IBM Installation Instructions

Field Feature Bill of Material

PN 29H4179

Exchange Hard Disk Drive (FC 5026)
on Service Processor Type 9577 or 9585
on IBM 3745 Model XXA or 3746 Model 9X0

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Before Installation (Steps 1-8)

1.0 Machines Affected

3745 Model XXA or 3746 Model 9X0 with:

Feature Code	Designation
5020	Service Processor type 9577, or
5021	Service Processor type 9585 (Only).

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

2.0 Related BMs and ECs

None.

3.0 BMs to be Installed

FFB/M	Title
29H4179	Exchange Hard Disk Drive (FC 5026)

4.0 Preparation

- Familiarize yourself with the purpose and details of the installation instruction before negotiating machine time with the customer.

- Check all items listed on the BM(s) to determine that all parts have been received.

- Get the up-to-date backup copy of the Service Processor Reference Diskette and LIC **Backup** Optical disk.

- The exchange of the Hard Disk Drive on Service Processor has no impact on customer operations.

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5.0 Programming

None.

6.0 Purpose and Description

6.1 Purpose

To allow the Service Processor type 9577 or 9585 to support the Network Node Processor operation on the 3746-900 .

6.2 Description

These instructions explain how to exchange the actual HDD by a 2GB HDD. The exchange of the Hard Disk Drive is divided into four parts:

1. Saving the Service Processor Hard Disk contents on the Optical Disk (Duration 2 Hrs).

2. Exchanging the Hard Disk Drive.

3. Updating the System Program.

4. Restoring the Service Processor Hard Disk from the Optical Disk (Duration 1.5 Hrs).

7.0 Installation Time

FFB/M	Machine Hrs	System Hrs	Nbr. of CE
29H4179	00.0	00.0	1

8.0 Tools/Material Required

None.

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Installation (Steps 9-12)

9.0 Safety

None.

10.0 Details of Installation.

```
┌─ Is the SP installed in a Controller Expansion? ──────────────────┐
│                                                                    │
│  • NO, go to 10.1, "Saving the Service Processor Hard Disk on the  │
│    Optical Disk."                                                  │
│                                                                    │
│  • YES, continue with next step.                                   │
│                                                                    │
└────────────────────────────────────────────────────────────────────┘
```

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

10.1 Saving the Service Processor Hard Disk on the Optical Disk.

```
┌─ Very Important ──────────────────────────────────────────────────┐
│                                                                    │
│ This function is available from the Service Processor Installation │
│ Diskette 1, use the backup optical disk to save the hard disk data │
│ and can take up to 2 hours                                         │
│ If the Service Processor data has been already saved on the backup │
│ optical disk, this procedure can be bypassed.                      │
│                                                                    │
│ Are the Service Processor data already saved on the backup optical │
│ disk?                                                              │
│                                                                    │
│  1. YES, go to 10.2, "Shut-down and Power OFF the Service          │
│     Processor" on page 6                                           │
│                                                                    │
│  2. NO, continue with next step.                                   │
│                                                                    │
└────────────────────────────────────────────────────────────────────┘
```

Shut-down and Power OFF the Service Processor:

__ 1. If the Service Processor is **operational**, use the following procedure:

    __ a. On the MOSS-E view window click on **Program**

    __ b. Click on **Shut down**, then enter the Service Processor mainte-
nance password (default is IBM3745) and click on **OK**.
You are now able to power OFF the Service Processor.

__ 2. Power **OFF** the Service Processor.

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   __ 3. Install the **Service Processor Installation diskette 1.** in the diskette drive.

   __ 4. Power **ON** the Service Processor.

Backup the HDD on the Optical Disk:

   __ 5. Install the **backup** optical disk in the optical drive.

   __ 6. On the first screen displayed, press **Enter**

   __ 7. From the primary window select option **Save hard disk** and follow the prompts.

      Note: Wait for the message: 'Operation successfully completed'.

   __ 8. At the end, select **Exit** from the primary window and follow the prompts:

- On prompt, remove the **Service Processor Installation diskette 1**,
- Remove the **backup** optical disk from the optical drive.
- Secure then for further use.

10.2 Shut-down and Power OFF the Service Processor

   __ 1. On the **MOSS-E view** window click on **Program**

   __ 2. Click on **Shut down**, then enter the Service Processor maintenance password (default is IBM3745) and click on **OK**.

   __ 3. Remove any media (Diskette or Optical Disk) from the drives.

   __ 4. Power **OFF** the Service Processor (Control Unit and Display).

Service Processor type ?

- **9577**, go to 10.3, "Replacing the Hard Disk Drive on SP Type 9577.."

- **9585**, go to 10.4, "Replacing the Hard Disk Drive on SP Type 9585." on page 13.

10.3 Replacing the Hard Disk Drive on SP Type 9577.

CAUTION

Before removing any FRU, power-off the Service Processor, unplug all power cords from the electrical outlets, and disconnect any interconnecting cables.

On the rear side of the Service Processor:

   __ 1. Unplug the Power cord,

   __ 2. the Keyboard and Mouse cables connectors,

   __ 3. the LAN cable connector,

   __ 4. the Display cable connector and

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__ 5. the Modem cable connector.

Is the SP installed in a Controller Expansion?

- **NO,** go to 8

- **YES,** continue with next step.

On the rear side of the Controller Expansion:

__ 6. Slide the base unit from the Controller Expansion
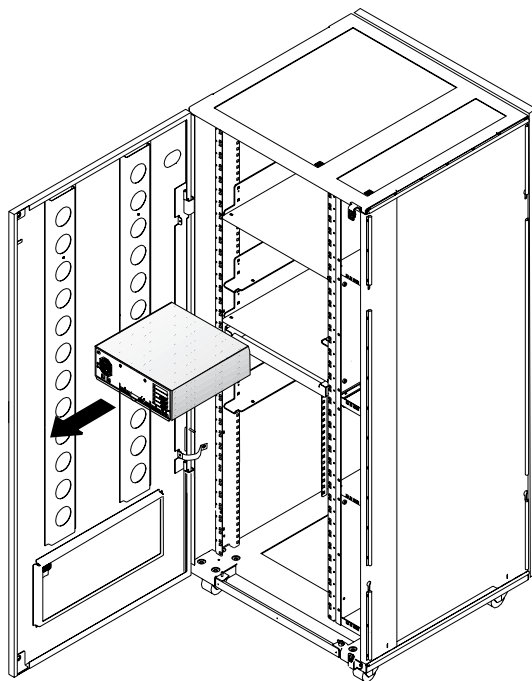


Figure 1. Removing the Service Processor Unit from the Controller Expansion (Rear Side)

__ 7. Take the unit and put it down on a table.

__ 8. Unlock the cover on the front of the Service Processor base unit.
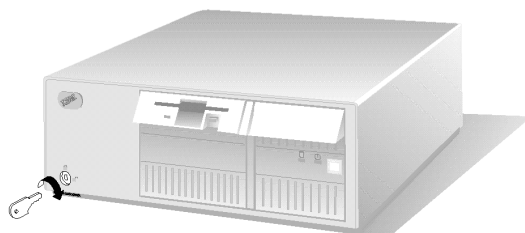
__ 9. Loosen the cover screws on the back of the Service Processor. You might need to use a screwdriver or a coin to turn the screws if they are too tight.

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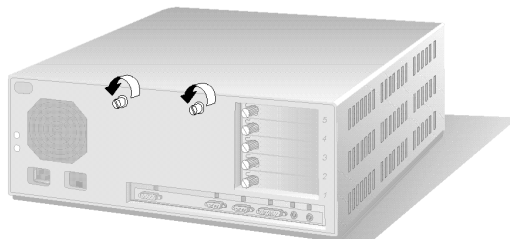
Remove the cover:

___ 10. Slide the cover toward the front approximately 25 mm (1 in.).

___ 11. Lift the cover off.
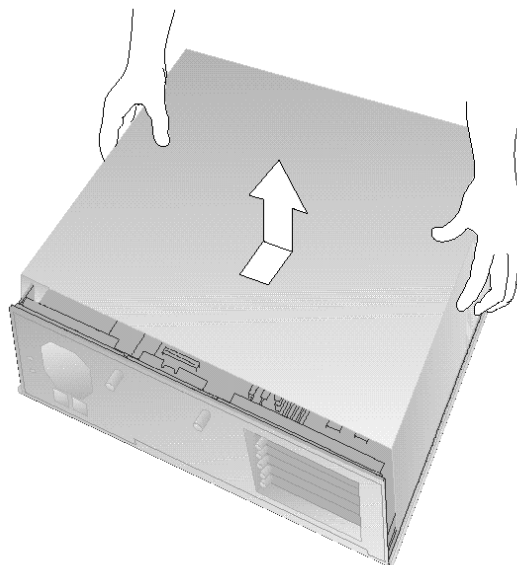
Remove the drive retainer:

___ 12. Press the latch.

___ 13. Pivot the drive retainer downward.

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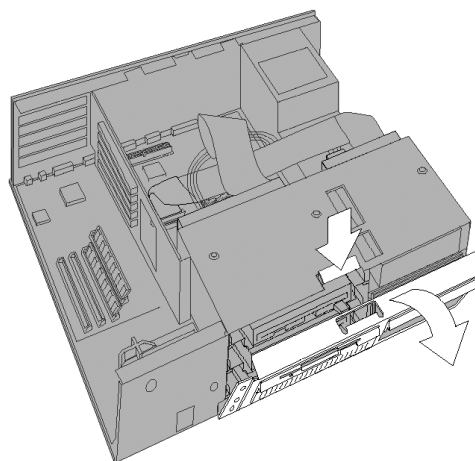
Remove the hard disk drive:

___ 14. Locate the hard disk drive (bay 4) on the right hand side.

___ 15. Disconnect the Power and Signal cables from the hard disk drive (Leave the terminator on the drive).

___ 16. Slide the drive forward and out of the bay (Lift and hold the latch), then

___ 17. place it in a safe place to avoid physical and ESD damage.
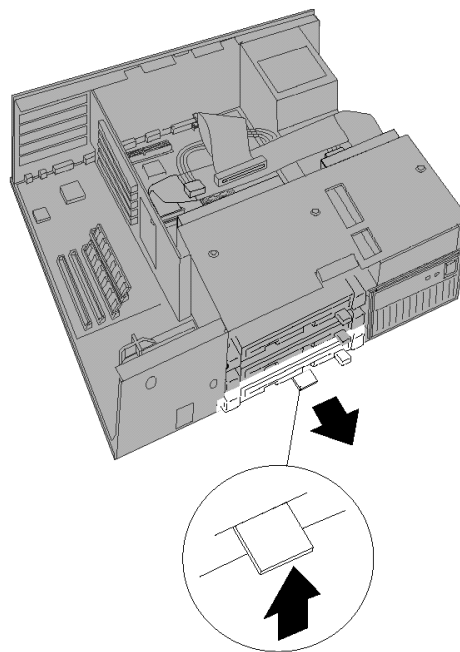
Prepare the drive for installation:

___ 18. Touch the static-protective package to any unpainted metal surface on the Service Processor, then remove the drive from the static-protective package.
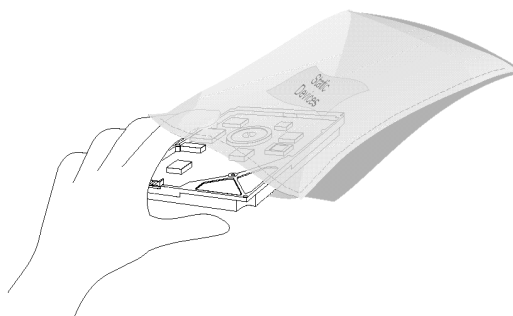
___ 19. Check that SCSI ID is set to 6 (Jumpers should be in positions **2** and **3**). Compare with the figure below.

Note: The jumper in position **4** (Illustrated above) is the motor-start. The jumper should be in place to allow the hard disk motor to start instantly when you power-on the system.
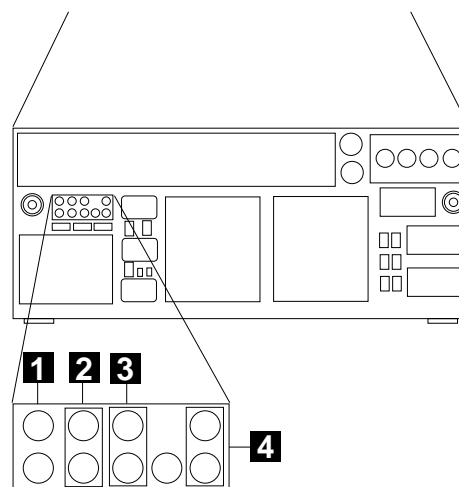
Figure 2. Jumpers location for SCSI ID 6.

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___ 20. Install the rail under the drive, using the four screws.

___ 21. Slide the new drive completely into the bay (4).

   If the drive does not slide all the way into the Service Processor, it might be upside down.
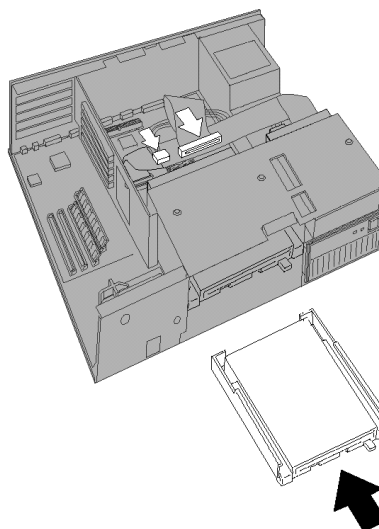
Connect the cables to the drive:

___ 22. Connect the signal cable to the drive, with the terminator in place.

___ 23. Connect the four-wire power-supply cable, if required, to the drive.

   If you have difficulty connecting a cable, turn the cable connector over and try again; cable connectors are keyed and connect only one way.
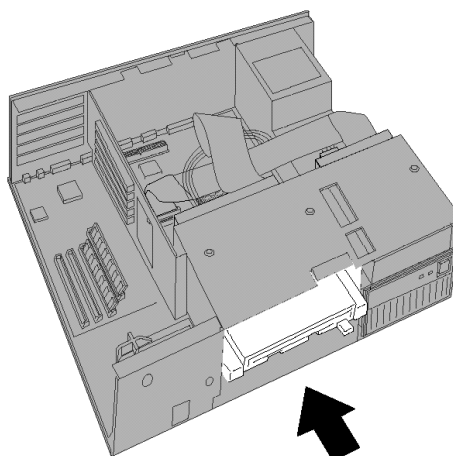
Reinstall the drive retainer:

___ 24. Place the bottom edge of the drive retainer on the tabs that stick up from the bottom of the Service Processor frame.

___ 25. Pivot the drive retainer up until it snaps in place over the latch.

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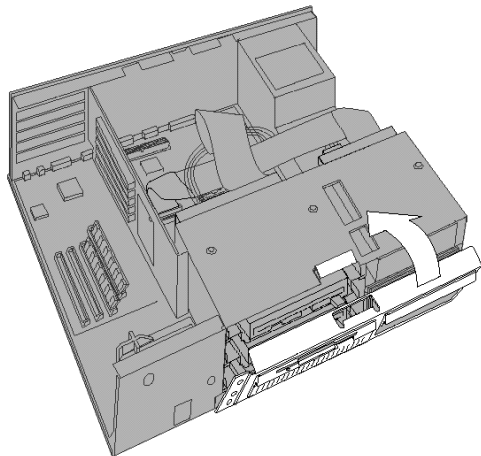
Install the cover on the Service Processor:

__ 26. Place the cover on the Service Processor, leaving approximately 25 mm (1 in.) of space between the edge of the cover and the back of the Service Processor.

__ 27. Slide the cover to the back of the Service Processor until it is completely on.
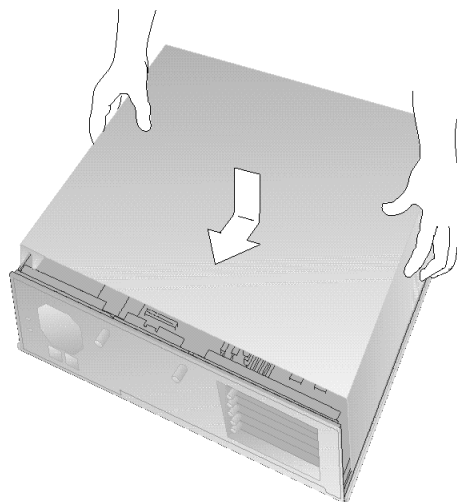
__ 28. Tighten the cover screws on the back of the Service Processor.

__ 29. Lock the cover on the front of the Service Processor.

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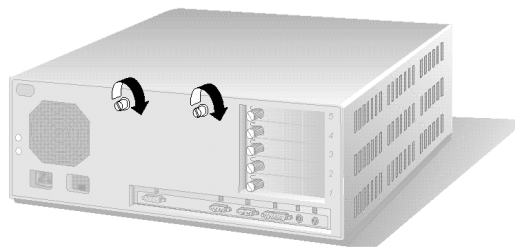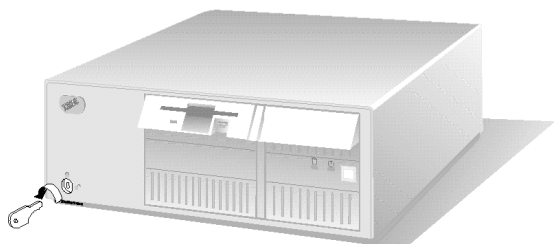
__ 30. Reinstall the Service Processor unit at its original place.

On the rear side of the Service Processor:

__ 31. Replug the Power cord,

__ 32. the Keyboard and Mouse cables connectors,

__ 33. the LAN cable connector,

__ 34. the Display cable connector and

__ 35. the Modem cable connector.

Go to 10.5, "Updating the System Program." on page 21

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10.4 Replacing the Hard Disk Drive on SP Type 9585.

CAUTION

Before removing any FRU, power-off the Service Processor, unplug all power cords from the electrical outlets, and disconnect any interconnecting cables.

**On the rear side of the Service Processor:**

__ 1. Unplug the Power cord,

__ 2. the Keyboard and Mouse cables connectors,

__ 3. the LAN cable connector,

__ 4. the Display cable connector and

__ 5. the Modem cable connector.

Is the SP installed in a Rack?

- **NO,** go to 8 on page 14

- **YES,** continue with next step.

On the front side of the 3746-9x0:

__ 6. Slide the base unit from the rack.

__ 7. Take this unit and put it down on a table.
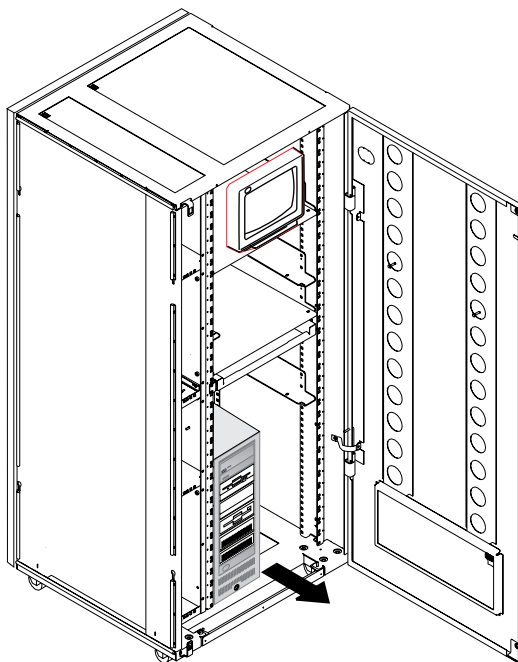
Remove the front cover of the Service Processor:

__ 8. Unlock the cover.

__ 9. Grasp the front cover at the bottom and firmly pull it away from the server.

__ 10. Unhook the top corners of the cover from the SP.
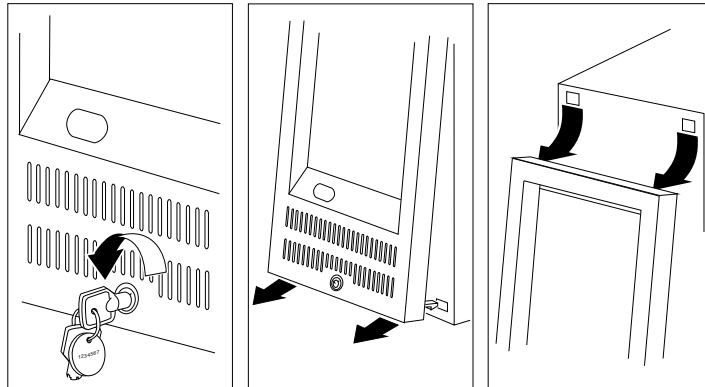
Remove the side cover:

__ 11. Pivot the side cover away from the front of the SP.

__ 12. Pull the cover forward.

__ 13. Place the cover in a safe place so that the fan is protected from possible damage.
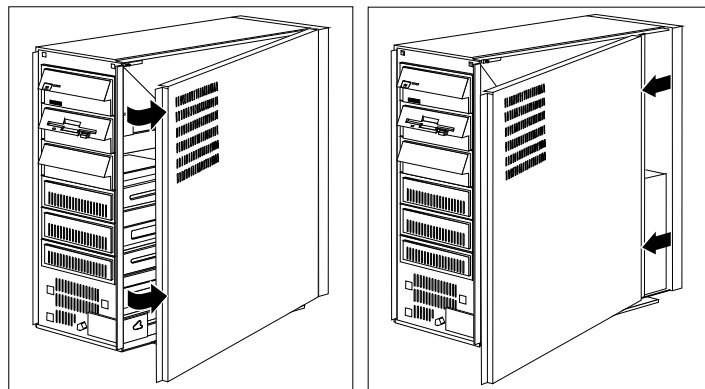
Remove the metal drive retainer

__ 14. Press down on the two top latches.

__ 15. Pull the retainer out from the server.

__ 16. Lift the retainer up.

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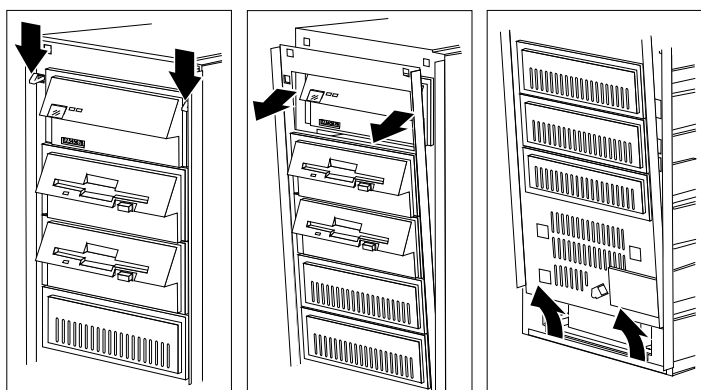
__ 17. Unplug the SCSI cable from the system board. Release the SCSI cable from the clip on top of the power supply by turning the top of the clip.

Tilt out the power supply:

CAUTION:
When you tilt out the power supply, do not let it drop. Personal injury or damage to the system might result.

__ 18. Disconnect the twisted power cables from the power supply.

__ 19. Unscrew the spring-loaded power supply retaining knob until it releases.

__ 20. Place one hand on top of the server for support.

__ 21. Tilt out the power supply with the other hand. (Be sure the power cord is removed from the back of the server before you try to tilt out the power supply.)
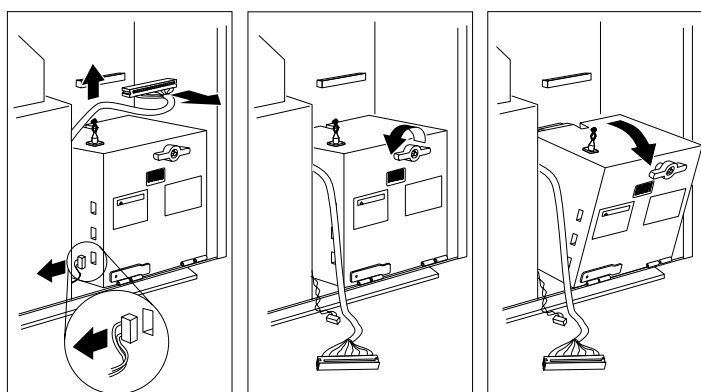

Remove the drive:

__ 22. Find the drive you plan to remove.

__ 23. Disconnect the cables from the back of the drive.

__ 24. Slide the drive out of the server and store it in a safe place.

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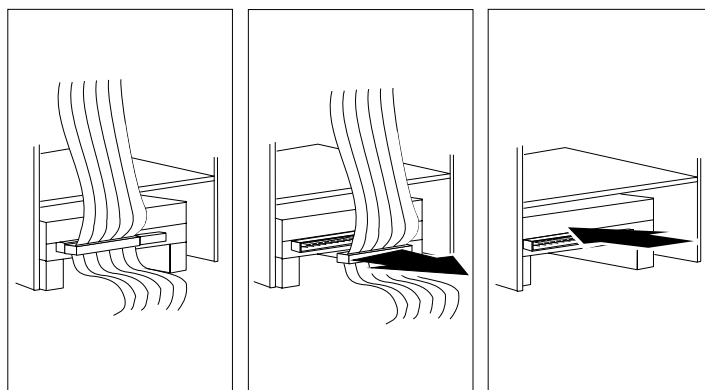
__ 25. Touch the static-protective package to any unpainted metal surface on the Service Processor, then remove the drive from the static-protective package.
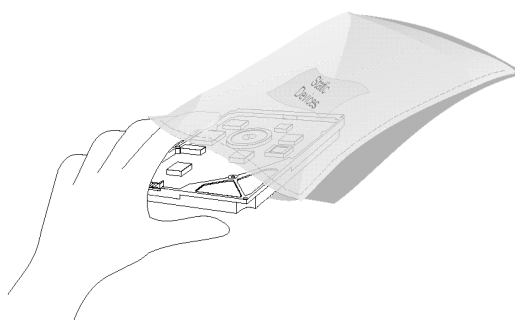
Prepare the drive for installation:

__ 26. Check that SCSI ID is set to 6 (Jumpers should be in positions **2** and **3**). Compare with the figure below.

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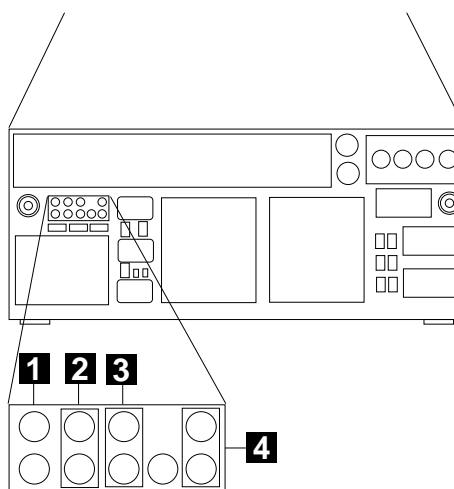
Figure 3. Jumpers location for SCSI ID 6.

Note: The jumper in position **4** (Illustrated above) is the motor-start. The jumper should be in place to allow the hard disk motor to start instantly when you power-on the system.

__ 27. Install the rail under the drive, using the four screws.

__ 28. Align the rails on the drive tray with the guide rails on each side of the bay.

__ 29. Position the drive so that the connector is facing the rear of the server.

__ 30. Slide the drive tray into the bay until it stops.
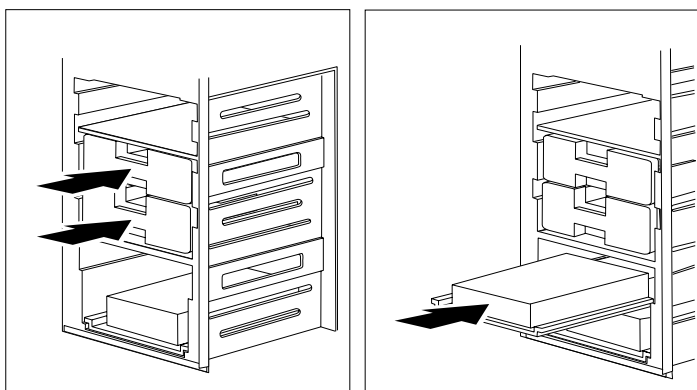
Connect the cables to the drive:

__ 31. Align the connector on the SCSI cable with the connector on the back of the drive. (You might need to slide the drive forward slightly to manipulate the cable.)

__ 32. Connect the SCSI cable to the drive.

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__ 33. Attach the available power-cable connector to the back of the drive. If there is no available connector on the power cable, use one of the power cables found in the storage trays.

__ 34. If you took the power cable out of the clip on the bottom of the server, reroute it back under the clip.
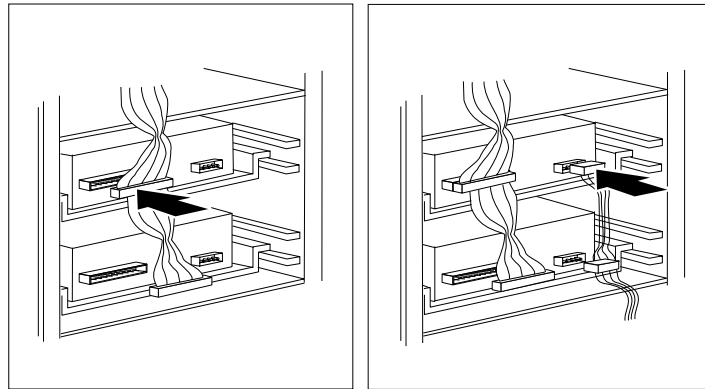
Reinstall the power supply:

__ 35. Carefully move the cables out of the way.

__ 36. Tilt the power supply into the server.

__ 37. Press in the retaining knob and turn it to the right until it is tight.

__ 38. Connect all twisted power cables to the power supply.

   Note: These cables do not have to be connected in a specific order or to a particular connector. All of the cables are identical, and all of the connectors are identical.

__ 39. Plug the SCSI cable connector into the connector on the system board.

__ 40. Route the SCSI cable through the fastener on the top of the power supply.
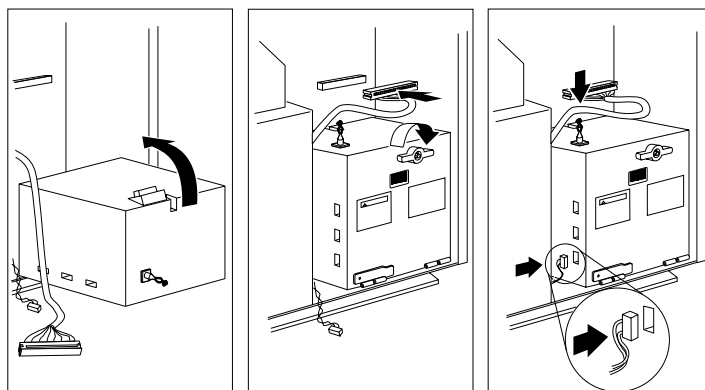
Replace the drive retainer:

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__ 41. Align the tabs on the drive retainer with the bottom of the server.

__ 42. Insert the tabs on the retainer plate into the slots at the bottom of the server.

__ 43. Pivot the retainer into position.

__ 44. Push the retainer until it clicks into place.
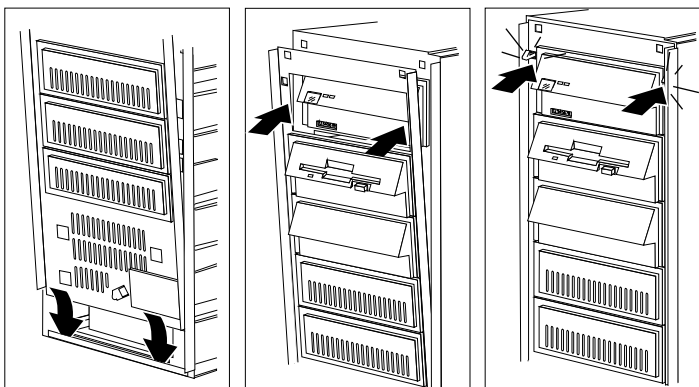
> **Note:** Be careful not to damage the hardware around the fan on the side cover when installing the covers.

Replace the side cover:

__ 45. Align the rear of the side cover with the groove on the rear of the frame.

__ 46. Align the groove at the top of the side cover with the top of the frame.

__ 47. Push the side cover to close it.
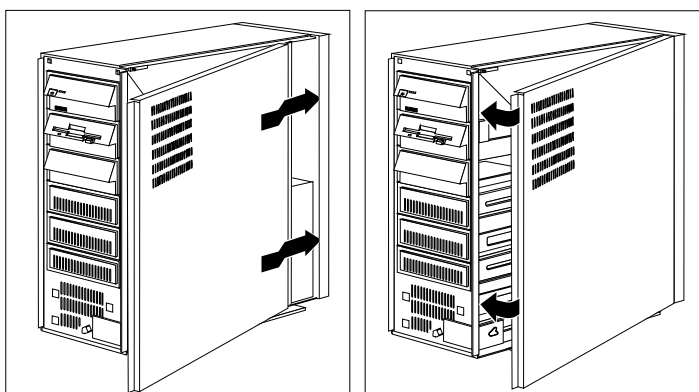
Replace the front cover:

__ 48. Slide the top posts into the holes at the top of the server.

__ 49. Firmly press the bottom of the front cover, one corner at a time until it snaps into place.

__ 50. Lock the front cover.

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Note: If you ever move your system, be sure not to jar or pull on the front cover. Security features on the cover will respond as if someone is trying to break into your server, giving you an error message.
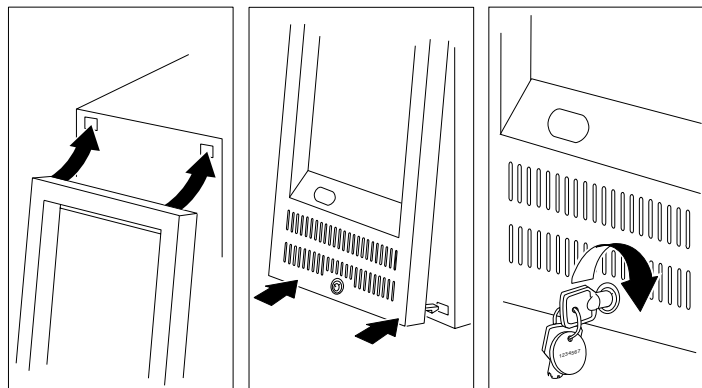
__ 51. Reinstall the Service Processor at its original place.

Important

Blocking the air vents can cause overheating, which will result in a malfunction or permanent damage. Therefore, be sure to maintain a clearance of at least 51 mm (2 in.) on all sides of the server to allow for air circulation.

On the rear side of the Service Processor:

__ 52. Replug the Power cord,

__ 53. the Keyboard and Mouse cables connectors,

__ 54. the LAN cable connector,

__ 55. the Display cable connector and

__ 56. the Modem cable connector.

Go to 10.5, "Updating the System Program." on page 21

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10.5 Updating the System Program.

10.5.1 Restoring the System Partition.

__ 1. Install the **Reference Diskette** in the service processor.

__ 2. Power **ON** the service processor.

__ 3. The IBM Logo appears on the screen, followed by the **Main Menu** of the system programs.

__ 4. Select **Backup/Restore system programs** from the **Main menu**.

__ 5. Select **Restore the System Partition** and follow the instructions on the screen.

10.5.2 Setting the System Configuration.

__ 1. On **Main Menu** screen, select **Set Configuration**, then press **ENTER**.

__ 2. On **Configuration Screen**, select **Change Configuration**, then press **ENTER**.

__ 3. Check configuration, Token Ring Adapter speed should be set to 16 Mb/s, make necessary change.

__ 4. On **Main Menu Screen**, select **Set and View SCSI Configuration**, then press **ENTER**.

The following window is displayed.

```
              Set and View SCSI Device Configuration

    IBM PS/2 System Board SCSI

            SCSI Address (ID)................... 7
            SCSI Device
                  Device Type.................... Hard Disk
                  Device Address (ID, LUN)....... 6,0
                  Device Size.................... 2.0GB
                  Presence Error Reporting....... (ENABLED)

            SCSI Device
                  Device Type.................... Optical Memory
                  Device Address (ID, LUN)....... 3,0
                  Presence Error Reporting....... (ENABLED)
```

__ 5. Do the necessary changes, then exit from configuration.

__ 6. Power **OFF** the Service Processor.

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10.6 Restoring the Service Processor Hard Disk from the Optical Disk.

Notes

1. This function is available from the **Service Processor Installation Diskette 1** and can take up to 1.5 hour to restore the whole disk.

2. Use the **backup** optical disk to restore the hard disk data.

3. This function is used to restore the data on the hard disk after its **replacement** and also used to maintain the **backup** Service Processor hard disk to the same level as the **active** Service Processor.

---

1. Install the **Service Processor Installation Diskette 1** in the diskette drive.

2. Power **ON** the Service Processor.

3. Install the **backup** optical disk in the optical drive.

4. On the first screen displayed, press **Enter**

5. From the primary window select option **Restore hard disk** and follow the prompts.

   Note: Stay in front of the screen as you will have to answer several prompts and may have to manipulate the Service Processor Installation Diskette 1 and 2.

6. Wait, when message **Operation Successfully Completed**, then press **Enter**.

7. At the end, select **Exit** from the primary window and follow the prompts.

11.0 Test Procedures

No test required.

12.0 Field Updating

None.

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After Installation (steps 13-15)

13.0 Publications Update

None.

14.0 Parts Disposition

14.1 Purchased Machines

Refer to the parts ownership matrix to determine the correct owner of removed/unused parts.

- 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 to existing procedures.

End of instructions.

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