



iSeries

43xx Disk Unit,
71xx Disk Expansion Unit,
71xx Disk Unit Enclosure

Version 5





iSeries

43xx Disk Unit,
71xx Disk Expansion Unit,
71xx Disk Unit Enclosure

Version 5

Note

Before using this information and the product it supports, be sure to read the information in "Notices," on page 71.

Fourth Edition (August 2005)

This edition applies to version 5, release 3, modification 0 of IBM Operating System/400® (product number 5722-SS1) and to all subsequent releases and modifications until otherwise indicated in new editions. This version does not run on all reduced instruction set computer (RISC) models nor does it run on CISC models.

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Chapter 1. 43xx or 71xx disk unit

Replacing and installing this feature are customer tasks. When you use these instructions, you will perform some or all of the following tasks:

- Perform prerequisite tasks.
- Power down the system.
- Remove the system unit covers.
- Remove hardware.
- Install new hardware.
- Install covers.
- IPL your operating system.
- Verify your new hardware configuration.

It will take approximately one hour to perform these tasks. You may need to allow additional time to complete your jobs, back up your system, IPL your system, and verify your hardware configuration.

You can choose to perform these tasks yourself or contact IBM(R) or an authorized service provider to make arrangements for them to perform the tasks for a fee. If you encounter difficulties when performing a task, contact your authorized dealer or service provider.

Note: If you are removing or moving disk units already installed in your unit refer to Backup and Recovery .

Select the instructions for the task you want to perform:

- Chapter 2, “Replace 43xx disk units,” on page 3
- Chapter 3, “Install 43xx disk units,” on page 15
- “Install the 7104 expansion unit to the 270 server or 7116 expansion unit to the 800 or 810 server” on page 45
- “Install the 7123 or 7136 disk unit enclosure” on page 55
- “Install the 7124 or 7127 disk unit enclosure” on page 61

Some of the figures in these instructions may not look exactly like the system unit that you have. However, the steps to perform the task are the same.

Before you begin

Before you begin a replacement or installation task, follow these steps:

- ___ 1. **For an installation and if possible, for a replacement, ensure that you have a current backup of your system (including operating system, licensed programs, and data).** If you have backed up the operating system and licensed programs since the last time you applied PTFs, that backup is acceptable.
- ___ 2. Ensure that you take a few minutes to become familiar with these instructions.
- ___ 3. Ensure that you have access to a medium flat-bladed screwdriver.

- ___ 4. If there are incorrect, missing, or visibly damaged parts, contact one of the following:
 - Your authorized service provider
 - In the United States: IBM® Rochester Manufacturing Automated Information Line (R-MAIL) at 1-800-300-8751
 - In countries outside of the United States: Use the following Web site to locate your service and support numbers:
<http://www.ibm.com/planetwide>
- ___ 5. If you are installing new hardware in logical partitions, you need to plan and understand the requirements to be successful. Go to Logical partitions in the *Information Center*. Then return to these instructions.
- ___ 6. If you encounter difficulties during the procedure, contact your authorized service provider or your authorized dealer.
- ___ 7. Determine if there are any existing PTF prerequisites before you install your new feature. Go to the following Web site:
http://www-912.ibm.com/s_dir/slkbase.NSF/slkbase
 - a. Select **All Documents**.
 - b. Select **General Information**.
 - c. Select **Offerings**.
 - d. Select **Feature Prerequisites**.
 - e. Select **Customer Installation Features Prerequisites**.
 - f. Locate your feature number and OS/400® release, and check the prerequisites.

Chapter 2. Replace 43xx disk units

To replace a 43xx disk unit, perform these tasks:

- ___ 1. Perform prerequisite tasks as described in “Before you begin” on page 1.
- ___ 2. “Open or remove the front cover” on page 29.

Depending on your disk protection, our system or expansion unit can either be powered off (nonconcurrent) or powered on (concurrent) when you replace the disk units. Select the procedure you want to use:

- “Replace 43xx RAID or Mirrored protected disk units with system powered on”
- “Replace 43xx RAID or Mirrored protected disk units with system powered off” on page 8


Replace 43xx RAID or Mirrored protected disk units with system powered on

Be sure you understand the complexity of the powered on (concurrent) procedure before you begin. If you do not feel comfortable using the concurrent procedure, go to “Replace 43xx RAID or Mirrored protected disk units with system powered off” on page 8.

To replace a disk unit with the system powered on, follow these steps:

- ___ 1. **If possible, use a wrist strap to prevent electrostatic discharge from damaging your hardware.** If you do not have a wrist strap, touch a metal surface of the system or expansion unit before installing or replacing hardware.

If you received the 2209 Disposable Wrist Strap, follow these steps:

- ___ a. Attach the disposable wrist strap.  View video.
- ___ b. When you unroll the strap, remove the liner from the copper foil at the end.
- ___ c. Attach the adhesive part of the copper foil to an **exposed, unpainted** metal surface on the frame of the unit.

Note: Follow the same precautions you would use without the wrist strap. The 2209 Disposable Wrist Strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

- ___ 2. Find the “Disk unit locations” on page 33 for your system unit or your expansion unit.
- ___ 3. Remove the disk unit cover. Squeeze the latch and pull out.

Note: iSeries 825 does not have disk unit covers.

- ___ 4. Be sure you are signed on **with at least service level authority**.
- ___ 5. Type **strsst** on the command line of the OS/400 session and press Enter.
- ___ 6. Type **your service tools user ID and service tools password** on the *System Service Tools (SST) Sign On* display. Press Enter.

Note: The service tools password is case sensitive.

- ___ 7. Select **Start a service tool** from the *System Service Tools (SST)* display. Press Enter.
- ___ 8. **For mirrored disk units**, follow these steps to verify that the disk unit you are replacing has been suspended before powering off the system:
 - ___ a. Select **Work with disk units** from the *System Service Tools (SST)* display. Press Enter.
 - ___ b. Select **Display Disk Configuration** from the *Work with Disk Units* display. Press Enter.
 - ___ c. Select **Display Disk Configuration Status** from the *Display Disk Configuration* display. Press Enter.
 - ___ d. Does the disk unit that is mirrored to the disk unit that you are replacing (same unit number) have a status of *Active*?
 - ___ **No: STOP!** Do **NOT** replace the disk unit. Contact IBM or your authorized service provider.
 - ___ **Yes:** Does the disk unit that you are replacing have a status of *Suspended*?
 - ___ **Yes:** Continue with the next step.
 - ___ **No:** Follow these steps to suspend mirrored protection on the disk unit that you are replacing:
 - 1) Press F3 from the *Display Disk Configuration* display to return to the *Work with Disk Units* display.
 - 2) Select **Work with Disk Unit Recovery** from the *Work with Disk Units* display. Press Enter.
 - 3) Select **Suspend mirrored protection** from the *Work with Disk Unit Recovery* display. Press Enter.
 - 4) Select the option to *Suspend* the disk unit that you are replacing from the *Suspend Mirrored Protection* display. Press Enter.
 - 5) Press F3 to return to the *Work with Disk Units* display.
 - 6) Press F3 to return to the *System Service Tools (SST)* display.
 - 7) Select **Start a service tool** from the *System Service Tools (SST)* display.
- ___ 9. Select **Hardware service manager** from the *Start a Service Tool* display. Press Enter.
- ___ 10. Select **Device Concurrent Maintenance** from the *Hardware Service Manager* display. Press Enter.
- ___ 11. Type the **Physical Location** (Frame ID and position) where you will be replacing the disk unit.

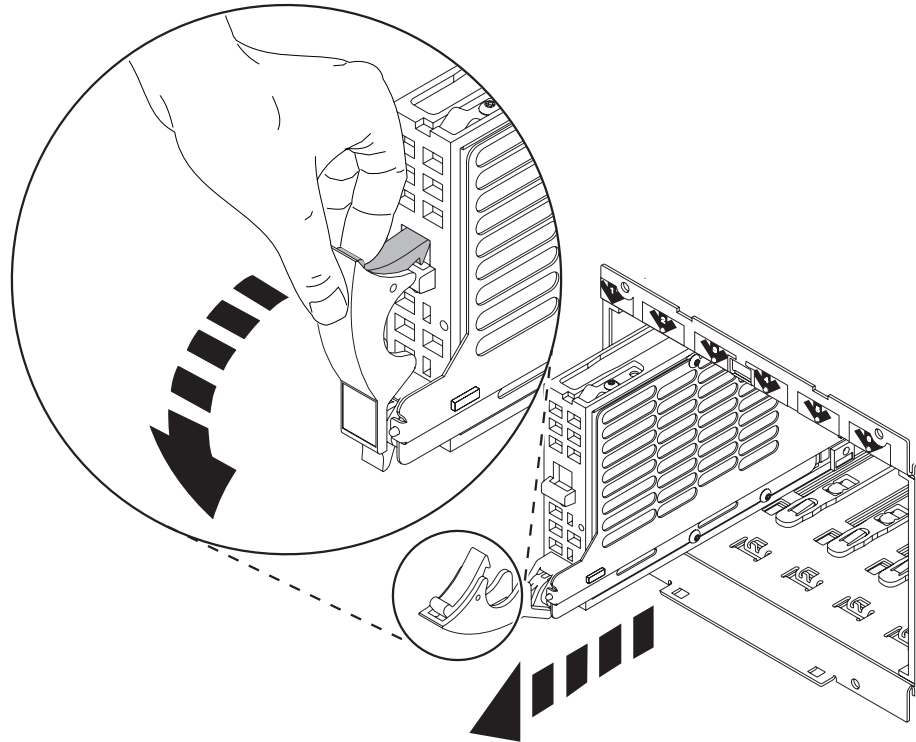
Note: The physical location of the disk unit to be replaced should have been provided by customer support.

In this example, Physical Location: Frame ID 1___ Position D06___ , you would install a disk unit in frame 1 (base system), disk unit position 6.


- ___ 12. Select option **1** (Remove device) for the action to be performed.
- ___ 13. Set the time delay for one minute—01. **Do not press Enter at this time.**

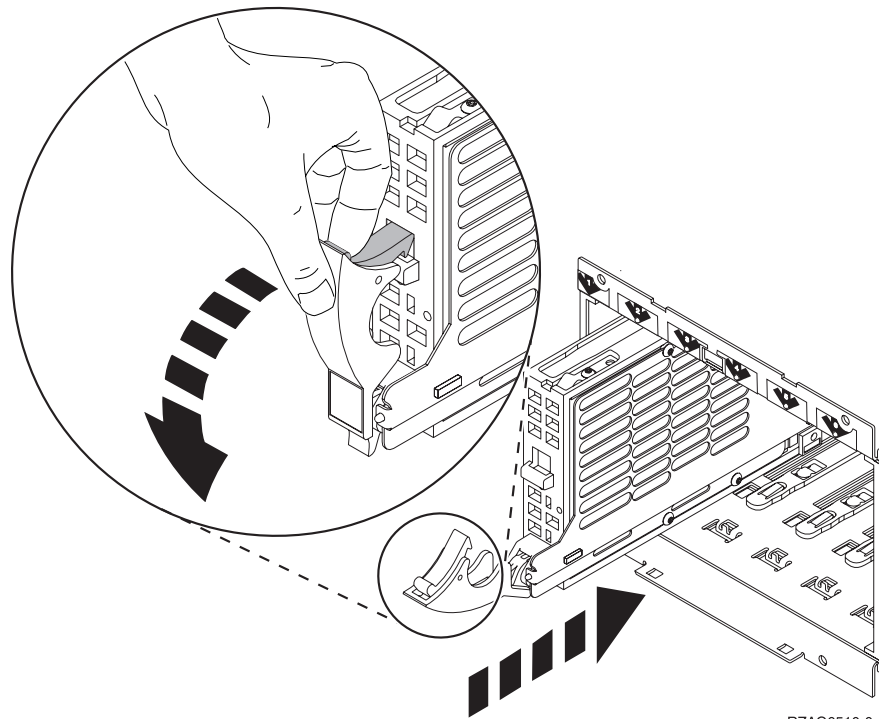
Note: Locate the light in the numbered arrow by the disk unit you are replacing. When you press Enter, after a one minute delay, this light comes on and begins to blink rapidly. You then have nine seconds to slide the disk unit into place.

- ___ 14. Press Enter on the console.
- ___ 15. When the light starts blinking, squeeze and pull the handle of the disk unit out toward you before you remove the disk unit. If the handle is not all the way out, the disk unit will not slide out of the system.
- ___ 16. Support the bottom of the disk unit assembly as you slide it completely out. Do not hold the disk unit by the handle.



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- ___ 17. The light will stop blinking and remain off when the disk unit is removed.
- ___ 18. Return to the console and wait until the *Concurrent Maintenance Results* display appears.
Press **F12**.
- ___ 19. Find the package that contains the new disk unit assembly and remove it from the static-protective package.
Attention: Disk units are fragile. Handle with care.
- ___ 20. Unlock the handle by squeezing and pulling it out toward you before you install the disk unit. If the handle is not all the way out, the disk unit will not slide into the system unit or the expansion unit.  View video.



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- ___ 21. Support the bottom of the disk unit assembly as you slide it half way into the system unit or the expansion unit. Do not push it any further.

Note: You install the disk units horizontally in the 7123, 7136, and 7137 disk unit enclosure.

- ___ 22. The physical locations you entered in step 11 on page 4 of this procedure may still appear on the display. If not, retype the **Physical Location** (Frame ID and position) where you will be installing the new disk unit.

In this example, Physical Location: Frame ID 1___ Position D06___ , you would install a disk unit in frame 1 (base system), disk unit position 6.

- ___ 23. Select option 2 (Install device) for the action to be performed.
- ___ 24. Set the time delay for one minute—01. **Do not press Enter at this time.**

Note: Locate the light in the numbered arrow by the disk unit you are replacing. When you press Enter, after a one minute delay, this light comes on and begins to blink rapidly. You then have nine seconds to slide the disk unit into place.

- ___ 25. Press Enter on the console.
- ___ 26. When the light starts blinking, slide the disk unit **all the way in** and then lock it in place by closing the latch.
- ___ 27. The light stops blinking and remains on when you have installed the disk unit properly.
- ___ 28. Return to the console and wait until the *Concurrent Maintenance Results* display appears.
Press Enter.
- ___ 29. When the *Hardware Service Manager* display appears, press **F3**.
- ___ 30. Select **Work with Disk Units** on the *System Service Tools* display.
Press Enter.

- ___ 31. Select **Work with disk unit recovery** on the *Work with Disk Units* display.
Press Enter.
- ___ 32. Does the disk unit that you replaced have **device parity protection (RAID)**?
 - ___ **No:** The disk unit you replaced had **mirrored protection**. Go to step 33.
 - ___ **Yes:** Follow these steps:
 - ___ a. Select **Rebuild disk unit data** on the *Work with Disk unit recovery* display.
Press Enter.
 - ___ b. Select **1** to rebuild the disk unit displayed (disk unit displayed is the disk unit that you **removed**) on the *Rebuild Disk Unit Data* display.
Press Enter.
 - ___ c. Press Enter on the *Confirm Rebuild Disk Unit Data* display. The rebuild process may take several minutes to complete.
 - ___ d. Install the disk unit covers. Align the tabs on the disk unit cover with the slots in the system unit. Push the cover in until it latches.
 - ___ e. Install or close the system unit or expansion unit front cover.
 - ___ f. Press F5 to refresh the display until the **Percent complete** shows 5%.
 - ___ g. When the display shows at least 5% complete, you can either continue to monitor this display to completion, or press F3 (Exit) to return to the *Work with disk units* display.
 - ___ h. Press F3 (Exit) to return to the *System service tools* display.
 - ___ i. Press F3 (Exit) to return to the *exit SST* display and press Enter.
The replacement procedure is complete.
- ___ 33. The disk unit you replaced had **mirrored protection**. Follow these steps:
 - ___ a. Select **Replace configured unit** on the *Work with Disk unit recovery* display.
Press Enter.
 - ___ b. Select the configured disk unit that you are exchanging (suspended unit) on the *Select Configured Unit to Replace* display. There should be only one unit available.
Press Enter.
 - ___ c. Select the disk unit that you just installed on the *Select Replacement Unit* display. This unit has a *non-configured* status.

Note: In some cases, it may take several minutes for a new disk unit to display. Repeat these steps until the new unit appears.
Press Enter.
 - ___ d. Press Enter on the *Confirm Replace of Configured Unit* display to confirm your choice for replacement.
The replacement process may take several minutes to complete. When the process is complete, the *Work with Disk unit recovery* display appears.
 - ___ e. Press F3 (Exit) to return to the *Work with disk units* display.
 - ___ f. Select **Display disk configuration** on the *Work with disk units* display.

- ___ g. Select **Display disk configuration status** on the *Display Disk Configuration* display.
Mirrored status will show *Resuming*. When complete, the Mirrored status will show *Active*. This process may take several minutes to complete. You can either monitor this display to completion, or press F3 (Exit) repeatedly to return to the OS/400 main menu.
- ___ h. Install the disk unit covers. Align the tabs on the disk unit cover with the slots in the system unit. Push the cover in until it latches.
- ___ i. Install or close the system unit or expansion unit front cover.
The replacement of the disk unit is complete.

Replace 43xx RAID or Mirrored protected disk units with system powered off


To replace a disk unit with the system powered off, follow these steps:

- ___ 1. **For mirrored disk units**, follow these steps to verify that the disk unit you are replacing has been suspended before powering off the system:
 - ___ a. Be sure you are signed on **with at least service level authority**.
 - ___ b. Type **strsst** on the command line of the OS/400 session and press Enter.
 - ___ c. Type **your service tools user ID and service tools password** on the *Start Service Tools (STRSST) Sign On* display. Press Enter.

Note: The service tools password is case sensitive.
 - ___ d. Select **Work with disk units** from the *System Service Tools (SST)* display. Press Enter.
 - ___ e. Select **Display Disk Configuration** from the *Work with Disk Units* display. Press Enter.
 - ___ f. Select **Display Disk Configuration Status** from the *Display Disk Configuration* display. Press Enter.
 - ___ g. Does the disk unit that is mirrored to the disk unit that you are replacing (same unit number) have a status of *Active*?
 - ___ **No:** Do **NOT** replace the disk unit. Contact IBM or your authorized service provider.
 - ___ **Yes:** Does the disk unit that you are replacing have a status of *Suspended*?
 - ___ **Yes:** Continue with the next step.
 - ___ **No:** Follow these steps to suspend mirrored protection on the disk unit that you are replacing:
 - 1) Press F3 from the *Display Disk Configuration* display to return to the *Work with Disk Units* display.
 - 2) Select **Work with Disk Unit Recovery** from the *Work with Disk Units* display. Press Enter.
 - 3) Select **Suspend mirrored protection** from the *Work with Disk Unit Recovery* display. Press Enter.
 - 4) Select the option to *Suspend* the disk unit that you are replacing from the *Suspend Mirrored Protection* display. Press Enter.
- ___ 2. Press F3 repeatedly to exit System Service Tools and return to the main menu.

- ___ 3. Vary off the IXS:
 - ___ a. Go to the *Work with Configuration Status* display by entering: **WRKCFGSTS** at any command line. Press F4.
 - ___ b. At the *Work with Configuration Status* display, enter ***NWS** at the *Type* field and press Enter two times.
 - ___ c. At the *Work with Configuration Status* display, select the **Vary off** option in the *Opt* column next to the IXS and press Enter.
 - ___ d. Press F12 to return to the Main Menu.
- ___ 4. "Power down the system unit" on page 67.
- ___ 5. **If possible, use a wrist strap to prevent electrostatic discharge from damaging your hardware.** If you do not have a wrist strap, touch a metal surface of the system or expansion unit before installing or replacing hardware.

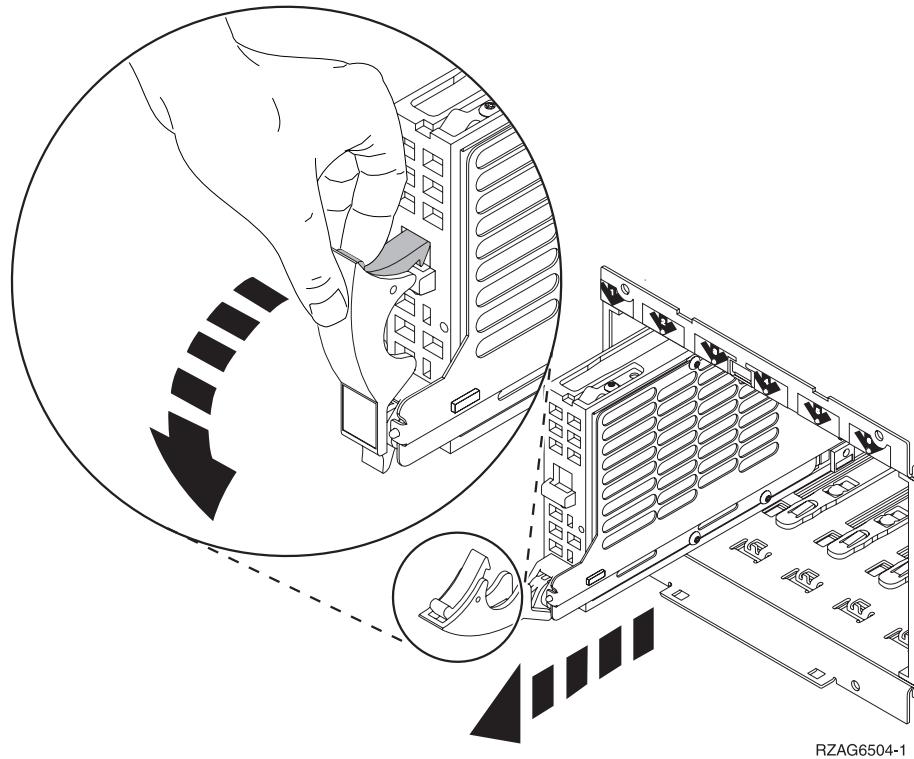
If you received the 2209 Disposable Wrist Strap, follow these steps:

- ___ a. Attach the disposable wrist strap.  View video.
- ___ b. When you unroll the strap, remove the liner from the copper foil at the end.
- ___ c. Attach the adhesive part of the copper foil to an **exposed, unpainted** metal surface on the frame of the unit.

Note: Follow the same precautions you would use without the wrist strap. The 2209 Disposable Wrist Strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

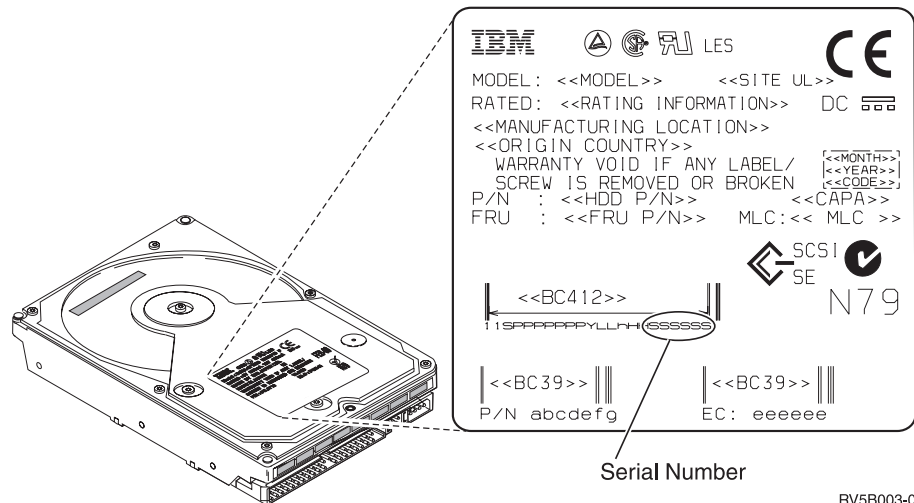
- ___ 6. Remove the disk unit covers. Squeeze the latch and pull out.

Note: iSeries 825 does not have disk unit covers.
- ___ 7. Locate the disk unit you want to replace.
- ___ 8. Unlock the handle by squeezing it and pulling it out toward you before you remove the disk unit. If the handle is not all the way out, the disk unit will not slide out of the system.
- ___ 9. Support the bottom of the disk unit assembly as you slide it completely out. Do not hold the disk unit by the handle.



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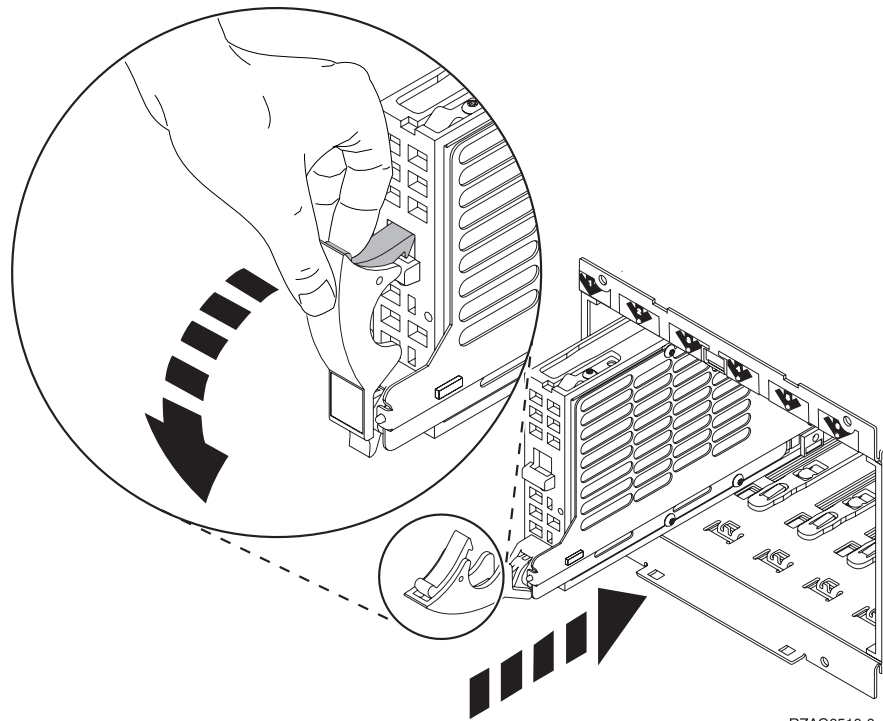
- ___ 10. Find the package that contains the new disk unit assembly and remove it from the static-protective package. Write the serial number (use the last 4 digits) of the disk unit here _____ before you install it.



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Attention: Disk units are fragile. Handle with care.

- ___ 11. Squeeze and pull the handle out toward you before you install the disk unit. If the handle is not all the way out, the disk unit will not slide into the system unit or the expansion unit. Do not hold the disk unit by the handle. View video.



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- ___ 12. Make sure that the disk unit handle is fully extended when sliding into the system unit or the expansion unit. Support the bottom of the disk unit assembly as you slide it into the system unit or the expansion unit until it **stops**.
- ___ 13. Close the disk unit handle firmly locking it into place.
- ___ 14. Install the disk unit covers. Align the tabs on the disk unit enclosure cover with the slots on the system unit enclosure. Push the cover in until it latches.
- ___ 15. Install or close the unit front cover.
- ___ 16. **DANGER**

An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the products that attach to the system. It is the customer's responsibility to ensure that the outlet is correctly wired and grounded to prevent an electrical shock. (RSFTD201)

Plug the following power cords into an electrical outlet.

- System unit
- System unit console
- Expansion units
- ___ 17. Plug in and power on all attached devices, such as printers and displays.
- ___ 18. If your system unit is an iSeries 270, 800, or 810, go to step 20.
- ___ 19. If your system unit is an iSeries 820, 825, 830, 840, 870 or 890, go to step 22 on page 12.
- ___ 20. Look at the Function/Data display on the control panel. Refer to "System-unit control panel" on page 43.
- ___ 21. Does **01 B N V=S** appear in the Function/Data display?

- ___ **Yes:** Go to step 24.
- ___ **No:** Follow these steps:
 - ___ a. Press the Increment/Decrement push button until **02** appears in the Function/Data display.
 - ___ b. Press the Enter push button on the control panel.
 - ___ c. Press the Increment/Decrement push button until **B** appears in the Function/Data display.
 - ___ d. Press the Enter push button on the control panel.
 - ___ e. Press the Increment/Decrement push button until **N** appears in the Function/Data display.
 - ___ f. Press the Enter push button on the control panel.
 - ___ g. Press the Increment/Decrement push button until **S** appears in the Function/Data display.
 - ___ h. Press the Enter push button on the control panel.
 - ___ i. Press the Increment/Decrement push button until **01** appears in the Function/Data display.
 - ___ j. Press the Enter push button on the control panel.
01 B N S should appear in the Function/Data display. If it does not, repeat steps 21a through 21j.
 - ___ k. Go to step 24.
- ___ 22. Look at the Function/Data display on the control panel.
- ___ 23. Does **01 B V=S** appear in the Function/Data display and the Normal mode indicator (**OK**) illuminated?
 - ___ **Yes:** Continue with the next step.
 - ___ **No:** Do the following:
 - ___ a. Press the Mode Select button until the Normal mode indicator (**OK**) lights up.
 - ___ b. Press the Increment/Decrement push button until **02** appears in the Function/Data display.
 - ___ c. Press the Enter push button on the control panel.
 - ___ d. Press the Increment/Decrement push button until **B** appears in the Function/Data display.
 - ___ e. Press the Enter push button on the control panel.
 - ___ f. Press the Increment/Decrement push button until **S** appears in the Function/Data display.
 - ___ g. Press the Enter push button on the control panel.
 - ___ h. Press the Increment/Decrement push button until **01** appears in the Function/Data display.
 - ___ i. Press the Enter push button on the control panel.
01 B S should appear in the Function/Display panel. If it does not appear, repeat steps 23a through 23i.
- ___ 24. Press the Power push button that is located on the control panel. There is approximately a 10-second delay before the power-on light comes on, and data appears in the Function/Data display.

Note: The system takes several minutes to power on and complete an IPL. When the IPL is complete, the OS/400 signon display should appear on your system unit console.
- ___ 25. Follow these steps to verify your disk unit configuration:

- ___ a. Type **strsst** on the command line of the iSeries session and press Enter.
- ___ b. Select **Work with disk units** from the *System Service Tools (SST)* display. Press Enter.
- ___ c. Select **Work with disk unit recovery** from the *Work with Disk Units* display. Press Enter.
- ___ d. Does the disk unit that you replaced have **device parity protection (RAID)**?
 - ___ **No:** The disk unit you replaced had **mirrored protection**. Go to step 26.
 - ___ **Yes:** Follow these steps:
 - ___ 1) Select **Rebuild disk unit data** on the *Work with Disk unit recovery* display.
Press Enter.
 - ___ 2) Select **1** to rebuild the disk unit displayed (disk unit displayed is the disk unit that you **removed**) on the *Rebuild Disk Unit Data* display.
Press Enter.
 - ___ 3) Press Enter on the *Confirm Rebuild Disk Unit Data* display. The rebuild process may take several minutes to complete.
 - ___ 4) Install the disk unit covers. Align the tabs on the disk unit cover with the slots in the system unit. Push the cover in until it latches.
 - ___ 5) Install or close the system unit or expansion unit front cover.
 - ___ 6) Press F5 to refresh the display until the **Percent complete** shows 5%.
 - ___ 7) When the display shows at least 5% complete, you can either continue to monitor this display to completion, or press F3 (Exit) to return to the *Work with disk units* display.
 - ___ 8) Press F3 (Exit) to return to the *System service tools* display.
 - ___ 9) Press F3 (Exit) to return to the *exit SST* display and press Enter.

The replacement procedure is complete.

- ___ 26. The disk unit you replaced had **mirrored protection**. Follow these steps:
 - ___ a. Select **Replace configured unit** on the *Work with Disk unit recovery* display.
Press Enter.
 - ___ b. Select the configured disk unit that you are exchanging (suspended unit) on the *Select Configured Unit to Replace* display. There should be only one unit available.
Press Enter.
 - ___ c. Select the disk unit that you just installed on the *Select Replacement Unit* display. This unit has a *non-configured* status.

Note: In some cases, it may take several minutes for a new disk unit to display. Repeat these steps until the new unit appears.

Press Enter.

- ___ d. Press Enter on the *Confirm Replace of Configured Unit* display to confirm your choice for replacement.

The replacement process may take several minutes to complete. When the process is complete, the *Work with Disk unit recovery* display appears.

- ___ e. Press F3 (Exit) to return to the *Work with disk units* display.
- ___ f. Select **Display disk configuration** on the *Work with disk units* display.
- ___ g. Select **Display disk configuration status** on the *Display Disk Configuration* display.

Mirrored status will show *Resuming*. When complete, the Mirrored status will show *Active*. This process may take several minutes to complete. You can either monitor this display to completion, or press F3 (Exit) repeatedly to return to the OS/400 main menu.

- ___ h. Install the disk unit covers. Align the tabs on the disk unit cover with the slots in the system unit. Push the cover in until it latches.
- ___ i. Install or close the system unit or expansion unit front cover.

The replacement of the disk unit is complete.

Chapter 3. Install 43xx disk units

To install a 43xx disk unit; follow these steps:

Note: The figures in these instructions may not look exactly like the server that you have. However, the steps to perform the task are the same.

- ___ 1. Perform prerequisite tasks as described in “Before you begin” on page 1.
- ___ 2. “Open or remove the front cover” on page 29.

Your system or expansion unit can either be powered off (nonconcurrent) or powered on (concurrent) when you install the disk units.

Select the preferred procedure from the following:

- “Install 43xx disk units with system power on” on page 15
- “Install 43xx disk units with system power off” on page 20


Install 43xx disk units with system power on

Be sure you understand the complexity of the powered on (concurrent) procedure before you begin. If you do not feel comfortable using the concurrent procedure, go to “Install 43xx disk units with system power off” on page 20.

To perform the concurrent installation, follow these steps:

- ___ 1. **If possible, use a wrist strap to prevent electrostatic discharge from damaging your hardware.** If you do not have a wrist strap, touch a metal surface of the system or expansion unit before installing or replacing hardware.

If you received the 2209 Disposable Wrist Strap, follow these steps:

- ___ a. Attach the disposable wrist strap.  [View video.](#)
- ___ b. When you unroll the strap, remove the liner from the copper foil at the end.
- ___ c. Attach the adhesive part of the copper foil to an **exposed, unpainted** metal surface on the frame of the unit.

Note: Follow the same precautions you would use without the wrist strap. The 2209 Disposable Wrist Strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

- ___ 2. Find the “Disk unit locations” on page 33 in your system unit or your expansion unit.
- ___ 3. Remove the disk unit covers. Squeeze the latch and pull out.

Note: iSeries 825 does not have disk unit covers.

- ___ 4. Look at the front of the system unit or the expansion unit and determine the next available position. When you have a system unit with an expansion unit, **fill the slot positions in the system unit first.** If using logical partitions, go to Plan for logical partitions, in the *Information Center*, for specific load source disk unit locations.

- ___ 5. Follow the steps in “Details: Install 43xx disk units with system power on” to install the new disk unit.

Details: Install 43xx disk units with system power on

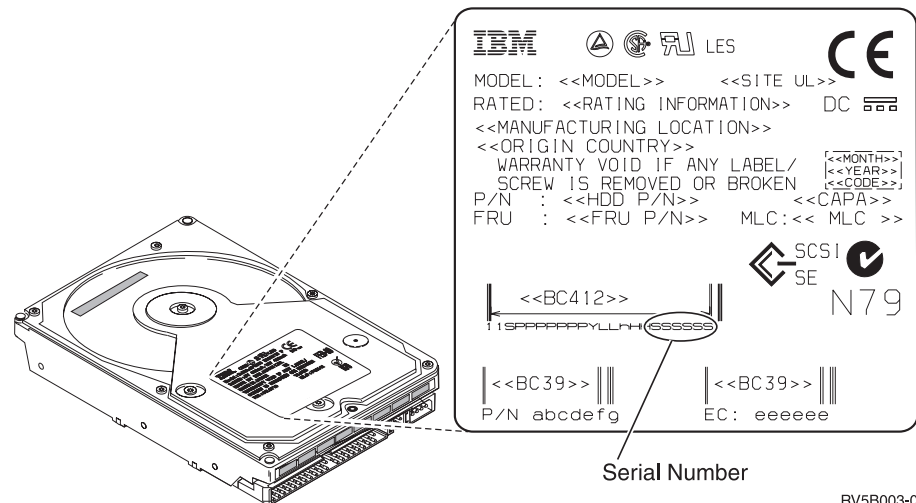
- ___ 1. Write down the position where the new disk will be installed _____ (for example; D03).
- ___ 2. Write down the Frame ID where you will be installing the disk unit here _____. You will need it later. The base system Frame ID is 1. The Frame ID for each external expansion unit is displayed on the front display (for example: 02)
- ___ 3. Be sure you are signed on **with at least service level authority**.
- ___ 4. Type **strsst** on the command line of the iSeries session and press Enter.
- ___ 5. Type **your service tools user ID and service tools password** on the *System Service Tools (SST) Sign On* display. Press Enter.
- ___ 6. Select **Start a service tool** from the *System Service Tools (SST)* display. Press Enter.
- ___ 7. Select **Hardware service manager** from the *Start a Service Tool* display. Press Enter.
- ___ 8. Select **Device Concurrent Maintenance** from the *Hardware Service Manager* display. Press Enter.
- ___ 9. Type the **Physical Location** (Frame ID and position) where you will be installing the new disk unit. Refer to the locations you recorded in step 1 and step 2 of this procedure.

In this example, Physical Location: Frame ID 1____ Position D06____, you would install a disk unit in frame 1 (base system), disk unit position 6.

- ___ 10. Select option 2 (Install device for the action to be performed.)
- ___ 11. Set the time delay for one minute—01. **Do not press Enter at this time.**
- ___ 12. Find the package that contains the new disk unit assembly and remove it from the static-protective package.

Attention: Disk units are fragile. Handle with care.

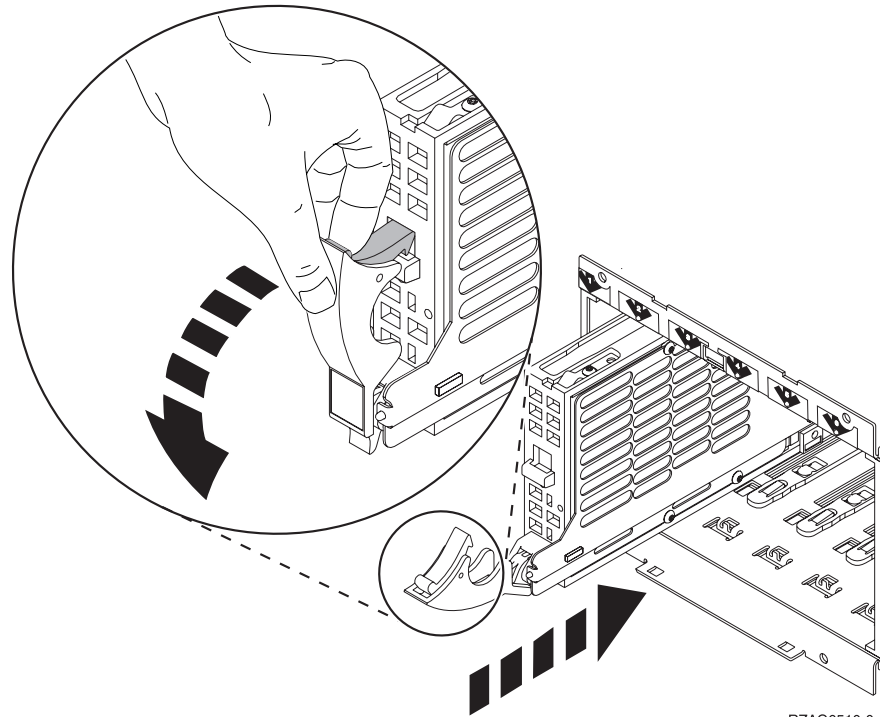
Write the serial number (use the last four digits) of the disk unit here _____ before you install it.



RV5B003-0

- ___ 13. Unlock the handle by squeezing and pulling it out toward you and down before you install the disk unit. If the handle is not all the way down, the disk unit will not slide into the system unit or the expansion unit. View



video.



- ___ 14. Support the disk unit assembly as you slide it half way into the system unit or the expansion unit. Do not push it any further.

Note: You install the disk units horizontally in the 7123, 7136, and 7137 disk unit enclosure.

- ___ 15. Locate the light in the numbered arrow by the disk unit you are installing. When you press Enter, after a one minute delay, the light comes on and begins to blink rapidly. You then have nine seconds to slide the disk unit **all the way forward** and push in the handle on the disk unit.
- ___ 16. Press Enter on the console.
- ___ 17. When the light starts blinking, slide the disk unit **all the way in** and lock it in place by closing the latch.
- ___ 18. The light stops blinking and remains on when you have installed the disk unit properly.
- ___ 19. Return to the console and wait until the *Concurrent Maintenance Results* display appears.
Press Enter.
- ___ 20. Do you have another disk unit to install?
 - ___ **No:** Continue with the next step.
 - ___ **Yes:** Look at the front of the system unit or the expansion unit and determine the next available position. Repeat steps 8 on page 16 through 19 to install the next disk unit.
- ___ 21. When the *Hardware Service Manager* display appears, press **F12**.
- ___ 22. Select **Work with Disk Units** on the *System Service Tools* display.
Press Enter.
- ___ 23. Select **Display disk configuration** on the *Work with Disk Units* display.

- Press Enter.
- ___ 24. Select **Display non-configured units** on the *Display disk configuration* display.
Press Enter.
- ___ 25. The disk unit that you installed should be listed. The serial number should match the serial number you wrote in step 12 on page 16.
- Note:** The new disk unit may take up to five minutes to appear in the list. If the disk unit is not listed, ensure that the disk unit was properly installed. Repeat steps “Install 43xx disk units with system power on” on page 15 through 19 on page 17.
- ___ 26. Press F12, twice.
- ___ 27. Select **Work with disk configuration** on the *Work with Disk Units* display.
Press Enter.
- ___ 28. Are you adding a disk unit to an existing device parity set? If you need more information about device parity, go to Backup and Recovery  .
___ **Yes:** Continue with the next step.
___ **No:** Do you want to start a device parity set?
___ **Yes:** Go to Device parity protection in the *Information Center*.
___ **No:** Go to step 46 on page 19.
- ___ 29. Select **Include unit in device parity protection** on the *Work with disk configuration* display.
Press Enter.
- ___ 30. Did the **Include Device Parity Protection Failed** display appear?
___ **Yes:** Continue with the next step.
___ **No:** Go to step 34.
- ___ 31. The following conditions must be met before you can start device parity protection. Including the disk unit in device parity protection may fail for one or more reasons.
- If there are enough disk units available to create a new parity set, the units will be eligible for *Start Device Parity Protection* operation and not for the *Include Device Parity Protection* operation. For more information, go to Backup and Recovery  .
 - **All disk units in a parity set must be the same capacity with a minimum number of 3 or 4 disk units and maximum of 10 or 18 units in the resulting parity set, depending on the disk unit type.**
 - Not all disk units attached to an advanced function input/output processor have reported to the system. Retry the operation.
 - The type/model of the disk units must be supported for the requested operation.
- ___ 32. When the above conditions are met, select F12 to return to the *Work with disk configuration* display.
- ___ 33. Select **Include unit in device parity protection** on the *Work with disk configuration* display.
Press Enter.
- ___ 34. Select the disk units to include in Device Parity Protection. Type a **1** in the *Option* column on the *Include Disk Units in Device Parity Protection* display.
Press Enter.

- ___ 35. Press Enter to confirm your choice. The configuration will start and may take 30 to 60 minutes to complete.
- ___ 36. When the device parity protection is complete, the message *Selected units have been included successfully* appears on the *Work with disk configuration* display.
- ___ 37. Select **Display disk configuration** on the *Work with disk configuration* display and press Enter.
- ___ 38. Select **Display disk configuration status** on the *Display disk configuration* display and press Enter.
- ___ 39. If you have more than one ASP, determine the auxiliary storage pool (ASP) to which you want to add the disk units.
- ___ 40. Press F12, twice.
- ___ 41. Select **Add units to the ASPs and balance data** on the **Work with disk configuration** display.
Press Enter.
- ___ 42. Specify the ASP that you determined in step 39 on the **Specify ASPs to Add Units to** display.
Press Enter.
- ___ 43. The **Confirm Add Units** display appears showing the configuration your system will have when the add operation completes.

Note: If you have selected the wrong ASP, press F12 to change your options.

Press the Enter key to continue. The add process will take several minutes to complete.

- ___ 44. When the message *Selected units have been added successfully* appears, return to the *Main Menu*. (Press F3 three times and press Enter.)
- ___ 45. Go to step 54 on page 20.
- ___ 46. Select **Display disk configuration** on the *Work with Disk Configuration* display.
Press Enter.
- ___ 47. Select **Display disk configuration status** on the *Display Disk Configuration* display.
Press Enter.
- ___ 48. If you have more than one ASP, determine the auxiliary storage pool (ASP) to which you want to add the disk units.
- ___ 49. Press F12, twice.
- ___ 50. Select **Add units to ASPs** on the *Work with Disk Configuration* display.
Press Enter.
- ___ 51. Specify the number of the ASP to which you want to add the disk unit. The system ASP is **ASP 1**.
Press Enter.

Notes:

- a. When an even number of disk units are added to a mirrored ASP, they will automatically become mirrored protected.
- b. If ASP is mirror protected, disk units must be added in pairs.
- ___ 52. The *Confirm Add Units* display appears showing the configuration your system will have when the add operation completes.

Note: If you have selected the wrong ASP, press F12 to change your options.

Press the Enter key to continue. The add process will take several minutes to complete.


- ___ 53. When the message Selected units have been added successfully appears, return to the *Main Menu*. (Press F3 three times and press Enter.)
- ___ 54. Install the disk unit covers. Align the tabs on the disk unit cover with the slots in the system unit. Push the cover in until it latches.
- ___ 55. Install or close the system unit or expansion unit front cover.
- ___ 56. If you have a printer, print the configuration list. A service representative may refer to the configuration list in the future.
 - ___ a. You need to sign on with service authority.
 - ___ b. Type **strsst** on the *Main Menu* command line and press Enter.
 - ___ c. Type **your service tools user ID and service tools password** on the *System Service Tools (SST) Sign On* display and press Enter.
 - ___ d. Select **Start a service tool** on the *System Service Tools (SST)* display and press Enter.
 - ___ e. Select **Hardware service manager** on the *Start a Service Tool* display and press Enter.
 - ___ f. Press F6 (Print configuration) from the *Hardware Service Manager* display.
 - ___ g. Press F3 (Exit) twice to return to the *Main Menu* and press Enter.
 - ___ h. Place the configuration list where you can reference it in the future.
- ___ 57. The installation of the disk unit is complete.
- ___ 58. For information on disk unit configuration, go to the Disk management topic in the *Information Center*.

Install 43xx disk units with system power off

To perform the nonconcurrent installation, follow these steps:

- ___ 1. If you haven't done so, power down the system. For instructions, refer to "Power down the system unit" on page 67.
- ___ 2. **If possible, use a wrist strap to prevent electrostatic discharge from damaging your hardware.** If you do not have a wrist strap, touch a metal surface of the system or expansion unit before installing or replacing hardware.

If you received the 2209 Disposable Wrist Strap, follow these steps:

- ___ a. Attach the disposable wrist strap.  View video.
- ___ b. When you unroll the strap, remove the liner from the copper foil at the end.
- ___ c. Attach the adhesive part of the copper foil to an **exposed, unpainted** metal surface on the frame of the unit.

Note: Follow the same precautions you would use without the wrist strap. The 2209 Disposable Wrist Strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

- ___ 3. Find the "Disk unit locations" on page 33 in your system unit or your expansion unit.
- ___ 4. Remove the disk unit covers. Squeeze the latch and pull out.

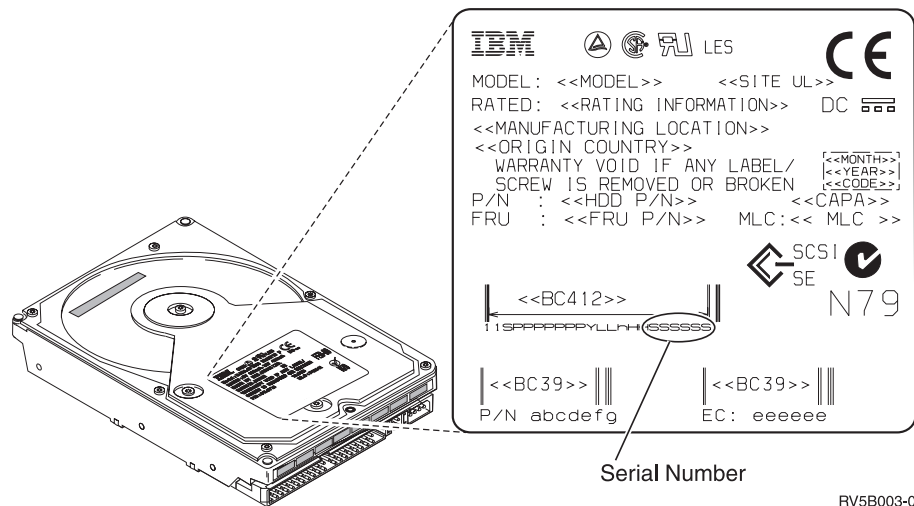
Note: iSeries 825 does not use disk unit covers.

- ___ 5. Look at the front of the system unit or the expansion unit and determine the next available position. When you have a system unit with an expansion unit, **fill the slot positions sequentially in the system unit first**. If using logical partitions, go to Plan for logical partitions, in the *Information Center*, for specific load source disk unit locations.
- ___ 6. Follow the steps in “Details: Install 43xx disk units with system power off” to install the new disk unit.

Details: Install 43xx disk units with system power off

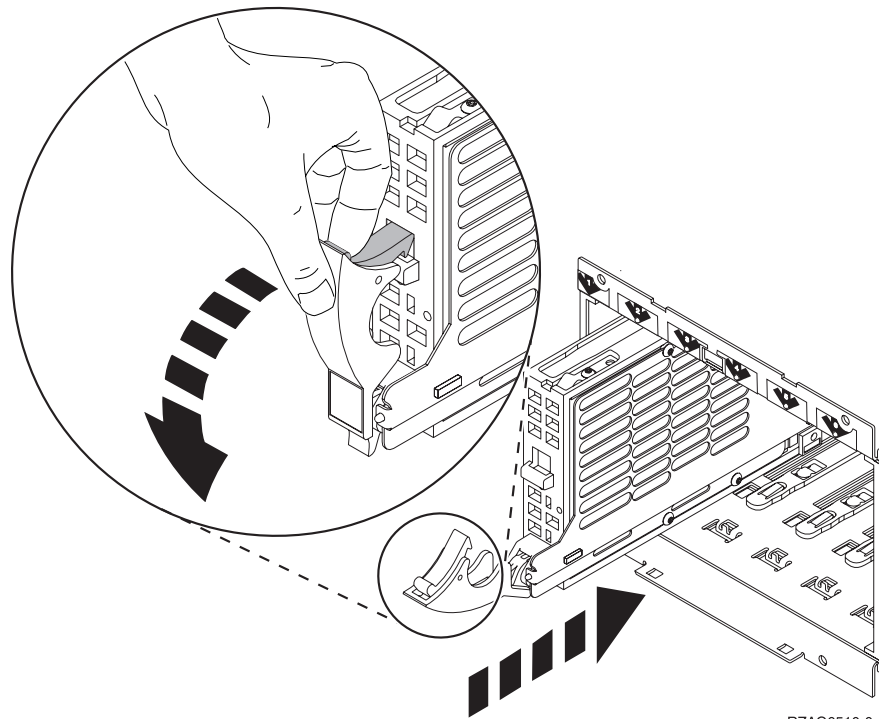
Attention: Disk units are fragile. Handle with care.

- ___ 1. Find the package that contains the new disk unit assembly and remove it from the static-protective package. Write the serial number (use the last 4 digits) of the disk unit here _____ before you install it.



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- ___ 2. Squeeze and pull the handle out toward you and down before you install the disk unit. If the handle is not all the way down, the disk unit will not slide into the system unit or the expansion unit. [View video.](#)



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- ___ 3. Support the bottom of the disk unit assembly as you slide it completely forward and install it into the system unit or the expansion unit. Do not hold the disk unit by the handle.
- ___ 4. Align the disk unit assembly with the next available slot and slide it into the system or expansion unit until it **stops**. Make sure that the handle is fully extended when sliding into the system unit or the expansion unit.
- ___ 5. Close the disk unit handle firmly locking it into place.
- ___ 6. Do you have another disk unit to install?
 - ___ **No:** Continue with the next step.
 - ___ **Yes:** Repeat this procedure to install the next disk unit.
- ___ 7. Install the disk unit covers. Align the tabs on the disk unit enclosure cover with the slots on the system unit enclosure. Push the cover in until it latches.
- ___ 8. Do you have any other adapter cards or devices to install?
 - ___ **No:** Continue with the next step.
 - ___ **Yes:** If you have another device such as an adapter card, a tape unit, or a memory card to install, go to the instructions that came with that device.
- ___ 9. Remove the disposable wrist strap.
- ___ 10. Install or close the unit front cover.

__ 11. DANGER

An electrical outlet that is not correctly wired could place hazardous voltage on metal parts of the system or the products that attach to the system. It is the customer's responsibility to ensure that the outlet is correctly wired and grounded to prevent an electrical shock. (RSFTD201)

Plug the following power cords into an electrical outlet.

- System unit
 - System unit console
 - Expansion units
- __ 12. Plug in and power on all attached devices, such as printers and displays.
- __ 13. If your system unit is an iSeries 270, 800, or 810, go to step 15.
- __ 14. If your system unit is an iSeries 820, 825, 830, 840, 870 or 890, go to step 18 on page 24.
- __ 15. Look at the Function/Data display on the control panel. Refer to "System-unit control panel" on page 43.
- __ 16. Did you just install a 7104 or 7116 Expansion Unit?
- __ No: Continue with the next step.
 - __ Yes: Do the following:
 - __ a. Press the Increment/Decrement push button until **02** appears in the Function/Data display.
 - __ b. Press the Enter push button on the control panel.
 - __ c. Press the Increment/Decrement push button until **B** appears in the Function/Data display.
 - __ d. Press the Enter push button on the control panel.
 - __ e. Press the Increment/Decrement push button until **M** appears in the Function/Data display.
 - __ f. Press the Enter push button on the control panel.
 - __ g. Press the Increment/Decrement push button until **S** appears in the Function/Data display.
 - __ h. Press the Enter push button on the control panel.
 - __ i. Press the Increment/Decrement push button until **07** appears in the Function/Data display.
 - __ j. Press the Enter push button on the control panel.
 - __ k. Press the Increment/Decrement push button until **07A9** appears in the Function/Data display.
 - __ l. Press the Enter push button on the control panel.
 - __ m. Press the Increment/Decrement push button until **0701** appears in the Function/Data display.
 - __ n. Press the Enter push button on the control panel.
 - __ o. Depending on the processor type you identified in step 1 on page 45, the configuration ID in step 16p will be 0795 or 0796.
 - __ 2248, 2250, or 2422 processors: 0795
 - __ For all other processors: 0796
 - __ p. Press the Increment/Decrement push button until **0795 or 0796** appears in the Function/Data display.
 - __ q. Press the Enter push button on the control panel.


- 01 B M V=F** should appear in the Function/Data display. If it does not, repeat steps 16a on page 23 through 16q on page 23.
- __ r. Go to step 20.
- __ 17. Does **01 B M V=S** appear in the Function/Data display?
- __ **Yes:** Go to step 20.
 - __ **No:** Do the following:
 - __ a. Press the Increment/Decrement push button until **02** appears in the Function/Data display.
 - __ b. Press the Enter push button on the control panel.
 - __ c. Press the Increment/Decrement push button until **B** appears in the Function/Data display.
 - __ d. Press the Enter push button on the control panel.
 - __ e. Press the Increment/Decrement push button until **M** appears in the Function/Data display.
 - __ f. Press the Enter push button on the control panel.
 - __ g. Press the Increment/Decrement push button until **S** appears in the Function/Data display.
 - __ h. Press the Enter push button on the control panel.
 - __ i. Press the Increment/Decrement push button until **01** appears in the Function/Data display.
 - __ j. Press the Enter push button on the control panel.


01 B M S should appear in the Function/Data display. If it does not, repeat steps 17a through 17j.
 - __ k. Go to step 20.
- __ 18. Look at the Function/Data display on the control panel.
- __ 19. Does **01 B V=S** appear in the Function/Data display and the Manual mode indicator (a small hand) illuminated?
- __ **Yes:** Continue with the next step.
 - __ **No:** Do the following:
 - __ a. Press the Mode Select button until the Manual mode indicator (a small hand) lights up.
 - __ b. Press the Increment/Decrement push button until **02** appears in the Function/Data display.
 - __ c. Press the Enter push button on the control panel.
 - __ d. Press the Increment/Decrement push button until **B** appears in the Function/Data display.
 - __ e. Press the Enter push button on the control panel.
 - __ f. Press the Increment/Decrement push button until **S** appears in the Function/Data display
 - __ g. Press the Enter push button on the control panel.
 - __ h. Press the Increment/Decrement push button until **01** appears in the Function/Data display.
 - __ i. Press the Enter push button on the control panel.

01 B S should appear in the Function/Display panel. If it does not appear, repeat steps 19a through 19i.
- __ 20. Press the Power push button that is located on the iSeries control panel. There is approximately a 10-second delay before the power-on light comes on, and data appears in the Function/Data display.

Note: The system takes approximately 5 to 10 minutes to power on and complete an IPL. When the IPL is complete, the *IPL or Install the System* display should appear on your system unit console.

- ___ 21. Do the following to verify your disk unit configuration:
- ___ a. Select **Use Dedicated Service Tools (DST)** when the *IPL or Install the System* display appears.
Press Enter.
 - ___ b. Enter your DST user ID and password.
Press Enter.
 - ___ c. Select **Work with disk units** on the *Use Dedicated Service Tools (DST)* display.
Press Enter.
 - ___ d. Select **Work with disk configuration** on the *Work with Disk Units* display.
Press Enter.
 - ___ e. Select **Display disk configuration** on the *Work with Disk Configuration* display.
Press Enter.
 - ___ f. Select **Display non-configured units** on the *Display Disk Configuration* display.
Press Enter.
 - ___ g. The disk units that you installed should be listed. The serial number should match the serial number you wrote in step 1 on page 21.

Note: If the disk unit is not listed, ensure that the disk unit is properly installed.
 - ___ h. Return to the *Work with Disk Configuration* display (press F12 two times).
- ___ 22. Are you adding a disk unit to an existing device parity set? If you need more information about device parity, refer to Backup and Recovery  .
- ___ **Yes:** Continue with the next step.
 - ___ **No:** Do you want to start a device parity set?
 - ___ **Yes:** Go to Device parity protection in the *Information Center*.
 - ___ **No:** Go to step 41 on page 26.
- ___ 23. Select **Work with device parity protection** on the *Work with Disk Configuration* display.
Press Enter.
- ___ 24. Select **Include unit in device parity protection** on the *Work with Device Parity Protection* display.
Press Enter.
- ___ 25. Did the *Include Device Parity Protection Failed* display appear?
- ___ **Yes:** Continue with the next step.
 - ___ **No:** Go to step 28 on page 26.
- ___ 26. The following conditions must be met before you can start device parity protection. Including the disk unit in device parity protection may fail for one or more reasons.
- If there are enough disk units available to create a new parity set, the units will be eligible for **Start Device Parity Protection** operation and

not for the **Include Device Parity Protection** operation. For more information, refer to Backup and Recovery .

- **All disk units in a parity set must be the same capacity with a minimum number of three or four disk units and maximum of 10 or 18 units in the resulting parity set, depending on the disk unit type.**
 - Not all disk units attached to an advanced function input/output processor have reported to the system. Retry the operation.
 - The type/model of the disk units is not supported for the requested operation.
- ___ 27. When the above conditions are met, press F12 twice to return to the *Work with Disk Configuration* display.
 - ___ 28. On the *Include Disk Units in Device Parity Protection* display, select the disk units to be included in Device Parity Protection. Type a **1** in the **Option** column.
Press Enter.
 - ___ 29. Press Enter to confirm your choice. The configuration will start and may take 30 to 60 minutes to complete.
 - ___ 30. When the device parity protection is complete, the message “Selected units have been included successfully” appears on the *Work with device parity protection* display.
Press F12.
 - ___ 31. Select **Display disk configuration** on the *Work with disk configuration* display.
Press Enter.
 - ___ 32. Select **Display disk configuration status** on the *Display disk configuration* display.
 - ___ 33. If you have more than one ASP, determine the auxiliary storage pool (ASP) to which you want to add the disk unit.
 - ___ 34. Press F12, twice.
 - ___ 35. Select **Work with ASP configuration** on the *Work with disk configuration* display.
Press Enter.
 - ___ 36. Select **Add units to ASPs** on the *Work with ASP configuration* display.
Press Enter.
 - ___ 37. Specify the ASP you determined in step 33 on the *Specify ASPs to Add Units to* display.
Press Enter.
 - ___ 38. Press Enter to confirm.
 - ___ 39. When the message “Selected units have been added successfully” appears, press F3 three times and press Enter to return to the *Main Menu*.
 - ___ 40. Go to step 45 on page 27.
 - ___ 41. Select **Work with ASP configuration** on the *Work with Disk Configuration* display and press Enter.
 - ___ 42. Select **Add units to ASPs** on the *Work with ASP configuration* display.
Press Enter.
 - ___ 43. Specify the number of the ASP to which you want to add the disk unit. The system ASP is **ASP 1**.
Press Enter.

Notes:

- a. When an even number of disk units are added to a mirrored ASP, they will automatically become mirrored protected.
 - b. If ASP is mirror protected, disk units must be added in pairs.
- ___ 44. The *Confirm Add Units* display appears showing the configuration your system will have when the add operation completes.

Note: If you have selected the wrong ASP, press F12 to change your options.

Press the Enter key to continue. The add process will take several minutes to complete.


- ___ 45. Press F12 three times to return to the *Use Dedicated Service Tools (DST)* display.
- ___ 46. Select **Perform an IPL** on the *Use Dedicated Service Tools (DST)* display. Press Enter.
- ___ 47. If you have a printer, print the configuration list. A service representative may refer to the configuration list in the future.
- ___ a. You need to sign on with service authority.
 - ___ b. Type **strsst** on the *Main Menu* command line. Press Enter.
 - ___ c. Type **your service tools user ID and service tools password** on the *System Service Tools (SST) Sign On* display. Press Enter.
 - ___ d. Select **Start a service tool** on the *System Service Tools (SST)* display. Press Enter.
 - ___ e. Select **Hardware service manager** on the *Start a Service Tool* display. Press Enter.
 - ___ f. Press F6 (print the configuration) from the *Hardware Service Manager* display.
 - ___ g. To return to the *Main Menu*, press F3 (Exit) twice and then press Enter.
 - ___ h. Place the configuration list where you can refer to it in the future.
- ___ 48. The installation of the disk unit is complete.
- ___ 49. For information on how to make your disk unit operational, go to the Disk management topic in the *Information Center*.

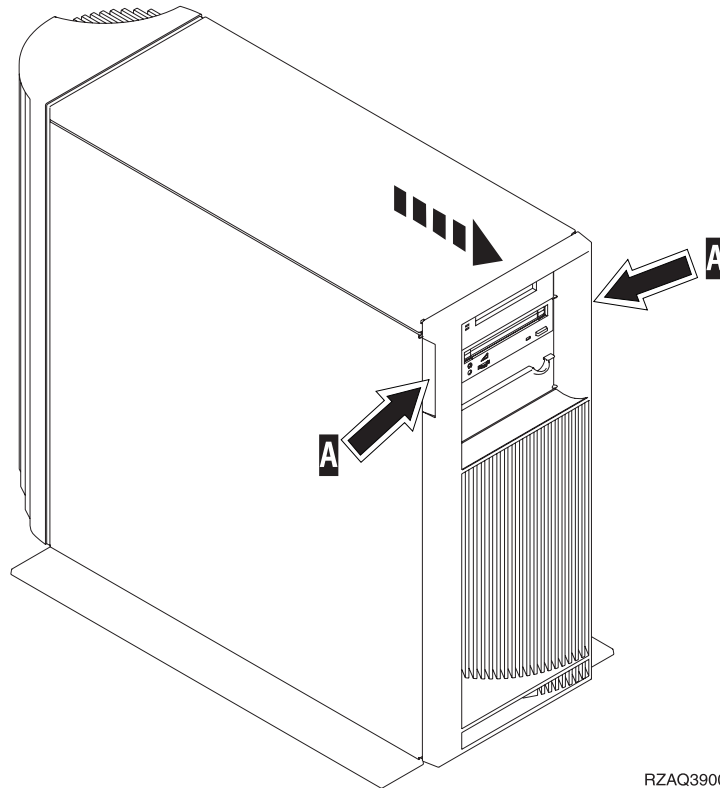
Open or remove the front cover

Select your unit:

- “270, 800, 810, 820, or 5075 front cover” on page 29
- “270, 800, or 810 in a rack” on page 31
- “825 front cover” on page 30
- “830, 840, 870, 890, 5074, 5079, 5094 or 5095” on page 32


270, 800, 810, 820, or 5075 front cover

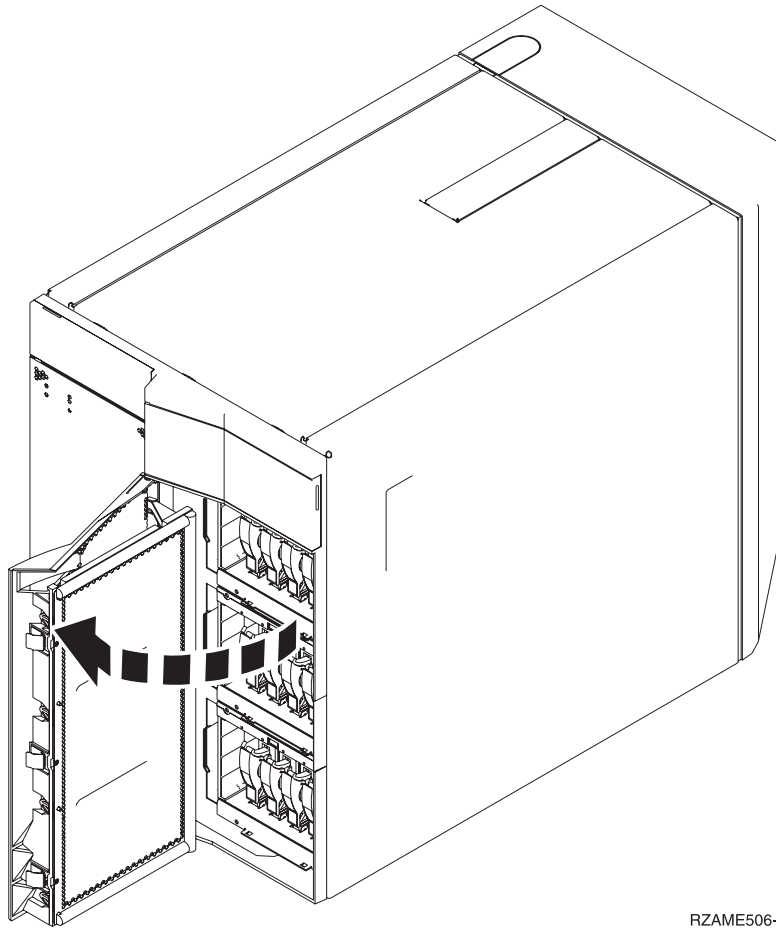
Remove the system unit or expansion unit front cover by gripping the sides of the cover **A** and pulling the cover toward you.  [View video.](#)



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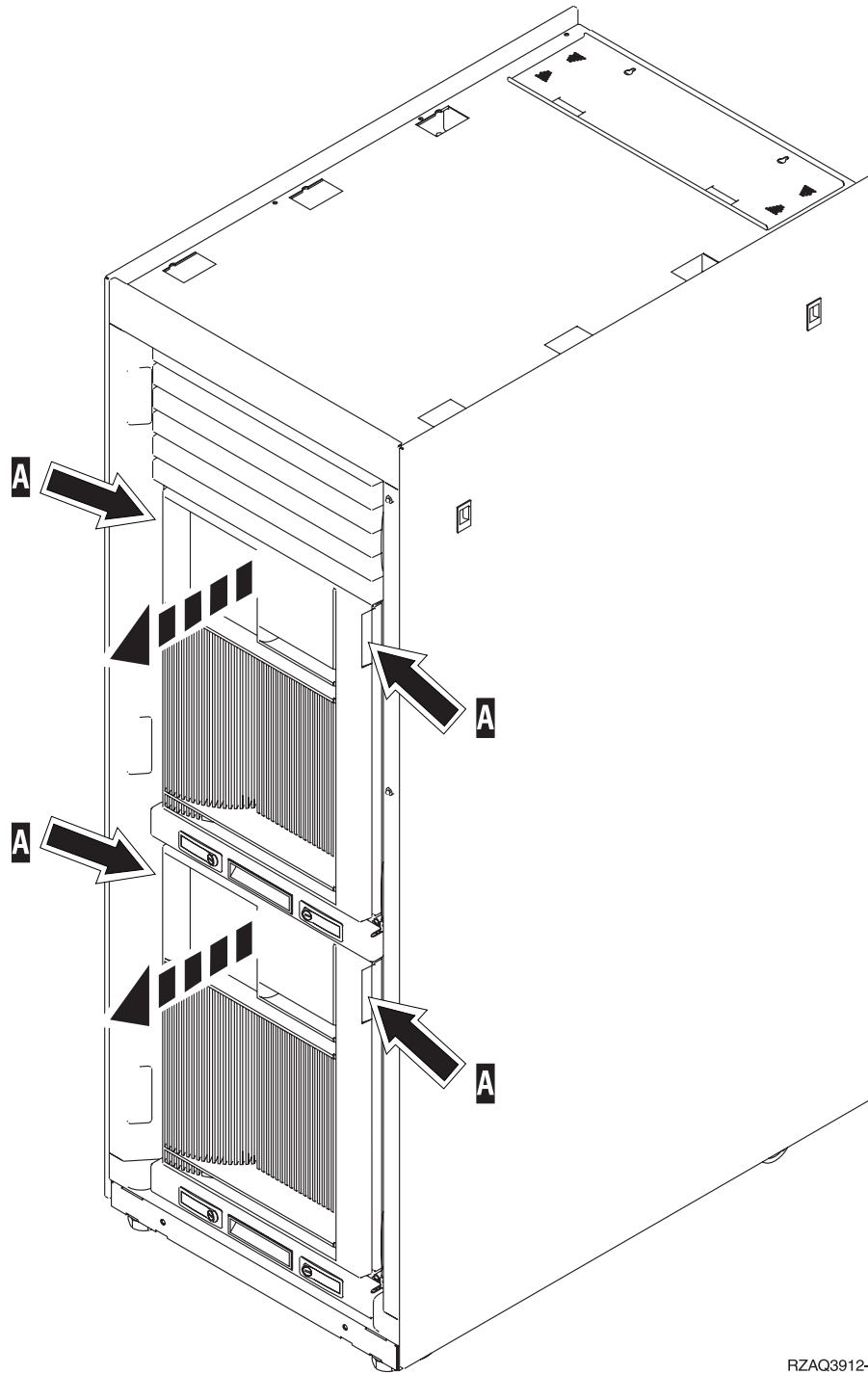
825 front cover

Remove the front cover by gripping the sides of the cover and pulling the cover toward you.  [View video.](#)



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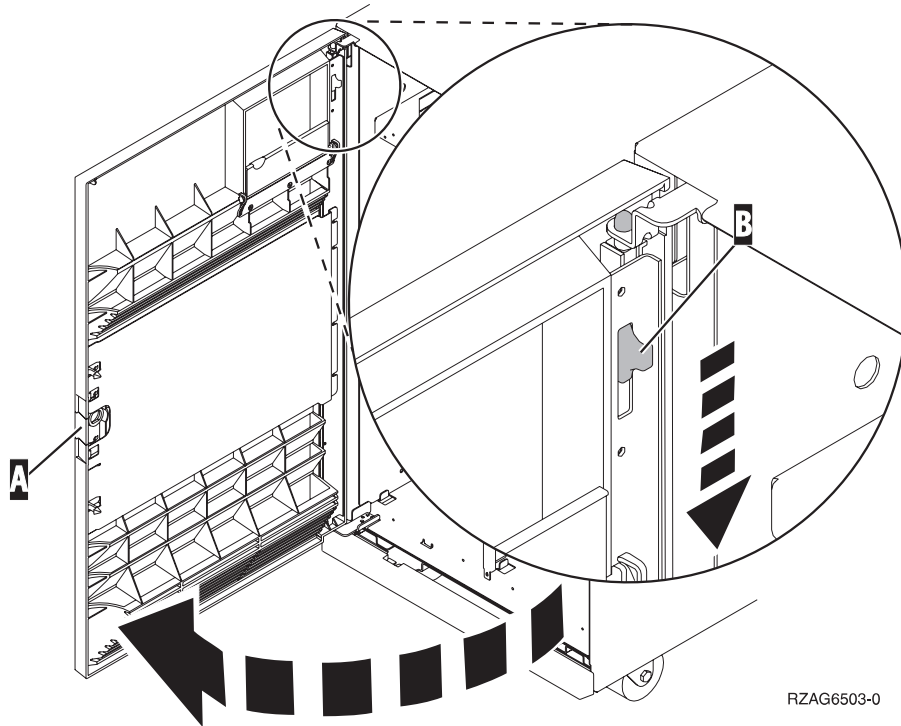
270, 800, or 810 in a rack



RZAQ3912-0

830, 840, 870, 890, 5074, 5079, 5094 or 5095

Use **A** to open the front cover. If needed, use latch **B** to remove the front cover.

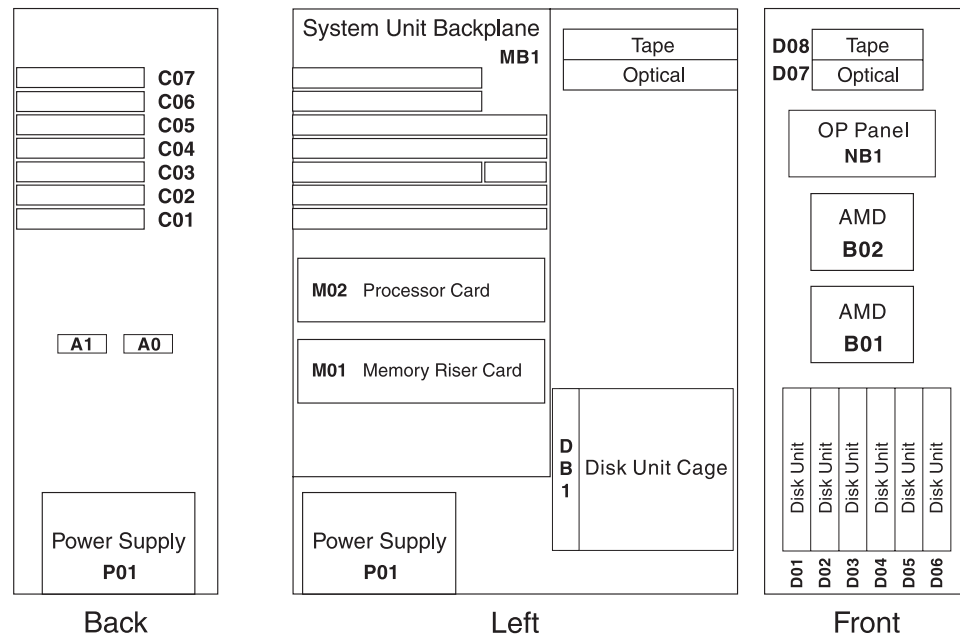


Disk unit locations

Locate your system or expansion unit to find the disk unit locations. If using logical partitions, go to Plan for logical partitions, in the *Information Center*, for specific load source disk unit locations.

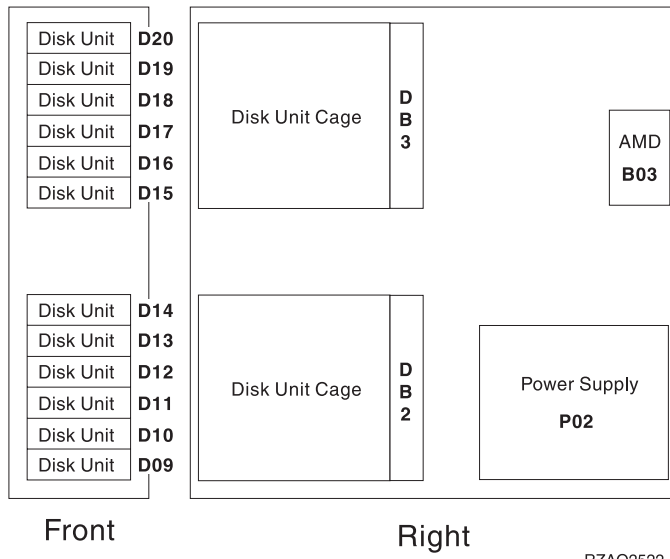
- “270, 800, or 810 system unit” on page 33
- “7104 or 7116 expansion unit” on page 34
- “820 system unit” on page 35
- “825 system unit” on page 36
- “830 system unit” on page 37
- “840 system unit” on page 38
- “870 and 890 system unit” on page 38
- “5065, 5074, and 5094 expansion unit” on page 39
- “5075 and 5095 expansion unit” on page 40
- “5079 and 5294 expansion unit” on page 41

270, 800, or 810 system unit

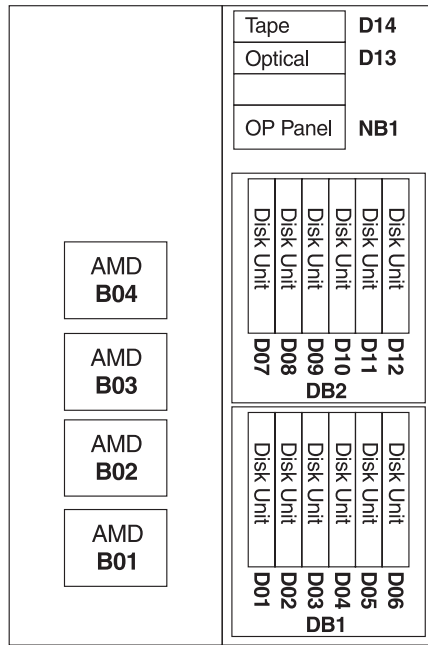


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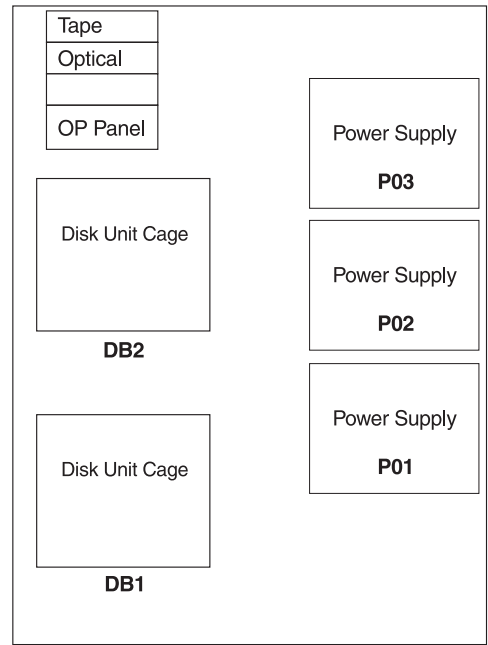
7104 or 7116 expansion unit



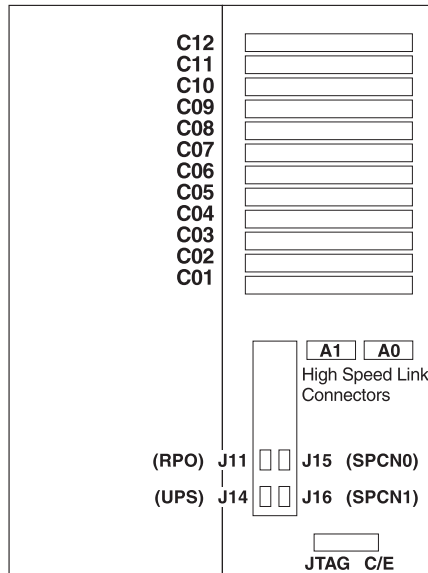
820 system unit



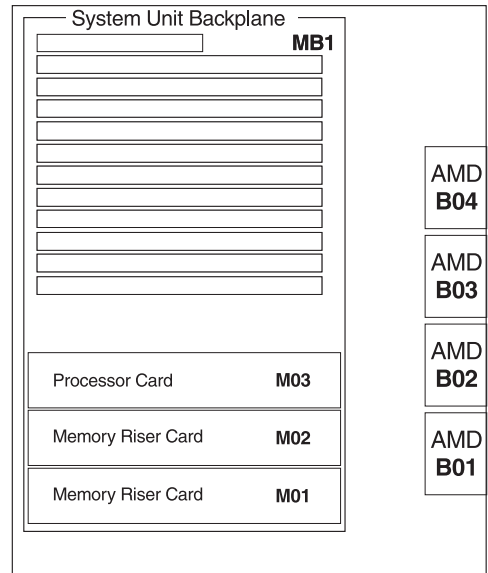
Front



Right



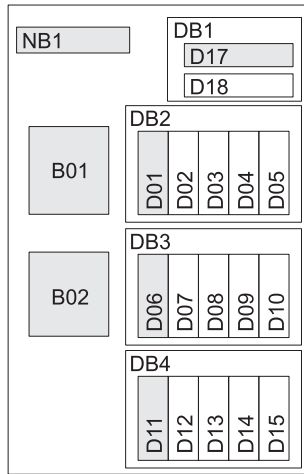
Back



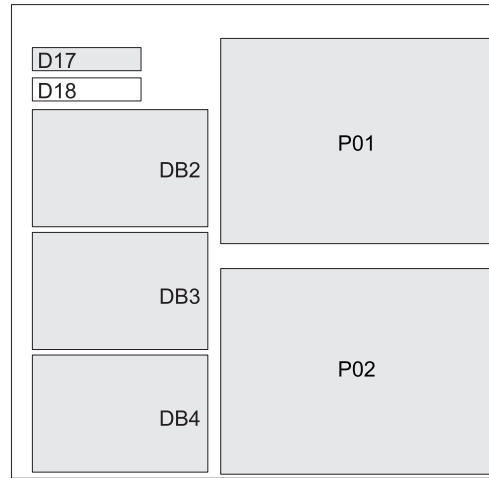
Left

RZAQ2503-6

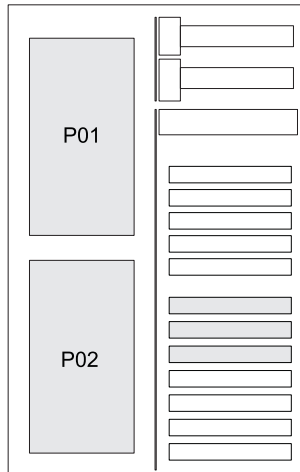
825 system unit



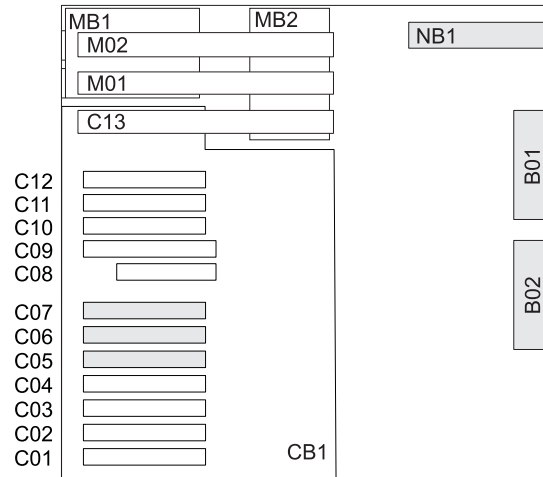
Front



Right



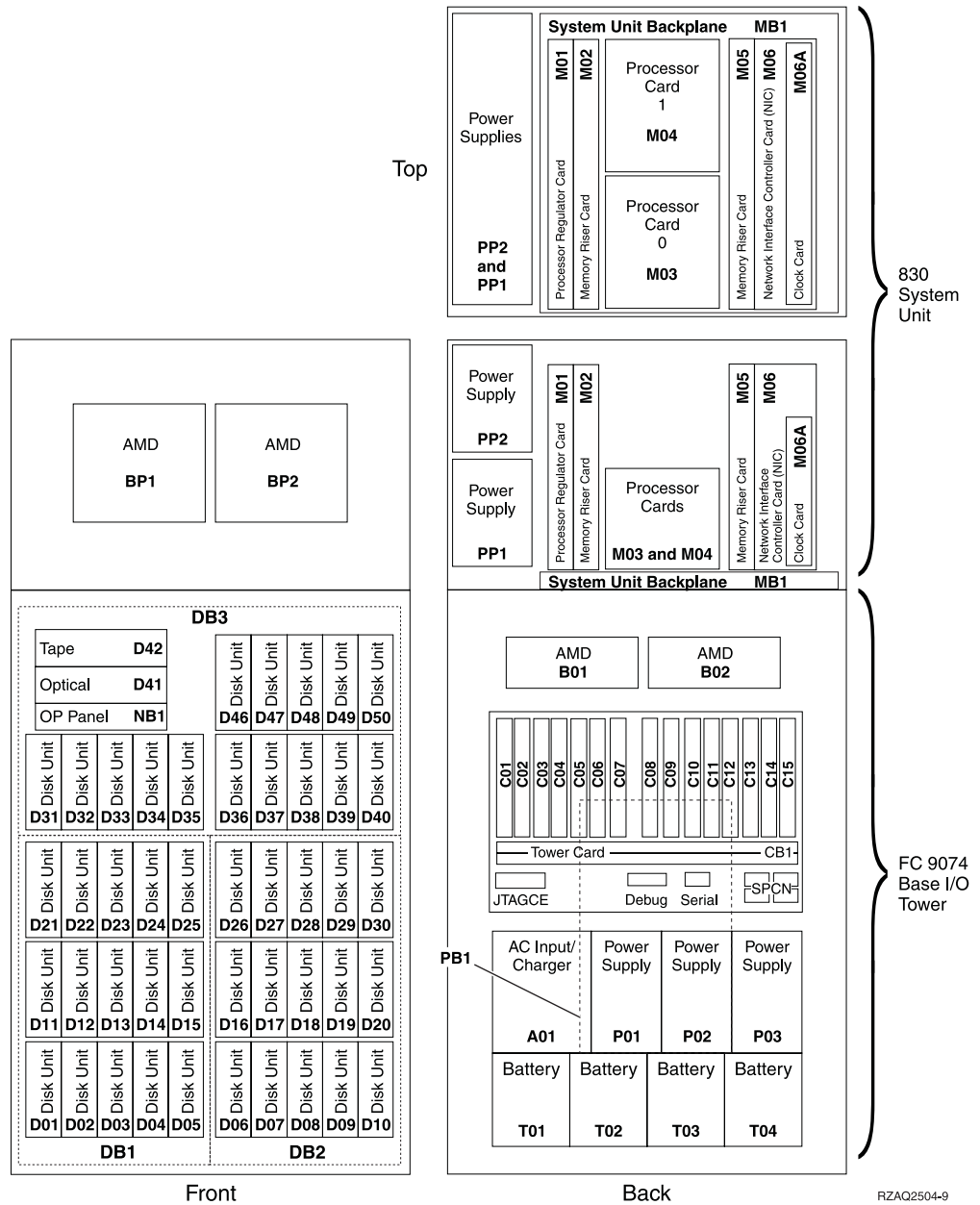
Back



Left

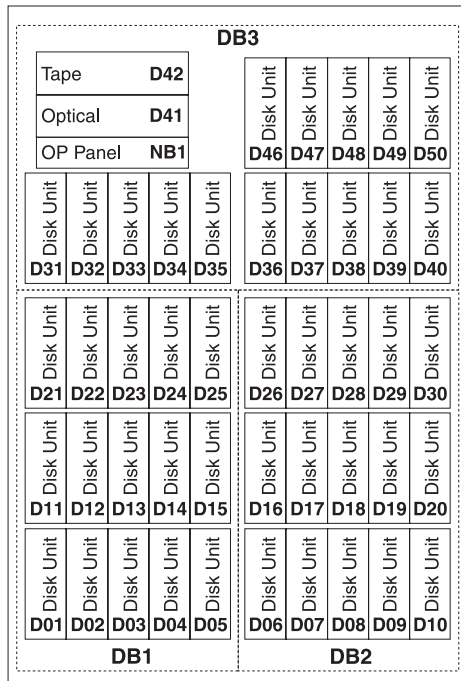
RZAR6800-2

830 system unit

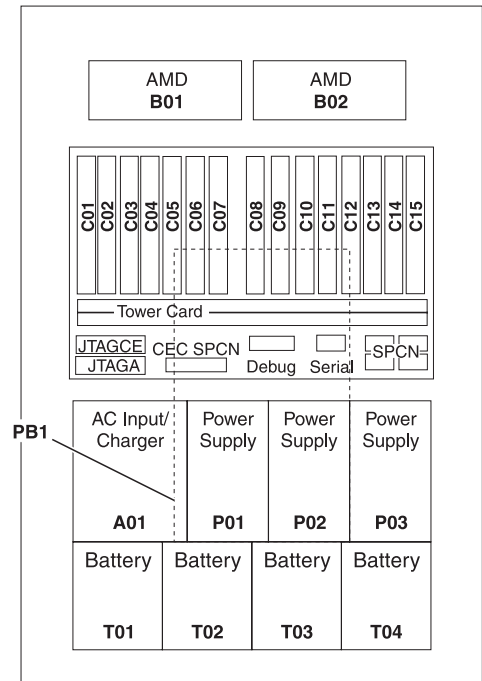


Note: Disk unit plug sequence for optimum performance: D31, D36, D46, D32, D37, D47, ... D50, (add second adaptor), D01, D11, D21, D02, ... D25, (add third adaptor), D06, D16, D26, D07, ... D30.

840 system unit



Front

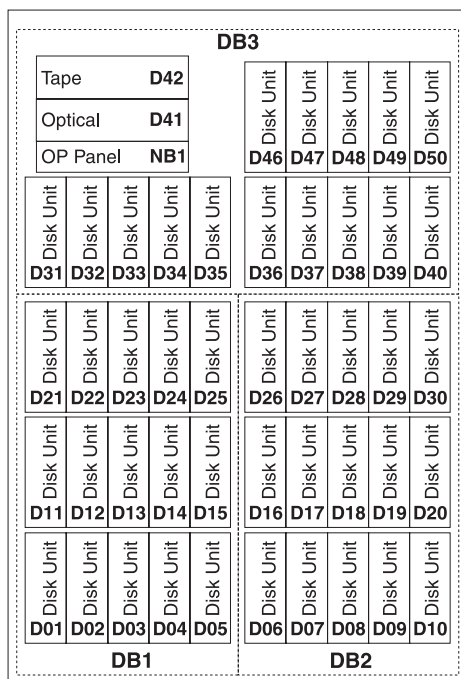


Back

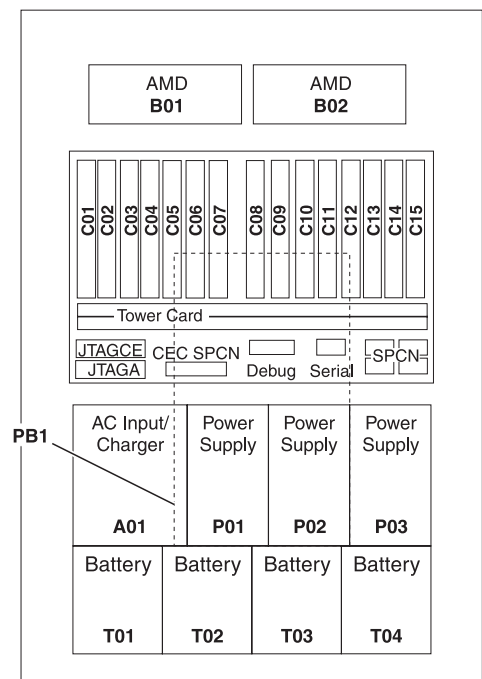
RZAQ2518-1

Note: Disk unit plug sequence for optimum performance: D31, D36, D46, D32, D37, D47, ... D50, (add second adaptor), D01, D11, D21, D02, ... D25, (add third adaptor), D06, D16, D26, D07, ... D30.

870 and 890 system unit



Front

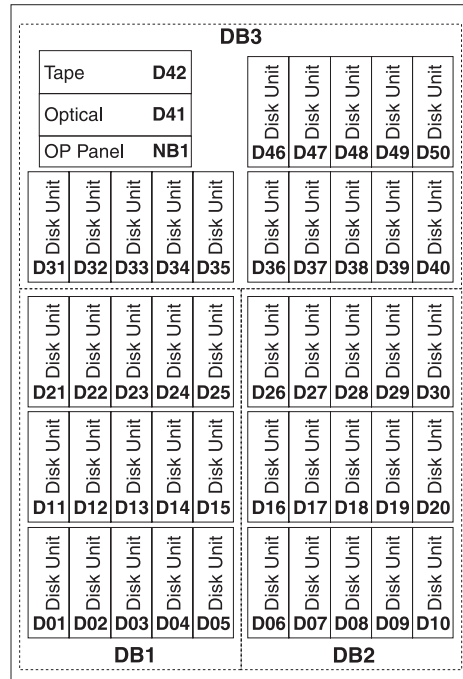


Back

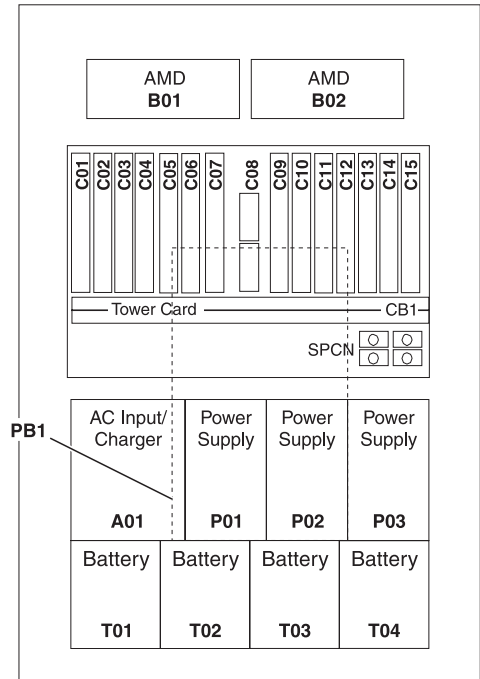
RZAQ2518-1

Note: Disk unit plug sequence for optimum performance: D31, D36, D46, D32, D37, D47, ... D50, (add second adaptor), D01, D11, D21, D02, ... D25, (add third adaptor), D06, D16, D26, D07, ... D30.

5065, 5074, and 5094 expansion unit



Front



Back

RZAQ2507-4

Select the optimal disk unit position

When you install disk units, you should evenly distribute the disk units on the disk controllers. Evenly distributing the disk units will optimize them for maximum performance.

Note for 5079 users: The 5079 consists of two independent expansion units: 5079-001 and 5079-002. Installation rules and procedures apply to each expansion unit independently.

Note for 5094 users: The 5094 consists of two independent expansion units: 5094-001 and 5094-002. Installation rules and procedures apply to each expansion unit independently.

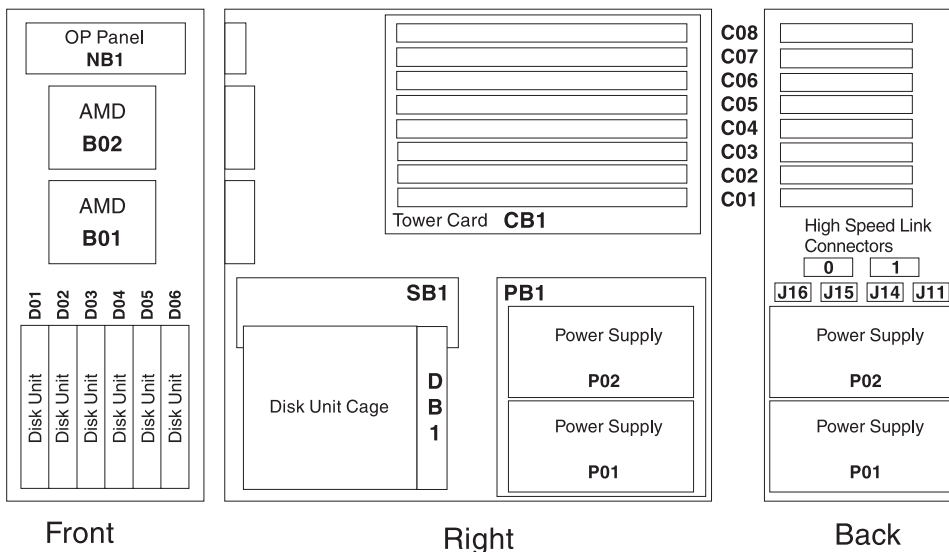
Note: If you are installing feature 4331 1.65 GB Read Cache, solid-state disk units, you can only install them in position one of your disk unit enclosures. You can install three of these features (if you have three disk unit controllers) in the expansion unit, for example, in positions D31, D01, and D06.

Refer to the label on the inside of the front cover and install the disk units in this order:

- ___ 1. First fill all the disk unit positions that are controlled by the first high-speed disk-unit controller.
 - ___ a. Fill the slot 1's: D31, D36, D46
 - ___ b. Fill the slot 2's D32, D37, D47

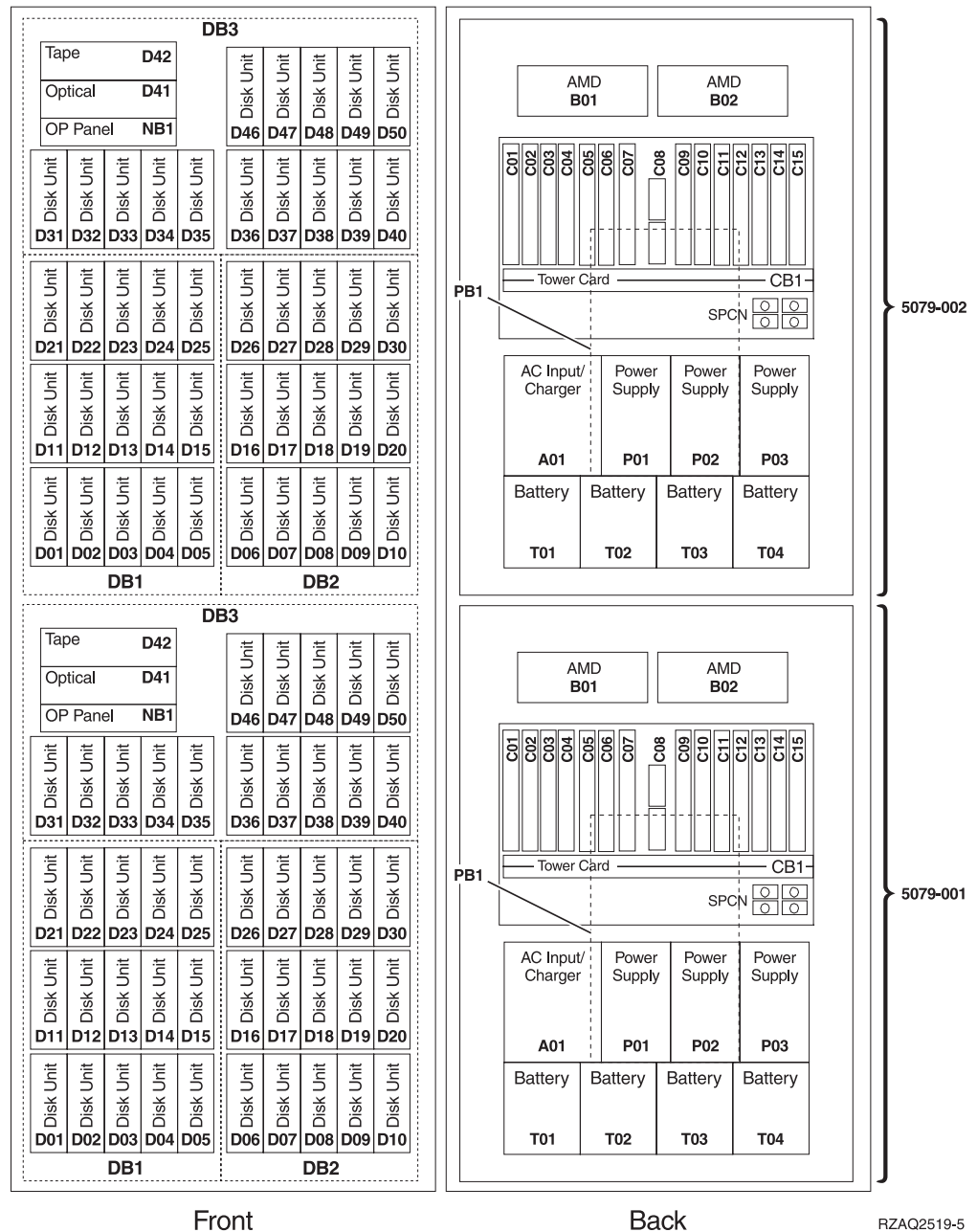
- __ c. Fill the slot 3's: D33, D38, D48
 - __ d. Fill the slot 4's: D34, D39, D49
 - __ e. Fill the slot 5's: D35, D40, D50
- __ 2. Your expansion unit requires a second high-speed disk-unit controller before you can install disk units into the following positions. Contact IBM or an authorized dealer if your expansion unit does not have a second high-speed disk-unit controller (IOA Card 2).
- Next fill the positions in (IOA Card 2) this sequence:
- __ a. Fill the slot 1's: D01, D11, D21
 - __ b. Fill the slot 2's: D02, D12, D22
 - __ c. Fill the slot 3's: D03, D13, D23
 - __ d. Fill the slot 4's: D04, D14, D24
 - __ e. Fill the slot 5's: D05, D15, D25
- __ 3. Your expansion unit requires a third high-speed disk-unit controller before you can install disk units into the following positions. Contact IBM or an authorized dealer if your expansion unit does not have a third high-speed disk-unit controller (IOA Card 3).
- Last fill the positions in (IOA Card 3) this sequence:
- __ a. Fill the slot 1's: D06, D16, D26
 - __ b. Fill the slot 2's: D07, D17, D27
 - __ c. Fill the slot 3's: D08, D18, D28
 - __ d. Fill the slot 4's: D09, D19, D29
 - __ e. Fill the slot 5's: D10, D20, D30

5075 and 5095 expansion unit



RZAQ2500-4

5079 and 5294 expansion unit



Select the optimal disk unit position

When you install disk units, you should evenly distribute the disk units on the disk controllers. Evenly distributing the disk units will optimize them for maximum performance.

Note for 5079 users: The 5079 consists of two independent expansion units: 5079-001 and 5079-002. Installation rules and procedures apply to each expansion unit independently.

Note for 5294 users: The 5294 consists of two independent expansion units: 5294-001 and 5294-002. Installation rules and procedures apply to each expansion unit independently.

Note: If you are installing feature 4331 1.65 GB Read Cache, solid-state disk units, you can only install them in position one of your disk unit enclosures. You can install three of these features (if you have three disk unit controllers) in the expansion unit, for example, in positions D31, D01, and D06.

Refer to the label on the inside of the front cover and install the disk units in this order:

- ___ 1. First fill all the disk unit positions that are controlled by the first high-speed disk-unit controller.
 - ___ a. Fill the slot 1's: D31, D36, D46
 - ___ b. Fill the slot 2's: D32, D37, D47
 - ___ c. Fill the slot 3's: D33, D38, D48
 - ___ d. Fill the slot 4's: D34, D39, D49
 - ___ e. Fill the slot 5's: D35, D40, D50
- ___ 2. Your expansion unit requires a second high-speed disk-unit controller before you can install disk units into the following positions. Contact IBM or an authorized dealer if your expansion unit does not have a second high-speed disk-unit controller (IOA Card 2).

Next fill the slots in (IOA Card 2) this sequence:

 - ___ a. Fill the slot 1's: D01, D11, D21
 - ___ b. Fill the slot 2's: D02, D12, D22
 - ___ c. Fill the slot 3's: D03, D13, D23
 - ___ d. Fill the slot 4's: D04, D14, D24
 - ___ e. Fill the slot 5's: D05, D15, D25
- ___ 3. Your expansion unit requires a third high-speed disk-unit controller before you can install disk units into the following positions. Contact IBM or an authorized dealer if your expansion unit does not have a third high-speed disk-unit controller (IOA Card 3).

Last fill the slots in (IOA Card 3) this sequence:

 - ___ a. Fill the slot 1's: D06, D16, D26
 - ___ b. Fill the slot 2's: D07, D17, D27
 - ___ c. Fill the slot 3's: D08, D18, D28
 - ___ d. Fill the slot 4's: D09, D19, D29
 - ___ e. Fill the slot 5's: D10, D20, D30

System-unit control panel

Go to the front of your iSeries system unit. Open the control panel door.

Your control panel looks like either Figure 1 or Figure 2 on page 44. Refer to the control panel for your unit.

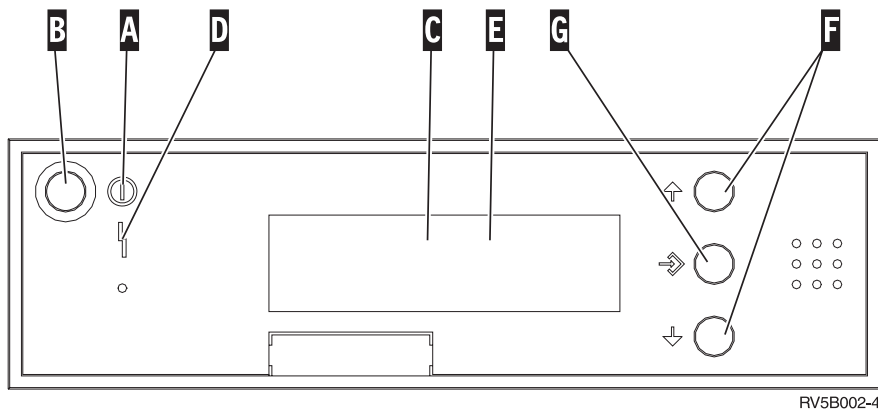


Figure 1. Control panel without Electronic Keystick

Following are the descriptions of the Figure 1 callouts:

- A** Power On Light
 - A blinking light indicates power to the unit.
 - A constant light indicates that the unit is on and working.
- B** Power Push button
- C** Processor Activity
- D** System Attention
- E** Function/Data Display
- F** Increment/Decrement buttons
- G** Enter Push button

If your control panel looks like Figure 2 on page 44, before you can use **F** Increment/Decrement buttons and **G** Enter push button, you need to press **H** Mode Selects to select Manual mode **N**. To use Mode Select, the keystick needs to be inserted.

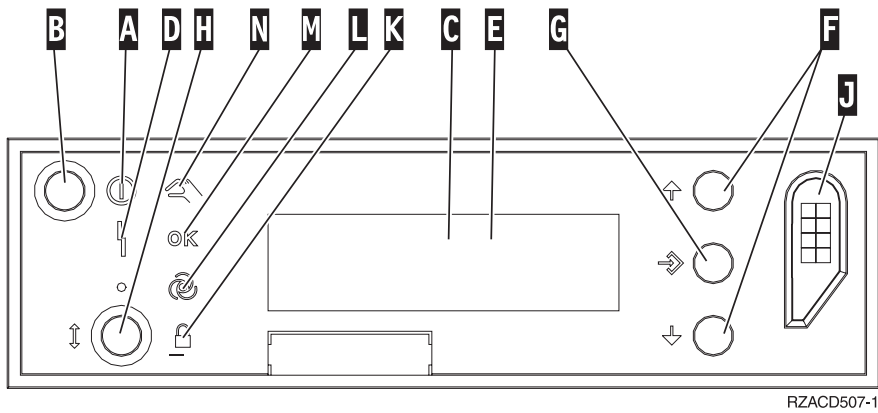


Figure 2. Control panel with Electronic Keystick


- A** Power On Light
 - A blinking light indicates power to the unit.
 - A constant light indicates that the unit is on and working.
- B** Power Push button
- C** Processor Activity
- D** System Attention
- E** Function/Data Display
- F** Increment/Decrement buttons
- G** Enter Push button
- H** Mode Selects
- J** Electronic Keystick Slot
- K** Secure
- L** Auto
- M** Normal
- N** Manual

Install the 7104 expansion unit to the 270 server or 7116 expansion unit to the 800 or 810 server

- ___ 1. Determine the processor in your model 270, 800, or 810 by doing the following:
To get to Manual mode (**01 B M S**):
 - ___ a. Press the Increment/Decrement push button until **02** appears in the Function/Data display.
 - ___ b. Press the Enter push button on the control panel.
 - ___ c. Press the Increment/Decrement push button until **B** appears in the Function/Data display.
 - ___ d. Press the Enter push button on the control panel.
 - ___ e. Press the Increment/Decrement push button until **M** appears in the Function/Data display.
 - ___ f. Press the Enter push button on the control panel.
 - ___ g. Press the Increment/Decrement push button until **20** appears in the Function/Data display.
 - ___ h. Press the Enter push button on the control panel.
 - ___ i. The system processor feature number is the last 4 digits of the long number in the top of the control panel display. Write it down here _____.
 - ___ j. Press the Increment/Decrement push button until **02** appears in the Function/Data display.
 - ___ k. Press the Enter push button on the control panel.
 - ___ l. Press the Increment/Decrement push button until **B** appears in the Function/Data display.
 - ___ m. Press the Enter push button on the control panel.
 - ___ n. Press the Increment/Decrement push button until **N** appears in the Function/Data display.
 - ___ o. Press the Enter push button on the control panel.
02 B N S should appear in the Function/Data display. If it does not, repeat steps 1a through 1o.
- ___ 2. If an Integrated xSeries Adapter (IXA) is present on the system, shut it down using OS/400 options.
- ___ 3. Ensure that all jobs are complete.
- ___ 4. When all jobs are complete, type **pwrdownsys *immed** on an iSeries command line and press Enter.
- ___ 5. When the unit is completely powered down, power off all PCs and devices, such as printers and displays, that are connected to the system unit.
- ___ 6. Unplug any power cords, such as printers and displays, from electrical outlets.
- ___ 7. Unplug the system unit and expansion unit power cords from the electrical outlets.
- ___ 8. Remove the front cover. Refer to "270, 800, 810, 820, or 5075 front cover" on page 29.

- ___ 9. Remove the back cover. Refer to “Remove the side and back cover” on page 69.
- ___ 10. Remove the right side cover (two thumbscrews).
- ___ 11. Remove the left side cover (two screws).
- ___ 12. Remove the top cover (two screws). Slide the top cover back and lift up.
- ___ 13. **If possible, use a wrist strap to prevent electrostatic discharge from damaging your hardware.** If you do not have a wrist strap, touch a metal surface of the system or expansion unit before installing or replacing hardware.

If you received the 2209 Disposable Wrist Strap, follow these steps:

- ___ a. Attach the disposable wrist strap.  View video.
- ___ b. When you unroll the strap, remove the liner from the copper foil at the end.
- ___ c. Attach the adhesive part of the copper foil to an **exposed, unpainted** metal surface on the frame of the unit.

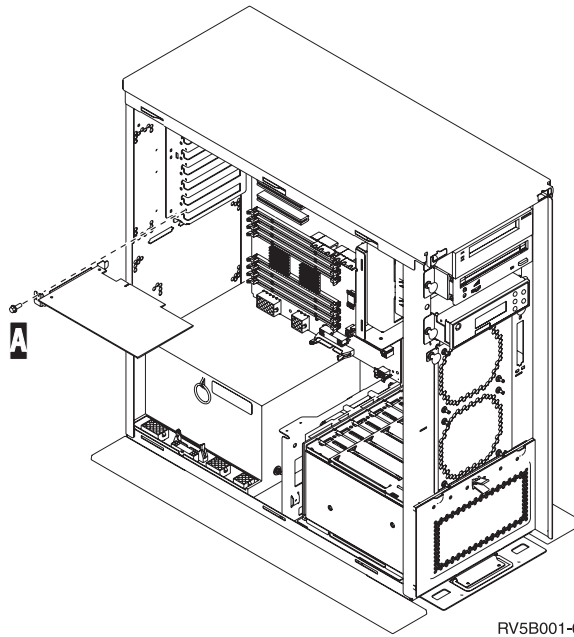
Note: Follow the same precautions you would use without the wrist strap. The 2209 Disposable Wrist Strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

- ___ 14. Did you receive a 2757, 2763, 2782, 4748, 4778, 5703, or 5705 IOA card?
If **no**, go to step 25 on page 49.

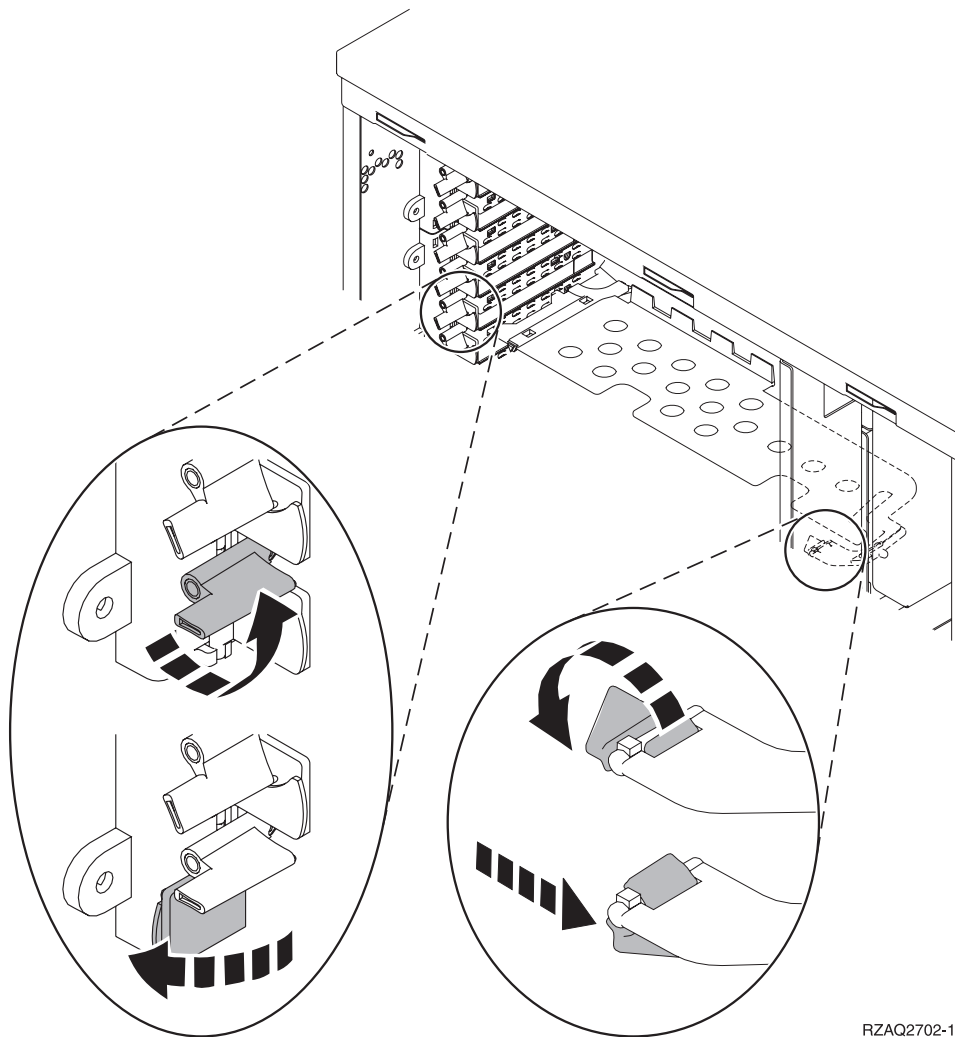
If **yes**, use the following table to determine where to install the IOA card.

Card received	Current position C01	Action needed
2763 or 2782, 5703, or 5705	9767	Install 2763, 2782, 5703, or 5705 in position C02
	2763	Install new 2763, 2782, 5703, or 5705 in position C02
2757, 4748, 4778	9767	Remove 9767 and install 2757, 4748, or 4778 in position C01
	2763	Remove 2763 and install 2757, 4748, or 4778 in position C01

- ___ 15. Locate the adapter card positions inside your system unit.
- ___ 16. Does your unit have screws to secure the cards?



- ___ **No:** Continue with the next step.
- ___ **Yes:** Do the following:
 - ___ a. Remove the screw from the card position where you plan to remove or install the card.
 - ___ b. Go to step 18 on page 48.
- ___ 17. Open the latch at the card position where you plan to remove or install the card. Move the latch counterclockwise and then swing the latch out.



RZAQ2702-1

Figure 3. Example of Card Latch

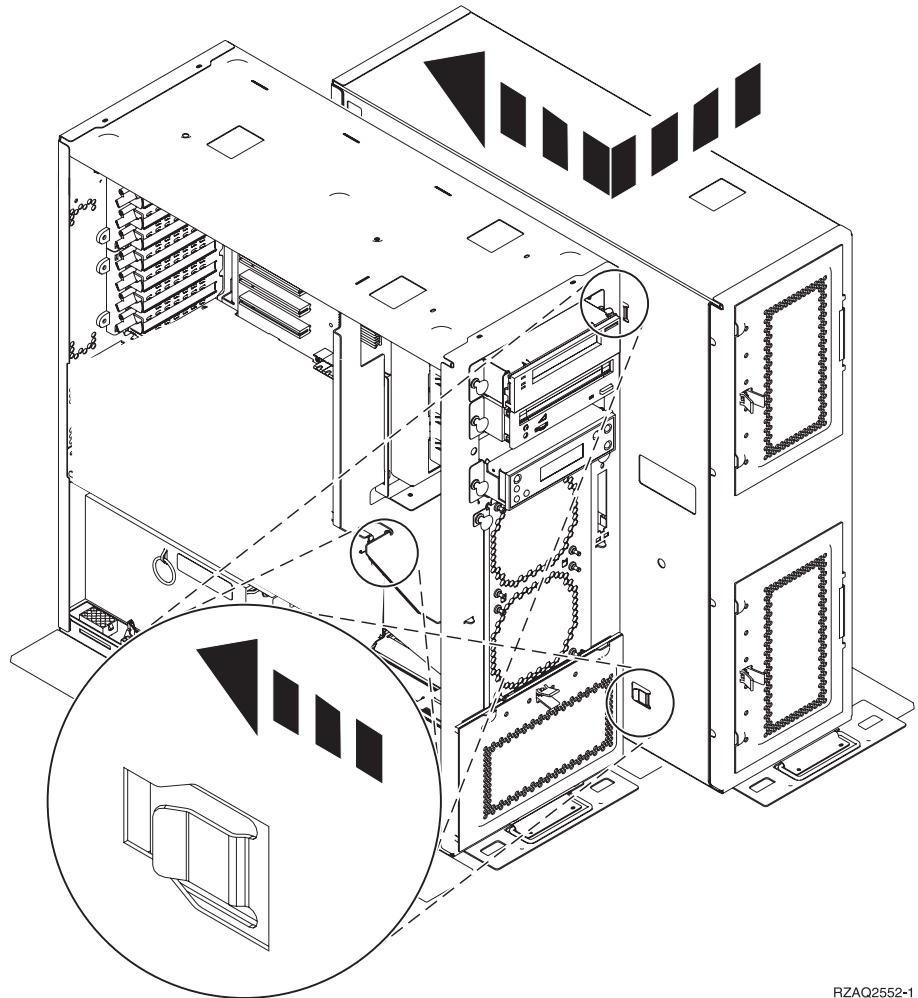
- __ 18. If removing a card, place it in a protective package.
- __ 19. **Attention:** Adapter cards are fragile:
 - Handle only by the edges
 - Keep fingers off printed circuit area
 - Use static strap when handling
 - Leave in protective packaging until ready to install
- __ 20. Locate the adapter card you want to install in this position.
- __ 21. Align the adapter card with the card holders inside the system unit and push until it is connected securely.
- __ 22. Swing the latch in and move the latch clockwise to secure the card.
- __ 23. If you removed a card and need to determine the position to install it, refer to Install PCI Card in the *Information Center*.

___ 24. **DANGER**

To prevent a possible electrical shock from touching two surfaces with different electrical grounds, use one hand, when possible, to connect or disconnect signal cables. (RSFTD004)

Reconnect any cables and label the cables with the card position.

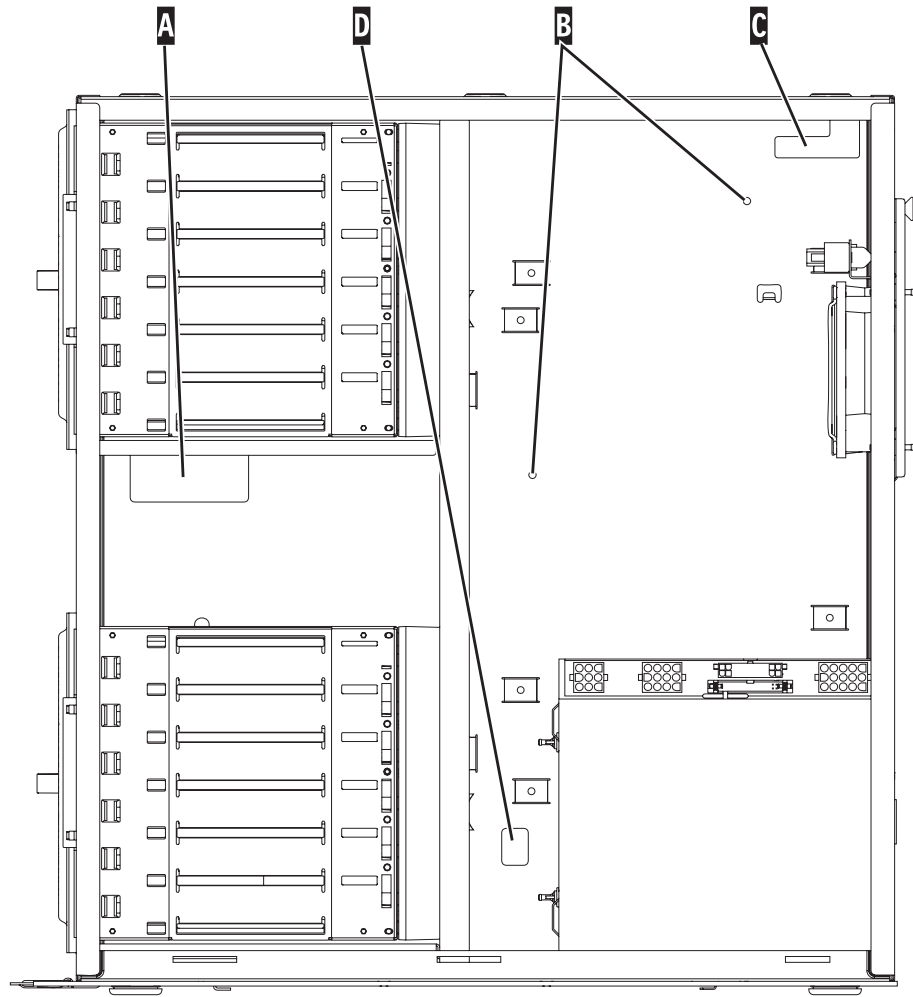
- ___ 25. Place the expansion unit and system unit side-by-side.
- ___ 26. Position the left side of the system expansion unit slightly ahead of the right side of the system unit.



RZAQ2552-1

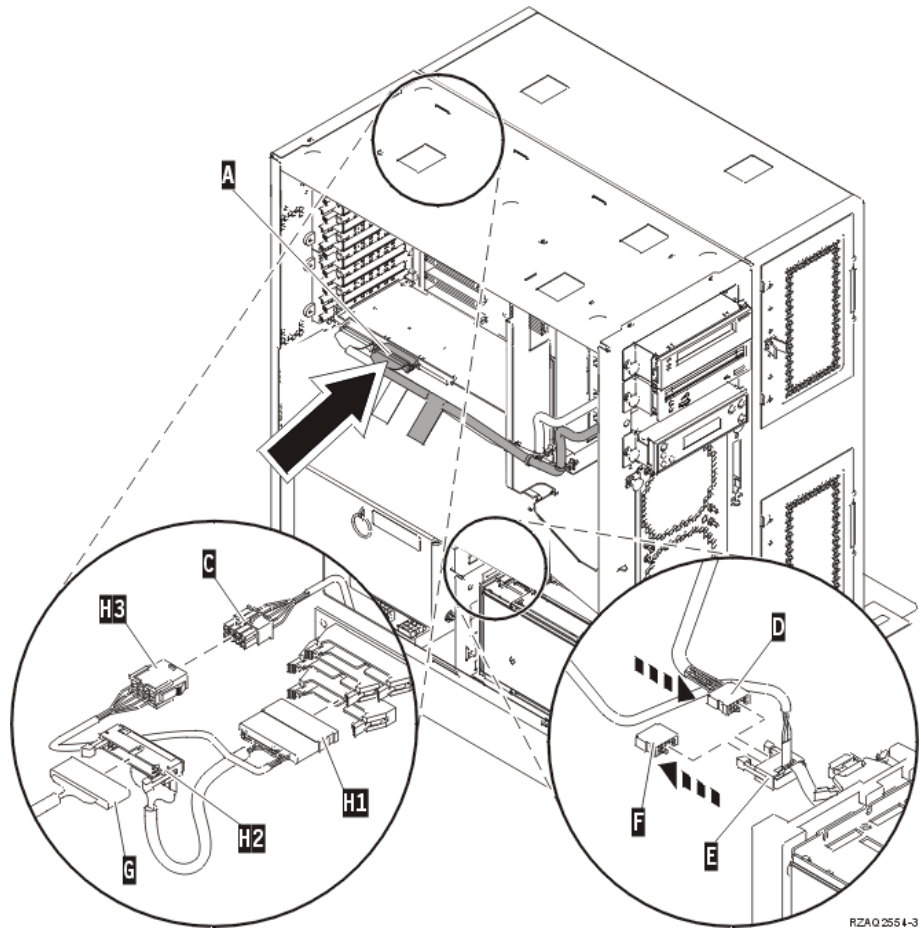
- ___ 27. The left side of the system expansion unit has connector hooks that must engage in the slots on the right side of the system unit frame.
- ___ 28. Slide the expansion unit back, engaging the connector hooks, until the units are aligned.
- ___ 29. Install the two thumbscrews **B** to secure the expansion unit to the system unit. Install the thumbscrews from the expansion unit side.
- ___ 30. Locate the data cable, part number 04N2273. Plug the end of the cable (opposite the white cable retainers) into the lower disk unit enclosure.
- ___ 31. Thread the cables, from the expansion unit, through the openings.
 - A** Disk unit data cables (part number 04N2273)
 - C** Air moving device cable (part number 04N5720)

D Power control cable (part number 04N5735)



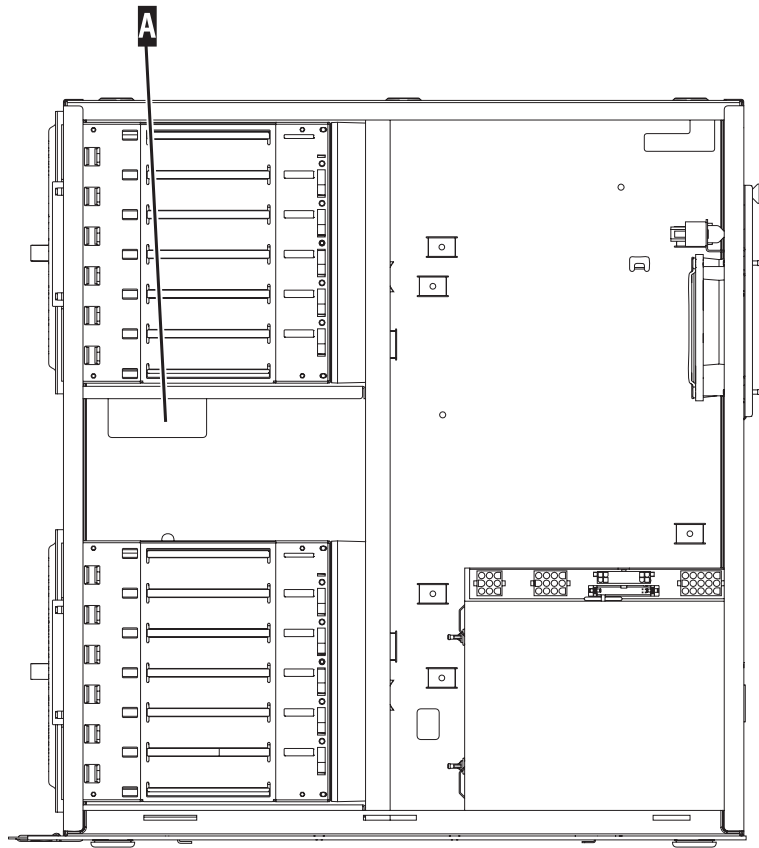
RZAQ2553-1

- ___ 32. Connect **A** disk unit data cables to the next available port on the 2757, 2763, 2782, 4748, 4778, 5703, 5705 or 9767 cards in position C01 or C02 in the system unit.



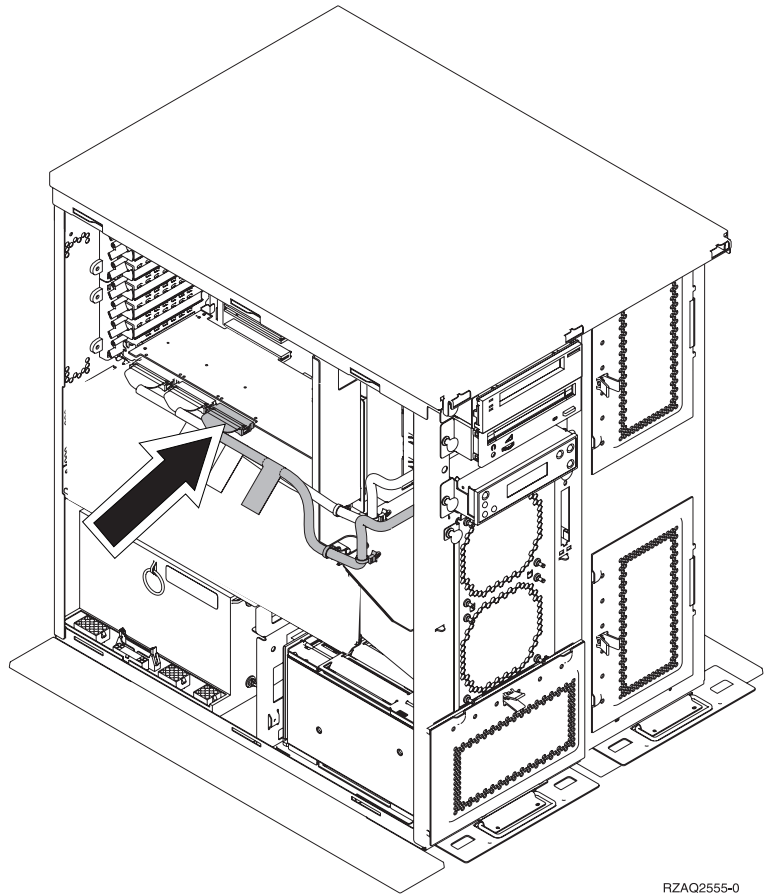
RZA02554-3

- ___ 33. Remove **G** DEBUG cable (part number P24L1883) from the system unit backplane.
- ___ 34. Plug in cable **H1** (part number P04N5595) that you received with the expansion unit, where you just removed the DEBUG cable from the backplane.
- ___ 35. Plug **G** into **H2**.
- ___ 36. Plug **C** (from expansion unit) into **H3**.
- ___ 37. Remove and discard the plug **F**.
- ___ 38. Connect **D** (from expansion unit) and **E**.
- ___ 39. Is there a second disk unit enclosure installed in the upper position of the expansion unit?
 - ___ **No:** Continue with the next step.
 - ___ **Yes:** Do the following:
 - ___ a. Connect the additional disk unit data cable to the back of the disk unit enclosure.
 - ___ b. Route the disk unit data cable through the opening **A** following the route of the existing data cable.



RZAQ2558-0

- c. Connect the disk unit data cable to the next available port on the 2757, 2763, 2782, 4748, 4778, 5703, 5705 or 9767 cards in position C01 or C02 in the system unit.



RZAQ2555-0


- ___ 40. Install the new top cover. Slide the cover from back to front (install three screws on back).
- ___ 41. Install the right side cover (two thumbscrews).
- ___ 42. Install the left side cover that was on the system unit, on the left side of the expansion unit (two screws).
- ___ 43. Install the new front cover.
- ___ 44. Plug the power cord into the back of the 7104 or 7116 expansion unit.
- ___ 45. Install the new back cover if you have one.
- ___ 46. You may want to store the old covers from the 270, 800, or 810 unit for possible use in the future, discard the old covers according to local regulations, or recycle them where facilities exist.
- ___ 47. Go to “Install 43xx disk units with system power off” on page 20 to install disk units.

Install the 7123 or 7136 disk unit enclosure

The 7123 disk unit enclosure is installed on its side in the 270 system expansion unit. The 7136 disk unit enclosure is installed on its side in the 800 or 810 system expansion unit.

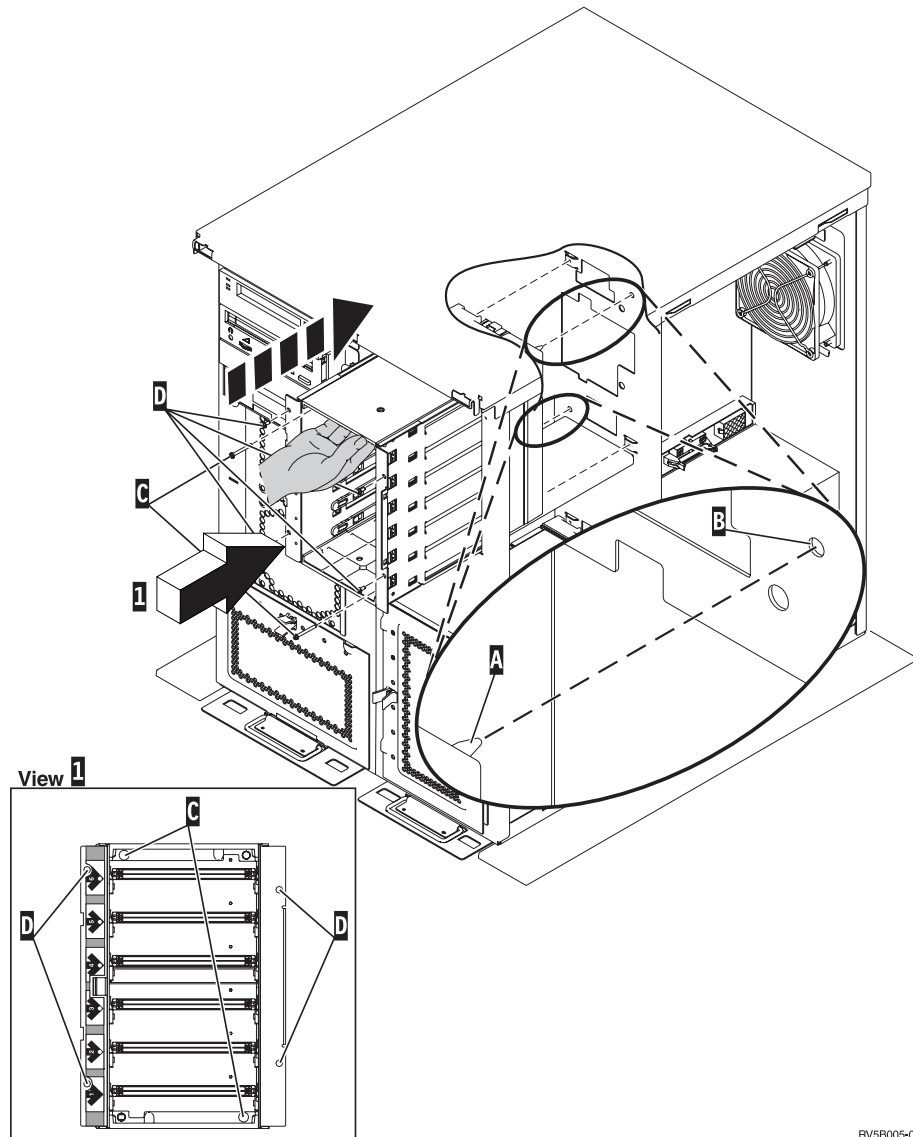
- ___ 1. If an Integrated xSeries Adapter (IXA) is present on the system, shut it down using OS/400 options.
- ___ 2. Ensure that all jobs are complete.
- ___ 3. When all jobs are complete, type **pwrdownsys *immed** on a command line and press Enter.
- ___ 4. When the unit is completely powered down, power off all PCs and devices, such as printers and displays, that are connected to the system unit.
- ___ 5. Unplug any power cords, such as printers and displays, from electrical outlets.
- ___ 6. Unplug the system unit and expansion unit power cords from the electrical outlets.
- ___ 7. Remove the front cover. Refer to “270, 800, 810, 820, or 5075 front cover” on page 29.
- ___ 8. Remove the back cover. Refer to “Remove the side and back cover” on page 69.
- ___ 9. Remove the right side cover (two thumbscrews).
- ___ 10. Remove the left side cover (two screws).
- ___ 11. **If possible, use a wrist strap to prevent electrostatic discharge from damaging your hardware.** If you do not have a wrist strap, touch a metal surface of the system or expansion unit before installing or replacing hardware.

If you received the 2209 Disposable Wrist Strap, follow these steps:

- ___ a. Attach the disposable wrist strap.  [View video.](#)
- ___ b. When you unroll the strap, remove the liner from the copper foil at the end.
- ___ c. Attach the adhesive part of the copper foil to an **exposed, unpainted** metal surface on the frame of the unit.

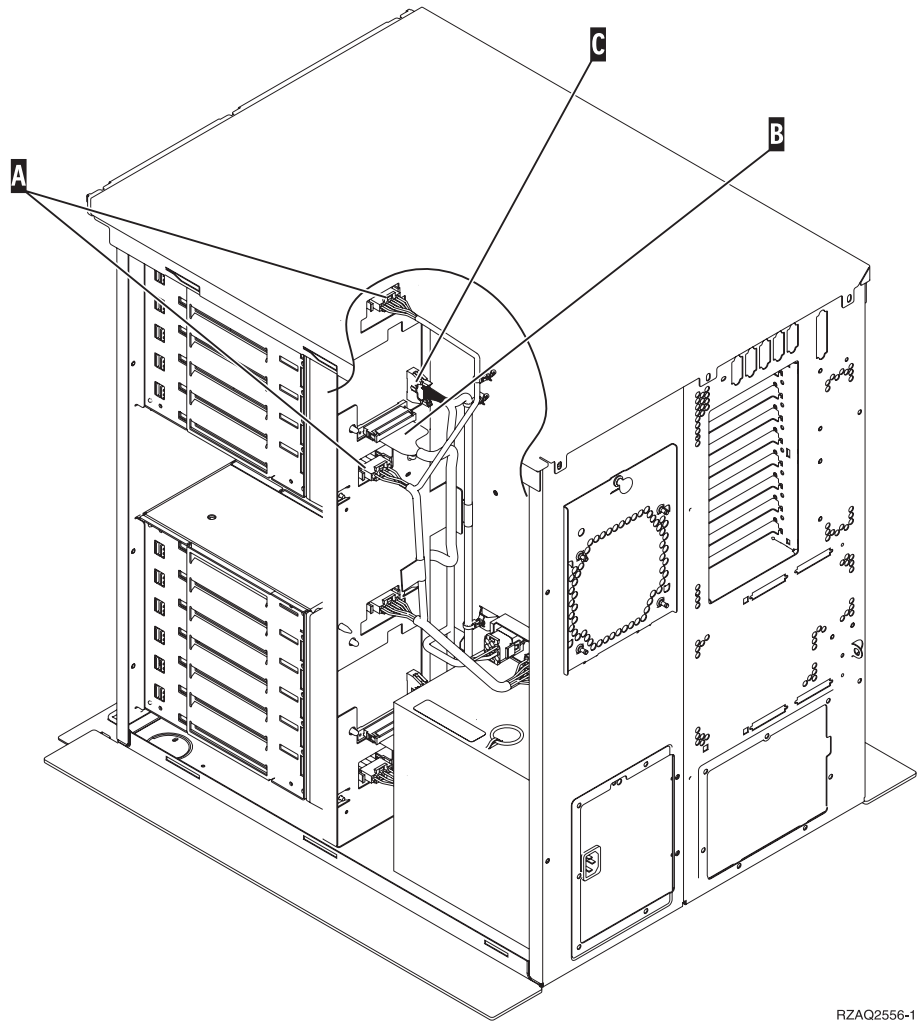
Note: Follow the same precautions you would use without the wrist strap. The 2209 Disposable Wrist Strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

- ___ 12. Remove the four screws securing the metal plate located above the existing disk unit enclosure. Keep the four screws. They will be used to secure the new disk unit enclosure.
- ___ 13. Find the package that contains the new disk unit enclosure and remove it from the static-protective package.
- ___ 14. Hold the disk unit enclosure so that disk unit position 6 is the top position.
- ___ 15. Slide the disk unit enclosure into the opening.



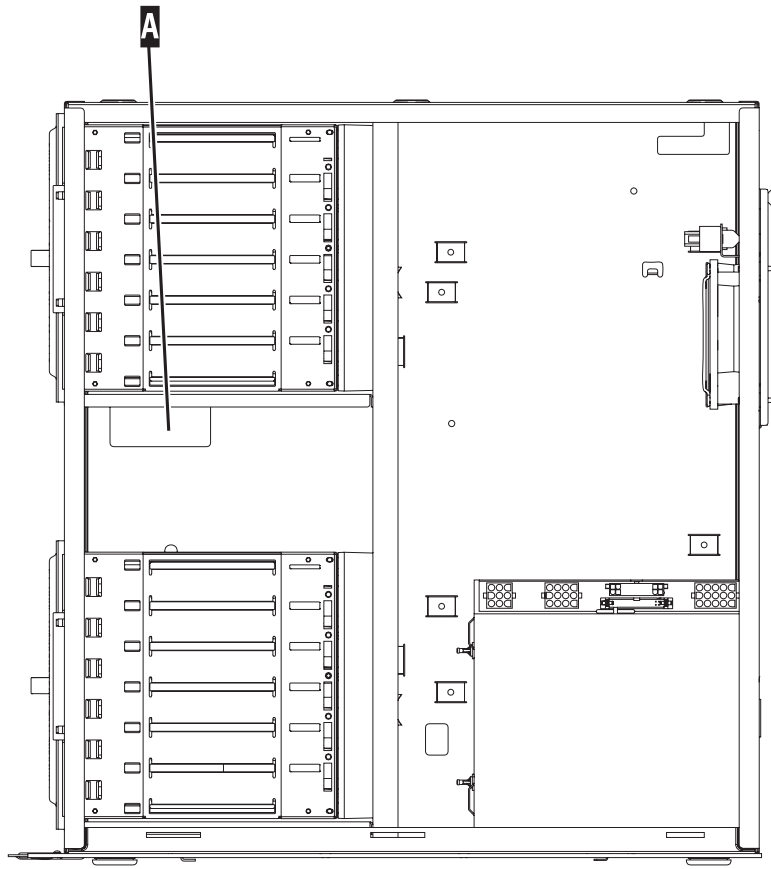
RV5B005-0

- ___ 16. Align the guide pin **A** on the disk unit enclosure with **B** in the expansion unit.
- ___ 17. Start installing, but do not tighten, the four screws **D** to secure the disk unit enclosure to the expansion unit.
- ___ 18. Install the two screws **C** inside the disk unit enclosure. Use the tool that was shipped with the disk unit enclosure to install these two screws shown in View **1**.
- ___ 19. Finish tightening the four screws **D**.
- ___ 20. Connect **A** power cables, **B** disk unit data cable (part number 04N2273), and **C** power control cable to the disk unit enclosure.



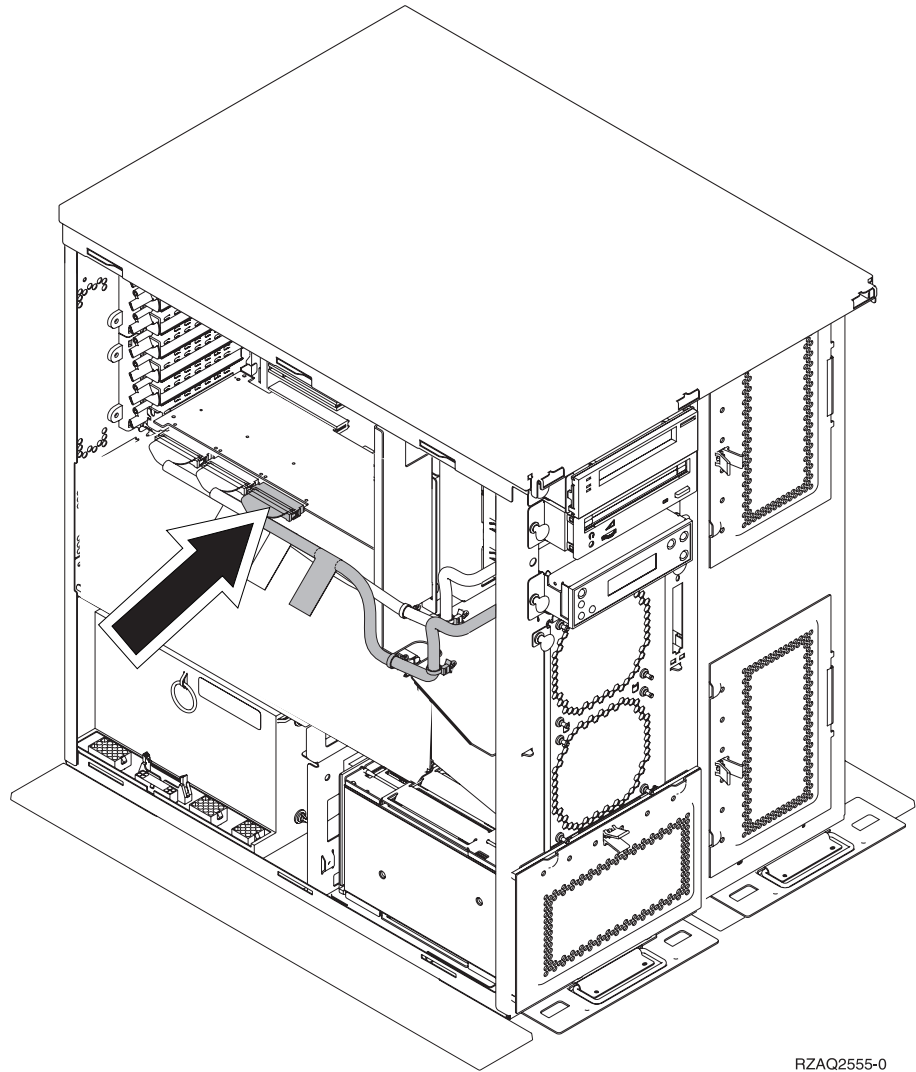
RZAQ2556-1

- ___ 21. Route the disk-unit-enclosure data cable through the opening **A** following the route of the existing data cable.



RZAQ2558-0

- 22. Connect the disk-unit data cable to the next available port on the 2757, 2763, 2782, 4748, 4778, or 9767 cards.



RZAQ2555-0


- ___ 23. Install the right side cover (two thumbscrews).
- ___ 24. Install the left side cover (two screws).
- ___ 25. Install the front cover.
- ___ 26. Install the back cover.
- ___ 27. Go to "Install 43xx disk units with system power off" on page 20 to install disk units.

Install the 7124 or 7127 disk unit enclosure

The 7127 disk unit enclosure is installed in the upper position of the 820 system unit. The 7124 disk unit enclosure is installed in the lower two positions of the 825 system unit.

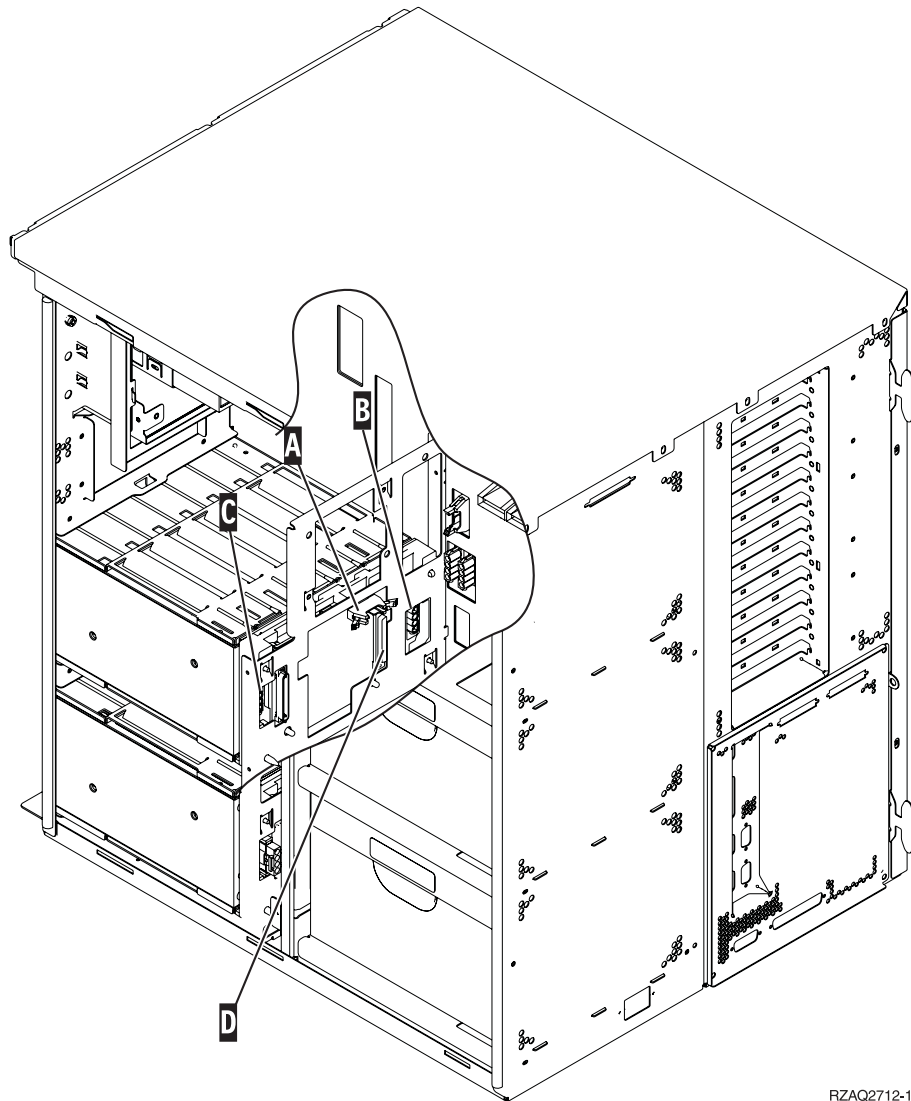
- ___ 1. If an Integrated xSeries Adapter (IXA) is present on the system, shut it down using OS/400 options.
- ___ 2. Ensure that all jobs are complete.
- ___ 3. When all jobs are complete, type **pwrdownsys *immed** on an iSeries command line and press Enter.
- ___ 4. When the iSeries is completely powered down, power off all PCs and devices, such as printers and displays, that are connected to the system unit.
- ___ 5. Unplug any power cords, such as printers and displays, from electrical outlets.
- ___ 6. Unplug the system unit and expansion unit power cords from the electrical outlets.
- ___ 7. Remove or open the front cover. Refer to “Open or remove the front cover” on page 29.
- ___ 8. Remove the back cover if you have one. Refer to “Remove the side and back cover” on page 69.
- ___ 9. Remove the left side cover.
- ___ 10. Remove the right side cover.
- ___ 11. **If possible, use a wrist strap to prevent electrostatic discharge from damaging your hardware.** If you do not have a wrist strap, touch a metal surface of the system or expansion unit before installing or replacing hardware.

If you received the 2209 Disposable Wrist Strap, follow these steps:

- ___ a. Attach the disposable wrist strap.  [View video.](#)
- ___ b. When you unroll the strap, remove the liner from the copper foil at the end.
- ___ c. Attach the adhesive part of the copper foil to an **exposed, unpainted** metal surface on the frame of the unit.

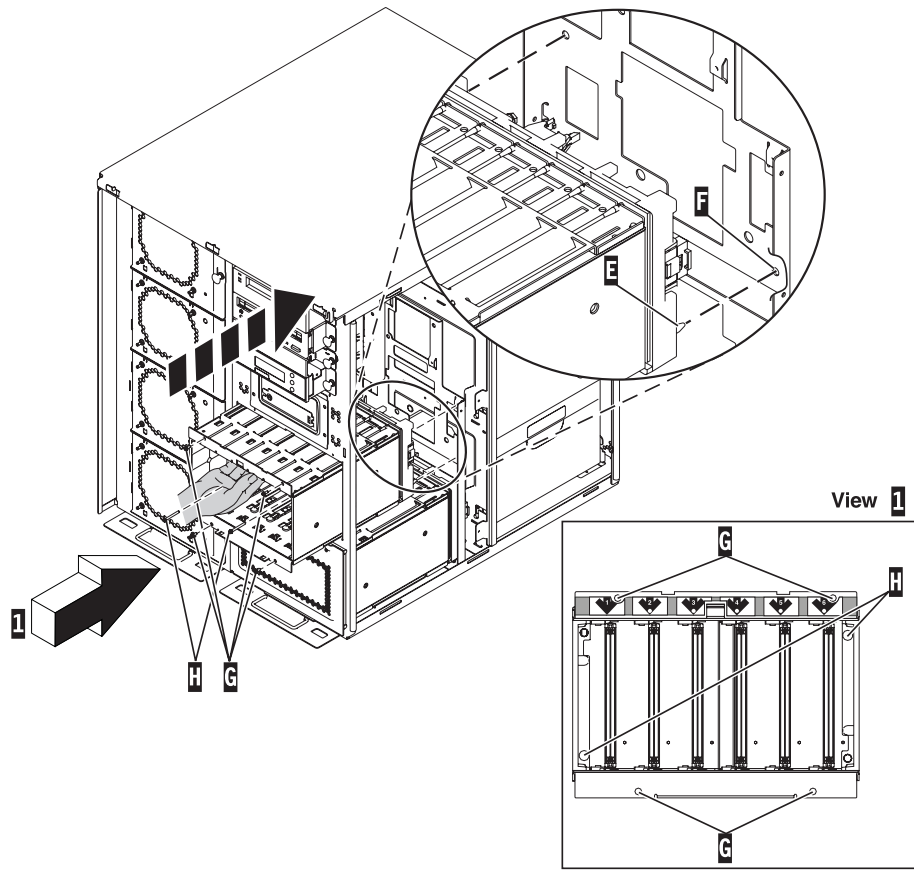
Note: Follow the same precautions you would use without the wrist strap. The 2209 Disposable Wrist Strap is for static control. It will not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.

- ___ 12. For the 820, remove the four screws securing the metal plate located above the existing disk unit enclosure. For the 825, remove the four screws securing the metal plate located below the existing disk unit enclosure. Keep the four screws. They will be used to secure the disk unit enclosure.
- ___ 13. Find the package that contains the new disk unit enclosure and remove it from the static-protective package.
- ___ 14. Attach control cable (part number 24L1761) to location **A**, attach power cables (part number 04N2920) to locations **B** and **C**, and data cable (part number 04N2273) to connector **D** at the back of the disk unit enclosure.



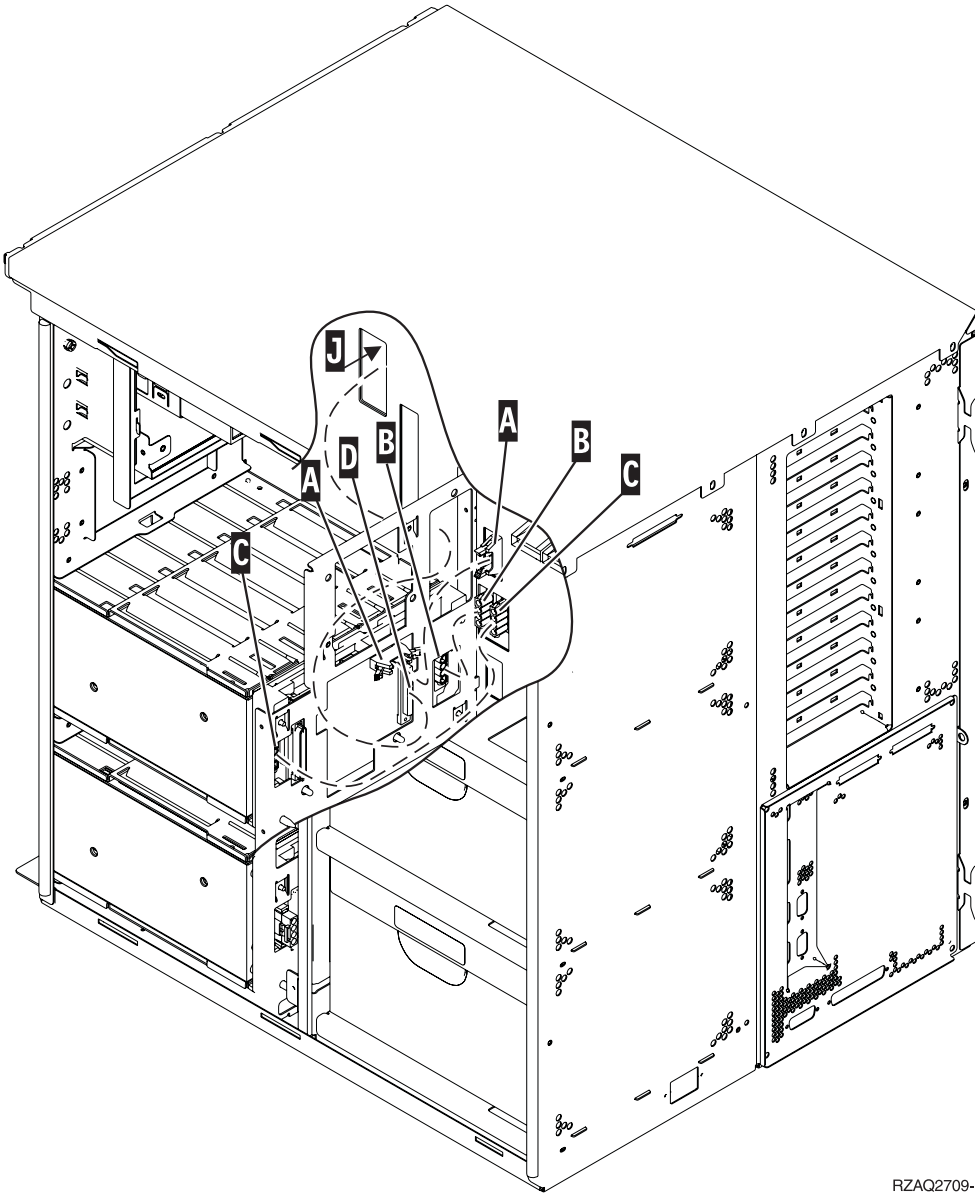
RZAQ2712-1

- 15. Slide the disk unit enclosure into the opening that guides the cables through the frame openings.



RZAC2708-2

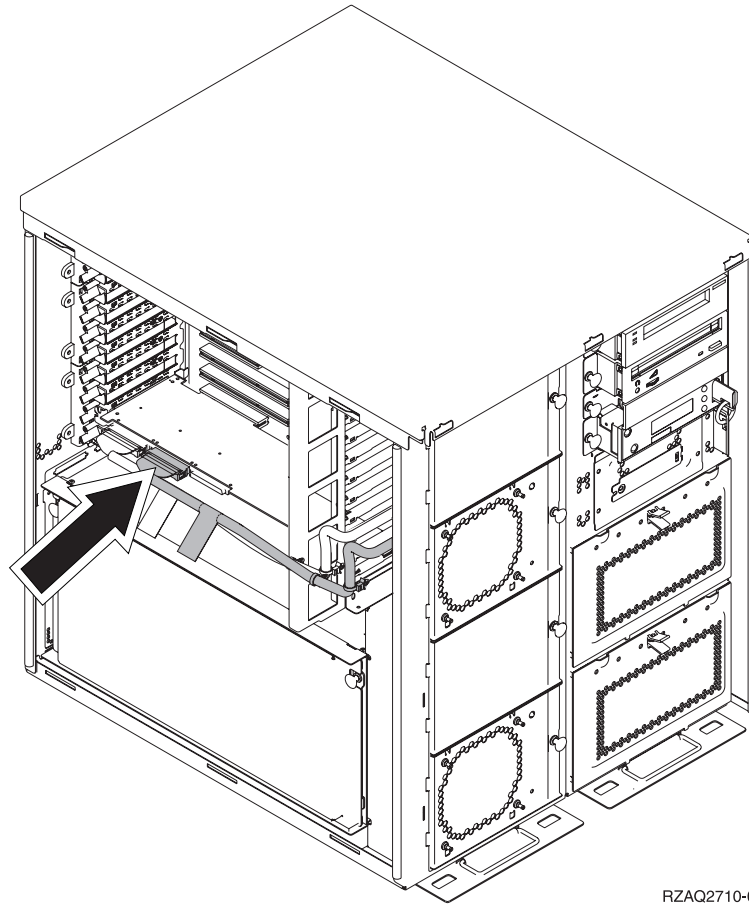
- ___ 16. Connect the cables to the system unit as show in Figure 4 on page 64. **A** to **A**, **B** to **B**, and **C** to **C**.
- ___ 17. Align the guide pin **E** on the disk unit enclosure with **F** in the system unit.
- ___ 18. Start installing but do not tighten the four screws **G** that secure the disk unit enclosure to the system unit.
- ___ 19. Install the two screws **H**. Use the tool that was shipped with the disk unit enclosure to install the two screws **H** shown in View **1**.
- ___ 20. Finish tightening the four screws **G**.



FZAQ2709-1

Figure 4. Connecting the cables to the system unit

- 21. Route the disk unit data cable through the frame opening **J** following the route of the existing disk unit data cable.
- 22. Connect the disk unit controller cable to the next available port on the 4748, 2757, 2763, 2782, 4778, 5703, or 5705 card.

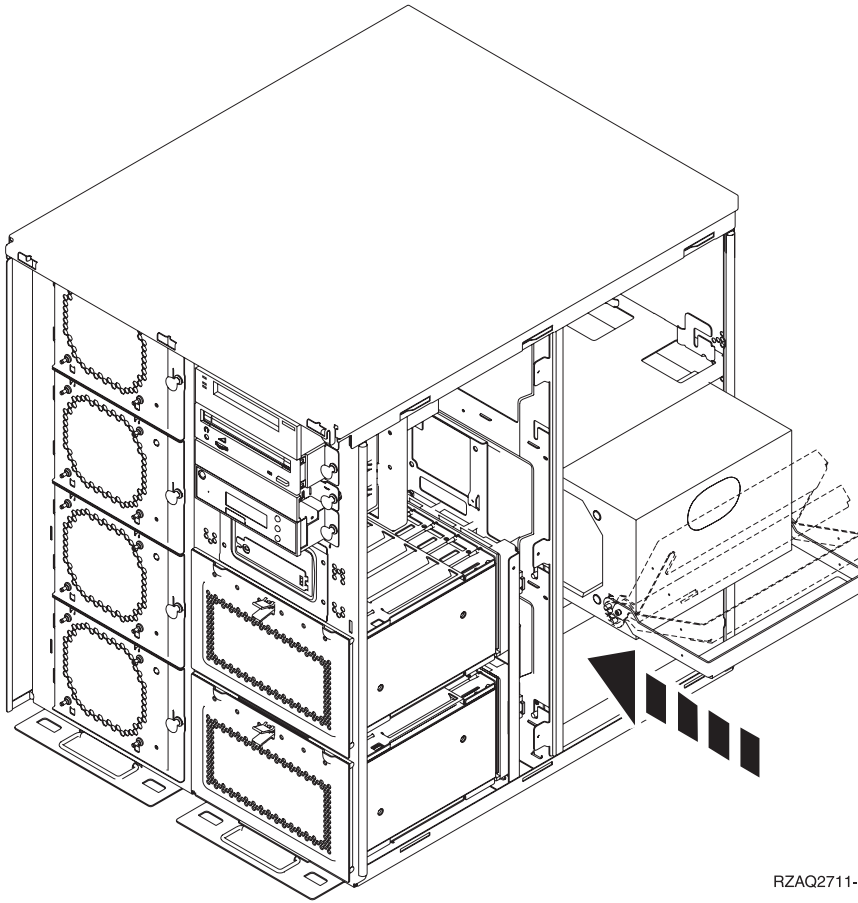


RZAQ2710-0

- ___ 23. Go to “Install the power supply.”

Install the power supply

- ___ 1. You will install the power supply into the next available area. Refer to Figure 5 on page 66.
- ___ 2. Pull out on the button to remove the power supply filler plate.
- ___ 3. Pull the handle down on the power supply.



RZAQ2711-0

Figure 5. Installing the power supply

- 4. Slide the power supply into the system unit.
- 5. Move the handle up to lock in place.
- 6. Install the side covers.
- 7. Install the back cover.
- 8. To install disk units in your disk expansion unit, go to “Install 43xx disk units with system power off” on page 20.


Power down the system unit

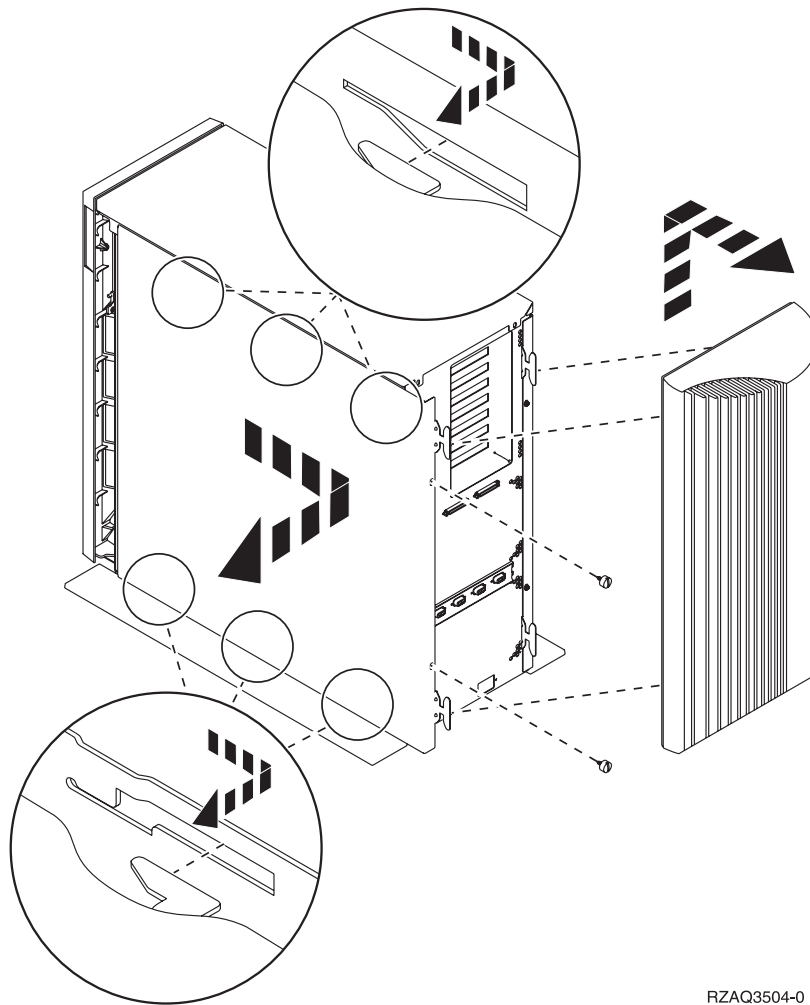
To power down the system unit, follow these steps:

- ___ 1. If an Integrated xSeries Adapter (IXA) is present on the system, shut it down using OS/400 options.
- ___ 2. Ensure that all jobs are complete.
- ___ 3. When all jobs are complete, power down the system by typing **pwrdownsys *immed** on a command line and press Enter.
- ___ 4. When the iSeries is completely powered down, disconnect all PCs from the system unit. Power off all devices, such as printers and displays, that are connected to the system unit.
- ___ 5. Unplug any power cords, such as printers and displays, from electrical outlets.
- ___ 6. Unplug the system unit and expansion unit power cords from the electrical outlets.

Remove the side and back cover

- __ 1. Place your hand near the bottom of the back cover, if you have one, and lift up and out.
- __ 2. Remove the right side cover by removing the thumbscrews and sliding the cover from front to back until it stops.
- __ 3. Remove the left side cover by removing the screws.
- __ 4. Pull the cover out.

 View video of these steps.



RZAQ3504-0

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Responsible Party:

International Business Machines Corporation
New Orchard Road
Armonk, NY 10504

Telephone: 1-919-543-2193

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Avis de conformité à la réglementation d'Industrie Canada

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Per GB 9254-1998, the user manual for a Class A product must carry the following warning message (English translation from the Chinese standard) about use in a residential environment in Chinese (*Simplified Chinese*):

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Declaration: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may need to perform practical action.

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(Auszug aus dem EMVG vom 9.Nov.92, Para.3, Abs.4)

Hinweis

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- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an IBM authorized dealer or service representative for help.

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New Orchard Road
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Telephone: 1-919-543-2193

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