Field Feature Bill of Material

PN 03K5492
Storage Expansion (FC 5037)
in IBM 3746 Model9X0 with FC 5022 SC 9222
(Network Node Processor A or B - Type 7585-P02)

Written by: C. Vallee
Illustration by: S. Vaccaro
Checked by: A. Corbin
Approved by: A. Badino
Reviewed by: B. Kelly

Before Installation (Steps 1-8)

1.0 Machines Affected

3746 Model 9X0 with FC 5022 and SC 9222 (Network Node Processor A or B - Type 7585-P02).

This feature should only be applied on the machine serial number for which it is specified.

2.0 Related BMs and ECs

None.

3.0 BMs to be Installed

03K5492 Network Node Processor Memory Expansion.

4.0 Preparation

1. Familiarize yourself with the purpose and details of the installation instruction before negotiating machine time with the customer.
2. Check all items listed on the BM(s) to determine that all parts have been received.

   Note: Whenever required for a dual NNP configuration, the NNP memory expansion must be installed in both processors.

5.0 Programming

None.

6.0 Purpose and Description

6.1 Purpose

To support large network configuration on 3746-9x0.

6.2 Description

To install two additional **SIMM** on system board of the Network Node Processor A or B.

7.0 Installation Time

FFBM	Machine Hrs.	System Hrs.	Nbr of CEs
03K5492	See Note.	0.0	1

Notes:

1. No machine time is required if two Network Node Processor are installed and backup function is selected.
2. If only one Network Node Processor is installed, all the lines depending on it should be deactivated for about 1 hour..

8.0 Tools/Material Required

E.S.D. Kit p/n 6428316

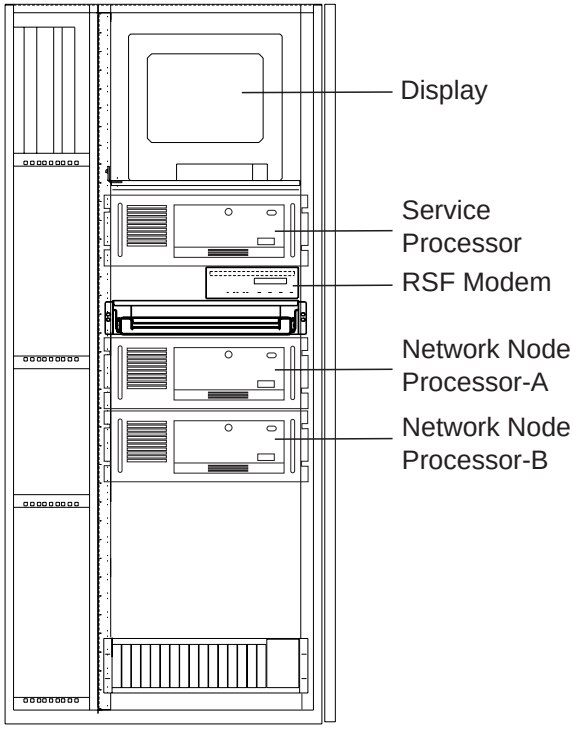


Figure 1. NNP-B installed with SP 7585.

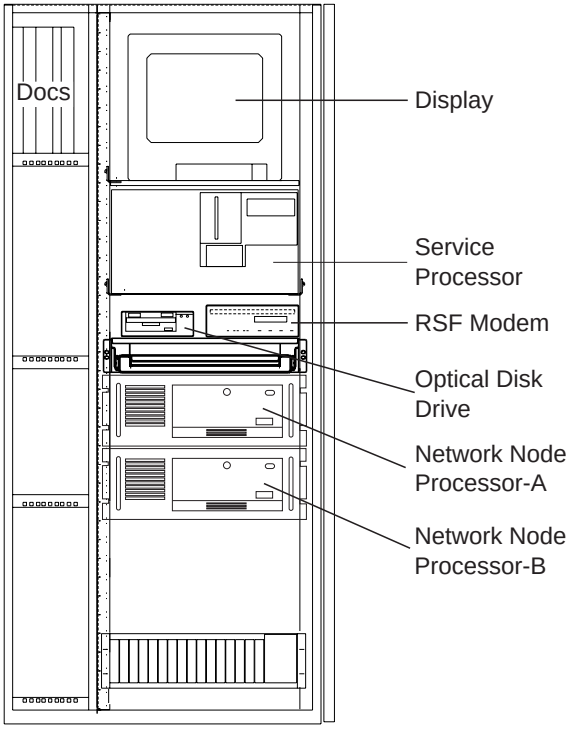


Figure 3. NNP-B installed with SP 3172.

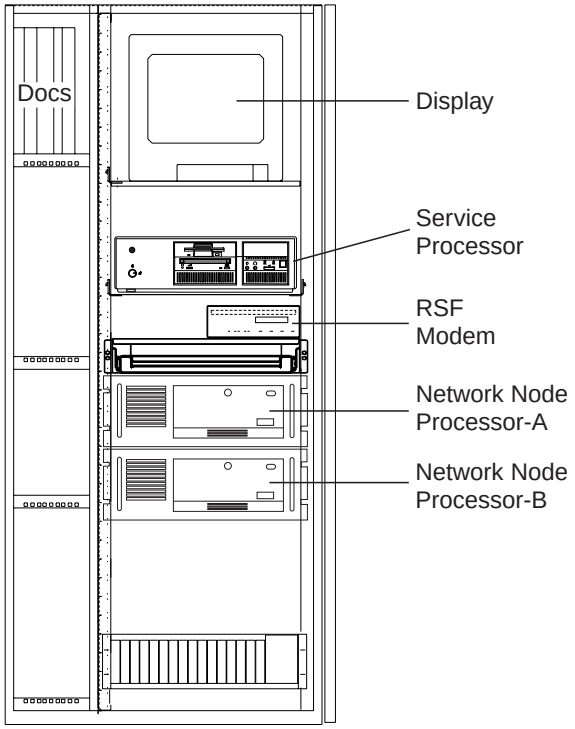


Figure 2. NNP-B installed with SP 9577.

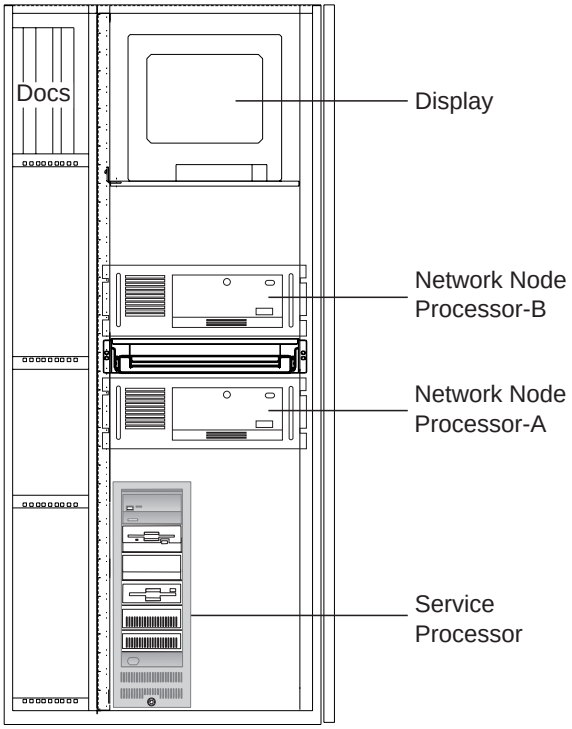


Figure 4. NNP-B installed with SP 9585.

General Layout of Components

Figure 5 shows the Network Node Processor system unit with the covers removed. This figure illustrates the general layout of the system unit. This general layout is the same for all configurations, even though component units (input/output, storage, and so forth) may be changed or added. Figure 6 on page 8 shows the locations of components and connectors on the current system board. Note that the locations of system board components could change with different system boards.

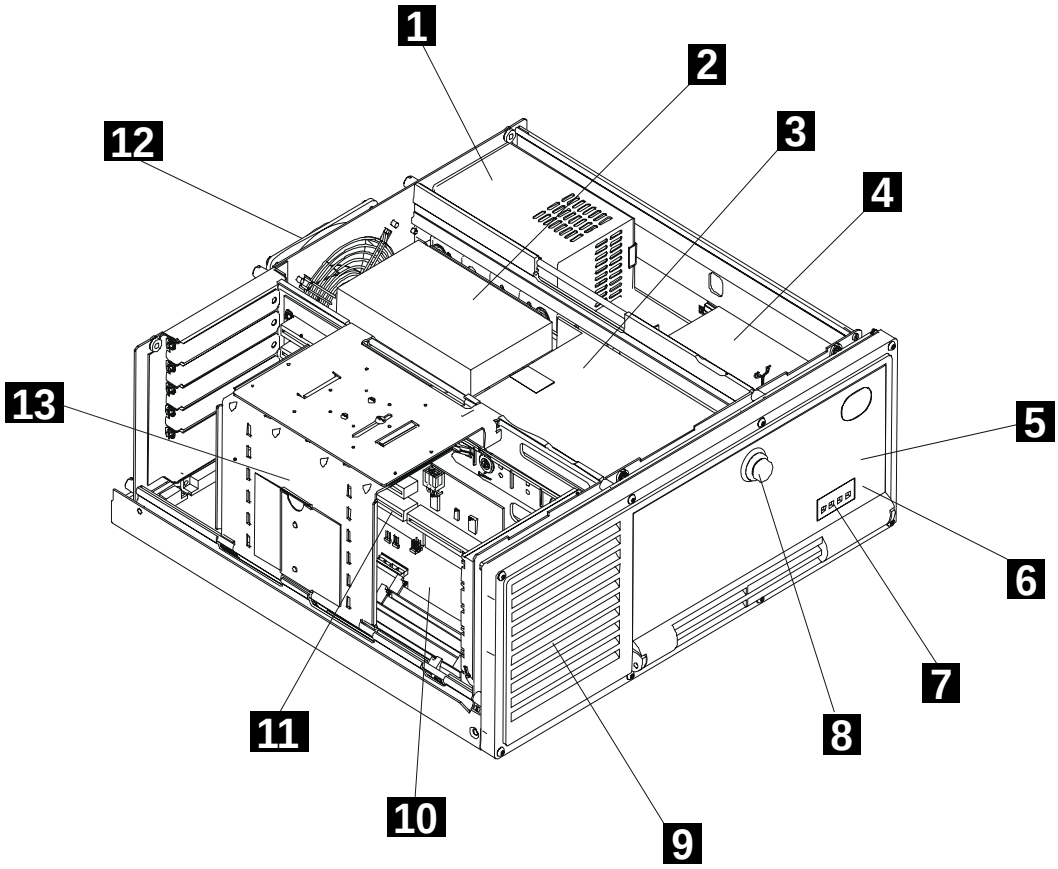


Figure 5. General Component Layout

1. Power supply
2. 3½-inch hard disk drive.
3. 5¼-inch drive (Not installed).
4. 3½-inch diskette drive mounted in a 3½-inch bay
5. Power switch (behind access door)
6. Speaker (inside system unit in front bay)
7. LEDs (showing through front access door)
8. Access door latch
9. Front cooling fan and air filter
10. System board
11. Riser for feature cards (no feature cards shown)

12 Rear cooling fan and air filter
13 Adapter Card Retainer

System Board

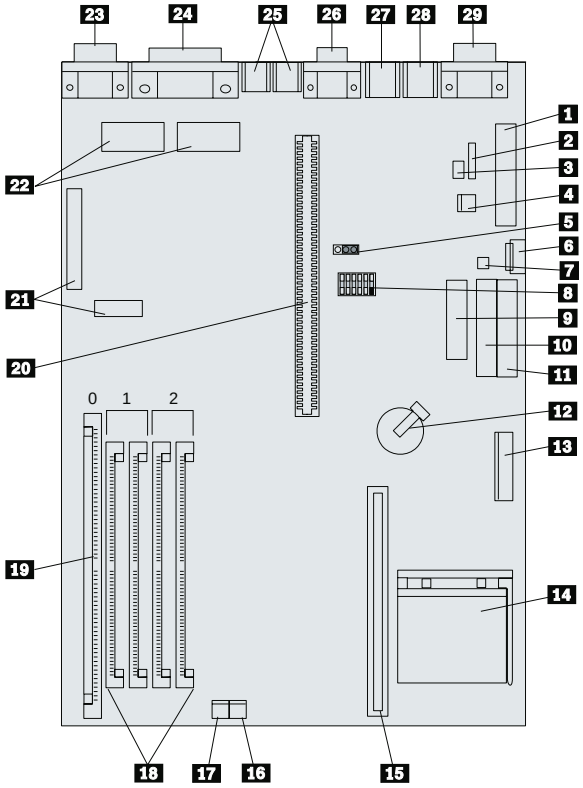


Figure 6. System Board Component Locations

1	Power connector (5 V)
2	Modem ring
3	LAN Wake-Up
4	Modem ring
5	Password jumper (CMOS clear)
6	Auxiliary power
7	On/Off switch
8	Configuration switch set
9	Diskette connector
10	Primary IDE connector
11	Secondary IDE connector
12	Battery
13	Power connector (3.3 V)
14	Processor upgrade socket
15	Cache memory module connector
16	Power LED connector
17	Hard disk access LED connector
18	SIMM connectors (Bank 1/2)
19	DIMM connector (Bank 0)
20	Riser connector
21	VESA passthrough connectors
22	Video upgrade sockets
23	Video port
24	ECP/EPP parallel port
25	USB ports (1, 2)
26	Serial (A) port
27	Mouse port
28	Keyboard port
29	Infrared port

Installation (Steps 9-12)

9.0 Safety

See *Safety Notices* located at the beginning of the:

- *3745 Communication Controller Models 210 to 61A Maintenance Information Procedures*, SY33-2054, or
- *3745 Communication Controller Models 130 to 17A Maintenance Information Procedures*, SY33-2070

10.0 Details of Installation.

10.1 Preparing for the Installation

__ 1. Open the front and rear doors of the Controller Expansion.

__ 2. Locate the Network Node Processor. (Refer to Figure 1 to Figure 4 on page 5).

(Refer to Figure 5 on page 6).

__ 3. Open the access door, on the front side of the Network Node Processor.

__ 4. If a diskette is installed in the diskette drive, remove it

__ 5. Switch the power **OFF (O)**.

__ 6. Close the access door.

__ 7. From the rear panel of the Network Node Processor, disconnect the Power cord and the LAN cable.

(Refer to Figure 7 on page 10).

__ 8. Remove the 4 screws **1** that secure the Network Node Processor unit's front bezel to the front of the controller expansion.

__ 9. Slide the Network Node Processor unit **2** from the Controller Expansion; then,

__ 10. Take the unit and put it down on a table.

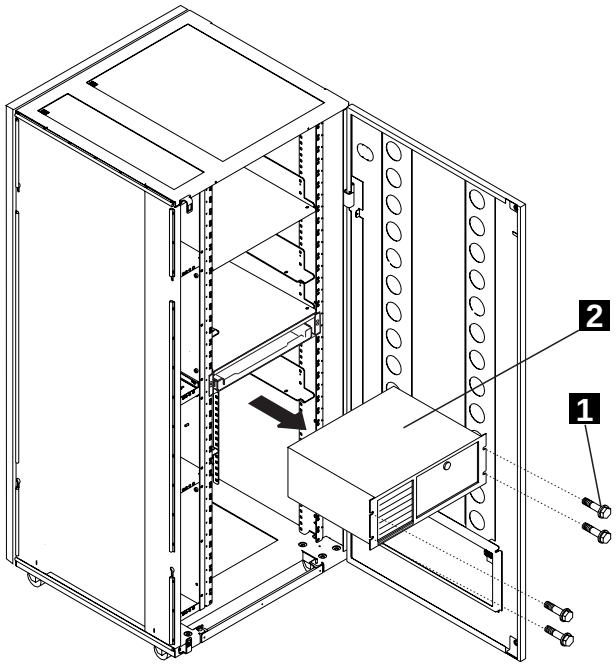


Figure 7. Removing the NNP Unit from the Controller Expansion (Front Side)

10.2 Removing the NNP Cover.

__ 1. Unscrew the two knurled thumbscrews near the top on the back of Network Node Processor unit, until they release. (The two thumbscrews are retained inside the top cover; they will not come out.)

__ 2. Slide the cover toward the rear approximately 25 mm (1 in.), and

__ 3. Lift the cover off.

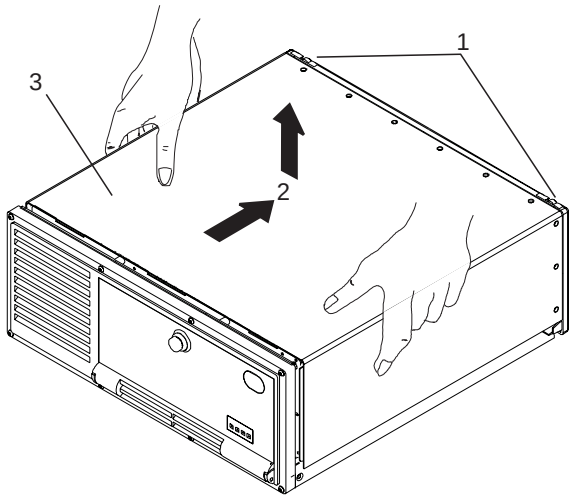


Figure 8. Removing the Top Cover.

10.3 SIMM installation.

Caution

You should use the field electrostatic discharge (ESD) kit when you are handling a SIMM. Guidelines for using the ESD tools are printed inside the kit lid.

Open the adapter card retainer (See item **13** in Figure 5 on page 6):

__ 1. Loosen the two screws on the side latch and the larger screw on the top.

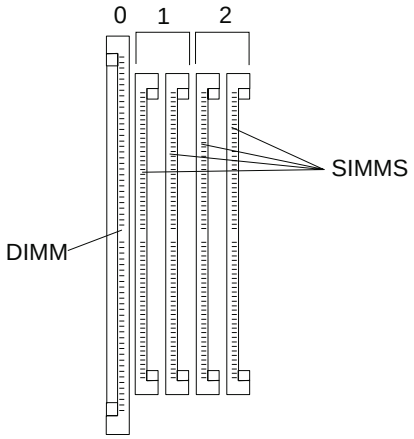
__ 2. Slide the side latch up to disengage it.

__ 3. Extend the retainer side piece straight out and the pivot the retainer up and out of the way.

__ 4. Locate the SIMM connectors at the left-front corner of Network Node Processor system board. See item **18** in Figure 6 on page 8 for their exact location.

The following illustration shows the memory banks on your computer system board.

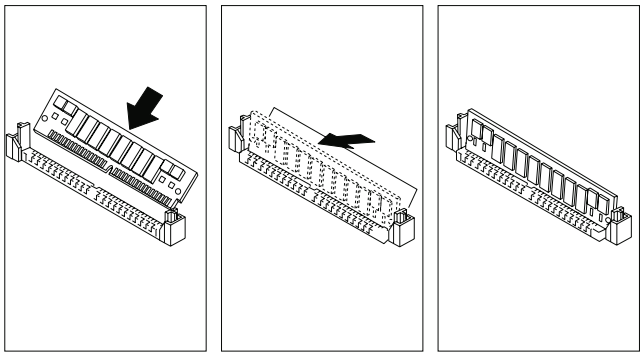
Bank 1 and bank 2 hold matched-pair SIMMs. When installing a SIMM, a matched-pair is first loaded into bank 1, and then into bank 2 as required.



Use the following procedure to install the two SIMMs provided with the MES:

__ 5. With the notch in the SIMM toward the front of the computer, align the center key slot and insert a SIMM into the left-most empty SIMM connector of the bank 2. The SIMM will seat at an angle.

__ 6. Pivot the top of the SIMM toward the connector until it snaps into the retaining clips.



__ 7. Repeat this procedure for the second SIMM.

__ 8. Close the adapter card retainer, ensure that the adapter cards are properly captures.

10.4 Reinstalling the Cover.

__ 1. Place the cover on the NNP, leaving approximately 25 mm (1 in.) of space between the edge of the cover and the front of the NNP.

__ 2. Slide the cover to the front of the NNP until it is completely on.

__ 3. Screw the two knurled thumbscrews near the top on the back of the Network Node Processor unit to secure the cover.

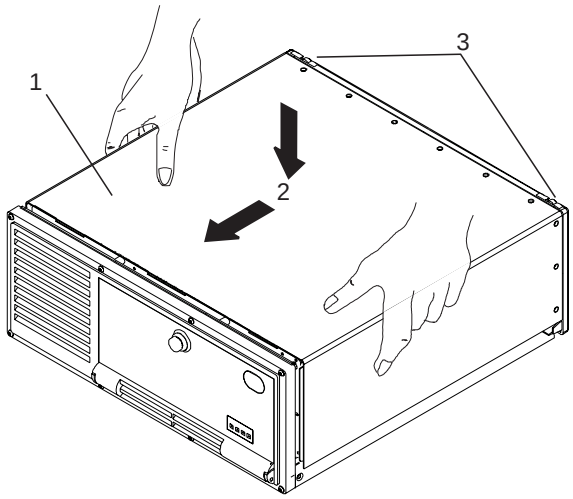


Figure 9. Installing the Top Cover.

10.5 Reinstalling the Network Node Processor.

Reinstall the Network Node Processor at its original place:

__ 1. Slide the network node processor unit in the controller expansion from the front side; Then,

__ 2. Fasten the unit re-using the four screws removed previously.

__ 3. From the rear panel of the Network Node Processor, reconnect the Power cord and the LAN cable.

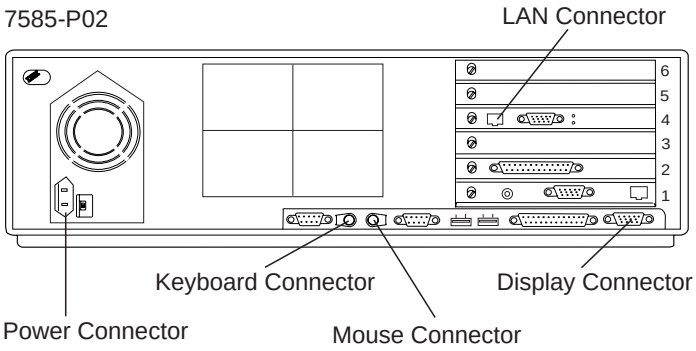


Figure 10. How to Connect the Power Cord and the LAN cable on the Network Node Processor

11.0 Test Procedures

__ 1. Disconnect the display and keyboard, from the rear side of the Service Processor.

__ 2. then, connect the display and keyboard at the rear of the network node processor.

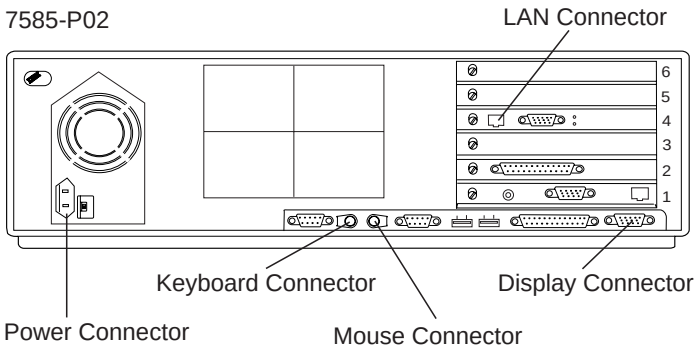


Figure 11. How to Connect the Display and the Keyboard on the Network Node Processor.

__ 3. Power **ON** the network node processor

__ 4. Press the **F1** key to invoke the configuration/Setup utility after POST completion.

__ 5. The following window is displayed.

From the following window select **System Summary** **1**

```
Configuration/Setup Utility

Select Option:

- System Summary                1
- Product Data                  2
- Device and I/O Ports          3
- Date and Time                 4
- System Security               5
- Start Options                 6
- Advanced Setup                7
- ISA Legacy Resources          8
- Advanced Power Management     9

Save Settings
Restore Settings
Load Default Settings

Exit Setup
```

__ 6. The following window is displayed, check that the value of the Extended Memory.

```
          System Summary

Processor          Pentium
Processor Speed    200MHz
Math Coprocessor   Internal
System Memory      640 KB
Extended Memory    127 MB
Video Controller   S3 Incorporated. TRIO64V+
Cache Size         512 KB
Cache State        Enabled
Shadow RAM         384 KB
System ROM         F000h-FFFFFh
Memory Type        Parity
Diskette Drive A   2.88 MB 3.5"
Diskette Drive B   Not Installed
Hard Disk Drive 0  Not Installed
Hard Disk Drive 1  Not Installed
Hard Disk Drive 2  Not Installed
Hard Disk Drive 3  Not Installed
```

Is the Extended Memory = 127 MB ?

- **YES**, go to 8
- **No**, Refer to **Chapter 3 . Network Node Processor Problem Determination** in *Network Node Processor Installation and Maintenance (Based on 7585 or 3172)*, SY33-2112 to solve the problem.

__ 7. Disconnect the Display and keyboard from the NNP, then reconnect them to the Service Processor.

__ 8. Press **Escape** to return to the **Configuration/Setup Utility** screen.

__ 9. On the **Configuration/Setup Utility** screen, press **Escape** key.

__ 10. On the **Exit Configuration/Setup Utility** screen, press **Escape** to live the configurationsetup utility and reboot the NNP.

__ 11. On the **Service Processor** (**MOSS-E View** screen), the NNP icon should be **green** when the NNP has been successfully re-started and the configuration has been activated.

12.0 Field Updating

None.

After Installation (steps 13-15)

13.0 Publications Update

None.

14.0 Parts Disposition

14.1 Purchased Machines

- For EMEA/APG/AG Areas, refer to *Hardware and General Service Code Description*.
- For Domestic Areas, return parts to the customer.

15.0 Machine Records

- Install the new **MACHINE HISTORY** supplied.
- Report installation and quality problems using existing procedures

End of instructions.