

@server

iSeries

820, 825, 5075, 5095 and 0595
Power Supply and Air Moving Device

Version 5





@server

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Power Supply and Air Moving Device

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Note

Before using this information and the product it supports, be sure to read the information in "Notices," on page 31.

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. Power supply and air moving device

Replacing and installing the power supply and air moving device are customer tasks. You may be able to install or replace a power supply or an air moving device with the unit powered on. 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.

You need to allow additional time to complete your jobs, back up your system, perform an initial program load (IPL) of 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. Should you encounter difficulties when performing a task, contact your authorized dealer or service provider.

Select the instructions for the task you want to perform:

- Chapter 3, "Replace power supply in iSeries 820 or 5075, 5095, or 0595 expansion unit," on page 5
- Chapter 4, "Replace power supply in iSeries 825," on page 7
- Chapter 6, "Replace the air moving device," on page 13
- Chapter 5, "Install power supply in iSeries 820 or 5075, 5095, or 0595 expansion unit," on page 11
- Chapter 7, "Install the air moving device," on page 15

Chapter 2. 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/s1kbase.NSF/s1kbase
 - 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 3. Replace power supply in iSeries 820 or 5075, 5095, or 0595 expansion unit

To perform this procedure with the system powered on, you must have the following:

- Three power supplies and two working air moving devices for the 820 system
- Two power supplies and two working air moving devices for the 5075 expansion unit
- two power supplies and four working air moving devices for the 5095 or 0595 expansion unit

If you need to replace an air moving device, go to Chapter 6, “Replace the air moving device,” on page 13.

To replace the power supply, perform these tasks:

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 Chapter 2, “Before you begin,” on page 3.
- ___ 2. Power down the system. For instructions, refer to “Power down the system” on page 23.
- ___ 3. Remove the back cover. Refer to “825 back cover” on page 20.
- ___ 4. Remove the left side cover (viewed from back).
- ___ 5. Locate the power supply to be replaced. Refer to “Locations” on page 27.
- ___ 6. Pull the handle on the power supply.
- ___ 7. Support the bottom of the power supply as you slide it out of the unit.
- ___ 8. Follow the steps in “Details: Install power supply in iSeries 820 or 5075, 5095, or 0595 expansion unit” on page 11 to install the new power supply.

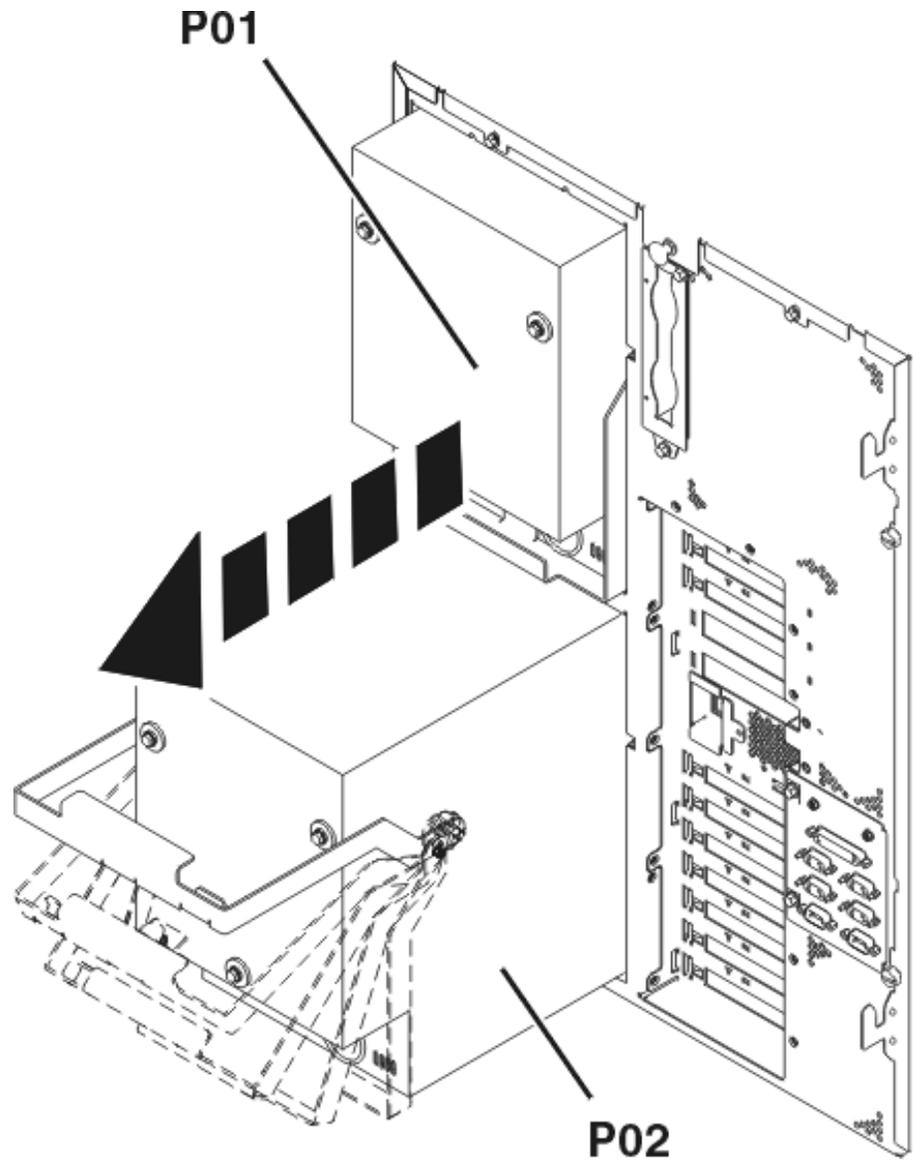
Chapter 4. Replace power supply in iSeries 825

To perform this procedure with the system powered on, you must have two power supplies and two working air moving devices. If you need to replace an air moving device, go to Chapter 6, "Replace the air moving device," on page 13.

To replace the power supply, perform these tasks:

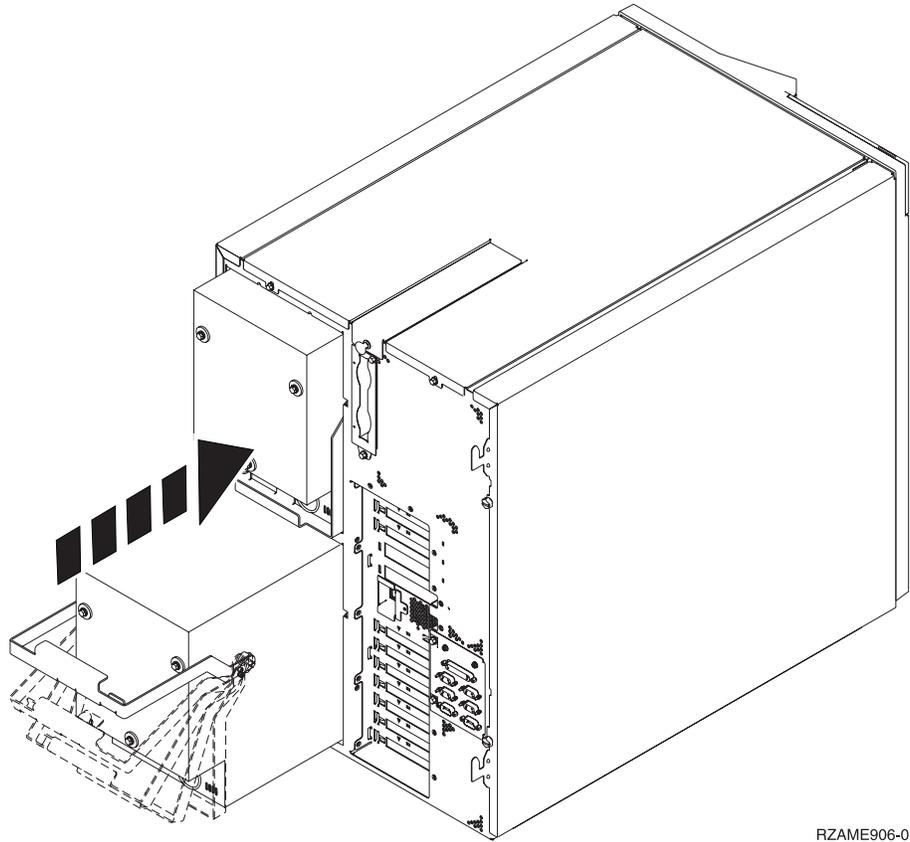
Note: The figures in these instructions may not look exactly like the server that you have. However, the steps to perform the task are the same.

- 1. Perform prerequisite tasks as described in Chapter 2, "Before you begin," on page 3.
- 2. If you need to power down the system, follow the steps in "Power down the system" on page 23.
- 3. Remove the back cover. Refer to "825 back cover" on page 20.
- 4. Locate the power supply to be replaced at the back of the unit (P01 or P02).



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- ___ 5. Unplug the power supply.
- ___ 6. Pull the latch on the power supply handle.
- ___ 7. Lift up the handle on the power supply.  View video.
- ___ 8. Support the bottom of the supply as you slide it out of the unit.
- ___ 9. Lift up the handle on the power supply.  View video.



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- ___ 10. Slide the power supply into the system unit.
- ___ 11. Move the handle down to lock in place.
- ___ 12. Push in the latch.
- ___ 13. Plug the power cord into the power supply and into the outlet.
- ___ 14. Install back cover.
- ___ 15. If you need to power on the system, follow the steps in “Power on the system” on page 25.

Chapter 5. Install power supply in iSeries 820 or 5075, 5095, or 0595 expansion unit

To install the power supply, perform these tasks:

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 Chapter 2, “Before you begin,” on page 3.
- ___ 2. Power down the system. For instructions, refer to “Power down the system” on page 23.
- ___ 3. Remove the back cover. Refer to “820, 5075, and 5095 side and back cover” on page 18.
- ___ 4. Remove the left side cover (viewed from back).
- ___ 5. Locate the power supply area. Refer to “Locations” on page 27.
- ___ 6. You will install the power supply into the next available area.

820 System Unit:

- Remove the power supply filler plate from position **P03** before installing the power supply. Pull the latch to remove the filler plate.

5075, 5095 or 0595 Expansion Unit:

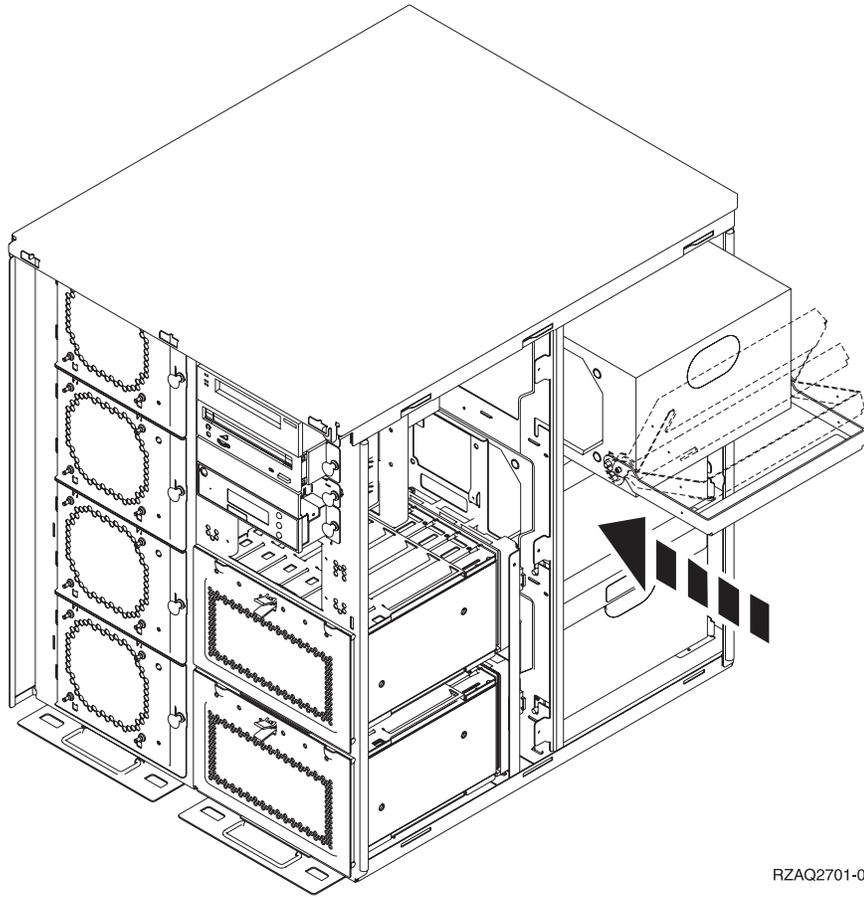
- Install the power supply in position **P02**.
- ___ 7. Follow the steps in “Details: Install power supply in iSeries 820 or 5075, 5095, or 0595 expansion unit” to install the new power supply.

Details: Install power supply in iSeries 820 or 5075, 5095, or 0595 expansion unit

To install the power supply, follow these steps:

- ___ 1. Pull the handle down on the power supply.

Note: The following figure is a power supply shown on an iSeries model 820. The power supply for the 5075 expansion unit is the same.



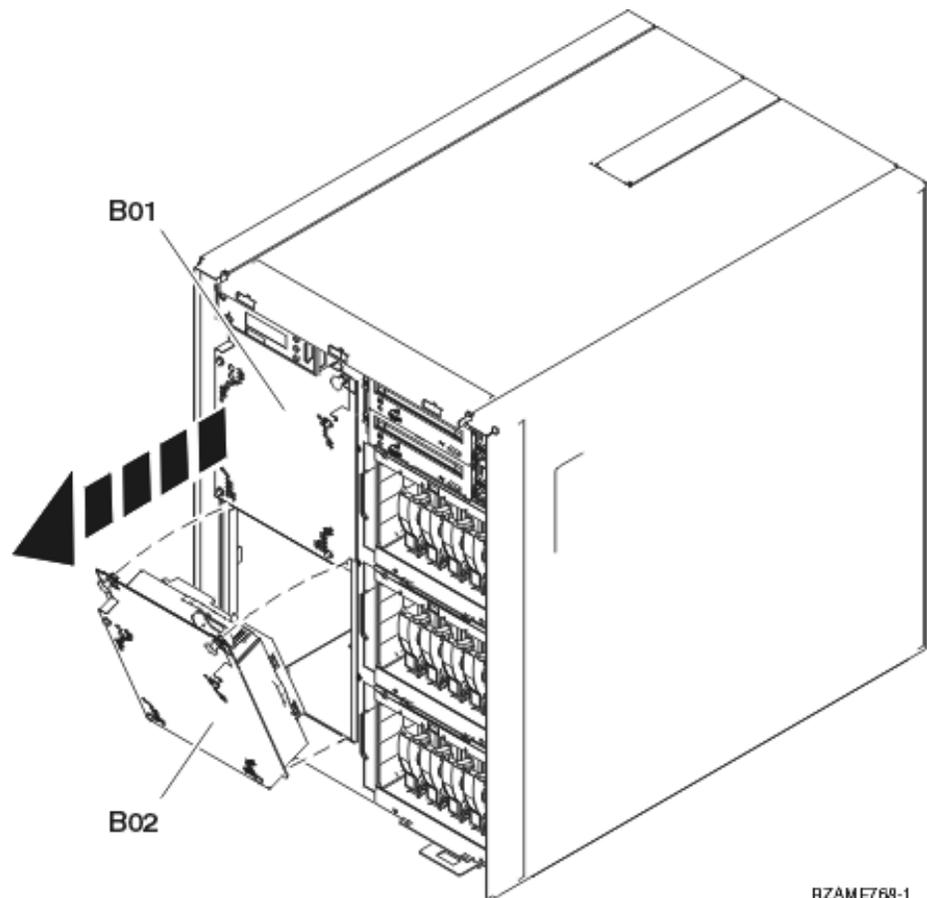
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- __ 2. Slide the power supply into the system unit.
- __ 3. Move the handle up to lock in place.
- __ 4. Look at the back of the system unit. A green light on the power supply indicates that power is powered on.
- __ 5. Install side cover.
- __ 6. Plug the power cord into the power supply and into the outlet.
- __ 7. Install back cover.
- __ 8. Power on the system. For instructions, refer to “Power on the system” on page 25.

Chapter 6. Replace the air moving device

You can replace an air moving device with the system unit powered on. To replace the air moving device, follow these steps:

- ___ 1. Perform prerequisite tasks as described in Chapter 2, “Before you begin,” on page 3.
- ___ 2. Remove the front cover. Refer to “Remove the covers” on page 17.
- ___ 3. Locate the air moving device to be replaced in the front of your system unit (B01 or B02). Refer to “Locations” on page 27.
- ___ 4. Remove the air moving device by pulling the latches.



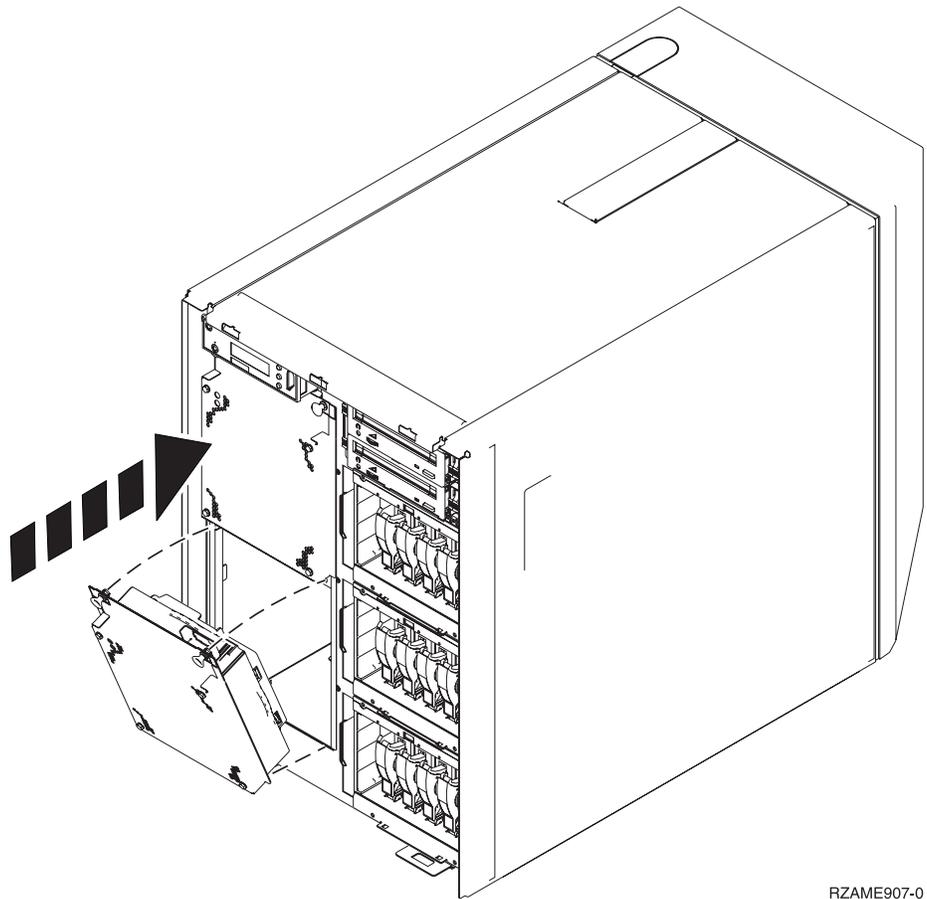
- ___ 5. Follow the steps in “Details: Install the air moving device” on page 16 to install the new air moving device.

Chapter 7. Install the air moving device

To install the air moving device, follow these steps:

You install the air moving devices with the unit powered on.

- ___ 1. Perform prerequisite tasks as described in Chapter 2, “Before you begin,” on page 3.
- ___ 2. Remove the front cover. Refer to “Remove the covers” on page 17.
- ___ 3. Locate the air moving devices (AMD) on the front of the machine. Refer to “Locations” on page 27.
- ___ 4. Pull the latch to remove the air-moving-device filler plates.
- ___ 5. Install the air moving device assembly in the next available position (B02).
 View video. Refer to “Locations” on page 27.

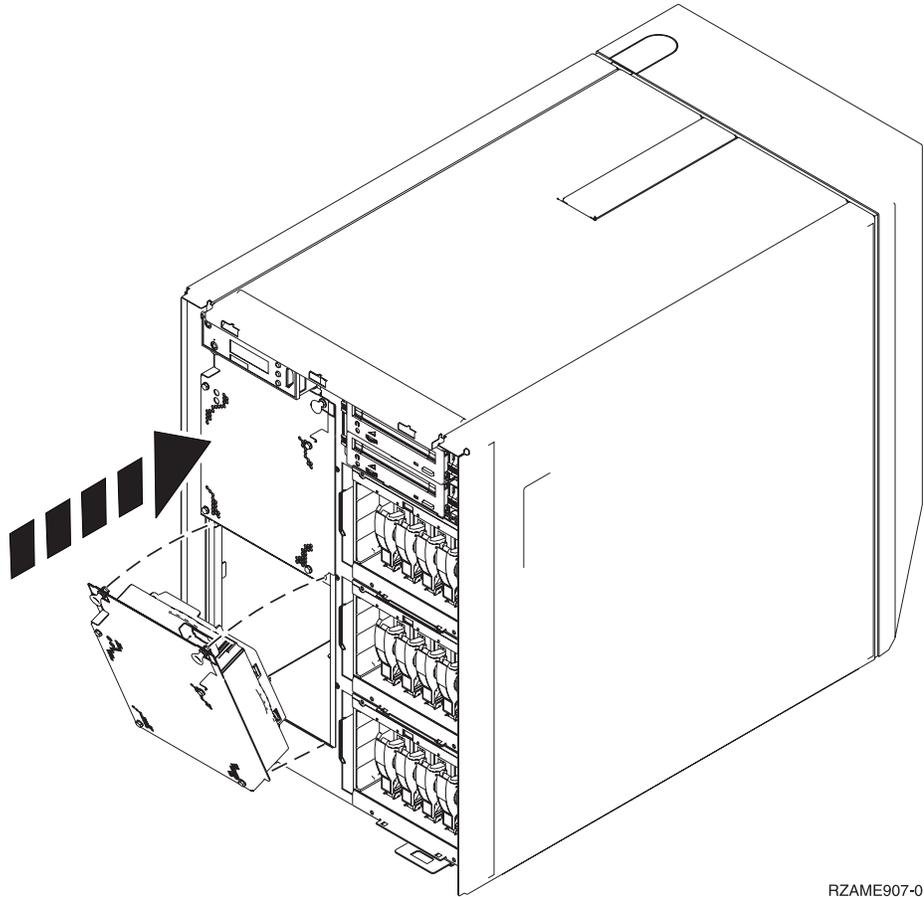


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- ___ 6. Push in the latches.

Details: Install the air moving device

- __ 1. Install the air moving device assembly in the next available position (B02).
 -  View video. Refer to “Locations” on page 27.



RZAME907-0

- __ 2. Push in the latches.
- __ 3. The air moving device is running, but the green light will not light until the next power off and power on of the system.
- __ 4. If you have another air moving device assembly, install it in the next available position (B04).
- __ 5. Push in the latch.
- __ 6. The air moving device is running, but the green light will not light until the next power off and power on of the system.
- __ 7. Install the front cover.
- __ 8. Place the air-moving-device filler plates in a safe place for future use. If the air moving devices are removed, install the air-moving-device filler plate.

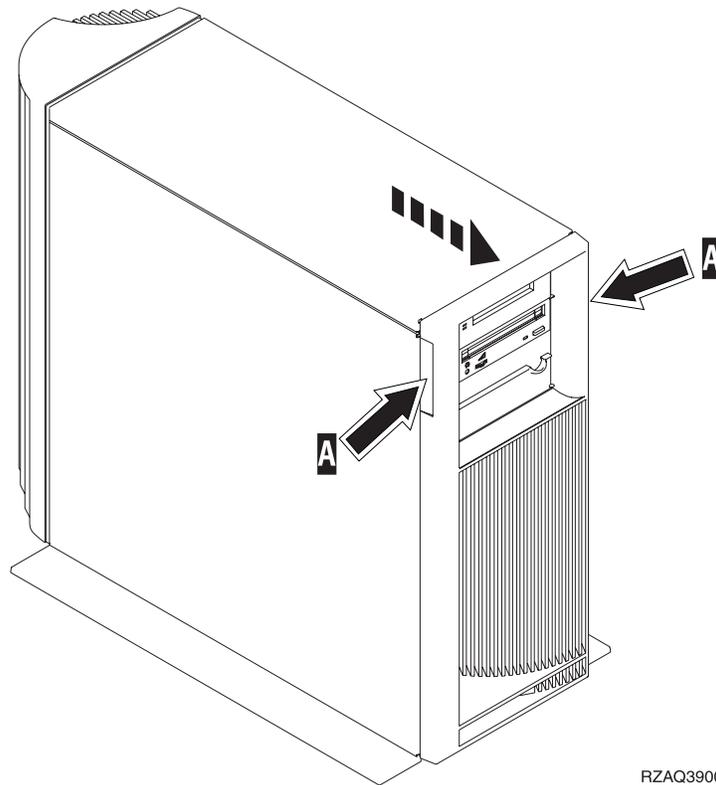
Remove the covers

Select your system unit:

- “820, 5075, or 5095 front cover”
- “825 front cover” on page 18
- “820, 5075, and 5095 side and back cover” on page 18
- “825 back cover” on page 20
- “System units in a rack” on page 21

820, 5075, or 5095 front cover

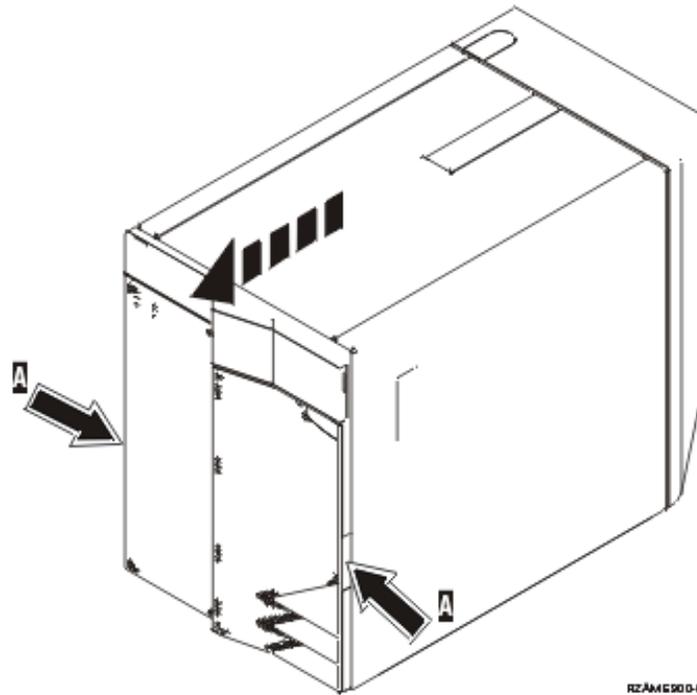
Remove the system unit or expansion unit front cover by gripping the sides of the cover **A** and pulling the cover toward you.



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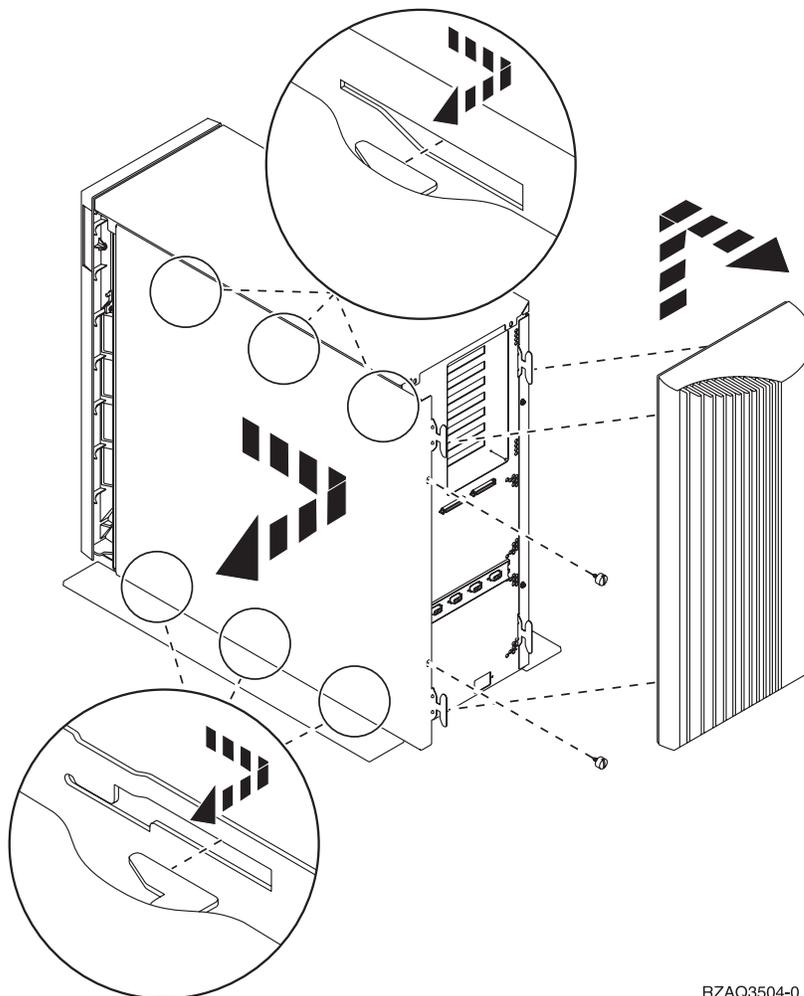
825 front cover

Remove the system unit front cover by gripping the sides of the cover **A** and pulling the cover toward you.



820, 5075, and 5095 side and back cover

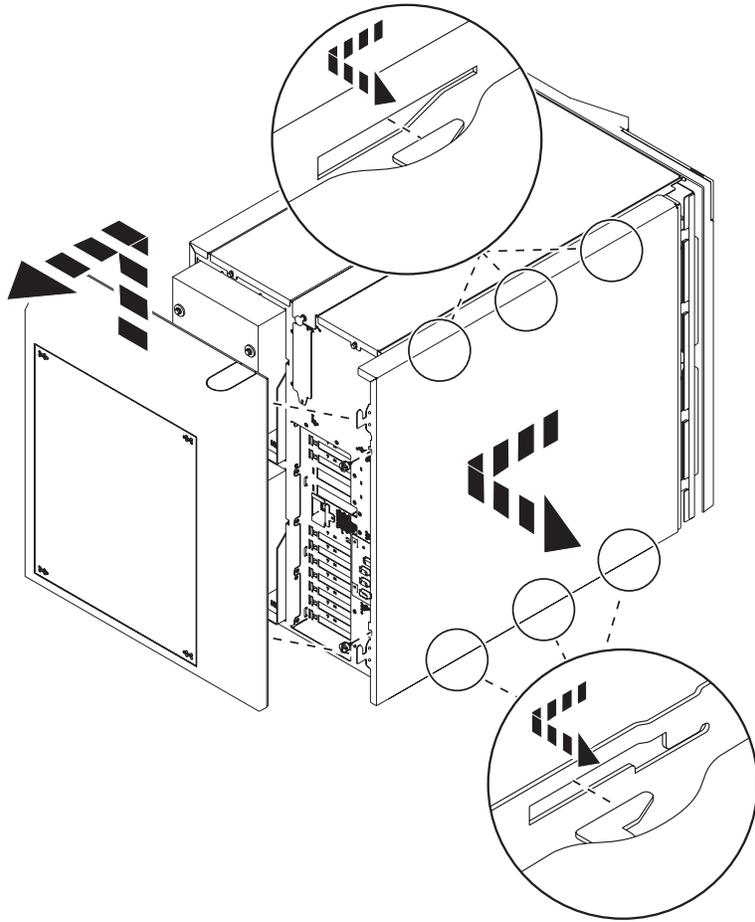
- ___ 1. Place your hand near the bottom of the back cover and lift up and out.
- ___ 2. Remove the left side cover (view from back) by loosening the thumbscrews and sliding the cover from front to back until it stops.
- ___ 3. Pull the cover out.



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825 back cover

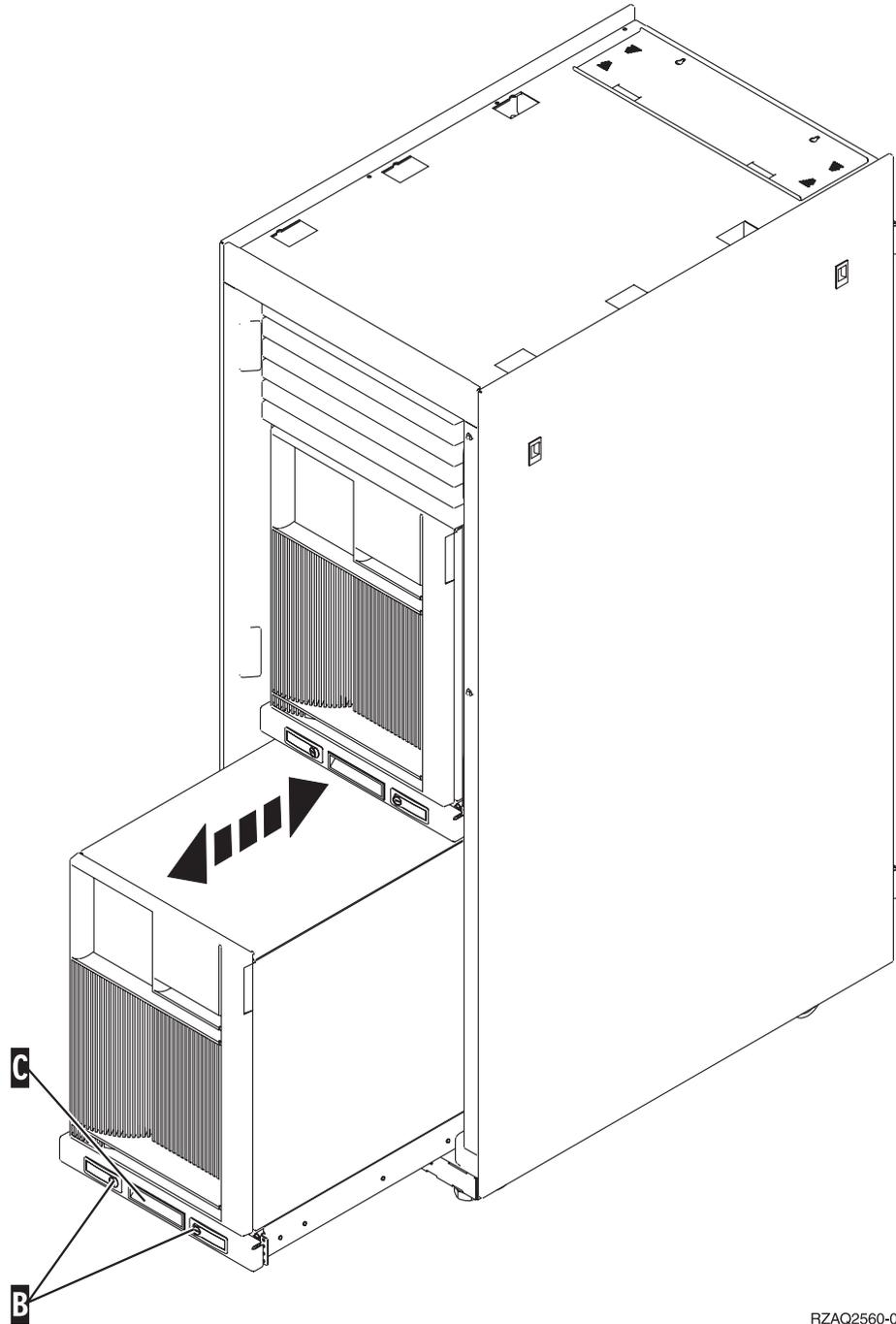
Remove the back cover only. Place your hand near the bottom of the back cover and lift up and out.



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System units in a rack

1. Press latches **B** and pull the server out using the handle **C**.



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2. Refer to previous unit diagrams to remove the side cover.

Power down the system

To power down the system, 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, type **pwrdownsys *immed** on an iSeries command line and press Enter.
4. When the iSeries power down is complete, unplug any power cords, such as printers and displays, from electrical outlets.
5. Unplug the system or expansion unit power cord from the electrical outlet.

Power on the system

To power on the system, follow these steps:

1. **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 in the system unit and system unit console into an electrical outlet. Plug in everything you previously unplugged such as printers and displays.

2. Is your system unit an iSeries 270, 800, 810 or 820, 825, 830, 840, 870, 890?

___ **270, 800, or 810:** Continue with the next step.

___ **820, 825, 830, 840, 870, 890:** Go to step 5.

3. Look at the Function/Data display on the control panel.

4. Does **01 B V=S** appear in the Function/Data display with IPL mode Normal (OK) selected?

___ **Yes:** Go to step 7 on page 26.

___ **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 Mode Select button until the Normal indicator (**OK**) lights up.

___ 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 S should appear in the Function/Display display. If it does not appear, repeat steps 4a through 4j. If it does, go to 7 on page 26.

5. Look at the Function/Data display on the control panel.

6. Does **01 B V=S** appear in the Function/Data display?

___ **Yes:** Continue with the next step.

___ **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 **S** appears in the Function/Data display
 - ___ f. Press the Enter push button on the control panel.
 - ___ g. Press the Increment/Decrement push button until **01** appears in the Function/Data display.
 - ___ h. Press the Enter push button on the control panel.
01 B S should appear in the Function/Display panel. If it does appear, not repeat steps 6a on page 25 through 6h.
 - ___ i. Go to step 7.
7. 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 20 minutes to power on and complete an IPL. When the IPL is complete, 01 B N S appears in the Function/Data display.

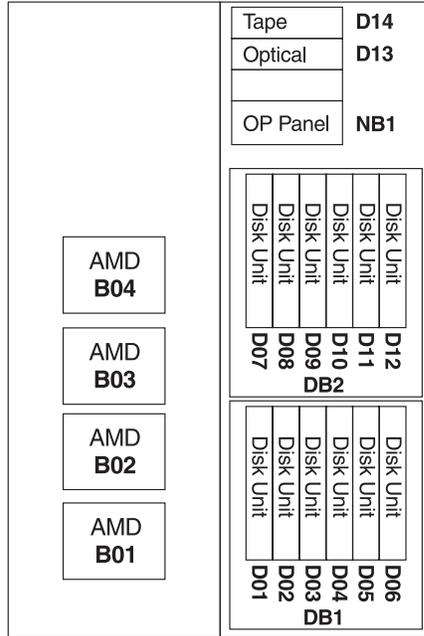
Locations

Locate your unit:

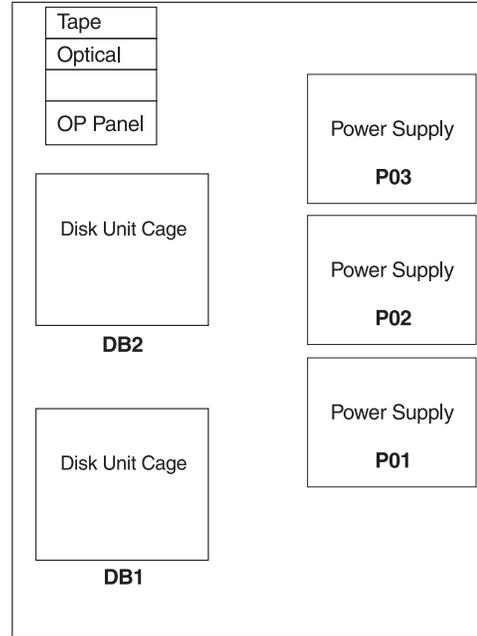
- “820 air moving device (AMD) and power supply location” on page 28
- “825 air moving device (AMD) and power supply location” on page 29
- “5075, 5095 or 0595 air moving device (AMD) and power supply location” on page 30

820 air moving device (AMD) and power supply location

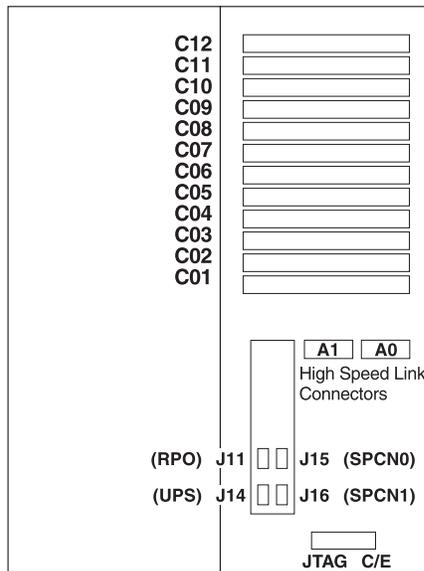
- Remove the power supply filler plate from position **P03** before installing the power supply. Pull the latch to remove the filler plate.
- Install air moving devices in position **B02** first, then **B04**.



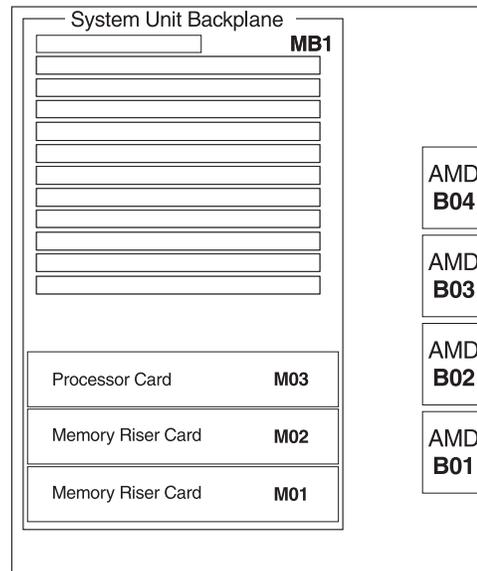
Front



Right



Back

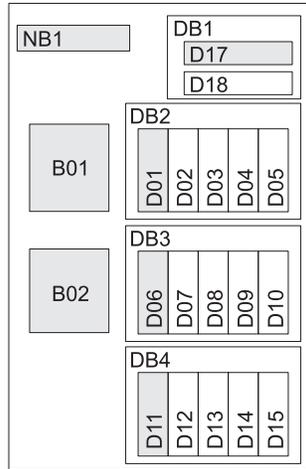


Left

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825 air moving device (AMD) and power supply location

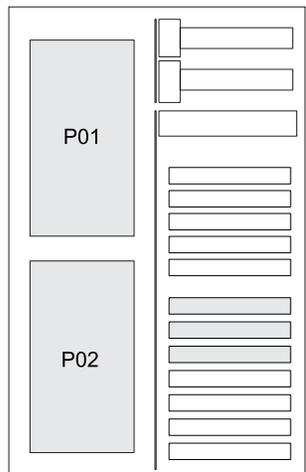
- Remove the power supply filler plate from position **P02** before installing the power supply. Pull the latch to remove the filler plate.
- Install air moving devices in position **B02**.



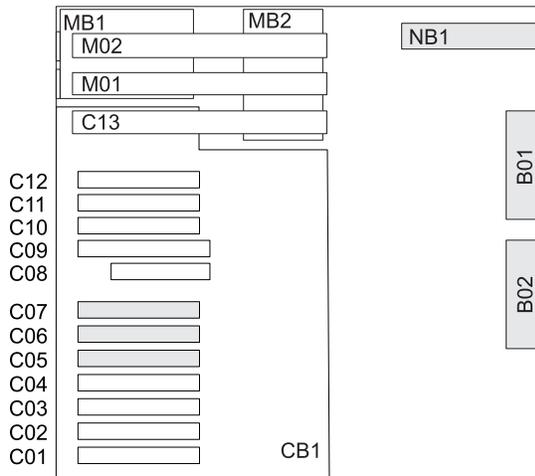
Front



Right



Back

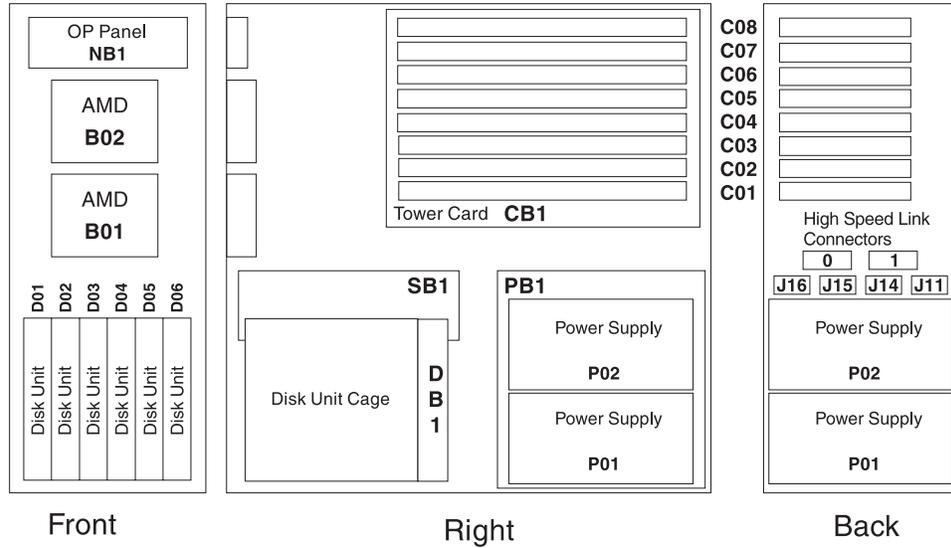


Left

RZAR6800-2

5075, 5095 or 0595 air moving device (AMD) and power supply location

- Install the power supply in position **P02**.
- Install the air moving device in position **B01**.



RZAQ2500-4

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Electronic Emission Notices

Federal Communications Commission (FCC) statement

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. IBM is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:

International Business Machines Corporation
New Orchard Road
Armonk, NY 10504

Telephone: 1-919-543-2193

Industry Canada Compliance Statement

This Class A digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Community Compliance Statement

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

Australia and New Zealand Class A statement

Attention: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

VCCI Statement - Japan

この装置は、クラス A 情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。 V C C I - A

The following is a summary of the VCCI Japanese statement in the box above.

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

Electromagnetic Interference (EMI) Statement - People's Republic of China

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*):

声 明
此为 A 级产品, 在生活环境中,
该产品可能会造成无线电干扰。
在这种情况下, 可能需要用户对其
干扰采取切实可行的措施。

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.

Electromagnetic Interference (EMI) Statement - Taiwan

警告使用者：
這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

The following is a summary of the EMI Taiwan statement above.

Warning: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user will be required to take adequate measures.

Radio Protection for Germany

Dieses Gerät ist berechtigt in Übereinstimmung mit Dem deutschen EMVG vom 9.Nov.92 das EG-Konformitätszeichen zu führen.

Der Aussteller der Konformitätserklärung ist die IBM Germany.

Dieses Gerät erfüllt die Bedingungen der EN 55022 Klasse A. Für diese von Geräten gilt folgende Bestimmung nach dem EMVG:

Geräte dürfen an Orten, für die sie nicht ausreichend entstört sind, nur mit besonderer Genehmigung des Bundesministers für Post und Telekommunikation oder des Bundesamtes für Post und Telekommunikation betrieben werden. Die Genehmigung wird erteilt, wenn keine elektromagnetischen Störungen zu erwarten sind.

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

Hinweis

Dieses Genehmigungsverfahren ist von der Deutschen Bundespost noch nicht veröffentlicht worden.

Electronic Emission Notices

The following Statement applies to this IBM product. The statement for other IBM products intended for use with this product will appear in their accompanying manuals.

Federal Communications Commission (FCC) statement

Note: This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- 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.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from IBM authorized dealers. IBM is not responsible for any radio or television interference caused by using other than recommended cables or connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interferences, and (2) this device must accept any interferences received, including interference that may cause undesired operation.

Responsible Party:

International Business Machines Corporation
New Orchard Road
Armonk, NY 10504

Telephone: 1-919-543-2193

Industry Canada Compliance Statement

This Class B digital apparatus meets the requirements of the Canadian Interference-Causing Equipment Regulations.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

European Community Compliance Statement

This product is in conformity with the protection requirements of EC Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. IBM cannot accept responsibility for any failure to satisfy the protection requirements resulting from a non-recommended modification of the product, including the fitting of non-IBM option cards.

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22 / European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

Properly shielded and grounded cables and connectors (IBM part number 75G5958 or its equivalent) must be used in order to reduce the potential for causing interference to radio and TV communications and to other electrical or electronic equipment. Such cables and connectors are available from IBM authorized dealers. IBM cannot accept responsibility for an interference caused by using other than

recommended cables and connectors.



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