Media Devices for the E5-700

ESCALA Power7

REFERENCE
86 A1 12FF 03

ESCALA Power7

Media Devices for the E5-700

This publication concerns the following models:

- Bull Escala E5-700 (Power 750 / 8233-E8B)
- Bull Escala M6-700 (Power 770 / 9117-MMB)
- Bull Escala M7-700 (Power 780 / 9179-MHB)
- Bull Escala E1-700 (Power 710 / 8231-E2B)
- Bull Escala E2-700 / E2-700T (Power 720 / 8202-E4B)
- Bull Escala E3-700 (Power 730 / 8231-E2B)
- Bull Escala E4-700 / E4-700T (Power 740 / 8205-E6B)

References to Power 755 / 8236-E8C models are irrelevant.

Hardware

May 2011

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49008 ANGERS CEDEX 01
FRANCE

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Contents

Safety notices

Safety notices may be printed throughout this guide:

- **DANGER** notices call attention to a situation that is potentially lethal or extremely hazardous to people.
- **CAUTION** notices call attention to a situation that is potentially hazardous to people because of some existing condition.
- **Attention** notices call attention to the possibility of damage to a program, device, system, or data.

World Trade safety information

Several countries require the safety information contained in product publications to be presented in their national languages. If this requirement applies to your country, a safety information booklet is included in the publications package shipped with the product. The booklet contains the safety information in your national language with references to the U.S. English source. Before using a U.S. English publication to install, operate, or service this product, you must first become familiar with the related safety information in the booklet. You should also refer to the booklet any time you do not clearly understand any safety information in the U.S. English publications.

German safety information

Das Produkt ist nicht für den Einsatz an Bildschirmarbeitsplätzen im Sinne § 2 der Bildschirmarbeitsverordnung geeignet.

Laser safety information

IBM® servers can use I/O cards or features that are fiber-optic based and that utilize lasers or LEDs.

Laser compliance

IBM servers may be installed inside or outside of an IT equipment rack.

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- **Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.**
- **Do not open or service any power supply assembly.**
- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.**
- **Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.**
- **Connect any equipment that will be attached to this product to properly wired outlets.**
- **When possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.**

  To Disconnect:

  1. **Turn off everything (unless instructed otherwise).**
  2. **Remove the power cords from the outlets.**
  3. **Remove the signal cables from the connectors.**
  4. **Remove all cables from the devices**

  To Connect:

  1. **Turn off everything (unless instructed otherwise).**
  2. **Attach all cables to the devices.**
  3. **Attach the signal cables to the connectors.**
  4. **Attach the power cords to the outlets.**
  5. **Turn on the devices.**

  (D005a)

DANGER

Observe the following precautions when working on or around your IT rack system:

- **Heavy equipment–personal injury or equipment damage might result if mishandled.**
- **Always lower the leveling pads on the rack cabinet.**
- **Always install stabilizer brackets on the rack cabinet.**
- **To avoid hazardous conditions due to uneven mechanical loading, always install the heaviest devices in the bottom of the rack cabinet. Always install servers and optional devices starting from the bottom of the rack cabinet.**
- **Rack-mounted devices are not to be used as shelves or work spaces. Do not place objects on top of rack-mounted devices.**

- **Each rack cabinet might have more than one power cord. Be sure to disconnect all power cords in the rack cabinet when directed to disconnect power during servicing.**
- **Connect all devices installed in a rack cabinet to power devices installed in the same rack cabinet. Do not plug a power cord from a device installed in one rack cabinet into a power device installed in a different rack cabinet.**
- **An electrical outlet that is not correctly wired could place hazardous voltage on the metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.**

CAUTION

- **Do not install a unit in a rack where the internal rack ambient temperatures will exceed the manufacturer's recommended ambient temperature for all your rack-mounted devices.**
- **Do not install a unit in a rack where the air flow is compromised. Ensure that air flow is not blocked or reduced on any side, front, or back of a unit used for air flow through the unit.**
- **Consideration should be given to the connection of the equipment to the supply circuit so that overloading of the circuits does not compromise the supply wiring or overcurrent protection. To provide the correct power connection to a rack, refer to the rating labels located on the equipment in the rack to determine the total power requirement of the supply circuit.**
- *(For sliding drawers.)* **Do not pull out or install any drawer or feature if the rack stabilizer brackets are not attached to the rack. Do not pull out more than one drawer at a time. The rack might become unstable if you pull out more than one drawer at a time.**
- *(For fixed drawers.)* **This drawer is a fixed drawer and must not be moved for servicing unless specified by the manufacturer. Attempting to move the drawer partially or completely out of the rack might cause the rack to become unstable or cause the drawer to fall out of the rack.**

(R001)

CAUTION:
Removing components from the upper positions in the rack cabinet improves rack stability during relocation. Follow these general guidelines whenever you relocate a populated rack cabinet within a room or building:

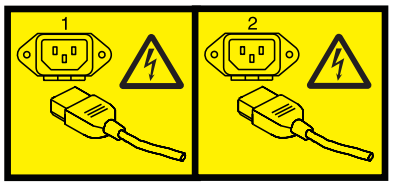
- **Reduce the weight of the rack cabinet by removing equipment starting at the top of the rack cabinet. When possible, restore the rack cabinet to the configuration of the rack cabinet as you received it. If this configuration is not known, you must observe the following precautions:**
  - **Remove all devices in the 32U position and above.**
  - **Ensure that the heaviest devices are installed in the bottom of the rack cabinet.**
  - **Ensure that there are no empty U-levels between devices installed in the rack cabinet below the 32U level.**
- **If the rack cabinet you are relocating is part of a suite of rack cabinets, detach the rack cabinet from the suite.**
- **Inspect the route that you plan to take to eliminate potential hazards.**
- **Verify that the route that you choose can support the weight of the loaded rack cabinet. Refer to the documentation that comes with your rack cabinet for the weight of a loaded rack cabinet.**
- **Verify that all door openings are at least 760 x 230 mm (30 x 80 in.).**
- **Ensure that all devices, shelves, drawers, doors, and cables are secure.**
- **Ensure that the four leveling pads are raised to their highest position.**
- **Ensure that there is no stabilizer bracket installed on the rack cabinet during movement.**
- **Do not use a ramp inclined at more than 10 degrees.**
- **When the rack cabinet is in the new location, complete the following steps:**
  - **Lower the four leveling pads.**
  - **Install stabilizer brackets on the rack cabinet.**
  - **If you removed any devices from the rack cabinet, repopulate the rack cabinet from the lowest position to the highest position.**
- **If a long-distance relocation is required, restore the rack cabinet to the configuration of the rack cabinet as you received it. Pack the rack cabinet in the original packaging material, or equivalent. Also lower the leveling pads to raise the casters off of the pallet and bolt the rack cabinet to the pallet.**

(R002)

(L001)

(L002)

(L003)



or

All lasers are certified in the U.S. to conform to the requirements of DHHS 21 CFR Subchapter J for class 1 laser products. Outside the U.S., they are certified to be in compliance with IEC 60825 as a class 1 laser product. Consult the label on each part for laser certification numbers and approval information.

CAUTION:
This product might contain one or more of the following devices: CD-ROM drive, DVD-ROM drive, DVD-RAM drive, or laser module, which are Class 1 laser products. Note the following information:

- **Do not remove the covers. Removing the covers of the laser product could result in exposure to hazardous laser radiation. There are no serviceable parts inside the device.**
- **Use of the controls or adjustments or performance of procedures other than those specified herein might result in hazardous radiation exposure.**

(C026)

CAUTION:
Data processing environments can contain equipment transmitting on system links with laser modules that operate at greater than Class 1 power levels. For this reason, never look into the end of an optical fiber cable or open receptacle. (C027)

CAUTION:
This product contains a Class 1M laser. Do not view directly with optical instruments. (C028)

CAUTION:
Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following information: laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam. (C030)

Power and cabling information for NEBS (Network Equipment-Building System) GR-1089-CORE

The following comments apply to the IBM servers that have been designated as conforming to NEBS (Network Equipment-Building System) GR-1089-CORE:

The equipment is suitable for installation in the following:

- Network telecommunications facilities
- Locations where the NEC (National Electrical Code) applies

The intrabuilding ports of this equipment are suitable for connection to intrabuilding or unexposed wiring or cabling only. The intrabuilding ports of this equipment *must not* be metallically connected to the interfaces that connect to the OSP (outside plant) or its wiring. These interfaces are designed for use as intrabuilding interfaces only (Type 2 or Type 4 ports as described in GR-1089-CORE) and require isolation from the exposed OSP cabling. The addition of primary protectors is not sufficient protection to connect these interfaces metallically to OSP wiring.

Note: All Ethernet cables must be shielded and grounded at both ends.

The ac-powered system does not require the use of an external surge protection device (SPD).

The dc-powered system employs an isolated DC return (DC-I) design. The DC battery return terminal *shall not* be connected to the chassis or frame ground.

Media devices for the 33E/8B or 36E/8C

Use the following instructions to install, or to remove and replace a media device.

Removing a universal serial bus disk drive from 33E/8B

Learn to remove the universal serial bus (USB) disk drive to service the system or replace a failed drive.

About this task

Before you remove a media device, perform the prerequisite tasks described in Before you begin.

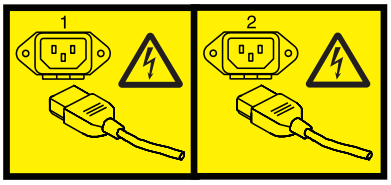
To remove a USB disk drive media device, complete the following steps:

Procedure

1. Power off the system. See Stopping the system or logical partition.
2. Disconnect the power cords from the system.

   Note: This system has a second power supply. Before continuing with this procedure, ensure that the power source to the system has been disconnected.

   (L003)

   or

3. Remove the front cover. See Removing the front cover.
4. Place the system into the service position. See Placing the system into the service position.
5. Remove the service access cover. See Removing the service access cover.
6. Attach the wrist strap.

Attention:

- Attach a wrist strap to an unpainted surface of your hardware to prevent electrostatic discharge (ESD) from damaging your hardware.
- When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
- If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted surface of the system for a minimum of 5 seconds.

7. Remove the fans.
   a. Remove the fan by squeezing the tab **(A)** and lifting it out of the system as shown in the following figure.

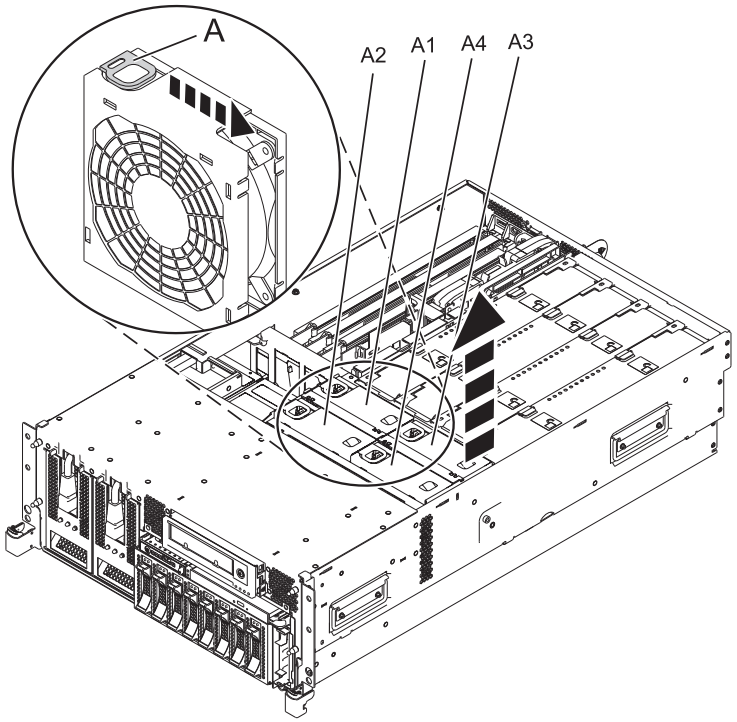


Figure 1. Fan removal

   b. Remove the blue air baffles as shown in the following figure.

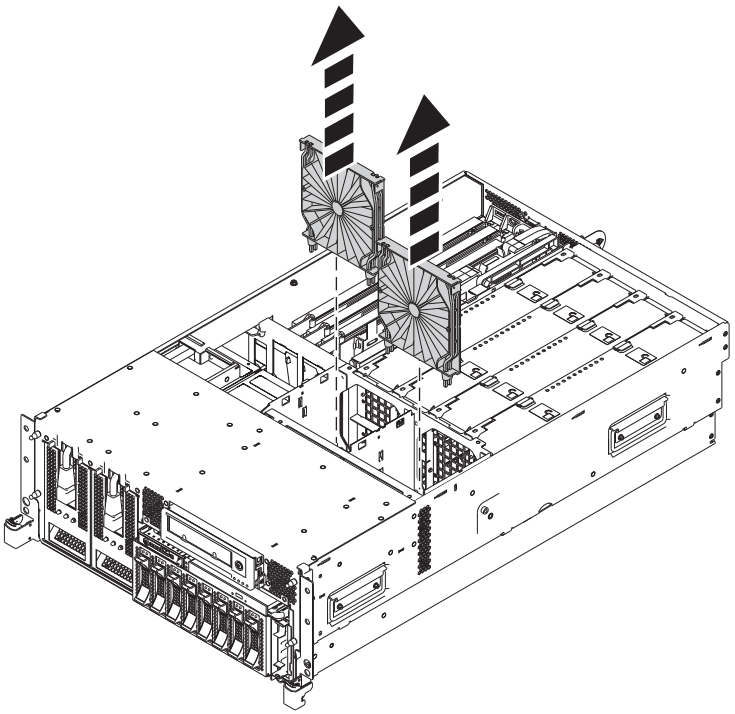


Figure 2. Air baffle removal

8. Remove the fans and fan cage.

   Note: Although the following figures show a media device, you have already removed the media device filler and your system will have an empty space until you complete all the steps.

   a. Remove the fan by squeezing or lifting the tab **(A)** and lifting it out of the system, as shown in the following figure.

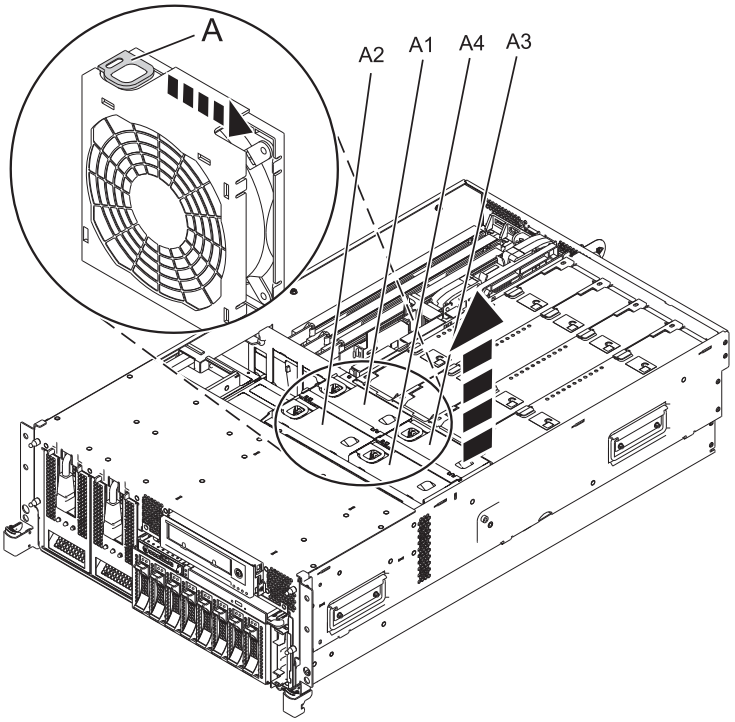


Figure 3. Fan removal

Remove the blue air baffles as shown in the following figure.

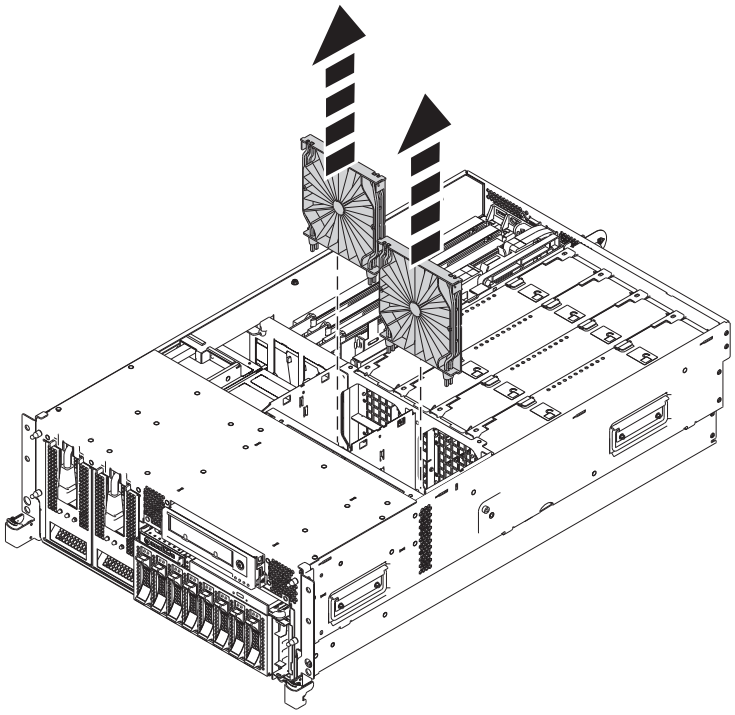


Figure 4. Air baffle removal

Remove the fan cage **(B)** by unscrewing the thumbscrews **(A)** and lifting out the fan cage.

Note: If the thumbscrews are too tight, you might need a flat-head screwdriver to complete this step. To pull the fan cage out of the system, you might need to unplug the control panel cable to allow more space.

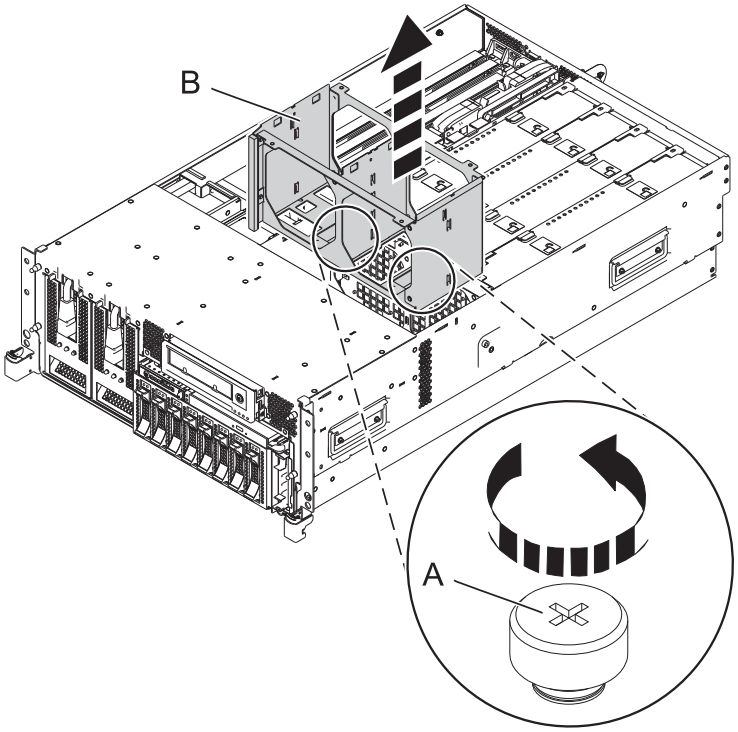
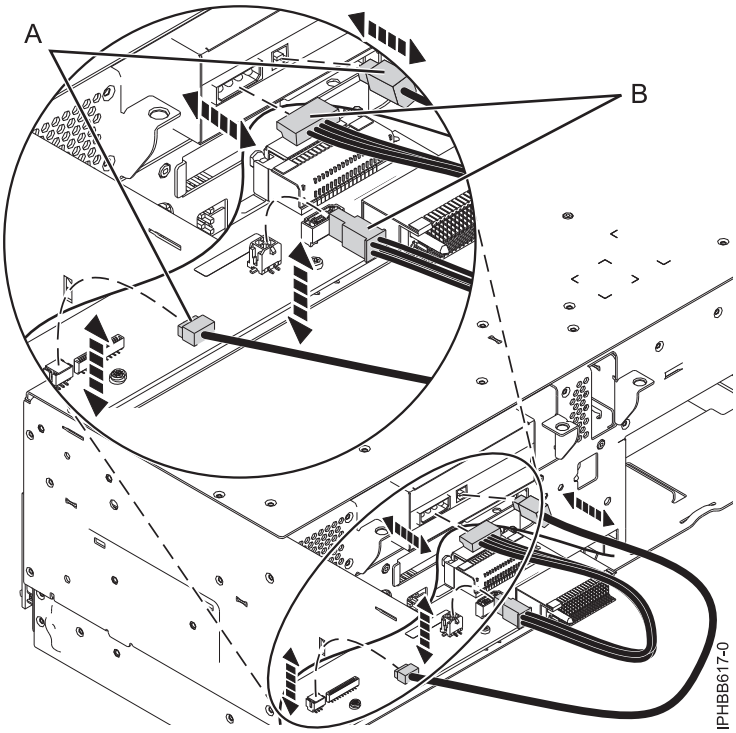


Figure 5. Fan cage removal

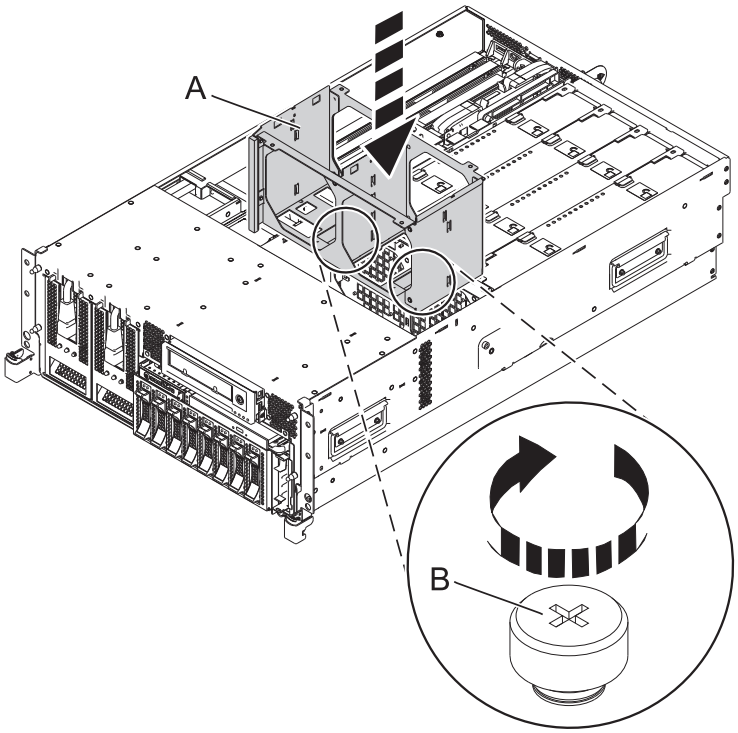
9. Disconnect the media-device connections from the system backplane.



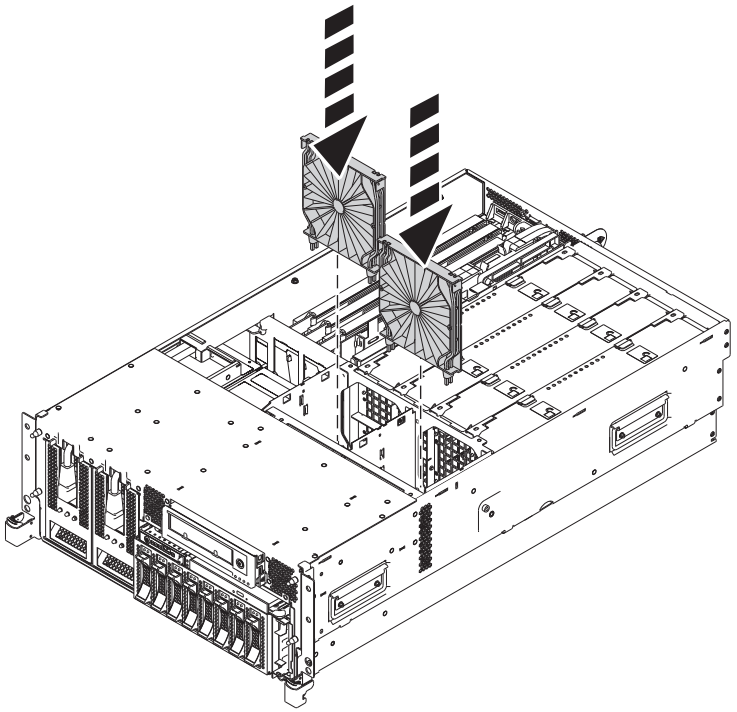
Note:

- When removing cables, ensure that you release any cable locks.
- Optional: If you do not intend to replace the USB disk drive, you can reconnect the control panel USB cable and media connections.

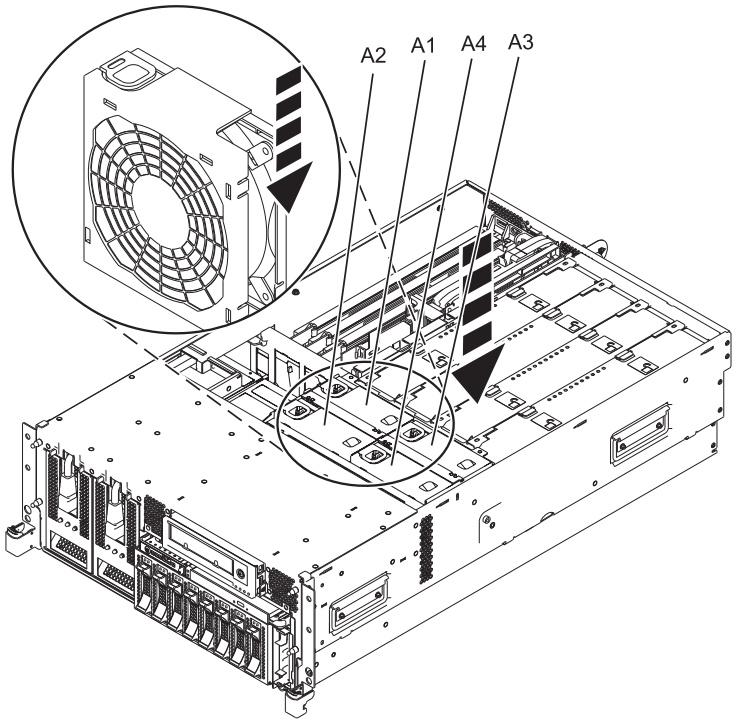
10. Reattach any other cables that you previously disconnected from the backplane.
11. Reinstall the fans into the 33E/8B or 36E/8C system.
    a. Replace the fan cage by inserting it into the system and tightening the thumbscrews **(B)**.



Replace the blue air baffles as shown in the following figure.

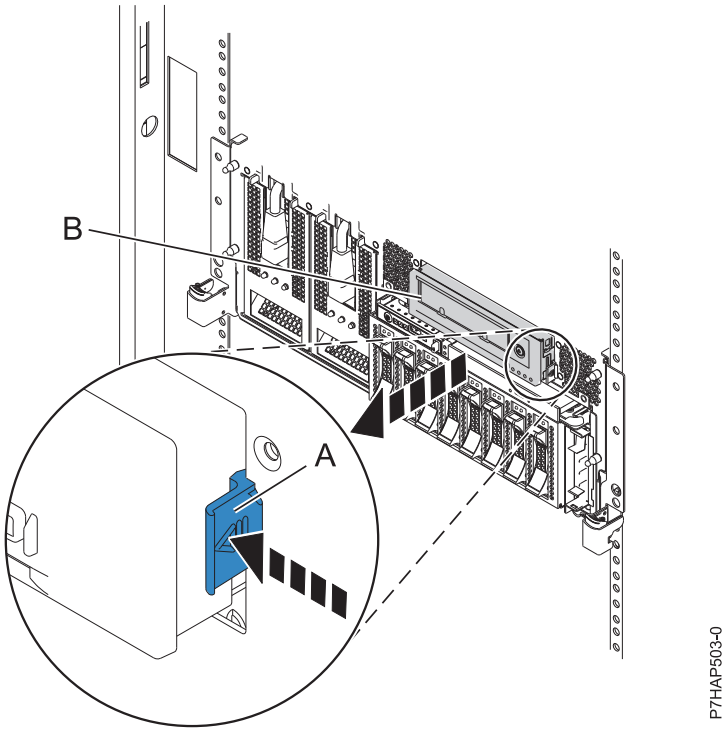


Replace the fans by inserting them into the fan cage until they lock into place, as shown in the following figure.



12. Press the release latch **(A)** and unseat the media device **(B)** from the system as shown.

    Note: You need to remove the media cables **(A)** and **(B)** provided at the back of the device before removing the media device.



13. Pull the media device from the system.
14. If you removed the media device as a part of another procedure, return to that procedure.
15. If you removed the media device to replace the media device, see “Installing a universal serial bus disk drive in 33E/8B” on page 11.

Related information

Removing and replacing a disk drive backplane

Installing a universal serial bus disk drive in 33E/8B

You can install a universal serial bus (USB) disk drive.

About this task

If your system is managed by the Systems Director Management Console (SDMC), use the SDMC to complete the steps for installing a feature in the server. For instructions, see Removing a part using the Systems Director Management Console.

If your system is managed by the Hardware Management Console (HMC), use the HMC to complete the steps for installing a feature in the server. For information about using the HMC to install a feature, see Installing a feature using the Hardware Management Console.

If you do not have an HMC or SDMC, complete the following steps to install a USB disk drive:

Before you install a USB disk drive, perform the prerequisite tasks described in http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7haj/beforebegin.htm.

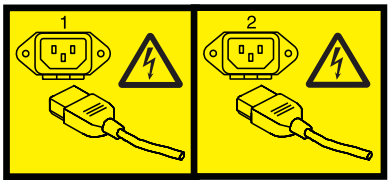
To install a USB disk drive, do the following steps:

Procedure

1. Power off the system. See http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7haj/crustopsys.htm.
2. Disconnect the power cords from the system.

   Note: This system has a second power supply. Before continuing with this procedure, ensure that the power source to the system has been disconnected.

   (L003)

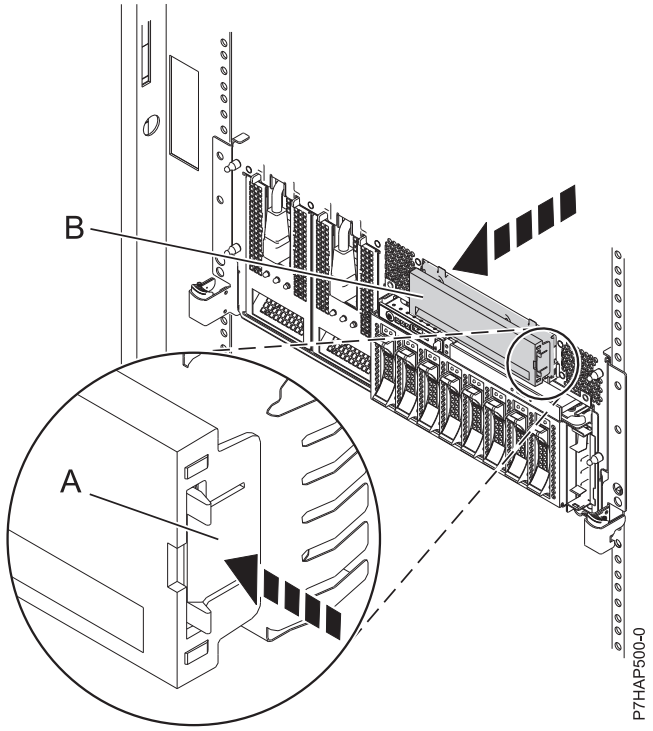
   

   or

3. Place the system into the service position. See Placing the system into the service position.
4. Remove the front cover. See Removing the front cover for instructions.
5. Remove the service access cover. See Removing the service access cover for instructions.
6. Attach the wrist strap.

   Attention:

   - Attach a wrist strap to an unpainted surface of your hardware to prevent electrostatic discharge (ESD) from damaging your hardware.
   - When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
   - If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted surface of the system for a minimum of 5 seconds.
7. Remove the media device filler, if present, as shown in the following figure.



8. Remove the fans and fan cage.

   Note: Although the following figures show a media device, you have already removed the media device filler and your system will have an empty space until you complete all the steps.

   a. Remove the fan by squeezing or lifting the tab **(A)** and lifting it out of the system, as shown in the following figure.

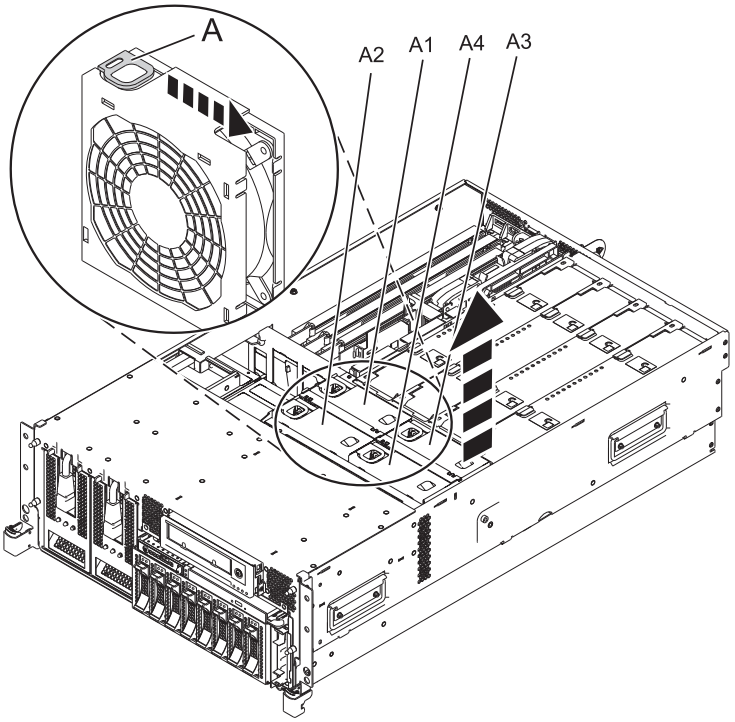


Figure 6. Fan removal

Remove the blue air baffles as shown in the following figure.

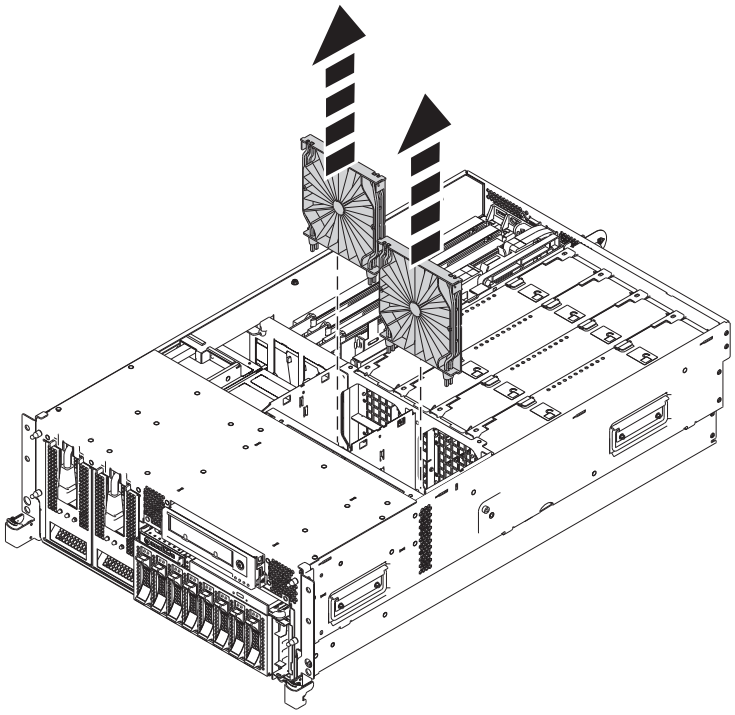


Figure 7. Air baffle removal

Remove the fan cage **(B)** by unscrewing the thumbscrews **(A)** and lifting out the fan cage.

Note: If the thumbscrews are too tight, you might need a flat-head screwdriver to complete this step. To pull the fan cage out of the system, you might need to unplug the control panel cable to allow more space.

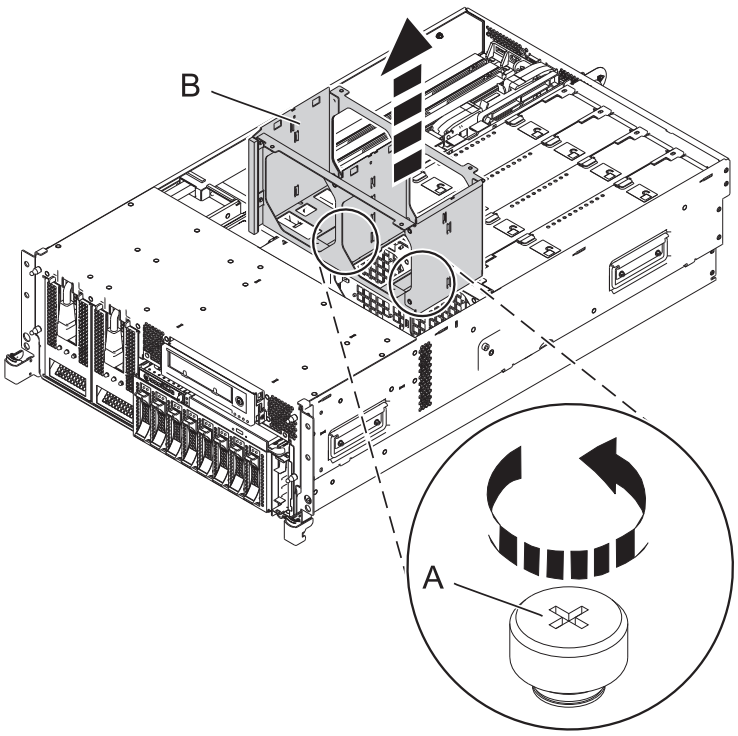
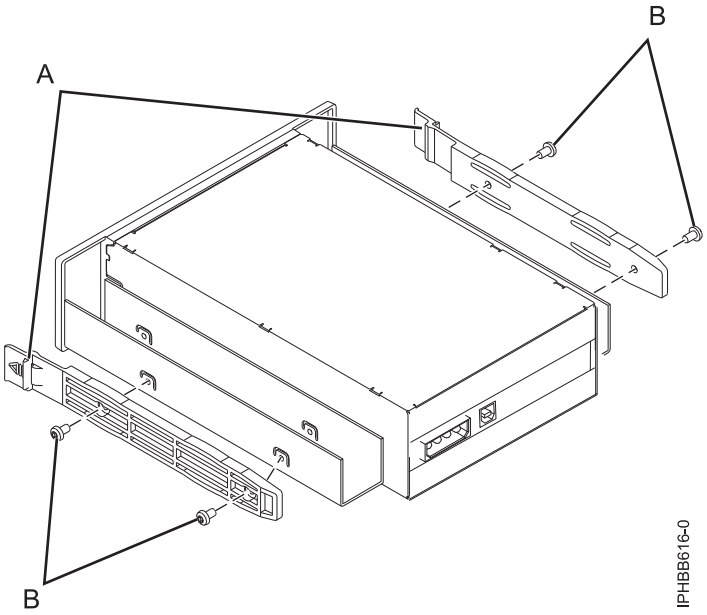


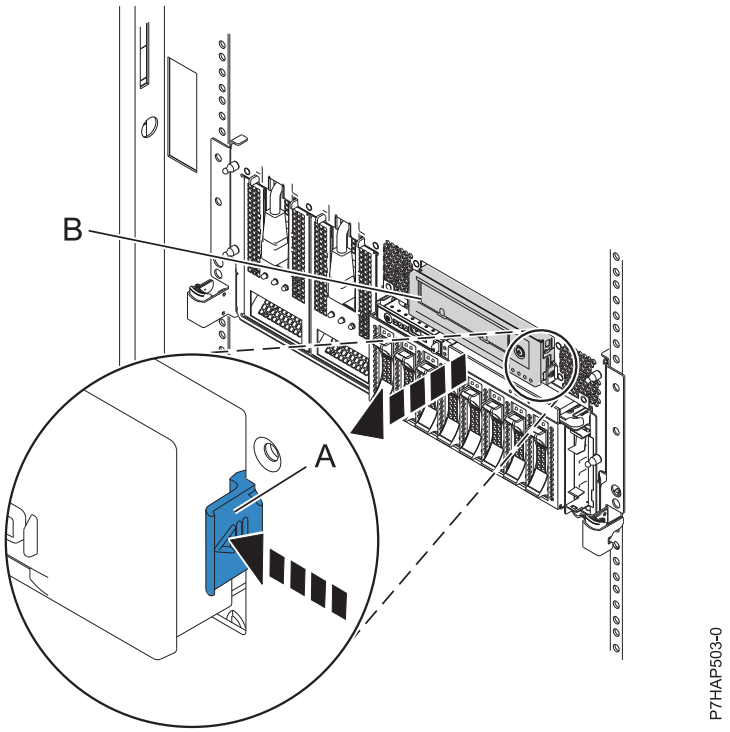
Figure 8. Fan cage removal

9. Install the rails **(A)** onto the media device using the two small screws **(B)** included with your media device. Place the rails on each side of the media device. Screw the rails into the side of the media device using the lower screw hole.



10. Press the media device **(A)** into the system until you feel the latches **(B)** lock in place as shown.

Note: You need to attach the media cables **(A)** and **(B)** provided at the back of the device before installing the media device.



11. Attach the media-device connections **(A)** and **(B)** to the system backplane. The connection for cable **(A)** on the backplane is already occupied. Remove the existing cable and replace it with cable **(A)**.

    Note: The USB connection on the front panel is now inoperative.

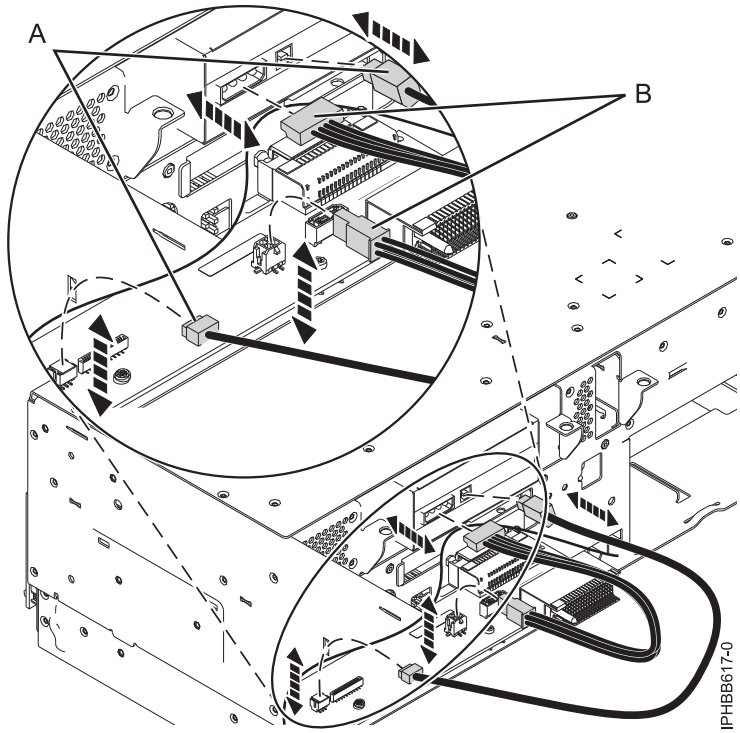
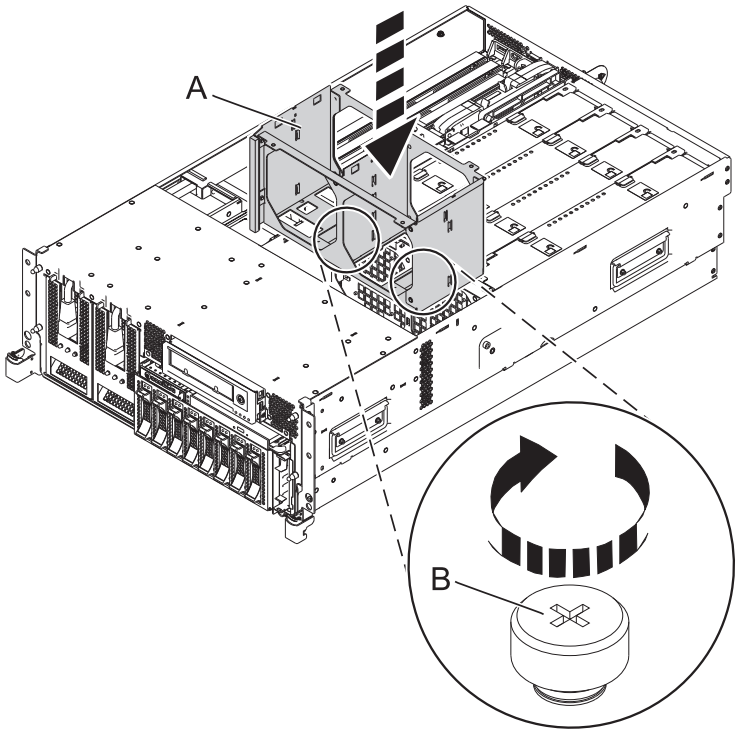
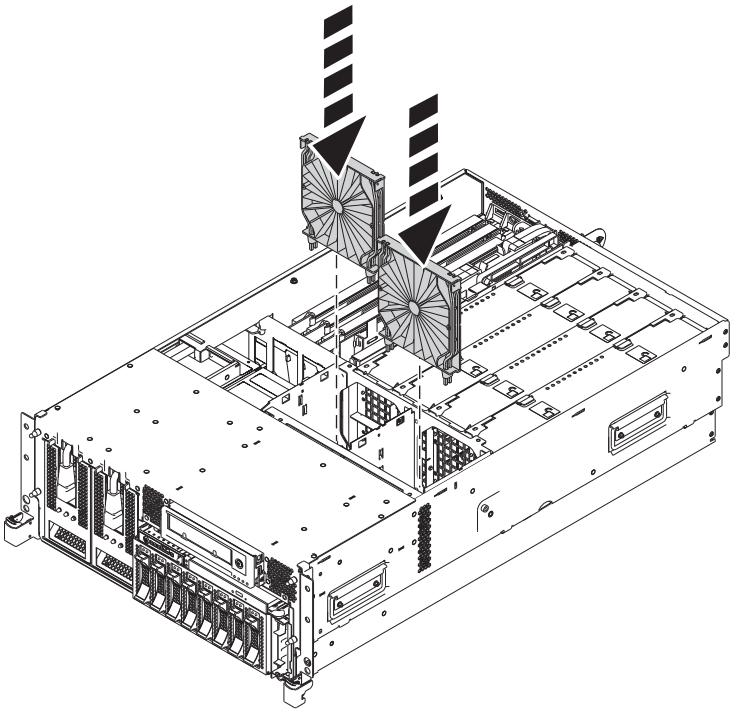


Figure 9. Attaching the media device connections to the system backplane of a 33E/8B or 36E/8C system

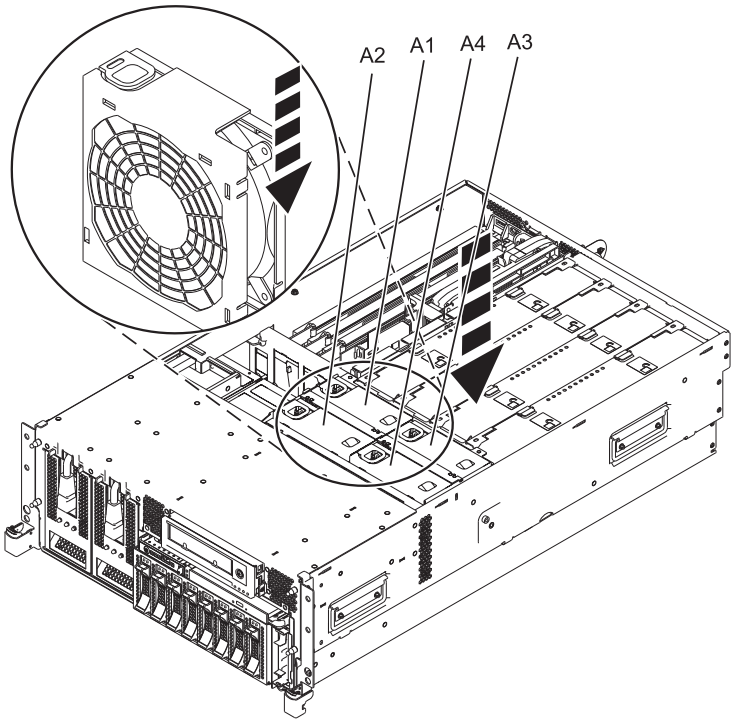
12. Reattach any other cables that you previously disconnected from the backplane.
13. Reinstall the fans into the 33E/8B or 36E/8C system.
    a. Replace the fan cage by inserting it into the system and tightening the thumbscrews **(B)**.



Replace the blue air baffles as shown in the following figure.



Replace the fans by inserting them into the fan cage until they lock into place, as shown in the following figure.



14. Install the service access cover. See Installing the service access cover on a rack-mounted model for instructions.
15. Attach the front cover. See Installing the front cover on the rack-mounted system.
16. Connect the power cords to the system.
17. Start the system. See Starting the system or logical partition.

18. Configure the removable disk drive by performing the following steps:
    a. For the AIX® operating system, log in as `root` user.
    b. At the command line, type `cfgmgr`.
    c. Press Enter.
    d. To verify that the system recognizes the device, run the `lsdev -Cc usbms` command.

    Note: The Linux operating system automatically configures the drive as a disk drive with a name in the format `sdx`, for example, sda, sdb, and sdc. To verify if the system recognizes the device, enter `lsusb`. To find the device that is associated with the USB disk drive, enter `lsscsi`.
19. Verify that the media device is installed and working correctly. See Verifying the installed part.

Related information

Removing and replacing a disk drive backplane

Removing a SAS media device from 33E/8B

You can remove a serial-attached SCSI (SAS) media device.

About this task

If your system is managed by the Systems Director Management Console (SDMC), use the SDMC to complete the steps for removing media devices from the server. For instructions, see Removing a part using the Systems Director Management Console.

If your system is managed by the Hardware Management Console (HMC), use the HMC to complete the steps for removing media devices from the server. For information about using the HMC to remove media devices, see Removing a part using the Hardware Management Console.

If you do not have an HMC or SDMC, complete the following steps to remove the media device:

Before you remove a media device, perform the prerequisite tasks described in Before you begin.

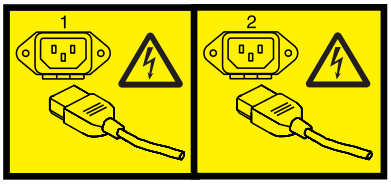
To remove a SAS media device, complete the following steps:

Procedure

1. Stop the media device and eject any media.
2. Power off the system. See Stopping the system or logical partition.
3. Disconnect the power cords from the system.

   Note: This system has a second power supply. Before continuing with this procedure, ensure that the power source to the system has been disconnected.

   (L003)

   or

4. Remove the front cover. See Removing the front cover.
5. Place the system into the service position. See Placing the system into the service position.
6. Remove the service access cover. See Removing the service access cover.
7. Attach the wrist strap.

   Attention:

   - Attach a wrist strap to an unpainted surface of your hardware to prevent electrostatic discharge (ESD) from damaging your hardware.
   - When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
   - If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted surface of the system for a minimum of 5 seconds.
8. Remove the fans and fan cage.

   Note: Although the following figures show a media device, you have already removed the media device filler and your system will have an empty space until you complete all the steps.

   a. Remove the fan by squeezing or lifting the tab **(A)**, depending on your model, and lifting it out of the system as shown in the following figure.

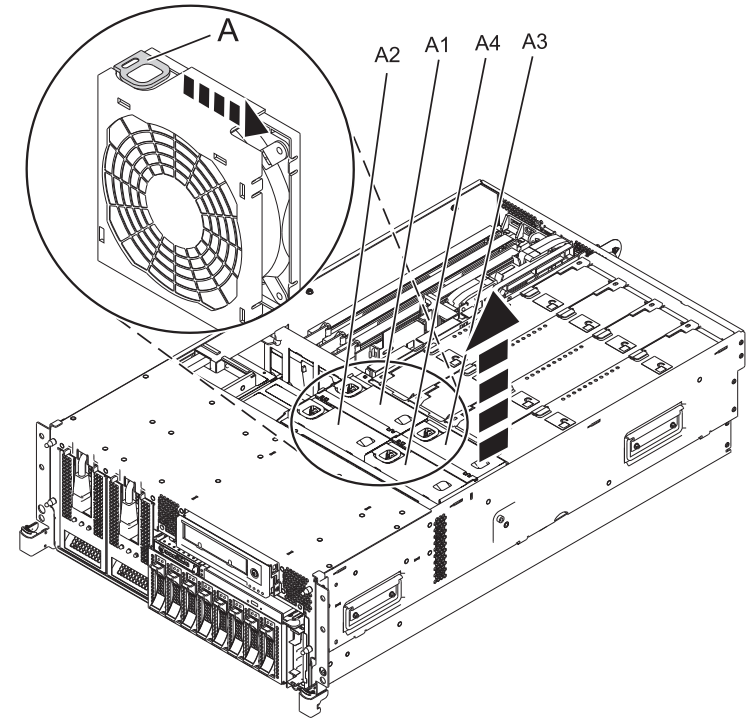


Figure 10. Fan removal

b. Remove the blue air baffles as shown in the following figure.

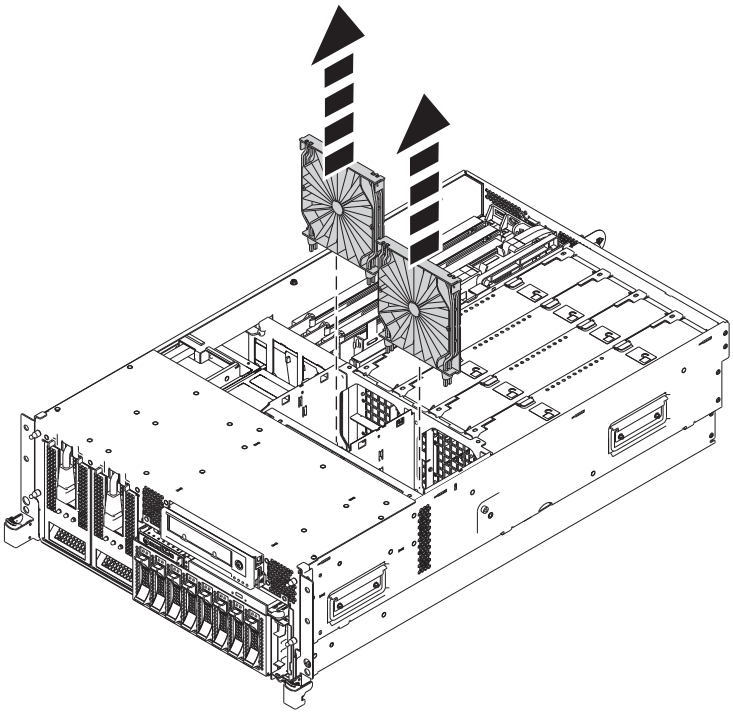


Figure 11. Air baffle removal

c. Remove the fan cage **(B)** by unscrewing the thumbscrews **(A)** and lifting out the fan cage.

Note: If the thumbscrews are too tight, you might need a flat-head screwdriver to complete this step. To pull the fan cage out of the system, you might need to unplug the control panel cable to allow more space.

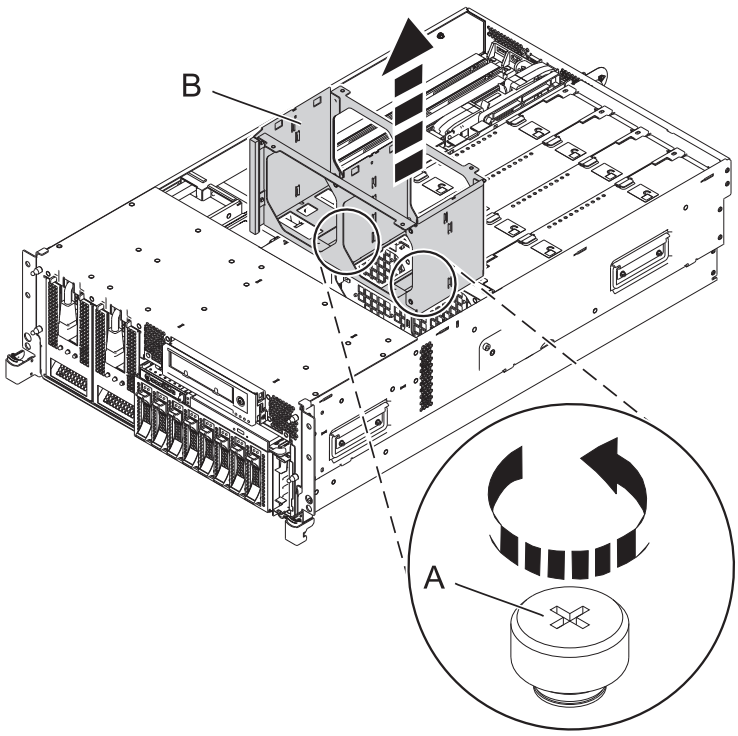
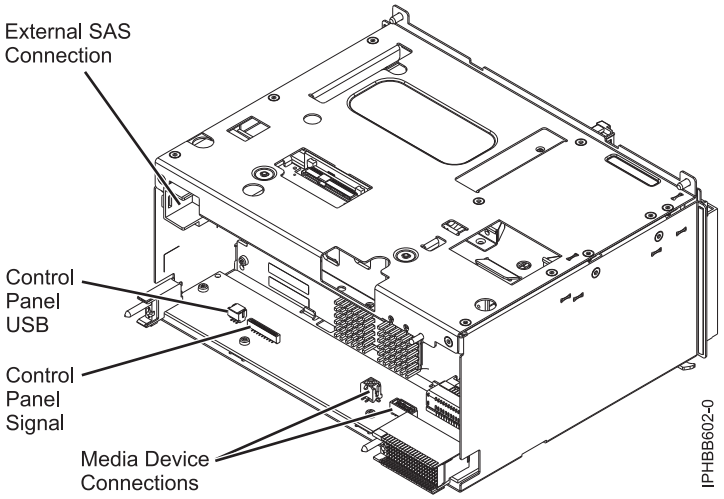


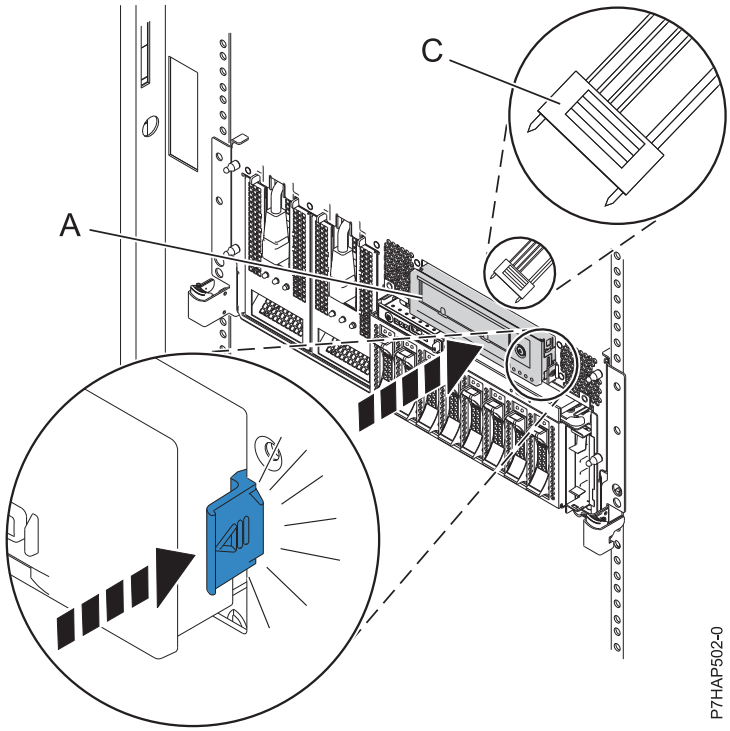
Figure 12. Fan cage removal

9. If you are replacing the media device cable, disconnect the media-device connections from the system backplane.



10. Press the release latch **(A)** and unseat the media device **(B)** from the system as shown.

    Note: You need to remove the media cable **(C)** attached at the back of the device before removing the media device.



11. Pull the media device from the system.
12. If you removed the media device as a part of another procedure, return to that procedure.
13. If you removed the media device to replace the media device, see “Installing a SAS media device in 33E/8B” on page 27.

Installing a SAS media device in 33E/8B

You can install a serial-attached SCSI (SAS) media device.

About this task

If your system is managed by the Systems Director Management Console (SDMC), use the SDMC to complete the steps for installing a feature in the server. For instructions, see Removing a part using the Systems Director Management Console.

If your system is managed by the Hardware Management Console (HMC), use the HMC to complete the steps for installing a feature in the server. For information about using the HMC to install a feature, see Installing a feature using the Hardware Management Console.

If you do not have an HMC or SDMC, complete the following steps to install a media device from the system or partition that controls the media device:

Before you install a SAS media device, perform the prerequisite tasks described in Before you begin.

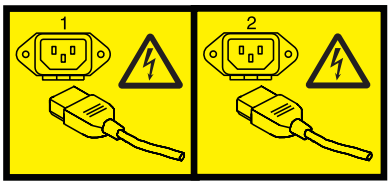
To install a SAS media device, do the following steps:

Procedure

1. Power off the system. See Stopping the system or logical partition.
2. Disconnect the power cords from the system.

   Note: This system has a second power supply. Before continuing with this procedure, ensure that the power source to the system has been completely disconnected.

   (L003)

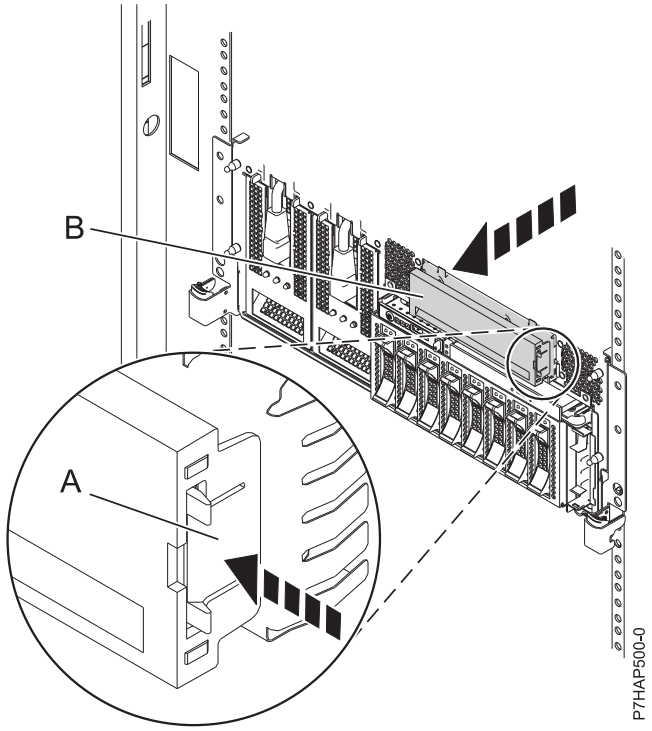
   

   or

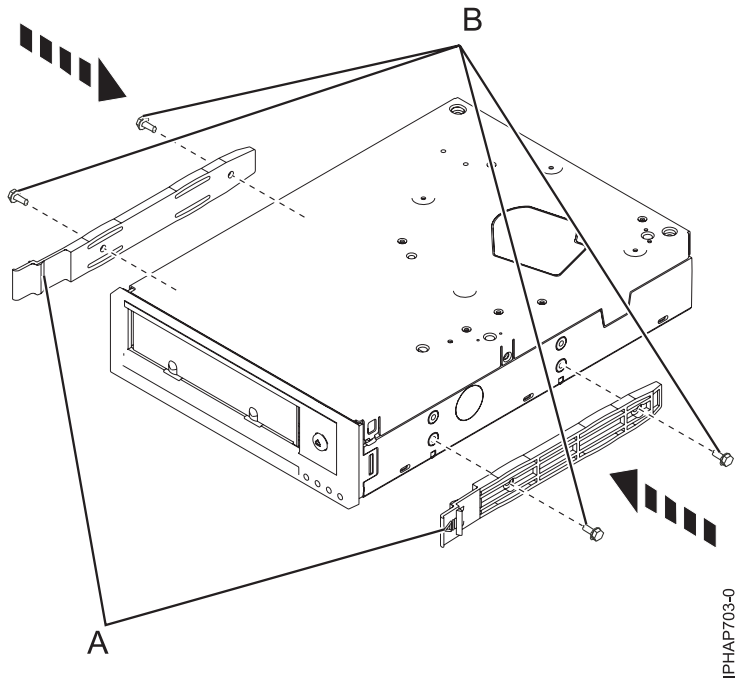
3. Place the system into the service position. See Placing the system into the service position.
4. Remove the front cover. See Removing the front cover for instructions.
5. Remove the service access cover. See Removing the service access cover for instructions.
6. Attach the wrist strap.

   Attention:

   - Attach a wrist strap to an unpainted surface of your hardware to prevent electrostatic discharge (ESD) from damaging your hardware.
   - When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
   - If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted surface of the system for a minimum of 5 seconds.
7. Remove the media device filler, if present, as shown in the following figure.

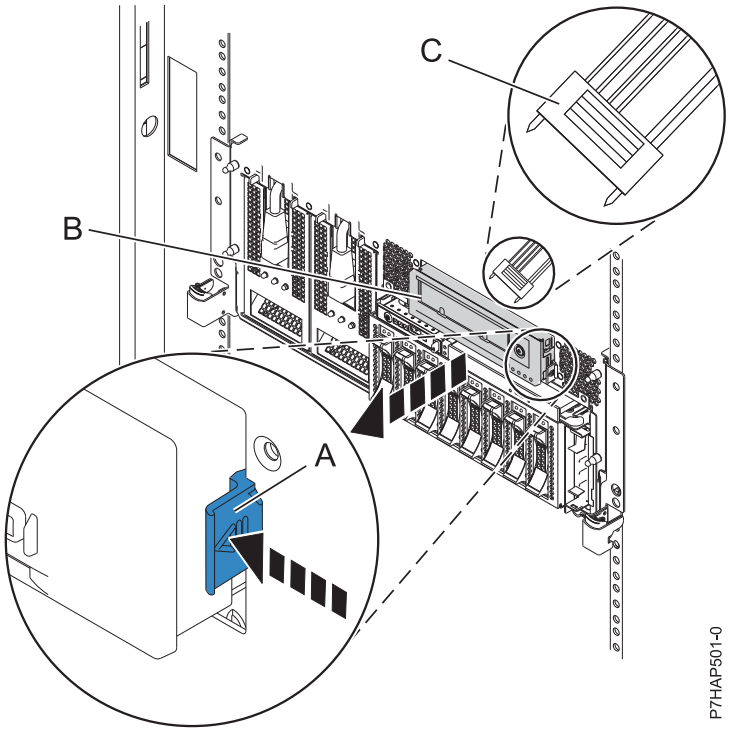


8. Install the rails **(A)** onto the media device using the two small screws **(B)** included with your media device. The rails must be placed on each side of the media device. Screw the rails into the side of the media device using the lower screw hole.



9. Push the media device **(A)** into the system until you feel the latches **(B)** lock in place as shown.

   Note: You need to attach the media cable **(C)** provided at the back of the device before installing the media device.



10. Remove the fans and fan cage.

    Note: Although the following figures show a media device, you have already removed the media device filler and your system will have an empty space until you complete all the steps.

    a. Remove the fan by squeezing or lifting the tab **(A)**, depending on your model, and lifting it out of the system as shown in the following figure.

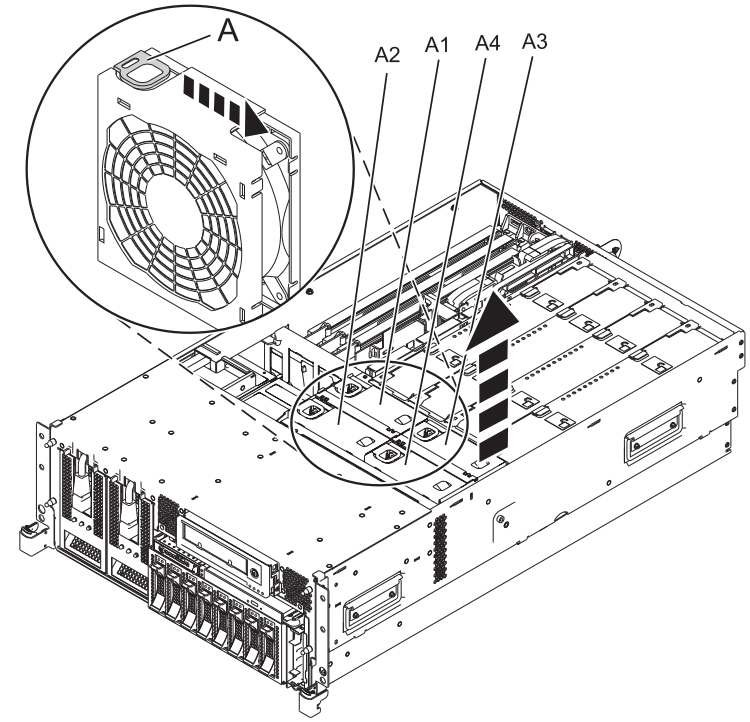


Figure 13. Fan removal

b. Remove the blue air baffles as shown in the following figure.

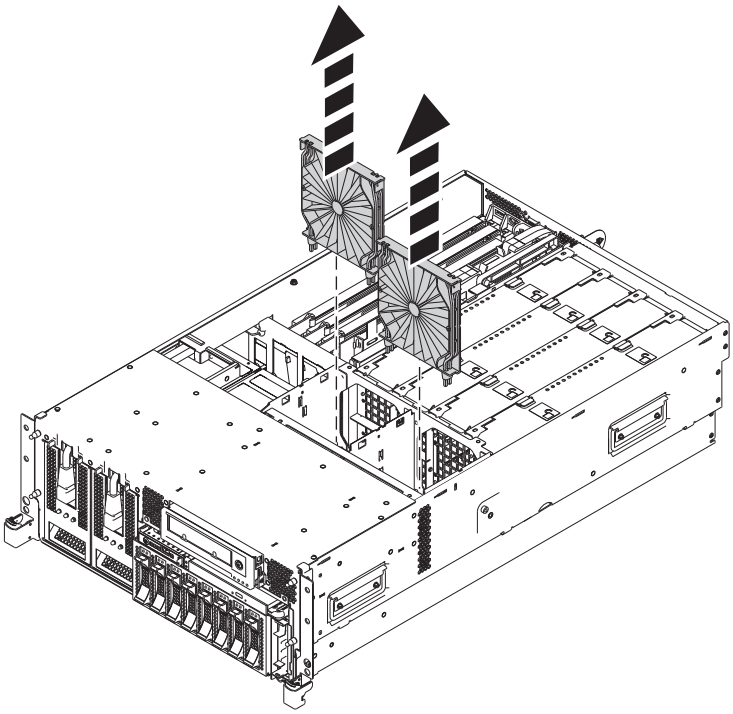


Figure 14. Air baffle removal

c. Remove the fan cage **(B)** by unscrewing the thumbscrews **(A)** and lifting out the fan cage.

Note: If the thumbscrews are too tight, you might need a flat-head screwdriver to complete this step. To pull the fan cage out of the system, you might need to unplug the control panel cable to allow more space.

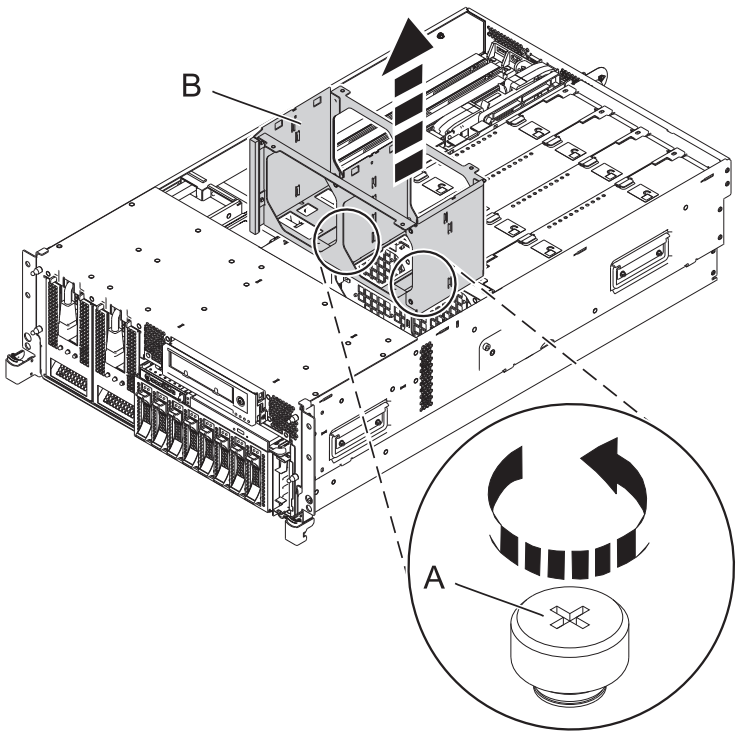
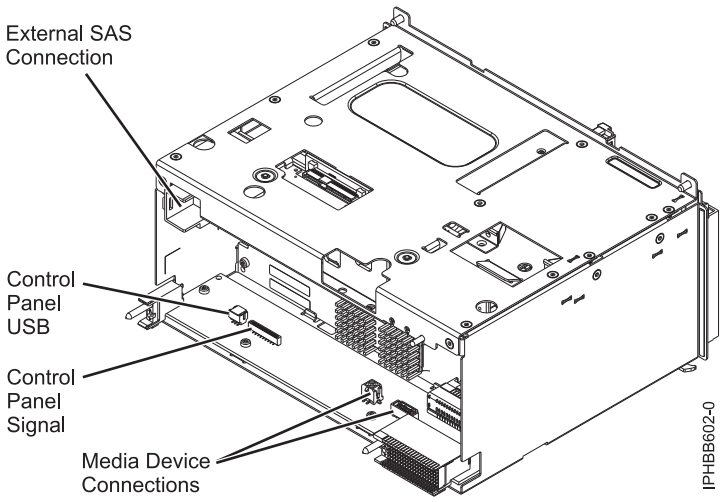
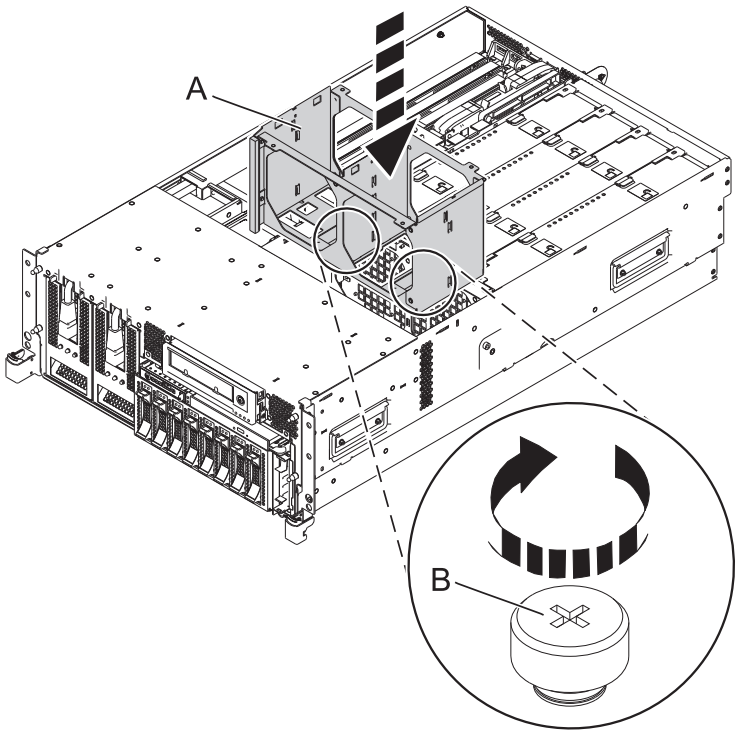


Figure 15. Fan cage removal

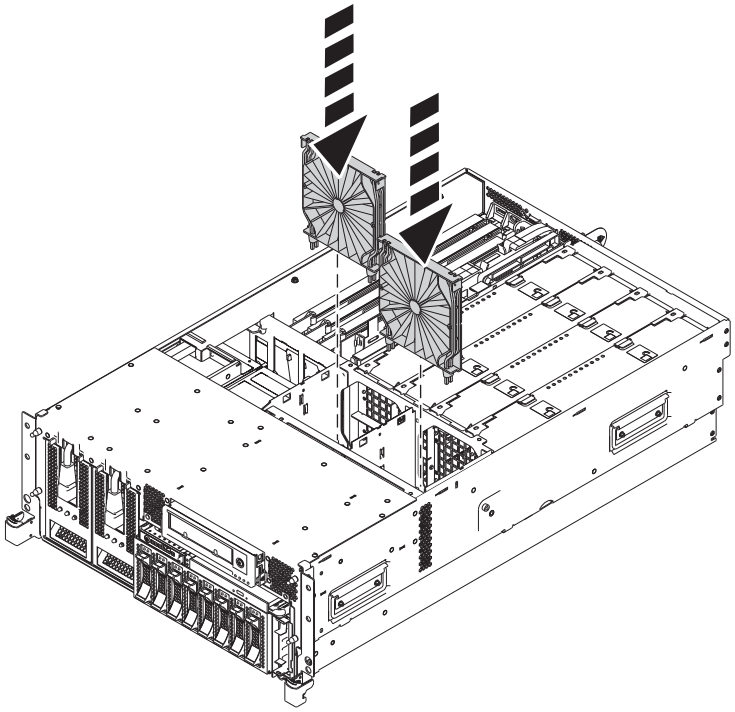
11. Connect the SAS cable to the drive.
12. Attach the media-device connections to the system backplane.



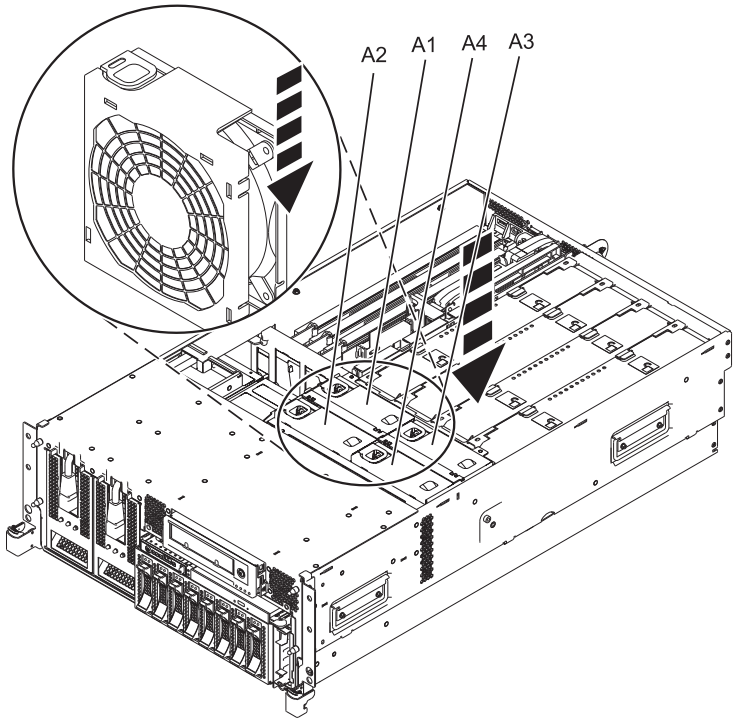
13. Reinstall the fans and fan cage.
    a. Replace the fan cage by inserting it into the system and tightening the thumbscrews **(B)**.



b. Replace the blue air baffles as shown in the following figure.



c. Replace the fans by inserting them into the fan cage until they lock into place, as shown in the following figure.



14. Install the service access cover. See Installing the service access cover on a rack-mounted system for instructions.
15. Attach the front cover. See Installing the front cover on the rack-mounted system.
16. Connect the power cords to the system.
17. Start the system. See Starting the system or logical partition.
18. Verify that the media device is installed and working correctly. See Verifying the installed part.

Related information

Installing a feature using the Hardware Mangement Console

Removing a Slimline media device in the 33E/8B or 36E/8C with power on

You can remove a Slimline media device.

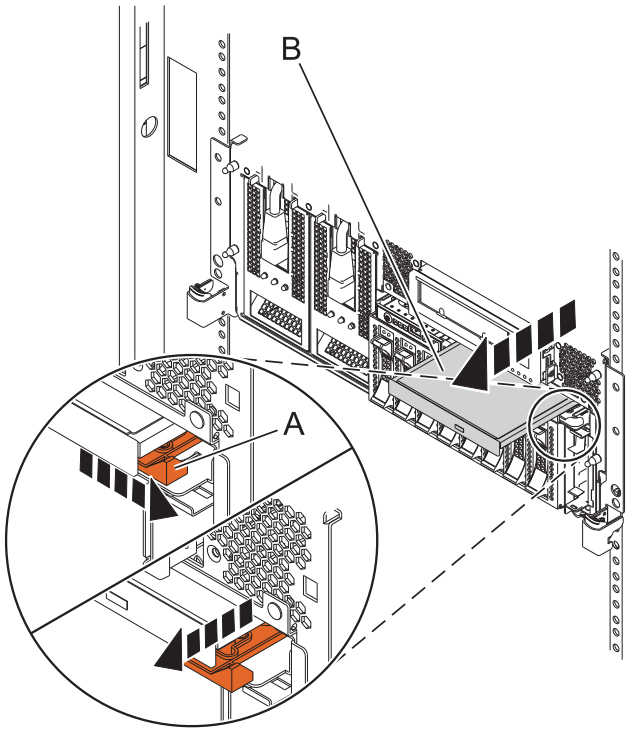
Before you begin

Before you remove a media device, perform the prerequisite tasks described in Before you begin.

To remove a Slimline media device, complete the following steps:

Procedure

1. Remove any media from the drive.
2. Remove the front cover. See Removing the front cover from a rack-mounted system.
3. Press the retaining tab **(A)** away from the Slimline media device until it is unseated from the media bay as shown.



4. Pull the Slimline media device **(B)** away from the system.

Installing a Slimline media device in 33E/8B or 36E/8C

You can install a Slimline media device.

About this task

If your system is managed by the Systems Director Management Console (SDMC), use the SDMC to complete the steps for installing a feature in the server. For instructions, see Removing a part using the Systems Director Management Console.

If your system is managed by the Hardware Management Console (HMC), use the HMC to complete the steps for installing a feature in the server. For information about using the HMC to install a feature, see Installing a feature using the Hardware Management Console.

If you do not have an HMC or SDMC, complete the following steps to install a media device from the system or partition that controls the media device:

Note: The 33E/8B and 36E/8C support only one Slimline media device per processor.

To install a Slimline media device for models 33E/8B and 36E/8C with the system or partition powered off, follow these steps from the system or partition that controls the media device:

Procedure

1. Stop the system. For instructions, see http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7haj/crustopsys.htm.

   Attention: Media devices are fragile. Handle with care.
2. Remove the system unit front cover. For instructions, see Removing the front cover from a rack-mounted system.
3. Find the package that contains the new media device and remove it from the static-protective package.

   Attention:

   - Attach a wrist strap to an unpainted surface of your hardware to prevent electrostatic discharge (ESD) from damaging your hardware.
   - When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
   - If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted surface of the system for a minimum of 5 seconds.
4. Remove the media-device filler, if present.
5. Align the media device with the Slimline media bay, and support the bottom of the device as you slide it halfway into the system.
6. Push the device **(A)** fully into the system as shown in the following figure. To ensure that the device is held firmly in place, push in the plastic retaining tab **(B)**.

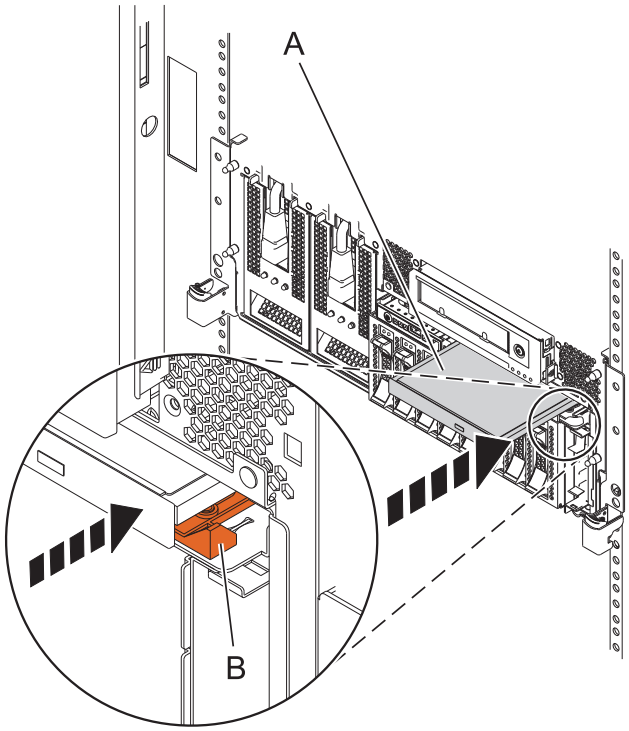


Figure 16. Installation of a Slimline media device

7. Start the system. For instructions on starting the system, see Starting the system or logical partition.
8. Verify that the new resource is functional. See Verifying the installed part.
9. Replace the front cover on the system. For instructions, see Installing the front cover on the rack-mounted system.
10. Close the front rack door, if this is a rack-mounted model.

Related information

Installing a feature using the Hardware Mangement Console

Removing a universal serial bus disk drive from 33E/8B

Learn to remove the universal serial bus (USB) disk drive to service the system or replace a failed drive.

About this task

Before you remove a media device, perform the prerequisite tasks described in Before you begin.

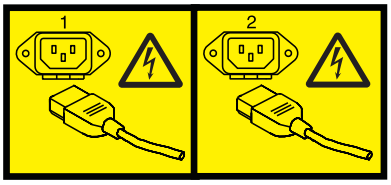
To remove a USB disk drive media device, complete the following steps:

Procedure

1. Power off the system. See Stopping the system or logical partition.
2. Disconnect the power cords from the system.

   Note: This system has a second power supply. Before continuing with this procedure, ensure that the power source to the system has been disconnected.

   (L003)

   or

3. Remove the front cover. See Removing the front cover.
4. Place the system into the service position. See Placing the system into the service position.
5. Remove the service access cover. See Removing the service access cover.
6. Attach the wrist strap.

Attention:

- Attach a wrist strap to an unpainted surface of your hardware to prevent electrostatic discharge (ESD) from damaging your hardware.
- When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
- If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted surface of the system for a minimum of 5 seconds.

7. Remove the fans.
   a. Remove the fan by squeezing the tab **(A)** and lifting it out of the system as shown in the following figure.

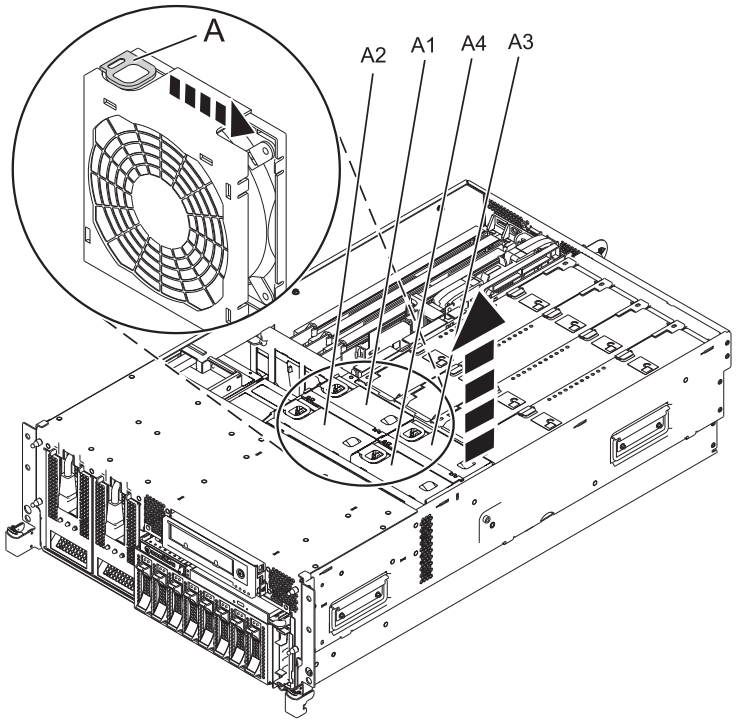


Figure 17. Fan removal

   b. Remove the blue air baffles as shown in the following figure.

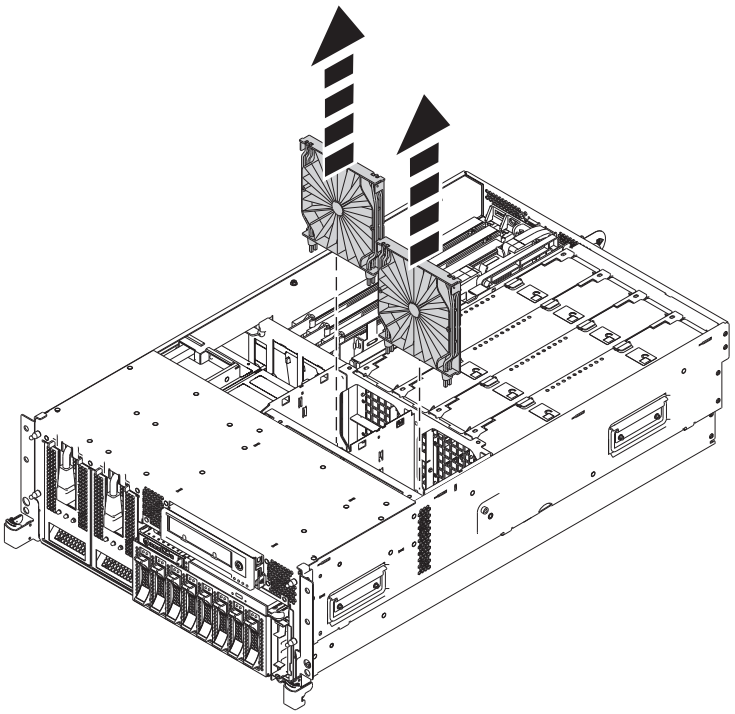


Figure 18. Air baffle removal

8. Remove the fans and fan cage.

   Note: Although the following figures show a media device, you have already removed the media device filler and your system will have an empty space until you complete all the steps.

   a. Remove the fan by squeezing or lifting the tab **(A)** and lifting it out of the system, as shown in the following figure.

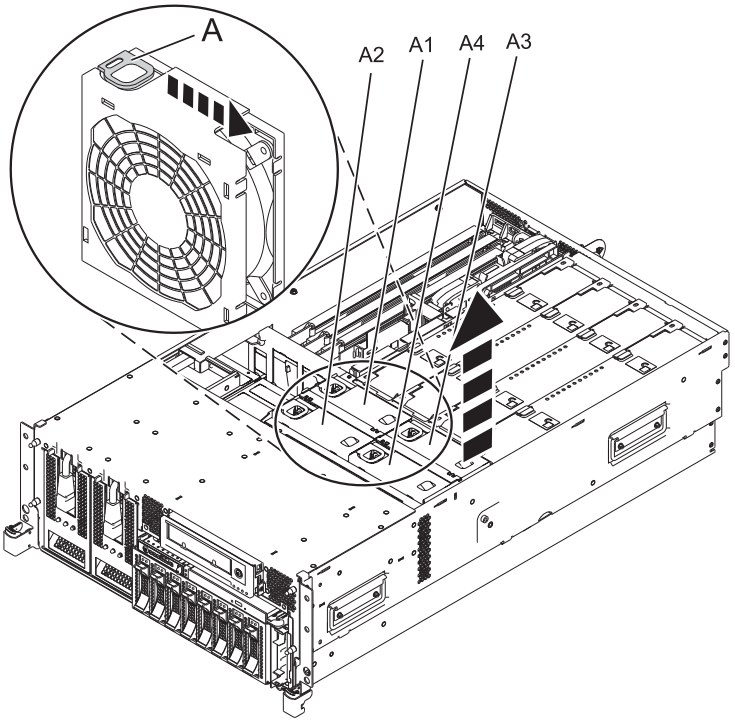


Figure 19. Fan removal

Remove the blue air baffles as shown in the following figure.

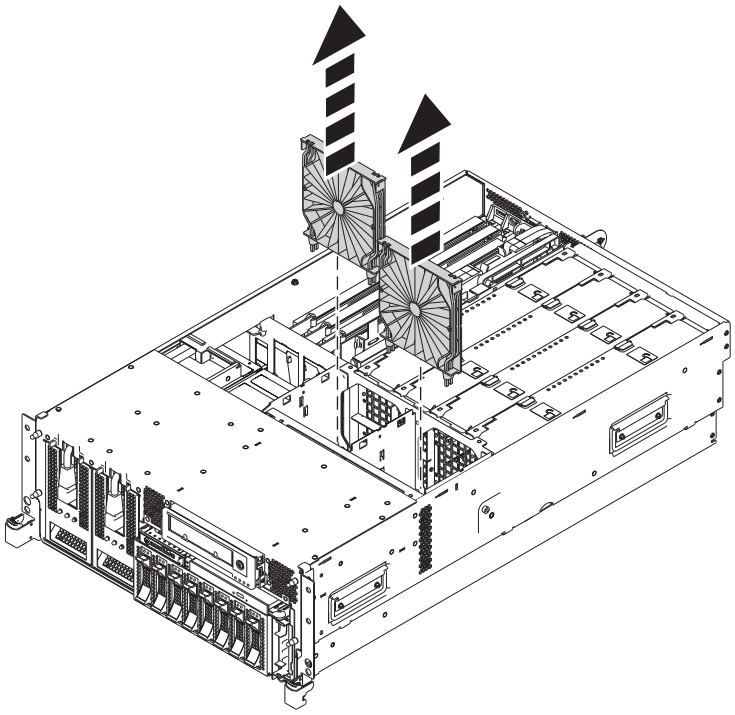


Figure 20. Air baffle removal

Remove the fan cage **(B)** by unscrewing the thumbscrews **(A)** and lifting out the fan cage.

Note: If the thumbscrews are too tight, you might need a flat-head screwdriver to complete this step. To pull the fan cage out of the system, you might need to unplug the control panel cable to allow more space.

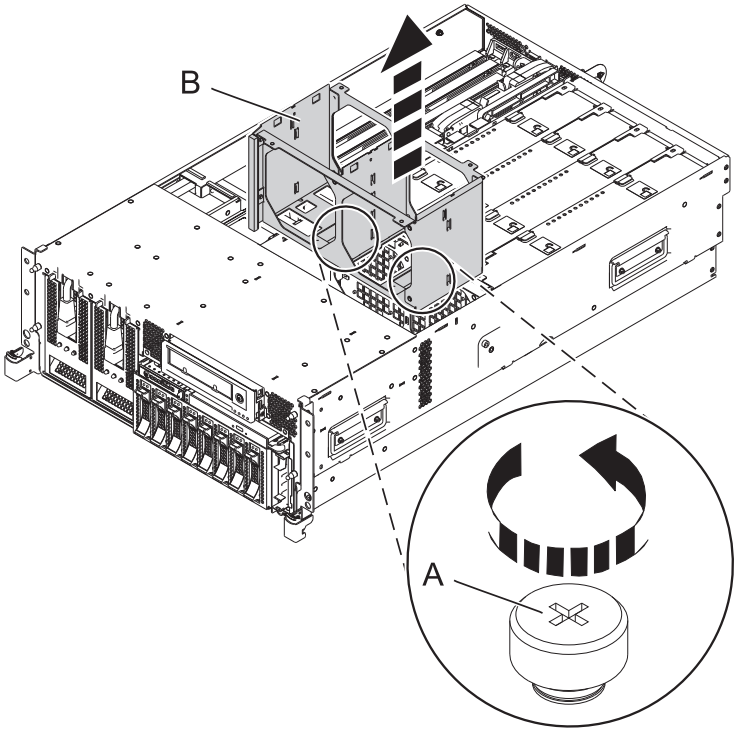
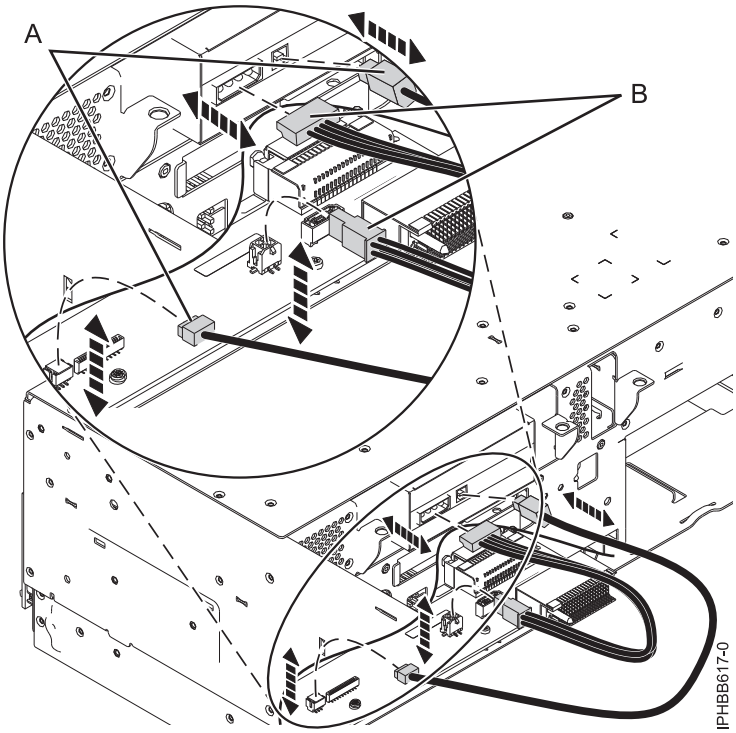


Figure 21. Fan cage removal

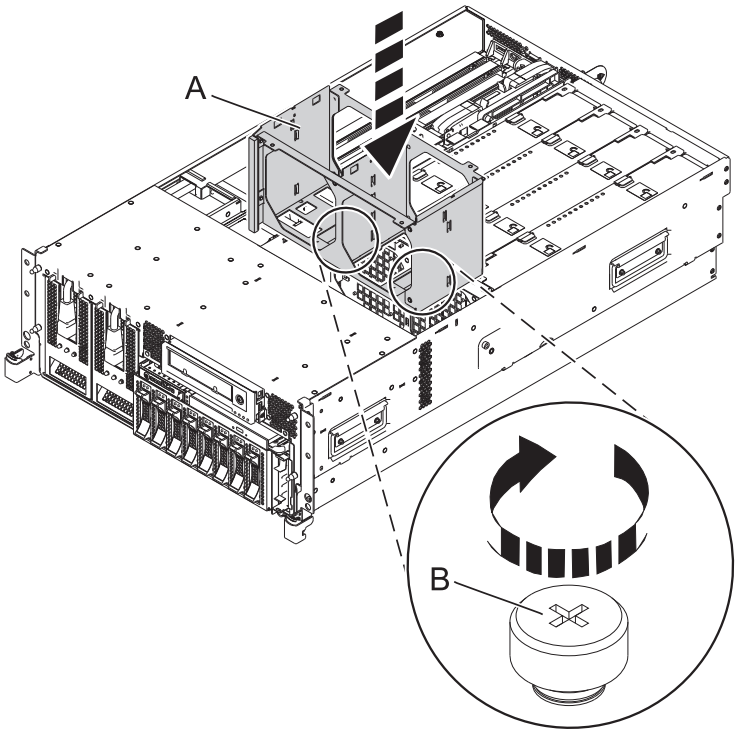
9. Disconnect the media-device connections from the system backplane.



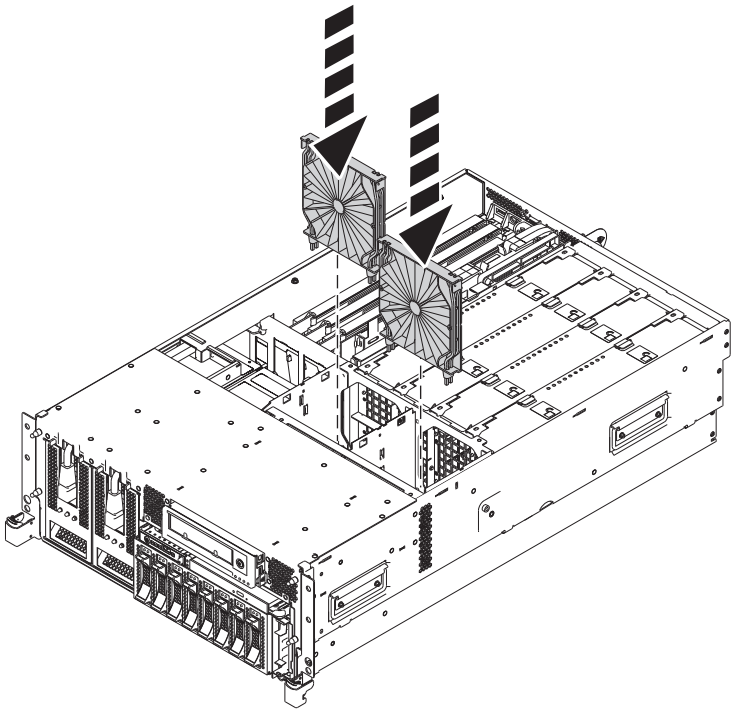
Note:

- When removing cables, ensure that you release any cable locks.
- Optional: If you do not intend to replace the USB disk drive, you can reconnect the control panel USB cable and media connections.

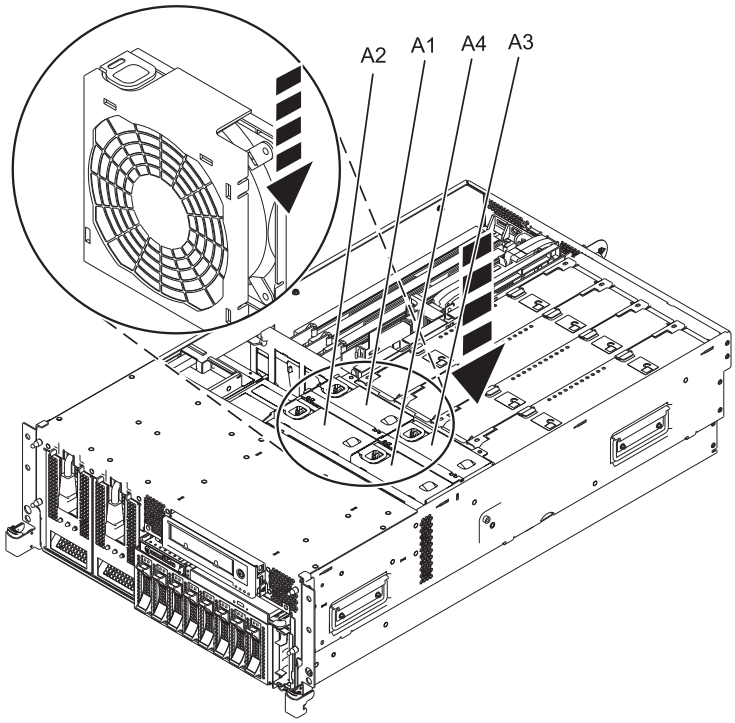
10. Reattach any other cables that you previously disconnected from the backplane.
11. Reinstall the fans into the 33E/8B or 36E/8C system.
    a. Replace the fan cage by inserting it into the system and tightening the thumbscrews **(B)**.



Replace the blue air baffles as shown in the following figure.

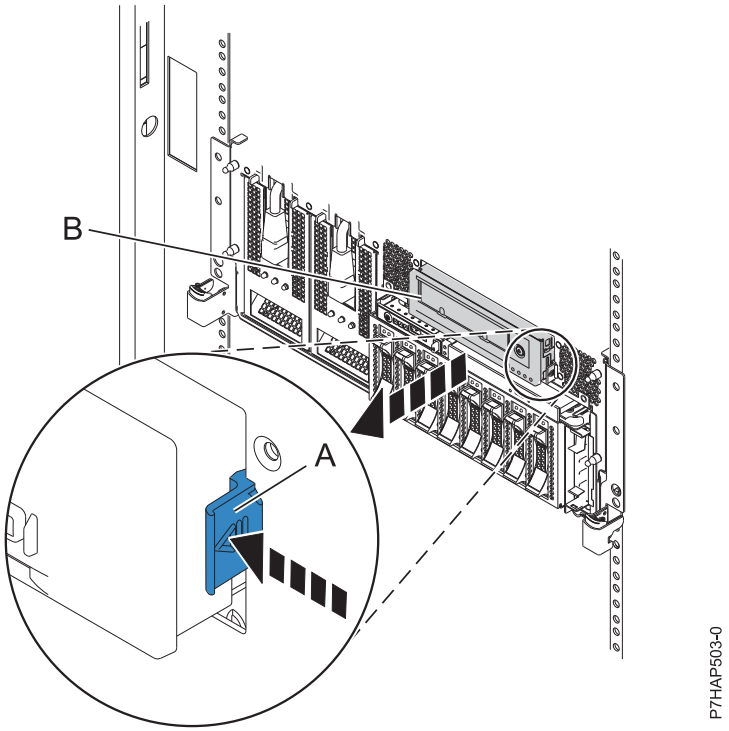


Replace the fans by inserting them into the fan cage until they lock into place, as shown in the following figure.



12. Press the release latch **(A)** and unseat the media device **(B)** from the system as shown.

    Note: You need to remove the media cables **(A)** and **(B)** provided at the back of the device before removing the media device.



13. Pull the media device from the system.
14. If you removed the media device as a part of another procedure, return to that procedure.
15. If you removed the media device to replace the media device, see “Installing a universal serial bus disk drive in 33E/8B” on page 11.

Related information

Removing and replacing a disk drive backplane

Installing a universal serial bus disk drive in 33E/8B

You can install a universal serial bus (USB) disk drive.

About this task

If your system is managed by the Systems Director Management Console (SDMC), use the SDMC to complete the steps for installing a feature in the server. For instructions, see Removing a part using the Systems Director Management Console.

If your system is managed by the Hardware Management Console (HMC), use the HMC to complete the steps for installing a feature in the server. For information about using the HMC to install a feature, see Installing a feature using the Hardware Management Console.

If you do not have an HMC or SDMC, complete the following steps to install a USB disk drive:

Before you install a USB disk drive, perform the prerequisite tasks described in http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7haj/beforebegin.htm.

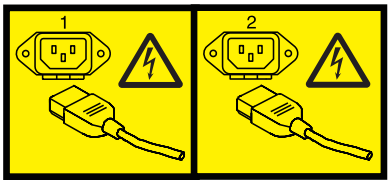
To install a USB disk drive, do the following steps:

Procedure

1. Power off the system. See http://publib.boulder.ibm.com/infocenter/powersys/v3r1m5/topic/p7haj/crustopsys.htm.
2. Disconnect the power cords from the system.

   Note: This system has a second power supply. Before continuing with this procedure, ensure that the power source to the system has been disconnected.

   (L003)

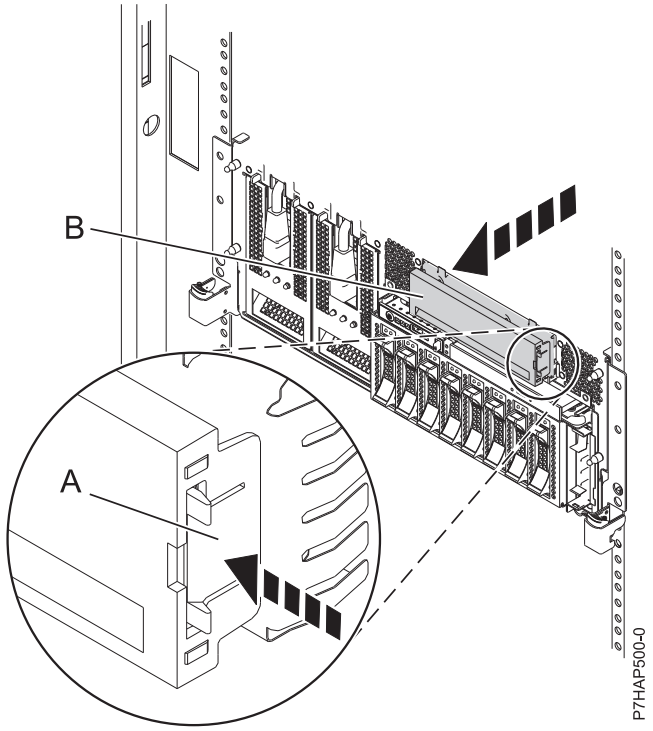
   

   or

3. Place the system into the service position. See Placing the system into the service position.
4. Remove the front cover. See Removing the front cover for instructions.
5. Remove the service access cover. See Removing the service access cover for instructions.
6. Attach the wrist strap.

   Attention:

   - Attach a wrist strap to an unpainted surface of your hardware to prevent electrostatic discharge (ESD) from damaging your hardware.
   - When using a wrist strap, follow all electrical safety procedures. A wrist strap is for static control. It does not increase or decrease your risk of receiving electric shock when using or working on electrical equipment.
   - If you do not have a wrist strap, just prior to removing the product from ESD packaging and installing or replacing hardware, touch an unpainted surface of the system for a minimum of 5 seconds.
7. Remove the media device filler, if present, as shown in the following figure.



8. Remove the fans and fan cage.

   Note: Although the following figures show a media device, you have already removed the media device filler and your system will have an empty space until you complete all the steps.

   a. Remove the fan by squeezing or lifting the tab **(A)** and lifting it out of the system, as shown in the following figure.

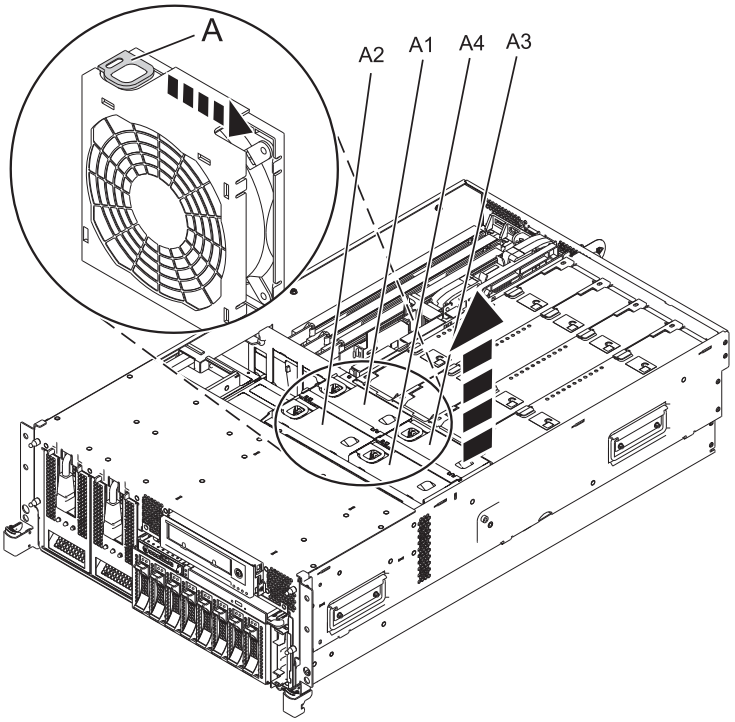


Figure 22. Fan removal

Remove the blue air baffles as shown in the following figure.

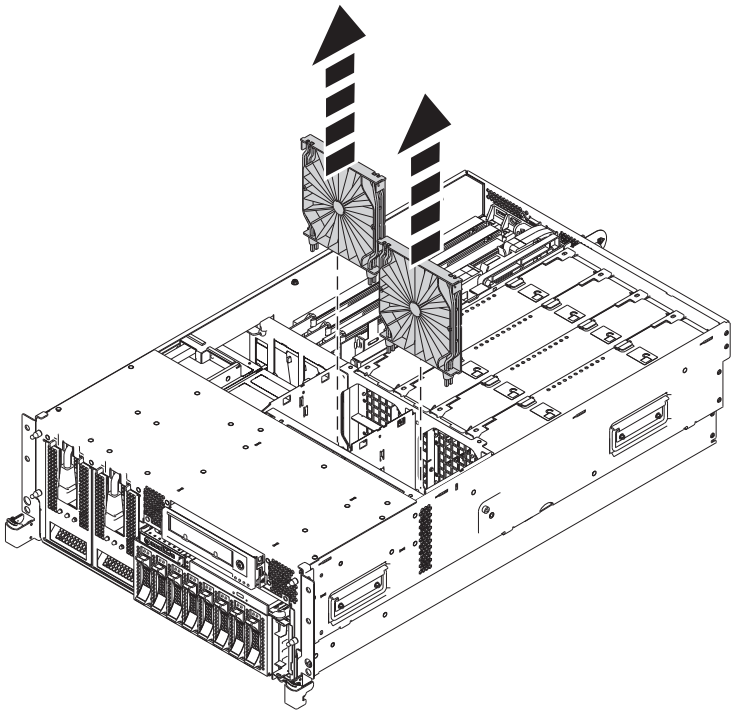


Figure 23. Air baffle removal

Remove the fan cage **(B)** by unscrewing the thumbscrews **(A)** and lifting out the fan cage.

Note: If the thumbscrews are too tight, you might need a flat-head screwdriver to complete this step. To pull the fan cage out of the system, you might need to unplug the control panel cable to allow more space.

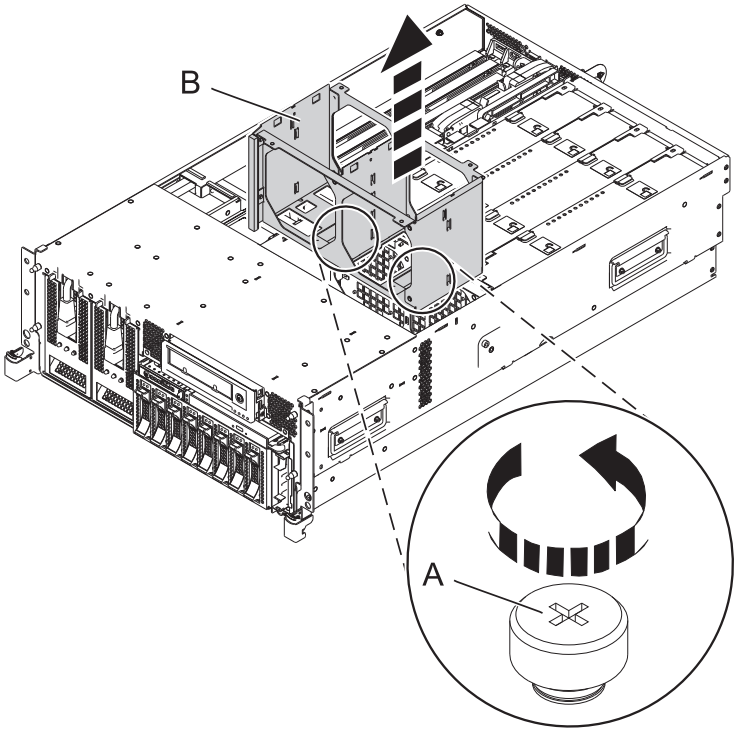
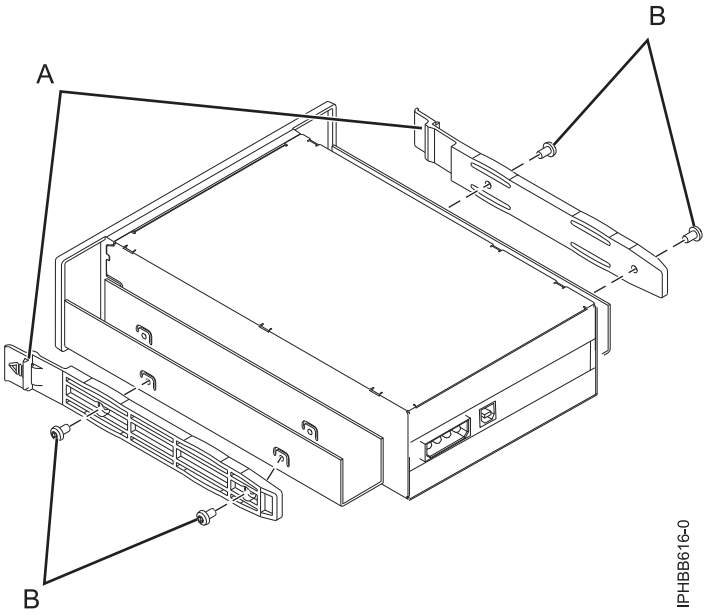


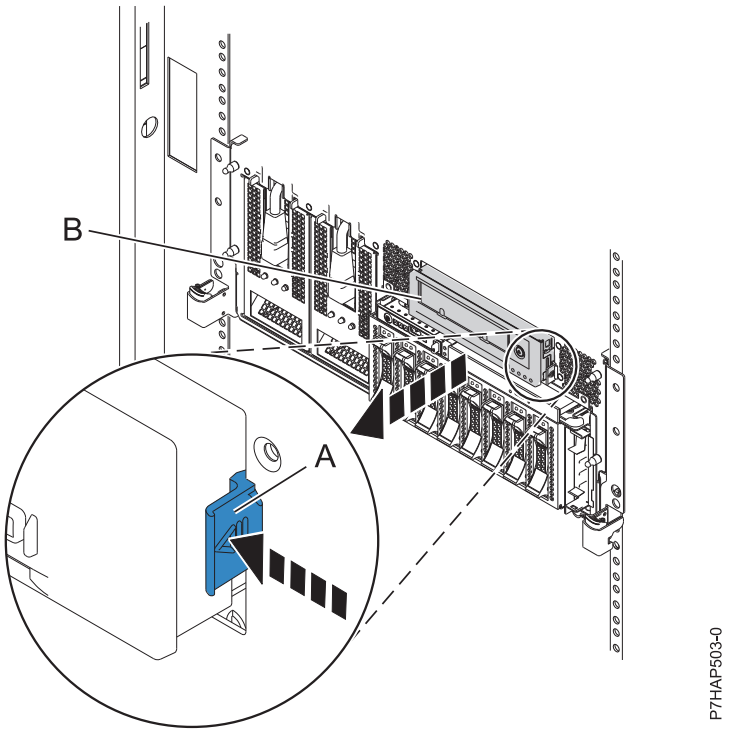
Figure 24. Fan cage removal

9. Install the rails **(A)** onto the media device using the two small screws **(B)** included with your media device. Place the rails on each side of the media device. Screw the rails into the side of the media device using the lower screw hole.



10. Press the media device **(A)** into the system until you feel the latches **(B)** lock in place as shown.

Note: You need to attach the media cables **(A)** and **(B)** provided at the back of the device before installing the media device.



11. Attach the media-device connections **(A)** and **(B)** to the system backplane. The connection for cable **(A)** on the backplane is already occupied. Remove the existing cable and replace it with cable **(A)**.

    Note: The USB connection on the front panel is now inoperative.

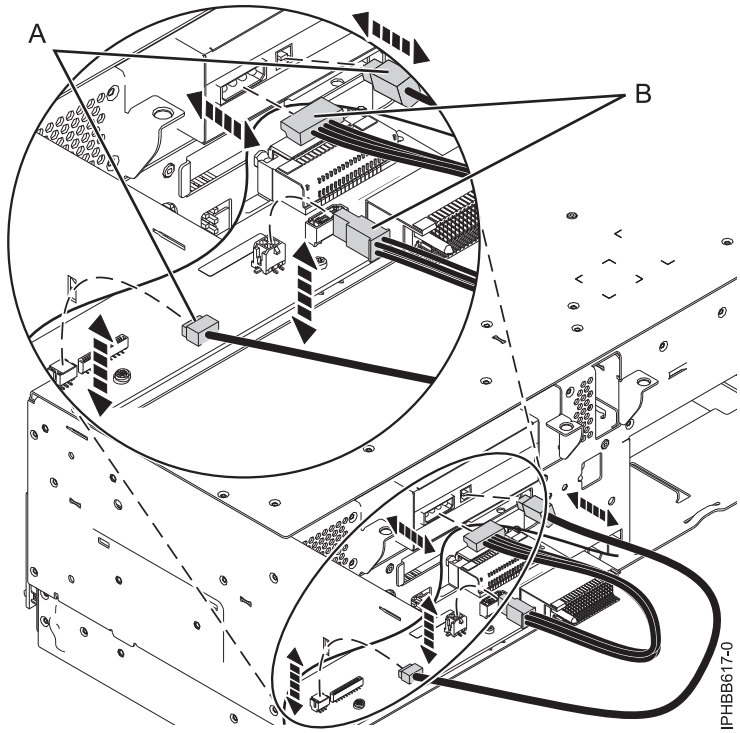
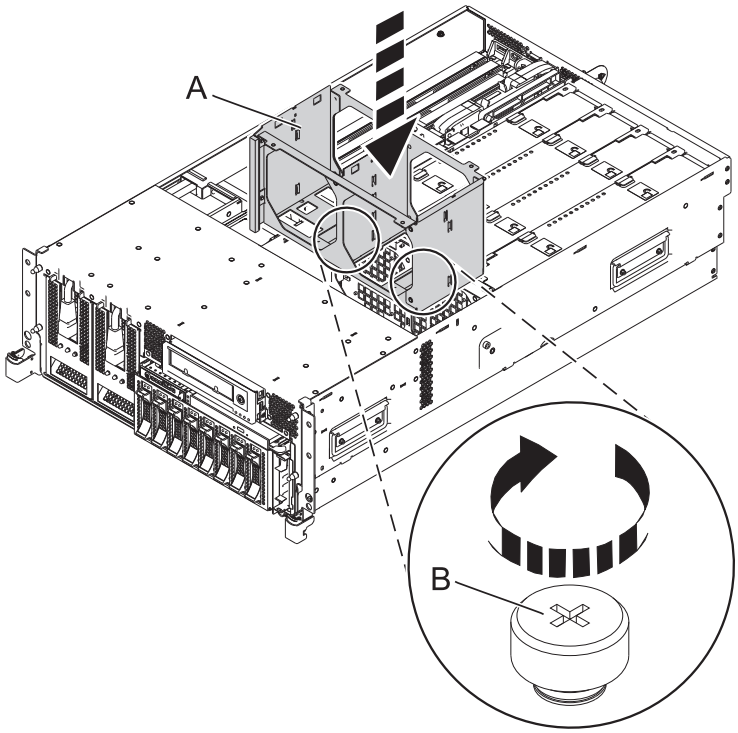
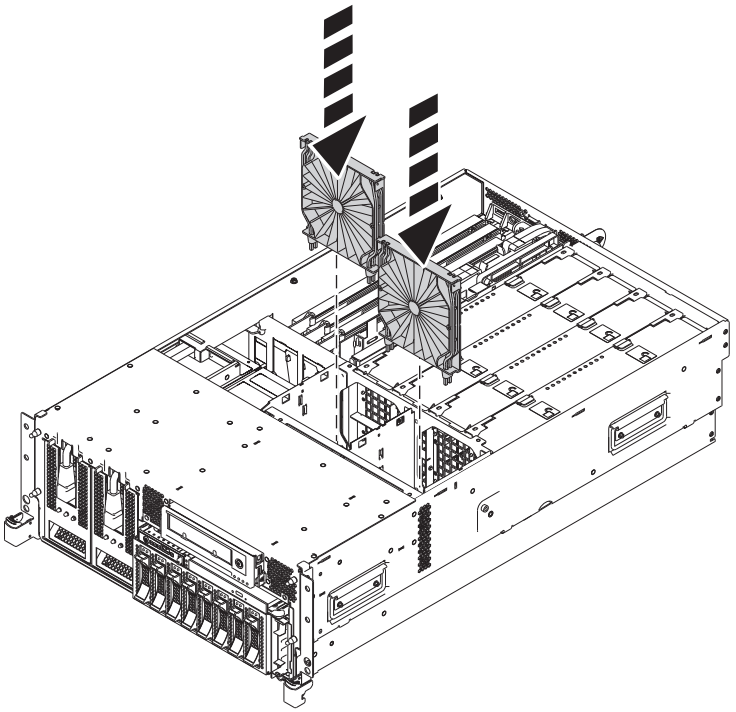


Figure 25. Attaching the media device connections to the system backplane of a 33E/8B or 36E/8C system

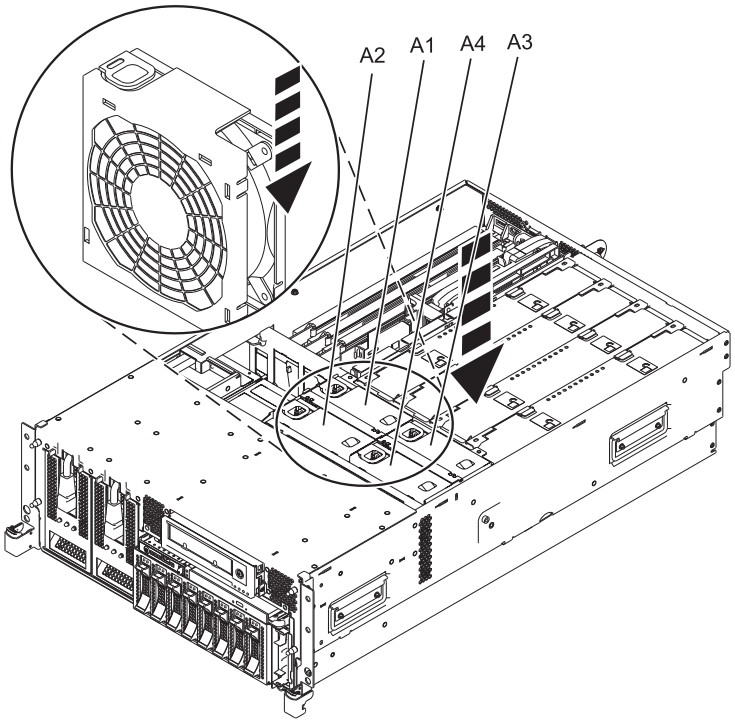
12. Reattach any other cables that you previously disconnected from the backplane.
13. Reinstall the fans into the 33E/8B or 36E/8C system.
    a. Replace the fan cage by inserting it into the system and tightening the thumbscrews **(B)**.



Replace the blue air baffles as shown in the following figure.



Replace the fans by inserting them into the fan cage until they lock into place, as shown in the following figure.



14. Install the service access cover. See Installing the service access cover on a rack-mounted model for instructions.
15. Attach the front cover. See Installing the front cover on the rack-mounted system.
16. Connect the power cords to the system.
17. Start the system. See Starting the system or logical partition.

18. Configure the removable disk drive by performing the following steps:
    a. For the AIX operating system, log in as `root` user.
    b. At the command line, type `cfgmgr`.
    c. Press Enter.
    d. To verify that the system recognizes the device, run the `lsdev -Cc usbms` command.

    Note: The Linux operating system automatically configures the drive as a disk drive with a name in the format `sdx`, for example, sda, sdb, and sdc. To verify if the system recognizes the device, enter `lsusb`. To find the device that is associated with the USB disk drive, enter `lsscsi`.
19. Verify that the media device is installed and working correctly. See Verifying the installed part.

Related information

Removing and replacing a disk drive backplane

Installing an external USB docking station and removable disk drive with power on

You can install an external universal serial bus (USB) disk enclosure and removable disk drive.

About this task

Keep in mind the following points when you install the USB external docking station for a removable disk drive:

- A rack shelf is not included with feature code 1104.
- The docking station can be rested on a flat surface in a rack or on a table top next to a rack.
- Ensure that the device is on a flat surface, is right side up, and is not likely to be bumped, dropped, or otherwise damaged or jolted.
- If the docking station is placed by itself on a rack shelf, it has space on the sides of the device. No filler panels are provided with the docking station.
- If the docking station is placed on a rack shelf, ensure that the docking station has sufficient air flow. Also ensure that it does not affect the air flow of the other systems in the rack.
- Do not block the fan on the back of the docking station.
- The external USB disk drive can be installed while the system is powered on and needs to be configured following the installation.

If your system is managed by the Systems Director Management Console (SDMC), use the SDMC to complete the steps for installing a media enclosure. For instructions, see Removing a part using the Systems Director Management Console.

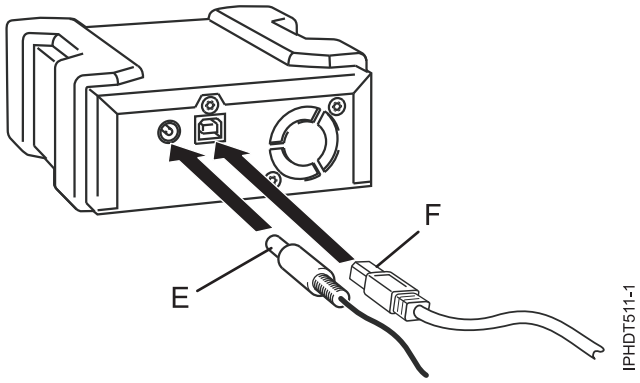
If your system is managed by the Hardware Management Console (HMC), use the HMC to complete the steps for installing a feature in the server. For information about using the HMC for installing a media enclosure, see Installing a feature using the Hardware Management Console.

If you do not have an HMC or SDMC, install the docking station by completing the following steps:

To install the docking station, complete the following steps:

Procedure

1. Place the docking station on a flat service. Use the previous guidelines when selecting a location.
2. Attach one end of the external USB cable (F) to the back of the external docking station.



3. Attach the other end of the external USB cable (F) to an external, integrated USB port or to the USB ports on a four-port USB PCI Express® adapter (feature code 2728).
4. Attach the power supply cord (E) to the back of the external docking station and plug it into a power source. In addition to the external power supply cord, there are also universal adapters to be used as needed.
5. After the docking station is powered on, insert the disk drive into the docking station. A green indicator light appears when the disk drive is placed into the dock correctly.
6. Configure the removable disk drive by performing the following steps:
   a. For the AIX operating system, log in as `root` user.
   b. At the command line, type `cfgmgr`.
   c. Press Enter.
   d. To verify that the system recognizes the device, run the `lsdev -Cc usbms` command.

   Note: The Linux operating system automatically configures the drive as a disk drive with a name in the format `sdx`, for example, sda, sdb, and sdc. To verify if the system recognizes the device, enter `lsusb`. To find the device that is associated with the USB disk drive, enter `lsscsi`.
7. Verify that the media device is installed and working correctly. See Verifying the installed part.

Related information


USB Removable Disk Drive (FC 1103, 1104, 1106, 1107)

Common procedures for installable features

This section contains all the common procedures that are related to installing, removing, and replacing features.

Before you begin

Observe these precautions when you are installing, removing, or replacing features and parts.

About this task

These precautions are intended to create a safe environment to service your system and do not provide steps for servicing your system. The installation, removal and replacement procedures provide the step-by-step processes required to service your system.

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- **Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.**
- **Do not open or service any power supply assembly.**
- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.**
- **Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.**
- **Connect any equipment that will be attached to this product to properly wired outlets.**
- **When possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.**

  To Disconnect:

  1. **Turn off everything (unless instructed otherwise).**
  2. **Remove the power cords from the outlets.**
  3. **Remove the signal cables from the connectors.**
  4. **Remove all cables from the devices**

  To Connect:

  1. **Turn off everything (unless instructed otherwise).**
  2. **Attach all cables to the devices.**
  3. **Attach the signal cables to the connectors.**
  4. **Attach the power cords to the outlets.**
  5. **Turn on the devices.**

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DANGER

Observe the following precautions when working on or around your IT rack system:

- **Heavy equipment–personal injury or equipment damage might result if mishandled.**
- **Always lower the leveling pads on the rack cabinet.**
- **Always install stabilizer brackets on the rack cabinet.**
- **To avoid hazardous conditions due to uneven mechanical loading, always install the heaviest devices in the bottom of the rack cabinet. Always install servers and optional devices starting from the bottom of the rack cabinet.**
- **Rack-mounted devices are not to be used as shelves or work spaces. Do not place objects on top of rack-mounted devices.**

- **Each rack cabinet might have more than one power cord. Be sure to disconnect all power cords in the rack cabinet when directed to disconnect power during servicing.**
- **Connect all devices installed in a rack cabinet to power devices installed in the same rack cabinet. Do not plug a power cord from a device installed in one rack cabinet into a power device installed in a different rack cabinet.**
- **An electrical outlet that is not correctly wired could place hazardous voltage on the metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.**

CAUTION

- **Do not install a unit in a rack where the internal rack ambient temperatures will exceed the manufacturer's recommended ambient temperature for all your rack-mounted devices.**
- **Do not install a unit in a rack where the air flow is compromised. Ensure that air flow is not blocked or reduced on any side, front, or back of a unit used for air flow through the unit.**
- **Consideration should be given to the connection of the equipment to the supply circuit so that overloading of the circuits does not compromise the supply wiring or overcurrent protection. To provide the correct power connection to a rack, refer to the rating labels located on the equipment in the rack to determine the total power requirement of the supply circuit.**
- *(For sliding drawers.)* **Do not pull out or install any drawer or feature if the rack stabilizer brackets are not attached to the rack. Do not pull out more than one drawer at a time. The rack might become unstable if you pull out more than one drawer at a time.**
- *(For fixed drawers.)* **This drawer is a fixed drawer and must not be moved for servicing unless specified by the manufacturer. Attempting to move the drawer partially or completely out of the rack might cause the rack to become unstable or cause the drawer to fall out of the rack.**

(R001)

Before you begin a replacement or installation procedure, perform these tasks:

Procedure

1. If you are installing a new feature, ensure that you have the software required to support the new feature.
2. If you are performing an installation or replacement procedure that might put your data at risk, ensure, wherever possible, that you have a current backup of your system or logical partition (including operating systems, licensed programs, and data).
3. Review the installation or replacement procedure for the feature or part.
4. Note the significance of color on your system.

Blue or terra-cotta on a part of the hardware indicates a touch point where you can grip the hardware to remove it from or install it in the system, open or close a latch, and so on. Terra-cotta might also indicate that the part can be removed and replaced with the system or logical partition power on.

5. Ensure that you have access to a medium flat-blade screwdriver, a Phillips screwdriver, and a pair of scissors.
6. If parts are incorrect, missing, or visibly damaged, do the following:
   - If you are replacing a part, contact the provider of your parts or next level of support.
   - If you are installing a feature, contact one of the following service organizations:
     - The provider of your parts or next level of support.
7. If you encounter difficulties during the installation, contact your service provider, or your next level of support.
8. If you are installing new hardware in a logical partition, you need to understand and plan for the implications of partitioning your system. For information, see Logical Partitioning.

Identifying a part

Use these instructions to learn how to identify the location of a failed part, the location of a part to be removed, or the location to install a new part on your system or expansion unit using the appropriate method for your system.

About this task

For systems servers that contain the POWER7® processor, the light-emitting diodes (LEDs) can be used to identify or verify the location of a part that you are removing, servicing, or installing.

The fault (amber) LED indicates an error and corresponds to the location code in the system reference code (SRC). The LED is activated and deactivated automatically.

If you need to use the identify function, use the following procedures.

Identifying a failing part in an AIX system or logical partition

Use these instructions to learn how to locate a failing part, and then activate the indicator light for that part on a system or logical partition running the AIX operating system.

Locating a failing part in an AIX system or logical partition

You might need to use AIX tools, before activating the indicator light, to locate a part that is failing.

Procedure

1. Log in as root user or `celogin-`.
2. At the command line, type `diag` and press Enter.
3. From the Function Selection menu, select **Task Selection** and press Enter.
4. Select **Display Previous Diagnostic Results** and press Enter.
5. From the Display Previous Diagnostic Results display, select **Display Diagnostic Log Summary**. The Display Diagnostic Log display shows a chronological list of events.
6. Look in the **T** column for the most recent **S** entry. Select this row in the table and press Enter.
7. Select **Commit**. The details of this log entry are shown.
8. Record the location information and the SRN value shown near the end of the entry.
9. Exit to the command line.

What to do next

Use the location information for the failing part to activate the indicator light that identifies the failing part. “Activating the indicator light for the failing part.”

Activating the indicator light for the failing part

Use these instructions to help physically identify the location of a part you are servicing.

Procedure

1. Log in as root user.
2. At the command line, type `diag` and press Enter.
3. From the Function Selection menu, select **Task Selection** and press Enter.
4. From the Task Selection menu, select **Identify and Attention Indicators** and press Enter.
5. From the list of lights, select the location code for the failing part and press Enter.
6. Select **Commit**. This turns on the system attention and indicator light for the failing part.
7. Exit to the command line.

Deactivating the failing-part indicator light

Use this procedure to turn off any indicator light that you turned on as a part of a service action.

About this task

To deactivate the indicator light, follow these steps:

Procedure

1. Log in as root user.
2. At the command line, type `diag` and press Enter.
3. From the Function Selection menu, select **Task Selection** and press Enter.
4. From the Task Selection menu, select **Identify and Attention Indicators** and press Enter.
5. From the list of lights, select the location code for the failing part and press Enter. When a light is activated for a failing part, an `I` character precedes the location code.
6. Select **Commit**. This turns off the system attention and indicator light for the failing part.
7. Exit to the command line.

Identifying a failing part in a Linux system or logical partition

If the service aids have been installed on a system or logical partition, you can activate or deactivate the indicator lights to locate a part or compete a service action.

Locating a failing part in a Linux system or logical partition

If the service aids have been installed on a system or logical partition, you need to activate the indicator lights to locate a part.

About this task

To activate the indicator light, follow these steps:

Procedure

1. Log in as root user.
2. At the command line, type `/usr/sbin/usysident -s identify -l`*location code* and press Enter.
3. Look for the system attention light to identify the enclosure that contains the failing part.

Finding the location code of a failing part in a Linux system or logical partition

To retrieve the location code of the failing part, if you do not know the location code, use the procedure in this topic.

About this task

To locate the failing part in a system or logical partition follow these steps:

Procedure

1. Log in as root user.
2. At the command line, type `grep diagela /var/log/platform` and press Enter.
3. Look for the most recent entry that contains a system reference code (SRC).
4. Record the location information.

Activating the indicator light for the failing part

If you know the location code of the failing part, activate the indicator light to help you locate which part to replace.

About this task

To activate the indicator light, follow these steps:

Procedure

1. Log in as root user.
2. At the command line, type `/usr/sbin/usysident -s identify -l`*location code* and press Enter.
3. Look for the system attention light to identify the enclosure that contains the failing part.

Results

Deactivating the failing-part indicator light

After you complete a removal and replacement procedure, you must deactivate the failing-part indicator light.

About this task

To deactivate the indicator light, follow these steps:

Procedure

1. Log in as root user.
2. At the command line, type `/usr/sbin/usysident -s normal -l`*location code* and press Enter.

Locating a failing part in a Virtual I/O Server system or logical partition

You can use Virtual I/O Server (VIOS) tools, before activating the indicator light, to locate a part that is failing.

Procedure

1. Log in as root user or `celogin-`.
2. At the command line, type `diagmenu` and press Enter.
3. From the **Function Selection** menu, select **Task Selection** and press Enter.
4. Select **Display Previous Diagnostic Results** and press Enter.
5. From the **Display Previous Diagnostic Results** display, select **Display Diagnostic Log Summary**. A **Display Diagnostic Log** display appears. This display contains a chronological list of events.

6. Look in the **T** column for the most recent **S** entry. Select this row in the table and press Enter.
7. Choose **Commit**. The details of this log entry are shown.
8. Record the location information and the SRN value shown near the end of the entry.
9. Exit to the command line.

Results

Use the location information for the failing part to activate the indicator light that identifies the failing part. For instructions, see "Identifying a part by using the Virtual I/O Server."

Identifying a part by using the Virtual I/O Server

Use these instructions to turn on the indicator light to help you physically locate a part by using the Virtual I/O Server (VIOS).

Procedure

1. Log in as root user.
2. At the command line, type `diagmenu` and press Enter.
3. From the Function Selection menu, select **Task Selection**. Press Enter.
4. From the Task Selection menu, select **Identify and Attention Indicators**. Press Enter.
5. From the list of lights, select the location code for the failing part and press Enter.
6. Select **Commit**. This turns on the system attention and indicator light for the failing part.
7. Exit to the command line.

Starting the system or logical partition

Learn how to start a system or logical partition after performing a service action or system upgrade.

Starting a system that is not managed by an HMC or an SDMC

You can use the power button or the Advanced System Management Interface to start a system that is not managed by a Hardware Management Console or an Systems Director Management Console.

About this task

To start a system that is not managed by a Hardware Management Console (HMC) or Systems Director Management Console (SDMC), follow these steps:

Procedure

1. Open the front rack door, if necessary.
2. Before you press the power button on the control panel, ensure that power is connected to the system unit as follows:
   - All system power cables are connected to a power source.
   - The power-on light, as shown in the following figure, is slowly blinking.
   - The top of the display, as shown in the following figure, shows `01 V=F`.
3. Press the power button **(A)**, as shown in the following figure, on the control panel.

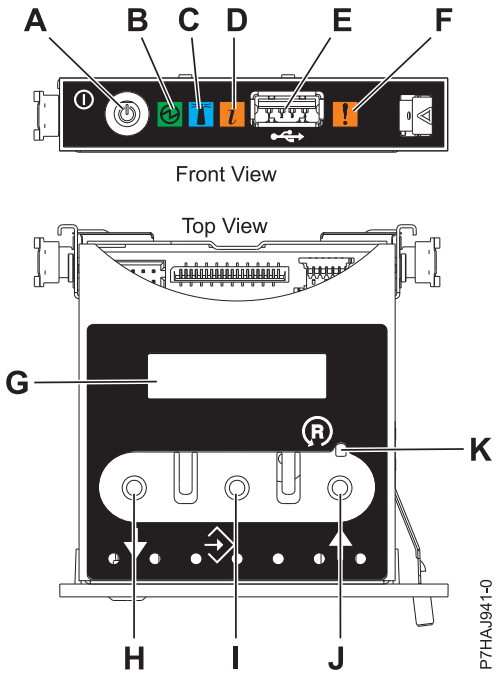


Figure 26. Control panel

- **A**: Power-on button
- **B**: Power LED
  - A constant light indicates full system power to the unit.
  - A blinking light indicates standby power to the unit.

  Note: There is approximately a 30-second transition period from the time the power-on button is pressed to when the power LED goes from blinking to solid. During the transition period, the LED might blink faster.
- **C**: Enclosure identify light
  - A constant light indicates the identify state, which is used to identify a part.
  - No light indicates that the system is operating normally.
- **D**: Attention light
  - No light indicates that the system is operating normally.
  - A blinking light indicates that the system requires attention.
- **E**: USB port
- **F**: Enclosure fault roll-up light
  - A constant light indicates a fault in the system.
  - No light indicates that the system is operating normally.
- **G**: Function/Data display
- **H**: Decrement button
- **I**: Enter button
- **J**: Increment button
- **K**: Pinhole reset button

4. Observe the following after pressing the power button:
   - The power-on light begins to blink faster.
   - The system cooling fans are activated after approximately 30 seconds and begin to accelerate to operating speed.

- Progress indicators, also referred to as checkpoints, appear on the control panel display while the system is being started. The power-on light on the control panel stops blinking and remains on, indicating that system power is on.

What to do next

Tip: If pressing the power button does not start the system, do the following steps to start the system using the Advanced System Management Interface (ASMI):

1. Access the ASMI. For instructions, see Accessing the ASMI.
2. Start the system using the ASMI. For instructions, see Powering the system on and off.

Starting a system or logical partition by using the Hardware Management Console

You can use the Hardware Management Console (HMC) user interface to start the system or logical partition after the required cables are installed and the power cables are connected to a power source.

About this task

For instructions on working with the HMC, see Managing the Hardware Management Console. For instructions on starting a logical partition, see Logical partitioning. For instructions on starting the system, see Powering on the managed system.

Progress indicators, also referred to as checkpoints, appear on the control panel display while the system is being started. When the power-on light on the control panel stops blinking and remains on, the system power is on.

Stopping a system or logical partition

Learn how to stop a system or logical partition as a part of a system upgrade or service action.

About this task

Attention: Using either the power-on button on the control panel or entering commands at the Hardware Management Console (HMC) to stop the system can cause unpredictable results in the data files. Also, the next time you start the system, it might take longer if all applications are not ended before stopping the system.

To stop the system or logical partition, select the appropriate procedure.

Related tasks

Shutting down logical partitions using the Integrated Virtualization Manager
Use this procedure to shut down a logical partition or the entire managed system that is managed using the Integrated Virtualization Manager.

Stopping a system that is not managed by an HMC or an SDMC

You might need to stop the system to perform another task. Use these instructions to stop the system using the power button or Advanced System Management Interface.

Before you begin

Before you stop the system, follow these steps:

1. Ensure that all jobs are completed and end all applications.
2. Ensure that the operating system is stopped.

   Attention: Failure to do so can result in the loss of data.

3. If a Virtual I/O Server (VIOS) logical partition is running, ensure that all clients are shut down or that the clients have access to their devices using an alternate method.

About this task

The following procedure describes how to stop a system that is not managed by a Hardware Management Console (HMC).

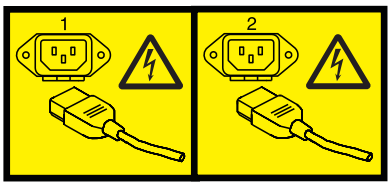
Procedure

1. Log in to the system as a user with the authority to run the shutdown or pwrdwnsys (Power Down System) command.
2. At the command line, enter one of the following commands:
   - If your system is running the AIX operating system, type shutdown.
   - If your system is running the Linux operating system, type `shutdown -h now`.
   - If your system is running the operating system, type `PWRDWNSYS`. If your system is partitioned, use the PWRDWNSYS command to power down each of the secondary partitions. Then, use the PWRDWNSYS command to power down the primary partition.

   The command stops the operating system. The system power turns off, the power-on light begins to slowly flash, and the system goes into a standby state.
3. Record the IPL type and the IPL mode from the control panel display to help you return the system to this state when the installation or replacement procedure is completed.
4. Set the power switches of any devices connected to the system to off.
5. Unplug any power cables that are attached to the unit from electrical outlets. Ensure that you unplug power cables from peripheral devices, such as printers and expansion units.

   Important: The system is equipped with a second power supply. Before continuing with this procedure, ensure that all power sources to the system have been disconnected.

   (L003)



or

Stopping a system by using the Hardware Management Console

About this task

You can use the Hardware Management Console (HMC) user interface to stop the system or a logical partition. Use the following steps to accomplish this task.

By default, the managed system is set to power off automatically when you shut down the last running logical partition on the managed system. If you set the managed system properties on the HMC so that the managed system does not power off automatically, you must use this procedure to power off your managed system.

Attention: If possible, shut down the running logical partitions on the managed system before powering off the managed system. Powering off the managed system without shutting down the logical partitions first causes the logical partitions to shut down abnormally and can cause data loss. If you use a Virtual I/O Server (VIOS) logical partition, ensure that all clients are shut down or that the clients have access to their devices using an alternate method.

To power off a managed system, you must be a member of one of the following roles:

- Super administrator
- Service representative
- Operator
- Product engineer

Procedure

1. In the Navigation area, expand the **Systems Management** folder.
2. Click the **Servers** icon.
3. In the Contents area, select the managed system.
4. Select **Tasks**, then **Operations**, and then **Power Off**
5. Select the appropriate power-off mode and click **OK**.

Related information

Shutting down and restarting logical partitions

Removing and replacing covers on the 33E/8B or 36E/8C system

Use these instructions to remove, replace, or install covers to access components or perform service.

Removing the service access cover from an 33E/8B or 36E/8C system

Use this procedure to remove the service access cover to perform service or to gain access to internal components.

About this task

To remove the service access cover, follow these steps:

Procedure

1. Place the system into the service position. For instructions, see "Placing a 33E/8B or 36E/8C in the service position" on page 72.
2. Loosen the two thumbscrews **(A)** located at the back of the cover.
3. Slide the cover **(B)** toward the back of the system unit. When the front of the service access cover clears the upper frame ledge, lift the cover up and off the system unit.

Results

Attention: For proper cooling and airflow, install the cover before starting the system. Operating the system without the cover for more than 30 minutes could damage the system components.

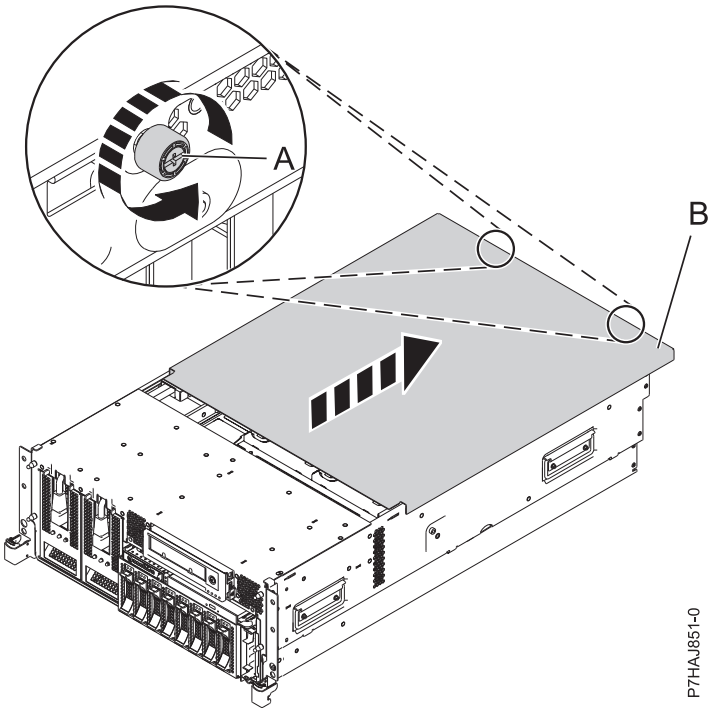


Figure 27. Removing the service access cover

Installing the service access cover on an 33E/8B or 36E/8C system

Use this procedure to install the service access cover after performing service or accessing internal components.

About this task

To install the service access cover, follow these steps:

Procedure

1. Place the service access cover **(A)** on the top of the system unit, approximately 25 mm (1 in.) from the front of the system unit.
2. Hold the service access cover against the system unit, and slide it toward the front of the system.

   The tabs on the service access cover slide beneath the upper chassis ledge, and the two screws align with the screw holes at the back of the system unit.

   Important: Ensure that the fan LED cables do not get caught on the front edge of the service access cover as you move it forward.
3. Tighten the screws **(B)** located at the back of the cover.

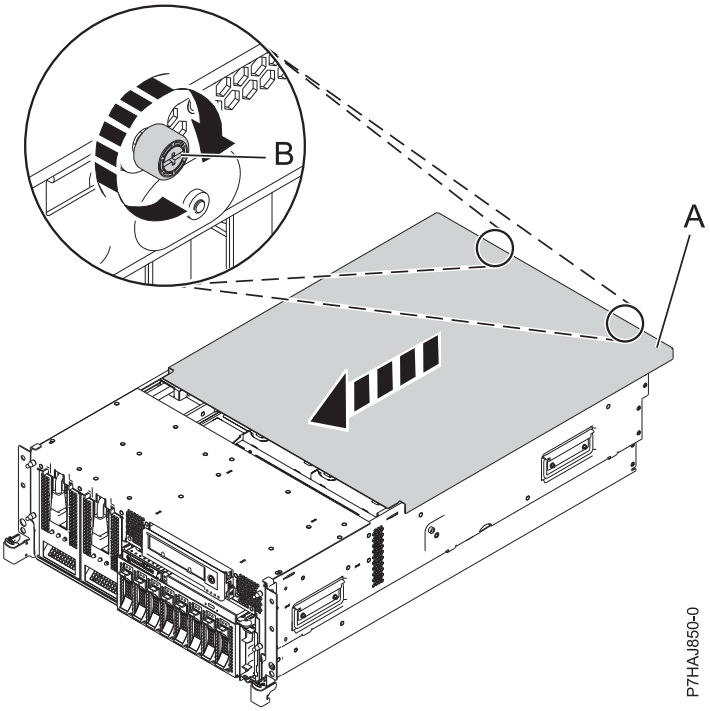


Figure 28. Installing the service access cover

Removing the front cover from an 33E/8B or 36E/8C system

Use this procedure to remove the cover to access components or perform service.

About this task

To remove the front cover, follow these steps:

Procedure

1. Remove the two screws **(A)** that secure the system to the rack **(B)** as shown in the following figure.

2. Pull the cover away from the system. The cover has an indentation where you can hold onto it more easily.

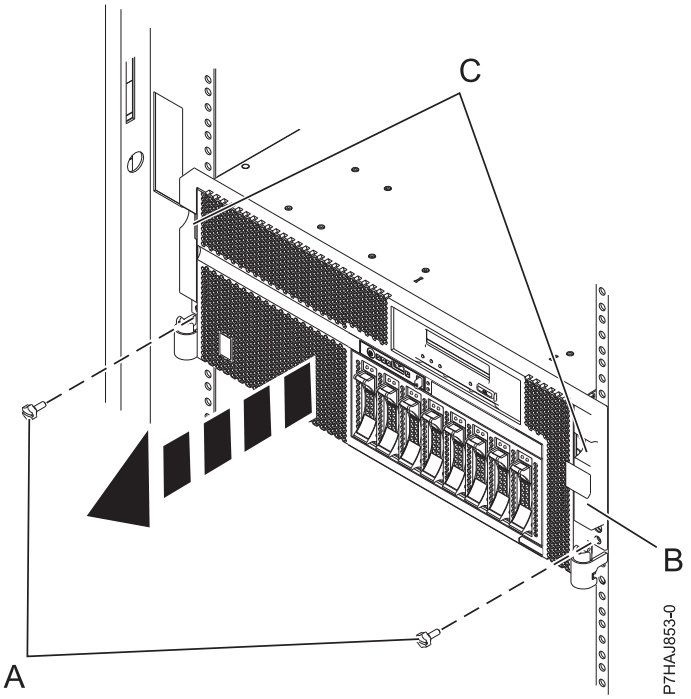


Figure 29. Removing the front cover

Installing the front cover on an 33E/8B or 36E/8C system

Use this procedure to install the cover after accessing components or performing service.

About this task

To install the front cover, follow these steps:

Procedure

1. Align the cover with the system.
2. Gently push the cover in until the four cover clips are seated in their respective mounting posts **(B)** on the system.
3. Replace the two screws **(C)** that secure the system to the rack **(A)**.

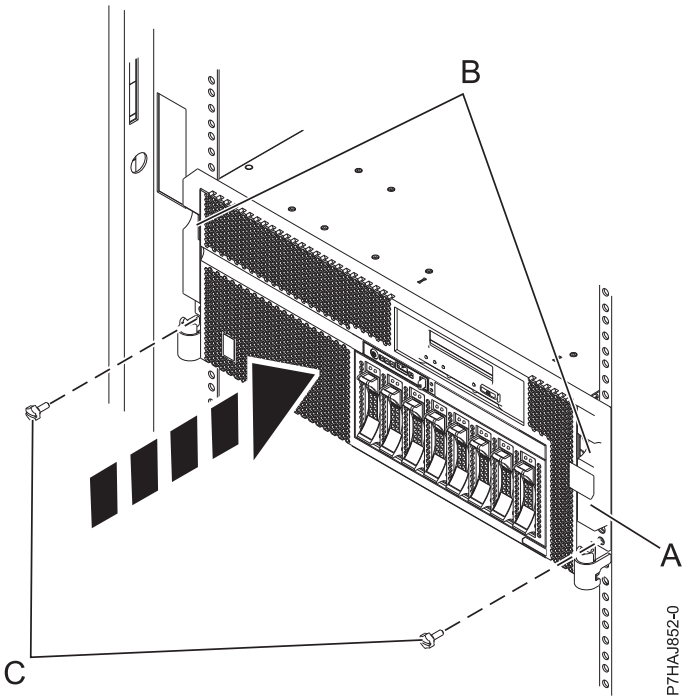


Figure 30. Installing the front cover

Placing the rack-mounted 33E/8B or 36E/8C system into the service position or operating position

Use these procedures to place a system into the service position or operating position to perform service or to gain access to internal components.

Placing a 33E/8B or 36E/8C in the service position

Use this procedure to perform service or gain access to internal components by placing the rack-mounted system or expansion unit in the service position.

About this task

Note: Some of the figures in these procedures might not look exactly like the system or expansion unit that you have. However, the steps to perform the task are the same.

DANGER

When working on or around the system, observe the following precautions:

Electrical voltage and current from power, telephone, and communication cables are hazardous. To avoid a shock hazard:

- **Connect power to this unit only with the provided power cord. Do not use the provided power cord for any other product.**
- **Do not open or service any power supply assembly.**
- **Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.**
- **The product might be equipped with multiple power cords. To remove all hazardous voltages, disconnect all power cords.**
- **Connect all power cords to a properly wired and grounded electrical outlet. Ensure that the outlet supplies proper voltage and phase rotation according to the system rating plate.**
- **Connect any equipment that will be attached to this product to properly wired outlets.**
- **When possible, use one hand only to connect or disconnect signal cables.**
- **Never turn on any equipment when there is evidence of fire, water, or structural damage.**
- **Disconnect the attached power cords, telecommunications systems, networks, and modems before you open the device covers, unless instructed otherwise in the installation and configuration procedures.**
- **Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.**

  To Disconnect:

  1. **Turn off everything (unless instructed otherwise).**
  2. **Remove the power cords from the outlets.**
  3. **Remove the signal cables from the connectors.**
  4. **Remove all cables from the devices**

  To Connect:

  1. **Turn off everything (unless instructed otherwise).**
  2. **Attach all cables to the devices.**
  3. **Attach the signal cables to the connectors.**
  4. **Attach the power cords to the outlets.**
  5. **Turn on the devices.**

  (D005a)

DANGER

Observe the following precautions when working on or around your IT rack system:

- **Heavy equipment–personal injury or equipment damage might result if mishandled.**
- **Always lower the leveling pads on the rack cabinet.**
- **Always install stabilizer brackets on the rack cabinet.**
- **To avoid hazardous conditions due to uneven mechanical loading, always install the heaviest devices in the bottom of the rack cabinet. Always install servers and optional devices starting from the bottom of the rack cabinet.**
- **Rack-mounted devices are not to be used as shelves or work spaces. Do not place objects on top of rack-mounted devices.**

- **Each rack cabinet might have more than one power cord. Be sure to disconnect all power cords in the rack cabinet when directed to disconnect power during servicing.**
- **Connect all devices installed in a rack cabinet to power devices installed in the same rack cabinet. Do not plug a power cord from a device installed in one rack cabinet into a power device installed in a different rack cabinet.**
- **An electrical outlet that is not correctly wired could place hazardous voltage on the metal parts of the system or the devices that attach to the system. It is the responsibility of the customer to ensure that the outlet is correctly wired and grounded to prevent an electrical shock.**

CAUTION

- **Do not install a unit in a rack where the internal rack ambient temperatures will exceed the manufacturer's recommended ambient temperature for all your rack-mounted devices.**
- **Do not install a unit in a rack where the air flow is compromised. Ensure that air flow is not blocked or reduced on any side, front, or back of a unit used for air flow through the unit.**
- **Consideration should be given to the connection of the equipment to the supply circuit so that overloading of the circuits does not compromise the supply wiring or overcurrent protection. To provide the correct power connection to a rack, refer to the rating labels located on the equipment in the rack to determine the total power requirement of the supply circuit.**
- *(For sliding drawers.)* **Do not pull out or install any drawer or feature if the rack stabilizer brackets are not attached to the rack. Do not pull out more than one drawer at a time. The rack might become unstable if you pull out more than one drawer at a time.**
- *(For fixed drawers.)* **This drawer is a fixed drawer and must not be moved for servicing unless specified by the manufacturer. Attempting to move the drawer partially or completely out of the rack might cause the rack to become unstable or cause the drawer to fall out of the rack.**

(R001)

To place the rack-mounted system or expansion unit into the service position, follow these steps:

Procedure

1. If necessary, open the front rack door.
2. Remove the two screws **(A)** that secure the system unit to the rack as shown in the following figure.
3. Release the rack latches **(B)** on both the left and right sides as shown in the following figure.

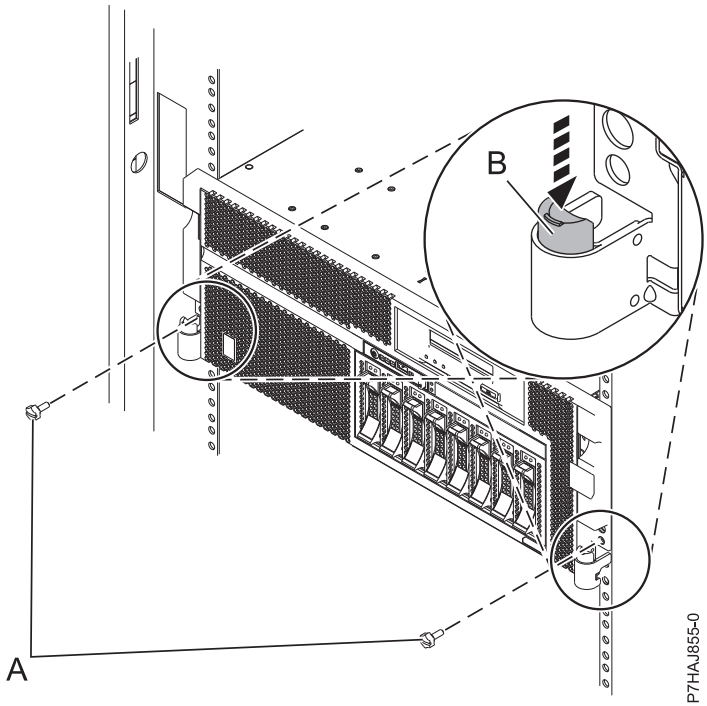


Figure 31. Releasing the rack latches

4. If required, unplug the cables from the back of the system or expansion unit before you pull the unit out from the rack. Ensure that the cables at the rear of the system or expansion unit do not catch or bind as you pull the unit out from the rack.
5. Slowly pull the system or expansion unit out from the rack until the rails are fully extended and locked. Ensure that the rails are fully extended. When the rails are fully extended, the rail safety latches lock into place. This action prevents the system or expansion unit from being pulled out too far.

Placing the 33E/8B or 36E/8C in the operating position

Use this procedure to place the system or expansion unit in the operating position to make the unit available for use.

About this task

To place the system into the operating position follow these steps:

Tip: Some of the figures in these procedures might not look exactly like the system or expansion unit that you have. However, the steps to perform the task are the same.

Procedure

1. Simultaneously release the blue rail safety latches **(B)**, located near the front of each rail, and push the system or expansion unit into the rack as shown in the following figure.

   Note: Ensure that the cables at the rear of the system or expansion unit do not catch or bind as you push the unit back into the rack.

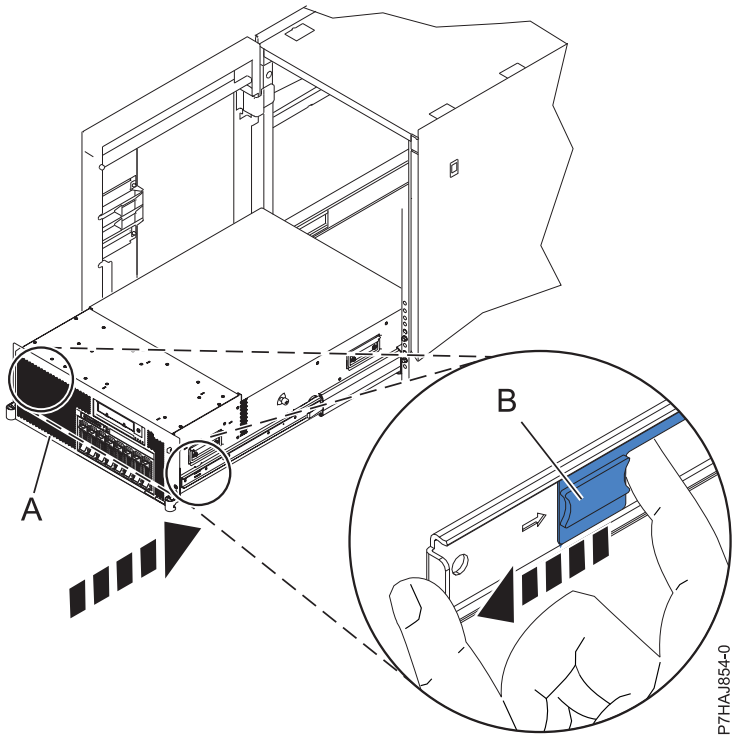


Figure 32. Releasing the rail safety latches

2. Replace and tighten the two thumbscrews **(C)** that secure the system or expansion unit **(A)** to the rack as shown in the following figure.

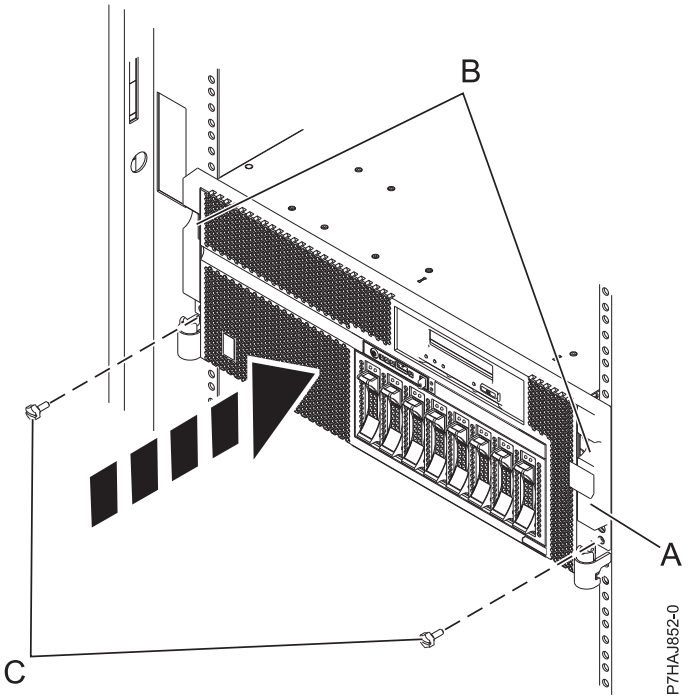


Figure 33. Replacing the thumbscrews

3. Close the front rack door.

Installing a feature by using the Hardware Management Console

You can use the Hardware Management Console to perform many service actions, including the installation of a new feature or part.

Before you begin

To use the Hardware Management Console user interface to install a feature or part into a system or expansion unit that is managed by an HMC, follow these steps:

Procedure

1. In the navigation area, expand **Systems Management** → **Servers**.
2. Select the managed system you will install the part in.
3. In the Tasks area expand **Serviceability** → **Hardware** → **MES Tasks**.
4. Select **Add FRU** (field replaceable unit).
5. In the Add/Install/Remove Hardware window select the system or enclosure into which you are installing the feature.
6. Select the type of feature you are installing from the menu and click **Next**
7. Select the location code for where you will install the feature, and click **Add**.
8. After the FRU is placed in the **pending actions** category click **Launch Procedure** and follow the instructions to install the feature.

   Note: The HMC might open external instructions for installing the feature. If so, follow those instructions to install the feature.

Removing a part by using the Hardware Management Console

You can use the Hardware Management Console (HMC) to perform many service actions, including the removal of a field replaceable unit (FRU) or part.

About this task

To use the Hardware Management Console user interface to remove a part in a system or expansion unit that is managed by an HMC, follow these steps:

Procedure

1. In the navigation area, expand **Systems Management** → **Servers**.
2. Select the managed system from which you are removing a part.
3. Select one of the following options.
   - If you are installing a new part as part of an upgrade, in the Tasks area expand **Serviceability** → **Hardware** → **MES Tasks**.
   - If you are replacing a part as part of a service action, in the Tasks area expand **Serviceability** → **Hardware** → **Remove FRU**.
4. To install a new part as part of an upgrade, select **Add FRU**. To replace a part as part of a service action, select **Remove FRU**.
5. In the Add/Install/Remove Hardware - Remove FRU, Select FRU Type window, select the system or enclosure from which you are removing the part.
6. Select the type of part you are removing from the menu and click **Next**.
7. Select the location of the part you are removing and click **Add**.
8. After the part is listed in the **Pending Actions** display click **Launch Procedure** and follow the instructions to remove the part.

Note: The HMC might open the information center instructions for removing the part. If so, follow those instructions to remove the part.

Replacing a part by using the Hardware Management Console

You can use the Hardware Management Console (HMC) to perform many service actions, including exchanging a field replaceable unit (FRU) or part.

About this task

If you are exchanging a part to repair a serviceable event follow those instructions. If you are exchanging a part as a part of any other procedure using HMC Version 7 or later use these steps:

Procedure

1. In the navigation area, expand **Systems Management** → **Servers**.
2. Select the managed system in which you are exchanging a part.
3. Select one of the following options.
   - If you are installing a new part as part of an upgrade, in the Tasks area expand **Serviceability** → **Hardware** → **MES Tasks**.
   - If you are replacing a part as part of a service action, in the Tasks area expand **Serviceability** → **Hardware** → **Exchange FRU**.
4. To install a new part as part of an upgrade, select **Add FRU**. To replace a part as part of a service action, select **Exchange FRU**.
5. In the Replace Hardware - Replace FRU, Select FRU Type window select the system or enclosure in which you will exchange a part from the list.
6. Select the type of part you will exchange from the menu and click **Next**.
7. Select the location code of the part you will exchange from the menu and click **Add**.
8. After the FRU is placed in the **pending actions** category click **Launch Procedure** and follow the instructions to exchange the feature.

   Note: The HMC might open external instructions for replacing the part. If so, follow those instructions to replace the part.

Installing a part by using the Systems Director Management Console

You can use the Systems Director Management Console (SDMC) to perform many service actions, including the installation of a new field-replaceable unit (FRU) or part.

Before you begin

To use the SDMC user interface to install a part into a system or expansion unit that is managed by an SDMC, follow these steps:

Procedure

1. In the Power Systems™ Resources area, select the system on which you want to install a part.
2. From the **Actions** menu, expand **Service and Support** → **Hardware** → **MES Tasks** → **Add FRU**.
3. On the **ADD FRU** tab, select the system or enclosure type.
4. Select the FRU type you are installing from the menu and click **Next**
5. Select the location code for where you want to install the part, and click **Add**.
6. After the FRU is placed in the **pending actions** category, click **Launch Procedure** and follow the instructions to install the part.

Note: The SDMC might open external instructions for installing the feature. If so, follow those instructions to install the part.

Verifying the installed part

You can verify a newly installed or replaced part on your system, logical partition, or expansion unit using the operating system, stand-alone diagnostics, or the Hardware Management Console (HMC).

Verifying an installed feature or replaced part in an AIX system or logical partition

If you installed feature or replaced a part, you might want to use the tools in AIX to verify that the feature or part is recognized by the system or logical partition.

About this task

To verify the operation of a newly installed feature or replacement part, select the appropriate procedure:

- Verify the installed feature using AIX
- Verifying the replaced part using AIX

Verify the installed feature by using AIX:

1. Log in as root user.
2. At the command line, type `diag` and press Enter.
3. Select **Advanced Diagnostics Routines** and press Enter.
4. From the **Diagnostic Mode Selection** menu, select **System Verification** and press Enter.
5. When the **Advanced Diagnostic Selection** menu appears, do one of the following:
   - To test a single resource, select the resource that you just installed from the list of resources and press Enter.
   - To test all the resources available to the operating system, select **All Resources** and press Enter.
6. Select **Commit**, and wait until the diagnostic programs run to completion, responding to any prompts that appear.
7. Did the diagnostics run to completion and display the message `No trouble was found`?
   - **No:** If a service request number (SRN) or other reference code is displayed, suspect a loose adapter or cable connection. Review the installation procedures to ensure that the new feature is installed correctly. If you cannot correct the problem, collect all SRNs or any other reference code information that you see. If the system is running in logical partitioning (LPAR) mode, note the logical partition in which you installed the feature. Contact your service provider for assistance.
   - **Yes:** The new device is installed correctly. Exit the diagnostic programs and return the system to normal operations.

Verify the replacement part by using AIX:

To verify the operation of a newly installed feature or replacement part, follow these steps:

1. Did you use either the AIX operating system or the online diagnostics service aid concurrent (hot-swap) service to replace the part?

   No: Go to step 2.

   Yes: Go to step 5 on page 80.
2. Is the system powered off?

   No: Go to step 4 on page 80.

   Yes: If the system supports slow boot, set the system to perform a slow boot. For information, see Performing a slow boot.

3. Start the system and wait until the AIX operating system login prompt is displayed or until apparent system activity on the operator panel or display has stopped.

   Did the AIX login prompt display?

   - **No:** If a service request number (SRN) or other reference code is displayed, suspect a loose adapter or cable connection. Review the procedures for the part that you replaced to ensure that the new part is installed correctly. If you cannot correct the problem, collect all SRNs or any other reference code information that you see. If the system does not start or you have no login prompt, see: Problems with loading and starting the operating system.

     If the system is partitioned, note the logical partition in which you replaced the part. Contact your service provider for assistance.
   - **Yes:** Go to step 4.
4. At the command prompt, type `diag –a` and press Enter to check for missing resources. If you see a command prompt, go to step 5.

   If the **Diagnostic selection** menu is shown with **M** appearing next to any resource, follow these steps:

   a. Select the resource and press Enter.
   b. Select **Commit**.
   c. Follow any instructions that are shown.
   d. If the *Do you want to review the previously displayed error?* message is shown, select **Yes** and press Enter.
   e. If an SRN is shown, suspect a loose card or connection. If no obvious problem is shown, record the SRN and contact your service provider for assistance..
   f. If no SRN is shown, go to step 5.
5. Test the part by doing the following steps:
   a. At the command line, type `diag` and press Enter.
   b. From the **Function Selection** menu, select **Advanced Diagnostics Routines** and press Enter.
   c. From the **Diagnostic Mode Selection** menu, select **System Verification** and press Enter.
   d. Select **All Resources**, or select the diagnostics for the individual part to test only the part you replaced and any devices that are attached to the part you replaced and press Enter.

      Did the **Resource Repair Action** menu appear?

      No: Go to step 6.

      Yes: Go to step 7.
6. Did the *Testing Complete, No trouble was found* message appear?
   - **No:** There is still a problem. Contact your service provider. **This ends the procedure.**
   - **Yes:** Select **Log Repair Action**, if not previously logged, from the **Task Selection** menu to update the AIX error log. If the repair action was reseating a cable or adapter, select the resource associated with that repair action. If the resource associated with your action is not displayed on the resource list, select **sysplanar0** and press Enter.

     Tip: This action changes the indicator light for the part from the fault state to the normal state. Go to step 9 on page 81.
7. Select the resource for the replaced part from the **Resource Repair Action** menu. When a test is run on a resource in system verification mode, and that resource has an entry in the AIX error log, if the test on the resource was successful, the **Resource Repair Action** menu appears. Complete the following steps to update the AIX error log to indicate that a system-detectable part has been replaced.

   Note: On systems with an indicator light for the failing part, this action changes the indicator light to the normal state.

a. Select the resource that has been replaced from the **Resource Repair Action** menu. If the repair action was reseating a cable or adapter, select the resource associated with that repair action. If the resource associated with your action does not appear on the resource list, select **sysplanar0** and press Enter.
b. Select **Commit** after you make your selections. Did another **Resource Repair Action** display appear?

   No: If the **No Trouble Found** display appears, go to step 9

   Yes: Go to step 8.

8. Select the parent or child of the resource for the replaced part from the **Resource Repair Action** menu if necessary. When a test is run on a resource in system verification mode, and that resource has an entry in the AIX error log, if the test on the resource was successful, the **Resource Repair Action** menu appears. Complete the following steps to update the AIX error log to indicate that a system-detectable part has been replaced.

   Note: This action changes the indicator light for the part from the fault state to the normal state.
   a. From the **Resource Repair Action** menu, select the parent or child of the resource that has been replaced. If the repair action was to reseat a cable or adapter, select the resource associated with that repair action. If the resource associated with your action does not appear on the resource list, select **sysplanar0** and press Enter.
   b. Select **Commit** after you make your selections.
   c. If the **No Trouble Found** display appears, go to step 9.
9. If you changed the service processor or network settings, as instructed in previous procedures, restore the settings to the values they had prior to servicing the system.
10. Did you do any hot-plug procedures before doing this procedure?

    No: Go to step 11.

    Yes: Go to step 12.
11. Start the operating system, with the system or logical partition in normal mode. Were you able to start the operating system?

    No: Contact your service provider. **This ends the procedure.**

    Yes: Go to step 12.
12. Are the indicator lights still on?
    - **No. This ends the procedure.**
    - **Yes.** Turn off the lights. See the following for instructions: Changing service indicators.

Verifying the installed part in a Linux system or logical partition

If you have installed a new part, learn how to verify that the system recognizes the part.

About this task

To verify the newly installed or replaced part, continue with "Verifying an installed part by using stand-alone diagnostics."

Verifying an installed part by using stand-alone diagnostics

If you have installed or replaced a part, verify that the system recognizes the new part. You can use stand-alone diagnostics to verify an installed part in a Linux system, expansion unit, or logical partition.

Before you begin

- If this server is directly attached to another server or attached to a network, ensure communications with the other servers have stopped.

- The stand-alone diagnostics require use of all of the logical partition resources. No other activity can be running on the logical partition.
- The stand-alone diagnostics require access to the system console.

About this task

You access these diagnostics from a CD-ROM or from the Network Installation Management (NIM) server. This procedure describes how to use the diagnostics from a CD-ROM. For information on running diagnostics from the Network Installation Management (NIM) server, see Running stand-alone diagnostics from a Network Installation Management server.

To use stand-alone diagnostics, follow these steps:

Procedure

1. Stop all jobs and applications and then stop the operating system on the system or logical partition.
2. Remove all tapes, diskettes, and CD-ROM.
3. Turn off the system unit power. The next step boots the server or logical partition from the stand-alone diagnostics CD-ROM. If the optical drive is not available as the boot device on the server or logical partition on which you are working, follow these steps:
   a. Access the ASMI. See Accessing the ASMI for information on using the ASMI.
   b. On the ASMI main menu, click on **Power/Restart Control**.
   c. Click Power On/Off System.
   d. Select the **Service mode boot from default boot list** option in the AIX or Linux logical partition mode boot drop-down menu.
   e. Click **Save settings and power on**. As soon as the optical drive has power, insert the standalone diagnostic CD-ROM.
   f. Go to step 5.
4. Turn on the system unit power and immediately insert the diagnostics CD-ROM into the optical drive.
5. After the **keyboard** POST indicator displays on the system console and before the last POST indicator (**speaker**) displays, press the numeric 5 key on the system console to indicate that a service mode boot should be initiated using the default-service mode boot list.
6. Enter any requested password.
7. At the **Diagnostic Operating Instructions** display, press Enter.

   Tip: If a service request number (SRN) or other reference code is displayed, suspect a loose adapter or cable connection.

   Note: If you received an SRN or any other reference code when you attempted to start the system, contact your service provider for assistance..
8. If the terminal type is requested, select the **Initialize Terminal** option on the Function Selection menu to initialize the operating system.
9. From the Function Selection menu, select **Advanced Diagnostics Routines** and press Enter.
10. From the Diagnostic Mode Selection menu, select **System Verification** and press Enter.
11. When the Advanced Diagnostic Selection menu appears, select **All Resources**, or test only the part you replaced, and any devices that are attached to the part you replaced, by selecting the diagnostics for the individual part and press Enter.
12. Did the `Testing Complete, No trouble was found` message appear?
    - **No:** There is still a problem. Contact your service provider.
    - **Yes:** Go to step 13 on page 83.

13. If you changed the service processor or network settings, as instructed in previous procedures, restore the settings to the value they had prior to servicing the system.
14. If the indicator lights are still on, follow these steps:
    a. Select **Identify and Attention Indicators** from the Task Selection menu to turn off the system attention and indicator lights and press Enter.
    b. Select **Set System Attention Indicator to NORMAL** and press Enter.
    c. Select **Set All Identify Indicators to NORMAL** and press Enter.
    d. Choose **Commit**.

       Note: This changes the system attention and identify indicators from the *Fault* state to the *Normal* state.
    e. Exit to the command line.

Verifying the installed part by using Hardware Management Console

If you have installed or replaced a part, use the Hardware Management Console (HMC) to update your HMC records after you have completed a service action on your server. If you have reference codes, symptoms, or location codes that you used during the service action, locate the records for use during this procedure.

About this task

To verify the installed part, complete these steps:

Procedure

1. At the HMC, examine the service action event log for any open service action events. See "Viewing serviceable events" on page 85 for details.
2. Are there any service action events that are open?

   No: If the system attention LED is still on, use the HMC to turn off the LED. See "Activating and deactivating LEDs" on page 84. **This ends the procedure.**

   Yes: Continue with the next step.
3. Record the list of open service action events.
4. Examine the details of the open service action event. Is the error code associated with this service action event the same as you gathered earlier.
   - **No**: Select one of the following options:
     - Review the other serviceable events, find one that does match, and continue with the next step.
     - If the log does not match what you had gathered earlier, contact your service provider.
   - **Yes**: Continue with the next step.
5. Select and highlight the service action event from the Error Associated With This Serviceable Event window.
6. Click **Close Event**.
7. Add comments for the serviceable event. Include any unique additional information. Click **OK**.
8. Did you replace, add, or modify a field replaceable unit (FRU) of the open service action event?
   - **No**: Select the **No FRU Replaced for this Serviceable Event** option, and click **OK** to close the service action event.
   - **Yes**: Perform the following steps:
     a. From the FRU list, select a FRU that you need to update.
     b. Double-click the FRU and update the FRU information.
     c. Click **OK** to close the service action event.
9. If you continue to have problems, contact your service provider.

Activating and deactivating LEDs

Use this procedure to activate or deactivate LEDs using Service Focal Point™ for the HMC.

About this task

Choose from the following:

- "Deactivating a system attention LED or partition LED"
- "Activating or deactivating identify LED"

Deactivating a system attention LED or partition LED:
About this task

You can deactivate a system attention LED or a logical partition LED. For example, you might determine that a problem is not a high priority and decide to repair the problem at a later time. However, you want to be alerted if another problem occurs, so you must deactivate the system attention LED so that it can be activated again if another problem occurs.

Procedure

1. In the navigation area, open **Systems Management**.
2. Open **Servers** and select the appropriate system.
3. In the content area, check the box for the appropriate Partition.
4. Select **Tasks**, then **Operations**, and then **Manage Attention LED**.
5. Select the appropriate Partition.
6. Select **Deactivate System Attention LED** from the **Action** menu. A confirmation window is displayed that provides the following information:
   - A verification that the system attention LED was deactivated.
   - An indication that there still might be open problems within the system.
   - An indication that you cannot activate the system attention LED.
7. Select one of the logical partitions in the lower table, and select **Deactivate partition LED** from the **Partition Operations** menu. A confirmation window is displayed that provides the following information:
   - A verification that the logical partition LED was deactivated.
   - An indication that there still might be open problems within the logical partition.
   - An indication that you cannot activate the logical partition LED.

Activating or deactivating identify LED:
About this task

The system provides several LEDs that help identify various components, such as enclosures or field replaceable units (FRUs), in the system. For this reason, they are called *identify LEDs*.

You can activate or deactivate the following types of identify LEDs:

- **Identify LED for an enclosure** If you want to add an adapter to a specific drawer (enclosure), you need to know the machine type, model, and serial number (MTMS) of the drawer. To determine whether you have the correct MTMS for the drawer that needs the new adapter, you can activate the LED for a drawer and verify that the MTMS corresponds to the drawer that requires the new adapter.
- **Identify LED for a FRU associated with a specified enclosure** If you want to hook up a cable to a specific I/O adapter, you can activate the LED for the adapter which is a field replaceable unit (FRU), and then physically check to see where you should hook up the cable. This is especially useful when you have several adapters with open ports.

To activate or deactivate an identify LED for an enclosure or FRU, follow these steps:

Procedure

1. In the navigation area, open **Systems Management**.
2. Select **Servers**.
3. In the content area, check the box for the appropriate System.
4. Select **Tasks**, then **Operations**, then **LED Status**, and then **Identify LED**.
5. To activate or deactivate an identify LED for an enclosure, select an enclosure from the table, and click either **Activate LED** or **Deactivate LED**. The associated LED is either turned on or off.
6. To activate or deactivate an identify LED for a FRU, select an enclosure from the table, select **Selected → List FRUs**.
7. Select one or more FRUs from the table, and click either **Activate LED** or **Deactivate LED**. The associated LED is either turned on or off.

Viewing serviceable events

Use this procedure to view a serviceable event, including details, comments, and service history.

About this task

To view serviceable events and other information about the events, you must be a member of one of the following roles:

- Super administrator
- Service representative
- Operator
- Product engineer
- Viewer

To view serviceable events, follow these steps:

Procedure

1. In the navigation area, select **Service Management**.
2. Select **Manage Serviceable Events**.
3. Select the criteria for the serviceable events that you want to view, and click **OK**. The Serviceable Event Overview window opens. The list shows all serviceable events that match your selection criteria. You can use the menu options to perform actions on the serviceable events.
4. Select a line in the Serviceable Event Overview window, and select **Selected → View Details** The Serviceable Event Details window opens, showing detailed information about the serviceable event. The upper table shows information, such as problem number and reference code. The lower table shows the field replaceable units (FRUs) associated with this event.
5. Select the error for which you want to view comments and history, and follow these steps:
   a. Select **Actions → View Comments**.
   b. When you are finished viewing the comments, click **Close**.
   c. Select **Actions → View Service History**. The Service History window opens, showing service history associated with the selected error.
   d. When you are finished viewing the service history, click **Close**.
6. When you are finished, click **Cancel** twice to close the Serviceable Event Details window and the Serviceable Event Overview window.

Verifying an installed feature or replaced part on a system or logical partition by using Virtual I/O Server tools

If you installed feature or replaced a part, you might want to use the tools in Virtual I/O Server (VIOS) to verify that the feature or part is recognized by the system or logical partition.

About this task

To verify the operation of a newly installed feature or replacement part, select the appropriate procedure:

- Verify the installed feature using VIOS
- Verifying the replaced part using VIOS

Verify the installed feature by using VIOS:

1. Log in as root user.
2. At the command line, type `diagmenu` and press Enter.
3. Select **Advanced Diagnostics Routines** and press Enter.
4. From the **Diagnostic Mode Selection** menu, select **System Verification** and press Enter.
5. When the **Advanced Diagnostic Selection** menu appears, do one of the following:
   - To test a single resource, select the resource that you just installed from the list of resources and press Enter.
   - To test all the resources available to the operating system, select **All Resources** and press Enter.
6. Select **Commit**, and wait until the diagnostic programs run to completion, responding to any prompts that appear.
7. Did the diagnostics run to completion and display the message `No trouble was found`?
   - **No:** If a service request number (SRN) or other reference code is displayed, suspect a loose adapter or cable connection. Review the installation procedures to ensure that the new feature is installed correctly. If you cannot correct the problem, collect all SRNs or any other reference code information that you see. If the system is running in LPAR mode, note the logical partition in which you installed the feature. Contact your service provider for assistance.
   - **Yes:** The new device is installed correctly. Exit the diagnostic programs and return the system to normal operations.

Verify the replacement part by using VIOS:

To verify the operation of a newly installed feature or replacement part, follow these steps:

1. Did you replace the part by using either VIOS or the online diagnostics service aid's concurrent (hot-swap) service operation?

   No: Go to step 2.

   Yes: Go to step 5 on page 87.
2. Is the system powered off?

   No: Go to step 4.

   Yes: If the system supports slow boot, set the system to perform a slow boot. For information, see Performing a slow boot.
3. Start the system and wait until the VIOS operating system login prompt displays or until apparent system activity on the operator panel or display has stopped.

   Did the VIOS login prompt display?
   - **No:** If an SRN or other reference code is displayed, suspect a loose adapter or cable connection. Review the procedures for the part that you replaced to ensure that the new part is installed correctly. If you cannot correct the problem, collect all SRNs or any other reference code information that you see. If the system does not start or you have no login prompt, see: Problems with loading and starting the operating system.

     If the system is partitioned, note the logical partition in which you replaced the part. Contact your service provider for assistance.
   - **Yes:** Go to step 4
4. At the command prompt, type `diag –a` and press Enter to check for missing resources. If you see a command prompt, go to step 5 on page 87.

If the **Diagnostic selection** menu is shown with **M** appearing next to any resource, follow these steps:

a. Select the resource and press Enter.
b. Select **Commit**.
c. Follow any instructions that are shown.
d. If a *Do you want to review the previously displayed error?* message is shown, select **Yes** and press Enter.
e. If an SRN is shown, suspect a loose card or connection. If no obvious problem is shown, record the SRN and contact your service provider for assistance..
f. If no SRN is shown, go to 5.

5. Test the part by doing the following:
   a. At the command line, type `diagmenu` and press Enter.
   b. From the **Function Selection** menu, select **Advanced Diagnostics Routines** and press Enter.
   c. From the **Diagnostic Mode Selection** menu, select **System Verification** and press Enter.
   d. Select **All Resources**, or select the diagnostics for the individual part to test only the part you replaced, and any devices that are attached to the part you replaced and press Enter.

      Did the **Resource Repair Action** menu appear?

      No: Go to step 6.

      Yes: Go to step 7.
6. Did the *Testing Complete, No trouble was found* message appear?
   - **No:** There is still a problem. Contact your service provider. **This ends the procedure.**
   - **Yes:** Select **Log Repair Action**, if not previously logged, from the **Task Selection** menu to update the AIX error log. If the repair action was reseating a cable or adapter, select the resource associated with that repair action. If the resource associated with your action is not displayed on the Resource List, select **sysplanar0** and press Enter.

     Tip: This action changes the indicator light for the part from the fault state to the normal state.
     Go to step 9 on page 88
7. Select the resource for the replaced part from the **Resource Repair Action** menu. When a test is run on a resource in system verification mode, and that resource has an entry in the AIX error log, if the test on the resource was successful, the **Resource Repair Action** menu appears. Complete the following steps to update the AIX error log to indicate that a system-detectable part has been replaced.

   Note: On systems with a indicator light for the failing part, this changes the indicator light to the normal state.
   a. Select the resource that has been replaced from the **Resource Repair Action** menu. If the repair action was reseating a cable or adapter, select the resource associated with that repair action. If the resource associated with your action does not appear on the Resource List, select **sysplanar0**. Press Enter.
   b. Select **Commit** after you make your selections. Did another **Resource Repair Action** display appear?

      No: If the **No Trouble Found** display appears, go to step 9 on page 88

      Yes: Go to step 8.
8. Select the parent or child of the resource for the replaced part from the **Resource Repair Action** menu if necessary. When a test is run on a resource in system verification mode, and that resource has an entry in the AIX error log, if the test on the resource was successful, the **Resource Repair Action** menu appears. Complete the following steps to update the AIX error log to indicate that a system-detectable part has been replaced.

Note: This changes the indicator light for the part from the fault state to the normal state.

a. From the **Resource Repair Action** menu, select the parent or child of the resource that has been replaced. If the repair action was to reseat a cable or adapter, select the resource associated with that repair action. If the resource associated with your action does not appear on the Resource List, select **sysplanar0**. Press Enter.

b. Select **Commit** after you make your selections.

c. If the **No Trouble Found** display appears, go to step 9.

9. If you changed the service processor or network settings, as instructed in previous procedures, restore the settings to the values they had prior to servicing the system.

10. Did you do any hot-plug procedures before doing this procedure?

    No: Go to step 11.

    Yes: Go to step 12.

11. Start the operating system, with the system or logical partition in normal mode. Were you able to start the operating system?

    No: Contact your service provider. **This ends the procedure.**

    Yes: Go to step 12.

12. Are the indicator lights still on?

    - **No. This ends the procedure.**
    - **Yes.** Turn off the lights. See one of the following for instructions: Changing service indicators

Notices

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Electronic emission notices

When attaching a monitor to the equipment, you must use the designated monitor cable and any interference suppression devices supplied with the monitor.

Class A Notices

The following Class A statements apply to the servers.

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.

Industry Canada Compliance Statement

This Class A digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

European Community Compliance Statement

This product is in conformity with the protection requirements of EU Council Directive 2004/108/EC 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 A Information Technology Equipment according to European Standard EN 55022. The limits for Class A equipment were derived for commercial and industrial environments to provide reasonable protection against interference with licensed communication equipment.

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Tele: +49 7032 15-2937
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Warning: 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

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Japanese Electronics and Information Technology Industries Association (JEITA) Confirmed Harmonics Guideline (products less than or equal to 20 A per phase)

高調波ガイドライン適合品

Japanese Electronics and Information Technology Industries Association (JEITA) Confirmed Harmonics Guideline with Modifications (products greater than 20 A per phase)

高調波ガイドライン準用品

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

声　明

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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.

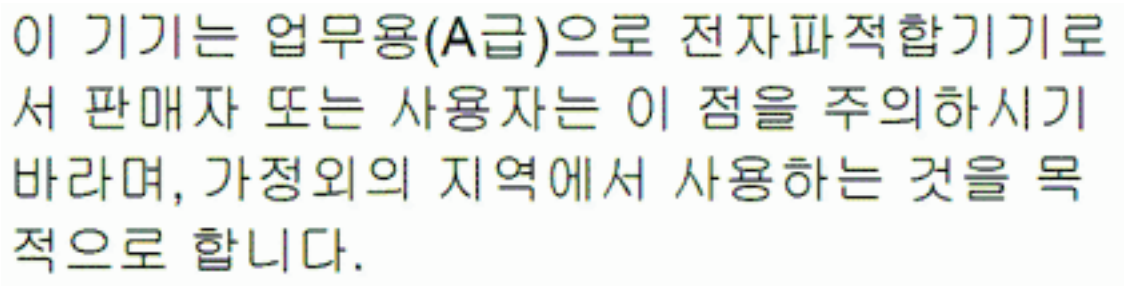
Electromagnetic Interference (EMI) Statement - Taiwan

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.

Electromagnetic Interference (EMI) Statement - Korea



Germany Compliance Statement

Deutschsprachiger EU Hinweis: Hinweis für Geräte der Klasse A EU-Richtlinie zur Elektromagnetischen Verträglichkeit

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Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten

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Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

Verantwortlich für die Einhaltung der EMV Vorschriften ist der Hersteller:
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Tel: 914-499-1900

Der verantwortliche Ansprechpartner des Herstellers in der EU ist:
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Generelle Informationen:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55022 Klasse A.

Electromagnetic Interference (EMI) Statement - Russia

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радиопомехи, для снижения которых необходимы
дополнительные меры

Class B Notices

The following Class B statements apply to features designated as electromagnetic compatibility (EMC) Class B in the feature installation information.

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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 unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate this 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.

Industry Canada Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.

Avis de conformité à la réglementation d'Industrie Canada

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Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten

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Zulassungsbescheinigung laut dem Deutschen Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG) (bzw. der EMC EG Richtlinie 2004/108/EG) für Geräte der Klasse B

Dieses Gerät ist berechtigt, in Übereinstimmung mit dem Deutschen EMVG das EG-Konformitätszeichen - CE - zu führen.

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