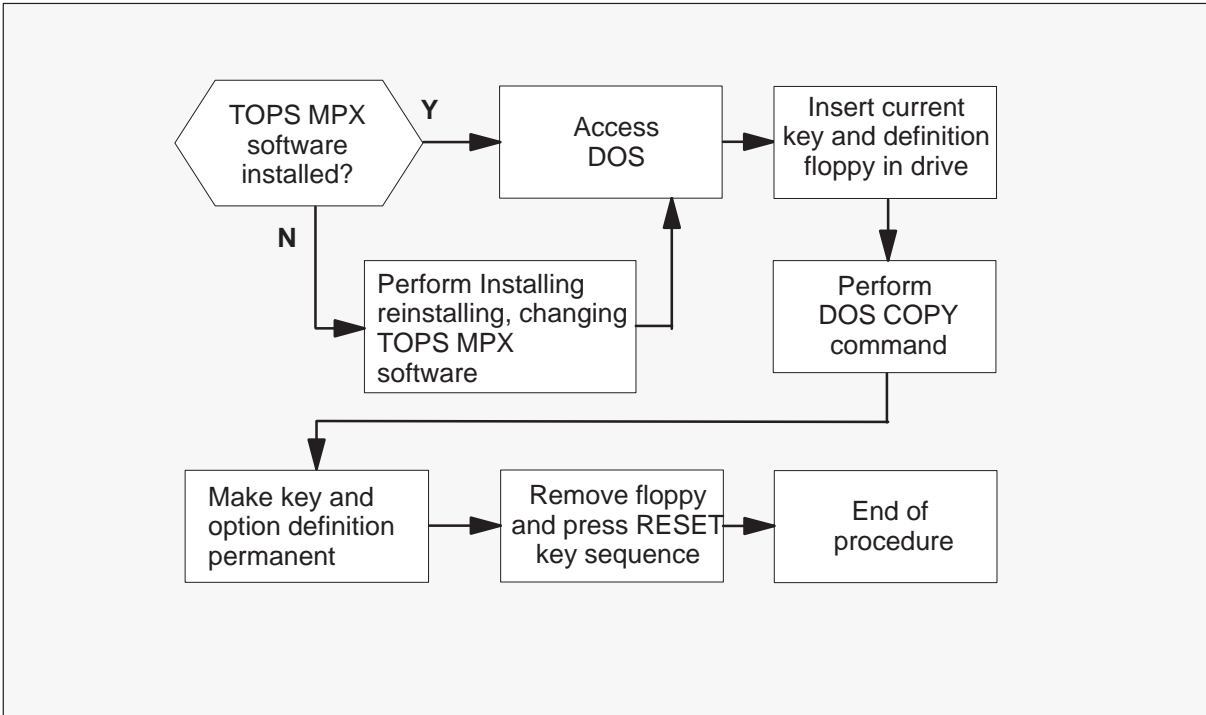
Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Installing key and option definitions

(continued)

Summary of installing key and option definitions



Installing key and option definitions

At the TOPS MPX position

1



CAUTION

Loss of previous key, screen, status messages, command privileges or option definitions

The first installation procedure destroys previous key, screen, status messages, command privileges and option definitions. Save defined keys and options on a floppy diskette before you perform the installation procedure.

Installing key and option definitions (continued)



CAUTION

Loss of previous key, screen, status messages, command privileges or option definitions

The first installation procedure destroys previous key, screen, status messages, command privileges and option definitions. Save defined keys and options on a floppy diskette before you perform the installation procedure.

Key and option definitions.

If	Do
TOPS MPX software is installed	Go to Installing, reinstalling, or changing TOPS MPX software
TOPS MPX software is installed and the current key and option definitions are not installed	Step 2

- 2 At the TOPS MPX access DOS at the C:\> prompt.

If	Do
TOPS MPX software runs	Turn TOPS MPX power off. Insert system disk. Turn TOPS MPX power on.
the A:\ prompt appears	Remove diskette in Drive A and type C:
the C:\ prompt appears	Go to Step 3

- 3 To access the root directory of the hard drive, type the following:

>CD

and press the DOS-ENTER key.

The system displays the prompt:

>C:\>

- 4 Copy the keyboard layout file, the screen layout file, the options file, command privileges file and status message file from a diskette.

Installing key and option definitions

(continued)

Insert operating company-defined TOPS MPX position application software diskette to Drive A:.

Type the following string:

>COPY A:DAS.*

and press the DOS-ENTER key.

The preceding command copies the following files.

- DAS.KEY – keyboard layout file
- DAS.SCR – screen layout file
- DAS.OPT – options file
- DAS.CMD – command privileges file
- DAS.STA – status message file

*To save all 20 (max.) screen files, type:

>COPY A:*.SCR

and press the DOS-ENTER key.

To reboot the system, press the RESET key sequence.

Note: An initial installation destroys these definitions.

After you complete the copy process for all definition files, remove the diskette from Drive A and store for future use.

- 5 Make the keyboard layout file, the screen layout file and the options file permanent.

If you do not make these files permanent, the system erases the files when you use the CHANGE or UPDATE commands.

To copy the file to the hard drive, type the following string for each file:

The three filenames are as follows:

- DAS.KEY – keyboard layout file
- DAS.SCR – screen layout file
- DAS.OPT – options file

>copy das.opt dastops.opt

>copy das.scr dastops.scr

>copy das.key dastops.key

Press the DOS-ENTER key after each entry.

To reboot the system, press the RESET key sequence.

Note: An initial installation destroys these definitions.

After you complete the copy process for the three definition files, remove the diskette from Drive A and store for future use.

Installing key and option definitions (end)

The following table provides equivalent TOPS MPX keys/sequences for IBM keys. The user can request these keys/sequences under the DOS application.

KEYS/SEQUENCE	IBM Keyboard	TOPS MPX Keyboard
DOS-ENTER KEY	<— Enter	Bus
DAS CMD KEY	F3	DAS Cmd
TOPS DAS-ENTER KEY	F4	DAS Enter
RESET KEY SEQUENCE	Press and hold Ctrl, Alt and Del keys	Press and hold <— and Word <— keys Press Clg key
ESC KEY	Esc	Clear Field

Updating TOPS MPX software

Application

Use this procedure to update the TOPS MPX position software.

Action

A summary of the Updating TOPS MPX software appears in the flowchart on the following page. Use the instructions that follow this flowchart to perform the procedure.

All TOPS MPX positions on a token ring must be at the same release level. To make sure all positions are on the same level:

- busy out all positions on the token ring
- load the positions again
- return the positions to service

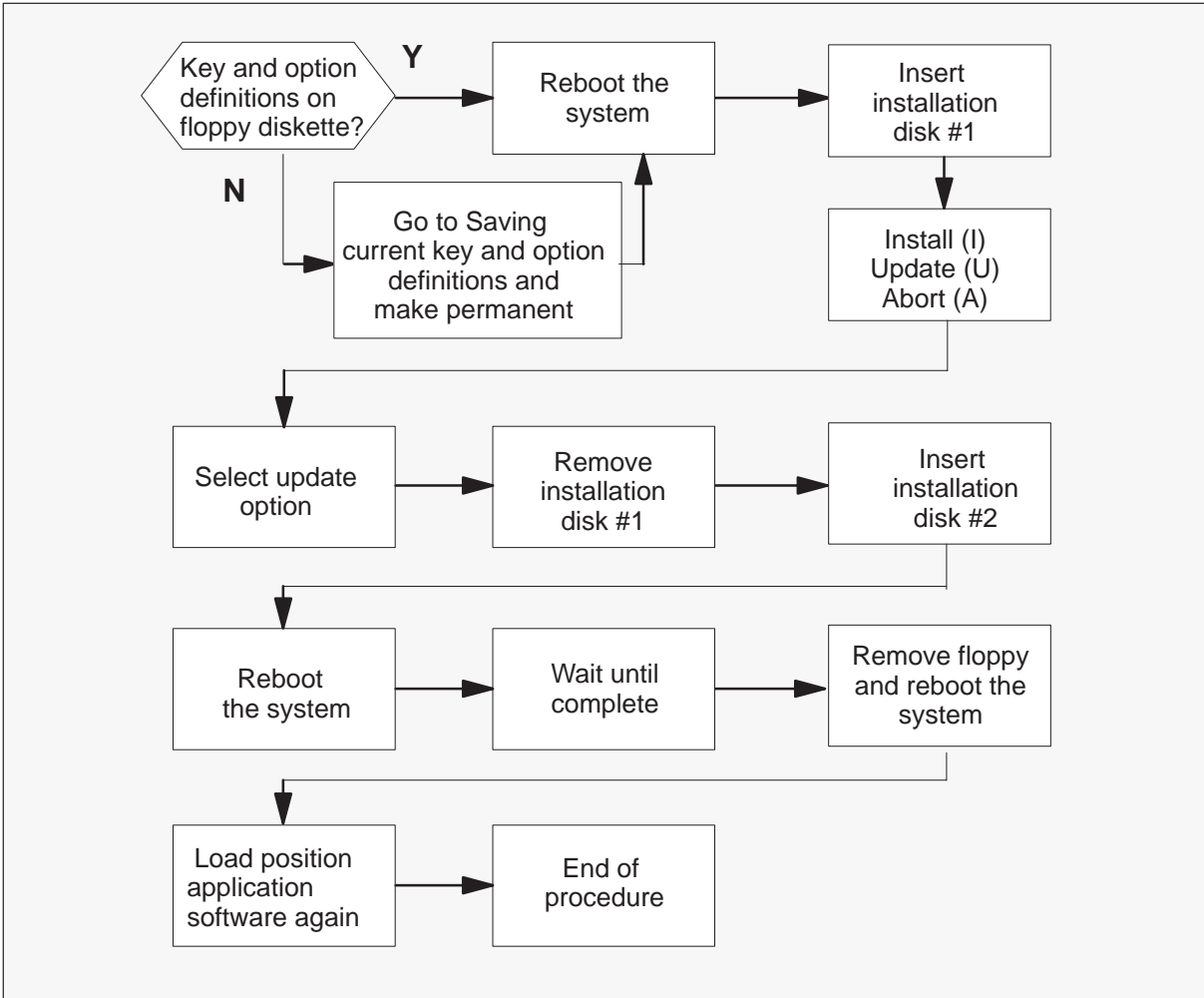
You can update separate token rings at different times.

Tools

Installation disks #1 and #2 are required to perform this procedure. Installation disks #1 and #2 contain the latest version of the TOPS MPX software.

Updating TOPS MPX software (continued)

Summary of Updating TOPS MPX software



Updating TOPS MPX software

(continued)

Updating TOPS MPX software

At the TOPS MPX position

1



CAUTION

Loss of previous key or option definitions

The initial installation procedure destroys any previous key, screen, status messages, command privileges and option definitions. Save previously defined keys, screen, status messages, command privileges and options on a diskette before you perform the update procedure.



CAUTION

Loss of previous key or option definitions

The initial installation procedure destroys any previous key, screen, status messages, command privileges and option definitions. Save previously defined keys, screen, status messages, command privileges and options on a diskette before you perform the update procedure.

Updating TOPS MPX software (continued)

Key and option definitions.

If	Do
keys, screen, status messages, command privileges or option descriptions are not saved on a diskette.	Perform saving current keys, screen, status messages, command privileges and option definitions procedure.
the TOPS MPX software is present. The current keys, screen, status messages, command privileges and option descriptions are not saved on diskette.	Perform saving current keys, screen, status messages, command privileges and option definitions procedure.
the TOPS MPX software is present. The current keys, screen status messages, command privileges, and option descriptions are saved on diskette.	Perform step 2

2 At the TOPS MPX access DOS.

If	Do
the TOPS MPX software runs.	Turn TOPS MPX power off. Insert system disk. Turn TOPS MPX power on.
the A:\> prompt displays	Remove diskette in Drive A and type, C:
the C:\> prompt displays	Go to Step 3.

3 To access the root directory of the hard drive, type:

>CD

and press the DOS-ENTER key.

The prompt displays.

>C:\>

4 To load installation disk #1:

Updating TOPS MPX software (continued)

Place installation disk #1 in Drive A and press the RESET KEY SEQUENCE.

KEY/SEQUENCE	IBM Keyboard	TOPS MPX Keyboard
RESET KEY SEQUENCE	Press and hold Ctrl, Alt, and Del keys.	Press and hold <— and Word <— keys. Press Clg key

5 Select the update option.

The system prompts for an install (I) or update (U) of the TOPS MPX.

To select the update option, type:

>U

When prompted to press <ENTER> to continue, or <ESC> to ABORT, press the DOS-ENTER key.

The following table provides equivalent TOPS MPX keys/sequences for IBM keys. The user can request these keys/sequences under the DOS application.

KEYS/SEQUENCE	IBM Keyboard	TOPS MPX Keyboard
DOS-ENTER KEY	<— Enter	Bus
DAS CMD KEY	F3	DAS Cmd
TOPS DAS-ENTER KEY	F4	DAS Enter
RESET KEY SEQUENCE	Press and hold Ctrl, Alt and Del keys	Press and hold <— and Word <— keys Press Clg key
ESC KEY	Esc	Clear Field

6 Insert Installation Disk #2.

Several lines of information appear on the screen. This information prompts the insertion of installation disk #2.

In response to the prompt:

- Remove installation disk #1 from the floppy disk drive.
- Insert installation disk #2 in the floppy disk drive.
- Press the DOS-ENTER key.

Updating TOPS MPX software (end)

7 The following text appears on the MAP display:

"To change the personality of this machine, use the command CHANGE. MPX installation is complete. The system will now reboot. Please remove the disk from drive A: and press <ENTER> when ready."

The update procedure is complete.

Remove Installation Disk #2 from drive A: and press the DOS-ENTER key. The system reboots and runs in MPX software.

The CHANGE command can change the profile of this machine.

Note: If you use the CHANGE command, run IBM DEFPOS again. This action makes sure the token ring addresses are correct.

8 Load the operating company defined TOPS MPX position application software again. Perform the following:

To exit the TOPS MPX software turn off the position, insert the system disk, and power on the position. Remove the system disk when boot is complete.

At the A:\ prompt type:

>C:

The following DOS prompt displays:

>C:\> (root directory of the C drive)

Insert the operating company-defined TOPS MPX position application software diskette in the disk drive. Type:

>COPY A:*.*

and press the DOS ENTER key. The names of the copied files appear on the MAP display. Return to the DOS prompt.

Remove the diskette from the floppy drive. To return to the TOPS MPX software, perform the RESET key sequence.

KEY/SEQUENCE	IBM Keyboard	TOPS MPX Keyboard
RESET KEY SEQUENCE	Press and hold Ctrl, Alt, and Del keys.	Press and hold ← and Word ← keys Press Clg key

TMS card replacement procedures

Note, this chapter is a duplicate of the procedures for the TMS in the Card Replacement Procedures manual.

This chapter contains procedural information about changing cards and paddle boards in a TMS shelf. Each card replacement task contains the following elements:

- explanatory and context-setting information
- a summary flowchart
- step-action instructions

Explanatory and context-setting information

In each procedure, the paragraph titled “Application” tells where you can use this procedure and the correct card or paddle board versions. Read it before you perform the step-action instructions. The paragraph titled “Common procedures” lists the names of common procedures that you may be asked to perform as you follow the step-action instructions. Go to these common procedures only when directed to do so.

Summary flowchart

The flowchart is only a summary of the main actions, decision points, and possible paths you may take. Do not use the summary flowchart to perform the procedure. Instead, use it to preview what you will be doing and to prepare for it. For example, if you see that these instructions will involve another office, you will know to advise that office before you begin the step-action instructions.

Step-action instructions

The step-action instructions tell you what to do to change a card or paddle board. Normally, you will perform the steps in order, but you may be directed to return to a previous step and repeat a sequence. Also, the successful execution of a given step in a sequence may depend on previous steps. Therefore, always perform the steps in the order specified, starting at step 1.

5-2 TMS card replacement procedures

The step-action instructions provide the command syntax and machine output you would normally use or see while performing this procedure. For help on DMS system commands or output (for example, problems logging in to a utility), see “About this document” for the appropriate NTP number.

**NT2X70
in a TMS**

Application

Use this procedure to replace an NT2X70 card in an Enhanced TOPS message switch (ETMS) or a TOPS message switch (TMS) shelf.

PEC	Suffixes	Name
NT2X70	AE	Power Converter

If you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the Index for a list of cards, shelves, and frames documented in this card replacement NTP.

Common procedures

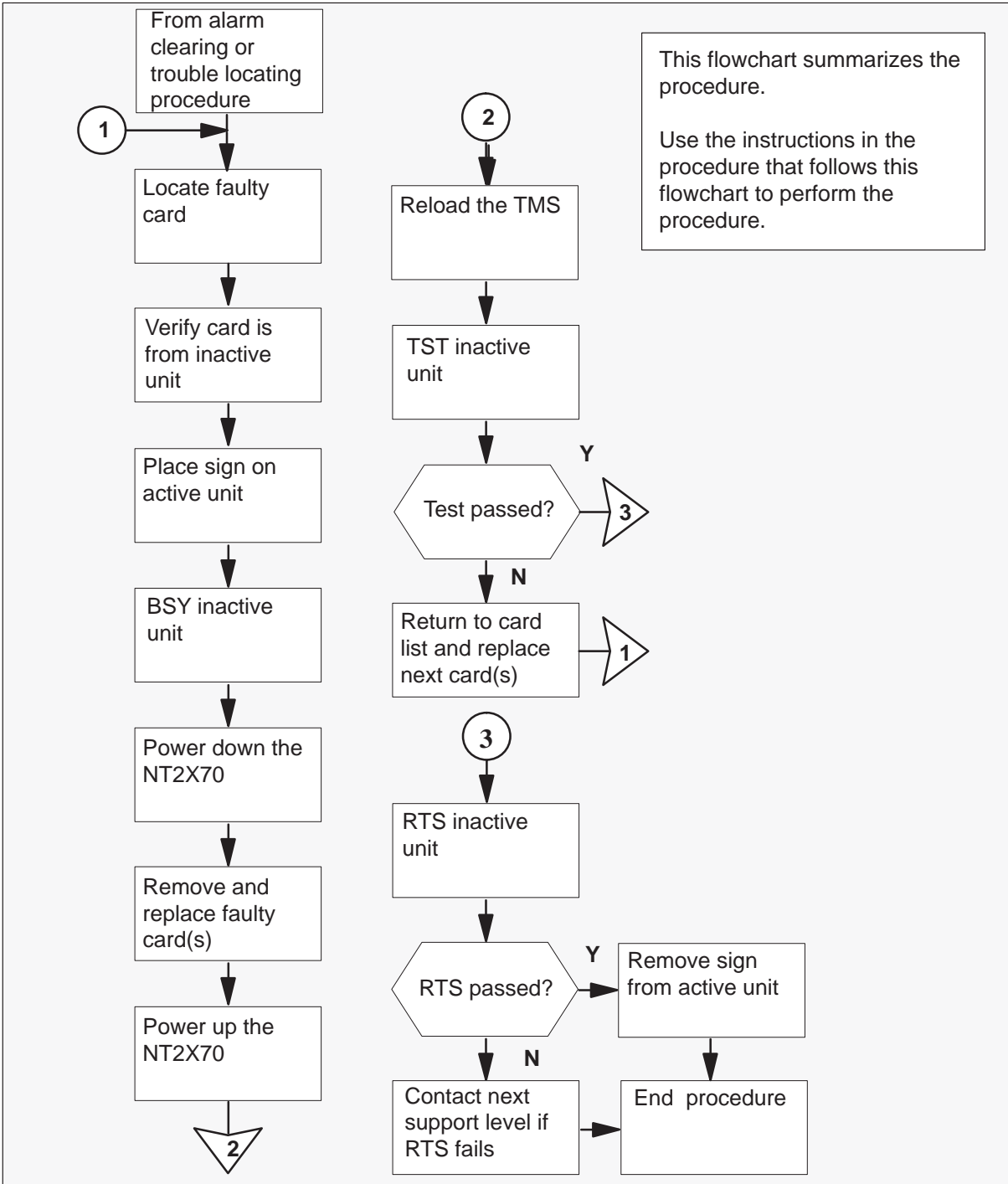
Card removal and replacement procedure is referenced in this procedure:

Action

The following flowchart is only a summary of the procedure. To replace the card, use the instructions in the step-action procedure that follows the flowchart.

NT2X70 in a TMS (continued)

Summary of replacing an NT2X70 in a TMS



NT2X70 in a TMS (continued)

Replacing an NT2X70 in a TMS

At your current location:

1



Caution

Loss of service

Whenever replacing a card in the TMS, ensure that the MP positions have been removed from service and that the TPC subtending the TMS is turned off.



WARNING

Electrical and mechanical damage

Take these precautions to protect the circuit cards from electrical and mechanical damage while transporting cards.

When handling a circuit card not in an electrostatic discharge (ESD) protective container, stand on a conductive floor mat and wear a wrist strap connected, through a 1-megohm resistor, to a suitably grounded object, such as a metal workbench or a DMS frame (Northern Telecom Corporate Standard 5028).

Store and transport circuit cards in an ESD protective container.

Proceed only if you have been directed to this procedure from a step in a maintenance procedure. Using this procedure independently may cause equipment damage or service interruption.

At the MAP:

2 Set the MAP to TMS level by entering:

>MAPCI;MTC;PM:POST TMS n

and pressing the Enter key.

where

n is the TMS number

NT2X70
in a TMS (continued)

3



Caution

Possible loss of service

Removing a card from the active unit will cause a loss of call handling capability for all TOPS MP positions subtending that TMS.

Be certain that the card being changed is on the inactive unit. If necessary, perform a SwAct of the TMS from the MAP by entering:

>SWACT

and pressing the Enter key.

Example of a MAP display response:

CC	CMC	IOD	Net	PM	CCS	LNS	Trks	Ext	APPL
TMS		SysB	ManB	OffL	CBsy	ISTb	InSv		
0	Quit	PM	0	0	10	0	0	130	
2	Post_	TMS	0	0	0	0	1	4	
3									
4		TMS 0	ISTb	Links_OOS:	CSide	0	PSide	0	
5	Trnsl	Unit 0:	Inact	ISTb					
6	Tst	Unit 1:	Act	ISTb	Mtce				
7	Bsy								
8	RTS								
9	OffL								
10	LoadPM								
11	Disp_								
12	Next								
13	SwAct								
14	QueryPM								
15									
16	DCH								
17	Perform								
18									

Indicates active and inactive units

NT2X70 in a TMS (continued)

- 4 At the TMS level of the MAP, busy the inactive unit by entering:

>BSY unit_no

and pressing the Enter key.

where

unit_no is the TMS unit number

Example of a MAP display response:

CC	CMC	IOD	Net	PM	CCS	LNS	Trks	Ext	APPL
TMS			SysB	ManB	OffL	CBsy	ISTb	InSv	
0	Quit	PM	0	0	10	0	0	130	
2	Post_	TMS	0	0	0	0	1	4	
3									
4		TMS 0	ISTb	Links_OOS:		CSide 0	PSide 0		
5	Trnsl	Unit 0:	Inact	ManB					
6	Tst	Unit 1:	Act	ISTb					
7	Bsy								
8	RTS								
9	OffL								
10	LoadPM								
11	Disp_								
12	Next								
13	SwAct								
14	QueryPM								
15									
16	DCH								
17	Perform								
18									

Indicates unit is busy

- 5 Busy the DCH associated with the card to be removed by entering:

>BSY

and pressing the Enter key.

At the TMS:

- 6 Put a sign on the active unit bearing the words "Active unit – Do not Touch."
- 7 Set power switch of NT2X70AE to be replaced to the off position.
- a. Convert fail LED on converter card will be on (lighted)
 - b. Frame Fail lamp on FSP will be on (lighted)
 - c. Audible alarm may sound. If objectionable, it may be silenced by entering:

>SIL

and pressing the Enter key.

NT2X70 in a TMS (continued)

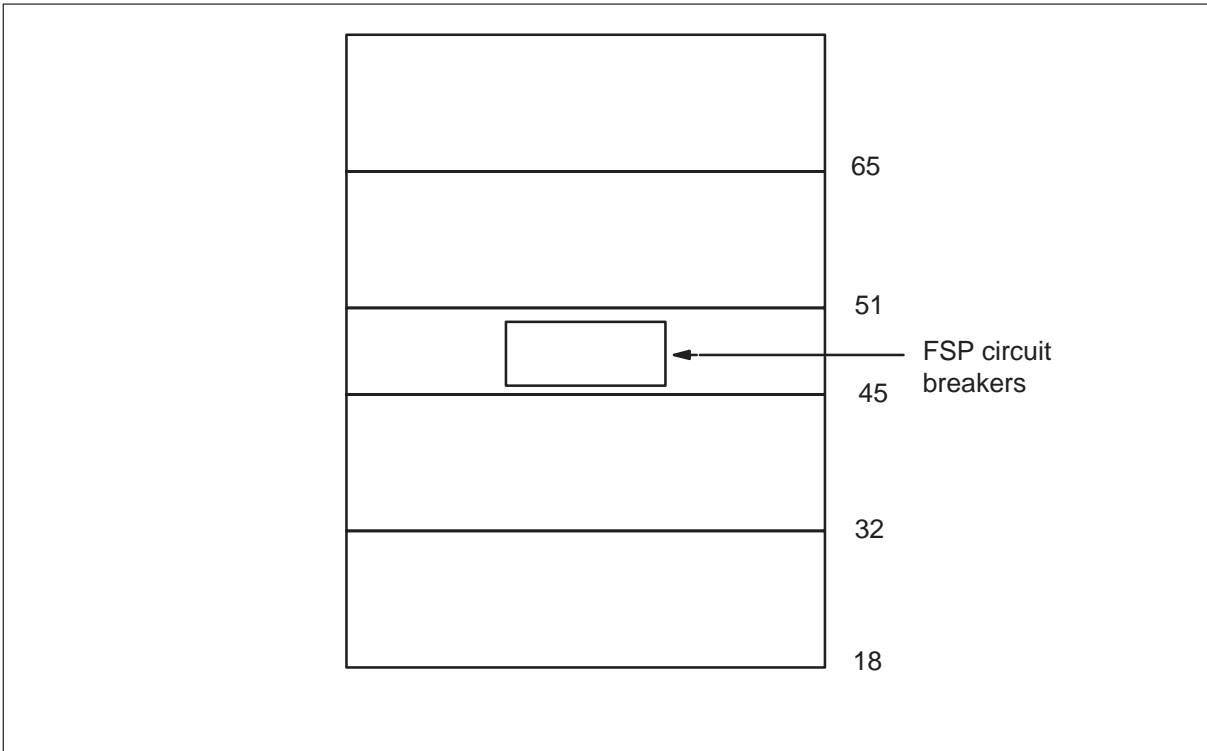
8 Remove and replace the NT2X70 card as shown in *Card removal and replacement* in this document. Go to step 9 after completing removal and replacement procedure.

9 Power up the NT2X70AE converter just inserted.

Using the diagram below determine the correct FSP switch for the shelf in which the DCH was replaced. The switch numbers correspond to the shelf position.

Hold the FSP circuit breaker on. While holding the circuit breaker on, set the power switch on the converter to the POWER ON position.

- Convert fail LED on converter card will be extinguished
- Frame Fail lamp on FSP will be extinguished



NT2X70 in a TMS (continued)

At the MAP:

- 10** The peripheral/remote loader-16 card (NT7X05) allows local loading of XPM data, which reduces recovery time. Check to see if the NT7X05 card is provisioned by typing

>QUERYPM FILES

and pressing the Enter key.

Example of a MAP display:

```

      CM   MS   IOD   Net   PM   CCS   LNS   Trks   Ext   APPL
      .   .   .   .   1DTC   .   .   .   .   .

TMS
0 Quit      PM      2      0      2      0      2      25
2 Post      TMS     0      1      0      0      0      10
3 ListSet
4           TMS     0 ManB  Links_OOS: CSide 0, PSide 0
5 TRNSL_    Unit 0:   Act   ManB
6 TST_      Unit 1:   InAct ManB
7 BSY_
8 RTS_      QUERYPM files
9 OffL      Unit 0:
10 LoadPM_  NT7X05 load File: ETM06BB
11 Disp_    NT7X05 Image File:
12 Next_    NT7X05 Image Timestamp: 1996/02/07 13:56:25.663 WED
13 SwAct
14 QueryPM  Unit 1:
15           NT7X05 load File: ETM06BB ←
16           NT7X05 Image File:
17 Perform  NT7X05 Image Timestamp: 1996/02/07 13:54:09.523 WED
18

```

(NT7X05 load file name)

Note: If the NT7X05 card is not provisioned the MAP response is:
NT7X05 not datafilled, QueryPm files invalid

If the NT7X05 card is	Do
provisioned	step 11
not provisioned	step 12

NT2X70
in a TMS (continued)

11



WARNING

Possible service interruption

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. When this parameter is used, the loadfile named in the parameter is not patched. Do not use this parameter unless the NOPATCH option of the loadfile is desired.

Load the TMS software from the local loadfile by typing:

>LOADPM PM LOCAL LOADFILE

If LOADPM	Do
passed	step 14
failed	step 12

12 Reload the TMS unit from the CC that has been without power by entering:

>LOADPM unit_no

and pressing the Enter key.

where

unit_no is the TMS unit number

13 Test the TMS unit containing the new card by entering:

>TST unit_no

and pressing the Enter key.

where

unit_no is the TMS unit number

If	Do
passed	step 14
failed	Return to card list and replace next card on the list

NT2X70 in a TMS (end)

- 14 Return the inactive TMS unit to service by entering:

>RTS unit_no

and pressing the Enter key.

where

unit_no is the TMS unit number

If	Do
passed	step 15
failed	step 17

At the TMS:

- 15 Remove the sign from the active TMS unit.
- 16 You have completed this procedure. Return to the maintenance procedure that directed you to this replacement procedure and continue as directed.

Note 1: Send any faulty cards for repair per local procedure.

Note 2: Note in office records:

- the date the card was replaced
- the serial number of the card
- the symptoms that prompted replacement of the card

- 17 For further assistance, contact the personnel responsible for the next level of support.

NT6X69 in a TMS

Application

Use this procedure to replace an NT6X69 card in a TMS.

PEC	Suffixes	Name
NT6X69	AC, AD, QA	Message Protocol and Tone Interface

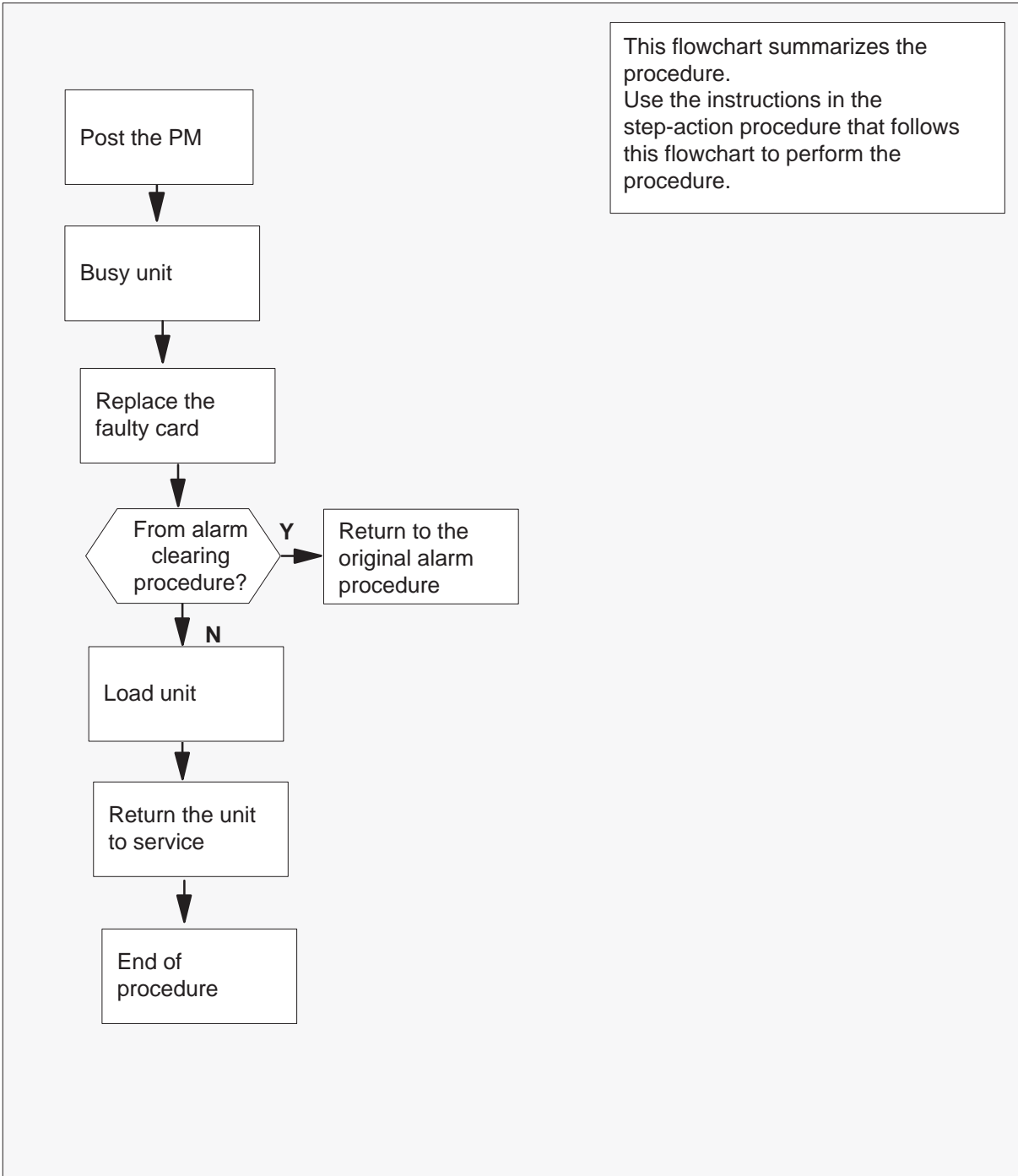
If you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the Index for a list of cards, shelves, and frames documented in this card replacement NTP.

Common procedures

None

Action

The following flowchart is only a summary of the procedure. To replace the card, use the instructions in the step-action procedure that follows the flowchart.

NT6X69
in a TMS (continued)**Summary of replacing an NT6X69 in a TMS**

NT6X69 in a TMS (continued)

Replacing an NT6X69 in a TMS

At the equipment frame:

- 1 Proceed only if you have been directed to this card replacement procedure from a step in a maintenance procedure, are using the procedure for verifying or accepting cards, or have been directed to this procedure by your maintenance support group.

2



CAUTION

Loss of service

Ensure you replace the card in the inactive unit and verify the mate unit is active.

Obtain a replacement card. Ensure the replacement card has the same product engineering code (PEC), including suffix, as the card being removed.

At the MAP terminal:

- 3 Ensure the current MAP display is at the PM level and post the TMS by typing **>MAPCI;MTC;PM;POST TMS tms_no** and pressing the Enter key.

where

tms_no is the number of the TMS being posted

Example of a MAP response:

```
TMS      SysB  ManB  Offl  Cbsy  ISTb  InSv
      PM      3      0      1      0      2      13
      TMS     0      0      0      0      1      7
```

```
TMS 0 ISTb Links_OOS: CSide 0, PSide 0
Unit0: Act InSv
Unit1: Inact SysB
```


NT6X69 in a TMS (continued)

- 4 Observe the MAP display and determine if the faulty card is in the active or the inactive unit.

If the faulty card is in the	Do
active unit	step 5
inactive unit	step 11

- 5 SWACT the units by typing

>SWACT

and pressing the Enter key.

A confirmation prompt for the SWACT command is displayed at the MAP terminal.

If SWACT	Do
cannot continue at this time	step 6
can continue at this time	step 7

- 6 Reject the prompt to SWACT the units by typing

>NO

and pressing the Enter key.

The system discontinues the SWACT.

NT6X69
in a TMS (continued)

- 7 Confirm the system prompt by typing

>YES

and pressing the Enter key.

The system runs a pre-SWACT audit to determine the ability of the inactive unit to accept activity reliably.

Note: A maintenance flag appears when maintenance tasks are in progress. Wait until the flag disappears before proceeding with the next maintenance action.

If the message is	Do
SWACT passed	step 9
SWACT failed Reason SWACTback	step 8
SWACT refused by SWACT Controller	step 8

- 8 The inactive unit could not establish two-way communication with CC and has switched activity back to the originally active unit. You must clear all faults on the inactive unit before attempting to clear the alarm condition on the active unit.

Go to step 27.

At the equipment frame:

- 9 Hang a sign on the active unit bearing the words: **Active unit—Do not touch.** This sign should not be attached by magnets or tape.

At the MAP terminal:

- 10 Observe the MAP display and determine the state of the inactive unit.

If state is	Do
ManB	step12
SysB, CBsy, ISTb, or InSv	step11

NT6X69
in a TMS (continued)

- 11 Busy the inactive PM unit by typing

>BSY UNIT unit_no
and pressing the Enter key.

where

unit_no is the number of the inactive TMS unit 0 or 1

- 12 Reset the inactive PM unit to inhibit messaging by typing

>PMRESET UNIT unit_no NORUN
and pressing the Enter key.

At the equipment frame:

13



WARNING

Static electricity damage

Before removing any cards, put on a wrist strap and connect it to the wrist strap grounding point on the left side of the frame supervisory panel of the TMS. This protects the equipment against damage caused by static electricity.



WARNING

Equipment damage

Take the following precautions when removing or inserting a card:

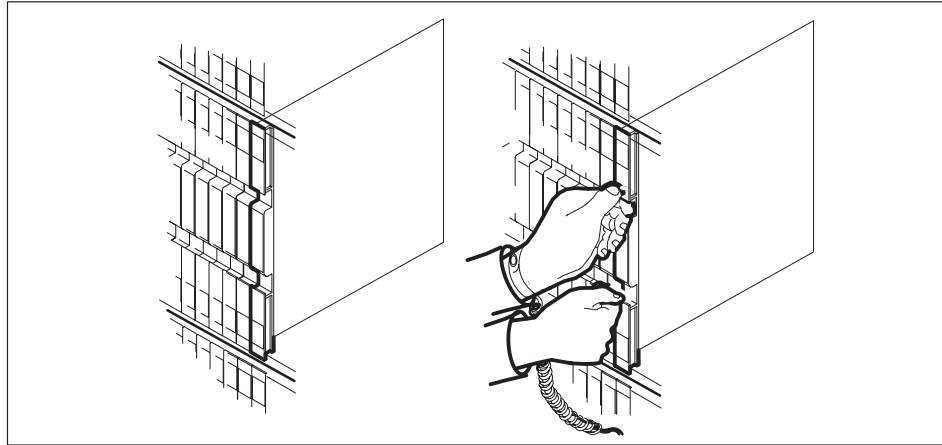
1. Do not apply direct pressure to the components.
2. Do not force the cards into the slots.

Put on a wrist strap.

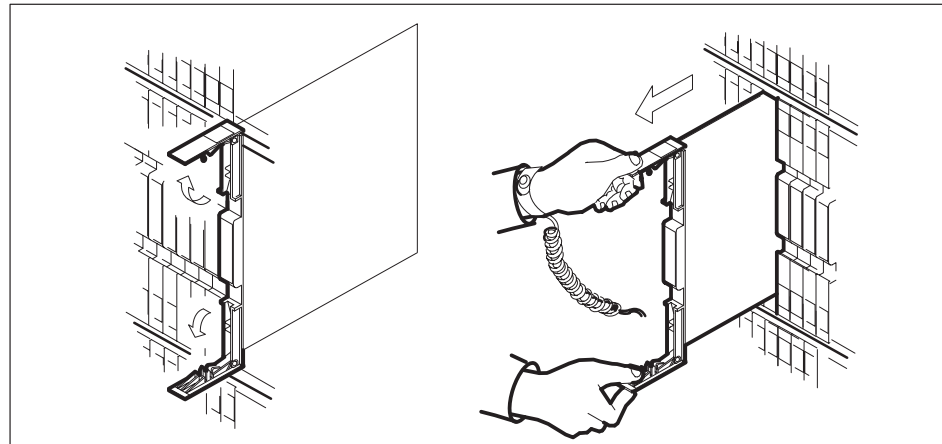
NT6X69 in a TMS (continued)

14 Remove the NT6X69 card as shown in the following figures.

a. Locate the card to be removed on the appropriate shelf.



b. Open the locking levers on the card to be replaced and gently pull the card towards you until it clears the shelf.

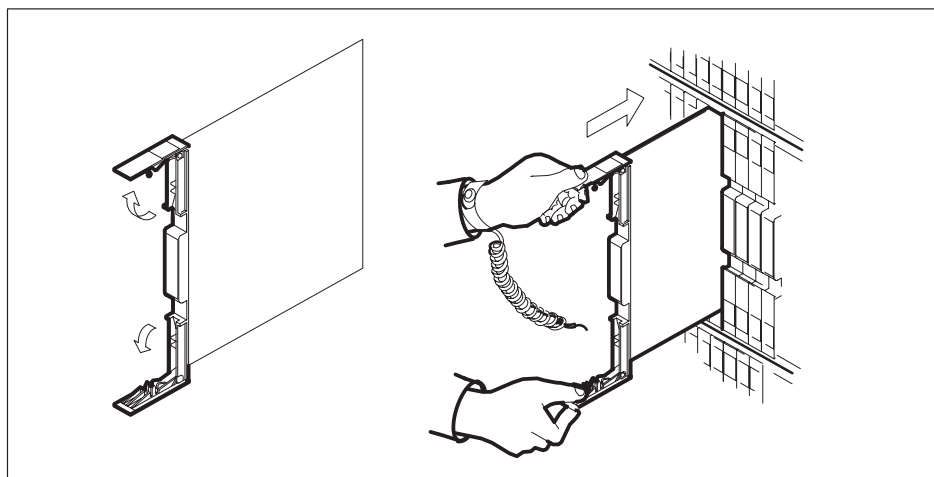


c. Ensure that the replacement card has the same PEC including suffix, as the card you just removed. Also ensure that all replacement card DIP switch settings match settings of the card just removed.

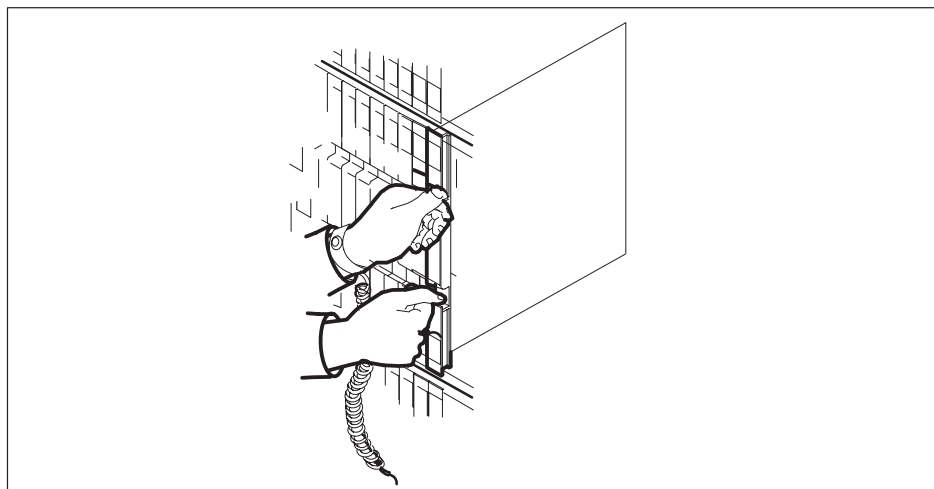
NT6X69
in a TMS (continued)

15 Open the locking levers on the replacement card.

- a. Align the card with the slots in the shelf and gently slide the card into the shelf.



- b. Using your fingers or thumbs, push on the upper and lower edges of the faceplate to ensure the card is fully seated in the shelf.
- c. Close the locking levers.



NT6X69
in a TMS (continued)

16 Use the following information to determine the next step in this procedure.

If you entered this procedure from	Do
an alarm clearing procedure	step 27
other	step 17

NT6X69 in a TMS (continued)

At the MAP terminal:

- 17** The peripheral loader card (NT7X05) allows local loading of the TMS data. Local data loading reduces recovery time. Determine if an NT7X05 is located in slot 12. Check if the NT7X05 card is provisioned by typing:

>QUERYPM FILES

and pressing the Enter key.

Example of a MAP display:

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   1TMS .   .   .   .   .
      *C*
TMS          SysB  ManB  OffL  CBsy  ISTb  InSv
0 Quit      PM    2     0     2     0     2     25
2 Post      TMS   1     0     0     0     1     1
3 ListSet
4           TMS    0 ISTb Links_OOS: CSide 0, PSide 0
5 TRNSL_    Unit 0: Inact ManB
6 TST_      Unit 1: Inact InSv
7 BSY_
8 RTS_      QUERYPM files
9 OffL      Unit 0:
10 LoadPM_  NT7X05 load File: ESU06AZ
11 Disp_    NT7X05 Image File:
12 Next_    Unit 1:
13 SwAct    NT7X05 load File: ESU06AZ
14 QueryPM  NT7X05 Image File:
15
16 IRLINK
17 Perform
18

```

If the NT7X05 card is	Do
provisioned	step 18
not provisioned	step 22

Note: If the NT7X05 card is not provisioned the MAP response is:
Nt7X05 not datafilled, QueryPm files invalid

NT6X69 in a TMS (continued)

- 18 Load the TMS from the local image by typing
>LOADPM UNIT unit_no LOCAL IMAGE
and pressing the Enter key.

where

unit_no is the number of the inactive TMS unit

If the load	Do
passed	step 21
failed	step19

19



WARNING

Possible service interruption

The LOADPM command, LOCAL LOADFILE option, parameter [<file> string], will load the file_name from the parameter. The loadfile name will not be patched. Do not use this parameter unless the NOPATCH option of the loadfile is desired.

Load the TMS from the local loadfile by typing

- >LOADPM UNIT unit_no LOCAL LOADFILE**
and pressing the Enter key.

If the load	Do
passed	step 21
failed	step 20

NT6X69 in a TMS (continued)

At the MAP terminal:

- 20** Load the inactive TMS unit by typing

>LOADPM UNIT unit_no
and pressing the Enter key.

where

unit_no is the number of the busied TMS unit

If the load	Do
passed	step 21
failed	step 25

- 21** Return the inactive TMS unit to service by typing

>RTS UNIT unit_no
and pressing the Enter key.

where

unit_no is the number of the TMS unit 0 or 1

If RTS	Do
passed	step 22
failed	step 25

At the equipment frame:

- 22** Remove the sign from the active TMS unit.
- 23** Send any faulty cards for repair according to local procedure.
- 24** Note the following in the office records:
- date the card was replaced
 - serial number of the card
 - symptoms that prompted replacement of the card
- Go to step 26.
- 25** For further assistance, contact the personnel responsible for the next level of support.

NT6X69
in a TMS (end)

- 26 You have successfully completed this procedure. Return to the maintenance procedure that directed you to this card replacement procedure and continue as directed.
- 27 Return to the step in the *alarm clearing procedure* that refers the operating company personnel to this step; then continue with the next step.

NTBX01 in a TMS

Application

Use this procedure to replace an NTBX01 card in an Enhanced TOPS message switch (ETMS) or TOPS message switch (TMS) shelf.

Note: The NTBX01AB (EISP) card is used in the ETMS shelf; whereas, the NTBX01AA (ISP) card is used in the earlier TMS shelf.

PEC	Suffixes	Name
NTBX01	AA/AB	ISDN Signaling Pre-processor

If you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the Index for a list of cards, shelves, and frames documented in this card replacement NTP.

Common procedures

The following procedures are referenced in this procedure:

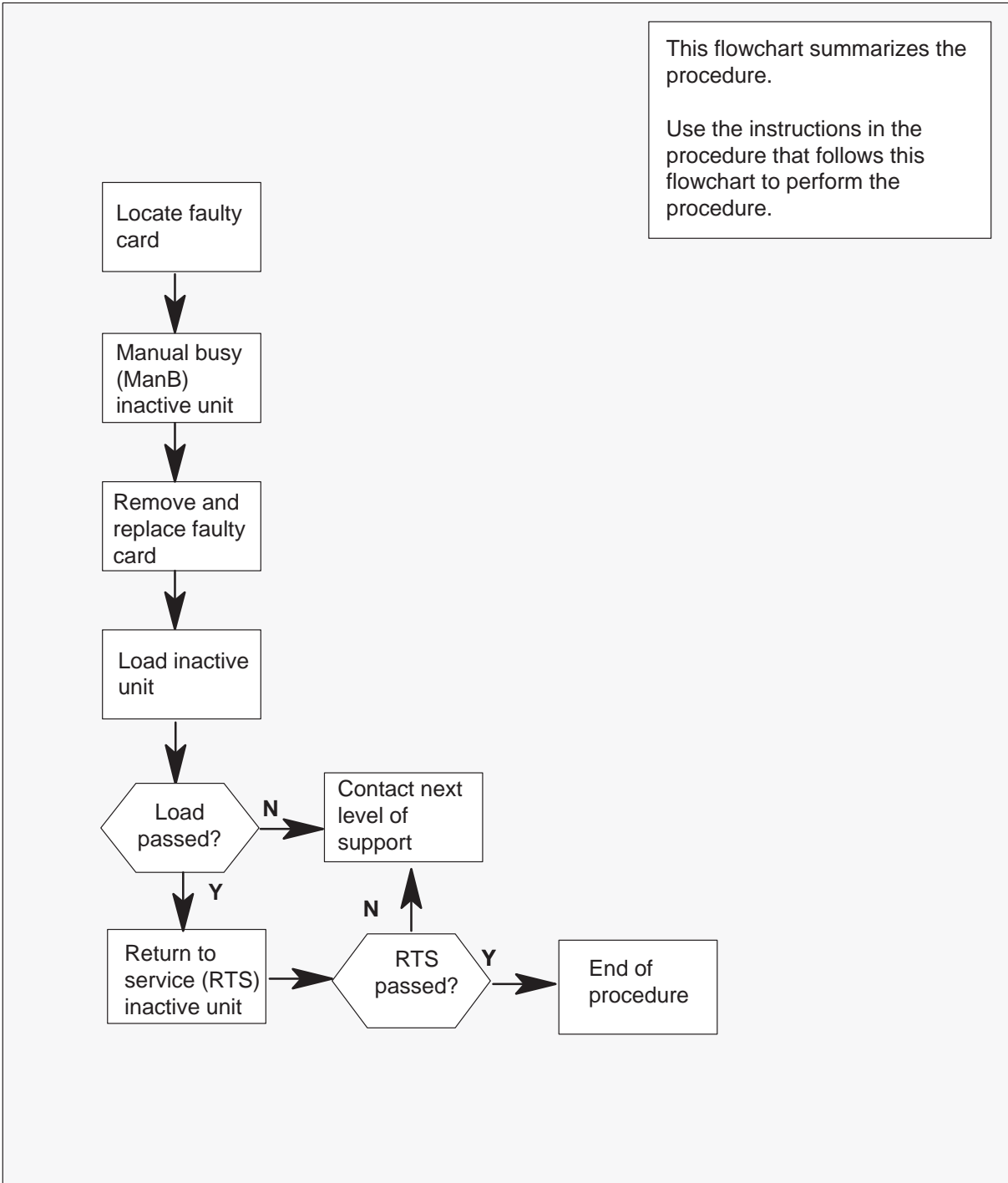
- *TMS shelf card location*
- *Card removal and replacement*

Action

The following flowchart is only a summary of the procedure. To replace the card, use the instructions in the step-action procedure that follows the flowchart.

NTBX01 in a TMS (continued)

Summary of replacing an NTBX01 in a TMS



NTBX01
in a TMS (continued)

Replacing an NTBX01 in a TMS**WARNING****Electrical and mechanical damage**

Take these precautions to protect the circuit cards from electrical and mechanical damage while transporting cards.

When handling a circuit card not in an electrostatic discharge (ESD) protective container, stand on a conductive floor mat and wear a wrist strap connected, through a 1-megohm resistor, to a suitably grounded object, such as a metal workbench or a DMS frame (Northern Telecom Corporate Standard 5028).

Store and transport circuit cards in an ESD protective container.

At your current location:

- 1 Proceed only if you have been directed to this card replacement procedure from a step in a maintenance procedure.
- 2 Use the *TMS shelf card location* instructions in common procedures to determine the physical location of the card to be replaced.
- 3 Verify that the product equipment codes (PEC) on the nameplate of the removed card and the spare card are the same, that is, NTBX01AA.

At the MAP:

- 4 Access the TMS level of the MAP by typing the following string:

>MAPCI;MTC;PM;POST TMS tms_no

and pressing the ENTER key.

where


tms_no is the number of the TMS

NTBX01
in a TMS (continued)

- 5 By observing the MAP display, ensure the card to be removed is on the inactive unit.

If the faulty card is on	Do
active unit	step 6
inactive unit	step 9

6



CAUTION
Service disruption; calls may be dropped@
 When replacing a card in the TMS, ensure the unit where you are replacing the card is inactive and the mate unit is active.

Switch the activity of the units by typing

>SWACT

and pressing the Enter key.

The system determines the type of SwAct it can perform, which is either a warm SwAct or a cold SwAct. The system displays a confirmation prompt for the selected SwAct.

If SwAct	Do
cannot continue at this time	step 7
can continue at this time	step 8

- 7 Do not switch activity of the units. Reject the switch by typing

>NO

and pressing the Enter key.

The system discontinues the switch of activity.

Return to step 6 during a period of low traffic.

NTBX01
in a TMS (continued)

- 8 Switch the activity of the unit by typing
>YES
and pressing the Enter key.
The system runs a pre-SwAct audit to determine the ability of the inactive unit to accept activity reliably.
Note: A maintenance flag appears when maintenance tasks are in progress. Wait until the flag disappears before proceeding with the next maintenance action.
- 9 Busy the inactive unit of the TMS by typing the following string:
> BSY UNIT unit_no
and pressing the ENTER key.
where
unit_no is the TMS number
- 10 Reset the TMS at ROM level by typing the following string:
>PMRESET unit_no NORUN
and pressing the ENTER key.
where
unit_no is the TMS unit number
- At the TMS:**
- 11 Put a sign on the active unit bearing the words “**Active unit – Do not touch.**”
- 12 Remove and replace the NTB01 card as shown in common procedure *Card removal and replacement*. Return to step 15 after completing removal and replacement procedure.

NTBX01 in a TMS (continued)

At the MAP terminal:

- 13 The peripheral/remote loader-16 card (NT7X05) allows local loading of XPM data, which reduces recovery time. Check to see if the NT7X05 card is provisioned by typing

>QUERYPM FILES

and pressing the Enter key.

Example of a MAP display:

```

      CM   MS   IOD   Net   PM   CCS   LNS   Trks   Ext   APPL
      .   .   .   .   1DTC .   .   .   .   .

TMS
0 Quit      PM      2      0      2      0      2      25
2 Post      TMS     0      1      0      0      0      10
3 ListSet
4           TMS     0 ManB Links_OOS: CSide 0, PSide 0
5 TRNSL_    Unit 0:  Act  ManB
6 TST_      Unit 1:  InAct ManB
7 BSY_
8 RTS_      QUERYPM files
9 OffL      Unit 0:
10 LoadPM_  NT7X05 load File: ETM06BB
11 Disp_    NT7X05 Image File:
12 Next_    NT7X05 Image Timestamp: 1996/02/07 13:56:25.663 WED
13 SwAct
14 QueryPM  Unit 1:
15          NT7X05 load File: ETM06BB ←
16          NT7X05 Image File:
17 Perform  NT7X05 Image Timestamp: 1996/02/07 13:54:09.523 WED
18

```

(NT7X05 load file name)

Note: If the NT7X05 card is not provisioned the MAP response is:
NT7X05 not datafilled, QueryPm files invalid

If the NT7X05 card is	Do
provisioned	step 14
not provisioned	step 15

NTBX01 in a TMS (continued)

14

**WARNING****Possible service interruption**

The LOCAL LOADFILE option of the LOADPM command has a parameter of [<file> string]. When this parameter is used, the loadfile named in the parameter is not patched. Do not use this parameter unless the NOPATCH option of the loadfile is desired.

Load the TMS software from the local loadfile by typing:

>LOADPM PM LOCAL LOADFILE

If LOADPM	Do
passed	step 16
failed	step 19

15 Reload the TMS by typing the following string:

>LOADPM UNIT unit_no

and pressing the ENTER key.

where

unit_no is the TMS unit number

16 Return the TMS to service by typing the following string:

>RTS UNIT unit_no

and pressing the ENTER key.

where

unit_no is the TMS number

If RTS	Do
passed	step 17
failed	step 19

NTBX01
in a TMS (end)

At the TMS:

- 17 Remove the sign from the active TMS unit.
- 18 Return to the maintenance procedure that directed you to this card replacement procedure and continue as directed.

Note: Send any faulty cards for repair per local procedure.

Note in office records:

- the date the card was replaced
 - the serial number of the card
 - the symptoms that prompted replacement of the card
- 19 Obtain further assistance by contacting the personnel responsible for higher level support.

**NTBX02
in a TMS**

Application

Use this procedure to replace an NTBX02 ISDN D–Channel Handler (AA)/Enhanced DCH (BA) card in a TOPS message switch (TMS) shelf.

PEC	Suffixes	Name
NTBX02	AA/BA	ISDN D–Channel Handler (AA)/Enhanced DCH (BA)

If you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the Index for a list of cards, shelves, and frames documented in this card replacement NTP.

Common procedures

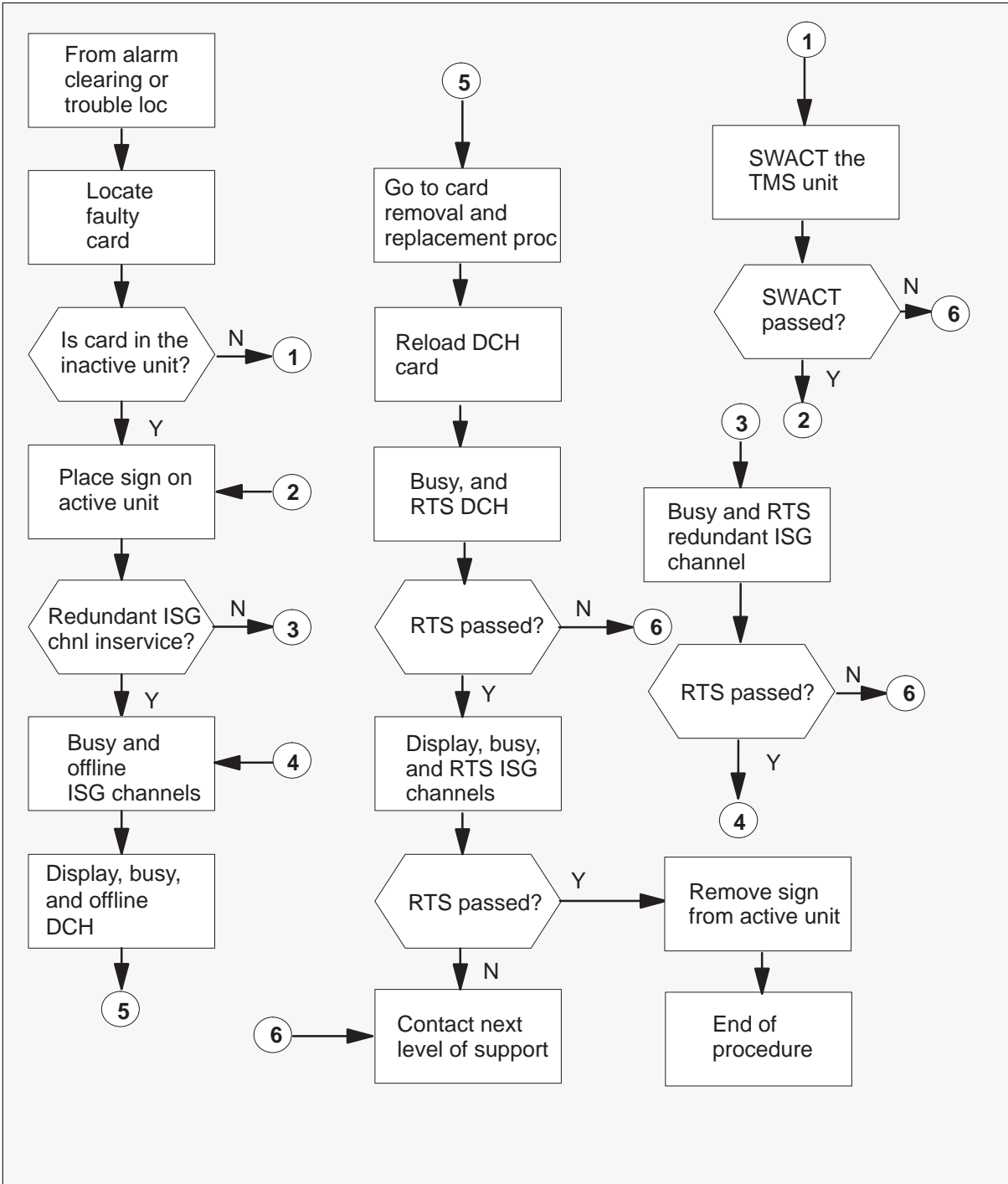
None

Action

The following flowchart is only a summary of the procedure. To replace the card, use the instructions in the step-action procedure that follows the flowchart.

NTBX02 in a TMS (continued)

Summary of replacing an NTBX02 in a TMS



NTBX02 in a TMS (continued)

Replacing an NTBX02 in a TMS

At the TMS:

- 1 Proceed only if you have been directed to this card replacement procedure from a step in a maintenance procedure.

Use the *TMS shelf card location* instructions in common procedures to determine the physical location of the card to be replaced. Record the TMS unit number for the card being replaced.

2



WARNING

Electrical and mechanical damage

Take these precautions to protect the circuit cards from electrical and mechanical damage while transporting cards.

When handling a circuit card not in an electrostatic discharge (ESD) protective container, stand on a conductive floor mat and wear a wrist strap connected, through a 1-megohm resistor, to a suitably grounded object, such as a metal workbench or a DMS frame (Northern Telecom Corporate Standard 5028). Store and transport circuit cards in an ESD protective container.

Verify that the product equipment codes (PEC) on the nameplate of the removed card and the spare card are the same, that is, NTBX02AA or NTBX02BA.

At the MAP:

- 3 Post the TPC and determine the ISG number and ISG channel number for each data line by typing the following string:

>MAPCI;MTC;PM;POST TPC n;TRNSL

and pressing the ENTER key.

where

n is the TPC number

Since two data lines are listed it is a redundant system. Record the TMS number, the ISG number, and the ISG channel number for both data lines.

NTBX02 in a TMS (continued)

Typical response on the MAP display

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      APPL
.       .       .       .       n TPC   .       .       .       .       .
      M
TMS
0 Quit      PM      0      0      0      0      1      48
2 Post_     TMS    0      0      0      0      0      4
3 Listset
4          TMS  0  InSv  Links_OOS: CSide 0 , PSide 0
5 Trnsl_   Unit 0: Act InSv Mtce
6 Tst_     Unit 1: Inact InSv Mtce
7 Bsy_     POST:
8 RTS_
9 OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG
  
```

- 4 Post the TMS identified in the previous step and determine if the card being replaced is in the active or inactive TMS unit (noted in step 1) by typing the following:

>POST TMS n
and pressing the ENTER key.

where

n is the TMS number

NTBX02
in a TMS (continued)

Typical response on the MAP display

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      APPL
.       .       .       .       n TPC   .       .       .       .       .
      M
TMS
0 Quit      PM      0      0      0      0      1      48
2 Post_    TMS      0      0      0      0      0      4
3 Listset
4          TMS 0 InSv  Links_OOS: CSide 0 , PSide 0
5 Trnsl_   Unit 0: Act InSv Mtce
6 Tst_     Unit 1: Inact InSv Mtce
7 Bsy_     POST:
8 RTS_
9 OffL
10 LoadPM_
11 Disp_
12 Next
13 SwAct
14 QueryPM
15 DCH
16
17 PERFORM
18 ISG
    
```

TMS unit number
Indicates active and inactive TMS unit

If the card is in	Do
the active unit	step 5
the inactive unit	step 6

NTBX02 in a TMS (continued)

- 5 Switch activity by typing the following:

>swact

and pressing the ENTER key.

Confirm SWACT by typing the following:

>yes

and pressing the ENTER key.

If the card is in	Do
successful (SWACT Passed)	step 6
not successful	step 27

At the TMS:

- 6 Put a sign on the active unit bearing the words "Active unit – Do not touch."

- 7 Go to the ISG level of the MAP by typing the following:

>ISG

and pressing the ENTER key.

Example of a MAP display

```

CM  MS   IOD  Net  PM  CCS  LNS   Trks  Ext  APPL
.   .   .   .   n  TPC  .   .   .   .
      M
ISG          SysB  ManB  OffL      CBsy  ISTb  InSv
0  Quit   PM    0    0    12      0    3    48
2  Post_  TMS   0    0    0       0    1    0
3
4          TMS   0  ISTb  Links_OOS:  CSide 0,  PSide 4
5          Unit0:  Inact InSv
6          Unit1:  Act   InSv
7  Bsy_
8  RTS_  ISG          1111111111  2222222222  33
9  OffL          123456789  0123456789  0123456789  01
10
11
12  Next_      ISG
13
14  QueryCH_  ISG:
15  CONT_
16  Loopbk_
17
18

```


NTBX02
in a TMS (continued)

8 Post the first ISG number noted in step 3 by typing the following:

>POST n

and pressing the ENTER key.

where

n is the ISG number

A series of ISG channels will be displayed. Locate the channel noted in step 3.

Example of a MAP display

```

CM      MS  IOD Net  PM  CCS LNS      Trks  Ext      APPL
.      .      .      n  TPC .      .      .
      M
ISG      SysB  ManB  OffL      CBsy      ISTb      InSv
0  Quit  PM  0      0      12      0      3      48
2  Post_ TMS 0      0      0      0      0      1
3
4      TMS 0  InSv  Links_OOS: CSide 0, PSide      4
5      Unit0: Inact InSv
6      Unit1: Act  InSv
7  Bsy_
8  RTS_  ISG      1111111111  2222222222  33
9  OffL_      123456789 0123456789 0123456789 01
10      0000.0000 0000000000 0000000000 00
11
12  Next  ISG  2  DCH      2  InSv  TMS  0  port  17
13
14  QueryCH_ post 2
15  CONT_
16  Loopbk_
17
18
    
```

└─ Port number

. = An in-service ISG channel

If the channel is	Do
SysB	step 9
ManB	step 10
InSv	step 11

NTBX02
in a TMS (continued)

9 Busy the ISG channel that is SysB by typing the following string:

>BSY n

and pressing the ENTER key.

where

n is the ISG channel number

10 Return the busied ISG channel to service by typing the following string:

>RTS n

and pressing the ENTER key.

where

n is the ISG channel number

If RTS is	Do
successful	step 11
not successful	step 27

NTBX02 in a TMS (continued)

- 11 Post the second ISG number noted in step 3 by typing the following:

>POST n

and pressing the ENTER key.

where

n is the ISG number

A series of ISG channels will be displayed. Record the DCH number.

Example of a MAP display

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      APPL
.      .      .      .      n TPC .      .      .      .      .
      M
ISG      SysB      ManB      OffL      CBsy      ISTb      InSv
0      Quit      PM      0      0      12      0      3      48
2      Post_      TMS      0      0      0      0      0      1
3
4      TMS      0      InSv      Links_OOS:      CSide 0,      PSide 4
5      Unit0:      Inact      InSv
6      Unit1:      Act      InSv
7      Bsy_
8      RTS_      ISG      1111111111      2222222222      33
9      OffL_      123456789      0123456789      0123456789      01
10     00000000      00      00000000      0000000000      00
11
12      Next      ISG      3      DCH 2      InSv      TMS      0      port      17
13
14      QueryCH_      post      └─── DCH number
15      CONT
16      Loopbk_
17
18

```

- 12 Busy all of the ISG channels by typing the following string:

>BSY ALL

and pressing the ENTER key.

- 13 Offline all of the ISG channels by typing the following string:

>OFFL ALL

and pressing the ENTER key.

NTBX02 in a TMS (continued)

- 14 Post the DCH noted in step 11 by typing the following string:

>POST DCH n
and pressing the ENTER key.

where

n is the DCH number

- 15 Busy the DCH noted in step 11 by typing the following string:

>BSY
and pressing the ENTER key.

- 16 Offline the DCH noted in step 11 by typing the following string:

>OFFL
and pressing the ENTER key.

At the TMS:

- 17 Remove and replace the NTBX02 card as shown in common procedure *Card removal and replacement*. Return to step 19 after completing removal and replacement procedure.

At the MAP:

- 18 Load the new DCH card by typing the following string:

>LOADPM
and pressing the ENTER key.

- 19 Busy the DCH by typing the following string:

>BSY
and pressing the ENTER key.

- 20 Return the DCH to service by typing the following string:

>RTS
and pressing the ENTER key.

If RTS	Do
passed	step 21
failed	step 27

- 21 Go to the ISG level of the MAP by typing the following:

>ISG
and pressing the ENTER key.

NTBX02 in a TMS (continued)

Example of a MAP display

```

CM      MS  IOD  Net  PM   CCS   LNS   Trks  Ext  APPL
.      .  .    .    n TPC .    .    .    .
M
ISG
0  Quit  PM    0    0    12   0     3    48
2  Post_ TMS  0    0    0     0     1     0
3
4          TMS 0  ISTb Links_OOS: CSide 0, PSide 4
5          Unit0: Inact InSv
6          Unit1: Act   InSv
7  Bsy_
8  RTS_  ISG                1111111111  2222222222  33
9  OffL                123456789  0123456789  0123456789  01
10
11
12 Next_      ISG
13
14 QueryCH_  ISG:
15 CONT_
16 Loopbk_
17
18

```

NTBX02 in a TMS (continued)

22 Post the second ISG number noted in step 3 by typing the following:

>POST n

and pressing the ENTER key.

where

n is the ISG number

A series of ISG channels will be displayed.

Example of a MAP display

CM	MS	IOD	Net	PM	CCS	LNS	Trks	Ext	APPL
.	.	.	.	n TPC	.	.	.	.	.
				M					
ISG			SysB	ManB	OffL	CBsy	ISTb		InSv
0	Quit	PM	0	0	12	0	3		48
2	Post_	TMS	0	0	0	0	0		1
3									
4		TMS 0	InSv	Links_OOS:				CSide 0 , PSide 4	
5		Unit0:	Inact	InSv					
6		Unit1:	Act	InSv					
7	Bsy_								
8	RTS_	ISG			1111111111		2222222222		33
9	OffL_				123456789	0123456789	0123456789		01
10					000000000	00.0000000	0000000000		00
11									
12	Next	ISG		3	DCH	2	InSv	TMS	0 port 17
13									
14	QueryCH_	post							
15	CONT_								
16	Loopbk_								
17									
18									

└───┬───┘
DCH number

23 Busy all of the ISG channels by typing the following string:

>BSY ALL

and pressing the ENTER key.

NTBX02
in a TMS (end)

- 24 Return all of the ISG channels to service by typing the following string:

>RTS ALL

and pressing the ENTER key.

If RTS	Do
passed	step 25
failed	step 27

At the TMS:

- 25 Remove the sign from the active TMS unit.
- 26 Return to the maintenance procedure that directed you to this card replacement procedure and continue as directed.

Note: Send any faulty cards for repair per local procedure.

Note in office records:

- the date the card was replaced
- the serial number of the card
- the symptoms that prompted replacement of the card

- 27 Obtain further assistance by contacting the personnel responsible for higher level support.

NTMX77 in a TMS

Application

Use this procedure to replace the following card in a host TMS.

PEC	Suffixes	Name
NTMX77	AA	Unified processor card

If you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the Index for a list of cards, shelves, and frames documented in this card replacement NTP.

Common procedures

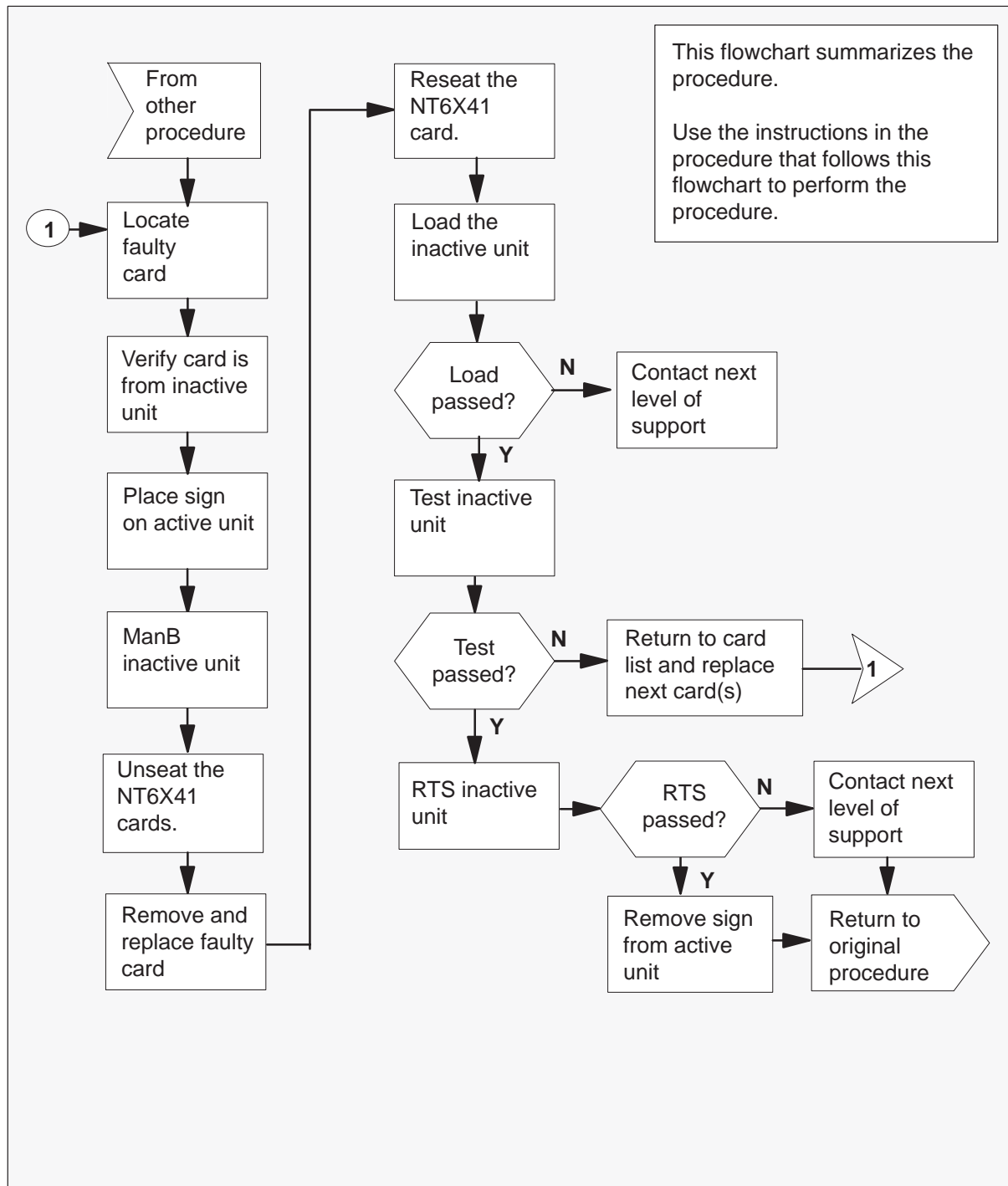
None

Action

The following flowchart is only a summary of the procedure. To replace the card, use the instructions in the step-action procedure that follows the flowchart.

NTMX77 in a TMS (continued)

Summary of replacing an NTMX77 in a TMS



NTMX77 in a TMS (continued)

Replacing an NTMX77 in a TMS

At your current location:

- 1 Proceed only if you were either directed to this card replacement procedure from a step in a maintenance procedure, are using the procedure to verify or accept cards, or were directed to this procedure by your maintenance support group.

2



CAUTION

Loss of service

When replacing a card in the TMS ensure the unit where you are replacing the card is **INACTIVE** and the mate unit is **ACTIVE**.

Obtain a replacement card. Ensure the replacement card has the same product equipment code (PEC) including suffix, as the card to be removed.

NTMX77
in a TMS (continued)

At the MAP terminal:

- 3** Access the PM level and post the TMS by typing

>MAPCI;MTC;PM;POST TMS tms_no

and pressing the Enter key.

where

tms_no is the number of the host TMS

Example of a MAP display:

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.    .    .    .    .    .    .    .    .    .
.    .    .    .    1LTC  .    .    .    .    .
TMS  SysB  ManB  OffL  CBsy  ISTb  InSv
0 Quit  PM  0    0    2    0    2    25
2 Post_ TMS  0    0    0    0    0    1
3 ListSet
4      TMS  0 ISTb Links_OOS: CSide 0, PSide 0
5 TRNSL_ Unit 0: Inact SysB
6 TST_   Unit 1: Act InSv
7 BSY_
8 RTS_
9 OffL
10 LoadPM_
11 Disp_
12 Next_
13 SWACT
14 QueryPM
15
16
17 Perform
18
    
```

- 4** By observing the MAP display, be sure the card to be removed is on the inactive unit.

If the faulty card is on an	Do
ACTIVE unit	step 5
INACTIVE unit	step 9

NTMX77 in a TMS (continued)

5



CAUTION

Service disruption: calls may be dropped!

If you are prompted to confirm a cold SWACT, perform this activity only during a period of low traffic. All calls being handled by this PM, including data calls, will be dropped.

Switch the processing activity to the inactive unit by typing

>SWACT

and pressing the Enter key.

The system determines the type of SWACT it can perform, a warm SWACT or a cold SWACT, and displays a confirmation prompt for the selected SWACT.

If SWACT	Do
cannot continue at this time	step 6
can continue at this time	step 7

6 Do not switch activity of the units. Reject the switch by typing

>NO

and pressing the Enter key.

The system discontinues the switch of activity.

Return to step 5 during a period of low traffic.

NTMX77 in a TMS (continued)

- 7 Switch the activity of the unit by typing

>YES

and pressing the Enter key.

The system runs a pre-SWACT audit to determine the ability of the inactive unit to accept activity reliably.

Note: A maintenance flag appears when maintenance tasks are in progress. Wait until the flag disappears before proceeding with the next maintenance action.

If the message is	Do
SWACT passed	step 9
SWACT failed	step 8
SWACT refused by SWACT controller	step 8

- 8 Return to the *Alarm Clearing Procedure* to clear the alarm condition on the inactive unit. When the alarm is cleared, return to step1 of this procedure.

At the SME frame:

- 9 Put a sign on the active unit bearing the words **Active unit—Do not touch.**

At the MAP terminal:

- 10 Busy the inactive unit by typing

>BSY UNIT unit_no

and pressing the Enter key.

where

unit_no is the number of the inactive unit (0 or 1)

- 11 Set the inactive unit to the ROM level by typing

>PMRESET UNIT unit_no NORUN

and pressing the Enter key.

where

unit_no is the number of the inactive unit (0 or 1)

NTMX77 in a TMS (continued)

At the SME frame:

12



WARNING

Static electricity damage

Before removing any cards, put on a wrist strap and connect it to the wrist strap grounding point on the left side of the frame supervisory panel of the TMS. This protects the equipment against damage caused by static electricity.



WARNING

Equipment damage

Take the following precautions when removing or inserting a card:

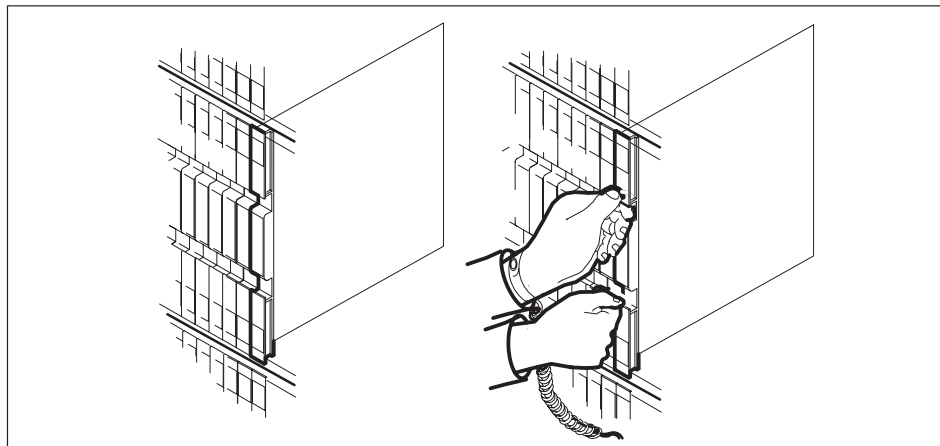
1. Do not apply direct pressure to the components.
2. Do not force the cards into the slots.

Put on a wrist strap.

13 Unseat the NT6X41 card in slot 21.

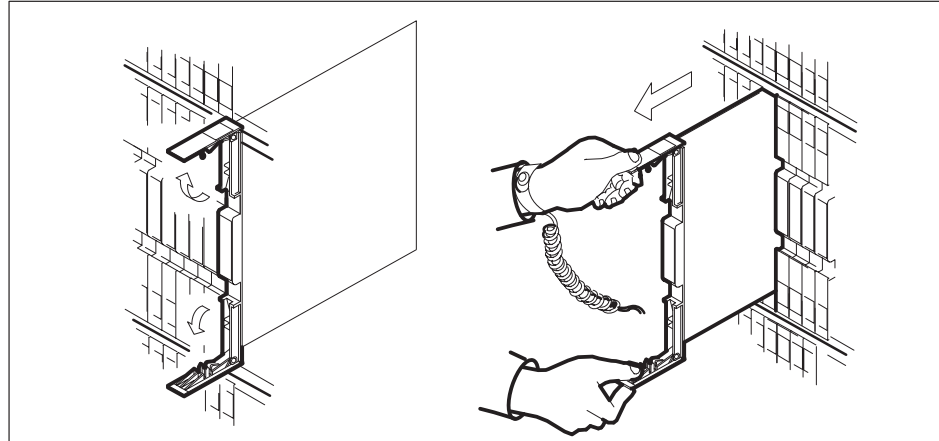
14 Remove the NTMX77 card as shown in the following figures.

a. Locate the card to be removed on the appropriate shelf.



NTMX77
in a TMS (continued)

- b. Open the locking levers on the card to be replaced and gently pull the card towards you until it clears the shelf.

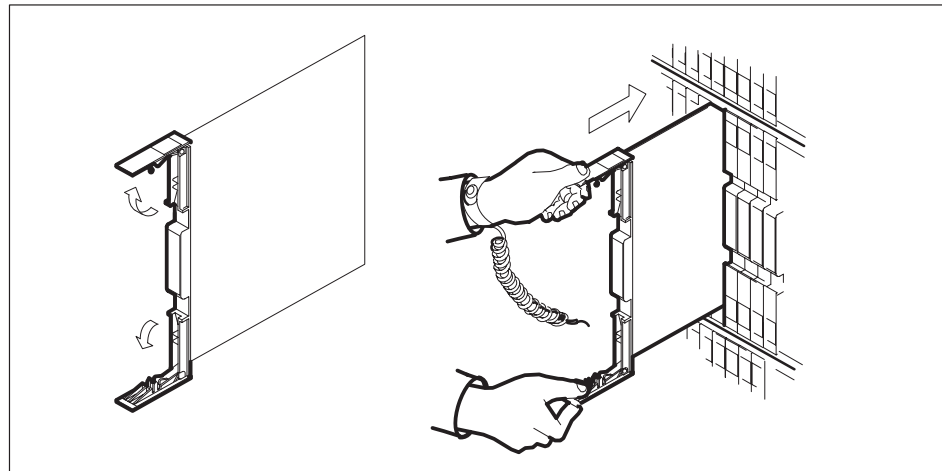


- c. Ensure that the replacement card has the same PEC including suffix, as the card you just removed. Also ensure that all replacement card DIP switch settings match settings of the card just removed.

Note: If the NTMX77 has DIP switch S1, set DIP switch S1 to XPM.

15 Open the locking levers on the replacement card.

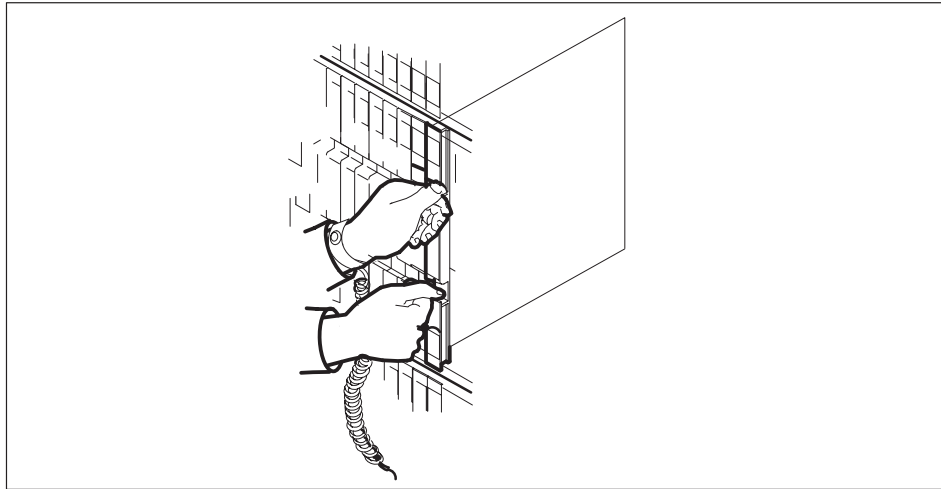
- a. Align the card with the slots in the shelf and gently slide the card into the shelf.



Seat and lock the card.

NTMX77
in a TMS (continued)

- b. Using your fingers or thumbs, push on the upper and lower edges of the faceplate to ensure the card is fully seated in the shelf.
- c. Close the locking levers.



- 16 Reseat the NT6X41 card in slot 21.
- 17 Use the following information to determine the next step in this procedure.

If you entered this procedure from	Do
an alarm clearing procedure	step 29
other	step 21

NTMX77 in a TMS (continued)

At the MAP terminal:

- 18** The peripheral loader card (NT7X05) allows local loading of the TMS data. Local data loading reduces recovery time. Determine if an NT7X05 is located in slot 12. Check if the NT7X05 card is provisioned by typing:

>QUERYPM FILES

and pressing the Enter key.

Example of a MAP display:

```

CM  MS  IOD  Net  PM  CCS  LNS  Trks  Ext  APPL
.   .   .   .   1TMS .   .   .   .   .
      *C*
TMS          SysB  ManB  OffL  CBsy  ISTb  InSv
0 Quit      PM    2      0      2      0      2      25
2 Post      TMS   1      0      0      0      1      1
3 ListSet
4           TMS    0 ISTb Links_OOS: CSide 0, PSide 0
5 TRNSL_    Unit 0: Inact ManB
6 TST_      Unit 1: Inact InSv
7 BSY_
8 RTS_      QUERYPM files
9 OffL      Unit 0:
10 LoadPM_  NT7X05 load File: ESU06AZ
11 Disp_    NT7X05 Image File:
12 Next_    Unit 1:
13 SwAct    NT7X05 load File: ESU06AZ
14 QueryPM  NT7X05 Image File:
15
16 IRLINK
17 Perform
18

```

If the NT7X05 card is	Do
provisioned	step 19
not provisioned	step 21

Note: If the NT7X05 card is not provisioned the MAP response is:
Nt7X05 not datafilled, QueryPm files invalid

NTMX77 in a TMS (continued)

- 19 Load the TMS from the local image by typing
>LOADPM UNIT unit_no LOCAL IMAGE
and pressing the Enter key.

where

unit_no is the number of the inactive TMS unit

If the load	Do
passed	step 24
failed	step 20

20



WARNING

Possible service interruption

The LOADPM command, LOCAL LOADFILE option, parameter [<file> string], will load the file_name from the parameter. The loadfile name will not be patched. Do not use this parameter unless the NOPATCH option of the loadfile is desired.

Load the TMS from the local loadfile by typing

- >LOADPM UNIT unit_no LOCAL LOADFILE**
and pressing the Enter key.

where

unit_no is the number of the inactive TMS unit

If the load	Do
passed	step 24
failed	step 21

NTMX77
in a TMS (continued)

- 21 After replacing the faulty card, load the inactive unit by typing

>LOADPM UNIT unit_no CC

and pressing the Enter key.

where

unit_no is the number of the inactive unit

and pressing the Enter key.

- 22 Load the inactive TMS unit by typing

>LOADPM UNIT unit_no

and pressing the Enter key.

where

unit_no is the number of the inactive unit

If the load	Do
passed	step 24
failed	step 30

NTMX77 in a TMS (continued)

- 23 Query the XPM countrs for the firmware load on the NTMX77 by typing:

>QUERYPM CNTRS

and pressing the Enter key.

Example of a MAP display:

```

Unsolicitited MSG limit = 250, Unit 0 = 0, Unit 1 = 0
Unit 0:
Ram Load: ESU05AW
EPRom Version: AB02
EEPROM Load: Loadable: MX77NG03, Executable: MX77NG03
CMR LOAD: CMR33A15
UP:MX77AA
IP:BX01
Unit 1:
Ram Load: ESU05AW
EPRom Version: AB02
EEPROM Load: Loadable: MX77NG03, Executable: MX77NG03
CMR LOAD: CMR33A15
UP:MX77AA
IP:BX01
    
```

If firmware is	Do
valid	step 25
invalid	step 24

- 24 Load the NTMX77 firmware by typing

>LOADPM UNIT unit_no CC FIRMWARE

and pressing the Enter key.

where

unit_no is the number of the inactive unit

If the load	Do
passed	step 25
failed	step 30

NTMX77 in a TMS (continued)

25 Test the inactive unit by typing

>TST UNIT unit_no
and pressing the Enter key.

where

unit_no is the number of the inactive unit

If TST	Do
passed	step 26
failed	step 30

26 Return the inactive unit to service by typing

>RTS UNIT unit_no
and pressing the Enter key.

where

unit_no is the number of the inactive unit

If the RTS	Do
passed	step 27
failed	step 30

27 Send any faulty cards for repair according to local procedure.

28 Record the following items in office records:

- date the card was replaced
- serial number of the card
- symptoms that prompted replacement of the card

Go to step 31.

NTMX77
in a TMS (end)

- 29 Return to the *Alarm Clearing Procedure* or other procedure that directed you to this procedure. If necessary, go to the point where the faulty card list was produced, identify the next faulty card on the list, and go to the appropriate procedure for that card in this manual.
- 30 Obtain further assistance in replacing this card by contacting personnel responsible for higher level of support.
- 31 You have successfully completed this procedure. Return to the maintenance procedure that directed you to this card replacement procedure and continue as directed.

NT6Xseries in a TMS

Application

Go to the applicable manual as follows:

- *NA DMS-100 Card Replacement Procedures, 297–8021–547*
- *GTOP DMS-100 Card Replacement Procedures, 297–8441–547*

to replace the following cards in an Enhanced TOPS message switch (ETMS) or TOPS message switch (TMS) shelf:

NT6Xseries cards in a TMS

PEC	Suffixes	Name	Chapter in manual (Procedure in chapter)
NT6X27	AA/AB	PCM-30 Trunk Interface	XPM card replacement procedures (P-side interface cards in an XPM)
NT6X28	AA/AB	PCM-30 Signaling Interface	XPM card replacement procedures (Control complex cards in an XPM)
NT6X40	AC	DS30 Network Interface	XPM card replacement procedures (NT6X40 in an XPM)
NT6X41	AA	Speech Bus Formatter	XPM card replacement procedures (Control complex cards in an XPM)
NT6X42	AA	Channel Supervision Message	XPM card replacement procedures (Control complex cards in an XPM)
NT6X44	AA	Time Switch	XPM card replacement procedures (Control complex cards in an XPM)
NT6X45	BA	LGC/DTC Processor	MSB card replacement procedures (Processor and memory cards in an MSB)
NT6X46	BA	Signal Processor Memory	MSB card replacement procedures (Processor and memory cards in an MSB)
NT6X47	AB	Master Processor Memory	MSB card replacement procedures (Processor and memory cards in an MSB)
—continued—			

NT6Xseries in a TMS (continued)

NT6Xseries cards in a TMS (continued)

PEC	Suffixes	Name	Chapter in manual (Procedure in chapter)
NT6X50	AB	DS-1 Interface	XPM card replacement procedures (P-side interface cards in an XPM)
NT6X69	AB	CPP Message Protocol and Tone	XPM card replacement procedures (Control complex cards in an XPM)
—end—			

TOPS MP card replacement procedures

This chapter provides card replacement procedures for Traffic Operator Position System multipurpose (TOPS MP) positions.

Note, this chapter is a duplicate of the TOPS MP procedures in the Card Replacement Procedures manual.

NTOM36 Keyboard

Application

Use this procedure to replace the keyboard, NTOM36.

PEC	Suffixes	Name
NTOM36	AA	Keyboard
NTOM36	AE	Keyboard

When you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the Index. The Index contains a list of cards, shelves, and frames this card replacement NTP documents.

Common procedures

This procedure references the following procedures:

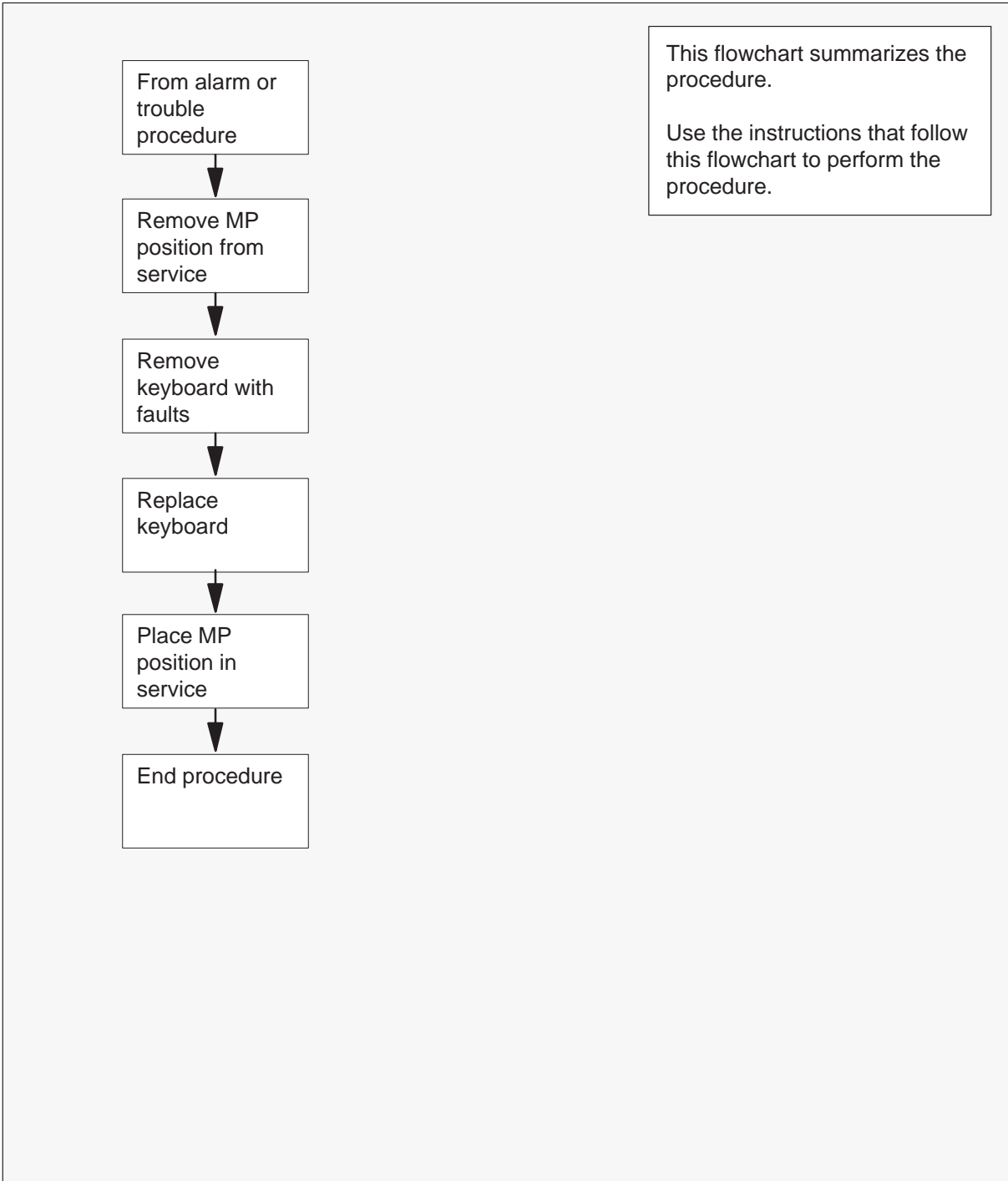
- *Placing MP position in service (integrated)*
- *Placing MP position in service (standalone)*
- *Removing MP position from service (integrated)*
- *Removing MP position from service (standalone)*

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure to replace the card.

NTOM36
Keyboard (continued)

Summary of Replacing an NTOM36 Keyboard



NTOM36 Keyboard (continued)

Replacing an NTOM36 Keyboard

At your current location:

- 1 Proceed only if a step in a maintenance procedure directed you to this procedure. To use this procedure separate from a maintenance procedure can cause equipment damage or service interruption.

2



Caution

Service interruption

To remove an MP position from service causes service interruption.



CAUTION

Service interruption

To remove an MP position from service causes service interruption.

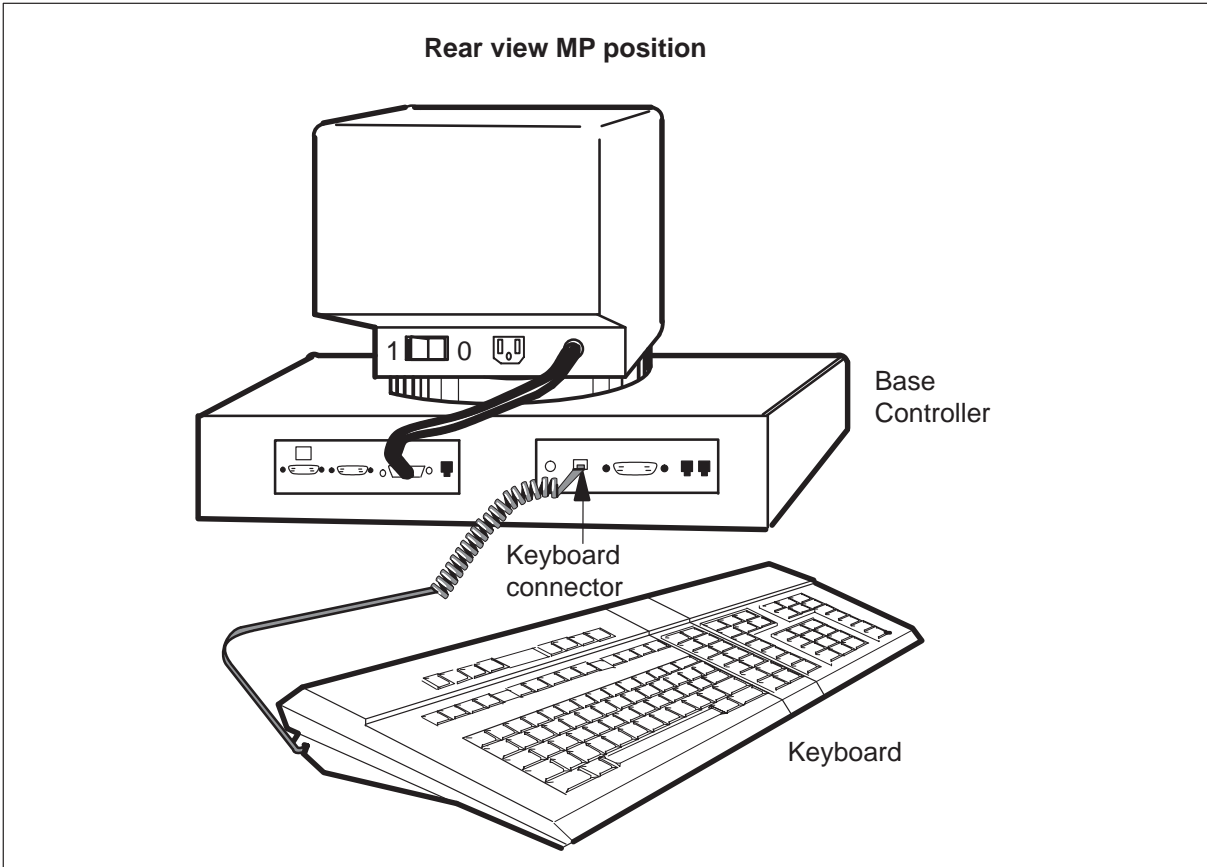
Remove the MP position from service.

If TPC	Do
is integrated	step 3
is standalone	step 4

- 3 Perform the common procedure *Removing MP position from service (integrated)*. Proceed to step 5.
- 4 Perform the common procedure *Removing MP position from service (standalone)*.

NTOM36
Keyboard (continued)

- 5 To remove the TOPS MP keyboard, disconnect the keyboard connector from the base controller.



- 6 To replace the TOPS MP keyboard with a new keyboard, connect the keyboard connector to the base controller.
- 7 Place the MP position in service.

If TPC	Do
is integrated	step 8
is standalone	step 9

NTOM36

Keyboard (end)

- 8 Perform the common procedure *Placing an MP position in service (integrated)*. Proceed to step 10.

Note: Place in service only the MP positions you removed from service in step 3.

- 9 Perform the common procedure *Placing an MP position in service (standalone)*.

Note: Place in service only the MP positions you removed from service in step 4.

- 10 The procedure is complete.

**NTOM90
in an MP**

Application

Use this procedure to replace base, NTOM90, in an MP.

PEC	Suffixes	Name
NTOM90	SA	Base

When you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the Index. The Index contains lists of cards, shelves, and frames this card replacement NTP documents.

Common procedures

This procedure references the following procedures:

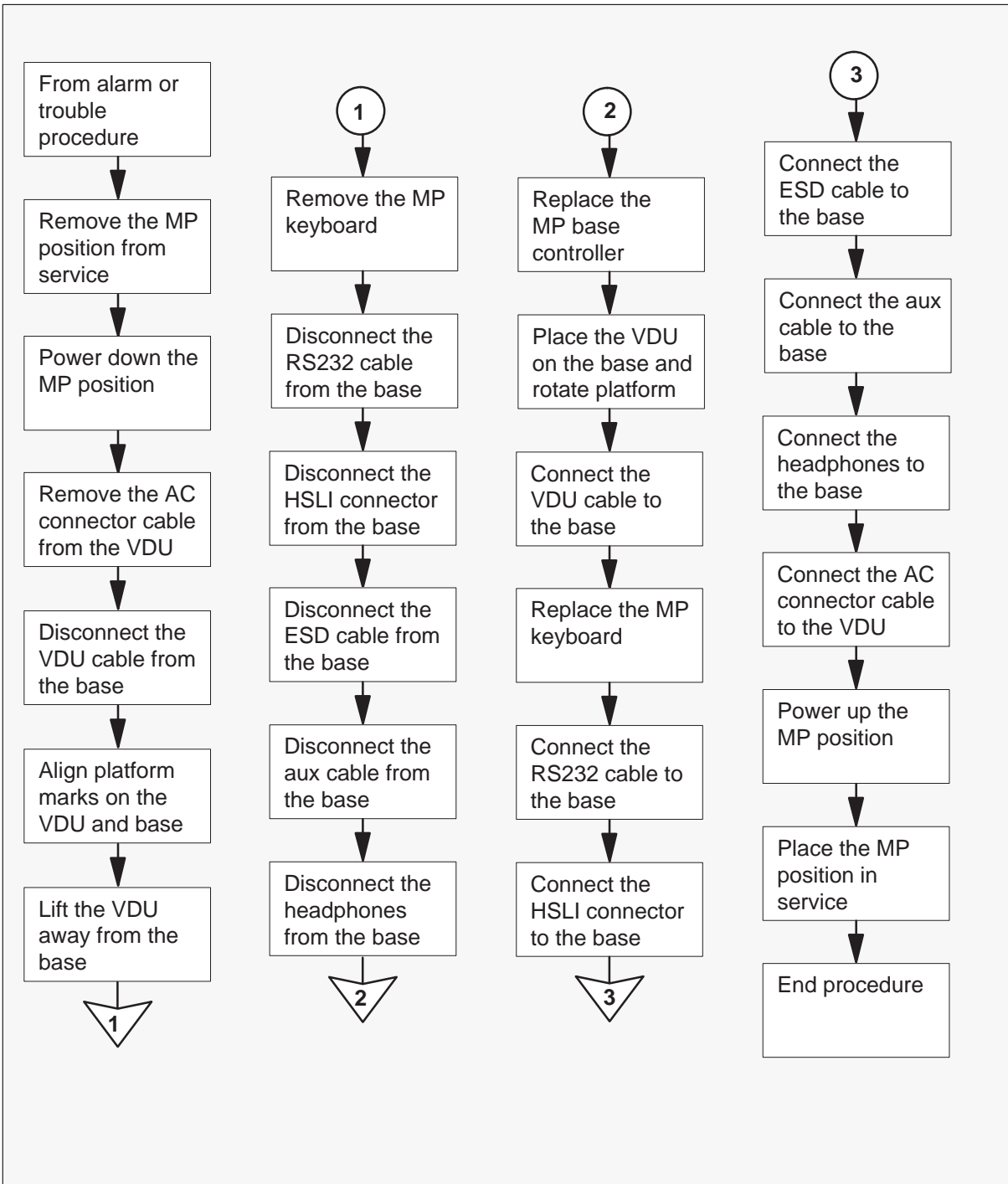
- *Placing an MP position in service (integrated)*
- *Placing an MP position in service (standalone)*
- *Removing MP position from service (integrated)*
- *Removing MP position from service (standalone)*

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure to replace the card.

NTOM90 in an MP (continued)

Summary of Replacing an NTOM90 in an MP




NTOM90
in an MP (continued)

Replacing an NTOM90 in an MP


At your current location:

- 1 Proceed only if a step in a maintenance procedure directs you to this procedure. Use of this procedure separate from a maintenance procedure can cause equipment damage or service interruption.

2



Caution
Service interruption
 The removal of an MP position from service causes service interruption.



CAUTION
Service interruption
 The removal of an MP position from service causes service interruption.

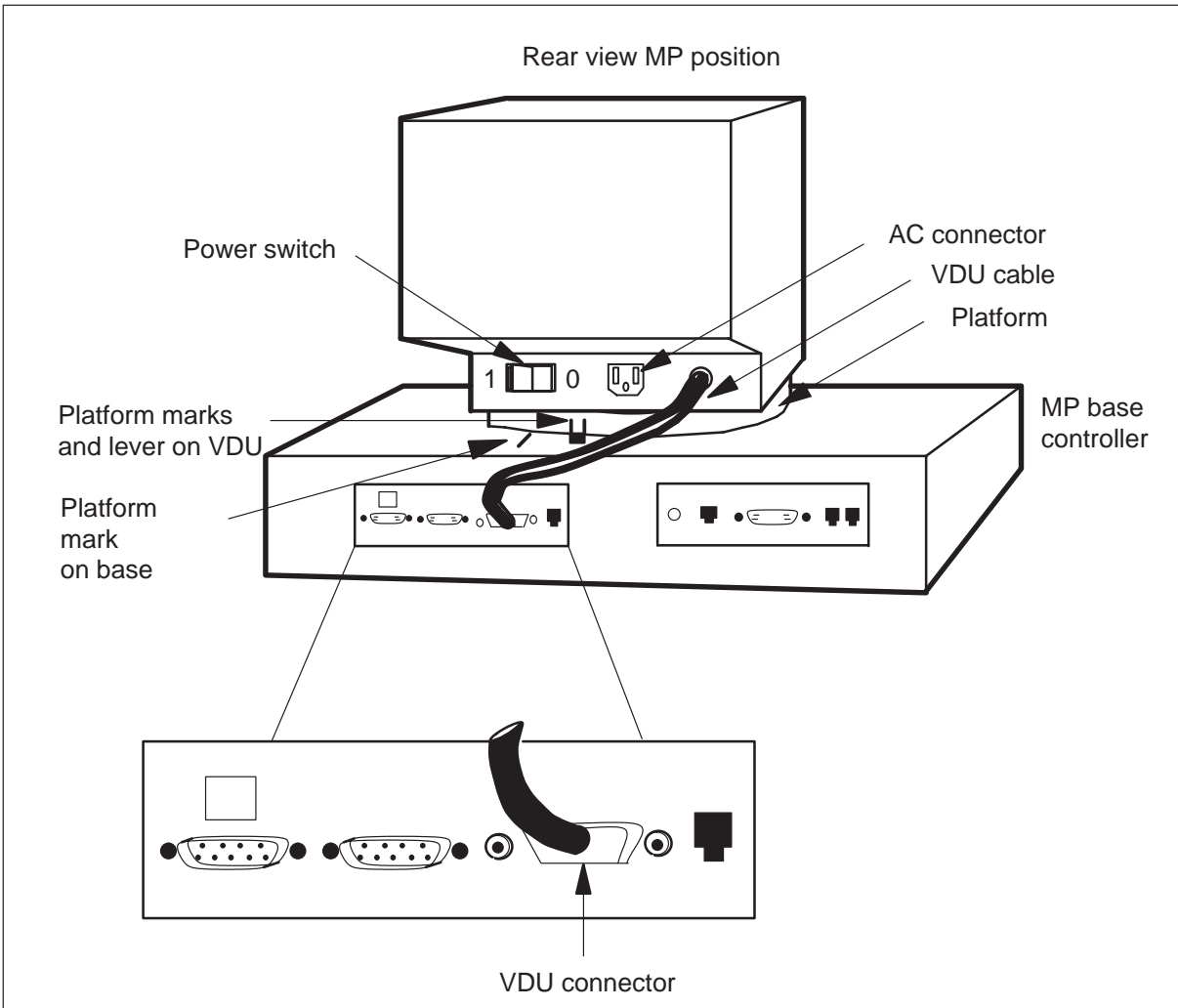
Remove the MP position from service.

If TPC	Do
is integrated	step 3
is standalone	step 4

- 3 Perform the common procedure *Removing MP position from service (integrated)*. Return to step 5.
- 4 Perform the common procedure *Removing MP position from service (standalone)*.

NTOM90 in an MP (continued)

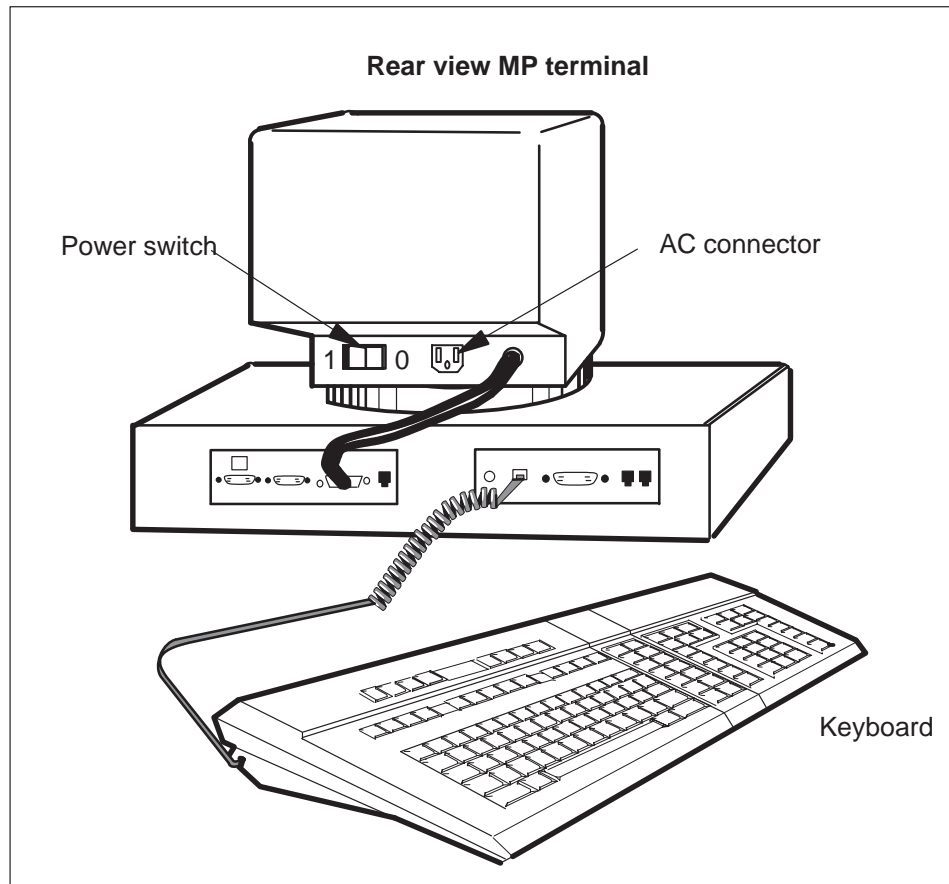
- 5 Power down the TOPS MP position. Position the power switch on the MP VDU to the OFF (0) position.



- 6 To remove the AC connector cable from the MP VDU, refer to the figure in step 5.
- 7 To disconnect the VDU cable from the MP base controller, loosen the screws of the VDU connector. Pull out the connector.
- 8 Press the platform lever until the lever is parallel to the top of the MP base controller. Press the platform lever and rotate the platform to the left. Rotate the platform to the left until the platform marks on the VDU align with the platform mark on the base. Rotate the platform to the left until the platform does not rotate any further. See the figure in step 5.

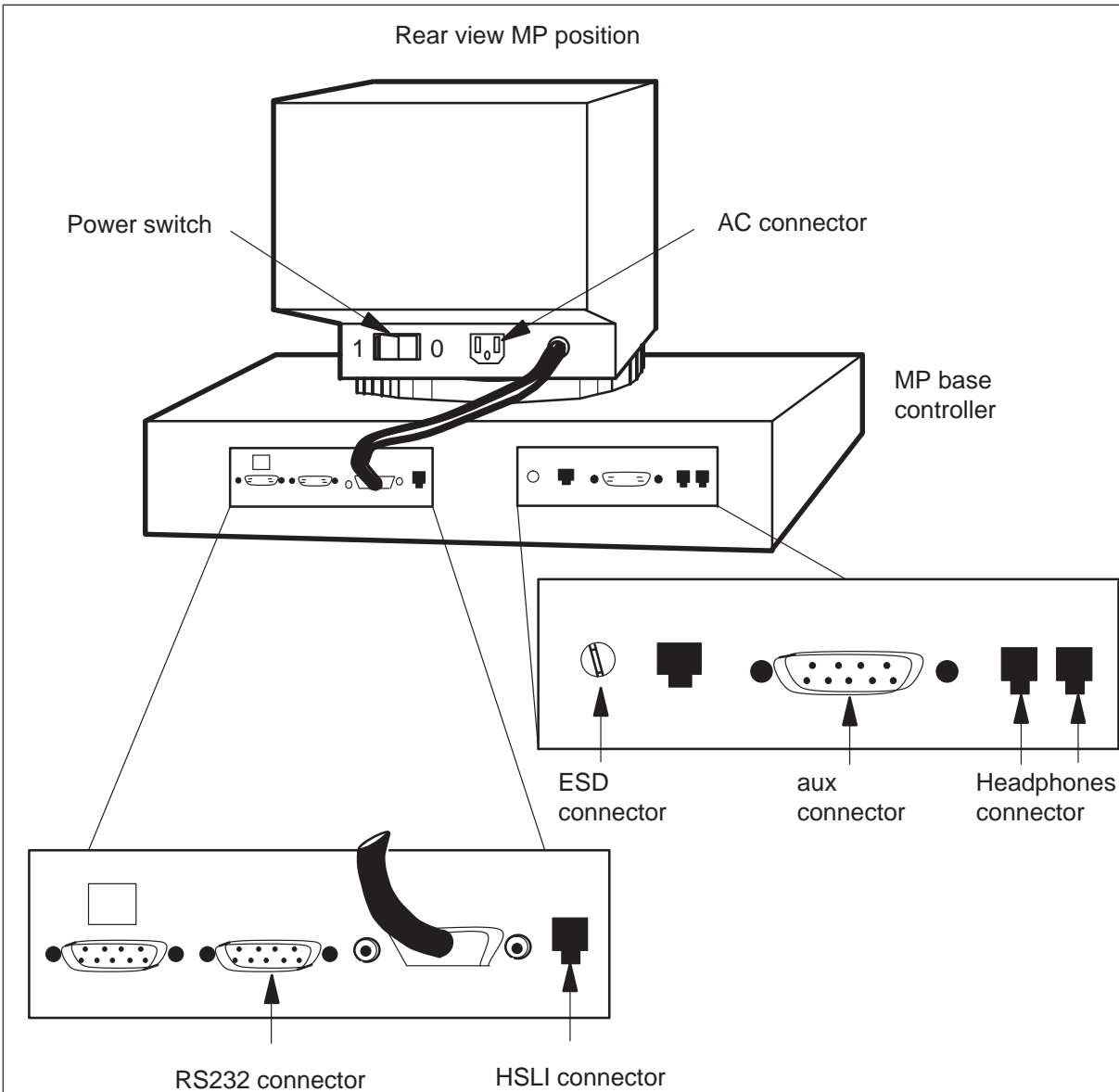
NTOM90
in an MP (continued)

- 9 Lift the MP VDU away from the MP base controller.
- 10 To remove the TOPS MP keyboard, disconnect the keyboard connector from the MP base controller.



NTOM90 in an MP (continued)

- 11 To disconnect the RS232 cable from the MP base controller, loosen the screws of the RS232 connector. Remove the connector.



- 12 To remove the HSLI cable, disconnect the HSLI connector from the MP base controller. See the figure in step 11.
- 13 To disconnect the ESD cable from the MP base controller, loosen the screw of the ESD connector and remove the connector. See the figure in step 11.

NTOM90 in an MP (continued)

- 14 To disconnect the aux cable from the MP base controller, loosen the screws of the aux connector. Pull out the connector. See the figure in step 11.
- 15 To remove the headphones cable, disconnect the headphones connector from the MP base controller. See the figure in step 11.
- 16 Replace the MP base controller with a new MP base controller.
- 17 Place the VDU you removed in step 9 on the MP base controller. The platform marks on the VDU are aligned with the platform mark on the base. See the figure in step 5.
- 18 Rotate the platform to the right. Listen for a click that indicates a seated VDU.
- 19 To connect the VDU cable removed in step 7 to the MP base controller, tighten the screws of the VDU connector. See the figure in step 5.
- 20 To replace the MP keyboard removed in step 10, connect the keyboard connector to the MP base controller. See the figure in step 10.
- 21 To connect the RS232 cable removed in step 11 to the MP base controller, tighten the screws of the RS232 connector. See the figure in step 11.
- 22 To replace the HSLI cable removed in step 12, connect the HSLI connector to the MP base controller. See the figure in step 11.
- 23 To connect the ESD cable removed in step 13 to the MP base controller, tighten the screw of the ESD connector. See the figure in step 11.
- 24 To replace the aux cable removed in step 14, tighten the screws of the aux connector. See the figure in step 11.
- 25 To replace the headphones cable removed in step 15, connect the headphones connector to the MP base controller. See the figure in step 11.
- 26 Connect the AC connector cable removed in step 6 to the MP VDU. See the figure in step 11.
- 27 To Power up the TOPS MP position, move the power switch on the MP VDU to the on (1) position. See the figure in step 11.
- 28 Place the MP position in service.

If TPC	Do
is integrated	step 29
is standalone	step 30

NTOM90 in an MP (end)

- 29 Perform the common procedure *Placing an MP position in service (integrated)*. Proceed to step 31.
Note: Place in service only the MP positions you removed from service in step 3.
- 30 Perform the common procedure *Placing an MP position in service (standalone)*.
Note: Place in service only the MP positions you removed from service in step 4.
- 31 The procedure is complete.

**NTOM92
in an MP**

Application

Use this procedure to replace VDU, NTOM92, in an MP.

PEC	Suffixes	Name
NTOM92	FA	VDU

When you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the Index. The Index contains lists of cards, shelves, and frames this card replacement NTP documents.

Common procedures

This procedure references the following procedures:

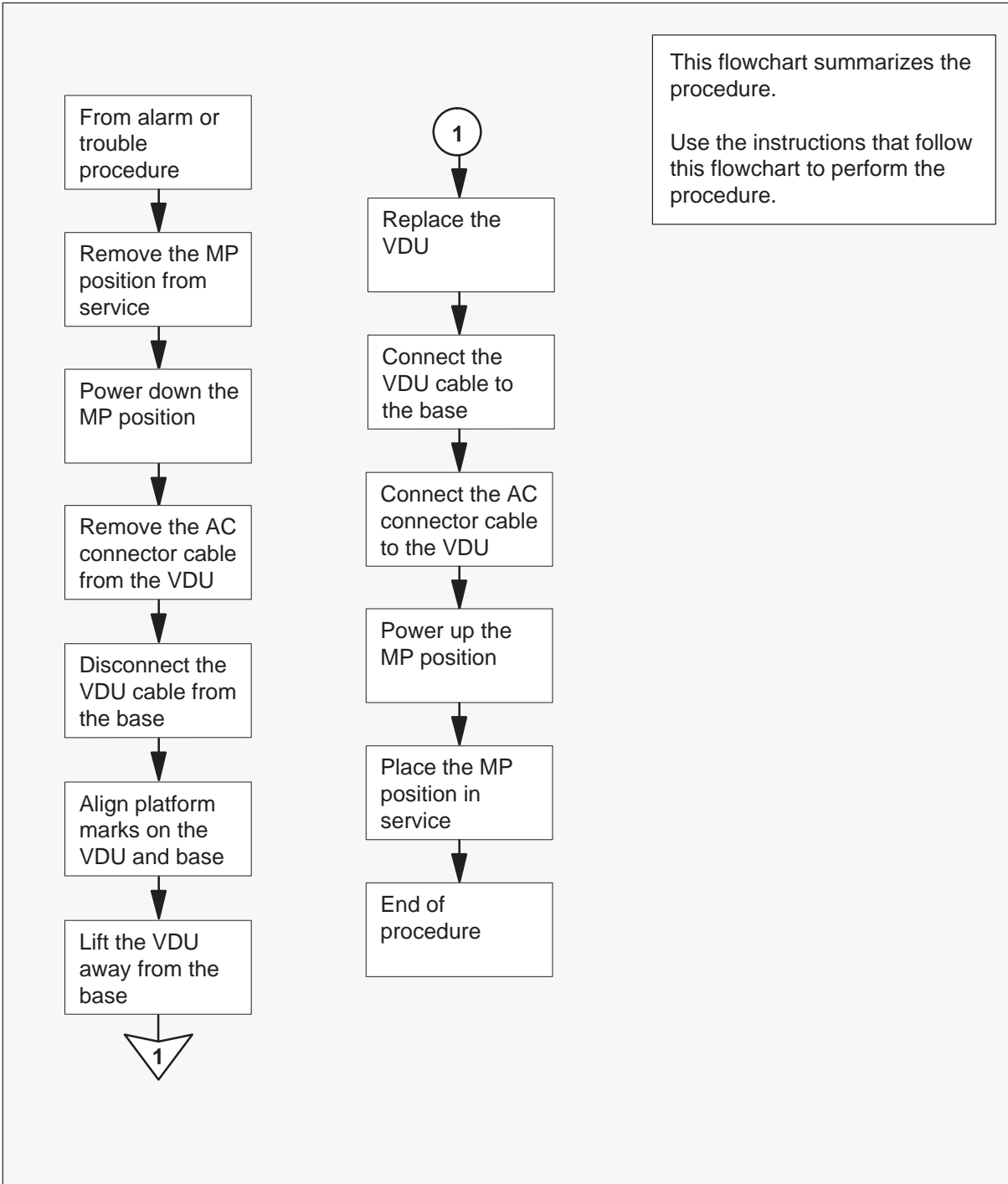
- *Placing an MP position in service (integrated)*
- *Placing an MP position in service (standalone)*
- *Removing MP position from service (integrated)*
- *Removing MP position from service (standalone)*

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure to replace the card.

NTOM92 in an MP (continued)

Summary of Replacing an NTOM92 in an MP




NTOM92
in an MP (continued)

Replacing an NTOM92 in an MP


At your current location:

- 1 Proceed only if a step in a maintenance procedure directs you to this procedure. Use of this procedure separate from a maintenance procedure can cause equipment damage or service interruption.

2



Caution
Service interruption
 To remove an MP position from service causes service interruption.



CAUTION
Service interruption
 To remove an MP position from service causes service interruption.

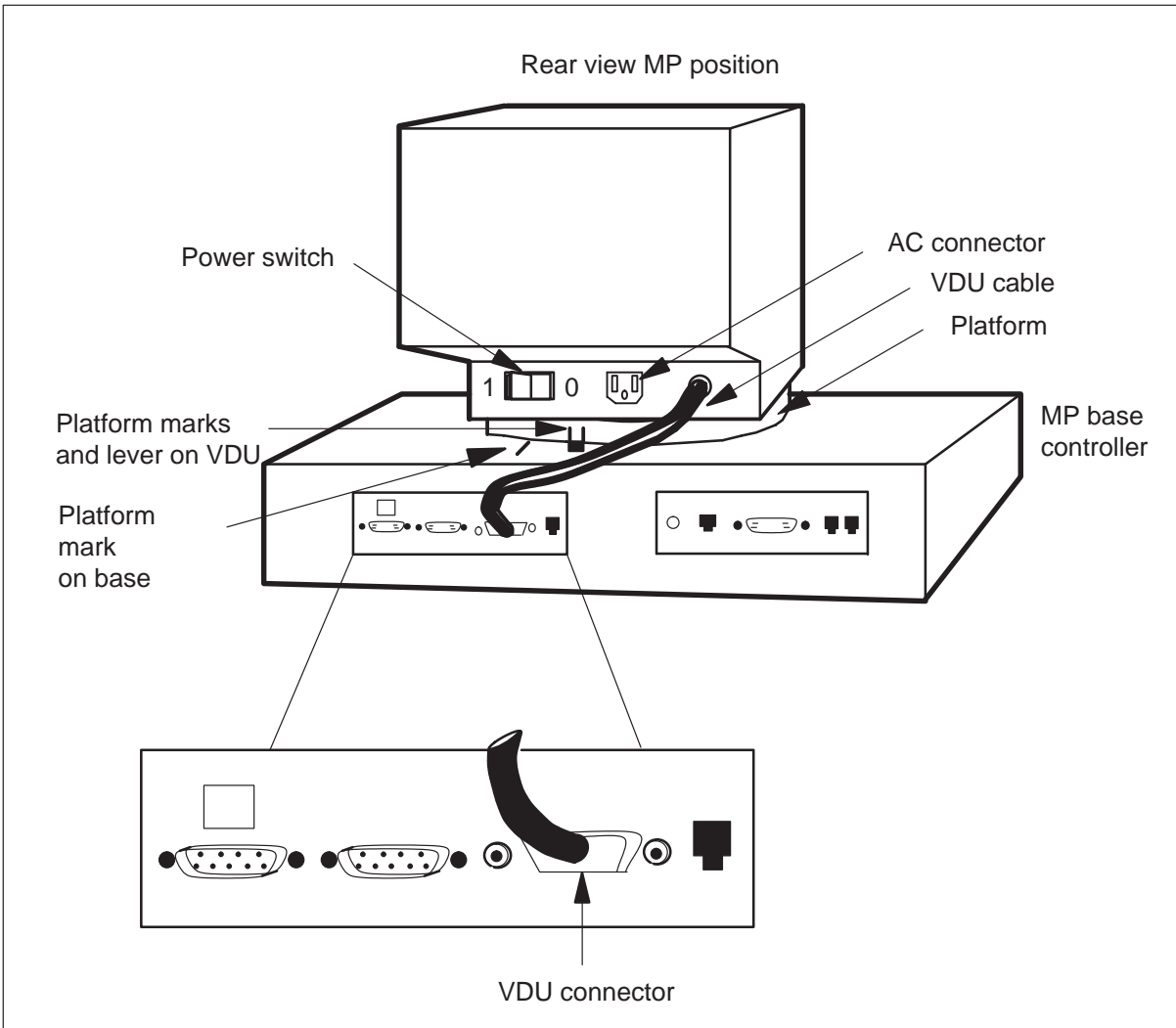
Remove the MP position from service.

If TPC	Do
is integrated	step 3
is standalone	step 4

- 3 Perform the common procedure *Removing MP position from service (integrated)*. Proceed to step 5.
- 4 Perform the common procedure *Removing MP position from service (standalone)*.

NTOM92 in an MP (continued)

- 5 To power down the TOPS MP position, position the power switch on the MP VDU to the OFF (0) position.



- 6 Remove the AC connector cable from the MP VDU. See the figure in step 5.
- 7 To disconnect the VDU cable from the MP base controller, loosen the screws of the VDU connector and remove the connector.
- 8 Press the platform lever until the lever is parallel to the top of the MP base controller. Press the platform lever, and rotate the platform to the left. Rotate the platform to the left until the platform marks on the VDU align with the platform mark on the base. Rotate the platform to the left until the platform cannot rotate. See the figure in step 5.

NTOM92 in an MP (end)

- 9 Lift the MP VDU away from the MP base controller.
- 10 To replace the TOPS MP VDU with a new VDU, place the new VDU on the MP base controller. The base controller with the platform marks on the VDU align with the platform mark on the base. See the figure in step 5.
- 11 Rotate the platform to the right. Listen for a click that indicates the seated VDU.
- 12 To connect the VDU cable to the MP base controller, tighten the screws of the VDU connector. See the figure in step 5.
- 13 Connect the AC connector cable to the MP VDU. See the figure in step 5.
- 14 To power up the TOPS MP position, position the power switch on the MP VDU to the ON (1) position.
- 15 Place the MP position in service.

If TPC	Do
is integrated	step 16
is standalone	step 17

- 16 Perform the common procedure *Placing an MP position in service (integrated)*. Proceed to step 18.
Note: Place in service only the MP positions you removed from service in Step 3.
- 17 Perform the common procedure *Placing an MP position in service (standalone)*.
Note: Place in service only the MP positions you removed from service in step 4.
- 18 The procedure is complete.

MTM card replacement procedures

This chapter provides card replacement procedures for the maintenance trunk module (MTM).

Note, this chapter is a duplicate of the MTM procedures in the Card Replacement Procedures manual.

NT1X76 in an MTM

Application

Use this procedure to replace an NT1X76 card in a maintenance trunk module (MTM).

PEC	Suffixes	Name
NT1X76	AE	DRAM PROM memory card

If you cannot identify the product engineering code (PEC), suffix, and shelf or frame for the card you want to replace, refer to the index. The index contains a list of cards, shelves, and frames for this card replacement Northern Telecom Publication (NTP).

Common procedures

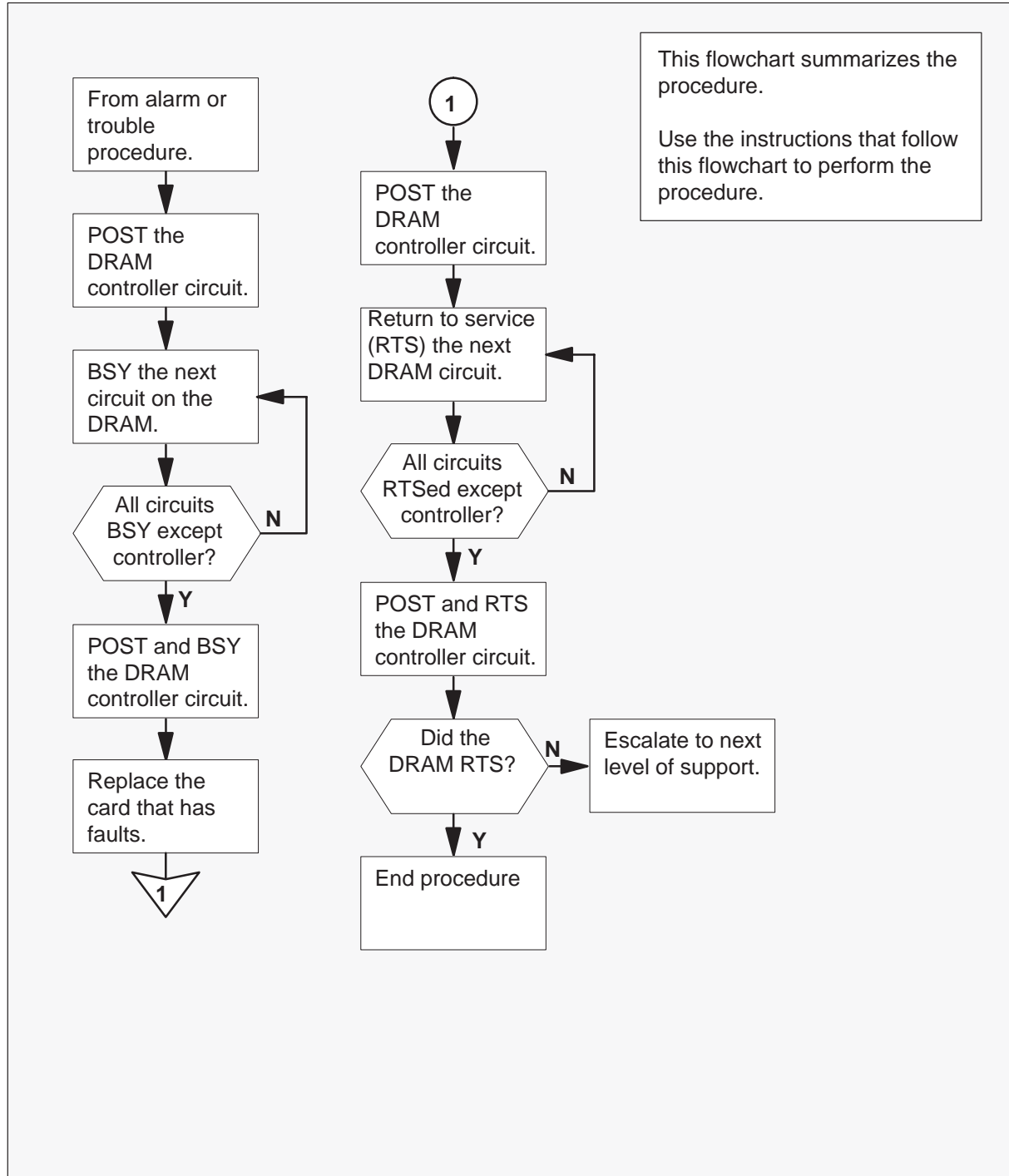
This procedure refers to the *Shelf card removal and replacement procedure*.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

NT1X76
in an MTM (continued)

Summary of Replacing an NT1X76 in an MTM



NT1X76 in an MTM (continued)

Replacing an NT1X76 in an MTM

At your current location:

- 1 Proceed if a step in a maintenance procedure directs you to this procedure. Seperate use of this procedure can cause equipment damage or service interruption.

At the MAP terminal:

- 2 To access the trunk test position (TTP) level of the MAP and post the DRAM controller circuit (0), type

>MAPCI;MTC;TRKS;TTP;POST TM MTM n 0

and press the Enter key.

where

n is the MTM number and the location of the DRAM card that has faults
0 is the DRAM controller circuit

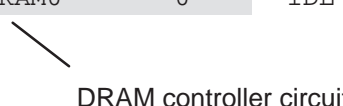
Note: You must busy all other DRAM circuits before you busy the DRAM controller circuit.

Example of a MAP response:

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .

TTP
0  Quit_  POST      DELQ      BUSYQ      DIG
2  Post_  TTP  6-025
3  Seize_ CKT TYPE  PM NO.  COM LANG  STA      S R DOT TE RESULT
4      ANN  MTM  1  0  DRAM0  0  IDL
5  Bsy_
6  RTS_
7  Tst_
8
9  CktInfo
10 CktLoc
11 Hold
12 Next_
13 Rls_
14 Ckt_
15 TrnslVf_
16 StkSdr_
17 Pads_
18 Level_
    
```




DRAM controller circuit


NT1X76
in an MTM (continued)

- 3 To proceed to the next circuit on the DRAM, type
>NEXT
and press the Enter key.

4



Caution
Service interruption
Removal of a DRAM circuit from service causes
service interruption.



CAUTION
Service interruption
Removal of a DRAM circuit from service causes
service interruption.

To busy the circuit on the DRAM, type


>BSY
and press the Enter key.

Repeat steps 3 and 4 until all circuits on the DRAM except the DRAM controller circuit (0) are busy.

NT1X76 in an MTM (continued)

Example of a MAP response:

CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	EIO
.
TTP									
0	Quit_	POST	DELQ		BUSYQ		DIG		
2	Post_	TTP 6-025							
3	Seize_	CKT TYPE	PM NO.		COM LANG		STA S R DOT TE	RESULT	
4		ANN	MTM 1 2		ACTSTOPS 0		MB		
5	Bsy_								
6	RTS_								
7	Tst_								
8									
9	CktInfo								
10	CktLoc								
11	Hold								
12	Next_								
13	Rls_								
14	Ckt_								
15	TrnslVf_								
16	StkSdr_								
17	Pads_								
18	Level_								



 DRAM circuit and status

- 5 To post the DRAM controller circuit (0), type

>POST TM MTM n 0
and press the Enter key.

where

- n is the MTM number and the location of the DRAM card that has faults
- 0 is the DRAM controller circuit

NT1X76
in an MTM (continued)

6



Caution
Service interruption
 Removal of a DRAM circuit from service causes service interruption.



CAUTION
Service interruption
 Removal of a DRAM circuit from service causes service interruption.

To busy the DRAM controller circuit, type

>BSY

and press the Enter key.

Example of a MAP response:

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .
TTP
0  Quit_  POST      DELQ      BUSYQ      DIG
2  Post_  TTP  6-025
3  Seize_ CKT TYPE  PM NO.      COM LANG      STA S R DOT TE RESULT
4      ANN      MTM  1  0  DRAM0      0      MB
5  Bsy_
6  RTS_
7  Tst_
8
9  CktInfo
10 CktLoc
11 Hold
12 Next_
13 Rls_
14 Ckt_
15 TrnslVf_
16 StkSdr_
17 Pads_
18 Level_
    
```

DRAM controller circuit and status

NT1X76 in an MTM (continued)

At the MTM:

- 7** To remove and replace the NT1X76 card, see the *Common card removal and replacement* procedure in this document. Complete the removal and replacement procedure. Return to step 8.

Note: Make sure that the dip switches on the new card are in the same positions as the dip switches on the old card.

- 8** To post the DRAM controller circuit (0), type

>POST TM MTM n 0

and press the Enter key.

where

n is the MTM number and the location of the DRAM card

0 is the DRAM controller circuit

- 9** To proceed to the next circuit on the DRAM, type

>NEXT

and press the Enter key.

NT1X76 in an MTM (continued)

- 10** To perform a RTS for the circuit on the DRAM, type


>RTS

and press the Enter key.

Repeat steps 9 and 10 until all DRAM circuits busied in step 4 RTS.

Example of a MAP response:

CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	EIO
.
TTP									
0	Quit_	POST	DELQ		BUSYQ		DIG		
2	Post_	TTP	6-025						
3	Seize_	CKT TYPE	PM NO.		COM LANG		STA S R DOT TE	RESULT	
4		ANN	MTM 1 2	ACTSTOPS	0		IDL		
5	Bsy_								
6	RTS_								
7	Tst_								
8									
9	CktInfo								
10	CktLoc								
11	Hold								
12	Next_								
13	Rls_								
14	Ckt_								
15	TrnslVf_								
16	StkSdr_								
17	Pads_								
18	Level_								



 DRAM circuit and status

- 11** To post the DRAM controller circuit (0), type

>POST TM MTM n 0

and press the Enter key.

where

- n is the MTM number and the location of the DRAM card
- 0 is the DRAM controller circuit

NT1X76 in an MTM (end)

12 To RTS the DRAM controller circuit, type

>RTS

and press the Enter key.

Example of a MAP response:

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .
TTP
0  Quit_  POST      DELQ      BUSYQ      DIG
2  Post_  TTP 6-025
3  Seize_ CKT TYPE  PM NO.      COM LANG      STA S R DOT TE RESULT
4      ANN      MTM 1 0  DRAM0      0      IDL
5  Bsy_
6  RTS_
7  Tst_
8
9  CktInfo
10 CktLoc
11 Hold
12 Next_
13 Rls_
14 Ckt_
15 TrnslVf_
16 StkSdr_
17 Pads_
18 Level_
    
```

DRAM controller circuit and status

If the DRAM	Do
RTS, the response on the MAP display is IDL	Step 13
does not RTS	Step 14

13 For additional help, contact the next level of support.

14 This procedure is complete. Return to the main procedure that sent you to this procedure.

**NT3X08AA
in an MTM**

Application

Use this procedure to replace an NT3X08 card in an MTM.

PEC	Suffixes	Name
NT3X08	AA/AB	Coin detection circuit card

If you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the Index. The index is for a list of cards, shelves, and frames in this card replacement NTP.

Common procedures

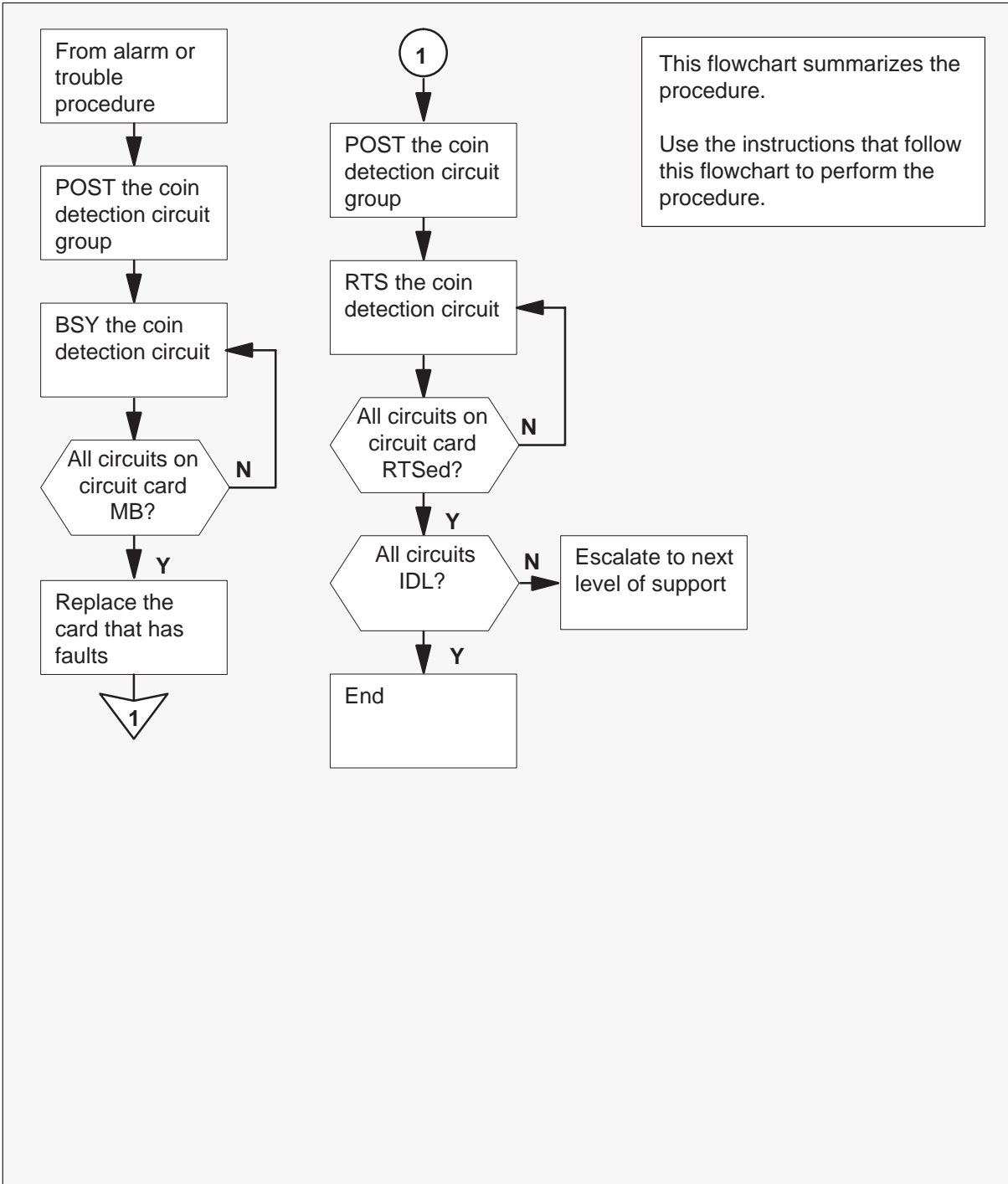
This procedure references *Shelf card removal and replacement procedure*

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Use the instructions that follow this flowchart to perform the procedure.

NT3X08AA in an MTM (continued)

Summary of replacing an NT3X08AA in an MTM



NT3X08AA in an MTM (continued)

Replacing an NT3X08AA in an MTM

At your current location:

- 1 Proceed only if a step in a maintenance procedure directs you to this procedure. Independent use of this procedure can cause equipment damage or service interruption.

At the MAP:

- 2 To access the TTP level of the MAP and post the coin detection circuit group of the card with faults, type

>MAPCI;MTC;TRKS;TTP;POST G RCVRCOIN n

and press the Enter key.

where

n is the first circuit on the coin detection circuit card

Example of a MAP display response:

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .

TTP
0  Quit_ POST      DELQ      BUSYQ      DIG
2  Post_ TTP      6-025
3  Seize_ CKT TYPE  PM NO.      COM LANG      STA S R DOT TE RESULT
4      RCVR      MTM 1 2      RCVRCOIN      0      IDL
5  Bsy_
6  RTS_
7  Tst_
8
9  CktInfo
10 CktLoc
11 Hold
12 Next_
13 Rls_
14 Ckt_
15 TrnslVf_
16 StkSdr_
17 Pads_
18 Level_
    
```

Coin detection circuit

NT3X08AA in an MTM (continued)

3



Caution

Service interruption

The removal of an MTM circuit from service causes service interruption.



CAUTION

Service interruption

The removal of an MTM circuit from service causes service interruption.

To busy the circuit, type

>BSY

and press the Enter key.

Example of a MAP display response:

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .

TTP
0  Quit_ POST      DELQ      BUSYQ      DIG
2  Post_ TTP      6-025
3  Seize_      CKT TYPE      PM NO.      COM LANG      STA S R DOT TE RESULT
4  RCVR      MTM 1 2      RCVRCOIN      0      MB
5  Bsy_
6  RTS_
7  Tst_
8
9  CktInfo
10 CktLoc
11 Hold
12 Next_
13 Rls_
14 Ckt_
15 Trnslvf_
16 StkSdr_
17 Pads_
18 Level_
    
```

Coin detection circuit and status

4 To go to the next coin detection circuit on the circuit card that has faults, type

>NEXT

and press the Enter key.

NT3X08AA in an MTM (continued)

Repeat steps 3 and 4 to busy each circuit on the circuit card.

At the MTM:

- 5 Remove and replace the NT3X08 card as *Common card removal and replacement* in this document directs. Return to step 6 after you complete the removal and replacement procedure.

Note: Make sure the dip switches on the new card are set to the same positions as the dip switches on the old card.

- 6 To post the coin detection circuit group, type
>POST G RCVRCOIN
and press the Enter key.
- 7 To return to service the circuit you busy in step 3, type
>RTS
and press the Enter key.

Example of a MAP display response:

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .

TTP
0  Quit_ POST      DELQ      BUSYQ      DIG
2  Post_ TTP      6-025
3  Seize_      CKT TYPE      PM NO.      COM LANG      STA S R DOT TE RESULT
4      RCVR      MTM 1 2      RCVRCOIN      0      IDL
5  Bsy_
6  RTS_
7  Tst_
8
9  CktInfo
10 CktLoc
11 Hold
12 Next_
13 Rls_
14 Ckt_
15 Trnslvf_
16 StkSdr_
17 Pads_
18 Level_

```

Coin detection circuit and status

- 8 To go to the next coin detection circuit on the circuit card, type
>NEXT
and press the Enter key.

Repeat steps 7 and 8 to return to service each circuit that you busied in step 3.

NT3X08AA
in an MTM (end)

- 9 Determine if all coin detection circuits return to service.

If all circuits	Do
returned to service (IDL appears at MAP)	step 11
did not return to service	step 10

- 10 For additional help, contact the next level of support.
- 11 The procedure is complete. Return to the original procedure and continue.

**NT3X67
in an MTM**

Application

Use this procedure to replace an NT3X67 card in an MTM.

PEC	Suffixes	Name
NT3X67	BB	Six party conference circuit card

If you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the Index. The index contains a list of cards, shelves, and frames in this card replacement NTP.

Common procedures

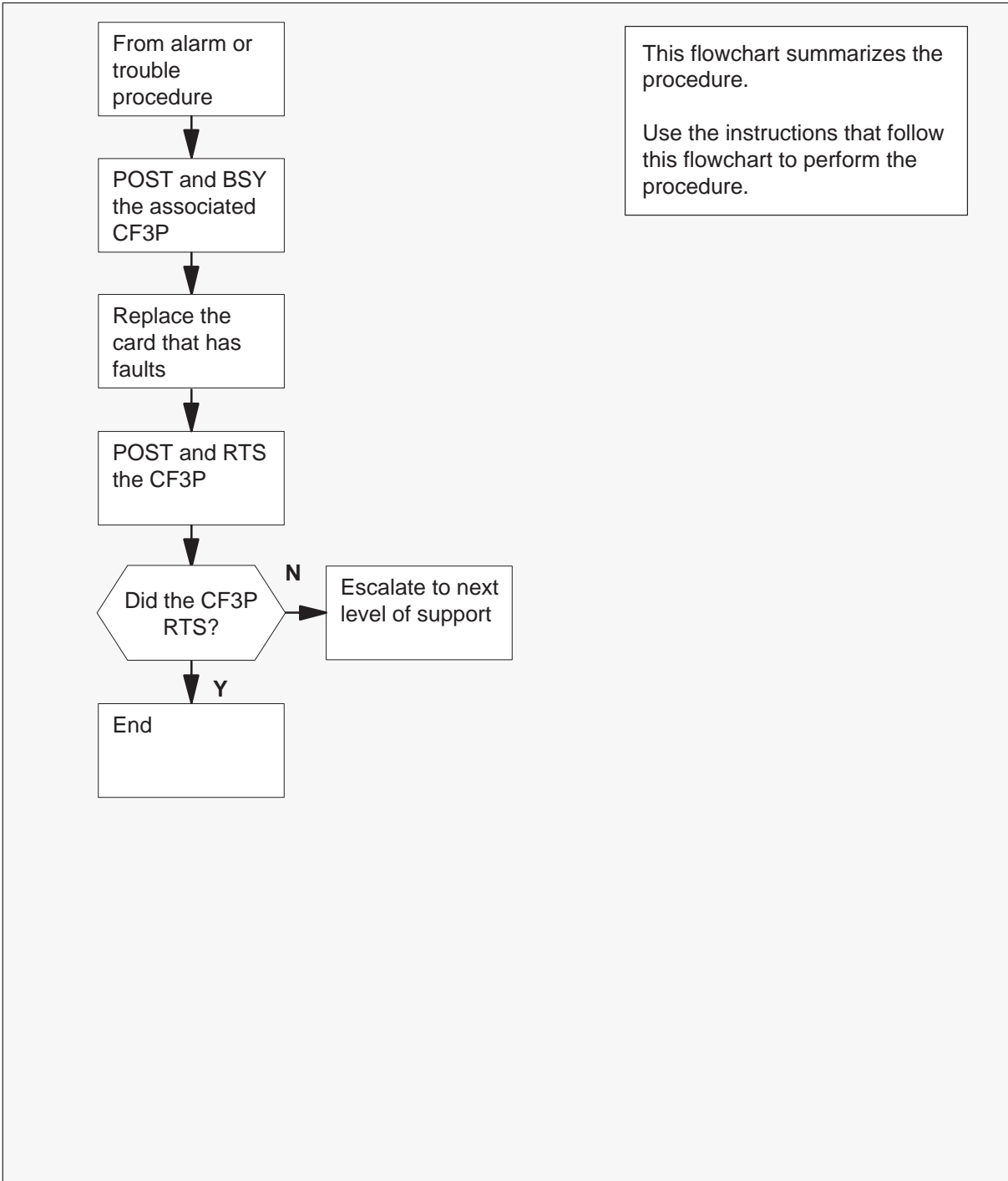
This procedure references *Shelf card removal and replacement procedure*:

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Use the instructions that follow this flowchart to replace the card.

NT3X67 in an MTM (continued)

Summary of Replacing an NT3X67 in an MTM



NT3X67
in an MTM (continued)

Replacing an NT3X67 in an MTM

At your current location

- 1 Proceed only if a step in a maintenance procedure directs you to this procedure. Independent use of this procedure can cause equipment damage or service interruption.

At the MAP

- 2 To post and busy the associated circuit on the card, type

>MAPCI;MTC;TRKS;TTP;POST G CF3P nnn

and press the Enter key.

where

nnn is the associated circuit on the conference circuit card

>BSY

and press the Enter key.

Note: Each NT3X67 circuit card provides two three-port conference circuits. Make sure that both circuits are busy before you replace the circuit card. One circuit is already busy in the main procedure.

At the MTM

- 3 Remove and replace the NT3X67 card. *Comon card removal and replacement* in this document contains this procedure. Return to step 4 after you complete the removal and replacement procedure.

Note: Make sure the dip switches on the new card are set to the same positions as the dip switches on the old card.

At the MAP

- 4 To return to service the CF3P you busied in step 2, type

>POST CF3P nnn

and press the Enter key.

where

nnn is the CF3P you busied in step 2

>RTS

and press the Enter key.

If the CF3P	Do
returns to service	step 6
does not return to service	step 5

NT3X67
in an MTM (end)

- 5 For additional help, contact the next level of support.
- 6 The procedure is complete. Return to the main procedure and continue as the procedure directs.

TPC card replacement procedures

This chapter provides card replacement procedures for the Traffic Operator Position System (TOPS) position controller (TPC).

Note, this chapter is a duplicate of the TPC procedures in the Card Replacement Procedures manual.

NT2X70 in a TPC

Application

Use this procedure to replace an NT2X70 card in a TPC.

PEC	Suffixes	Name
NT2X70	AE	Power Supply

If you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the Index. The index contains a list of cards, shelves, and frames this card replacement NTP documents.

Common procedures

This document refers to the following procedures:

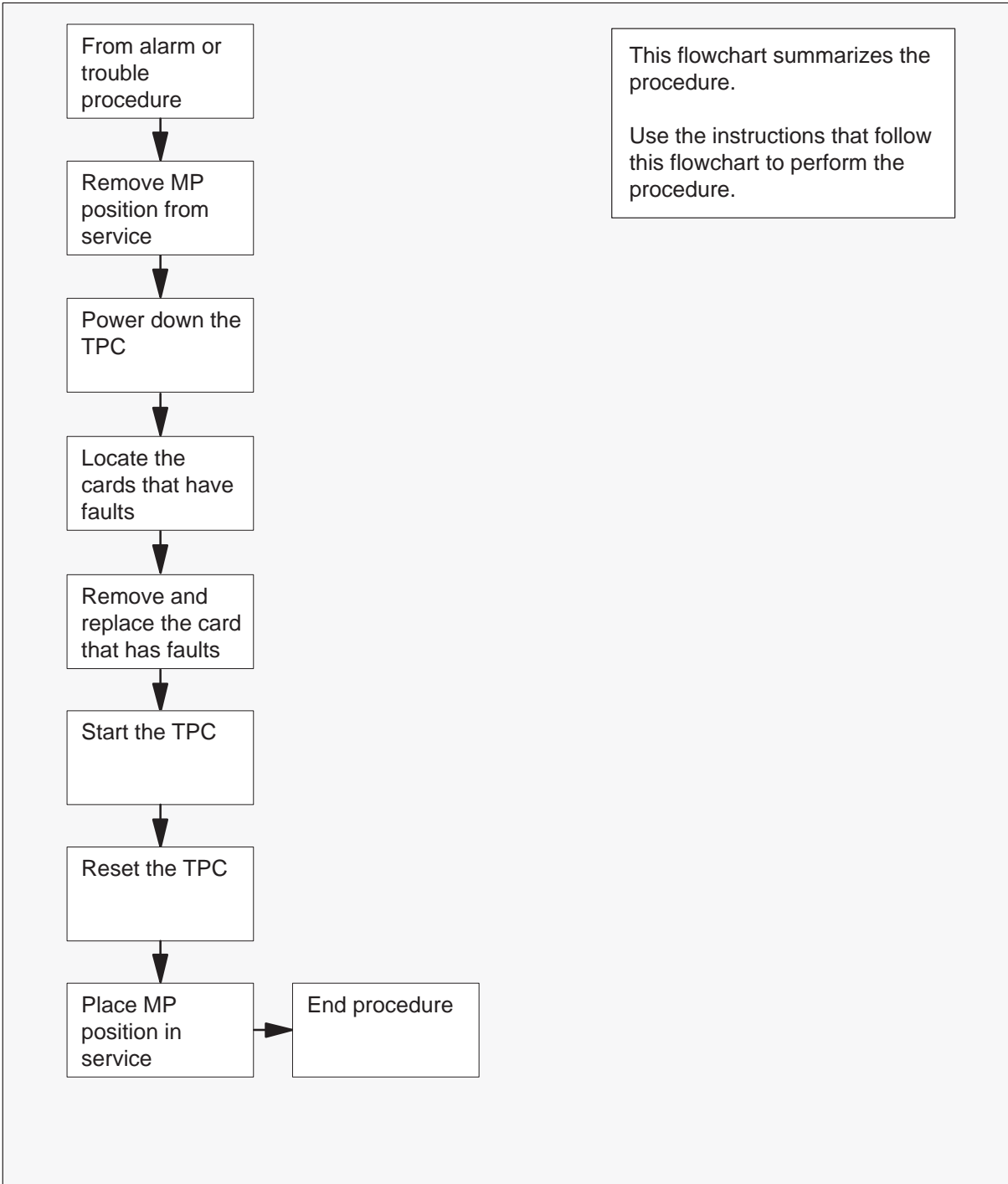
- *Removing MP position from service (integrated)*
- *Removing MP position from service (standalone)*
- *Placing MP position in service (integrated)*
- *Placing MP position in service (standalone)*
- *Shelf card removal and replacement procedure*

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

NT2X70 in a TPC (continued)

Summary of Replacing an NT2X70 in a TPC



NT2X70 in a TPC (continued)

Replacing an NT2X70 in a TPC

At your current location

- 1 Proceed only if you have been directed to this procedure from a step in a maintenance procedure. Independent use of this procedure can cause equipment damage or service interruption.

2



Caution

Service interruption

Removal of an MP position from service causes service interruption.



CAUTION

Service interruption

Removal of an MP position from service causes service interruption.

Remove the MP position from service.

If TPC	Do
is integrated	Step 3
is standalone	Step 4

- 3 Perform common procedure *Removing MP position from service (integrated)*. Return to step 5.

Note: You must remove from service all of the MP positions associated with the TPC.

- 4 Perform the common procedure *Removing MP position from service (standalone)*.

Note: You must remove from service all of the MP positions associated with the TPC.

NT2X70
in a TPC (continued)

5



WARNING

Equipment damage

Failure to turn off power to the TPC when you replace cards in the TPC can result in equipment damage.

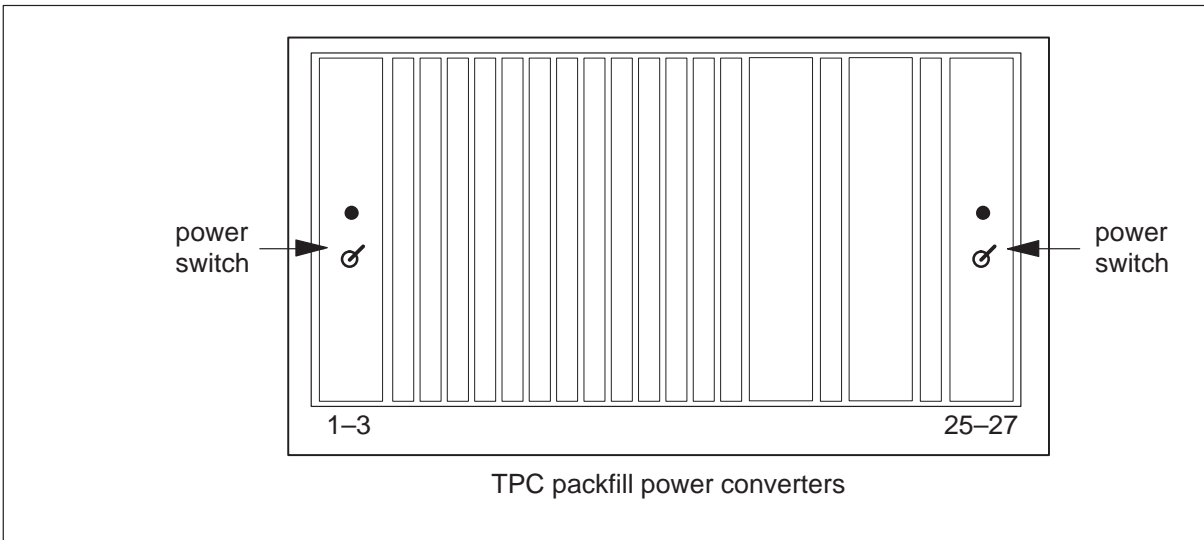


WARNING

Equipment damage

Failure to turn off power to the TPC when you replace cards in the TPC can result in equipment damage.

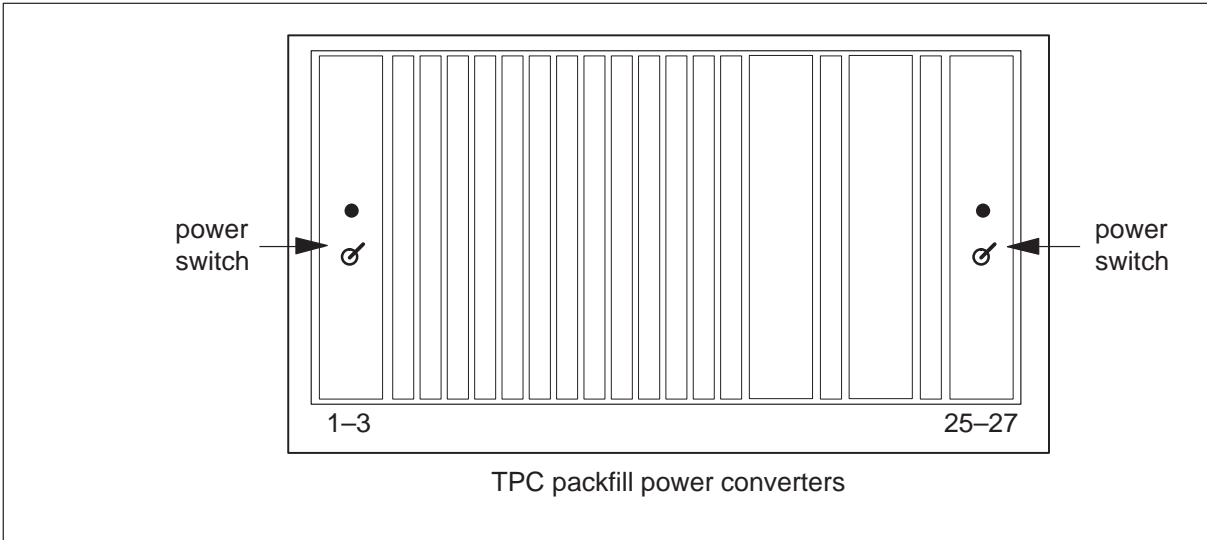
To power down the TPC, turn the switches on the power converters in slots 1–3 and slots 25–27 to the down position.



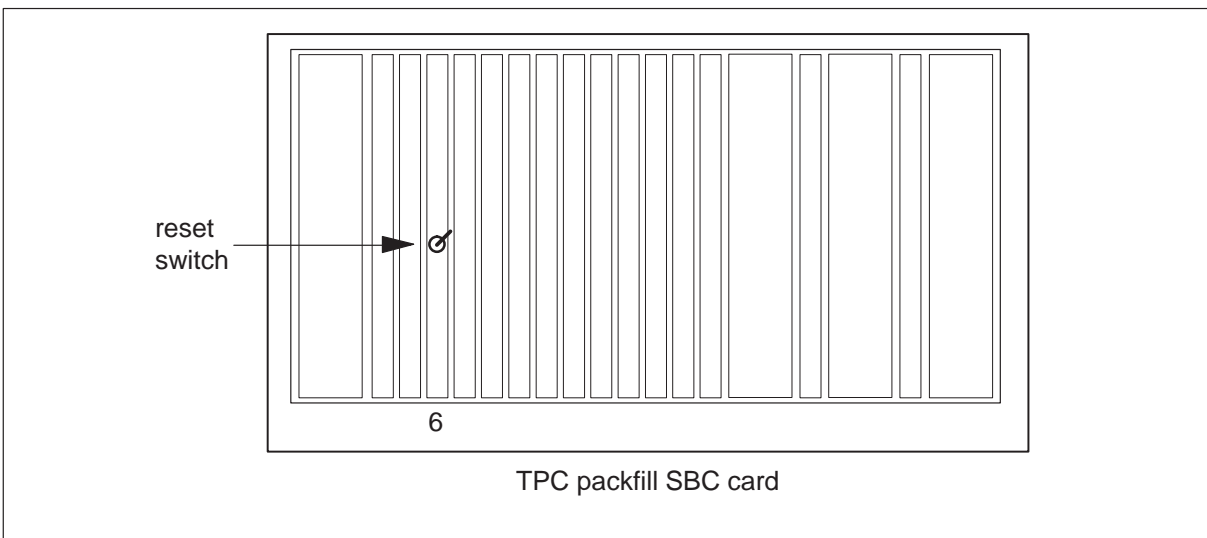
- 6 To remove and replace the NT2X70 card, refer to the *Common card removal and replacement* procedure. After you complete the removal and replacement procedure return to step 7.

NT2X70 in a TPC (continued)

- 7 To start the TPC, turn the switches on the power converters in slots 1–3 and slots 25–27 to the up position.



- 8 To reset the TPC, move the switch on the SBC card in slot 6 to the down position. Return the switch to the up position.



NT2X70
in a TPC (end)

- 9 Place the MP position in service.

If TPC	Do
is integrated	step 10
is standalone	step 11

- 10 Perform common procedure *Placing MP position in service (integrated)*. Return to step 12.
Note: Place in service only the MP positions that you removed from service in step 3.
- 11 Perform common procedure *Placing MP position in service (standalone)*.
Note: Place in service only the MP positions that you removed from service in step 4.
- 12 This procedure is complete. Return to the main procedure that sent you to this procedure. Continue as directed.

NTNX62 in a TPC

Application

Use this procedure to replace an NTNX62 card in a TOPS position controller (TPC).

PEC	Suffixes	Name
NTNX62	AB	High Speed Line Interface

The card replacement Northern Telecom Publications (NTP) contains an index for a list of cards, shelves and frames. Refer to this index when you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace.

Common procedures

This procedure references the following procedures:

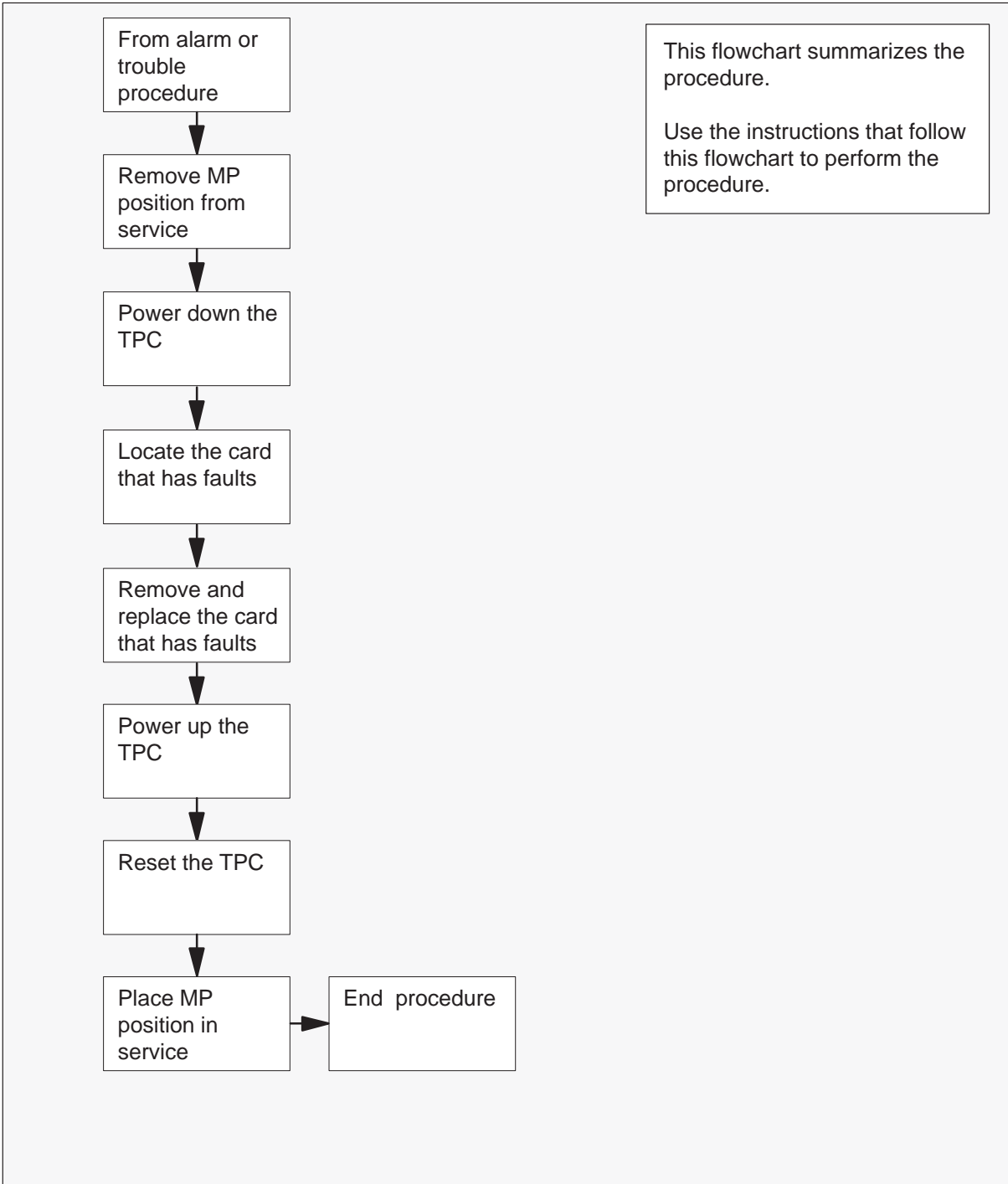
- *Removing an MP position from service (integrated)*
- *Removing an MP position from service (standalone)*
- *Placing an MP position in service (integrated)*
- *Placing an MP position in service (standalone)*
- *Card removal and replacement procedure*

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

NTNX62 in a TPC (continued)

Summary of Replacing an NTNX62 in a TPC



NTNX62 in a TPC (continued)

Replacing an NTNX62 in a TPC

At your current location:

- 1 Proceed when a step in a maintenance procedure directs you to this procedure. Separate use of this procedure can cause equipment damage or service interruption.

2



Caution

Service interruption

Removal of an MP position from service causes service interruption.



CAUTION

Service interruption

Removal of an MP position from service causes service interruption.

Remove the MP position from service.

If TPC	Do
is integrated	step 3
is standalone	step 4

- 3 Perform the common procedure *Removing an MP position from service (integrated)*. Go to step 5.

Note: Remove from service every MP position associated with the TPC.

- 4 Perform the common procedure *Removing an MP position from service (standalone)*.

Note: Remove from service every MP position associated with the TPC.

NTNX62
in a TPC (continued)

5



WARNING

Equipment damage

Equipment damage occurs if you do not turn off power to the TPC when you replace cards in the TPC.

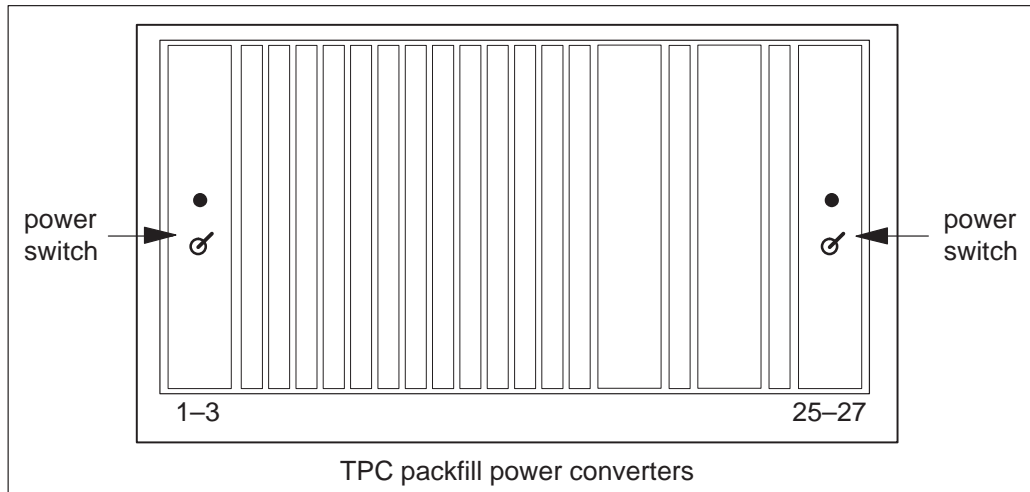


WARNING

Equipment damage

Equipment damage occurs if you do not turn off power to the TPC when you replace cards in the TPC.

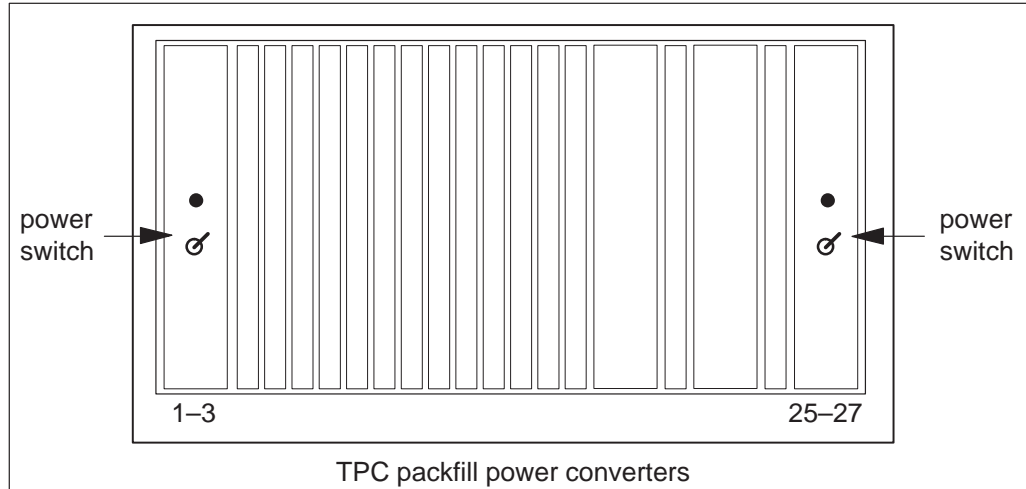
To power down the TPC, turn the switches on the power converters in slots 1–3 and slots 25–27 to the down position.



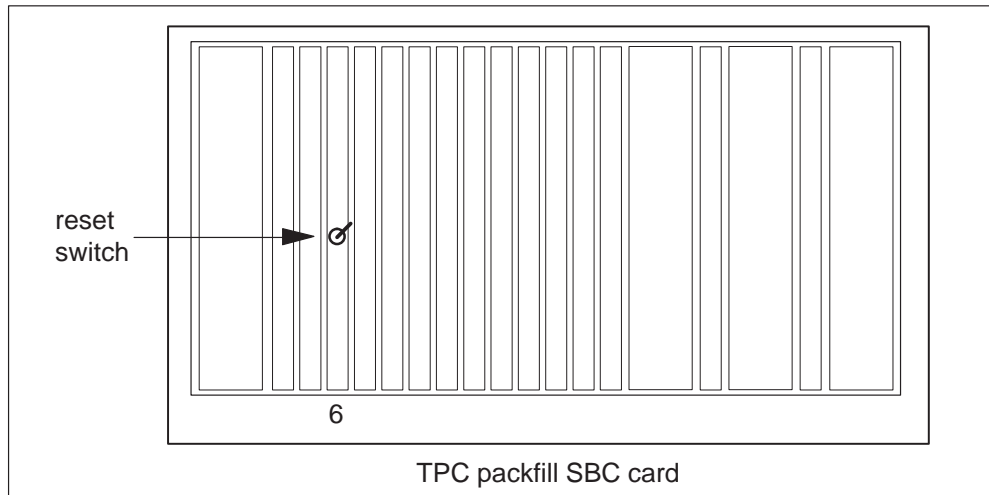
- 6 Remove and replace the NTNX62 card. See *Card removal and replacement* in this document. Go to step 7 after you complete the removal and replacement procedure.

NTNX62 in a TPC (continued)

- 7 To power up the TPC, turn the switches on the power converters in slots 1–3 and 25–27 to the up position.



- 8 To reset the TPC, turn the switch on the SBC card in slot 6 to the down position. Return the switch to the up position.



NTNX62
in a TPC (end)

- 9 Place the MP position in service.

If TPC	Do
is integrated	step 10
is standalone	step 11

- 10 Perform the common procedure *Placing an MP position in service (integrated)*. Go to step 12.
Note: Place in service the MP positions that you remove from service in step 3.
- 11 Perform the procedure *Placing an MP position in service (standalone)*.
Note: Place in service the MP positions that you remove from service in step 4.
- 12 The procedure is complete. Return to the main procedure that sent you to this procedure. Continue according to procedure.

NTNX63 in a TPC

Application

Use this procedure to replace an NTNX63 card in a Traffic Operator Position System (TPC) position controller.

PEC	Suffixes	Name
NTNX63	AB	Memory

If you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the Index. The index contains a list of cards, shelves, and frames that this Northern Telecom publication (NTP) documents.

Common procedures

This procedure references the following procedures:

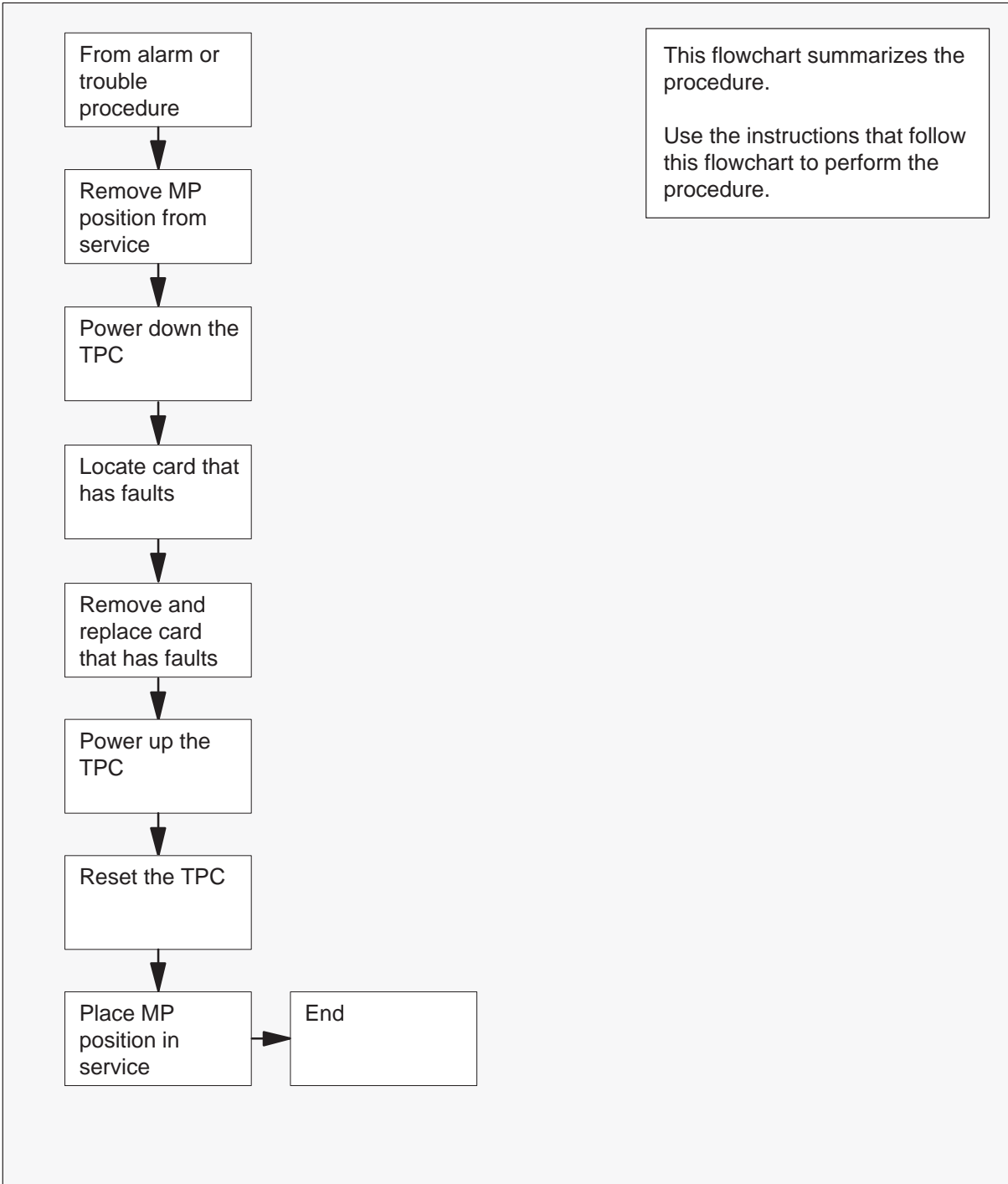
- *Removing MP position from service (integrated)*
- *Removing MP position from service (standalone)*
- *Placing an MP position in service (integrated)*
- *Placing an MP position in service (standalone)*
- *Card removal and replacement procedure*

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

NTNX63 in a TPC (continued)

Summary of Replacing an NTNX63 in a TPC



NTNX63 in a TPC (continued)

Replacing an NTNX63 in a TPC

At your current location:

- 1 Proceed if a step in a maintenance procedure directs you to this procedure. Separate use of this procedure can cause equipment damage or service interruption.

2



Caution

Service interruption

Removal of an MP position from service causes service interruption.



CAUTION

Service interruption

Removal of an MP position from service causes service interruption.

Remove the MP position from service.

If TPC	Do
is integrated	step 3
is standalone	step 4

- 3 Perform the procedure *Removing MP position from service (integrated)*. Go to step 5.

Note: Remove every MP position associated with the TPC from service.

- 4 Perform the procedure *Removing MP position from service (standalone)*.

Note: Remove every MP position associated with the TPC from service.

NTNX63
in a TPC (continued)

5



WARNING

Equipment damage

Failure to turn off power to the TPC when you replace cards in the TPC can cause equipment damage.

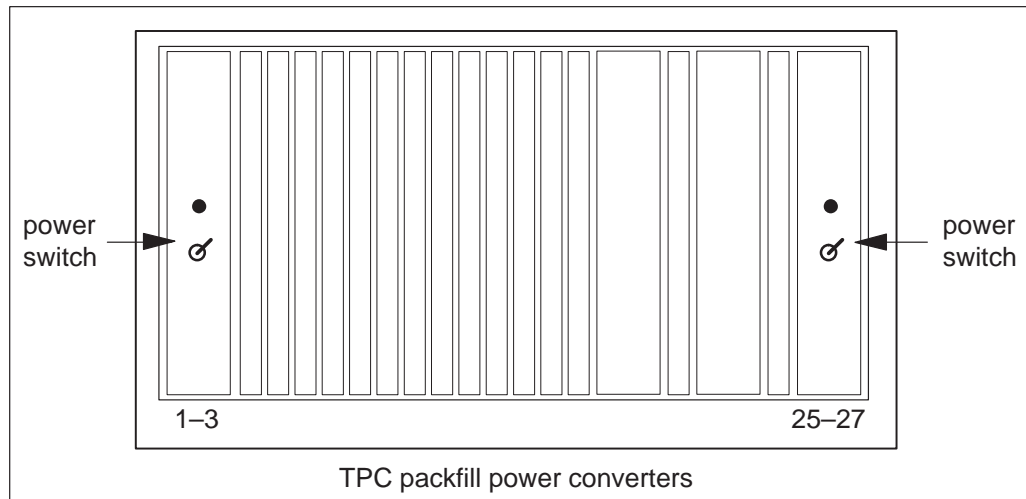


CAUTION

Equipment damage

Failure to turn off power to the TPC when you replace cards in the TPC can cause equipment damage.

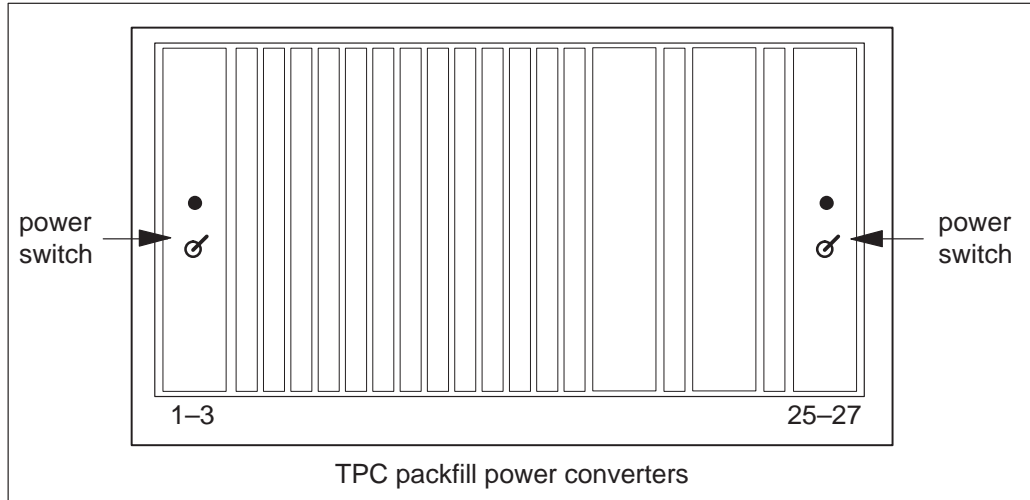
To power down the TPC, turn the switches on the power converters in slots 1-3 and slots 25-27 to the down position.



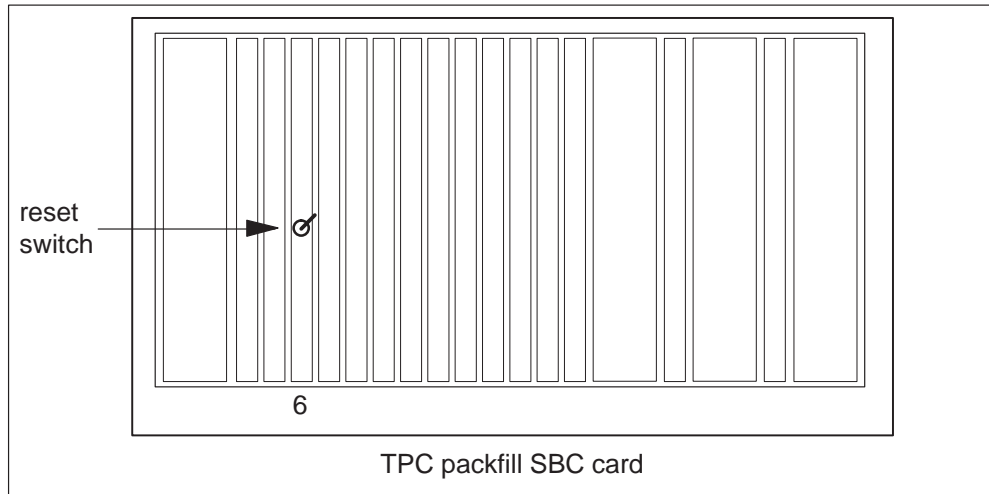
- 6 Remove and replace the NTNX63 card. See “Card removal and replacement” in this document. Go to step 7 after you complete the removal and replacement procedure.

NTNX63 in a TPC (continued)

- 7 To power up the TPC turn the switches on the power converters in slots 1-3 and slots 25-27 to the up position.



- 8 To reset the TPC move the switch on the SBC card in slot 6 to the down position. Return the switch to the up position.



NTNX63
in a TPC (end)

- 9 Place the MP position in service.

If TPC	Do
is integrated	step 10
is standalone	step 11

- 10 Perform the common procedure *Placing an MP position in service (integrated)*. Go to step 12.
Note: Place in service the MP positions you remove from service in step 3.
- 11 Perform the common procedure *Placing an MP position in service (standalone)*.
Note: Place in service the MP positions you remove from service in step 4.
- 12 The procedure is complete. Return to the main procedure that directed you to this procedure. Continue according to procedure.

NTNX64 in a TPC

Application

Use this procedure to replace an NTNX64 card in a TOPS position controller (TPC).

PEC	Suffixes	Name
NTNX64	AB	Single Board Computer

If you cannot identify the product engineering code (PEC), suffix, and shelf or frame for the card you want to replace, refer to the Index. The Index contains a list of cards, shelves, and frames that appear in this card replacement Northern Telecom publication (NTP).

Common procedures

This procedure references the following procedures:

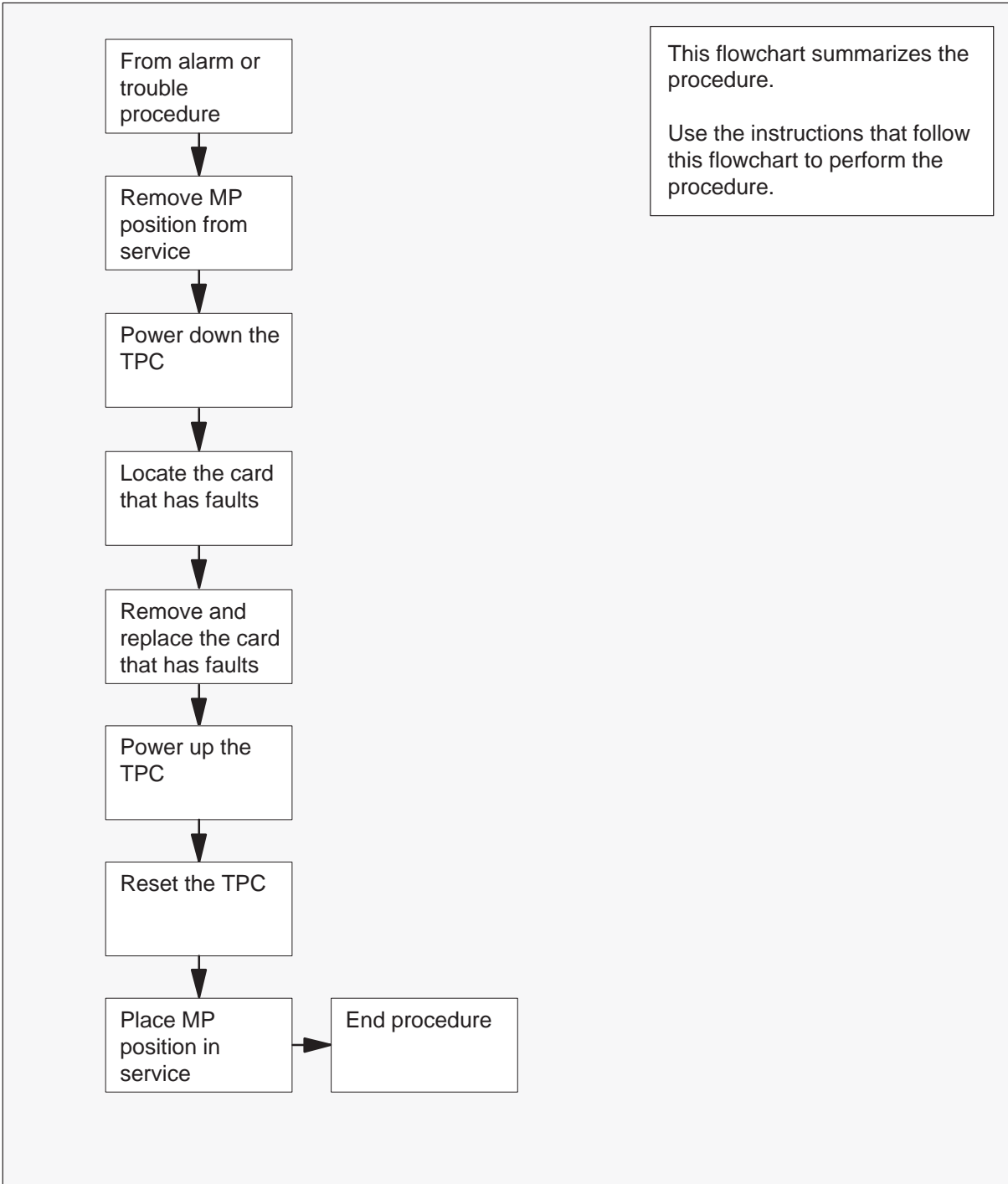
- *Removing MP position from service (integrated)*
- *Removing MP position from service (standalone)*
- *Placing an MP position in service (integrated)*
- *Placing an MP position in service (standalone)*
- *Card removal and replacement procedure*

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

NTNX64 in a TPC (continued)

Summary of Replacing an NTNX64 in a TPC




NTNX64 in a TPC (continued)

Replacing an NTNX64 in a TPC


At your current location:

- 1 Proceed if a step in a maintenance procedure directs you to proceed. Separate use of this procedure can cause equipment damage or service interruption.

2



Caution
Service interruption
The removal of an MP position from service causes service interruption.



CAUTION
Service interruption
The removal of an MP position from service causes service interruption.

Remove the MP position from service.

If TPC	Do
is integrated	step 3
is standalone	step 4

- 3 Perform the common procedure *Removing MP position from service (integrated)*. Go to Step 5.
Note: Remove every MP position associated with the TPC from service.
- 4 Perform the common procedure *Removing MP position from service (standalone)*.
Note: Remove every MP position associated with the TPC from service.

NTNX64
in a TPC (continued)

5



WARNING

Equipment damage

Failure to turn off power to the TPC when you replace cards in the TPC can cause equipment damage.

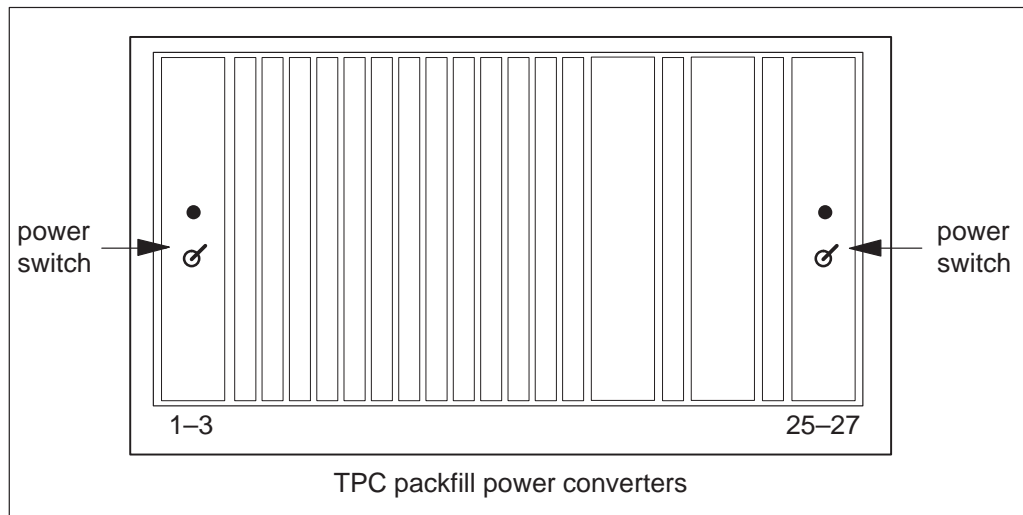


WARNING

Equipment damage

Failure to turn off power to the TPC when you replace cards in the TPC can cause equipment damage.

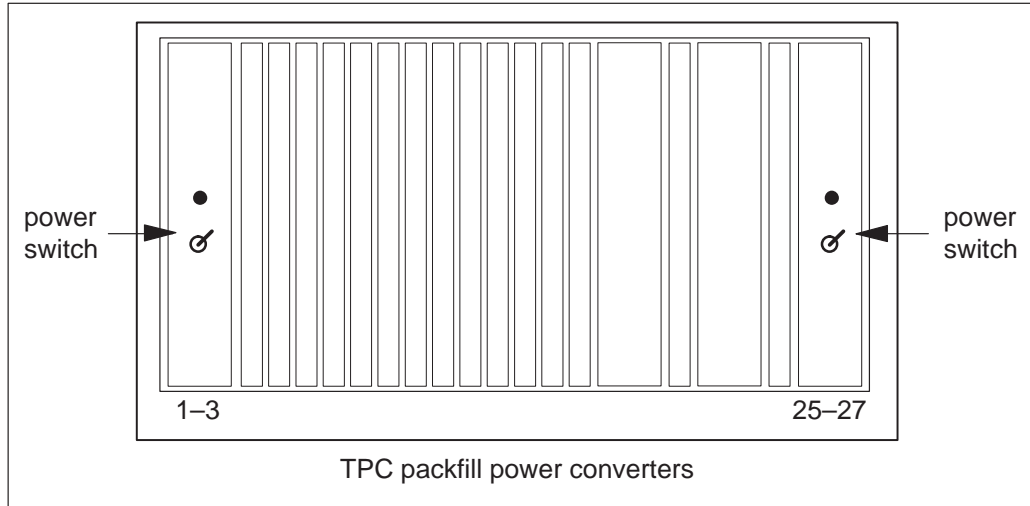
Power down the TPC. Turn the switches on the power converters in slots 1-3 and slots 25-27 to the down position.



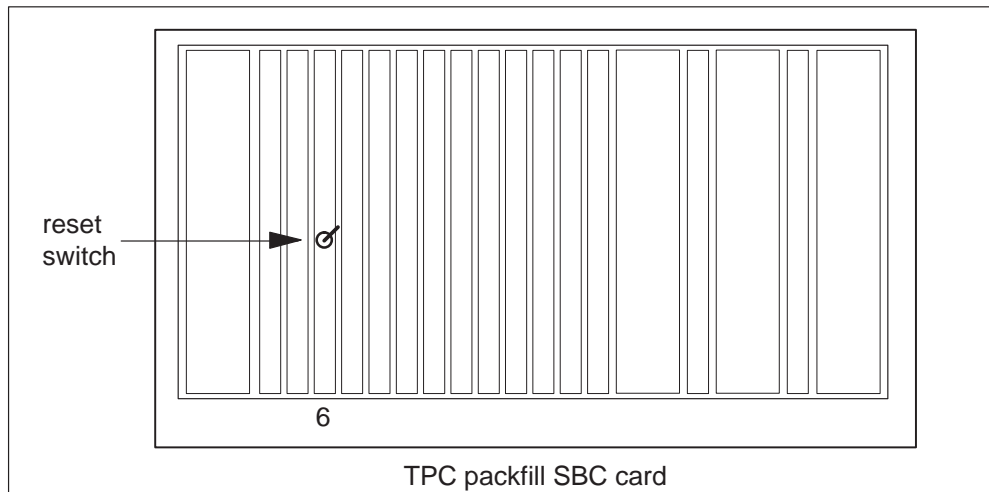
6 Remove and replace the NTNX64 card. See the common procedure *Card removal and replacement*. Go to step 7.

NTNX64 in a TPC (continued)

- 7 Power up the TPC. Turn the switches on the power converters in slots 1-3 and slots 25-27 to the up position.



- 8 To reset the TPC, move the switch on the SBC card in slot 6 to the down position. Return the switch to the up position.



NTNX64
in a TPC (end)

- 9 Place the MP position in service.

If TPC	Do
is integrated	step 10
is standalone	step 11

- 10 Perform the common procedure *Placing an MP position in service (integrated)*. Go to Step 12.

Note: Place in service the MP positions that you remove from service in Step 3.

- 11 Perform the procedure *Placing an MP position in service (standalone)*.

Note: Place in service the MP positions that you remove from service in Step 4.

- 12 The procedure is complete. Return to the main procedure that directed you to this procedure. Continue according to procedure.

NTNX65 in a TPC

Application

Use this procedure to replace an NTNX65 card in a TOPS position controller (TPC).

PEC	Suffixes	Name
NTNX65	BA	Parallel Input/Output

If you cannot identify the product engineering code (PEC), suffix, and shelf or frame for the card you want to replace, refer to the Index. The Index contains a list of cards, shelves, and frames that appear in this card replacement Northern Telecom publication (NTP).

Common procedures

This procedure references the following procedures:

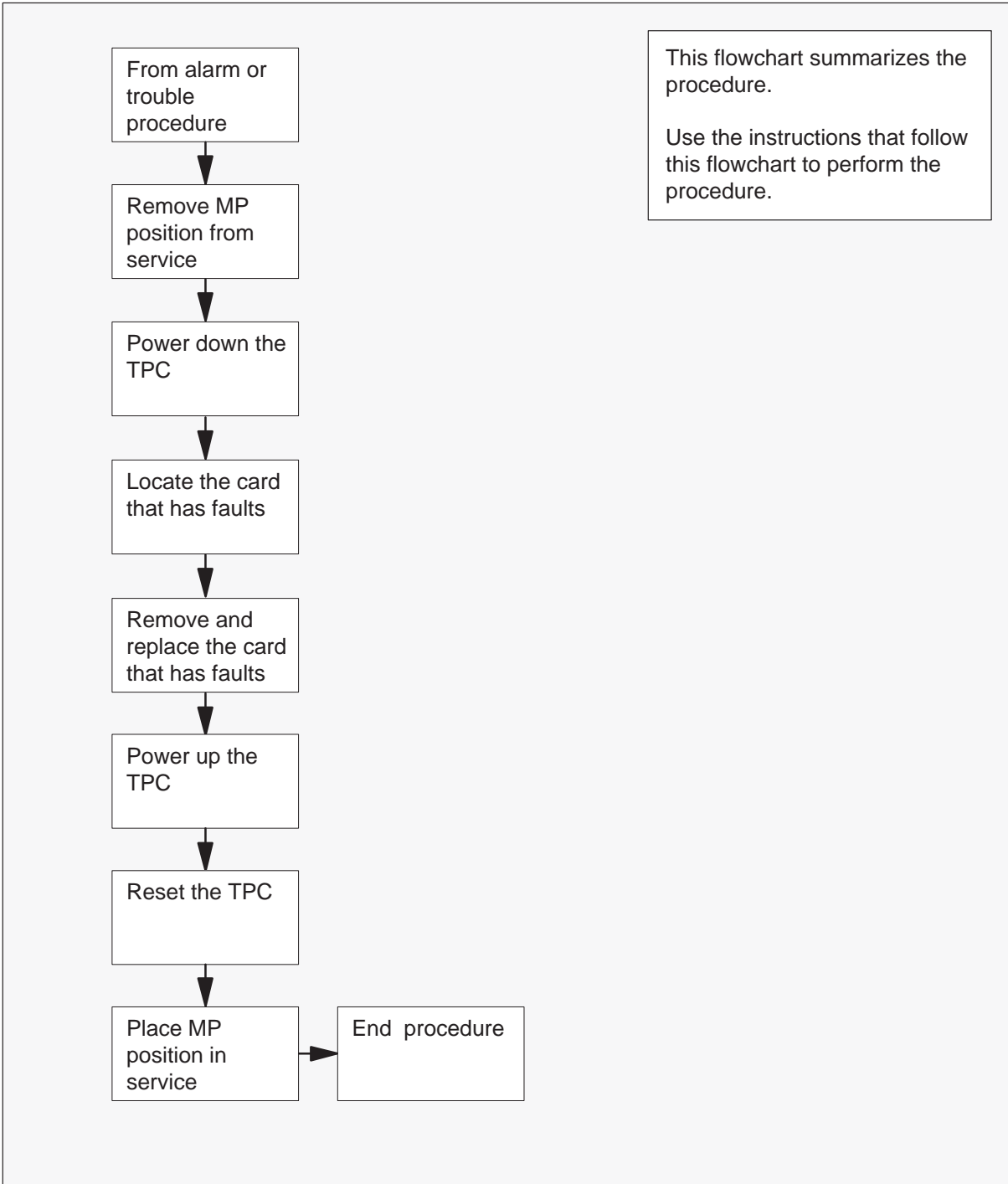
- *Removing an MP position from service (integrated)*
- *Removing MP position from service (standalone)*
- *Placing an MP position in service (integrated)*
- *Placing an MP position in service (standalone)*
- *Card removal and replacement procedure*

Action

This procedure contains a flowchart and a summary procedure. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

NTNX65
in a TPC (continued)

Summary of Replacing an NTNX65 in a TPC



NTNX65 in a TPC (continued)

Replacing an NTNX65 in a TPC

At your current location:

- 1 Proceed if a maintenance procedure directs you to proceed. Separate use of this procedure can cause equipment damage or service interruption.

2



Caution

Service interruption

Removal of an MP position from service causes service interruption.



CAUTION

Service interruption

Removal of an MP position from service causes service interruption.

Remove the MP position from service.

If TPC	Do
is integrated	step 3
is standalone	step 4

- 3 Perform the common procedure *Removing MP position from service (integrated)*. Go to step 5.
Note: Remove every MP position associated with the TPC from service.
- 4 Perform the procedure *Removing MP position from service (standalone)*
Note: Remove every MP position associated with the TPC from service.

NTNX65
in a TPC (continued)

5



WARNING

Equipment damage

Failure to turn off power to the TPC when you replace cards in the TPC can cause equipment damage.

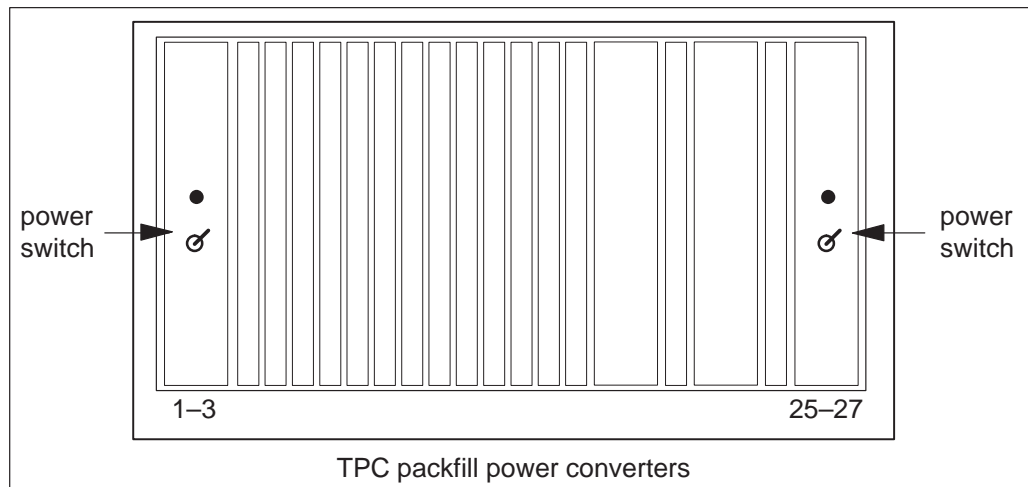


WARNING

Equipment damage

Failure to turn off power to the TPC when you replace cards in the TPC can cause equipment damage.

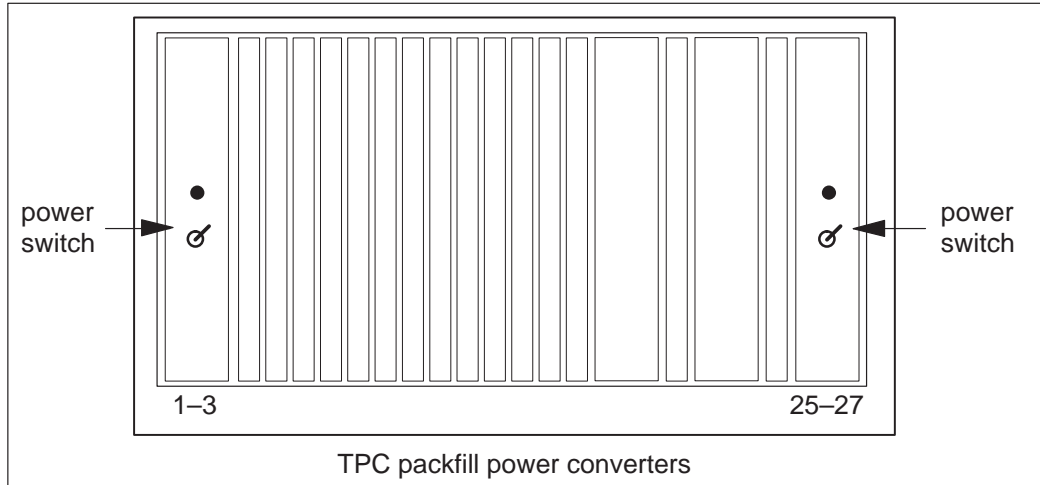
Power down the TPC. Turn the switches on the power converters in slots 1-3 and slots 25-27 to the down position.



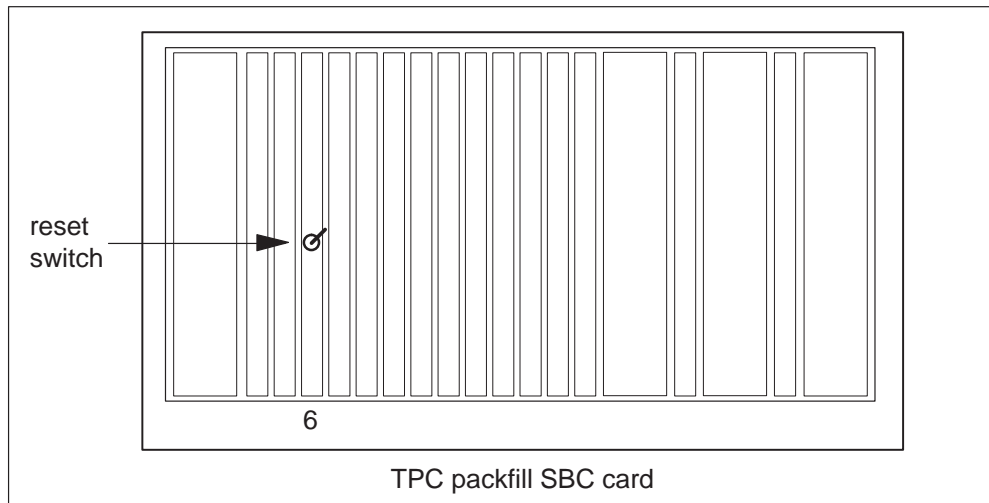
6 Remove and replace the NTNX65 card. See the procedure *Card removal and replacement* in this document. Go to step 7.

NTNX65 in a TPC (continued)

- 7 Power up the TPC. Turn the switches on the power converters in slots 1-3 and slots 25-27 to the up position.



- 8 Reset the TPC. Move the switch on the SBC card in slot 6 to the down position. Return the switch to the up position.



NTNX65
in a TPC (end)

- 9 Place the MP position in service.

If TPC	Do
is integrated	step 10
is standalone	step 11

- 10 Perform the common procedure *Placing an MP position in service (integrated)*. Go to step 12.
Note: Place in service the MP positions that you remove from service in step 3.
- 11 Perform the common procedure *Placing an MP position in service (standalone)*.
Note: Place in service the MP positions that you remove from service in step 4.
- 12 The procedure is complete. Return to the main procedure that directed you to this procedure.

NTNX66 in a TPC

Application

Use this procedure to replace an NTNX66 card in a TPC.

PEC	Suffixes	Name
NTNX66	AA	High Speed Data Access

If you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the Index. The Index contains a list of cards, shelves, and frames in this card replacement NTP.

Common procedures

This procedure refers to the following procedures:

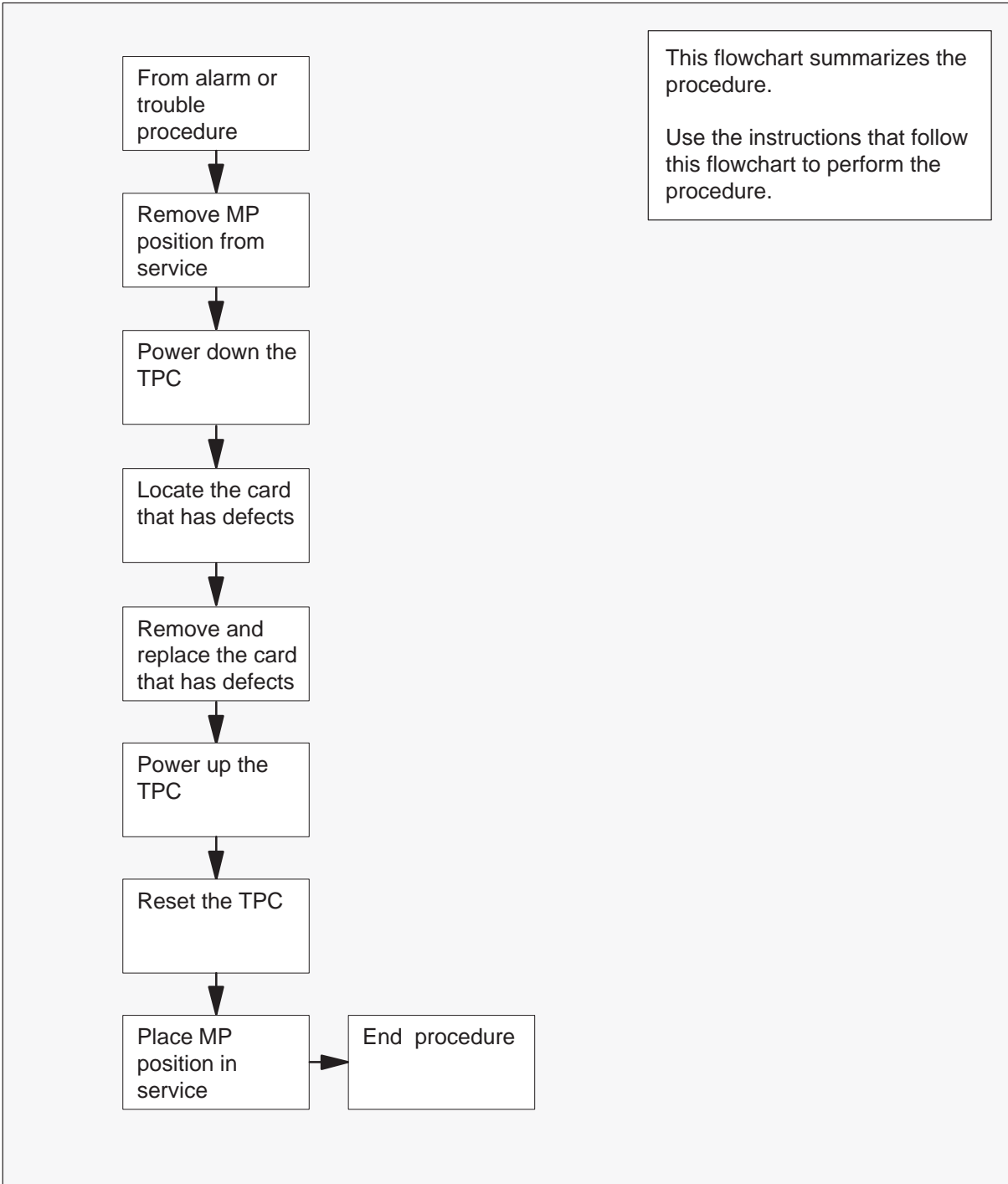
- *Removing MP position from service (integrated)*
- *Removing MP position from service (standalone)*
- *Placing an MP position in service (integrated)*
- *Placing an MP position in service (standalone)*
- *Card removal and replacement procedure*

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

NTNX66
in a TPC (continued)

Summary of Replacing an NTNX66 in a TPC



NTNX66 in a TPC (continued)

Replacing an NTNX66 in a TPC

At your current location:

- 1 Proceed if a step in a maintenance procedure directed you to this procedure. Use of only this procedure can cause equipment damage or service interruption.

2



Caution

Service interruption

Removal of an MP position from service causes service interruption.



CAUTION

Service interruption

Removal of an MP position from service causes service interruption.

Remove the MP position from service.

If TPC	Do
is integrated	step 3
is standalone	step 4

- 3 Perform the common procedure *Removing MP position from service (integrated)*. When you complete this procedure, Go to step 5.
Note: Remove every MP position associated with the TPC from service.
- 4 Perform the common procedure *Removing MP position from service (standalone)*.
Note: Remove every MP positions associated with the TPC from service.

NTNX66
in a TPC (continued)

5



WARNING

Equipment damage

When you replace cards in the TPC, make sure you turn off power to the TPC. Failure to turn off the power can cause equipment damage.



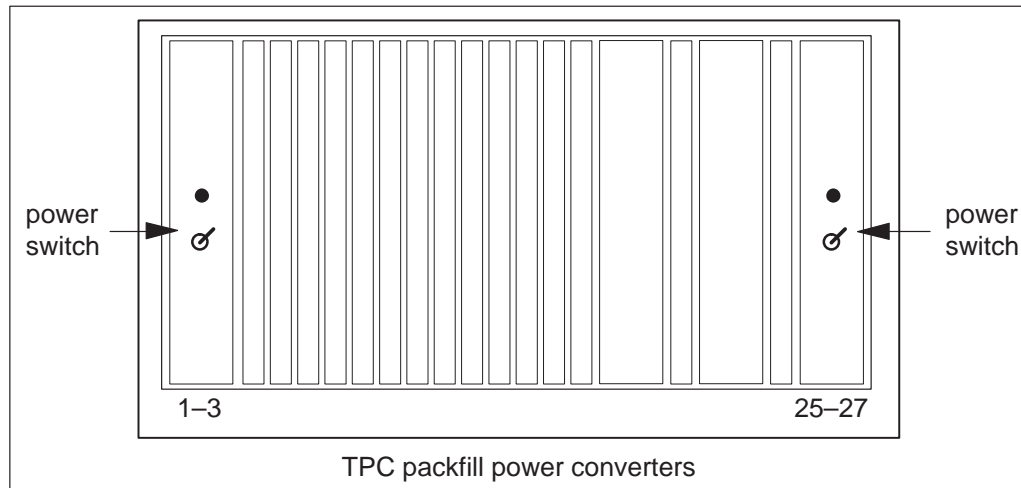
CAUTION

Equipment damage

When you replace cards in the TPC, make sure you turn off power to the TPC. Failure to turn off the power can cause equipment damage.

To power down the TPC, turn the following switches on the power converters to the down position:

- the switches in slots 1-3
- the switches in slots 25-27



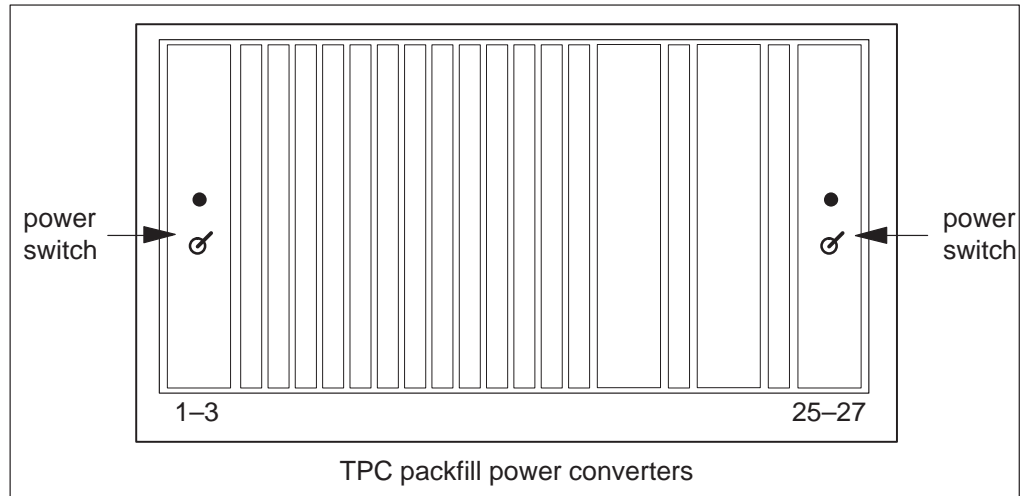
NTNX66 in a TPC (continued)

- 6 Remove and replace the NTNX66 card. Refer to the *Card removal and replacement* in this document for information on how to perform this procedure. Go to step 7 after you complete the removal and replacement procedure. Before you install the new HSDA card on the TPC shelf, set the shelf address. Use the Dual Inline Package (DIP) switch on the NTNX66 mother board to set the shelf address.

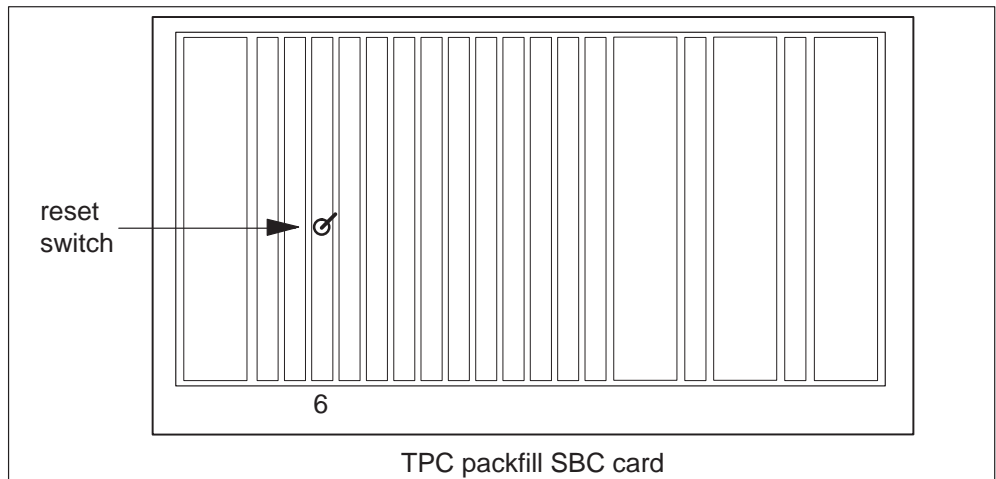


NTNX66 in a TPC (continued)

- 7 To power up the TPC, turn the following switches on the power converters to the up position:
- the switches in slots 1-3
 - the switches in slots 25-27



- 8 To reset the TPC, move the switch on the SBC card in slot 6 to the down position. Return the switch to the up position.



NTNX66
in a TPC (end)

- 9 Place the MP position in service.

If TPC	Do
is integrated	step 10
is standalone	step 11

- 10 Perform the common procedure *Placing an MP position in service (integrated)*. After you complete this procedure, Go to step 12.
Note: Place in service the MP positions that you removed from service in step 3.
- 11 Perform the common procedure *Placing an MP position in service (standalone)*.
Note: Place in service the MP positions that you removed from service in step 4.
- 12 The procedure is complete. Return to the main procedure that directed you to this procedure. Continue as the procedure directs.

**NTNX68
in a TPC**

Application

Use this procedure to replace an NTNX68 card in a TPC.

PEC	Suffixes	Name
NTNX68	CA	Floppy Disk Drive and Controller
NTNX68	DA	Hard Disk Drive and Controller

If you cannot identify the PEC, suffix, and shelf or frame for the card you want to replace, refer to the index. Refer to the Index for a list of cards, shelves, and frames this card replacement NTP documents.

Common procedures

This procedure refers to the following procedures:

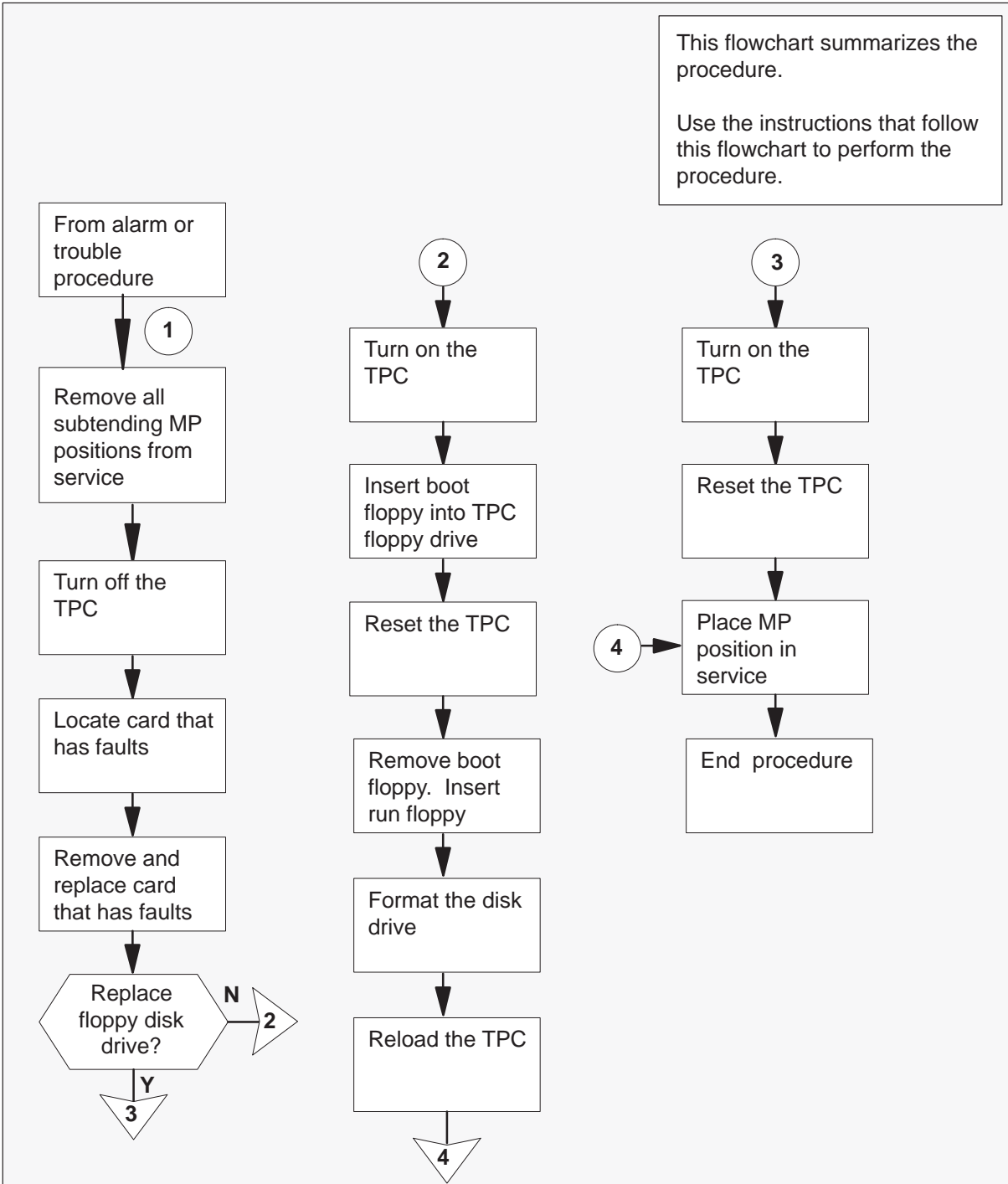
- *Removing MP position from service (integrated)*
- *Removing MP position from service (standalone)*
- *Placing an MP position in service (integrated)*
- *Placing an MP position in service (standalone)*
- *Card removal and replacement procedure*

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

NTNX68 in a TPC (continued)

Summary of Replacing an NTNX68 in a TPC




NTNX68
in a TPC (continued)

Replacing an NTNX68 in a TPC


At your current location:

- 1 Proceed only if a step in a maintenance procedure directed you to this procedure. The separate use of this procedure can cause equipment damage or service interruption.

2



Caution
Service interruption
 Removal of an MP position from service causes service interruption.



CAUTION
Service interruption
 Removal of an MP position from service causes service interruption.

Remove the MP position from service.

If TPC	Do
is integrated	step 3
is standalone	step 4

- 3 Perform the common procedure *Removing MP position from service (integrated)*. Go to step 5.
Note: You must remove all MP positions associated with the TPC from service.
- 4 Perform the common procedure *Removing MP position from service (standalone)*.
Note: You must remove all MP positions associated with the TPC from service.

NTNX68 in a TPC (continued)

5



WARNING

Equipment damage

If you do not turn off power to the TPC when you replace cards in the TPC, equipment damage can occur.

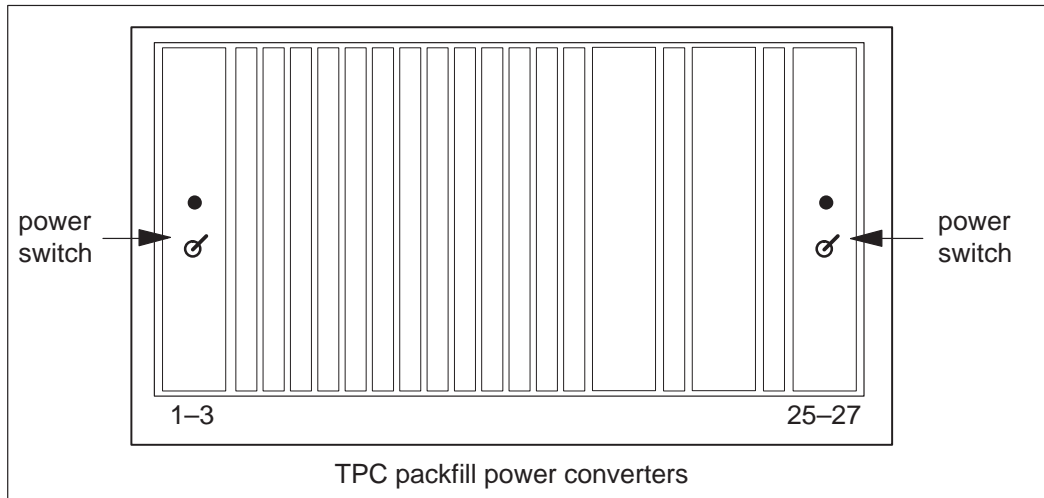


CAUTION

Equipment damage

If you do not turn off power to the TPC when you replace cards in the TPC, equipment damage can occur.

To power down the TPC, turn the switches. Turn the switches on the power converters in slots 1–3 and slots 25–27 to the down position.

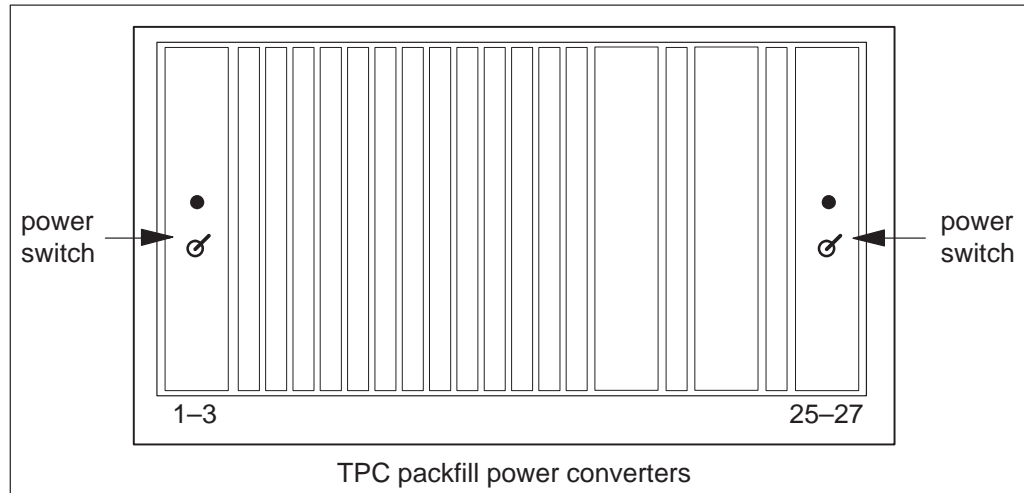


NTNX68 in a TPC (continued)

- 6 Remove and replace the NTNX68 card. To perform these actions, see the *Card removal and replacement* in this document. After you complete removal and replacement procedure, return to the following step.

If you	Do
replace a floppy disk drive	step 13
replace a hard disk drive	step 7

- 7 To power up the TPC, turn the switches. Turn the switches on the power converters in slots 1–3 and slots 25–27 to the up position.

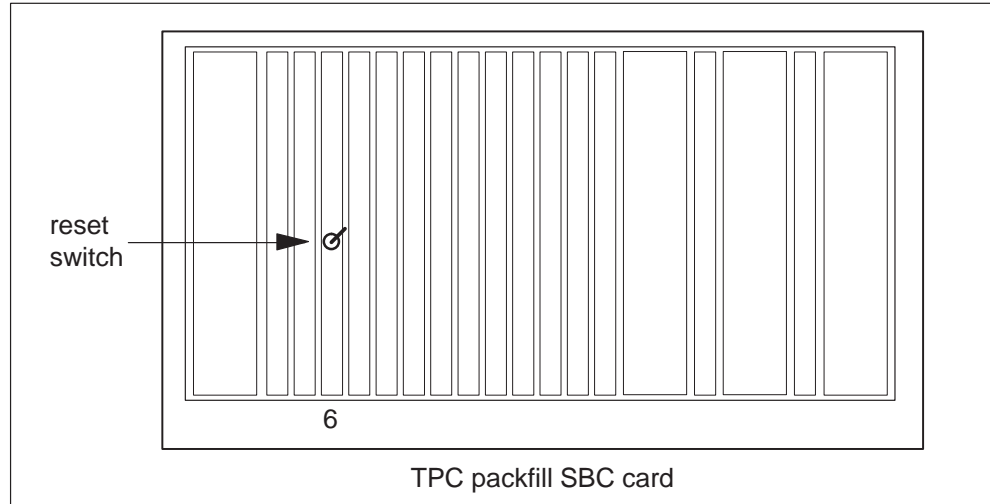


- 8 Insert the “Diagnostic Boot” floppy disk into the floppy drive of the TPC. Push the lever to lock the floppy in place.

Note: Make sure the notched edge of the floppy disk is at the top. Make sure the label faces the hard disk drive.

NTNX68 in a TPC (continued)

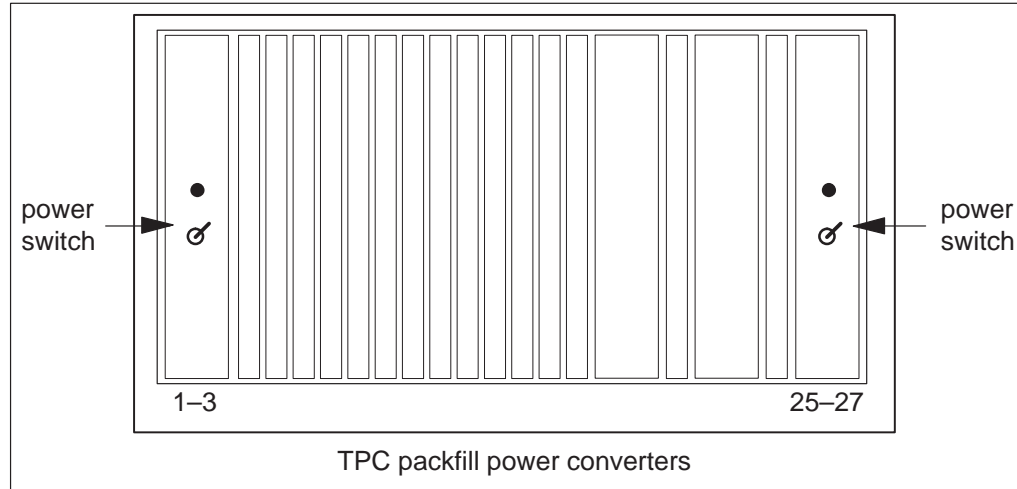
- 9 To reset the TPC, move the switch on the SBC card in slot 6 to the down position. Return the switch to the up position.



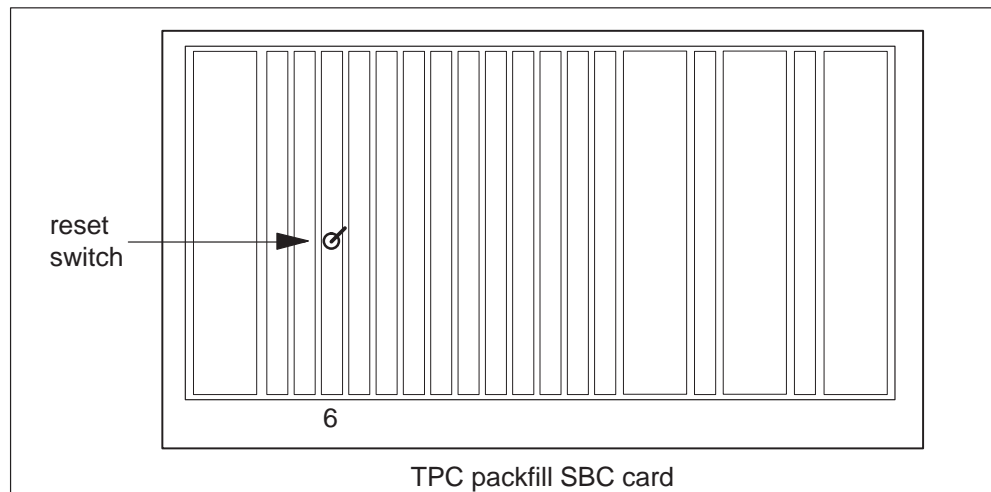
- 10 Remove the "Diagnostic Boot" floppy. Insert the "Diagnostic Run" floppy.
- 11 Leave the Diagnostic Run floppy in the floppy drive until the sywstem requests you to remove the floppy. To format the hard disk drive, type
>HDISK FORMAT
and press the Enter key.
- 12 Reload the TPC. Refer to *TOPS MP Routine Maintenance Proceures (Updating TPC Software)*. Go to step 15.

NTNX68 in a TPC (continued)

- 13 To power up the TPC, turn the switches. Turn the switches on the power converters in slots 1–3 and slots 25–27 to the up position.



- 14 To reset the TPC, move the switch on the SBC card in slot 6 to the down position. Return the switch to the up position.



NTNX68
in a TPC (end)

- 15 Place the MP position in service.

If TPC	Do
is integrated	step16
is standalone	step 17

- 16 Perform the common procedure *Placing an MP position in service (integrated)*. Go to step 18.
Note: Place in service only the MP positions that you removed from service in step 3.
- 17 Perform the common procedure *Placing an MP position in service (standalone)*.
Note: Place in service only the MP positions that you removed from service in step 4.
- 18 The procedure is complete. Return to the main procedure that sent you to this procedure. Continue as directed.

TOPS and TMS card replacement common procedures

This chapter contains the common procedures referenced in the card replacement procedures. These procedures are used with the card replacement and maintenance procedures to clear alarms as they appear at the MAP display.

A common procedure is a discrete sequence of steps that are always performed in the same order, as part of several maintenance tasks.

Note, this chapter is a duplicate of the TOPS system common procedures in the Card Replacement Procedures manual.

Removing an MP position from service (standalone)

Application

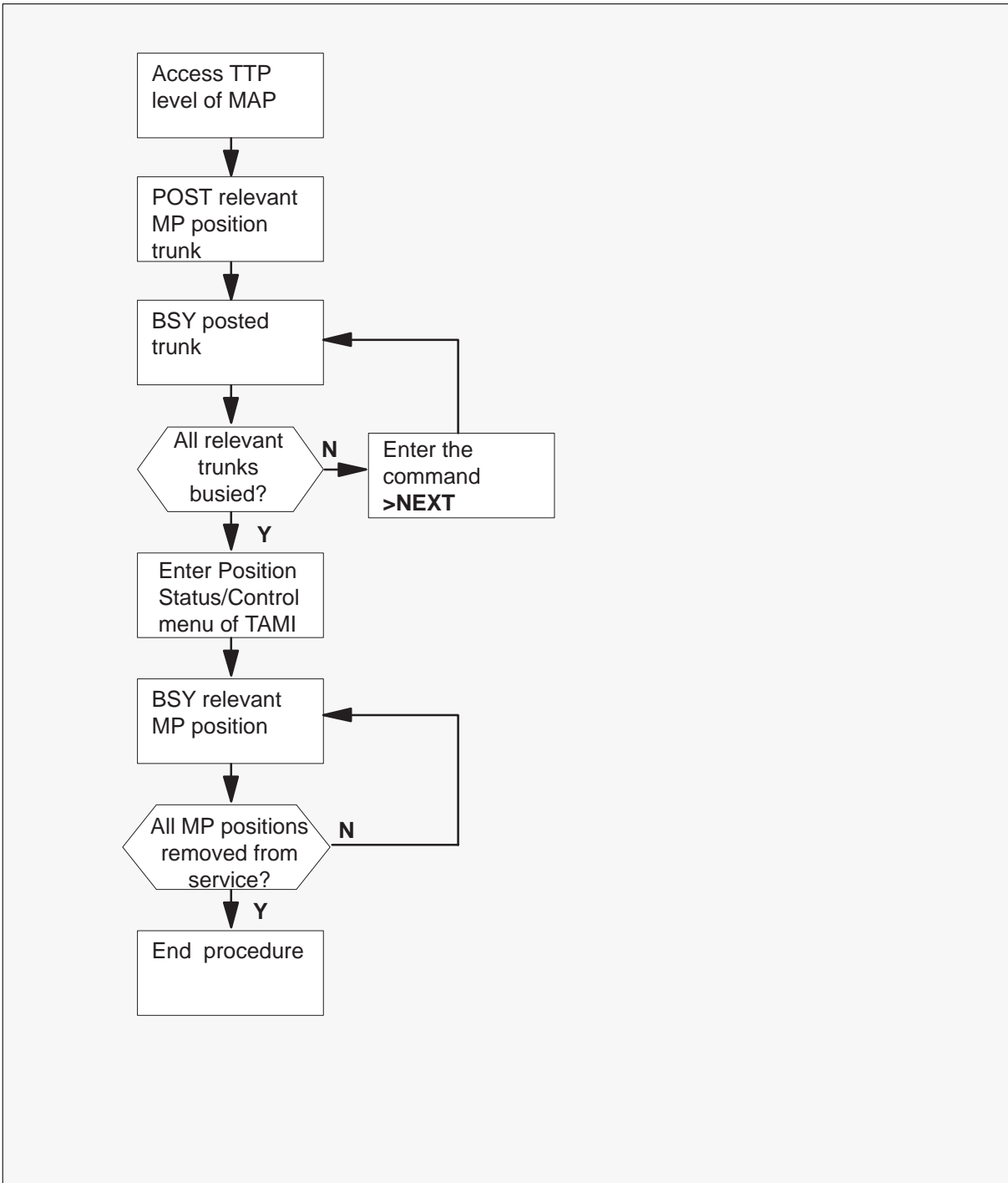
Use this procedure to remove a non-TOPS message switch (TMS) or standalone Traffic Operator Position System (TOPS) Multipurpose (MP) from service.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Removing an MP position from service (standalone) (continued)

Summary of Removing an MP position from service (standalone)



Removing an MP position from service (standalone) (continued)

Removing an MP position from service (standalone)



CAUTION

Possible equipment damage or service interruption.
Proceed only when a step in a maintenance procedure directs you to this procedure. Independent use of this procedure can cause equipment damage or service interruption.



CAUTION

Possible equipment damage or service interruption.
Proceed only when a step in a maintenance procedure directs you to this procedure. Independent use of this procedure can cause equipment damage or service interruption.

At the MAP:

- 1 To access the TTP level, type
>MAPCI;MTC;TRKS;TTP
and press the Enter key.

Removing an MP position from service (standalone) (continued)

Example of MAP response:

CM	MS	IOD	Net	PM	CCS	Lns	Trks	Ext	EIO
.
TTP									
0 Quit_	POST		DELQ		BUSYQ		DIG		
2 Post_	TTP 16								
3 Seize_	CKT TYPE		PM NO		COM LANG	STA	S R DOT TE	RESULT	
4	DESK		TMS 0 5 18		TOPSPOS	221 STATE	RES		
5 Bsy_							ID		
6 RTS_									
7 Tst_									
8									
9 CktInfo									
10 CktLoc									
11 Hold									
12 Next_									
13 Rls_									
14 Ckt_									
15 TrnslVf_									
16 StkSdr_									
17 Pads_									
18 Level_									
User ID									

Removing an MP position from service (standalone) (continued)

- 2 To post the related MP position trunk, type

>POST G TOPSPOS n
and press the Enter key.

where

n is the MP position number. The number is 0, 1, 2, or 3.

Example of MAP response:

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.       .       .       .       .       .       .       .       .       .
TTP
0 Quit_      POST  14  DELQ      BUSYQ      DIG
2 Post_      TTP   6-024
3 Seize_     CKT TYPE  PM NO.      COM LANG    STA  S R DOT TE RESULT
4           DESK      TM8  2 16  TOPSPOS  200  IDL
5 Bsy_
6 RTS_
7 Tst_
8
9 CktInfo
10 CktLoc
11 Hold
12 Next_
13 Rls_
14 Ckt_
15 TrnslVf_
16 StkSdr_
17 Pads_
18 Level_
User ID
    
```

- 3 To busy the posted trunk, type

>BSY
and press the Enter key.

- 4 From the MAP, determine if all of the associated trunks are busy.

If all of the related trunks	Do
are busy	step 6
are not busy	step 5

Removing an MP position from service (standalone) (continued)

- 5 To post the next trunk, type
>NEXT
 and press the Enter key. Return to step 3.

At the TAMI:

- 6 To access the Position Status/Control menu from the TAMI main menu, type
>3
 and press the Enter key.

TAMI response:

POSITION STATUS/CONTROL		
1.	Bsy	
2.	RTS	
3.	OffL	
4.	RTS ALL POSITIONS	
POSITION NUMBER	STATUS	CARD PRESENT
0.	InSv	YES
1.	InSv	YES
2.	InSv	YES
3.	InSv	YES
MAKE CHOICE :		

- 7 To busy the MP position, use the following procedure.
- a. Type
>1
 and press the Enter key.
where
 1 is busy
 - b. Type
>n
 and press the Enter key.
where
 n is the MP position number. The number is 0, 1, 2, or 3.

Removing an MP position from service (standalone) (end)

- c. Type
 >Y
 and press the Enter key.
 where
 y is yes. You busied the position at the MAP

- 8 From the TAMI, determine if all of the related positions are removed from service.

If all of the related MP positions	Do
are removed from service	step 9
are not removed from service	step 7

- 9 To return to the TAMI main menu, press the PF3 key.
- 10 This procedure is complete. Return to the main procedure that sent you to this procedure. Continue as the procedure directs.

Placing an MP position in service (standalone)

Application

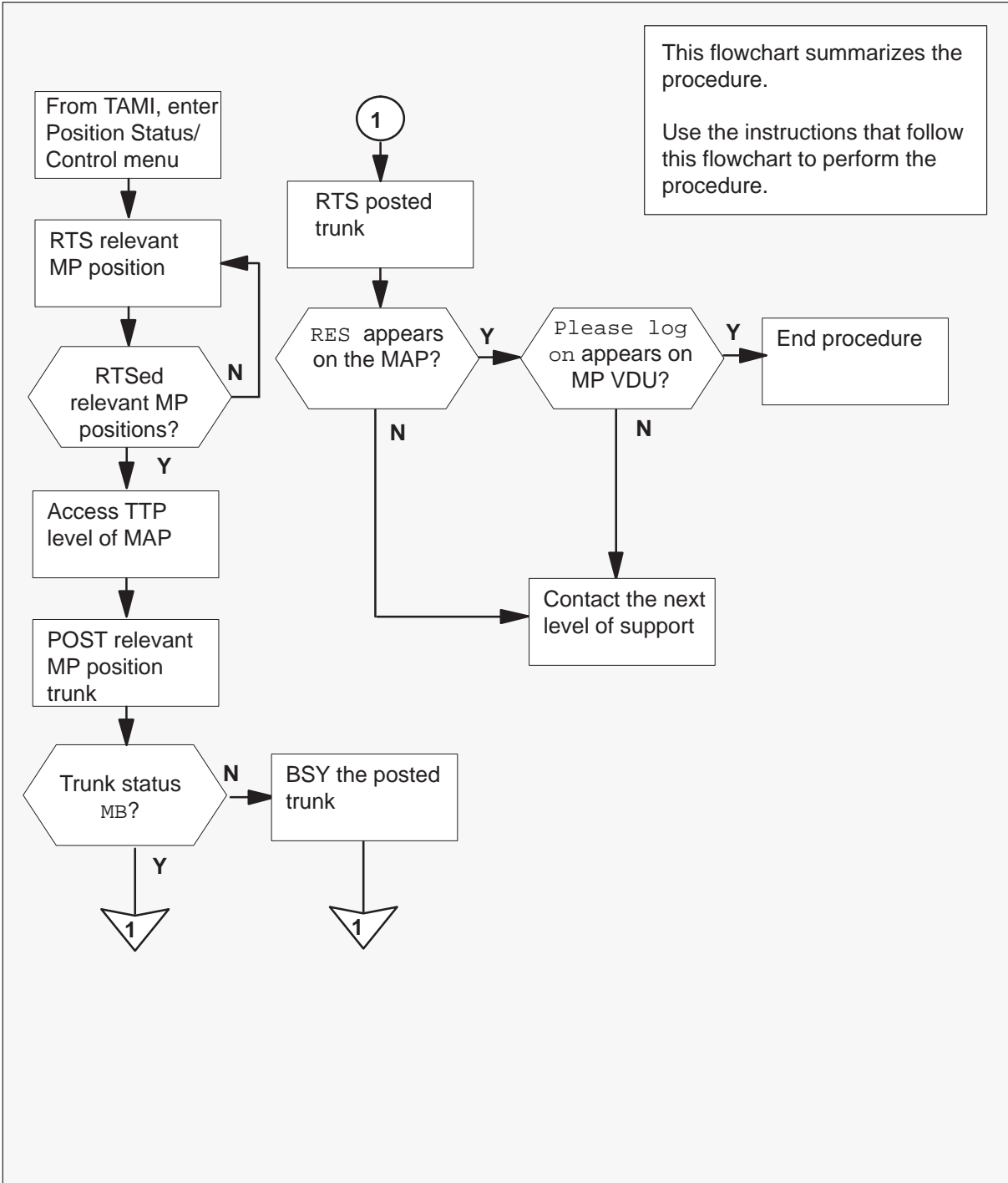
Use this procedure to place a non-TOPS message switch (TMS) or standalone Traffic Operator Position System (TOPS) Multipurpose (MP) in service.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Placing an MP position in service (standalone) (continued)

Summary of Placing an MP position in service (standalone)



Placing an MP position in service (standalone) (continued)

Placing an MP position in service (standalone)**CAUTION****Possible equipment damage or service interruption**

Proceed when a step in a maintenance procedure directs you to this procedure. Separate use of this feature can cause equipment damage or service interruption.

**CAUTION****Possible equipment damage or service interruption**

Proceed when a step in a maintenance procedure directs you to this procedure. Separate use of this feature can cause equipment damage or service interruption.

At the TAMI:

- 1 To access the Position Status/Control menu from the TAMI main menu type **>3** and press the Enter key.

TAMI response:

POSITION STATUS/CONTROL		
1.	Bsy	
2.	RTS	
3.	OffL	
4.	RTS ALL POSITIONS	
POSITION NUMBER	STATUS	CARD PRESENT
0.	InSv	YES
1.	InSv	YES
2.	InSv	YES
3.	ManB	YES
MAKE CHOICE:		

Placing an MP position in service (standalone) (continued)

- 2 To return to service the MP position type

>2

and press the Enter key.

>n

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3)

Note: Repeat this step until you return every position to service.

At the MAP display terminal:

- 3 To access the TTP level, type

>MAPCI;MTC;TRKS;TTP

and press the Enter key.

- 4 To post the MP position trunk, type

>POST T TOPSPOS n

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3)

- 5 Note the status of the trunk circuits.

If the trunk status	Do
is MB	step 7
is SB	step 6

- 6 To busy the posted trunk, type:

>BSY

and press the Enter key.

Placing an MP position in service (standalone) (continued)

7

**CAUTION****Possible service interruption**

Proceed when a step in a card replacement procedure directs you to this procedure. Separate use of this procedure can cause service interruption.

**CAUTION****Possible service interruption**

Proceed when a step in a card replacement procedure directs you to this procedure. Separate use of this procedure can cause service interruption.

**CAUTION****Trunk goes system busy**

Do not return the TOPSPOS trunk to service (RTS) until the MP position download is complete. The VDU displays `Link problems encountered`. The trunk goes system busy when you RTS the trunk before `Link problems encountered` appears on the VDU.

**CAUTION****Trunk goes system busy**

Do not return the TOPSPOS trunk to service (RTS) until the MP position download is complete. The VDU displays `Link problems encountered`. The trunk goes system busy when you RTS the trunk before `Link problems encountered` appears on the VDU.

To return the posted trunk to service, type

>RTS

and press the Enter key.

Note: Repeat Steps 4 through 7 until you return every position to service.

Placing an MP position in service (standalone) (end)

- 8 Determine if the trunk returns to service.

If trunk	Do
returns to service and RES appears on the MAP	step 10
fails to return to service	step 9

- 9 For additional help, contact the personnel responsible for the next level of support.

At the affected position:

- 10 Examine the MP VDU.

If	Do
Please log on appears	step 11
any other message appears	step 9

- 11 This procedure is complete. Return to the main procedure that directed you to this procedure. Continue according to procedure.

Card removal and replacement process

Application

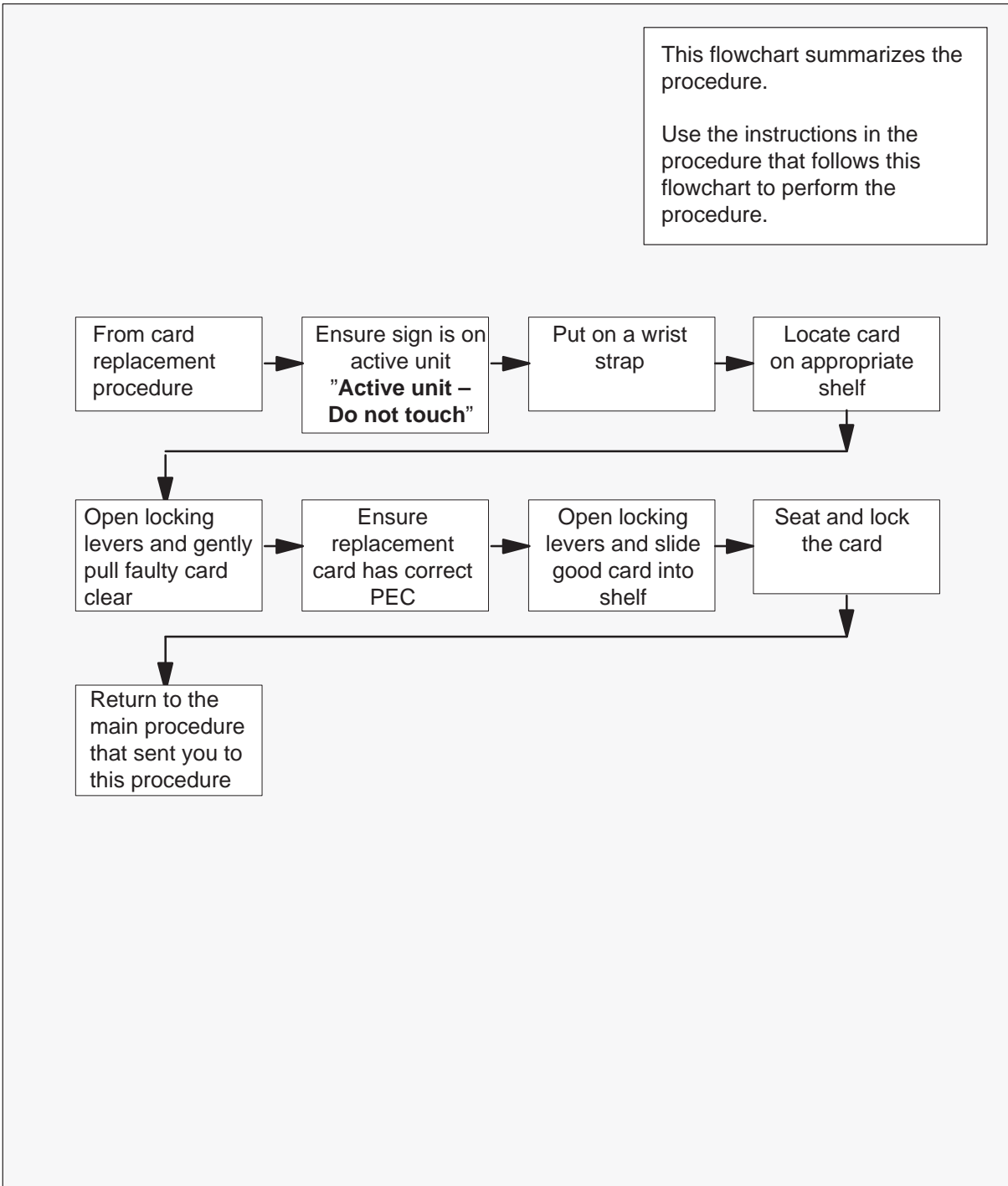
Use this procedure to prevent personal injury and/or damage to equipment when replacing cards in a shelf.

Action

The following flowchart is only a summary of the procedure. To perform this procedure, use the instructions in the step-action procedure that follows the flowchart.

Card removal and replacement process (continued)

Summary of Card removal and replacement process



Card removal and replacement process (continued)

Card removal and replacement process*At the frame:*

1

**CAUTION**

Proceed only if you have been directed to this procedure from a step in a card replacement procedure. Using this procedure independently may cause equipment damage or service interruption.

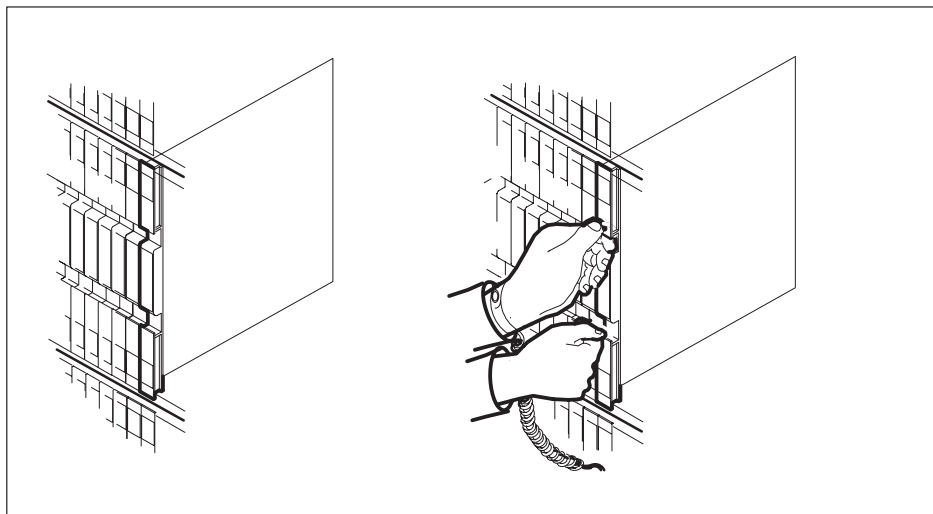
2

**WARNING****Static electricity damage**

Wear a wrist strap connected to the wrist strap grounding point on the frame supervisory panel (FSP) while handling cards. This precaution protects the cards against damage caused by static electricity.

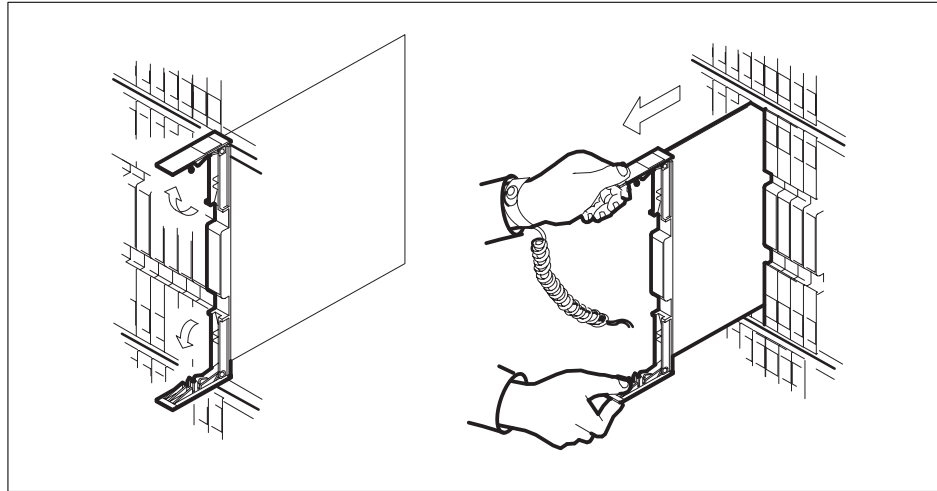
Remove any cables from the faceplate of the card to be replaced and note the connector numbers.

- 3 Using common procedure TMS shelf card location, locate the card to be removed on the appropriate shelf.

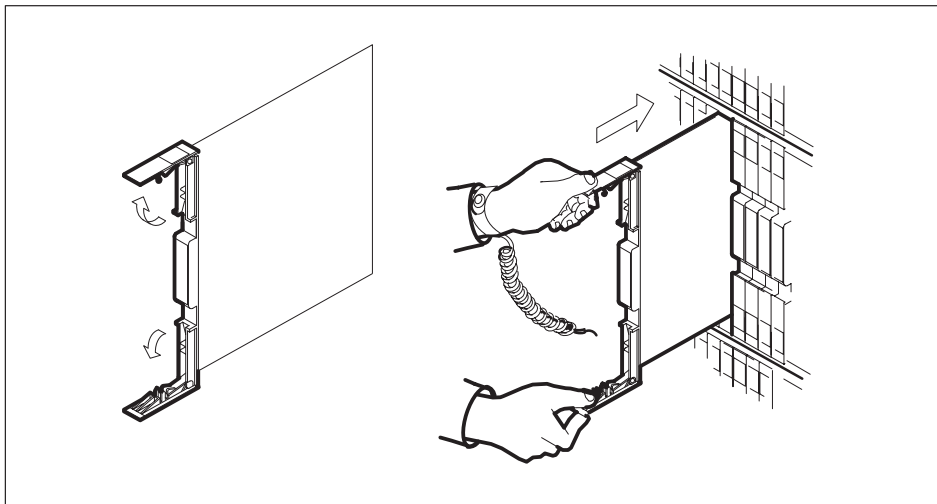


Card removal and replacement process (continued)

- 4 Gently pull the card towards you until it clears the shelf.

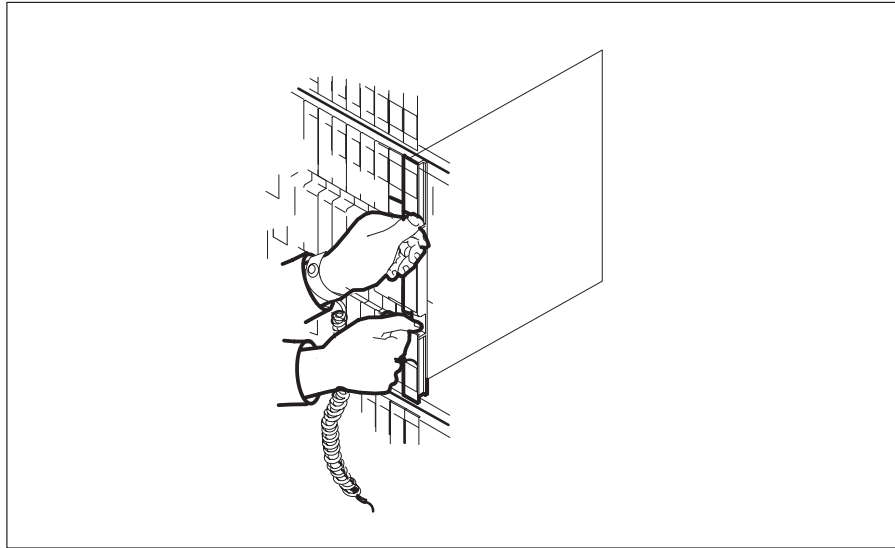


- 5 Place the card you have removed in an electrostatic discharge (ESD) protective container.
- 6 Ensure that the replacement card has the same PEC, including suffix, as the card you just removed.
- 7 Open the locking levers on the replacement card. Align the card with the slots in the shelf and gently slide the card into the shelf.



Card removal and replacement process (end)

- 8 Seat and lock the card.
 - a. Using your fingers or thumbs, push on the upper and lower edges of the faceplate to ensure that the card is fully seated in the shelf.
 - b. Close the locking levers.



- 9 Reconnect any previously removed cables to the faceplate of the replacement card.
- 10 You have completed this procedure. Return to the main procedure that sent you to this procedure and continue as directed.

Removing an MP position from service (integrated)

Application

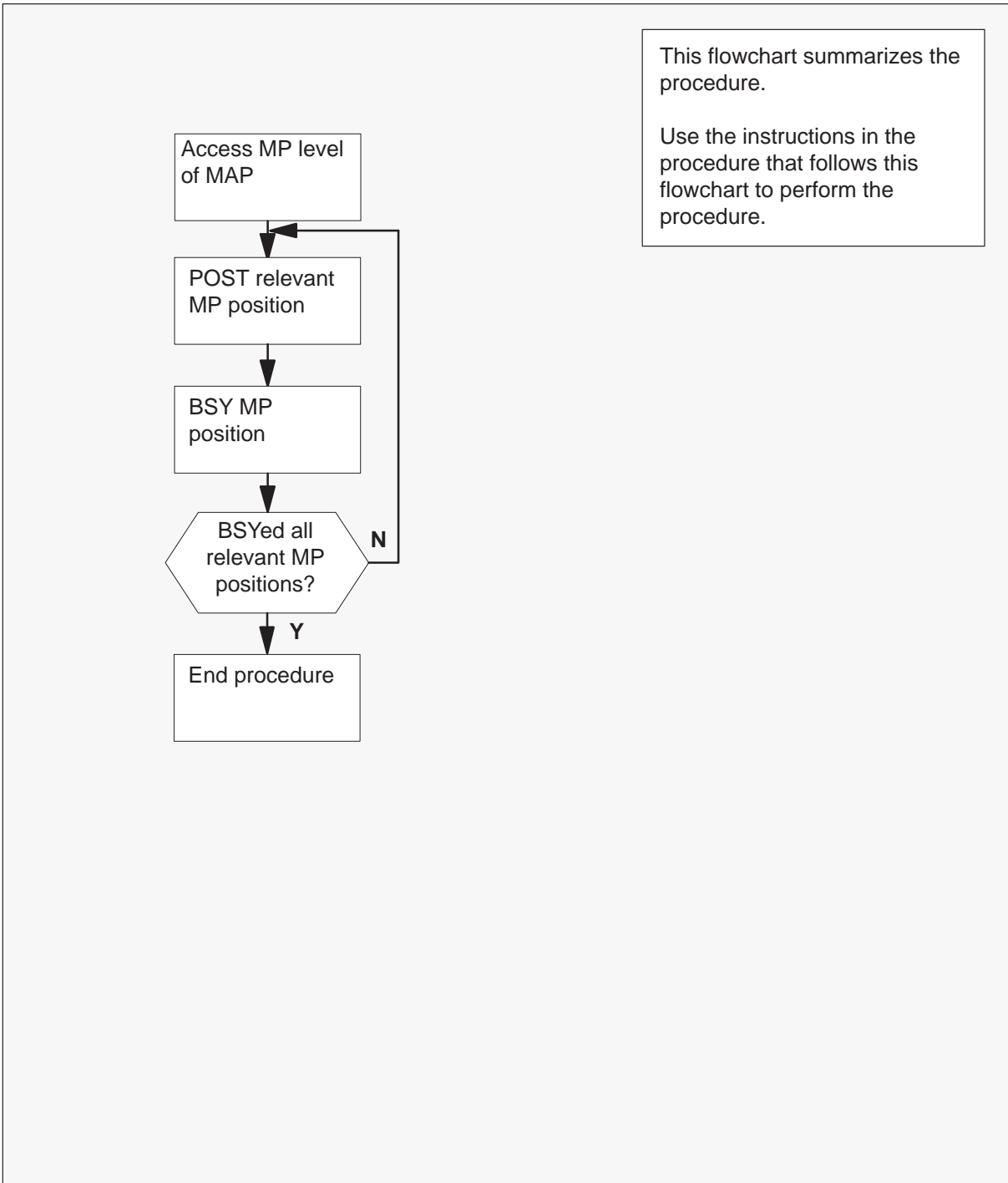
Use this procedure to remove integrated Traffic Operator Position System (TOPS) Multipurpose (MP) positions from service.

Action

The following flowchart is only a summary of the procedure. To perform this procedure, use the instructions in the step-action procedure that follows the flowchart.

Removing an MP position from service (integrated) (continued)

Summary of Removing an MP position from service (integrated)



Removing an MP position from service (integrated) (continued)

Removing an MP position from service (integrated)



CAUTION

Possible equipment damage or service interruption

Proceed only if you have been directed to this procedure from a step in a maintenance procedure. Using this procedure independently may cause equipment damage or service interruption.

At the MAP:

- 1 Access the MP level by entering:

>MAPCI;MTC;PM

and pressing the Enter key.

>POST TPC x;MP

and pressing the Enter key.

where

x is the TPC number

- 2 Post the relevant MP position by entering:

>POST P nnn

and pressing the Enter key.

where

nnn is the MP position number (0, 1, 2, or 3)

Removing an MP position from service (integrated) (continued)*Example of a MAP response:*

CM	MS	IOD	Net	PM	CCS	LNS	Trks	Ext	EIO
.
MP			SysB	ManB	OffL	CBsy	ISTb	InSv	
0	Quit	PM	0	0	10	0	0	130	
2	Post_	TPC	0	0	0	0	0	4	
3									
4		TPC	0	InSv					
5	Trnsl								
6	Tst	Status	VTB	SB	MB	PMB	RES	RTRN	INB
7	Bsy	MP	0	0	1	0	5	0	2
8	RTS								
9		POS	201	TPC	0	MP	1	RES	
10		Size of Post set:				1			
11	Disp_								
12	Next								
13	FRls								
14	QueryMP								
15									
16									
17									
18									

MP position number and status

3 Busy the MP position by entering:

>BSY

and pressing the Enter key.

Removing an MP position from service (integrated) (end)

Example of a MAP response:

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .
MP      SysB      ManB      OffL      CBSy      ISTb      InSv
0  Quit      PM 0      0      10      0      0      130
2  Post_     TPC 0      0      0      0      0      4
3
4      TPC 0      InSv
5  Trnsl
6  Tst      Status      VTB      SB      MB      PMB      RES      RTRN      INB
7  Bsy      MP      0      0      1      0      5      0      2
8  RTS
9      POS 201      TPC      0      MP      1      MB
10     Size of Post set:      1
11  Disp_
12  Next
13  FRls
14  QueryMP
15
16
17
18
    
```

- Determine if all relevant MP positions have been removed from service.

If all relevant MP positions	Do
have been removed from service	step 5
have not been removed from service	step 2

- You have completed this procedure. Return to the main procedure that sent you to this procedure and continue as directed.

Placing an MP position in service (integrated)

Application

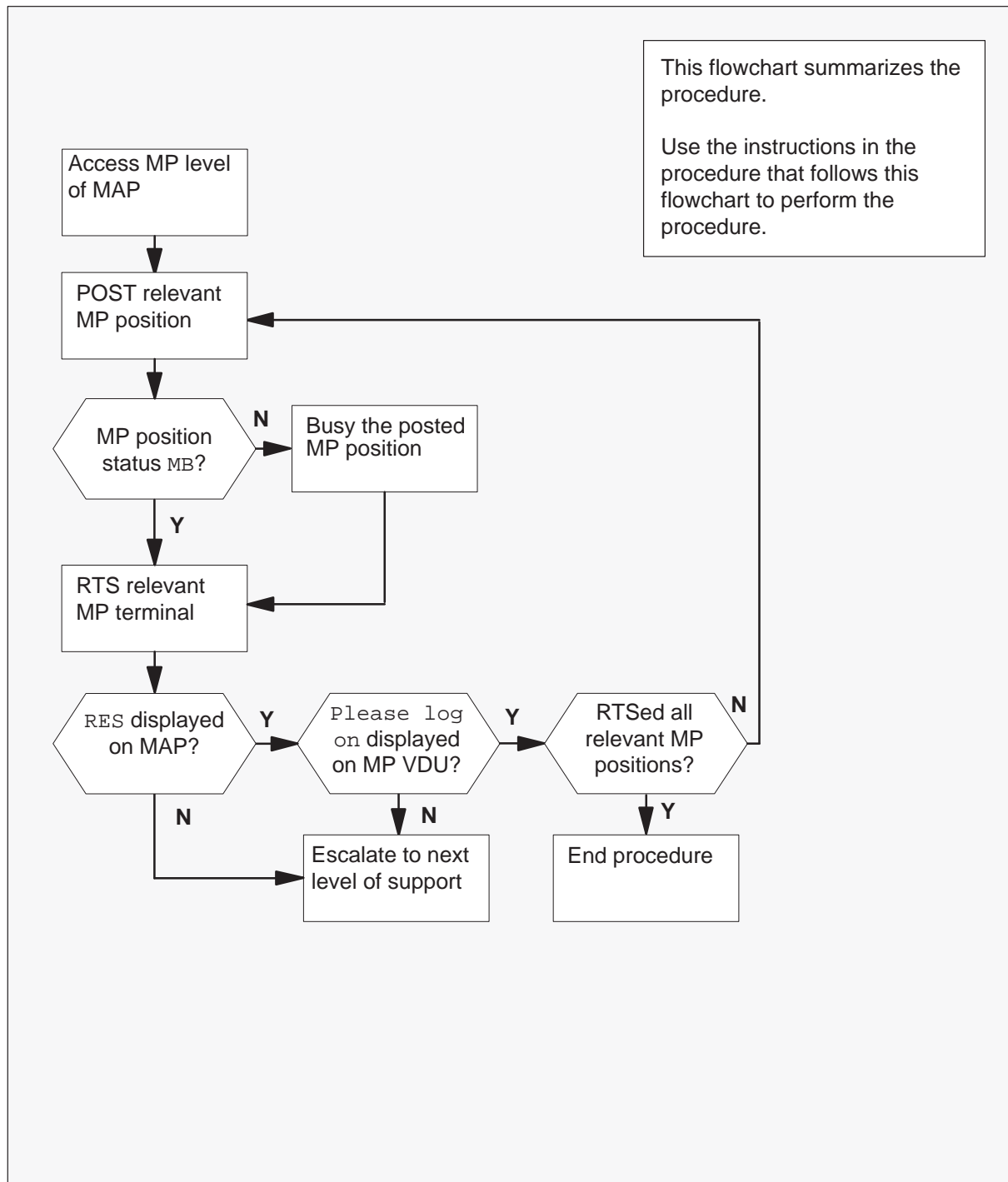
Use this procedure to return integrated Traffic Operator Position System (TOPS) Multipurpose (MP) positions to service.

Action

The following flowchart is only a summary of the procedure. To perform this procedure, use the instructions in the step-action procedure that follows the flowchart.

Placing an MP position in service (integrated) (continued)

Summary of Placing an MP position in service (integrated)



Placing an MP position in service (integrated) (continued)

Placing an MP position in service (integrated)



CAUTION

Possible equipment damage or service interruption

Proceed only if you have been directed to this procedure from a step in a maintenance procedure. Using this procedure independently may cause equipment damage or service interruption.

At the MAP:

- 1 Access the MP level by entering:

>MAPCI;MTC;PM

and pressing the Enter key.

>POST TPC x;MP

and pressing the Enter key.

where

x is the TPC number

Placing an MP position in service (integrated) (continued)

2 Post the relevant MP position by entering:

>POST P nnn

and pressing the Enter key.

where

nnn is the MP position number (0, 1, 2, or 3)

If MP position status is	Do
MB	step 4
SB	step 3

Example of a MAP response:

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .

MP
0  Quit      PM 0      0      10      0      0      130
2  Post_    TPC 0      0      0      0      0      4
3
4          TPC 0  InSv
5  Trnsl
6  Tst      Status  VTB  SB  MB  PMB  RES  RTRN  INB
7  Bsy      MP      0  0  1  0  5  0  2
8  RTS
9          POS 201  TPC 0  MP 1  MB
10         Size of Post set: 1
11  Disp_
12  Next
13  FRls
14  QueryMP
15
16
17
18
    
```

MP position number and status

3 Busy the MP position by entering:

>BSY

and pressing the Enter key.

Placing an MP position in service (integrated) (continued)

- 4 Return the MP position to service by entering:

>RTS

and pressing the Enter key.

If MP position	Do
returns to service with RES displayed on MAP	step 6
fails to re turn to service	step 7

Example of a MAP response:

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .

MP
0  Quit      PM  0      0      10     0      0      0      130
2  Post_     TPC 0      0      0      0      0      0      4
3
4          TPC 0  InSv
5  Trnsl
6  Tst      Status  VTB    SB     MB     PMB    RES    RTRN   INB
7  Bsy      MP      0      0      1      0      5      0      2
8  RTS
9          POS  201  TPC    0     MP     1     RES
10         Size of Post set:          1
11  Disp_
12  Next
13  FRls
14  QueryMP
15
16
17
18

```

MP position number and status

- 5 For further assistance, contact the personnel responsible for the next level of support.

Placing an MP position in service (integrated) (end)

At the affected position:

- 6 Examine the MP VDU.

If	Do
Please log on is displayed	step 7
Any other message is displayed	step 5

- 7 Determine if all relevant MP positions have been returned to service.

If all relevant MP positions	Do
have been returned to service	step 8
have not been returned to service	step 2

- 8 You have completed this procedure. Return to the main procedure that sent you to this procedure and continue as directed.

TMS shelf layouts

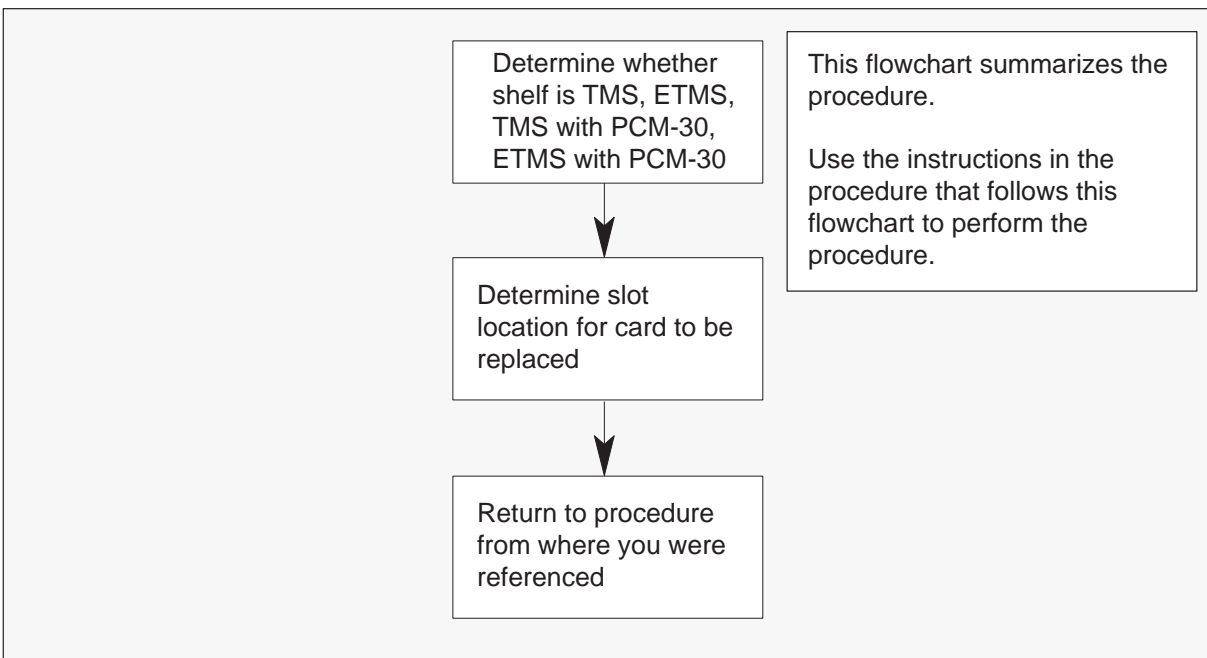
Application

Use this procedure to determine the correct physical card location (slot) and packfill configuration for ETMS/TMS shelf card replacement.

Action

The following flowchart is only a summary of the procedure. To perform this procedure, use the instructions in the step-action procedure that follows the flowchart.

Summary of TMS shelf layouts



TMS shelf layouts

At the TMS shelf:

- 1 Use the correct packfill figure to determine the location of the card to be replaced.

If shelf is	Use
TMS	TMS packfill figure.
ETMS	ETMS packfill figure.
—continued—	

TMS shelf layouts (continued)

If shelf is	Use
TMS with PCM-30 interfaces	TMS with PCM-30 interfaces packfill figure.
ETMS with PCM-30 interfaces	ETMS with PCM-30 interfaces packfill figure.
—end—	

- 2 Return to the card replacement procedure that you were following when you were referred to the card location procedure.

TMS shelf layouts (continued)

Packfill for a fully configured TMS

SHELF 0		SHELF 1	
SLOTS 1	NTBX02AA/BA: DCH/EDCH	SLOTS 1	NTBX02AA/BA: DCH/EDCH
2	NTBX02AA/BA: DCH/EDCH	2	NTBX02AA/BA: DCH/EDCH
3	NT6X50AB: DS-1 interface or FILLER	3	NT6X50AB: DS-1 interface or FILLER
4	NT6X50AB: DS-1 interface or FILLER	4	NT6X50AB: DS-1 interface or FILLER
5	NT6X50AB: DS-1 interface	5	NT6X50AB: DS-1 interface
6	NT0X50AA: FILLER FACE PLATE	6	NT0X50AA: FILLER FACE PLATE
7	NT0X50AA: FILLER FACE PLATE	7	NT0X50AA: FILLER FACE PLATE
8	NT6X45BA: MASTER PROCESSOR	8	NT6X45BA: MASTER PROCESSOR
9	NT6X47AB: MP MEMORY	9	NT6X47AB: MP MEMORY
10	NT6X47AB: MP MEMORY	10	NT6X47AB: MP MEMORY
11	NT6X46BA: SIG. PROC. MEMORY	11	NT6X46BA: SIG. PROC. MEMORY
12	NT6X45BA: SIGNALING PROCESSOR	12	NT6X45BA: SIGNALING PROCESSOR
13	NT0X50AA: FILLER	13	NT0X50AA: FILLER FACE PLATE
14	NT6X44AA: TIMESWITCH	14	NT6X44AA: TIMESWITCH
15	NT0X50AA: FILLER FACE PLATE	15	NT0X50AA: FILLER FACE PLATE
16	NTBX01AA: ISP	16	NTBX01AA: ISP
17	NT0X50AA: FILLER FACE PLATE	17	NT0X50AA: FILLER FACE PLATE
18	NT6X69AB: MESSAGE/TONE	18	NT6X69AB: MESSAGE/TONE
19	NT0X50AA: FILLER FACE PLATE	19	NT0X50AA: FILLER FACE PLATE
20	NT6X42AA: CHANNEL SUPERVISION	20	NT6X42AA: CHANNEL SUPERVISION
21	NT6X41AA: FORMATTER	21	NT6X41AA: FORMATTER
22	NT6X40AC: DS-30	22	NT6X40AC: DS-30
23	NT0X50AA: FILLER FACE PLATE	23	NT0X50AA: FILLER FACE PLATE
24	NT0X50AA: FILLER FACE PLATE	24	NT0X50AA: FILLER FACE PLATE
25		25	
26	NT2X70AE: POWER CONVERTER	26	NT2X70AE: POWER CONVERTER
27		27	

TMS SHELF PACKFILL FOR 96 POSITIONS

TMS shelf layouts (continued)

Packfill for a fully configured ETMS

SLOTS		SHELF 1	
1	NTBX02BA: EDCH	1	NTBX02BA: EDCH
2	NTBX02BA: EDCH	2	NTBX02BA: EDCH
3	NT6X50AB: DS-1 interface or FILLER	3	NT6X50AB: DS-1 interface or FILLER
4	NT6X50AB: DS-1 interface or FILLER	4	NT6X50AB: DS-1 interface or FILLER
5	NT6X50AB: DS-1 interface	5	NT6X50AB: DS-1 interface
6	NT0X50AA: FILLER FACE PLATE	6	NT0X50AA: FILLER FACE PLATE
7	NT0X50AA: FILLER FACE PLATE	7	NT0X50AA: FILLER FACE PLATE
8	NT0X50AA: FILLER FACE PLATE	8	NT0X50AA: FILLER FACE PLATE
9	NT0X50AA: FILLER FACE PLATE	9	NT0X50AA: FILLER FACE PLATE
10	NT0X50AA: FILLER FACE PLATE	10	NT0X50AA: FILLER FACE PLATE
11	NT0X50AA: FILLER FACE PLATE	11	NT0X50AA: FILLER FACE PLATE
12	NTMX77AA: UNIFIED PROCESSOR	12	NTMX77AA: UNIFIED PROCESSOR
13	NT0X50AA: FILLER FACE PLATE	13	NT0X50AA: FILLER FACE PLATE
14	NT6X44AA: TIMESWITCH	14	NT6X44AA: TIMESWITCH
15	NT0X50AA: FILLER FACE PLATE	15	NT0X50AA: FILLER FACE PLATE
16	NTBX01AB: EISP	16	NTBX01AB: EISP
17	NT0X50AA: FILLER FACE PLATE	17	NT0X50AA: FILLER FACE PLATE
18	NT6X69AB: MESSAGE/TONE	18	NT6X69AB: MESSAGE/TONE
19	NT0X50AA: FILLER FACE PLATE	19	NT0X50AA: FILLER FACE PLATE
20	NT6X42AA: CHANNEL SUPERVISION	20	NT6X42AA: CHANNEL SUPERVISION
21	NT6X41AA: FORMATTER	21	NT6X41AA: FORMATTER
22	NT6X40AC: DS-30	22	NT6X40AC: DS-30
23	NT0X50AA: FILLER FACE PLATE	23	NT0X50AA: FILLER FACE PLATE
24	NT0X50AA: FILLER FACE PLATE	24	NT0X50AA: FILLER FACE PLATE
25		25	
26	NT2X70AE: POWER CONVERTER	26	NT2X70AE: POWER CONVERTER
27		27	

ETMS SHELF PACKFILL FOR 96 POSITIONS

TMS shelf layouts (continued)**Packfill for a fully configured TMS with PCM-30 interfaces**

SHELF 1		SHELF 0	
SLOTS 1	NT0X50AA: FILLER FACE PLATE	SLOTS 1	NT0X50AA: FILLER FACE PLATE
2	NTBX02AA/BA: DCH/EDCH	2	NTBX02AA/BA: DCH/EDCH
3	NTBX02AA/BA: DCH/EDCH	3	NTBX02AA/BA: DCH/EDCH
4	NT6X27AA/AB: PCM-30 INTERFACE	4	NT6X27AA/AB: PCM-30 INTERFACE
5	NT6X27AA/AB: PCM-30 INTERFACE	5	NT6X27AA/AB: PCM-30 INTERFACE
6	NT0X50AA: FILLER FACE PLATE	6	NT0X50AA: FILLER FACE PLATE
7	NT0X50AA: FILLER FACE PLATE	7	NT0X50AA: FILLER FACE PLATE
8	NT6X45BA: MASTER PROCESSOR	8	NT6X45BA: MASTER PROCESSOR
9	NT6X47AB: MP MEMORY	9	NT6X47AB: MP MEMORY
10	NT6X47AB: MP MEMORY	10	NT6X47AB: MP MEMORY
11	NT6X46BA: SIG. PROC. MEMORY	11	NT6X46BA: SIG. PROC. MEMORY
12	NT6X45BA: SIGNALING PROCESSOR	12	NT6X45BA: SIGNALING PROCESSOR
13	NT0X50AA: FILLER FACE PLATE	13	NT0X50AA: FILLER FACE PLATE
14	NT6X44AA: TIMESWITCH	14	NT6X44AA: TIMESWITCH
15	NT0X50AA: FILLER FACE PLATE	15	NT0X50AA: FILLER FACE PLATE
16	NTBX01AA: ISP	16	NTBX01AA: ISP
17	NT0X50AA: FILLER FACE PLATE	17	NT0X50AA: FILLER FACE PLATE
18	NT6X69AB: MESSAGE/TONE	18	NT6X69AB: MESSAGE/TONE
19	NT6X28AA/AB: PCM-30 SIGNALING	19	NT6X28AA/AB: PCM-30 SIGNALING
20	NT6X42AA: CHANNEL SUPERVISION	20	NT6X42AA: CHANNEL SUPERVISION
21	NT6X41AA: FORMATTER	21	NT6X41AA: FORMATTER
22	NT6X40AC: DS-30	22	NT6X40AC: DS-30
23	NT0X50AA: FILLER FACE PLATE	23	NT0X50AA: FILLER FACE PLATE
24	NT0X50AA: FILLER FACE PLATE	24	NT0X50AA: FILLER FACE PLATE
25		25	
26	NT2X70AE: POWER CONVERTER	26	NT2X70AE: POWER CONVERTER
27		27	

TMS WITH PCM-30 SHELF PACKFILL FOR 96 POSITIONS

TMS shelf layouts (end)

Packfill for a fully configured ETMS with PCM-30 interfaces

SHELF 1		SHELF 0	
SLOTS 1	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE
2	NTBX02BA: EDCH	NTBX02BA: EDCH	NTBX02BA: EDCH
3	NTBX02BA: EDCH	NTBX02BA: EDCH	NTBX02BA: EDCH
4	NT6X27AA/AB: PCM-30 INTERFACE	NT6X27AA/AB: PCM-30 INTERFACE	NT6X27AA/AB: PCM-30 INTERFACE
5	NT6X27AA/AB: PCM-30 INTERFACE	NT6X27AA/AB: PCM-30 INTERFACE	NT6X27AA/AB: PCM-30 INTERFACE
6	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE
7	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE
8	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE
9	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE
10	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE
11	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE
12	NTMX77AA: UNIFIED PROCESSOR	NTMX77AA: UNIFIED PROCESSOR	NTMX77AA: UNIFIED PROCESSOR
13	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE
14	NT6X44AA: TIMESWITCH	NT6X44AA: TIMESWITCH	NT6X44AA: TIMESWITCH
15	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE
16	NTBX01AB: EISP	NTBX01AB: EISP	NTBX01AB: EISP
17	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE
18	NT6X69AB: MESSAGE/TONE	NT6X69AB: MESSAGE/TONE	NT6X69AB: MESSAGE/TONE
19	NT6X28AA/AB: PCM-30 SIGNALING	NT6X28AA/AB: PCM-30 SIGNALING	NT6X28AA/AB: PCM-30 SIGNALING
20	NT6X42AA: CHANNEL SUPERVISION	NT6X42AA: CHANNEL SUPERVISION	NT6X42AA: CHANNEL SUPERVISION
21	NT6X41AA: FORMATTER	NT6X41AA: FORMATTER	NT6X41AA: FORMATTER
22	NT6X40AC: DS-30	NT6X40AC: DS-30	NT6X40AC: DS-30
23	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE
24	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE	NT0X50AA: FILLER FACE PLATE
25			
26	NT2X70AE: POWER CONVERTER	NT2X70AE: POWER CONVERTER	NT2X70AE: POWER CONVERTER
27			

ETMS WITH PCM-30 SHELF PACKFILL FOR 96 POSITIONS

TPC and TOPS recovery procedures

Note, this chapter is a duplicate of the procedures in the Recovery Procedures manual.

The system recovery procedures recover call processing to an acceptable level. The TOPS terminals are connected to the DMS switch through trunk circuits terminating on trunk modules for analog facilities or on digital carrier modules or digital trunk controllers for digital trunks. If a trunk module is the source of outage for an operator position, the trunk trouble must be cleared before the TOPS terminal can handle calls.

Each recovery procedure in this chapter has a description containing the following elements:

- explanatory and context-setting information
- a summary flowchart
- step-action instructions

Explanatory and context-setting information

In each procedure, the paragraphs titled “Task,” “Application,” and “Action” contain important explanatory notes and context-setting information. Read them before you try to complete the recovery procedure.

Summary flowchart

The flowchart is only a summary of the main actions, decision points, and possible paths you may take. Do not use the summary flowchart to perform the procedure. Instead, use it to preview what you will be doing and to prepare for it. For example, if you see that these instructions will involve another office, you will know to advise that office before you begin the step-action instructions.

Step-action instructions

The step-action instructions tell you what to do to recover from a system alarm. Normally, you will perform the steps in order, but you may be directed to return to a previous step and repeat a sequence. Also, the successful execution of a given step in a sequence may depend on previous

steps. Therefore, always perform the steps in the order specified, starting at Step 1.

The step-action instructions provide the command syntax and machine output you would normally use or see while performing this procedure. For help on DMS system commands or machine output, see *DMS-100 Family Commands Reference Manual*, or *Log Report Reference Manual*.

**PM TPC
recovery**

Application

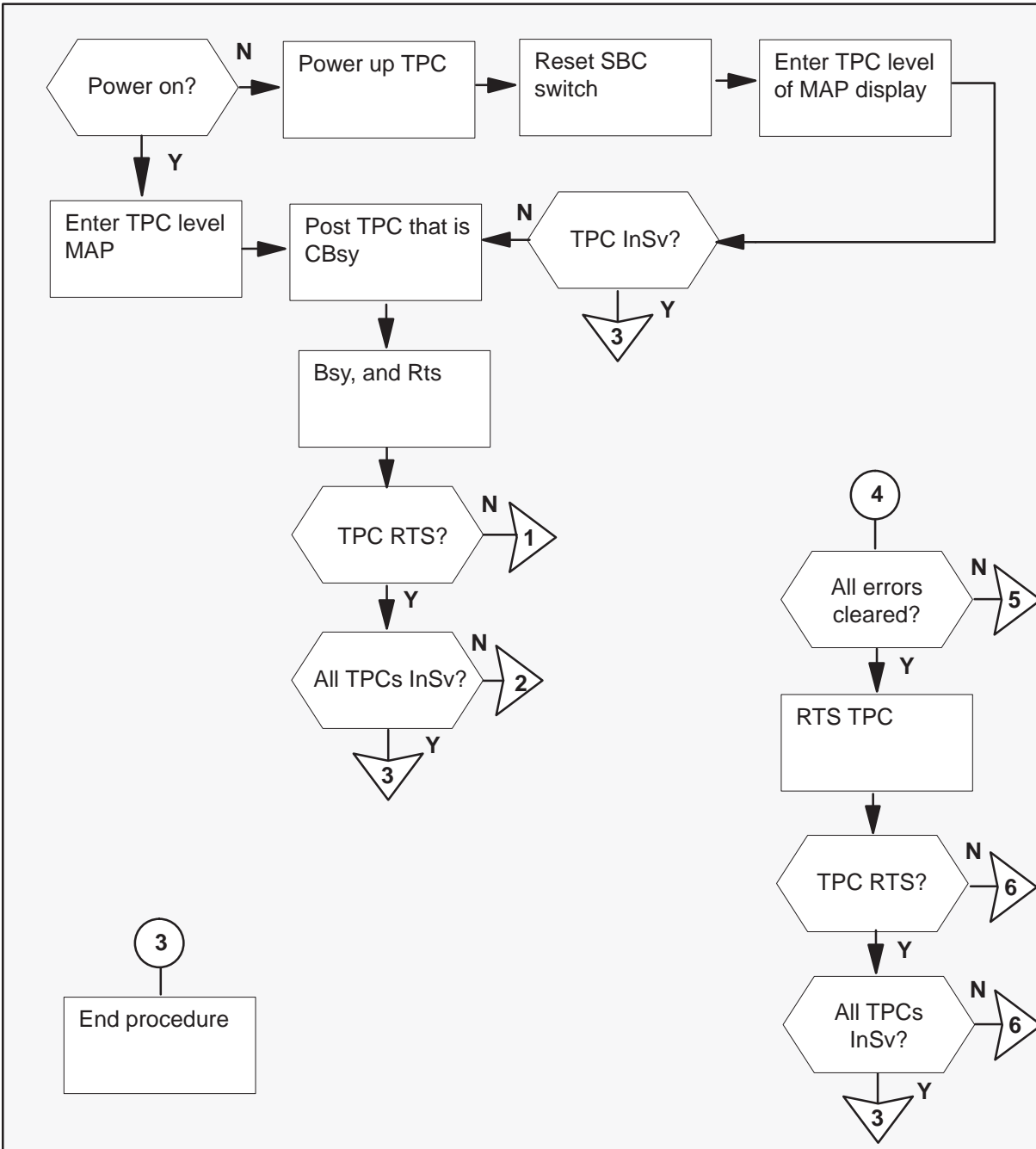
The TOPS Position Controller (TPC) recovery procedure returns the TOPS MP system to service after a dead switching system default clears.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

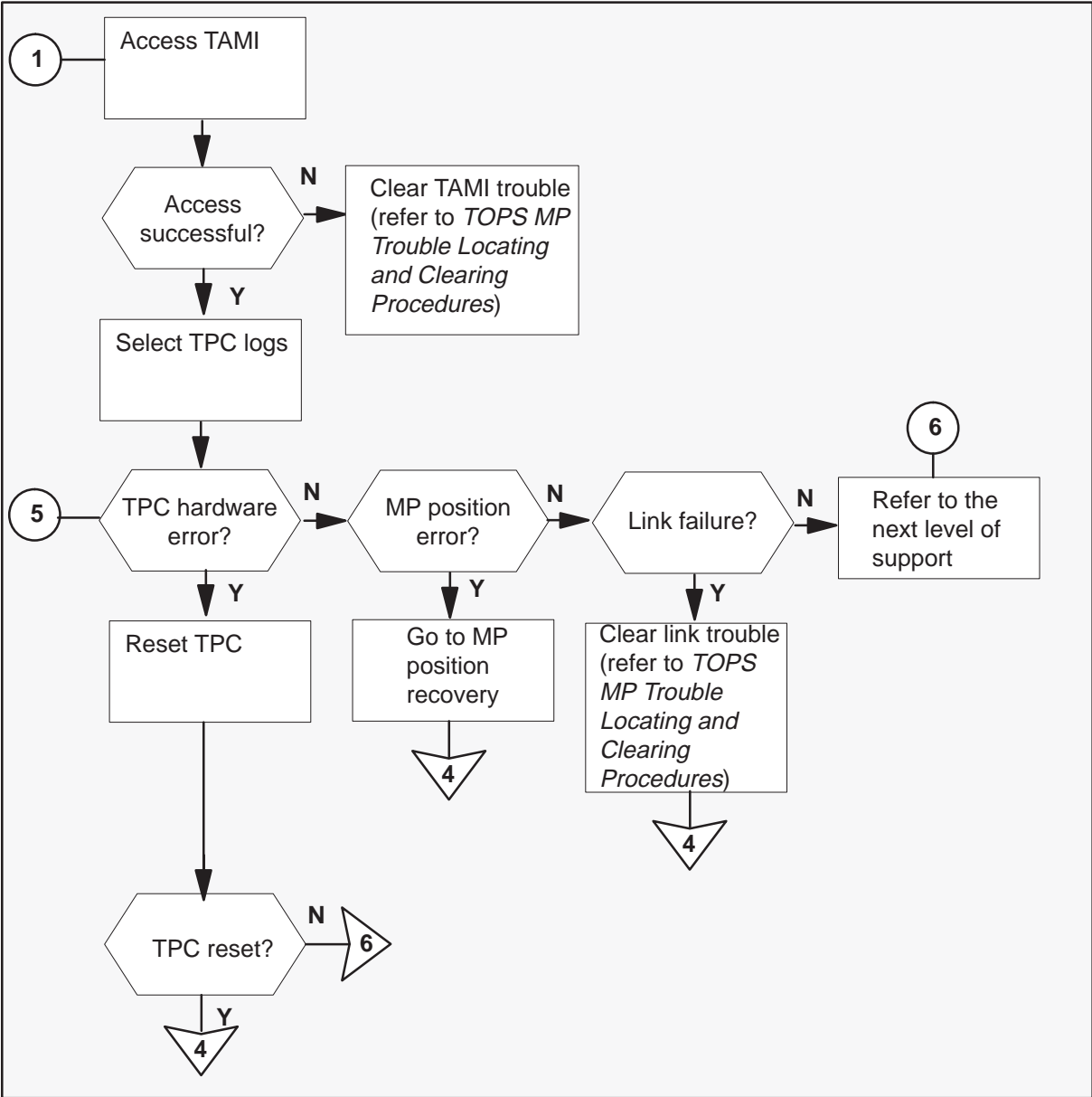
PM TPC recovery (continued)

Summary of PM TPC recovery



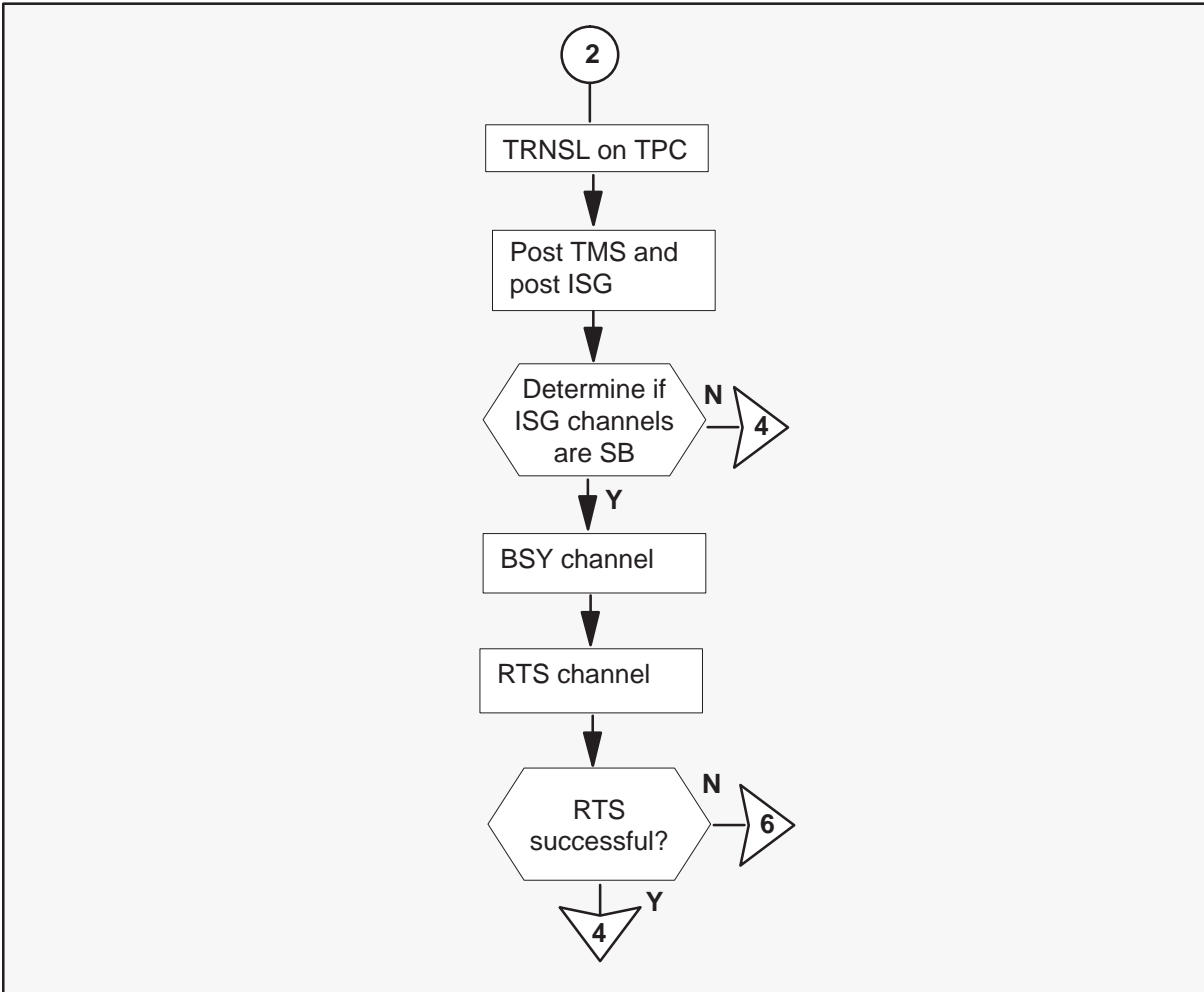
**PM TPC
recovery** (continued)

Summary of PM TPC recovery (continued)



PM TPC recovery (continued)

Summary of PM TPC recovery (continued)

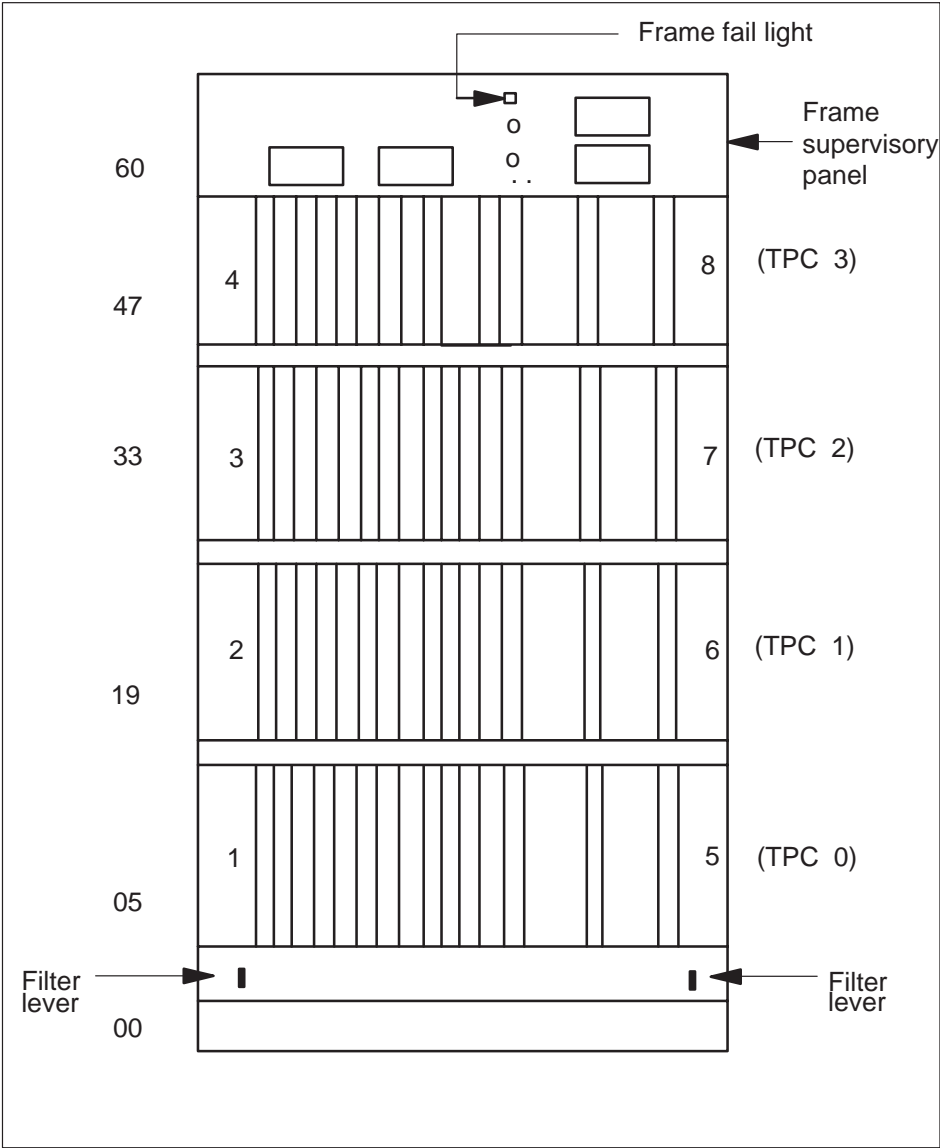


PM TPC recovery

Enter this procedure because of an emergency disruption to service.

- 1 To determine if the TPC has a power outage, check the frame fail light on the frame supervisory panel (FSP).

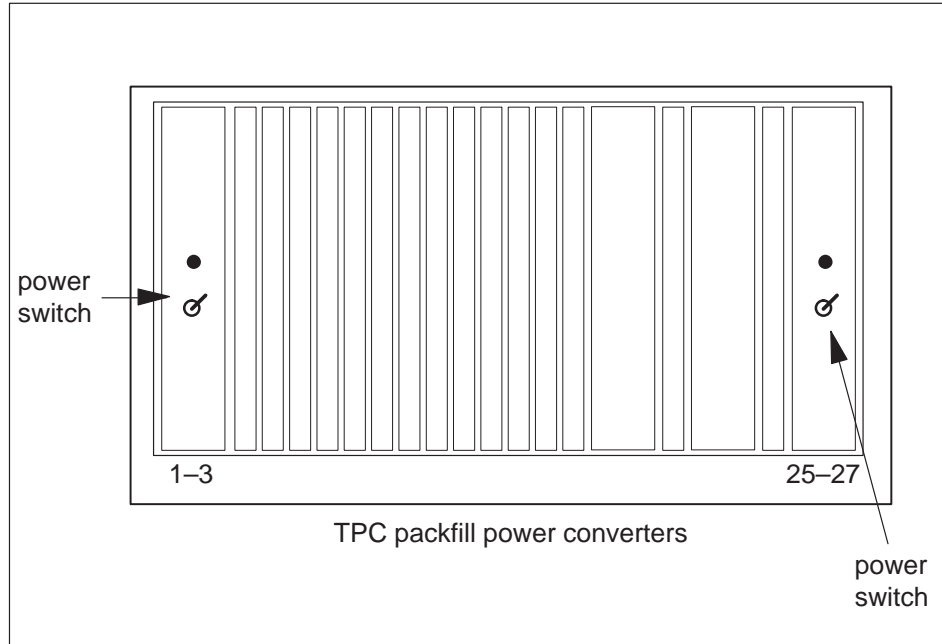
**PM TPC
recovery (continued)**



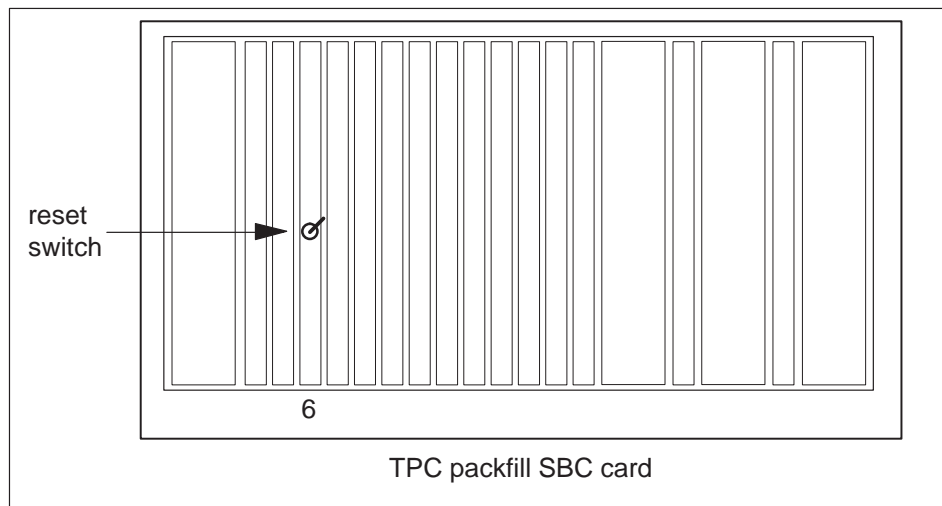
If TPC	Do
is powered up	step 4
is not powered up	step 2

PM TPC recovery (continued)

- 2 To power-up the TPC, turn the switches on the power converters in slots 1-3 and slots 25-27 to the up position.



- 3 To reset the TPC, move the switch on the SBC card in slot 6 to the down position. Return the switch to the up position.



PM TPC recovery (continued)

At the MAP display:

- 4 To enter the TPC level of the MAP display, type:

>MAPCI;MTC;PM; POST TPC n

and press the Enter key.

where

n is the TPC identified in step 2

- 5 Examine the status line to determine if any TPCs are in trouble.

If TPC	Do
is InSv	step 26
is CBsy	step 6

- 6 To post the CBsy TPC, type:

>POST CBSY

and press the Enter key.

Example of a MAP response:

CM	MS	IOD	Net	PM	CCS	Lc	Trks	Ext	EIO
.	.	.	.	n TPC	.	.	.	.	.
				C					
				SysB	ManB	Offl	CBsy	ISTb	InSv
		PM		0	0	0	1	1	24
		TPC		0	0	0	1	0	0
		TPC	0	CBsy					

PM TPC recovery (continued)

- 7 To busy, and return the TPC to service type:

>BSY

and press the Enter key.

Example of a MAP response:

```
Bsy  
TPC 20 Bsy Passed
```

>RTS

and press the Enter key.

Example of a MAP response:

```
Rts  
TPC 20 Rts Passed
```

- 8 Check the status line to determine if the TPC returns to service.

If TPC	Do
returns to service	step 9
does not return to service	step 15

- 9 Check the status line to determine if all TPCs are InSv.

If all TPCs	Do
are InSv	step 26
are CBsy	step 10

PM TPC
recovery (continued)

- 10** To identify and record the numbers for the TMS and the ISDN service group (ISG), type:

>TRNSL

and press the Enter key.

Example of a MAP response:

```
TMS  0  0  6:  data; ISG  1  1
TMS  0  0  5:  data; ISG  2  5
TMS  0  0  1:  voice; TOPSPOS      6; RES
TMS  0  0  2:  voice; TOPSPOS      7; RES
TMS  0  0  3:  voice; TOPSPOS      8; RES
TMS  0  0  4:  voice; TOPSPOS      9; RES
```

- 11** To post one of the ISGs, type:

>POST TMS n;ISG;POST x

and press the Enter key.

where

n is the TMS identified in step 10

x is one of the ISGs identified in step 10

Example of a MAP response:

```
ISG      1111111111 2222222222 33
123456789 0123456789 0123456789 01
s00000000 0000000000 0000000000 00
ISG  1 DCH  1 InSv TMS  0 port 6
```

Note: Note the faulty ISG port

- 12** Determine if the ISG channel is SB.

If the ISG channel	Do
is SB	step 13
is not SB	step 22

PM TPC recovery (continued)

- 13 To busy the system-busy ISG channels, type:

>BSY n

and press the Enter key.

where

n is the ISG channel

Repeat this step for each system-busy ISG channel and for the other ISG and the channels of the ISG.

Example of a MAP response:

```
Bsy 1  
ISG channel 1 TDC Bsy Passed
```

- 14 To RTS the busy channel, type:

>RTS n

and press the Enter key.

where

n is the busy ISG channel

Example of a MAP response:

```
Rts 1  
ISG channel 1 TDC Rts Passed
```

If RTS	Do
is successful	step 22
is not successful	step 25

- 15 Access the TAMI.

If access to TAMI	Do
is successful	step 17
is not successful	step 16

- 16 Clear TAMI failure. *Refer to TOPS MP Trouble Locating and Clearing Procedures* and return to step 17.

**PM TPC
recovery** (continued)

At the TAMI:

- 17 To access TPC Logs from the TAMI main menu, type:

>1

and press the Enter key.

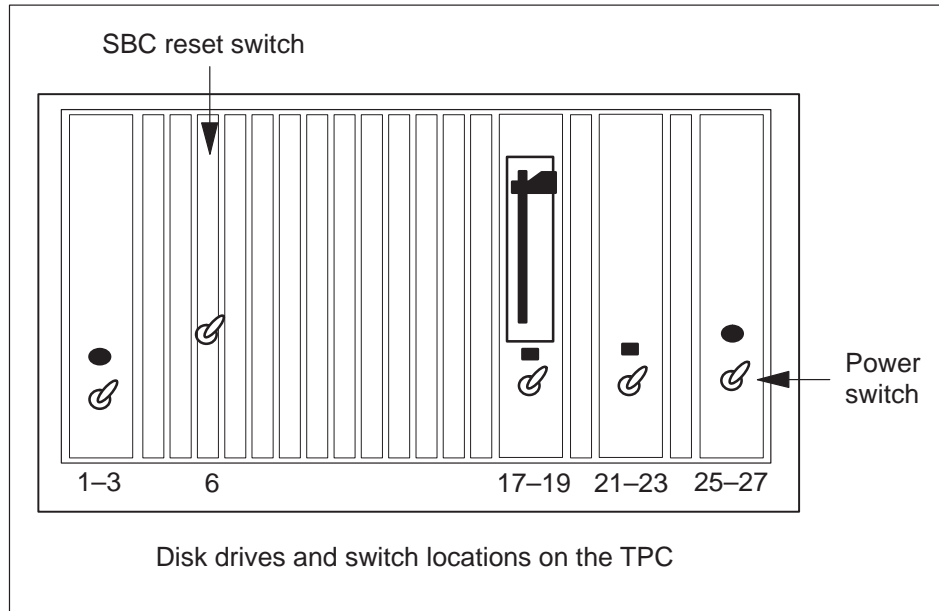
- 18 Check the logs to determine the type of error.

If error	Do
is position failure	step 19
is link failure	step 20
is TPC hardware	step 21
is other than listed here	step 25

- 19 Clear position failure. Refer to *MP Position Recovery (integrated)* or *MP Position Recovery (standalone)*. Return to step 22.
- 20 Clear link failure. Refer to *TOPS MP Trouble Locating and Clearing Procedures*. Return to step 22.

PM TPC
recovery (continued)

21 To reset the TPC, lower and lift the SBC reset switch.



If TPC	Do
resets	step 22
does not reset	step 25

22 Determine if all errors clear.

If all errors	Do
clear	step 23
do not clear	step 18

**PM TPC
recovery (end)**

At the MAP display:

- 23** To return the TPC to service type:

>RTS

and press the Enter key.

Example of a MAP display response:

```
Rts  
Rts passed
```

- 24** Check the status line to determine if the TPC returns to service.

If TPC	Do
returns to service	step 9
does not return to service	step 25

- 25** For additional help, contact the next level of support.
- 26** The procedure is complete. If the system displays other alarms, refer to *Alarm Clearing Procedures*.

MP position (integrated) recovery

Application

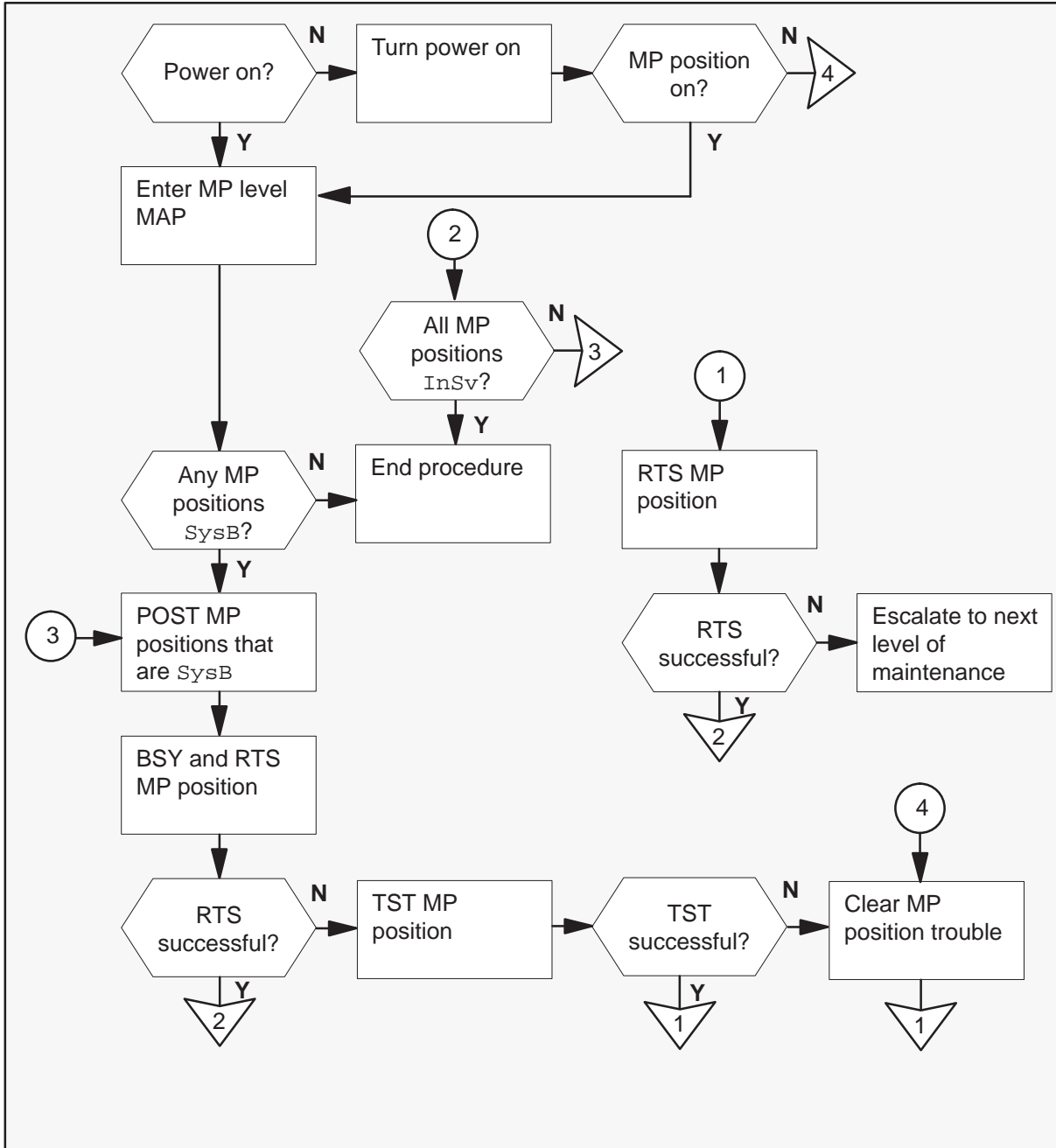
This TOPS Multipurpose Position (MP) recovery procedure returns the TOPS MP system to service after a dead switching system fault clears.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

MP position (integrated) recovery (continued)

Summary of MP position (integrated) recovery



MP position (integrated) recovery (continued)

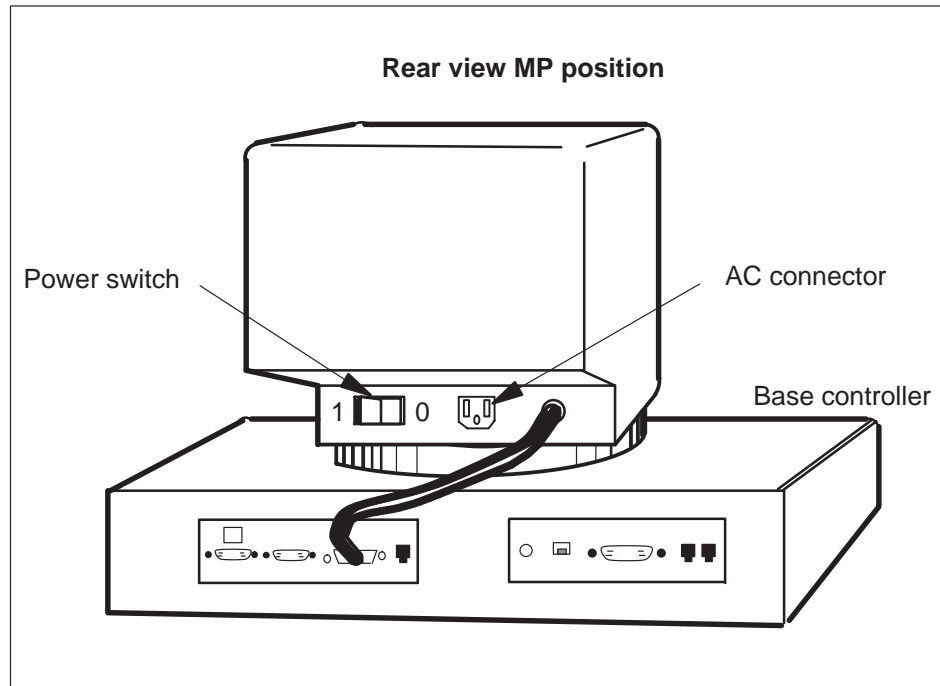
MP position (integrated) recovery

You enter this procedure because of an emergency disruption to service.

- 1 Determine if the MP position is on.

If MP position	Do
is on	step 3
is off	step 2

- 2 To turn on the MP position, move the power switch on the MP VDU to the on (1) position.



If power switch is on and MP position	Do
is on	step 3
is off	step 8

MP position (integrated) recovery (continued)

At the MAP display:

- 3 To access the MP position level type:

>MAPCI;MTC;PM;POST TPC x,MP

and press the Enter key.

where

x is the recovered TPC

- 4 To post MP positions that are system busy, type:

> MP;POST P SB

and press the Enter key.

If MP position	Do
is SysB	step 5
is InSv	step 12

- 5 To busy the MP position, type:

>BSY

and press the Enter key.

- 6 To return the MP position to service, type:

>RTS

and press the Enter key.

If RTS	Do
passes	step 10
fails	step 7

MP position (integrated) recovery (end)

- 7 To test the MP position, type:

>TST

and press the Enter key.

If TST	Do
passes	step 9
fails	step 8

- 8 Refer to *TOPS MP Trouble Locating and Clearing Procedures* and return to step 9.

- 9 To return the MP position to service, type:

>RTS

and press the Enter key.

If RTS	Do
passes	step 10
fails	step 11

- 10 Determine if all MP positions are in service.

If all MP positions	Do
are InSv	step 12
are not InSv	step 4

- 11 For additional help, contact the next level of maintenance.

- 12 The procedure is complete. If alarms appear, refer to *Alarm Clearing Procedures*.

MP position (standalone) recovery

Application

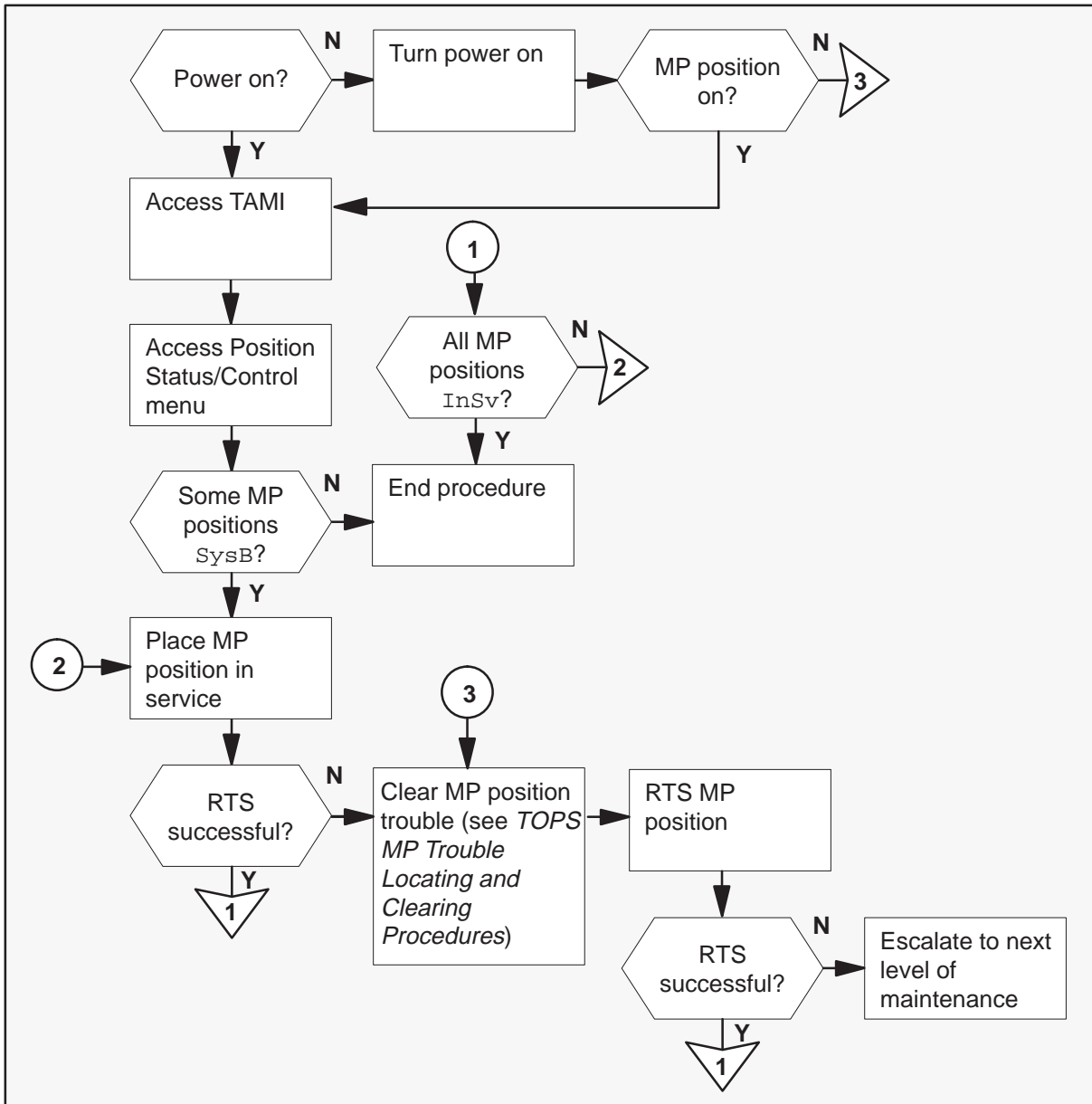
This TOPS Multipurpose Position (MP) recovery procedure returns the TOPS MP system to service after a dead switching system fault clears.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

MP position (standalone) recovery (continued)

Summary of MP position (standalone) recovery



MP position (standalone) recovery

ATTENTION

Enter this procedure because of an emergency disruption to service.

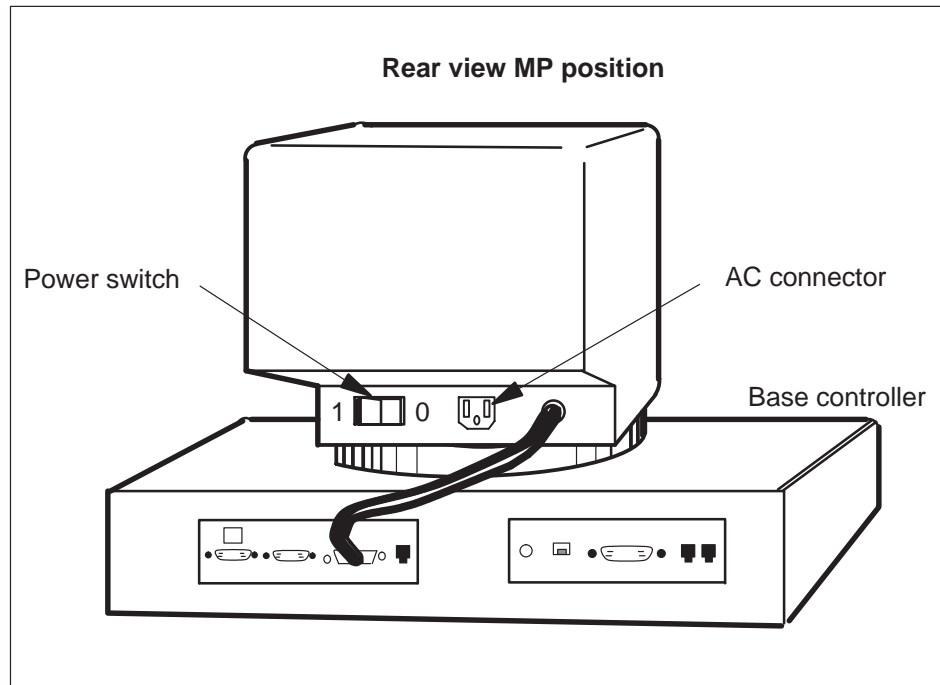
MP position (standalone) recovery (continued)

At the affected MP position:

- 1 Determine if the MP position is on.

If MP position	Do
is on	step 3
is off	step 2

- 2 To turn on the MP position, move the power switch on the MP VDU to the on (1) position.



If power switch is on, and MP position	Do
is on	step 3
is off	step 15

MP position (standalone) recovery (continued)

At the TAMI:

- 3 To access the Position Status/Control menu from the TAMI main menu, type:

>3

and press the Enter key.

Example of a MAP display response:

```

          POSITION STATUS/CONTROL
1.  Bsy
2.  RTS
3.  OfFL
4.  RTS ALL POSITIONS

POSITION NUMBER      STATUS      CARD PRESENT
0.                   SysB        YES
1.                   SysB        YES
2.                   InSv       YES
3.                   SysB        YES

MAKE CHOICE:
    
```

- 4 Examine the status line to determine if any MP position is SysB.

If MP position	Do
is SysB	step 5
is InSv	step 17

- 5 To busy the MP position(s), type:

>1

and press the Enter key.

>n

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3)

Note: Repeat this step until you return to service all positions that apply.

MP position (standalone) recovery (continued)

- 6 To return the MP position(s) to service, type:

>2

and press the Enter key.

>n

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3)

Note: Repeat this step until you return to service all positions that apply.

If RTS	Do
passes	step 7
fails	step 15

At the MAP display:

- 7 To access the TTP level, type:

>MAPCI;MTC;TRKS;TTP

and press the Enter key.

- 8 To post the MP position trunk that applies, type:

>POST T TOPSPOS n

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3)

- 9 Note the status of the trunk circuits.

If the trunk status	Do
is MB	step 11
is SB	step 10

- 10 To busy the posted trunk, type:

>BSY

MP position (standalone) recovery (continued)

and press the Enter key.

11



CAUTION

Trunk goes system busy

Do not RTS the TOPSPOS trunk until the MP position is downloaded (VDU displays Link problems encountered).

The trunk goes system busy if the trunk is RTSed before Link problems encountered appears on the VDU.



CAUTION

Trunk goes system busy

Do not RTS the TOPSPOS trunk until the MP position is downloaded (VDU displays Link problems encountered).

The trunk goes system busy if the trunk is RTSed before Link problems encountered appears on the VDU.

To return the posted trunk to service, type:

>RTS

and press the Enter key.

Note: Repeat steps 8 through 11 until you return to service all positions that apply.

12 Determine if trunk returns to service.

If trunk	Do
returns to service and RES appears on MAP terminal	step 13
fails to return to service	step 16

MP position (standalone) recovery (end)

- 13 Examine the MP VDU.

If	Do
Please log on appears	step 14
other message appears	step 16

- 14 Determine if all MP positions are in service.

If all MP positions	Do
are InSv	step 17
are not InSv	step 1

- 15 Refer to *TOPS MP Trouble Locating and Clearing Procedures*, and return to step 3.
- 16 For additional help, contact the next level of maintenance.
- 17 The procedure is complete. If alarms appear, refer to *Alarm Clearing Procedures*.

TOPS routine maintenance procedures

Introduction

Note, this chapter is a duplicate of the TOPS system procedures in the Recovery Procedures manual.

This chapter contains procedures for How to perform routine maintenance on the DMS-100 switch. Each procedure contains the following sections:

- Application
- Interval
- Common procedures
- Action

Application

This section describes the purpose of the procedure.

Interval

This section indicates when to perform the procedure.

Common procedures

This section lists common procedures used during the routine maintenance procedure. A common procedure is a series of steps that repeats in maintenance procedures. Common procedures include card removal and replacement. Common procedures are in the common procedures chapter in this NTP.

Do not use common procedures unless the step-action procedure directs you to.

Action

This section provides a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Cleaning the PCE frame filter (integrated and standalone)

Application

Use this procedure to clean the position controller equipment (PCE) filters.

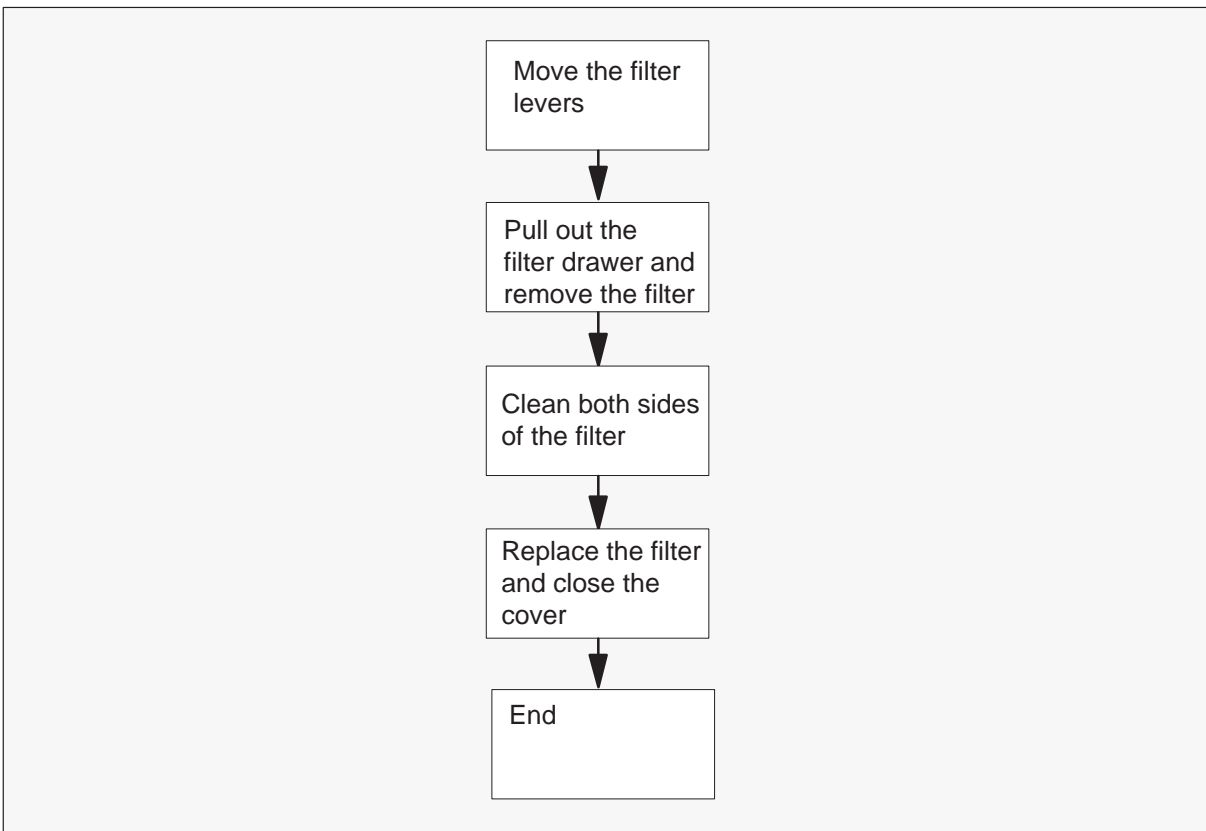
Interval

Perform this procedure when the dust level of the PCE requires maintenance.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform this procedure.

Summary of how to clean the PCE frame filter (integrated and standalone)

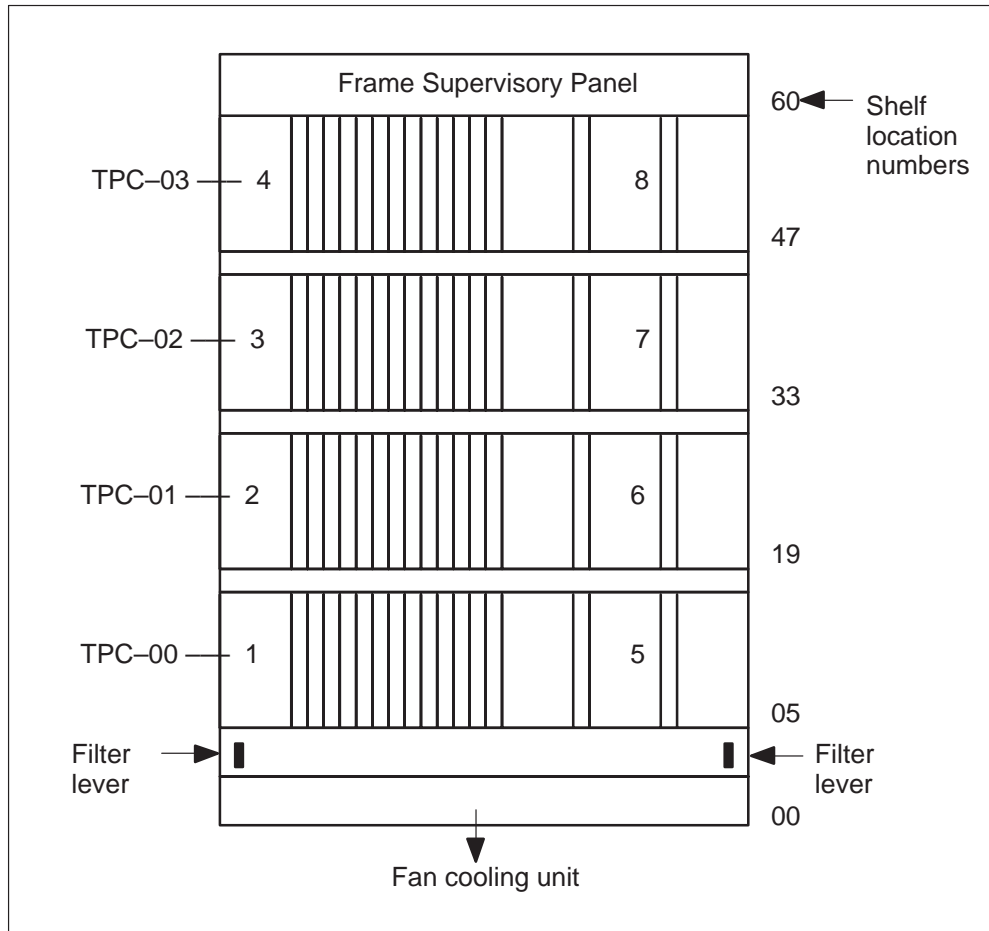


Cleaning the PCE frame filter (integrated and standalone) (end)

How to clean the PCE frame filter (integrated and standalone)

At the PCE

- 1 See the following figure to locate the filter levers at the bottom of the PCE.



- 2 Move the filter levers so the filter drawer cover opens.
- 3 Pull out the filter drawer and remove the filter.
- 4 Use compressed air to clean both sides of the filter.
- 5 Place the filter back into the filter drawer.
- 6 Close the filter drawer cover.
- 7 The procedure is complete.

Testing an MP position (integrated)

Application

Use this procedure to check components of Traffic Operator Position System (TOPS) message switch (TMS) Multipurpose (MP) positions. The TOPS message switch MP positions have one TOPS position controller (TPC). To test the MP positions, busy the positions from the MAP. Run tests that check the positions, and return the positions to service from the MAP.

Interval

Perform this procedure at intervals of 6 months.

Common procedures

This procedure references the common procedure *Placing MP position in service (integrated)*.

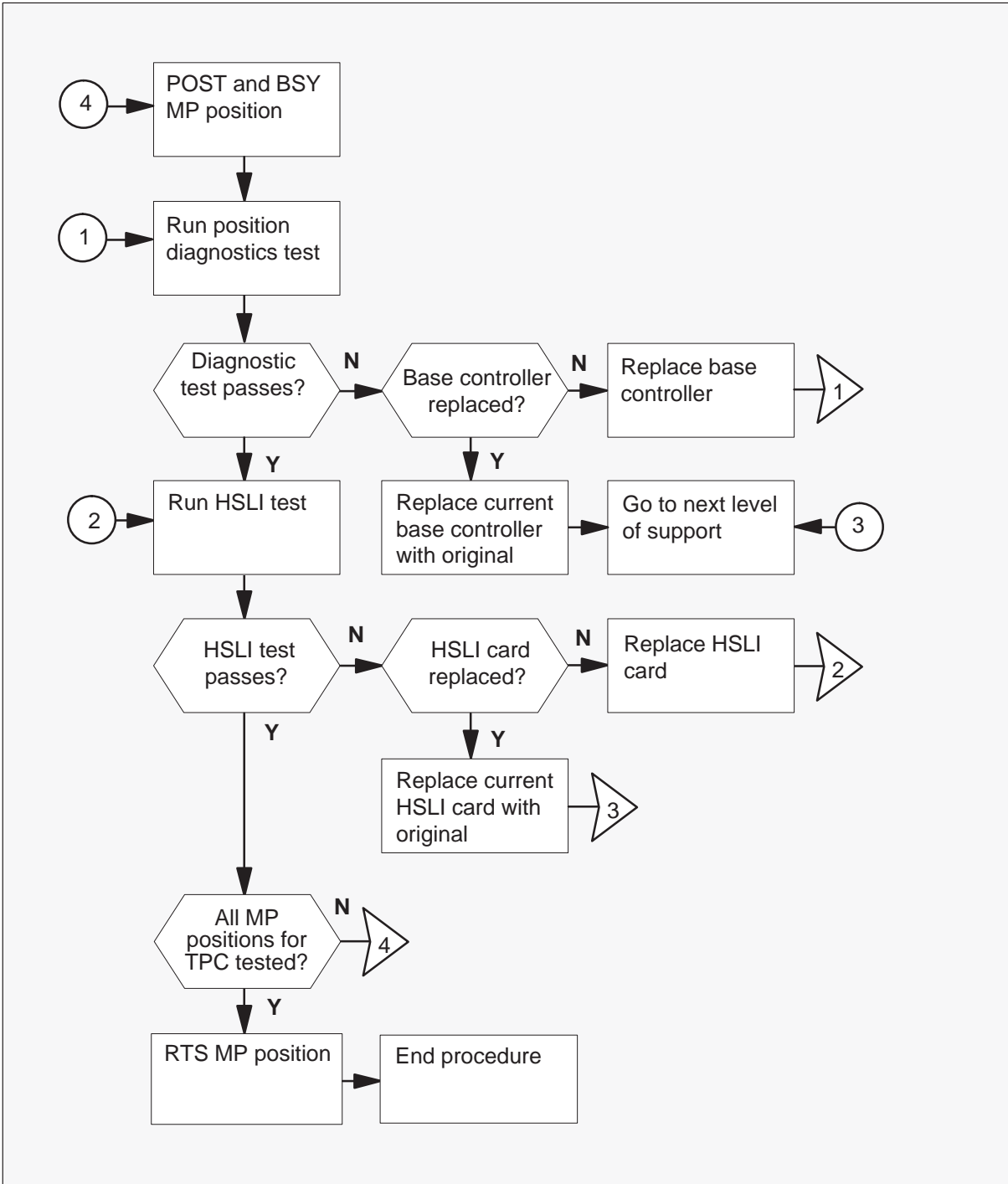
Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Testing an MP position (integrated)

(continued)

Summary of How to test an MP position (integrated)



Testing an MP position (integrated)

(continued)

How to test an MP position (integrated)



CAUTION

MP positions must not be in service.

When you prepare MP positions for a test, remove the positions from service. This action makes sure the positions cannot process calls.



CAUTION

MP positions must not be in service.

When you prepare MP positions for a test, remove the positions from service. This action makes sure the positions cannot process calls.

At the MAP display:

1 To post and busy the important MP position, do the following steps:

a. Type

>MAPCI;MTC;PM

and press the Enter key.

b. Type

>POST TPC x;MP

and press the Enter key.

where

x is the TPC number.

c. Type

>POST P n

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3).

d. Type

>BSY

and press the Enter key.

Note: Test only one MP for each TPC at a time.

Testing an MP position (integrated) (continued)

- 2 To run the position diagnostics test, type
>TST TERM
 and press the Enter key.

If the MAP displays	Do
Test passed	step 5
Test failed	step 3 if one of the following error codes and messages appears
Test failed and you replaced base controller	step 4 if one of the following error codes and messages appears

Error code	Test failed message
101, 201, 202, 205, 213, 214, 301–302, 305, 306, 401, 402	Diagnostics software error in the TPC
204	Position not available for diagnostics
303, 304	Error in communication with the MP position
403–411	MP position component diagnostic failed

- 3 Replace the MP base controller. Refer to *TOPS MP Card Replacement Procedures* (NT0M90). Return to step 2.
- 4 Replace the current MP base controller with the original base. Refer to *TOPS MP Card Replacement Procedures* (NT0M90). Proceed to step 9.

Testing an MP position (integrated)

(continued)

- 5 To run the HSLI test, type

>TST HSLI

and press the Enter key.

If the MAP displays	Do
Test passed	step 8
Test failed	step 6 if one of the following error codes and messages appears
Test failed and card replaced	step 7 if one of the following error codes and messages appears

Error code	Test failed message
101, 201, 202, 205, 213, 214, 301–302, 305, 306, 401, 402	Diagnostics software error in the TPC
203	HSLI card not present cannot run diagnostics
204	Position not available for diagnostics
206–212, 215–230	HSLI card diagnostics failed

- 6 Replace the HSLI card. Refer to *TOPS MP Card Replacement Procedures* (NTNX62). Return to step 5.
- 7 Replace the current HSLI card with the original HSLI card. Refer to *TOPS MP Card Replacement Procedures* (NTNX62), and proceed to step 9.
- 8 Verify that the system tested all MPs for a TPC.

If tests for all MPs for a TPC	Do
occurred	step 10
did not occur	step 1

- 9 For additional help, contact the next level of support.

Testing an MP position (integrated)

(end)

- 10 Perform the procedure *Placing MP position in service (integrated)*.
- 11 The procedure is complete.

Testing an MP position (standalone)

Application

Use this procedure to check components of standalone Traffic Operator Position System (TOPS) Multipurpose (MP) positions. To test the standalone MP positions, perform the following procedures. Busy the positions from the MAP. Busy the positions from the TAMI. You must run tests that check the positions. Return the positions to service from the TAMI. Return the position to service from the MAP.

Interval

Perform this procedure at intervals of 6 months.

Common procedures

This procedure references the following common procedures:

- How to place MP position in service (standalone)
- How to remove MP position from service (standalone)

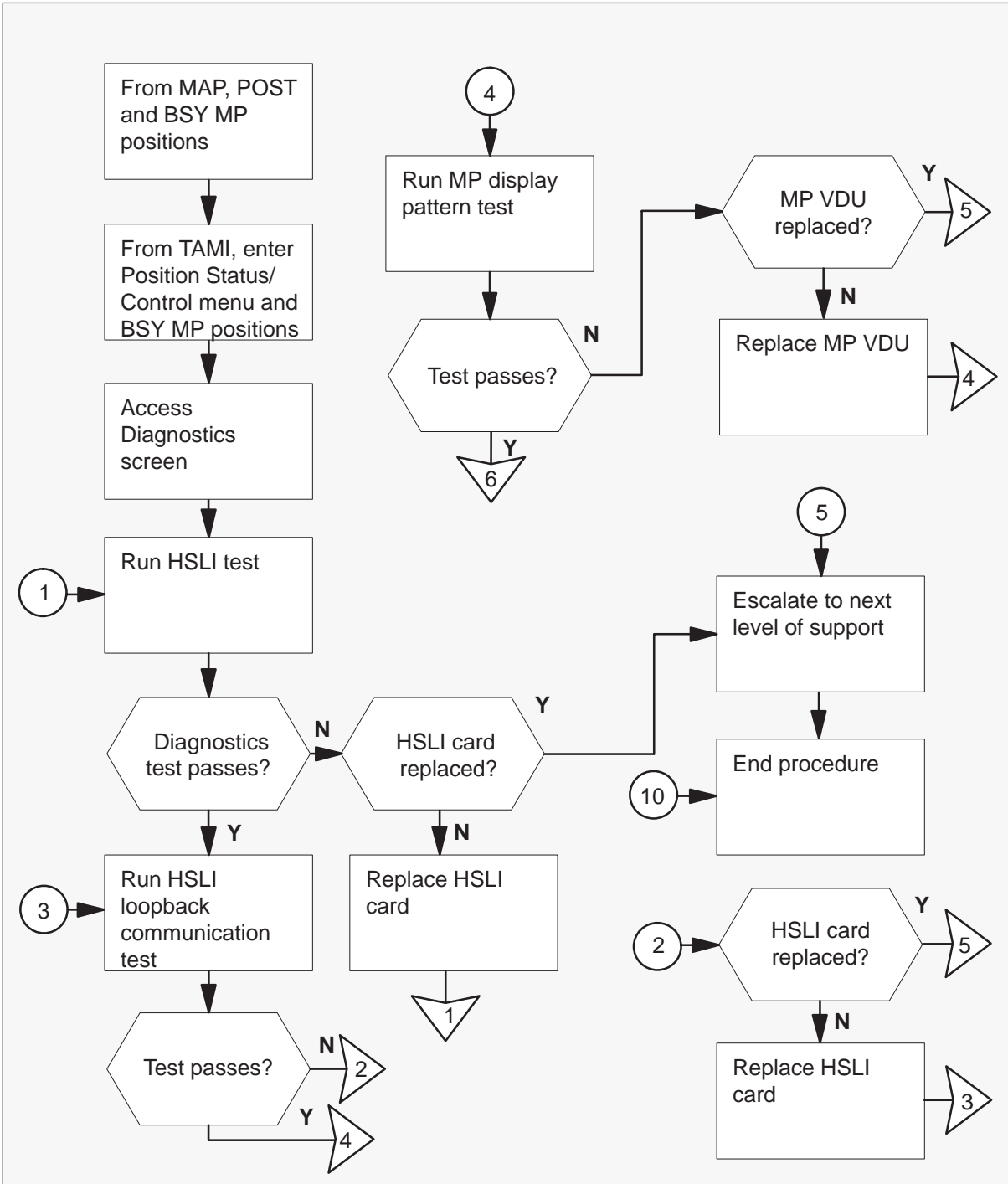
Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Testing an MP position (standalone)

(continued)

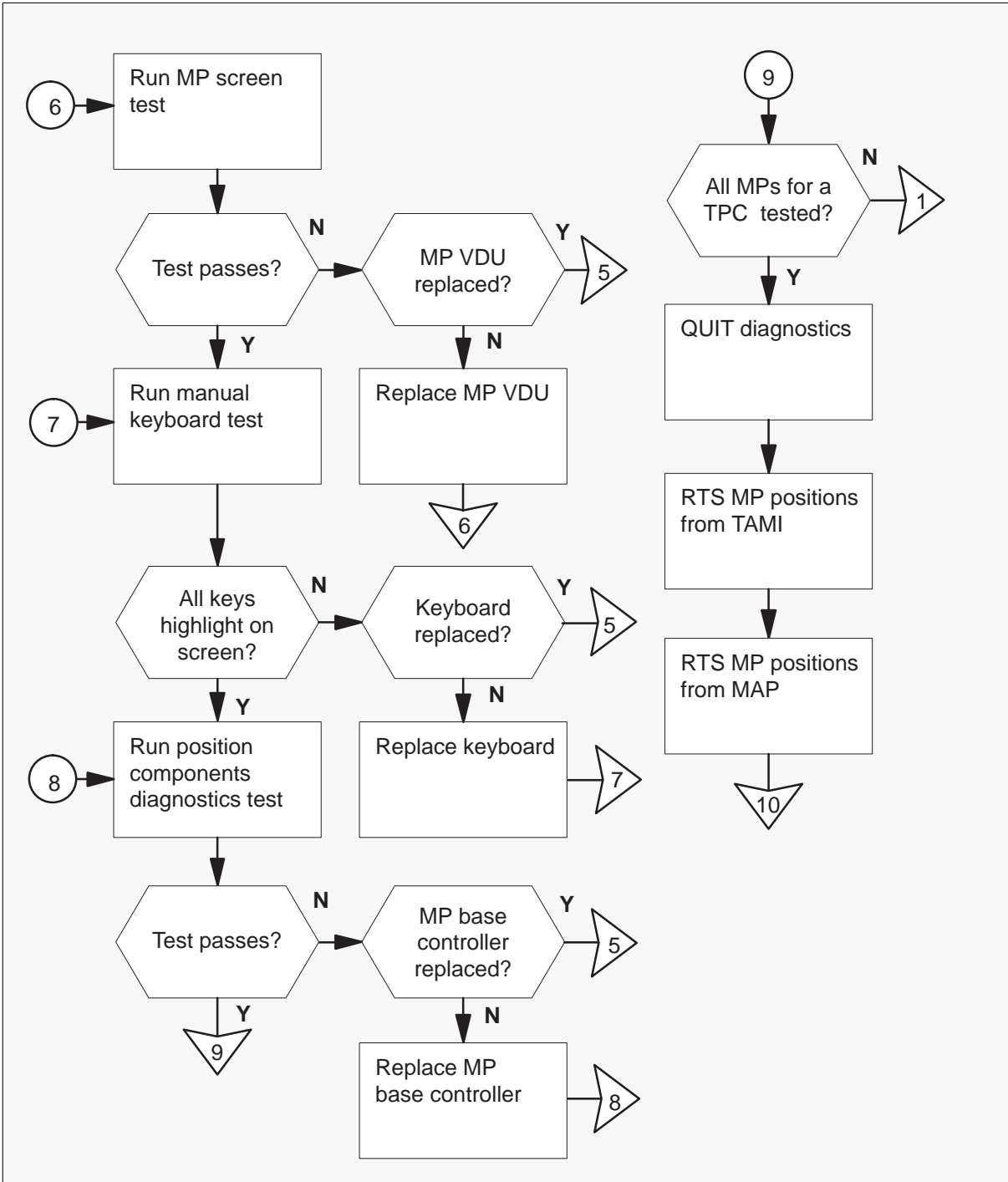
Summary of testing an MP position (standalone)



Testing an MP position (standalone)

(continued)

Summary of testing an MP position (standalone) (continued)



Testing an MP position (standalone)

(continued)

How to test an MP position (standalone)

At your current position

1



CAUTION

MP positions must not be in service.

To prepare MP positions for a test, remove the positions from service. This action makes sure the positions cannot process calls.



CAUTION

MP positions must not be in service.

To prepare MP positions for a test, remove the positions from service. This action makes sure the positions cannot process calls.



CAUTION

Service interruption

The removal of an MP position from service causes service interruption.



CAUTION

Service interruption

The removal of an MP position from service causes service interruption.

Perform the procedure *Removing MP position from service (standalone)*.

At the TAMI:

- 2 From the main menu, access the Diagnostics screen. To access this screen, type

>5

and press the Enter key.

TAMI response:

Enter TPC Diagnostics command:

Testing an MP position (standalone)

(continued)

- 3 To run the TOPS/HSLI card test, type

>POSDIAG n CARD

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3).

Note: You can select only ManB positions.

TAMI response:

```
Performing CBT Port Register Test...
Performing CC Port Register Test...
Performing CBT Port Internal Loopback Test...
Performing CC Port Internal Loopback Test...
Performing HSLI Port Register Test...
Performing HSLI Port Ram Test...
```

If diagnostics test	Do
passes	step 5
fails and you did not replace the HSLI card	step 4
fails and you replaced the HSLI card	step 15

- 4 Replace the HSLI card. Refer to *TOPS MP Card Replacement Procedures* (NTNX62). Return to step 3.

Testing an MP position (standalone)

(continued)

- 5 To run the HSLI loopback communication test, type

>POSDIAG n HSLI

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3).

Note: You can select only ManB positions.

TAMI response:

Downloading MP...

Performing HSLI Loopback Diagnostic...

If loopback diagnostics test	Do
passes	step 7
fails and you did not replace the HSLI card	step 6
fails and you replaced the HSLI card	step 15

- 6 Replace the HSLI card. Refer to *TOPS MP Card Replacement Procedures* (NTNX62), and return to step 5.

Testing an MP position (standalone)

(continued)

- 7 To run the MP display pattern tests, type

>POSDIAG n PATTERN

and press the Enter key. Follow prompts to verify the patterns or exit the diagnostic.

where

n is the MP position number (0, 1, 2, or 3).

Note: You can select only ManB positions.

TAMI response:

Downloading MP...

Ready to display a pattern...

Enter "NEXT" or "EXIT" :

If diagnostics pattern test	Do
passes	step 9
fails and you did not replace the MP VDU	step 8
fails and you replaced the MP VDU replaced	step 15

- 8 Refer to *TOPS MP Card Replacement Procedures* (NT0M92). Replace the MP VDU. Return to step 7.

Testing an MP position (standalone)

(continued)

- 9 To run the MP screen test, type

>POSDIAG n SCREEN

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3).

Note: You can select only ManB positions.

Lines of the letter h continue to appear on the screen. Follow prompts to exit the diagnostic.

If diagnostics screen test	Do
passes	step 11
fails and you did not replace the MP VDU	step 10
fails and you replaced the MP VDU	step 15

- 10 Refer to *TOPS MP Card Replacement Procedures* (NT0M92). Replace the MP VDU. Return to step 9.

- 11 To run the MP manual keyboard test, type

>POSDIAG n MANKEY

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3).

Note: You can select only ManB positions.

- 12 Press every key on the MP keyboard. Verify that the system highlights the keys on the MP VDU display. Follow prompts to exit the diagnostic.

If keys	Do
highlight	step 14
do not highlight and you did not replace the MP keyboard	step 13
do not highlight and you replaced the MP keyboard	step 15

Testing an MP position (standalone)

(continued)

- 13 Refer to *TOPS MP Card Replacement Procedures* (NT0M36). Replace the MP keyboard. Return to step 11.

- 14 To run the terminal component diagnostics (TCD) test, type

>POSDIAG n TCD

and press the Enter key.

where

n is the MP position number (0, 1, 2, or 3).

Note: You can select only ManB positions.

TAMI response:

```
Performing ROM position Component Diagnostic...
Performing CPU position Component Diagnostic...
Performing Exceptions position Component
Diagnostic...
Performing RAM position Component Diagnostic...
Performing HSLI Port position Component Diagnostic...
Performing UART position Component Diagnostic...
Performing Keyboard position Component Diagnostic...
Performing Telephony position Component Diagnostic...
```

If TCD diagnostics test	Do
passes	step 17
fails and you did not replace the MP base controller	step 16
fails and you replaced the MP base controller	step 15

- 15 For additional help, contact the next level of support.
- 16 Refer to *TOPS MP Card Replacement Procedures* (NT0M90). Replace the MP base controller. Return to step 14.
- 17 Make sure the system tests all positions associated with a TPC.

If the system	Do
tests all positions	step 18
does not test all positions	step 3

Testing an MP position (standalone)

(end)

- 18 To exit diagnostics and return to the main menu, type
>QUIT
and press the Enter key.
- 19 Perform the procedure *Placing MP position in service (standalone)*.
- 20 The procedure is complete.

Updating TPC software (integrated and standalone)

Application

Use this procedure to update or reboot TOPS Position Controller (TPC) software.

Interval

Perform this procedure when you need to update current software.

Common procedures

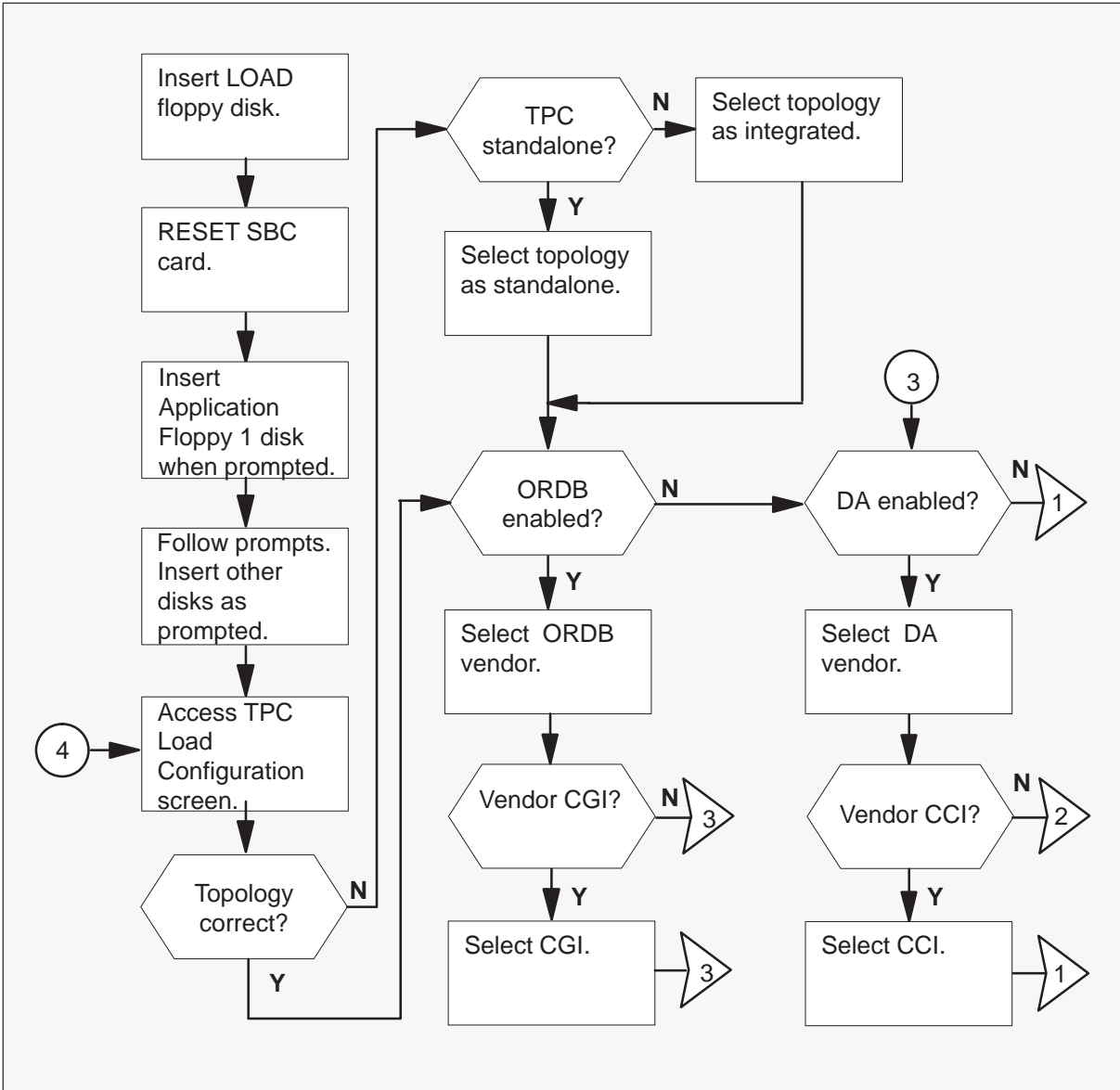
There are no common procedures

Action

This procedure contains a flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform this procedure.

Updating TPC software (integrated and standalone) (continued)

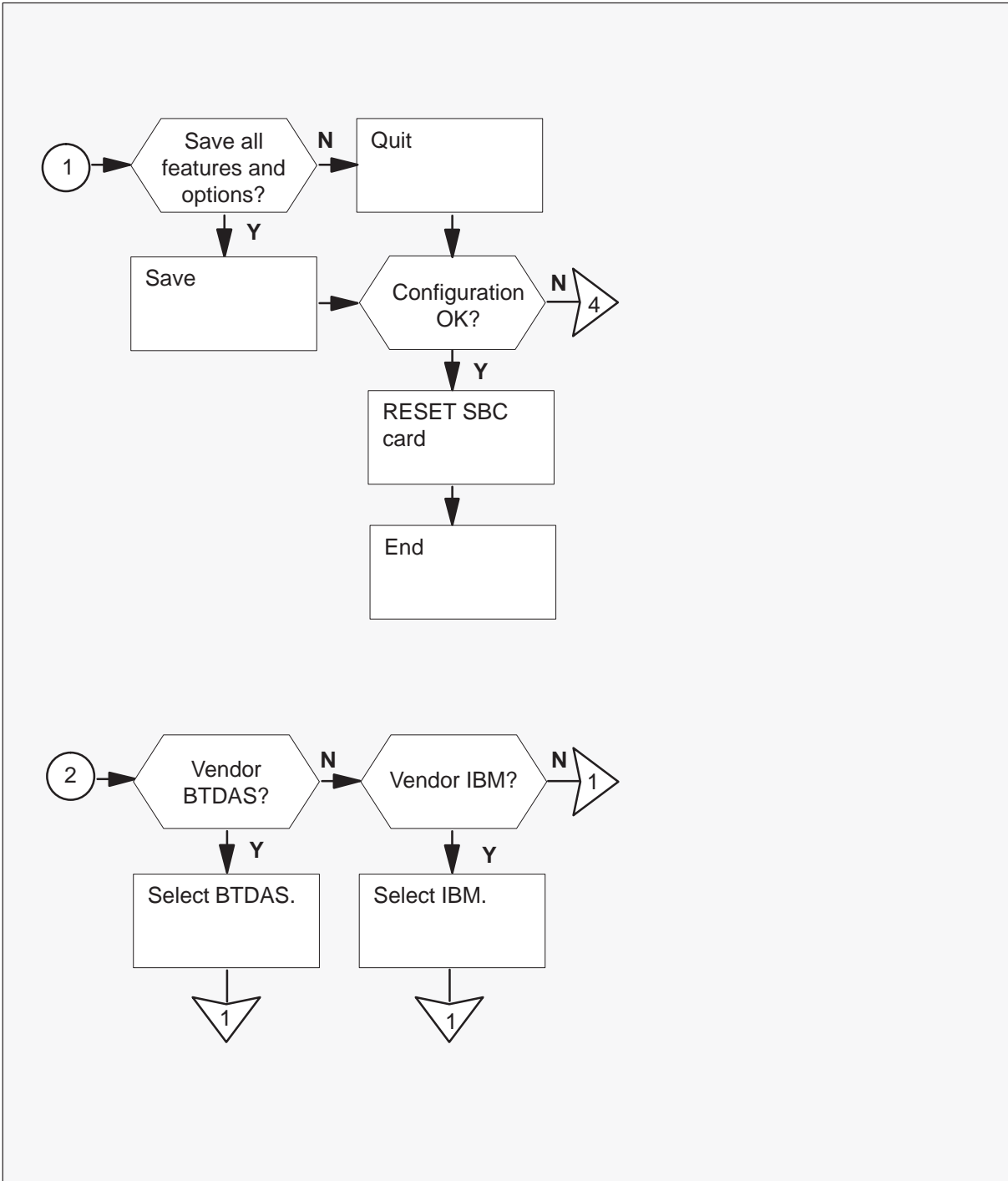
Summary of how to update TPC software (integrated and standalone)



Updating TPC software (integrated and standalone)

(continued)

Summary of how to update TPC software (integrated and standalone) (continued)



Updating TPC software (integrated and standalone) (continued)

How to update TPC software (integrated and standalone)

At your Current Location

1

**WARNING****Possible damage to floppy disks**

Take precautions when you remove floppy disks from jackets. Store floppy disks in a temperate, clean environment. Keep the disks away from liquids.

**CAUTION****Possible damage to floppy disks**

Take precautions when you remove floppy disks from jackets. Store floppy disks in a temperate, clean environment. Keep the disks away from liquids.

**CAUTION****Service interruption**

When you update TPC software, make sure each MP position is busy or offline.

**CAUTION****Service interruption**

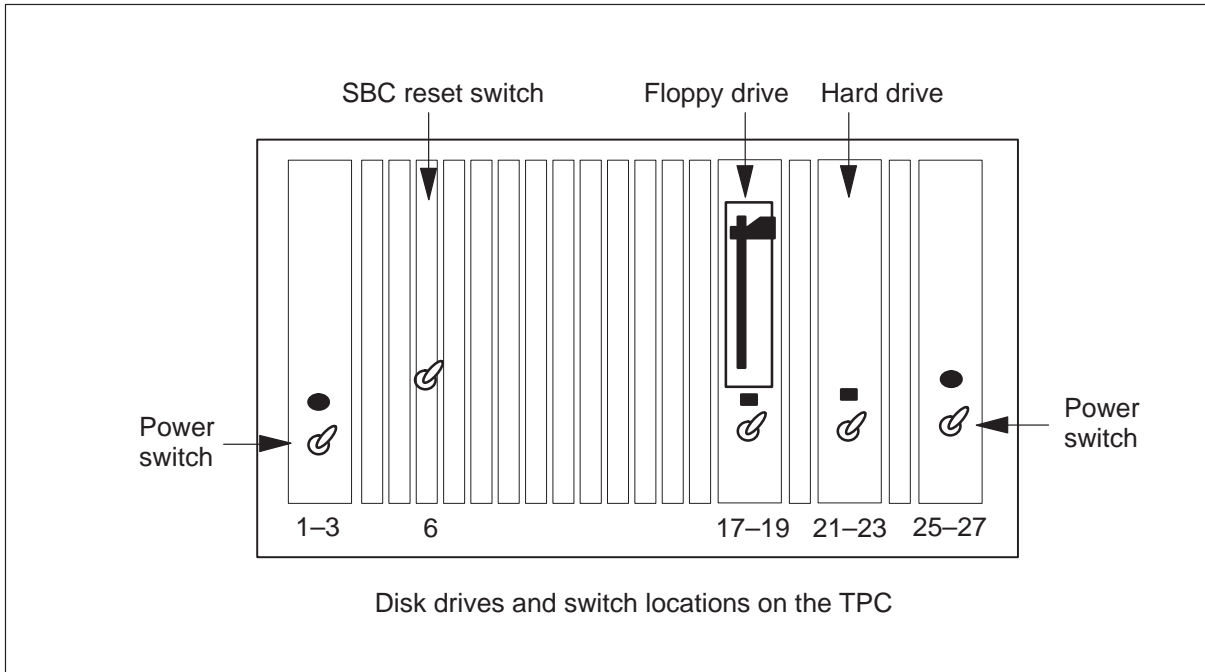
When you update TPC software, make sure each MP position is busy or offline.

Insert the LOAD floppy disk in the floppy drive of the TPC to update. Push the lever to lock the floppy disk in place. See the following figure.

Updating TPC software (integrated and standalone)

(continued)

Note: Make sure the edge of the floppy disk with notches is at the top and the label faces the hard drive.



- 2 To reset the SBC card lower and lift the RESET switch. See the figure in step 1.

Updating TPC software (integrated and standalone)

(continued)

Example of a TAMI response:

```
DOODLEBUG 4.2 - TPC (68010, 128 segment MMU, 7.0Mb memory)
Autobooting ...
```

```
Loading SYSTEM. KERNEL           MF37
STANDARD Dnet Kernel
Loading SYSTEM. MONITOR           MF29
Loading SYSTEM. PD.TEXT
Loading OSPCR_TPC.AREA            AB06
Loading HXCR_TPC.AREA             AG17
Loading TPCUART.CODE              AB01
Loading ECH.CODE                  AE04
Loading TPC_VT100.CODE            AD01
Loading HFLPY_TPC.AREA            AC03
Loading HWNCH_TPC.AREA            AE01
```

```
Command Interpreter Version MD09
```

```
                TPC FLOPPY LOADER
OPERATION                STATUS

Transferring Application Files    Pending
Transferring System Files         Pending
```

```
Please insert the disk labeled:
Application Floppy - 1
Type C)ontinue
```

Updating TPC software (integrated and standalone)

(continued)

- 3 To follow the prompts on the TAMI remove the LOAD floppy disk. Insert the Application Floppy - 1 disk. To continue to load the TPC, type:

>C

Example of a TAMI response:

```

                                TPC FLOPPY LOADER
                                Load Name:  TPC34BM

OPERATION                                STATUS
Transferring Application Files           Started
Transferring System Files                 Pending

COPYING

                                TPC FLOPPY LOADER
                                Load Name:  TPC34BM

OPERATION                                STATUS
Transferring Application Files           Started
Transferring System Files                 Pending

Please insert the disk labeled:
Application Floppy - 2
Type C)ontinue
```

Updating TPC software (integrated and standalone)

(continued)

- 4 To follow the prompts on the TAMI, remove the Application Floppy - 1 disk. Insert the Application Floppy - 2 disk. To continue to load the TPC, type:

>C

Example of a TAMI response:

```

                                TPC FLOPPY LOADER
                                Load Name:  TPC34BM

OPERATION                        STATUS
Transferring Application Files    Started
Transferring System Files         Pending

COPYING

                                TPC FLOPPY LOADER
                                Load Name:  TPC34BM

OPERATION                        STATUS
Transferring Application Files    Started
Transferring System Files         Pending

Please insert the disk labeled:
Application Floppy - 3
Type C)ontinue
```

Updating TPC software (integrated and standalone)

(continued)

- 5 To follow the prompts on the TAMI, remove the Application Floppy - 2 disk. Insert the Application Floppy - 3 disk. To continue to load the TPC, type:

>C

Example of a TAMI response:

```

                                TPC FLOPPY LOADER

                                Load Name:  TPC34BM

OPERATION                                STATUS
Transferring Application Files           Started
Transferring System Files                Pending

COPYING

                                TPC FLOPPY LOADER
                                Load Name:  TPC34BM

OPERATION                                STATUS
Transferring Application Files           Started
Transferring System Files                Pending

Please insert the disk labeled:
Application Floppy - 4
Type C)ontinue
```

Updating TPC software (integrated and standalone)

(continued)

- 6 To follow the prompts on the TAMI, remove the Application Floppy - 3 disk. Insert the Application Floppy - 4 disk. To continue to load the TPC, type:

>C

Example of a TAMI response:

```

                                TPC FLOPPY LOADER

                                Load Name:  TPC34BM

OPERATION                        STATUS
Transferring Application Files    Started
Transferring System Files         Pending

COPYING

                                TPC FLOPPY LOADER
                                Load Name:  TPC34BM

OPERATION                        STATUS
Transferring Application Files    Done
Transferring System Files         Pending

Please insert the disk labeled:
System Floppy - 1
Type C)ontinue
```

Updating TPC software (integrated and standalone)

(continued)

- 7 To follow the prompts on the TAMI, remove the Application Floppy - 4 disk. Insert the System Floppy - 1 disk. To continue to load the TPC, type:

>C

Example of a TAMI response:

```

                                TPC FLOPPY LOADER

                                Load Name:  TPC34BM

OPERATION                        STATUS
Transferring Application Files    Done
Transferring System Files         Started

COPYING

                                TPC FLOPPY LOADER
                                Load Name:  TPC34BM

OPERATION                        STATUS
Transferring Application Files    Done
Transferring System Files         Started

Please insert the disk labeled:
System Floppy - 2
Type C)ontinue
```

Updating TPC software (integrated and standalone)

(continued)

- 8 To follow the prompts on the TAMI, remove the System Floppy - 1 disk. Insert the System Floppy - 2 disk. To continue to load the TPC, type:

>C

Example of a TAMI response:

```

                                TPC FLOPPY LOADER

                                Load Name:  TPC34BM

OPERATION                        STATUS
Transferring Application Files    Done
Transferring System Files         Started

COPYING

                                TPC FLOPPY LOADER
                                Load Name:  TPC34BM

OPERATION                        STATUS
Transferring Application Files    Done
Transferring System Files         Done

Floppy loading complete.  Remove floppy.
Type C)ontinue
```

Updating TPC software (integrated and standalone)

(continued)

- 9 To remove the floppy disk and access the TPC Load Configuration screen, type:

>C

Example of a TAMI response:

```
TPC LOAD CONFIGURATION

FEATURE                                CURRENT SETTING

D)A                                    Disabled
O)RDB                                  Disabled
T)opology                              Standalone

Enter first letter of feature to change feature setting
S)ave current settings and quit        Q)uit without saving
```

Note: Do not reset the TPC immediately after you perform this step as you did in BCS32 and earlier versions.

Updating TPC software (integrated and standalone)

(continued)

- 10 See the TAMI response in step 9 to determine if topology feature current setting is correct.

If topology feature current setting	Do
is correct	step 15
is not correct	step 11

- 11 To access the topology feature, type:

>T

Example of a TAMI response:

```

      TPC LOAD CONFIGURATION

FEATURE                                CURRENT SETTING
D)A                                    Disabled
O)RDB                                   Disabled
T)opology                               Integrated

Available options are:
      S)tandalone
      I)ntegrated  NTXA83

Enter first letter of option to change setting for feature
```

Updating TPC software (integrated and standalone) (continued)

- 12 Determine if the TPC is standalone or integrated.

If TPC load	Do
is standalone	step 13
is integrated	step 14

- 13 To select the TPC load as being standalone, type:

>S

Example of a TAMI response:

```
          TPC LOAD CONFIGURATION

FEATURE                                CURRENT SETTING

D)A                                    Disabled
O)RDB                                   Disabled
T)opology                               Standalone

Enter first letter of feature to change feature setting
S)ave current settings and quit        Q)uit without saving
```

Go to step 15.

Updating TPC software (integrated and standalone)

(continued)

- 14 To select the TPC load as being integrated, type:

>I

Example of a TAMI response:

```
      TPC LOAD CONFIGURATION

FEATURE                                CURRENT SETTING

D)A                                    Disabled
O)RDB                                   Disabled
T)opology                               Integrated

Enter first letter of feature to change feature setting
S)ave current settings and quit        Q)uit without saving
```

Updating TPC software (integrated and standalone)

(continued)

- 15 Determine if Operator Reference Database (ORDB) must be enabled.

If ORDB must	Do
be enabled	step 16
not be enabled	step 18

- 16 To access ORDB type:

>O

Example of a TAMI response:

```
          TPC LOAD CONFIGURATION

FEATURE                                CURRENT SETTING

D)A                                    Disabled
O)RDB                                  Disabled
T)opology                              Integrated

          Available options are:
                                D)isabled
                                C)GI          NTXA20

Enter first letter of feature to change feature setting
```

Updating TPC software (integrated and standalone) (continued)

- 17 To select the vendor, Computer Generations, Incorporated, that supports ORDB, type:

>C

Example of a TAMI response:

```

          TPC LOAD CONFIGURATION
FEATURE                                CURRENT SETTING

D)A                                    Disabled
O)RDB                                  CGI
T)opology                              Integrated

Enter first letter of feature to change feature setting
S)ave current settings and quit      Q)uit without saving
    
```

- 18 Determine if Directory Assistance (DA) must be enabled.

If DA must	Do
be enabled	step 19
not be enabled	step 24

Updating TPC software (integrated and standalone) (continued)

19 To access directory assistance (DA), type:

>D

Example of a TAMI response:

```
TPC LOAD CONFIGURATION

FEATURE                                CURRENT SETTING

D)A                                    Disabled
O)RDB                                  CGI
T)opology                              Integrated

      Available options are:

          D)isabled
          C)CI          NTX708/709
          B)TDAS
          I)BM          NTXD39/D40

Enter first letter of option to change setting for feature
```

20 Select the vendor that supports DA.

If vendor	Do
is CCI	step 21
is BTDAS	step 22
is IBM	step 23

Updating TPC software (integrated and standalone)

(continued)

- 21 To select Computer Consoles, Incorporated (CCI) type:

>C

Example of a TAMI response:

```

      TPC LOAD CONFIGURATION

FEATURE                                CURRENT SETTING

D)A                                    CCI
O)RDB                                  CGI
T)opology                              Integrated

Enter first letter of feature to change feature setting
S)ave current settings and quit        Q)uit without saving
```

Go to step 24.

- 22 To select British Telecom Directory Assistance (BTDAS), type:

>B

Example of a TAMI response:

```

      TPC LOAD CONFIGURATION

FEATURE                                CURRENT SETTING

D)A                                    BTDAS
O)RDB                                  CGI
T)opology                              Integrated

Enter first letter of feature to change feature setting
S)ave current settings and quit        Q)uit without saving
```

Go to step 24.

Updating TPC software (integrated and standalone) (continued)

- 23 To select International Business Machines Corporation (IBM), type:

>I

Example of a TAMI response:

```

          TPC LOAD CONFIGURATION

FEATURE                                CURRENT SETTING

D)A                                    IBM
O)RDB                                  CGI
T)opology                              Integrated

Enter first letter of feature to change feature setting
S)ave current settings and quit        Q)uit without saving
    
```

- 24 Determine if you must save each feature and option.

If you must	Do
save each feature and option	step 26
not save each feature and option	step 25

- 25 To quit without saving features and options, type:

>Q

Go to step 27.

- 26 To save each feature and option, type:

>S

Example of a TAMI response:

```

          TPC LOAD CONFIGURATION

New settings saved in TPC configuration file.

Reset TPC to keep current configuration or...
Type C)ontinue
    
```

Updating TPC software (integrated and standalone)

(continued)

27 Make sure the TPC load configuration is correct.

If the TPC load	Do
is correct	step 28
must be reviewed or changed	step 9

28 To reset the SBC card lower and lift, the RESET switch.

Example of a TAMI response:

```

DOODLEBUG 4.2 - TPC (68010, 128 SEGMENT MMU, 7.0Mb memory)

Autobooting...

Loading SYSTEM.KERNEL           MF37
STANDARD Dnet Kernel
Loading SYSTEM. MONITOR         MF29
Loading SYSTEM.PD.TEXT
Loading OSPCR_TPC.AREA          AB06
Loading HXCR_TPC.AREA           AG17
Loading TPCUART.CODE            AB01
Loading ECH.CODE                AE04
Loading TPC_VT100.CODE          AD01
Loading HFLPY_TPC.AREA          AC03
Loading HWNCH_TPC.AREA          AE01
Loading ATMSG.AREA              AB01
Loading TPCDRS.AREA             91/04/09 11:32
Loading TPCDEBUG.AREA           AB01
Loading TPCHSDA.AREA            91.04.09 11:47
Loading OSP.CODE                 AE01

Command Interpreter Version MD09

-----
-----TOPS  MP-----
-----

Starting Supervisor initialization.
Supervisor initialization complete.

Starting log system initialization.
Log system initialization complete.

```

Updating TPC software (integrated and standalone) (end)

29 When you complete loading, the TAMI main menu appears.

Example of a TAMI response (integrated):

```
          TPC ADMINISTRATION AND MAINTENANCE
          Version mTPC34BM  IBM-DA/CGI-ORDB

1.  TPC LOGS                      5.  RESET TPC
2.  TPC DATAFILL                 6.  SONALERT
3.  HSDA STATUS/CONTROL           7.  TPC PATCHER
4.  DATE AND TIME

          MAKE CHOICE :
```

Example of a TAMI response (standalone):

```
          TPC ADMINISTRATION AND MAINTENANCE
          Version sTPC34BM2 DA/ORDB/FRENCH

1.  TPC LOGS                      6.  DATE AND TIME
2.  TPC DATAFILL                 7.  RESET TPC
3.  POSITION STATUS/CONTROL         8.  SONALERT
4.  HSDA STATUS/CONTROL           9.  TPC PATCHER
5.  DIAGNOSTICS

          MAKE CHOICE :
```

30 This procedure is complete.

Placing MP position in service (integrated)

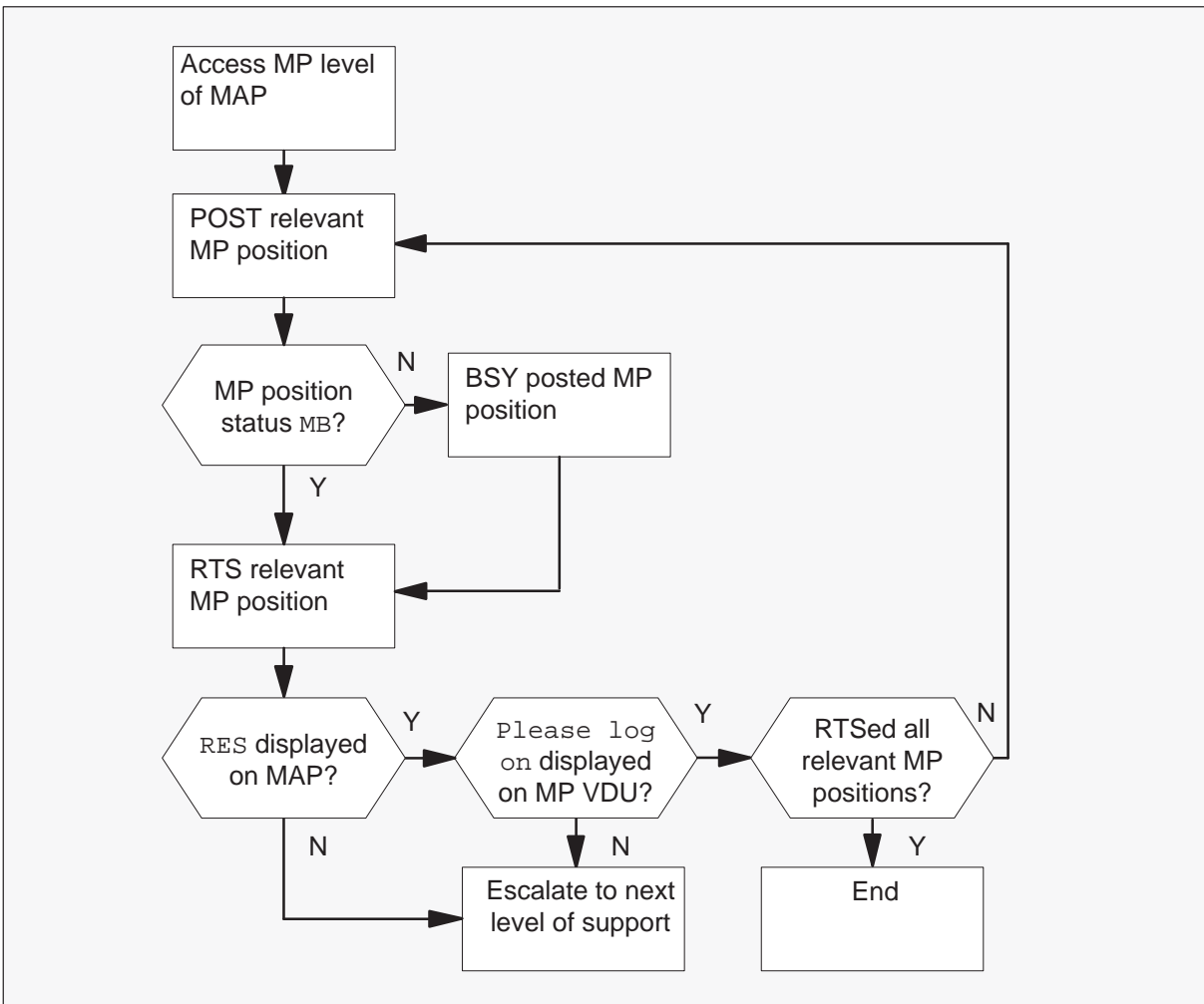
Application

Use this procedure to return integrated Traffic Operator Position System (TOPS) Multipurpose (MP) positions to service.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of how to replace an MP position in service (integrated)



Placing MP position in service (integrated)

(continued)

How to place MP position in service (integrated)

At your Current Location

- 1 Proceed if a step in a maintenance procedure directs you to this procedure. Use of this procedure separately can cause equipment damage or service interruption.

At the MAP display:

- 2 To access the MP level, type

>MAPCI;MTC;PM

and press the Enter key.

>POST TPC x;MP

and press the Enter key.

where

x is the TOPS position controller (TPC) number.

Placing MP position in service (integrated) (continued)

3 To post the MP position that applies, type

>POST P n

and press the Enter key.

where

n is the MP position number, 0, 1, 2, or 3.

If MP position status	Do
is MB	step 5
is SB	step 4

Example of a MAP display response:

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .

MP
0  Quit  PM  0      0      10     0      0      130
2  Post_ TPC 0      0      0      0      0      4
3
4
5      Trnsl
6      Tst      Status  VTB  SB  MB  PMB  RES  RTRN  INB
7  Bsy      MP      0  0  1  0  5  0  2
8  RTS
9      POS  201  TPC  0  MP  1  MB
10     Size of Post set: 1
11  Disp_
12  Next
13  FRls
14  QueryMP
15
16
17
18
    
```

MP position number and status

4 To busy the MP position, type

>BSY

and press the Enter key.

Placing MP position in service (integrated)

(continued)

- 5 To return the MP position to service, type **>RTS** and press the Enter key.

Example of a MAP display response:

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .

MP      SysB      ManB      OffL      Cbsy      ISTb      InSv
0  Quit  PM  0      0      10      0      0      130
2  Post_ TPC 0      0      0      0      0      4
3
4      TPC 0  InSv
5  Trnsl
6  Tst      Status  VTB  SB  MB  PMB  RES  RTRN  INB
7  Bsy      MP      0      0      1      0      5      0      2
8  RTS
9      POS  201  TPC  0  MP  1  RES
10     Size of Post set:      1
11  Disp_
12  Next
13  FRls
14  QueryMP
15
16
17
18
    
```

MP position number and status

- 6 Determine if the MP position returns to service.

If MP position	Do
returns to service and RES appeared on MAP	step 8
failed to return to service	step 7

- 7 For additional help, contact the next level of support.

Placing MP position in service (integrated)

(end)

At the affected position:

- 8** Examine the MP VDU.

If the system	Do
displays Please log on	step 9
displays message other than listed here	step 7

- 9** Determine if the system returns all MP that apply positions to service.

If the system	Do
returned all MP positions that apply to service	step 10
did not return all MP positions that apply to service	step 3

- 10** The procedure is complete. Return to the procedure that sent you to this procedure and continue.

Placing MP position in service (standalone)

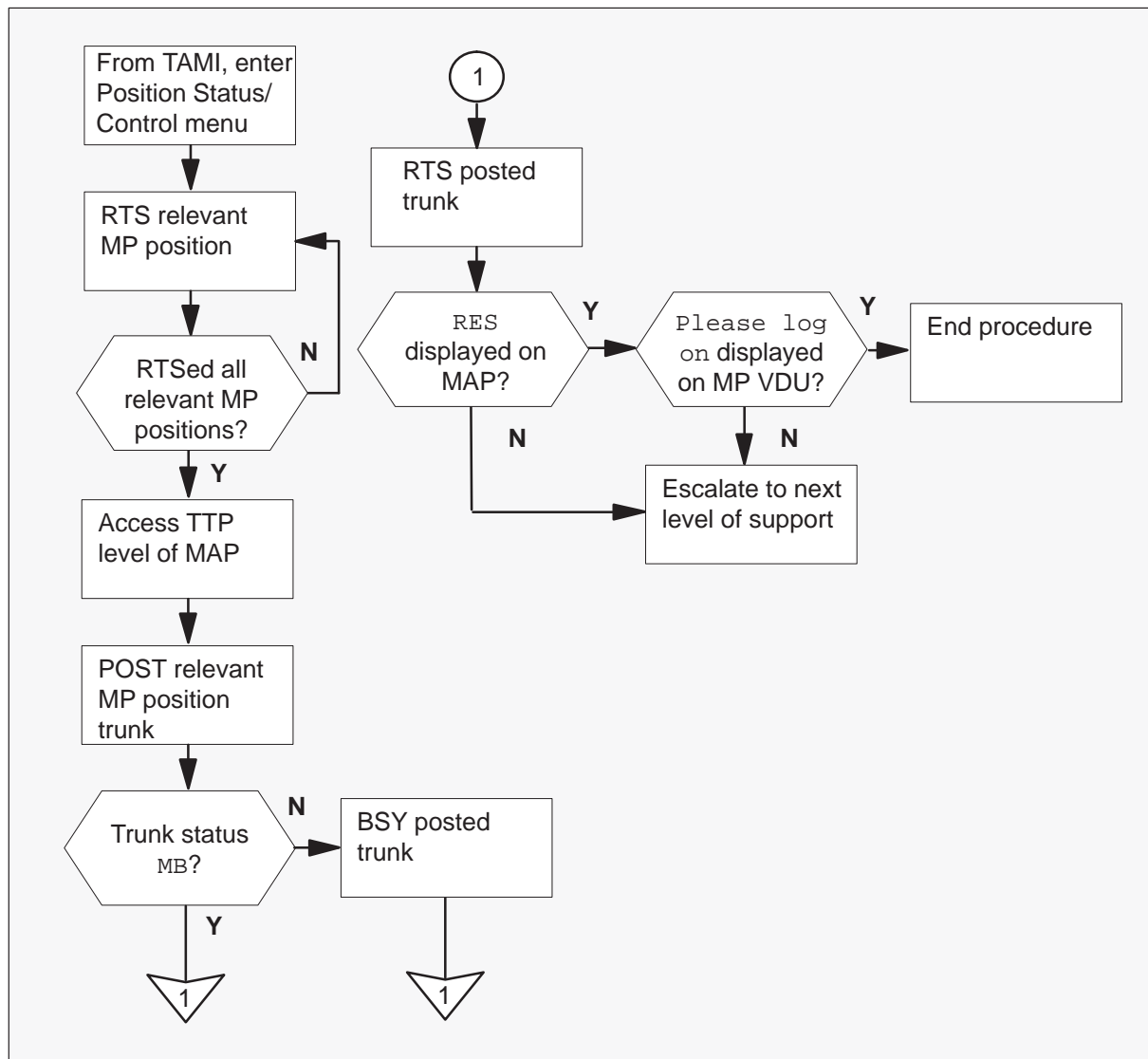
Application

Use this procedure to place a standalone Traffic Operator Position System (TOPS) Multipurpose (MP) position in service.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of How to place MP position in service (standalone)



Placing MP position in service (standalone)

(continued)

How to place MP position in service (standalone)

At the TAMI:

1

ATTENTION

Proceed if a step in a maintenance procedure directs you to this procedure. If you use this procedure separately, equipment damage or service interruption can occur.

To access the Position Status/Control menu from the TAMI main menu, enter

>3

and press the Enter key.

TAMI response:

```

                                POSITION STATUS/CONTROL

1.  Bsy
2.  RTS
3.  OffL
4.  RTS ALL POSITIONS

POSITION NUMBER          STATUS          CARD  PRESENT
   0.                   InSv                   YES
   1.                   InSv                   YES
   2.                   InSv                   YES
   3.                   ManB                   YES

MAKE CHOICE :
```

2 To return to service (RTS) the MP position that applies, enter

>2

and press the Enter key.

>n

and press the Enter key.

where

n is the MP position number 0, 1, 2, or 3

Placing MP position in service (standalone)

(continued)

Note: Repeat this step until all positions that applies are RTS.

At the MAP display:

- 3 To access the TTP level, enter
>MAPCI;MTC;TRKS;TTP
and press the Enter key.
- 4 To post the MP position trunk that applies, enter
>POST T TOPSPOS n
and press the Enter key.
where
n is the MP position number (0, 1, 2, or 3)
- 5 Note the status of the trunk circuits.


If the trunk status	Do
i s MB	step 7
i s SB	step 6

- 6 To busy the posted trunk, enter
>BSY
and press the Enter key.


Placing MP position in service (standalone)

(continued)

7



CAUTION
Trunk goes system busy
 Do not RTS the TOPSPOS trunk until the MP position has completely downloaded (VDU displays `Link problems encountered`).
 The trunk goes system busy if the trunk is RTSed before `Link problems encountered` appears on the VDU.



CAUTION
Trunk goes system busy
 Do not RTS the TOPSPOS trunk until the MP position has completely downloaded (VDU displays `Link problems encountered`).
 The trunk goes system busy if the trunk is RTSed before `Link problems encountered` appears on the VDU.

To return the MP position to service that apply, enter

>RTS

and press the Enter key.

Note: Repeat steps 4 through 7 until all positions that apply are RTS.

8 Determine if trunk RTS.

If trunk	Do
RTS when <code>RES</code> appears on MAP	step 10
fails to RTS	step 9

9 For additional help contact the next level of support.

Placing MP position in service (standalone)

(end)

At the affected position:

- 10** Examine the MP VDU.

If	Do
Please log on appears	step 11
any other message appears	step 9

- 11** The procedure is complete. Return to the main procedure and continue as the procedure directs.

Removing MP position from service (integrated)

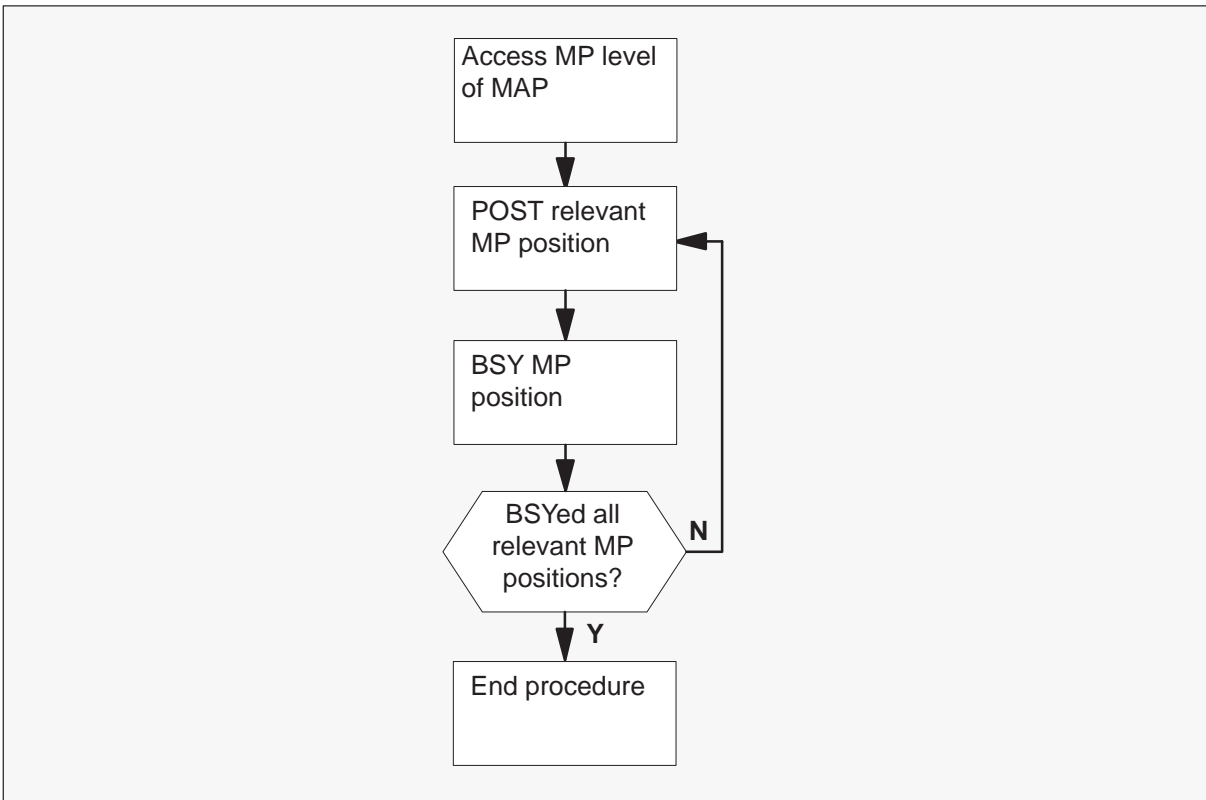
Application

Use this procedure to remove integrated Traffic Operator Position System (TOPS) Multipurpose (MP) positions from service.

Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Summary of How to remove MP position from service (integrated)



How to remove MP position from service (integrated)

At your Current Location

- 1 Proceed if a step in a maintenance procedure directs you to this procedure. If you use this procedure separately, equipment damage or service interruption can occur.

Removing MP position from service (integrated)

(continued)

At the MAP display:

2 To access the MP level, type

>MAPCI;MTC;PM
and press the Enter key.

>POST TPC x;MP
and press the Enter key.

where

x is the TPC number.

3 To post the MP position that applies, type

>POST P n
and press the Enter key.

where

n is the MP position number 0, 1, 2, or 3.

Example of a MAP display response:

CM	MS	IOD	Net	PM	CCS	LNS	Trks	Ext	EIO
.
MP		SysB	ManB	OffL	CBsy	ISTb	InSv		
0	Quit	PM 0	0	10	0	0	130		
2	Post_	TPC 0	0	0	0	0	4		
3									
4		TPC 0	InSv						
5	Trnsl								
6	Tst	Status	VTB	SB	MB	PMB	RES	RTRN	INB
7	Bsy	MP	0	0	1	0	5	0	2
8	RTS								
9		POS	201	TPC	0	MP	1	RES	
10		Size of Post set:				1			
11	Disp_								
12	Next								
13	FRls								
14	QueryMP								
15									
16									
17									
18									

MP position number
and status

Removing MP position from service (integrated) (end)

4 To busy the MP position, type

>BSY

and press the Enter key.

Example of a MAP display response:

```

CM      MS      IOD      Net      PM      CCS      LNS      Trks      Ext      EIO
.      .      .      .      .      .      .      .      .      .

MP      SysB      ManB      OffL      CBsy      ISTb      InSv
0  Quit  PM  0      0      10      0      0      130
2  Post_ TPC 0      0      0      0      0      4
3
4      TPC 0  InSv
5  Trnsl
6  Tst      Status  VTB  SB  MB  PMB  RES  RTRN  INB
7  Bsy      MP      0  0  1  0  5  0  2
8  RTS
9      POS  201  TPC  0  MP  1  MB
10     Size of Post set: 1
11  Disp_
12  Next
13  FRls
14  QueryMP
15
16
17
18
    
```

MP position number
and status

5 Determine if removal from service for MP positions that apply occurs.

If removal from service of MP positions that apply	Do
occurs	step 6
does not occur	step 3

6 The procedure is complete. Return to the main procedure and continue as the procedure directs.

Removing MP position from service (standalone)

Application

Use this procedure to remove a standalone Traffic Operator Position System (TOPS) Multipurpose (MP) position from service.

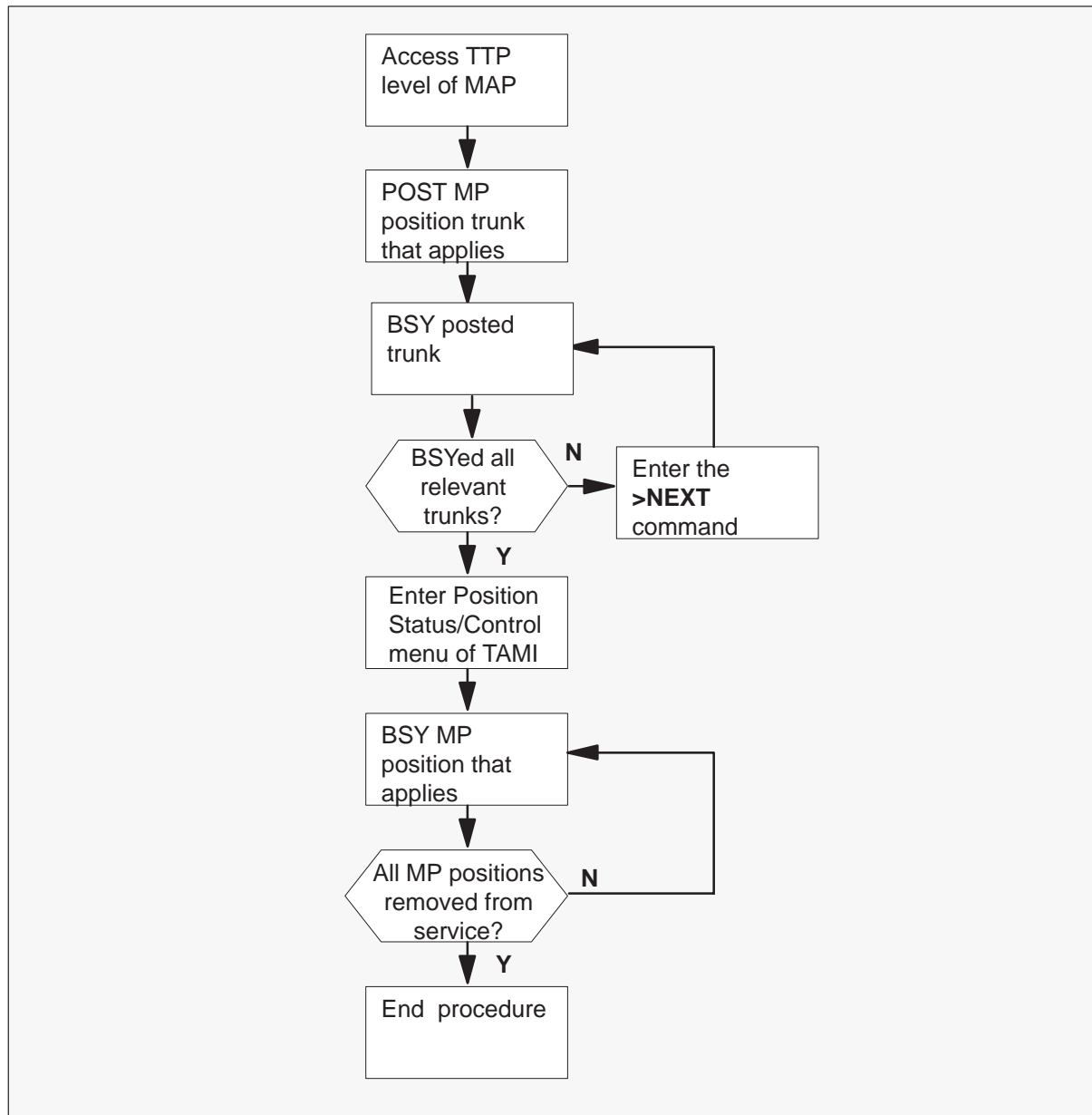
Action

This procedure contains a summary flowchart and a list of steps. Use the flowchart to review the procedure. Follow the steps to perform the procedure.

Removing MP position from service (standalone)

(continued)

Summary of How to remove MP position from service (standalone)



Removing MP position from service (standalone)

(continued)

How to remove MP position from service (standalone)

At the MAP display:

1

ATTENTION

Proceed if a step in a maintenance procedure directs you to this procedure. If you use this procedure independently, equipment damage or service interruption can result.

To access the TTP level, type

>MAPCI;MTC;TRKS;TTP

and press the Enter key.

Example of a MAP display response:

```

CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
.       .       .       .       .       .       .       .       .       .
TTP
0 Quit_  POST      DELQ      BUSYQ      DIG
2 Post_  TTP  16
3 Seize_ CKT TYPE  PM NO      COM LANG  STA      S R DOT TE  RESULT
4        DESK      TMS 0 5 18  TOPSPOS  221 STATE  RES
5 Bsy_
6 RTS_
7 Tst_
8
9 CktInfo
10 CktLoc
11 Hold
12 Next_
13 Rls_
14 Ckt_
15 TrnslVf_
16 StkSdr_
17 Pads_
18 Level_
User ID

```

2 To post the MP position trunk that applies, type

>POST G TOPSPOS n

and press the Enter key.

where

n is the MP position number 0, 1, 2, or 3.

Removing MP position from service (standalone) (continued)

- 3 To busy the posted trunk, type

>BSY

and press the Enter key.

Example of a MAP display response:

```

      CM      MS      IOD      Net      PM      CCS      Lns      Trks      Ext      EIO
      .      .      .      .      .      .      .      .      .      .
TTP
0 Quit_      POST  14      DELQ      BUSYQ      DIG
2 Post_      TTP   6-024
3 Seize_     CKT TYPE  PM NO.      COM LANG  STA  S R DOT TE RESULT
4           DESK      TM8  2 16  TOPSPOS  200  IDL
5 Bsy_
6 RTS_
7 Tst_
8
9 CktInfo
10 CktLoc
11 Hold
12 Next_
13 Rls_
14 Ckt_
15 TrnslVf_
16 StkSdr_
17 Pads_
18 Level_
User ID
    
```

- 4 Refer to step 3 to determine if all trunks that apply are busy from the MAP.

If all trunks that apply	Do
are busy	step 6
are not busy	step 5

- 5 To post the next trunk, type

>NEXT

and press the Enter key. Return to step 3.

Removing MP position from service (standalone)

(continued)

At the TAMI:

- 6 To access the Position Status/Control menu from the TAMI main menu, type **>3** and press the Enter key.

TAMI response:

```

                                POSITION STATUS/CONTROL

1. Bsy
2. RTS
3. OffL
4. RTS ALL POSITIONS

POSITION NUMBER      STATUS      CARD PRESENT
0.                   InSv        YES
1.                   InSv        YES
2.                   InSv        YES
3.                   InSv        YES

MAKE CHOICE:
```

- 7 To busy the MP position that apply, use the following procedure:
- Type **>1** and press the Enter key.
where
1 is busy.
 - Type **>n** and press the Enter key.
where
n is the MP position number 0, 1, 2, or 3.

Removing MP position from service (standalone)

(end)

c. Type

>Y

and press the Enter key.

where

y is yes, the user busied the position at the MAP.

8 Determine if removal from service for all positions that apply occurs from the TAMI.

If removal of MP positions that apply	Do
occurs	step 9
does not occur	step 7

9 To return to the TAMI main menu, press the PF3 key.

10 The procedure is complete. Return to the main procedure and continue as the procedure directs.

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DMS-100 Family
**Traffic Operator Position
System**
TOPS and TMS Maintenance Manual

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