



System i and System p

Media device and media device enclosure







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**Note**

Before using this information and the product it supports, read the information in “Notices” on page 117 and the *IBM Systems Safety Information* manual, G229-9054.

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# Contents

|   |            |
|---|------------|
| <b>Safety and environmental notices</b> . . . . .   | <b>vii</b> |
| <b>About this topic</b> . . . . .   | <b>xi</b>  |
| <b>Media device</b> . . . . .   | <b>1</b>   |
| Printable PDF . . . . .   | 1          |
| Slimline media device for model 505 . . . . .   | 1          |
| Remove and replace a Slimline media device in model 505 . . . . .   | 1          |
| Media device for models 285, 52x, 55x, and 720 . . . . .  | 2          |
| Slimline media device for models 285, 52x, 55x, and 720 . . . . .   | 3          |
| Install a Slimline media device in models 285, 52x, 55x, and 720 . . . . .  | 4          |
| Remove and replace a Slimline media device in models 285, 52x, 55x, and 720 . . . . .                             | 8          |
| Slimline media device for models 285, 52x, 55x, and 720 . . . . .   | 10         |
| SCSI media device for models 285, 52x, 55x, and 720 . . . . .   | 11         |
| Install a SCSI media device in models 285, 52x, 55x, and 720 . . . . .  | 12         |
| Remove a SCSI media device in models 285, 52x, 55x, and 720 . . . . .   | 13         |
| Replace the SCSI media-device cables in a model 285,520, 550Q and 720 . . . . .                                   | 14         |
| Slimline media device for model 51x and 710 . . . . .   | 15         |
| Remove and replace a Slimline media device in model 51x and 710 . . . . .   | 15         |
| Media device for models 9116-561 and 570 . . . . .  | 17         |
| Install a Slimline media device for models 9116-561 and 570 . . . . .   | 17         |
| Install a Slimline media device for models 9116-561 or570 with the system powered on in i5/OS . . . . .           | 17         |
| Install a Slimline media device for models 9116-561 and 570 with the system powered off . . . . .                 | 20         |
| Remove and replace a Slimline media device for models 9116-561 and 570 . . . . .                                  | 21         |
| Remove and replace a Slimline media device for model 9116-561 or570 with the system powered on in i5/OS . . . . . | 21         |
| Remove and replace the model 570 media-device with the system power on using the ASMI . . . . .                   | 25         |
| Remove and replace a Slimline media device for models 9116-561 and 570 with the system powered off . . . . .      | 26         |
| Media device for model 7047-185 and 7037-A50 . . . . .  | 27         |
| Install a media device for model 7047-185 and 7037-A50 . . . . .  | 27         |
| Remove and replace a media device for model 7047-185 and 7037-A50 . . . . .                                       | 30         |
| Media-device enclosure . . . . .  | 34         |
| Media-device enclosure for models 285, 52x, 55x, and 720 . . . . .  | 34         |
| Remove the media-device enclosure from models 285, 52x, 55x, and 720 . . . . .                                    | 34         |
| Replace the media-device enclosure in models 285, 52x, 55x, and 720 . . . . .                                     | 36         |
| Model 570 media-device enclosure . . . . .  | 38         |
| Remove the model 570 media-device enclosure . . . . .   | 38         |
| Remove the model 570 media-device enclosure with the system power on in i5/OS . . . . .                           | 39         |
| Remove the model 570 media-device enclosure with the system power on using the ASMI . . . . .                     | 40         |
| Remove the model 570 media-device enclosure with the system power off . . . . .                                   | 42         |
| Replace the model 570 media-device enclosure . . . . .  | 44         |
| Replace the model 570 media-device enclosure with the system power on in i5/OS . . . . .                          | 44         |
| Replace the model 570 media-device enclosure with the system power on using the ASMI . . . . .                    | 45         |
| Replace the model 570 media-device enclosure with the system power off . . . . .                                  | 47         |
| Media device in an expansion unit . . . . .   | 48         |
| Install a media device in an expansion unit . . . . .   | 48         |
| Install a media device in an expansion unit with the system power on in i5/OS . . . . .                           | 50         |
| Details: Install a media device in an expansion unit with system powered on in i5/OS . . . . .                    | 52         |
| Install a media device in an expansion unit with the system power off . . . . .                                   | 53         |
| Details: Install a media device in an expansion unit with system power off . . . . .                              | 54         |
| Remove and replace a media device in an expansion unit . . . . .  | 56         |
| Remove and replace a media device in an expansion unit with system power on in i5/OS . . . . .                    | 59         |
| Remove and replace a media device in an expansion unit with the system power off . . . . .                        | 60         |
| Manually removing a tape cartridge from a drive . . . . .   | 61         |
| Manually removing a tape from a Half High Ultrium 2 tape drive (FC 5755) . . . . .                                | 61         |

|  |     |
|--|-----|
| Manually removing a tape from a VXA-2, 80/160 GB internal tape drive (FC 6120)                 | 63  |
| Manually removing a tape from a 36/72GB Data72 4mm tape drive (FC 6258)                        | 64  |
| Manually removing a tape from a VXA-320 internal tape drive (FC 6279)                          | 64  |
| Locations for expansion units  | 65  |
| Related procedures   | 67  |
| Before you begin   | 68  |
| Gain access to the model 51x and OpenPower 710 control panels                                  | 73  |
| Place the rack-mounted system or expansion unit in the service position or operating position  | 74  |
| Place the rack-mounted system or expansion unit in the service position                        | 74  |
| Place the rack-mounted system or expansion unit in the operating position                      | 78  |
| Place the model 51x or 710 in the service position   | 80  |
| Place the model 51x or 710 in the operating position   | 82  |
| Front cover  | 83  |
| Remove the front cover from the model 51x or 710   | 83  |
| Install the front cover on the model 51x or 710  | 84  |
| Front cover for models 285, 52x, 55x, or OpenPower 720 and the 0595 expansion unit             | 84  |
| Remove the front cover from the model 285, 52x, 55x, OpenPower 720, or the 0595 expansion unit | 84  |
| Install the front cover on the model 285, 52x, 55x, OpenPower 720, or the 0595 expansion unit  | 86  |
| Front cover for the model 9116-561 or 570  | 88  |
| Remove the front cover from the model 9116-561 or 570  | 88  |
| Install the front cover on the model 9116-561 or 570   | 89  |
| Model 285, 52x, 55x, or OpenPower 720 door   | 90  |
| Remove the door from the model 285, 52x, 55x, or OpenPower 720                                 | 90  |
| Remove the door from the model 285 or 9131-52A   | 91  |
| Install or replace the door on the model 285, 52x, 55x, or OpenPower 720                       | 92  |
| Install the door on the model 285 or 9131-52A  | 93  |
| Expansion unit cover or door   | 94  |
| Remove the front door from the 5074 or 5094 expansion unit                                     | 94  |
| Remove the front door from the 5079 or 5294 expansion unit                                     | 95  |
| Remove the back door from the 5074, 5079, and 5094 expansion unit                              | 96  |
| Remove the front cover from the 5095 expansion unit  | 97  |
| Remove the back door and cover from the 5095 expansion unit                                    | 98  |
| Remove the back cover from the 0588 expansion unit   | 99  |
| Remove and install the front cover on the 5791 or 5794 expansion unit                          | 100 |
| Remove the front cover from the 7311-D11, 5791, or 5794 expansion unit                         | 100 |
| Install the front cover on the 7311-D11, 5791, or 5794 expansion unit                          | 101 |
| Identify a failing part  | 102 |
| Identify a failing part on an AIX system or logical partition                                  | 102 |
| Locate a failing part in an AIX system or logical partition                                    | 102 |
| Activate the indicator light for the failing part  | 103 |
| Identify a failing part on an i5/OS system or logical partition                                | 103 |
| Activate the failing-part indicator light  | 103 |
| Deactivate the failing-part indicator light  | 104 |
| Identify a failing part on a Linux system or logical partition                                 | 104 |
| Locate a failing part and activate the indicator light   | 104 |
| Activate the indicator light for the failing part  | 104 |
| Deactivate the failing-part indicator light  | 104 |
| Identify a failing part using stand-alone eServer diagnostics                                  | 105 |
| Identify a failing part using the Advanced System Management Interface                         | 106 |
| Verify the installed part  | 106 |
| Verify an installed feature or replaced part on an AIX system or logical partition             | 106 |
| Verify the presence of an installed part on an i5/OS system or logical partition               | 109 |
| Verify the installed part on a Linux system or logical partition (run AIX diagnostics)         | 109 |
| Verify an installed part using the eServer stand-alone diagnostics                             | 109 |
| Verify the presence of an installed part using Hardware Management Console (HMC)               | 111 |
| Verify the presence of an installed part using the Advanced System Management Interface        | 111 |
| Install a feature using the Hardware Management Console  | 112 |
| Remove a part using the Hardware Management Console  | 113 |
| Replace a part using the Hardware Management Console   | 113 |
| Related information  | 114 |

|   |            |
|---|------------|
| <b>Appendix. Accessibility features</b> | <b>115</b> |
| <b>Notices</b>                          | <b>117</b> |
| Trademarks                              | 118        |
| Electronic emission notices             | 118        |
| Class A Notices.                        | 118        |
| Class B Notices.                        | 122        |
| Terms and conditions.                   | 124        |



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## Safety and environmental 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.

### Laser safety information

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

#### Laser compliance

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 System i models and IBM System p 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.

### Product recycling and disposal

This unit must be recycled or discarded according to applicable local and national regulations. IBM encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. IBM offers a variety of product return programs and services in several countries to assist equipment owners in recycling their IT products. Information on IBM product recycling offerings can be found on IBM's Internet site at <http://www.ibm.com/ibm/environment/products/prp.shtml>.

Esta unidad debe reciclarse o desecharse de acuerdo con lo establecido en la normativa nacional o local aplicable. IBM recomienda a los propietarios de equipos de tecnología de la información (TI) que reciclen responsablemente sus equipos cuando éstos ya no les sean útiles. IBM dispone de una serie de programas y servicios de devolución de productos en varios países, a fin de ayudar a los propietarios de equipos a reciclar sus productos de TI. Se puede encontrar información sobre las ofertas de reciclado de productos de IBM en el sitio web de IBM <http://www.ibm.com/ibm/environment/products/prp.shtml>.



EU Only

**Note:** This mark applies only to countries within the European Union (EU) and Norway.

Appliances are labeled in accordance with European Directive 2002/96/EC concerning waste electrical and electronic equipment (WEEE). The Directive determines the framework for the return and recycling of used appliances as applicable throughout the European Union. This label is applied to various products to indicate that the product is not to be thrown away, but rather reclaimed upon end of life per this Directive.

In accordance with the European WEEE Directive, electrical and electronic equipment (EEE) is to be collected separately and to be reused, recycled, or recovered at end of life. Users of EEE with the WEEE marking per Annex IV of the WEEE Directive, as shown above, must not dispose of end of life EEE as unsorted municipal waste, but use the collection framework available to customers for the return, recycling, and recovery of WEEE. Customer participation is important to minimize any potential effects of EEE on the environment and human health due to the potential presence of hazardous substances in EEE. For proper collection and treatment, contact your local IBM representative.

## Battery return program

This product may contain sealed lead acid, nickel cadmium, nickel metal hydride, lithium, or lithium ion battery. Consult your user manual or service manual for specific battery information. The battery must be recycled or disposed of properly. Recycling facilities may not be available in your area. For information on disposal of batteries outside the United States, go to <http://www.ibm.com/ibm/environment/products/batteryrecycle.shtml> or contact your local waste disposal facility.

In the United States, IBM has established a return process for reuse, recycling, or proper disposal of used IBM sealed lead acid, nickel cadmium, nickel metal hydride, and other battery packs from IBM Equipment. For information on proper disposal of these batteries, contact IBM at 1-800-426-4333. Please have the IBM part number listed on the battery available prior to your call.

For Taiwan: Please recycle batteries.



For the European Union:



**Note:** This mark applies only to countries within the European Union (EU).

Batteries or packaging for batteries are labeled in accordance with European Directive 2006/66/EC concerning batteries and accumulators and waste batteries and accumulators. The Directive determines the framework for the return and recycling of used batteries and accumulators as applicable throughout the European Union. This label is applied to various batteries to indicate that the battery is not to be thrown away, but rather reclaimed upon end of life per this Directive.

In accordance with the European Directive 2006/66/EC, batteries and accumulators are labeled to indicate that they are to be collected separately and recycled at end of life. The label on the battery may also include a chemical symbol for the metal concerned in the battery (Pb for lead, Hg for mercury and Cd for cadmium). Users of batteries and accumulators must not dispose of batteries and accumulators as unsorted municipal waste, but use the collection framework available to customers for the return, recycling, and treatment of batteries and accumulators. Customer participation is important to minimize any potential effects of batteries and accumulators on the environment and human health due to the potential presence of hazardous substances. For proper collection and treatment, contact your local IBM representative.

For California: Perchlorate Material - special handling may apply. See [www.dtsc.ca.gov/hazardouswaste/perchlorate](http://www.dtsc.ca.gov/hazardouswaste/perchlorate).

The foregoing notice is provided in accordance with California Code of Regulations Title 22, Division 4.5 Chapter 33. Best Management Practices for Perchlorate Materials. This product/part may include a lithium manganese dioxide battery which contains a perchlorate substance.

### **IBM Cryptographic Coprocessor Card Return Program**

The following information applies only for systems originally sold prior to July 1, 2006:

This machine may contain an optional feature, the cryptographic coprocessor card, which includes a polyurethane material that contains mercury. Please follow local ordinances or regulations for disposal of this card. IBM has established a return program for certain IBM Cryptographic Coprocessor Cards. More information can be found at <http://www.ibm.com/ibm/environment/products/prp.shtml>.

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## About this topic

These procedures describe the replacement and installation of a media device.

For information about the accessibility features of this product, for users who have a physical disability, see "Accessibility features," on page 115.



---

## Media device

Learn how to install, or remove and replace a media device to add a device, replace a failed device, or as a part of another service action. Select the appropriate procedure from the instructions in this section.

Installing or replacing these features is a customer task. You can perform these tasks yourself, or contact a service provider to perform the task for you. You might be charged a fee by the service provider for these services.

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## Slimline media device for model 505

Learn how to remove and replace a media device using the instructions in this section.

### Remove and replace a Slimline media device in model 505

You might need to remove and replace a media device to repair a failed device or as a part of another procedure. Use the procedure in this section to accomplish this task.

Complete the following steps to remove and replace the Slimline media device:

1. Perform the prerequisite tasks described in “Before you begin” on page 68.
2. If you are removing the media device as part of another procedure, continue to the next step. If you are removing the device because of a system failure, refer to “Identify a failing part” on page 102.
3. “Stop the system or logical partition” on page 72.
4. Pull the release tab **A** on the bottom of the device or filler and slide the drive out approximately 0.6 cm (0.25 in.) until it stops. This action disengages the drive from its connectors.
5. Grasp the drive **B** and pull it from the system, as shown in the following figure.

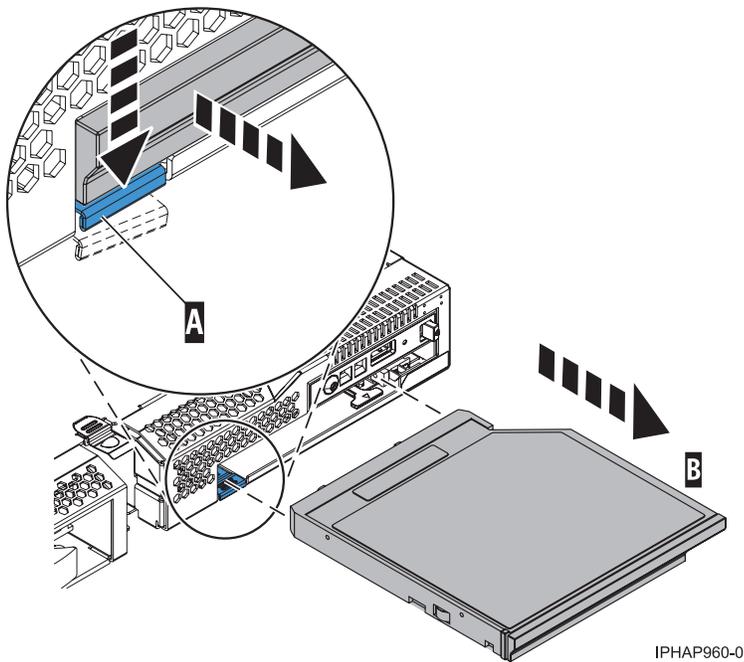


Figure 1. Slimline media-device removal

6. Align the replacement device with the device enclosure and push it fully into the system, as shown in the following figure.

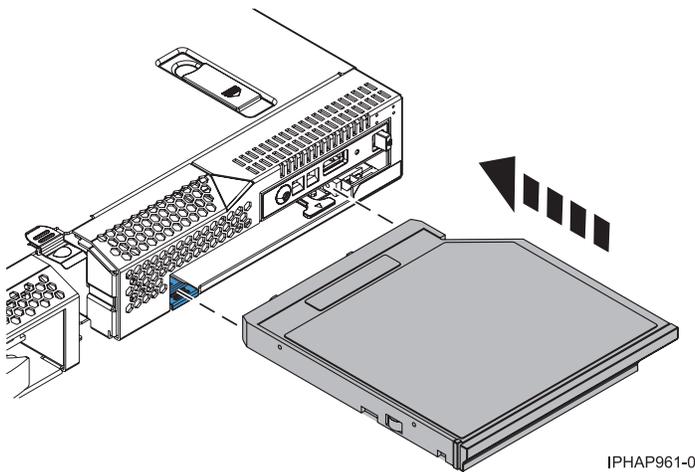


Figure 2. Slimline media-device installation

7. "Start the system or logical partition" on page 70.
8. If you replaced the media device as part of another procedure, return to that procedure now. If you replaced the device because of a system failure, verify that the new resource is functional. See "Verify the installed part" on page 106.

---

## Media device for models 285, 52x, 55x, and 720

Learn how to install, or remove and replace a media device.

The Slimline media-device enclosure can contain a CD-ROM or DVD-ROM device. The optional media-device bay can contain a Small Computer System Interface (SCSI) media device, such as a tape drive.

**Note:** The media bays in these models do not support removing or replacing devices with the system powered on.

## **Slimline media device for models 285, 52x, 55x, and 720**

If you are going to install, or remove and replace a media device, review the guidelines in this section.

The following procedure describes the installation, removal, and replacement of the Slimline media devices. Before you begin the procedure, review the following Slimline media device guidelines.

### **Slimline media device guidelines**

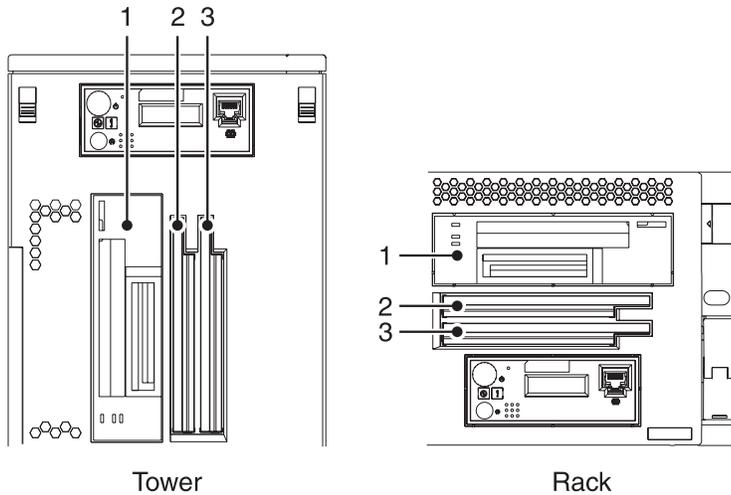
The following numbers correspond to the following figure Figure 3 on page 4.

#### **System p servers have the following properties:**

- Slimline media-devices are not hot-pluggable.
- The first Slimline media device must be plugged into media bay 2.
- The media-device in bay 2 should be set as an IDE master.
- Audio function is available only on the media device in bay 2.
- Media bay 3 will accept a second, Slimline media device.
- The media-device in bay 3 should be set as an IDE subordinate drive.

#### **System i servers have the following properties:**

- Slimline media-devices are not hot-pluggable.
- One Slimline media-device can be placed in media bay 2.
- Media bay 2 converts the IDE media device to SCSI device ID 1, using ACARD chip bus conversion.
- If i5/OS® is your primary operating system, media bay 3 is not supported.
- If Linux® or AIX 5L™ is your primary operating system, bay 3 can be used for a second media device.
- The media-device in bay 3 should be set as an IDE master.



IPHAP607-0

Figure 3. Media-device bays

### Install a Slimline media device in models 285, 52x, 55x, and 720

You might need to install a Slimline media device. Use the procedure in this section to accomplish this task.

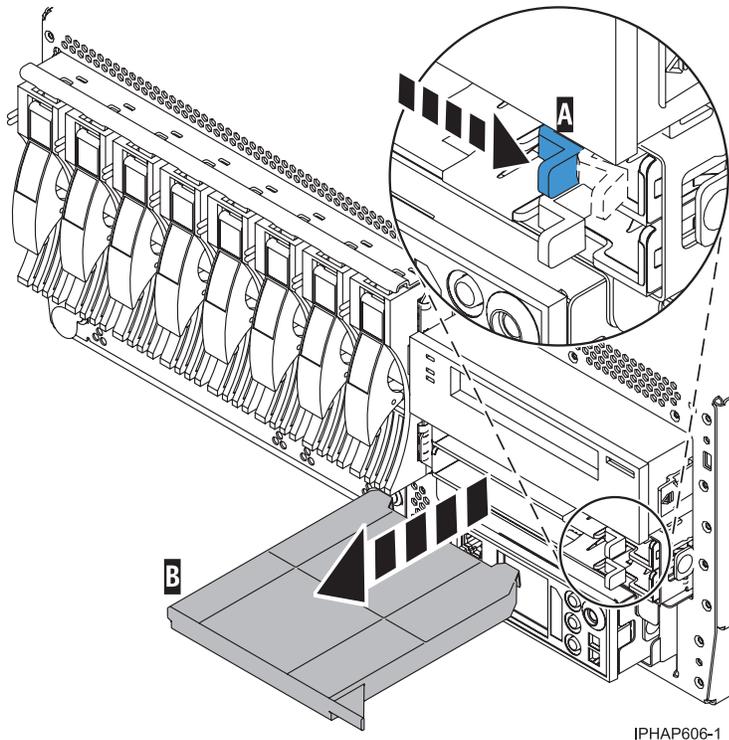
If your system is managed by the Hardware Management Console (HMC), you can use the HMC to complete the steps for installing a Slimline media device. For instructions, see “Install a feature using the Hardware Management Console” on page 112.

The following procedure describes the installation of a Slimline media device.

**Note:** Before you install a Slimline media device, read “Slimline media device for models 285, 52x, 55x, and 720” on page 3.

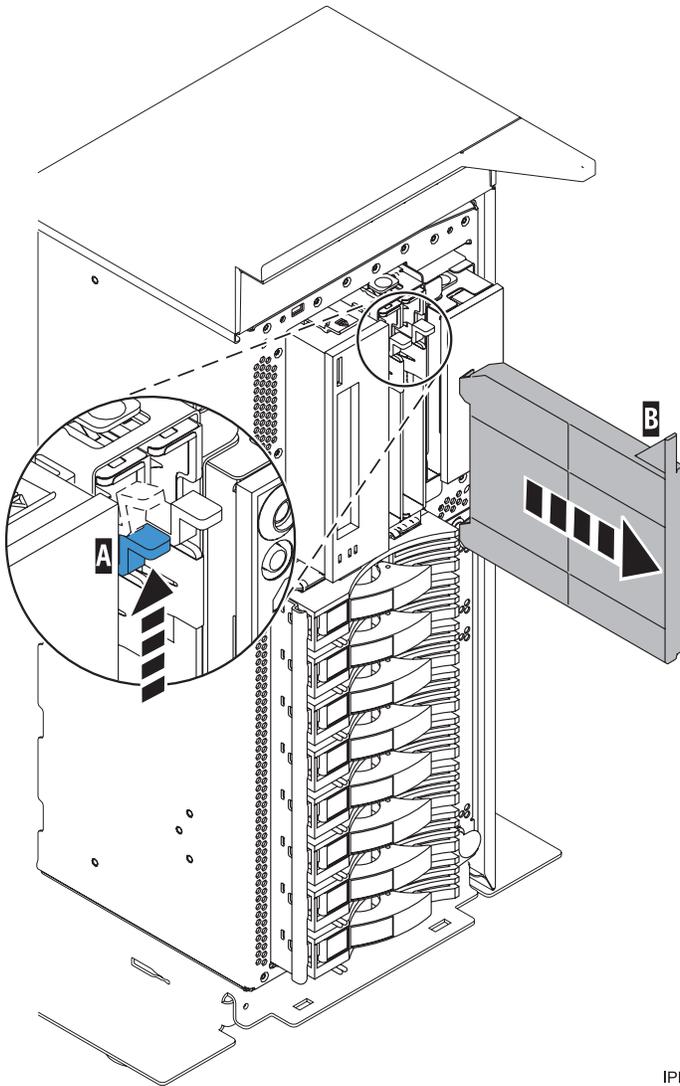
To install a Slimline media device, do the following:

1. Perform the prerequisite tasks described in “Before you begin” on page 68.
2. “Stop the system or logical partition” on page 72.
3. If you are servicing a rack-mounted system unit, continue to the next step. If you are servicing a stand-alone system unit, remove the front cover door as described in “Remove the door from the model 285, 52x, 55x, or OpenPower 720” on page 90.
4. “Remove the front cover from the model 285, 52x, 55x, OpenPower 720, or the 0595 expansion unit” on page 84.
5. Ensure the Slimline media-device bay is ready to receive the device. If necessary, while holding the blue plastic retaining tab **A**, pull the filler panel or existing drive **B** out of the system as shown in the following figure.



IPHAP606-1

Figure 4. Rack-mounted system unit filler panel removal



IPHAP616-0

Figure 5. Stand-alone system unit filler panel removal

6. Align the new device with the Slimline media bay, then push it fully into the system as shown in the following figure..

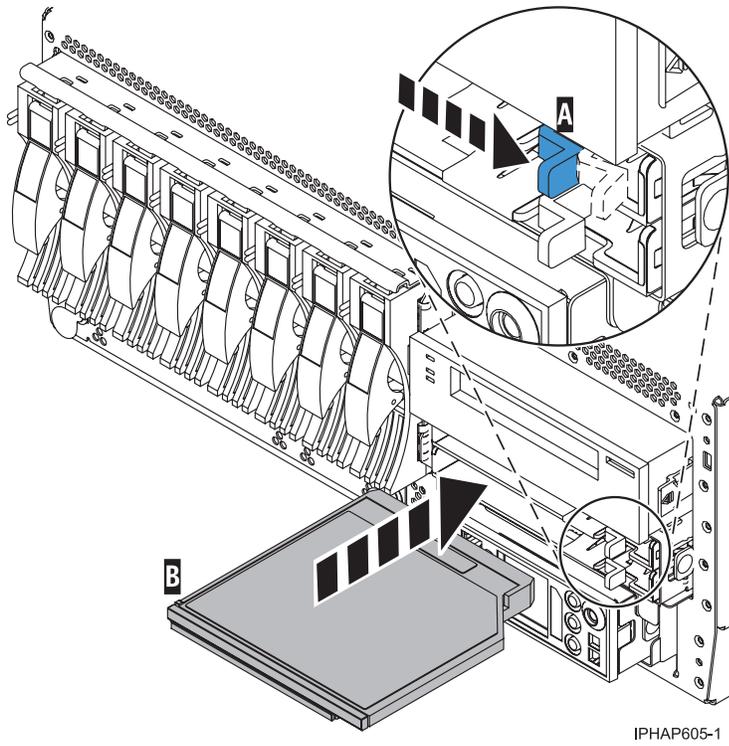
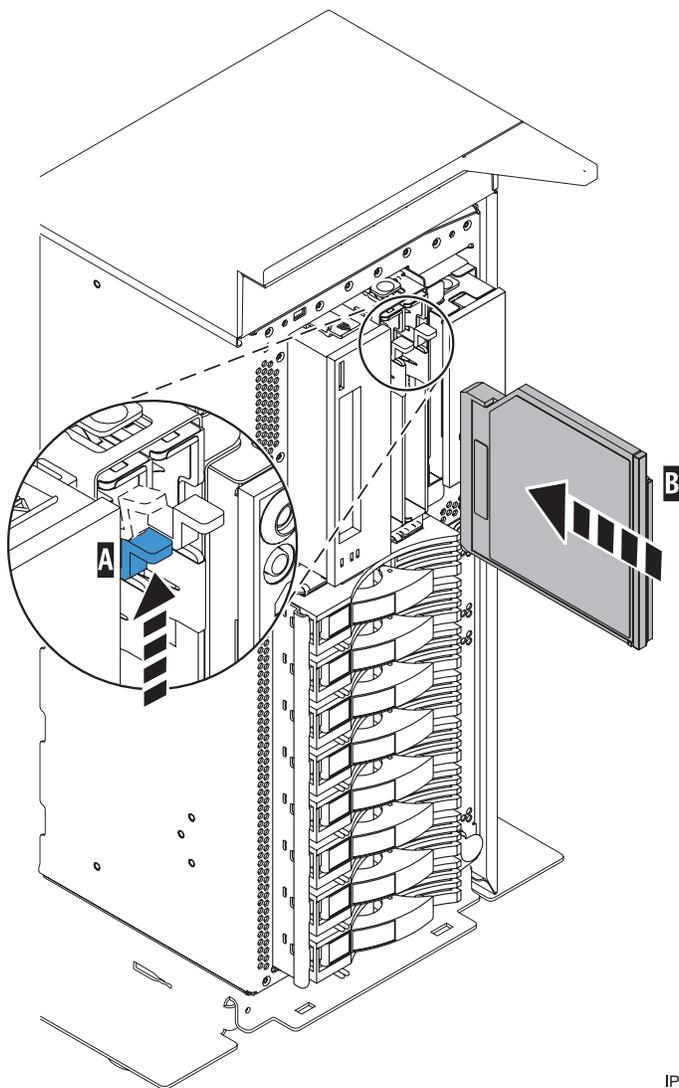


Figure 6. Rack-mounted system unit Slimline media-device replacement



IPHAP615-0

Figure 7. Stand-alone system unit Slimline media-device replacement

7. If you are servicing a rack-mounted system unit, continue to the next step. If you are servicing a stand-alone system unit, replace the front cover door as described in “Install or replace the door on the model 285, 52x, 55x, or OpenPower 720” on page 92.
8. “Install the front cover on the model 285, 52x, 55x, OpenPower 720, or the 0595 expansion unit” on page 86.
9. “Start the system or logical partition” on page 70.
10. Verify that the new resource is functional. Refer to “Verify the installed part” on page 106.

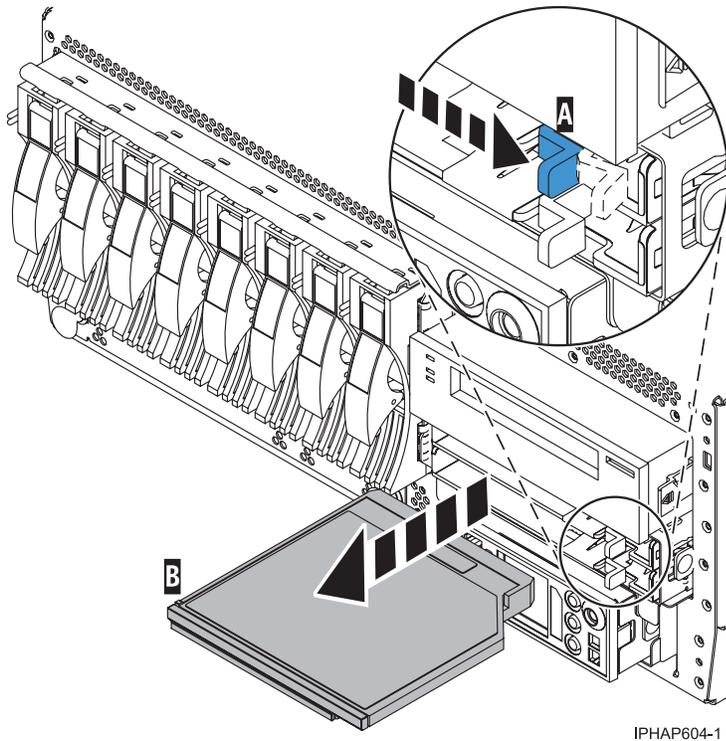
### Remove and replace a Slimline media device in models 285, 52x, 55x, and 720

You might need to remove and replace a media device to replace a failed device or as a part of another task. Use the instructions in this section to accomplish this task.

To remove and replace a Slimline media device, do the following:

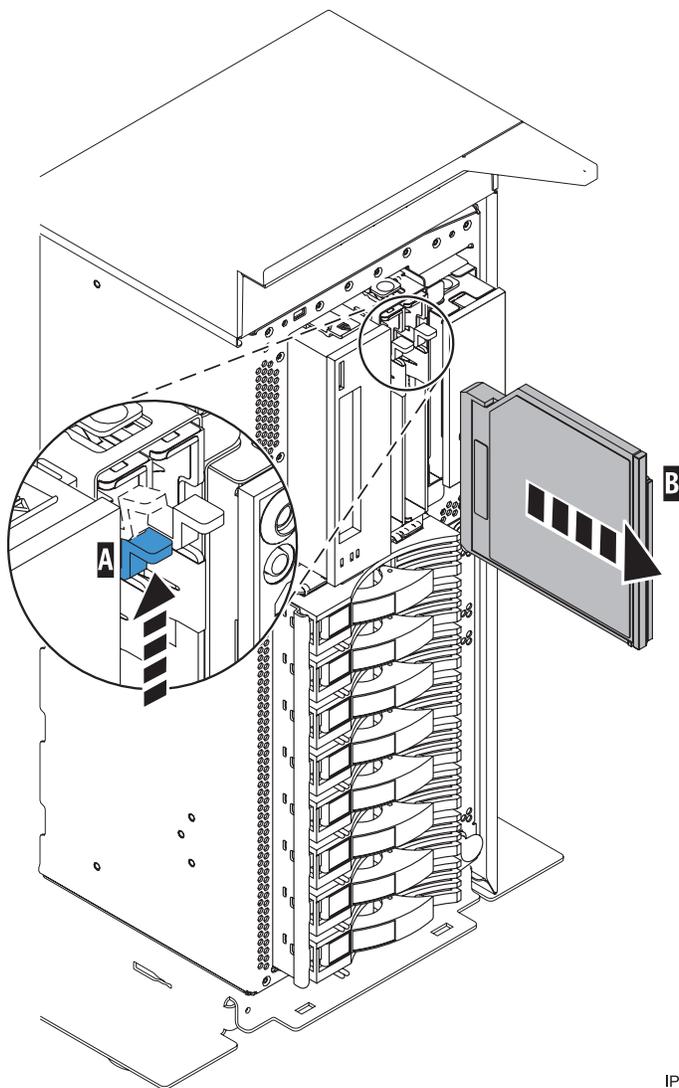
1. Perform the prerequisite tasks described in “Before you begin” on page 68.
2. If you are removing the media device as part of another procedure, continue to the next step. If you are removing the device because of a system failure, refer to “Identify a failing part” on page 102.
3. “Stop the system or logical partition” on page 72.

4. If you are servicing a rack-mounted system unit, continue to the next step. If you are servicing a stand-alone system unit, remove the front cover door as described in “Remove the door from the model 285, 52x, 55x, or OpenPower 720” on page 90.
5. “Remove the front cover from the model 285, 52x, 55x, OpenPower 720, or the 0595 expansion unit” on page 84.
6. Push the blue plastic retaining tab away from the Slimline media device.
7. While holding the blue plastic retaining tab **A**, grasp the device **B** and pull it out of the system as shown in the following figure..



IPHAP604-1

Figure 8. Rack-mounted system unit Slimline media-device removal



IPHAP614-0

Figure 9. Stand-alone system unit Slimline media-device removal

8. Align the replacement device with the Slimline media bay and push it fully into the system.
9. If you are servicing a rack-mounted system unit, continue to the next step. If you are servicing a stand-alone system unit, replace the front cover door as described in “Install or replace the door on the model 285, 52x, 55x, or OpenPower 720” on page 92.
10. “Install the front cover on the model 285, 52x, 55x, OpenPower 720, or the 0595 expansion unit” on page 86.
11. “Start the system or logical partition” on page 70.
12. If you replaced the media device as part of another procedure, return to that procedure now. If you replaced the device because of a system failure, verify that the new resource is functional. See “Verify the installed part” on page 106.

### **Slimline media device for models 285, 52x, 55x, and 720**

If you are going to install, or remove and replace a media device, review the guidelines in this section.

The following procedure describes the installation, removal, and replacement of the Slimline media devices. Before you begin the procedure, review the following Slimline media device guidelines.

## Slimline media device guidelines

The following numbers correspond to the following figure Figure 3 on page 4.

### System p servers have the following properties:

- Slimline media-devices are not hot-pluggable.
- The first Slimline media device must be plugged into media bay 2.
- The media-device in bay 2 should be set as an IDE master.
- Audio function is available only on the media device in bay 2.
- Media bay 3 will accept a second, Slimline media device.
- The media-device in bay 3 should be set as an IDE subordinate drive.

### System i servers have the following properties:

- Slimline media-devices are not hot-pluggable.
- One Slimline media-device can be placed in media bay 2.
- Media bay 2 converts the IDE media device to SCSI device ID 1, using ACARD chip bus conversion.
- If i5/OS is your primary operating system, media bay 3 is not supported.
- If Linux or AIX 5L is your primary operating system, bay 3 can be used for a second media device.
- The media-device in bay 3 should be set as an IDE master.

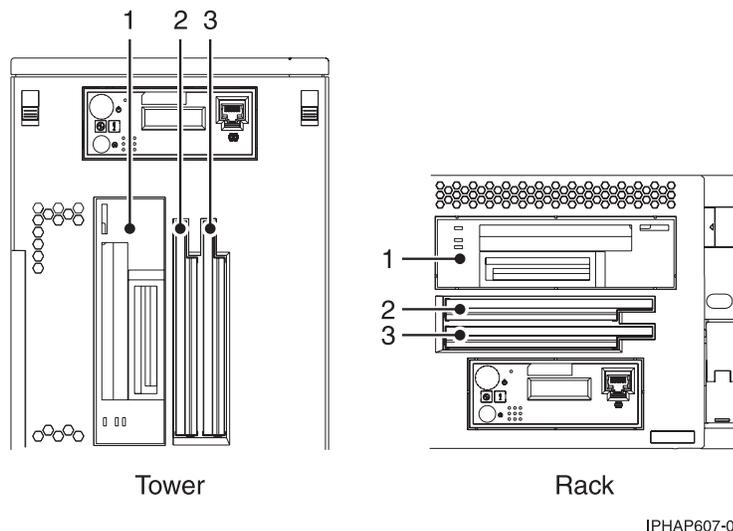


Figure 10. Media-device bays

## SCSI media device for models 285, 52x, 55x, and 720

Learn how to install, or remove and replace an SCSI media device.

The following procedure describes the replacement and installation of the SCSI media device.

A SCSI media device can be placed in the SCSI media-device bay. If a SCSI media device is installed in the system, a power cable and a SCSI cable will be connected to the back of the SCSI media device and routed to the appropriate connectors on the backplane or PCI adapter for the media-device enclosure.

For more information about media devices, see “Related information” on page 114.

## Install a SCSI media device in models 285, 52x, 55x, and 720

You might need to install an SCSI media device. Use the procedure in this section to accomplish this task.

The following procedure describes the installation of a SCSI media device.

If your system is managed by the Hardware Management Console (HMC), you can use the HMC to complete the steps for installing a SCSI media device. For instructions, see “Install a feature using the Hardware Management Console” on page 112.

Before you install a SCSI media device, perform the prerequisite tasks described in “Before you begin” on page 68. Refer to “Remove a SCSI media device in models 285, 52x, 55x, and 720” on page 13 if a SCSI media device is present in the SCSI media-device bay.

To install a SCSI media device, do the following:

1. Remove the media enclosure. For instructions, see “Remove the media-device enclosure from models 285, 52x, 55x, and 720” on page 34.
2. Attach the SCSI media device to the media-device enclosure using the retention screws. Figure 11 shows the placement of the screws **A**.

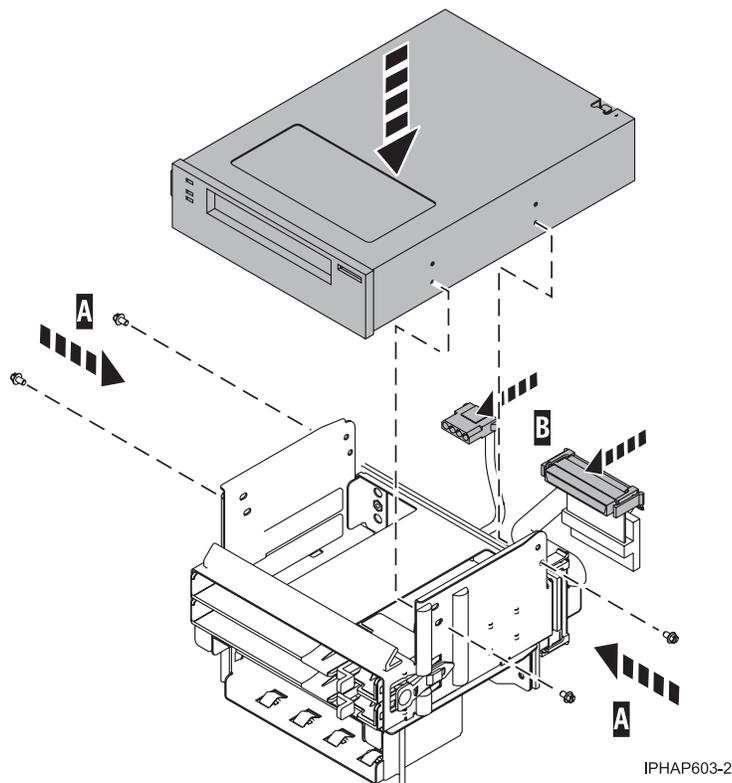


Figure 11. SCSI media-device installation

3. As shown in Figure 11, plug the SCSI cable and the power cable **B** into the back of the SCSI media device and into the backplane of the media-device enclosure.
4. Install the media enclosure. For instructions, see “Replace the media-device enclosure in models 285, 52x, 55x, and 720” on page 36.
5. Reconnect the power source to the system.
6. If you are servicing a rack-mounted system unit, continue to the next step. If you are servicing a stand-alone system unit, replace the front cover door as described in “Install or replace the door on the model 285, 52x, 55x, or OpenPower 720” on page 92.

7. "Install the front cover on the model 285, 52x, 55x, OpenPower 720, or the 0595 expansion unit" on page 86.
8. "Start the system or logical partition" on page 70.
9. Verify that the new resource is functional. Refer to "Verify the installed part" on page 106.

### **Remove a SCSI media device in models 285, 52x, 55x, and 720**

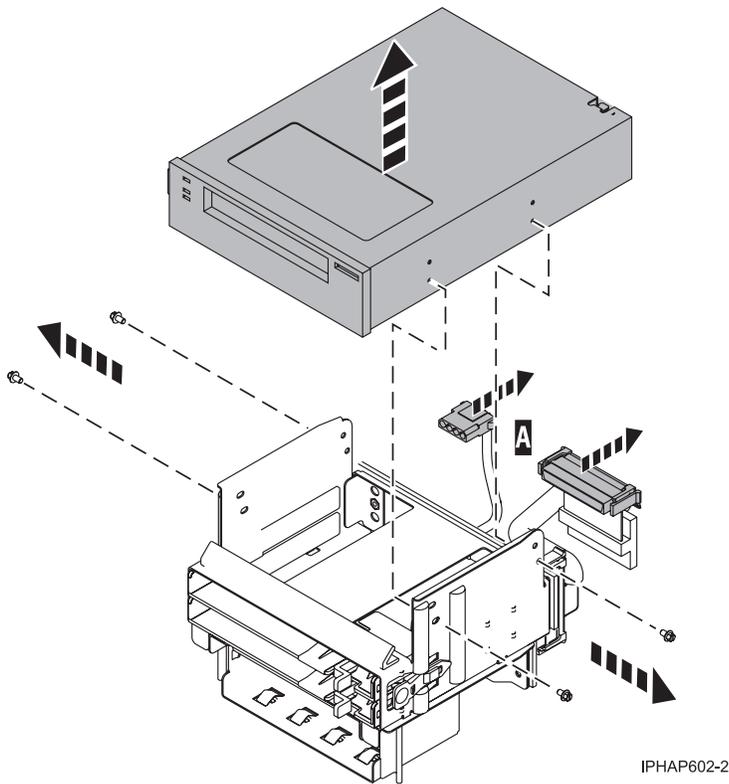
You might need to remove an SCSI media device to repair a failed device or as a part of another service action. Use the procedure in this section to accomplish this task.

1. Perform the prerequisite tasks described in "Before you begin" on page 68.
2. If you are removing the media device as part of another procedure, continue to the next step. If you are removing the device because of a system failure, refer to "Identify a failing part" on page 102.
3. "Stop the system or logical partition" on page 72.
4. If you are servicing a rack-mounted system unit, continue to the next step. If you are servicing a stand-alone system unit, remove the front cover door as described in "Remove the door from the model 285, 52x, 55x, or OpenPower 720" on page 90.
5. "Remove the front cover from the model 285, 52x, 55x, OpenPower 720, or the 0595 expansion unit" on page 84.
6. "Remove the media-device enclosure from models 285, 52x, 55x, and 720" on page 34.

**Note:** Look to see if any cables in the system are plugged into the connectors on the media-device enclosure. If any are present, unplug the cables.

**Attention:**

- Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge 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 metal surface of the system for a minimum of 5 seconds.
7. Unplug the SCSI cable and power cable A from the back of the SCSI media device and the backplane at the back of the media-device enclosure. If necessary, unplug any other cables from the back of the SCSI media device or media-device enclosure.
  8. Remove the SCSI media device from the media-device enclosure by removing the retention screws and lifting it out of the media-device enclosure, as shown in the following figure.



IPHAP602-2

Figure 12. SCSI media-device removal

9. Put the media device in a safe place.
10. To replace or install the media device, see "Install a SCSI media device in models 285, 52x, 55x, and 720" on page 12.

### Replace the SCSI media-device cables in a model 285,520, 550Q and 720

You might need to replace the SCSI media-device cables as a part of the servicing the media device or as a part of another service action. Use the procedure in this section to accomplish this task.

1. Perform the prerequisite tasks described in "Before you begin" on page 68.
2. If you are removing the media device as part of another procedure, continue to the next step. If you are removing the device because of a system failure, refer to "Identify a failing part" on page 102.
3. Remove the media enclosure. For instructions, see "Remove the media-device enclosure from models 285, 52x, 55x, and 720" on page 34.

#### Attention:

- Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge 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 metal surface of the system for a minimum of 5 seconds.
4. Identify the cable you want to remove.
  5. Unplug the cable from its connectors on the SCSI media device and on the media-device enclosure or audio card. If you are removing an audio-card cable, note how the cable is routed through the system so that you can replace it correctly.
  6. Remove the cable from the media-device enclosure or the system.

7. Plug the replacement cable into the appropriate connectors on the SCSI media device and on the media-device enclosure or audio card. If you are replacing the audio-card cable, ensure that the cable is routed through the system correctly.
8. Replace the media enclosure. For instructions, see “Replace the media-device enclosure in models 285, 52x, 55x, and 720” on page 36.
9. If you replaced the media device cable as part of another procedure, return to that procedure now. If you replaced the device cable because of a system failure, verify that the new resource is functional. See “Verify the installed part” on page 106.

---

## **Slimline media device for model 51x and 710**

You might need to remove and replace the Slimline media device to replace a failed device or as a part of another service task. Use the instructions in this section to accomplish this task.

The following procedure describes the removal and replacement of the Slimline media device.

### **Note:**

- Slimline media devices cannot be removed or replaced with the system power on.
- The device enclosure for the control panel and the media device does not need to be removed if you are replacing only the Slimline media device or filler.
- If you are replacing the control panel in addition to the Slimline media device, the control panel must be removed as part of the device enclosure. To remove the enclosure, complete the steps in Model 51x and 710 control panels.

## **Remove and replace a Slimline media device in model 51x and 710**

You might need to remove and replace a Slimline media device to replace a failed device or as a part of another service action. Use the instructions in this section to accomplish this task.

To remove and replace the Slimline media device, do the following:

1. Perform the prerequisite tasks described in “Before you begin” on page 68.
2. If you are removing the media device as part of another procedure, continue to the next step. If you are removing the device because of a system failure, refer to “Identify a failing part” on page 102.
3. “Stop the system or logical partition” on page 72.
4. “Remove the front cover from the model 51x or 710” on page 83.
5. Push the retaining tab away from the Slimline media device.
6. While holding the retaining tab **A** as shown in the following figures, grasp the device or filler **B** and pull it out of the system as shown in the following figures.

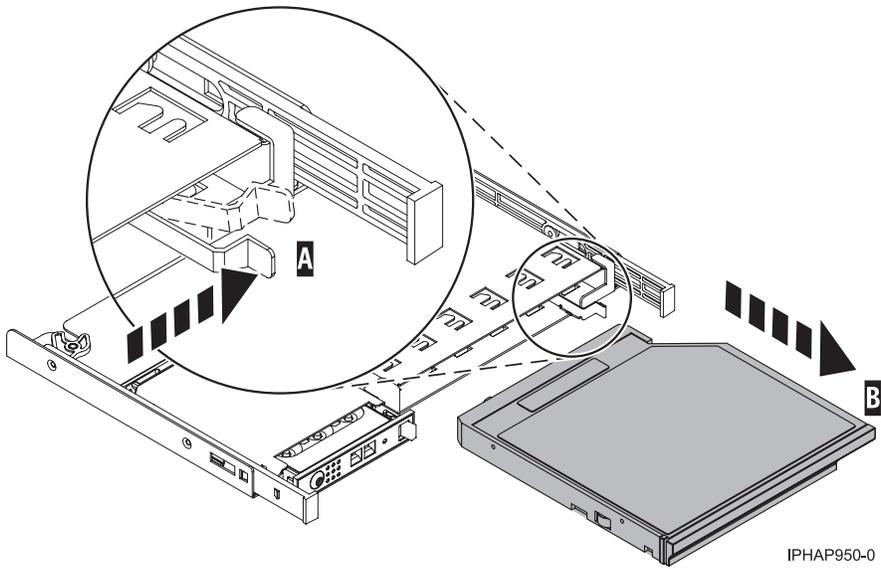


Figure 13. Slimline media-device removal

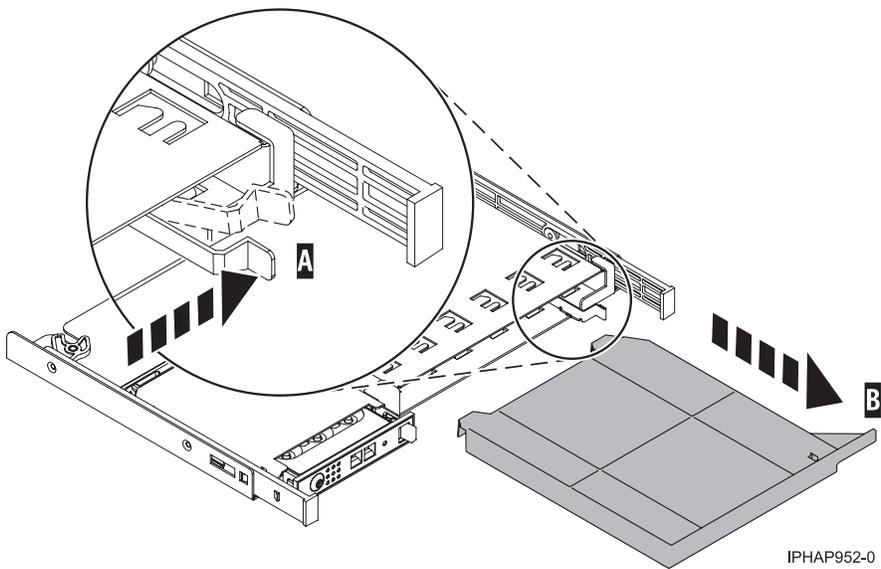


Figure 14. Slimline media-device filler removal

7. As shown in Figure 15 on page 17, align the replacement device **B** with the device enclosure and push it fully into the system as shown in the following figure.

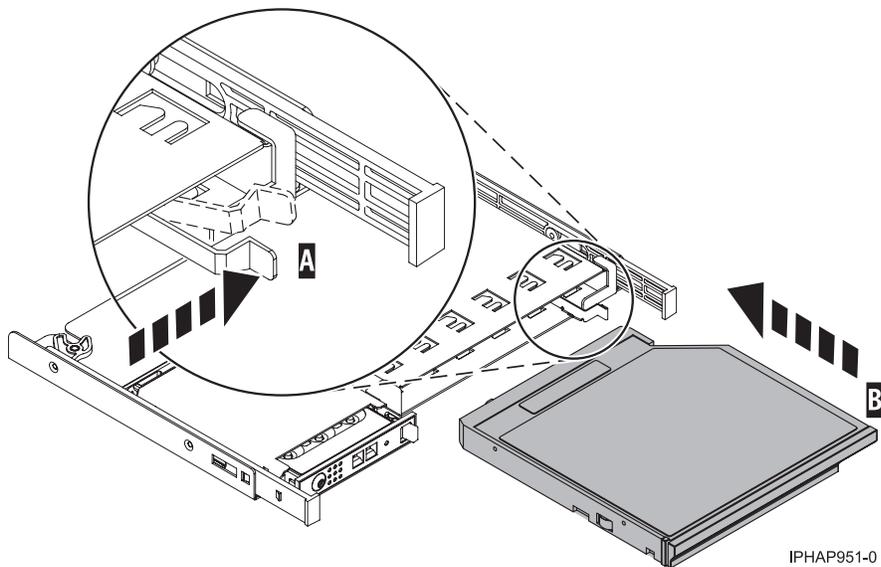


Figure 15. Slimline media-device installation

8. "Install the front cover on the model 51x or 710" on page 84.
9. "Start the system or logical partition" on page 70.
10. If you replaced the media device as part of another procedure, return to that procedure now. If you replaced the device because of a system failure, verify that the new resource is functional. See "Verify the installed part" on page 106.

---

## Media device for models 9116-561 and 570

Learn how to install, or remove and replace a media device to add a device, replace a failed device, or as a part of another service action.

The following procedure describes the removal and replacement of Slimline media devices.

**Note:** If i5/OS is your primary operating system, one Slimline media device can be placed in the upper slot of the system unit. You can not put a media device in the second slot for this system.

### Install a Slimline media device for models 9116-561 and 570

You might want to install a new media device. Use the instructions in this section to accomplish this task.

If your system is managed by the Hardware Management Console (HMC), you can use the HMC to complete the steps for installing a Slimline media device. For instructions, see "Install a feature using the Hardware Management Console" on page 112.

If the operating system on your system or partition is AIX® or Linux, install the media device with the power off, see "Install a Slimline media device for models 9116-561 and 570 with the system powered off" on page 20.

### Install a Slimline media device for models 9116-561 or 570 with the system powered on in i5/OS

You might want to install a new media device without powering down the system. Use the procedure in this section to accomplish this task.

The powered-on procedure is a complex set of steps that must be performed exactly to avoid potential data loss or system damage. You might also consider the powered off procedure, which is a simpler task

that involves less risk of data loss or system damage, see “Install a Slimline media device for models 9116-561 and 570 with the system powered off” on page 20.

If your system is managed by the Hardware Management Console (HMC), you can use the HMC to complete the steps for installing a Slimline media device. For instructions, see “Install a feature using the Hardware Management Console” on page 112.

**Attention:** Follow these instructions exactly to avoid data loss or system damage.

To install a Slimline media device for models 9116-561 and 570 with the system or partition powered on in i5/OS, follow these steps from the system or partition that controls the media device:

1. If you have not done so already, sign on with service tools authority.
2. On an i5/OS command line, type `strsst`. Press Enter.
3. Type your service tools user ID and service tools password on the System Service Tools (SST) Sign On display. Press Enter.
4. When the System Service Tools (SST) display appears, select **Start a service tool** and press Enter.
5. When the Start a Service Tool menu appears, select **Hardware service manager** and press Enter.
6. At the Hardware Service Manager display, select **Device Concurrent Maintenance** and press Enter. The following figure is an example of the next display.

```
Device Concurrent Maintenance
Type the choices, then press Enter.
Specify either physical location or resource name.
Physical location:
U7879.001.1234567-P4-D1
or
Device resource name:
Specify action as 1=Remove device 2=Install device
Action to be performed . . . . . : 2
Enter a time value between 00 and 19.
Time delay needed in minutes . . . . . : 01
F3=Exit F5=Refresh F12=Cancel
```

Figure 16. Example Device Concurrent Maintenance display

7. Find the feature code (FC) and sequence number (SN or SEQ) on the label that appears on the front of the system unit as shown in the following figure.



IPHAP550-0

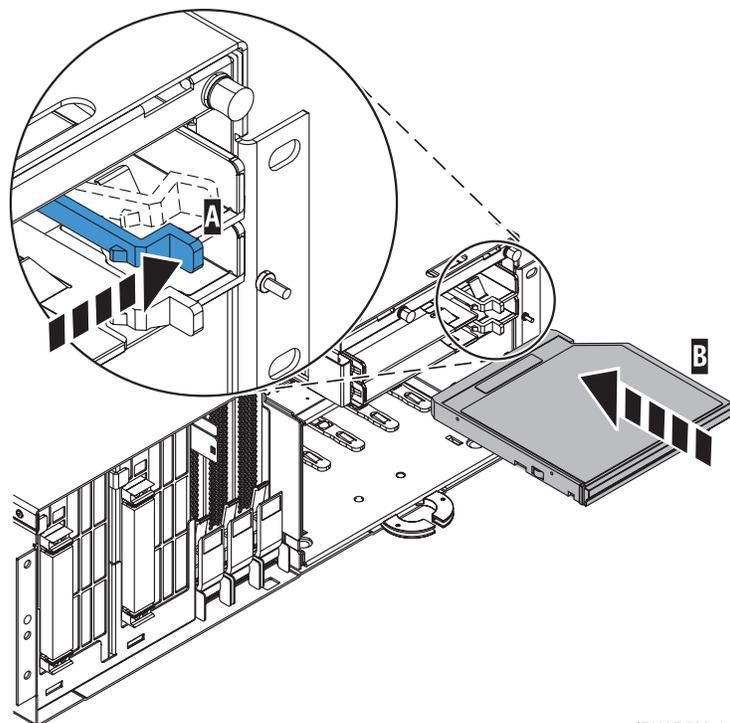
8. In the **Specify either physical location or resource name field**, type the physical location where you will be installing the new media device as shown in the example Device Concurrent Maintenance display.

**Note:** If i5/OS is your primary operating system, one Slimline media device can be placed in the upper slot of the system unit. This position is P4-D1. You cannot put a media device in the second slot for this system.

In the preceding example:

- U7879.001.1234567-P4-D1, U7879.001 comes from the feature code (FC) on the label
- 1234567 comes from the last seven digits of the sequence number (SN or SEQ) on the label
- P4-D1 is the position of the media device that you are replacing

9. Select option 2 (Install device) for the action to be performed.
10. Set the time delay for one minute 01.  
**Attention:** Media devices are fragile. Handle with care.
11. 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 metal surface of your hardware to prevent electrostatic discharge 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 metal surface of the system for a minimum of 5 seconds.
12. Align the media device with the Slimline media bay and support the bottom of the device as you slide it halfway into the system unit.  
**Important:** Do not insert the media device more than halfway, doing so will cause the device to be installed out of sequence.
13. Press Enter on the console. When you press Enter, after a one minute delay, the amber light on the right side of the media devices will activate.  
**Important:** You then have nine seconds to install the device.
14. While holding the blue plastic retaining tab **A**, push the device **B** fully into the system as shown in the following figure.



IPHAP503-1

Figure 17. Slimline media-device installation

The solid amber light turns off and the green lights turn on for both media slots when you have correctly installed the media device.

15. Return to the console and wait until the **Concurrent Maintenance Results** display appears and press Enter.
16. Press F12 to return to the Hardware Service Manager display.
17. Verify that the new resource is functional. Refer to “Verify the installed part” on page 106.
18. Replace the system unit front cover. For instructions, see “Install the front cover on the model 9116-561 or 570” on page 89.
19. Close the front rack door.

### **Install a Slimline media device for models 9116-561 and 570 with the system powered off**

You might want to install a media device with the power off. Use the procedure in this section to accomplish this task.

If your system is managed by the Hardware Management Console (HMC), you can use the HMC to complete the steps for installing a Slimline media device. For instructions, see “Install a feature using the Hardware Management Console” on page 112.

To install a Slimline media device for models 9116-561 and 570 with the system or partition powered off, follow these steps from the system or partition that controls the media device:

1. Stop the system. For instructions, see “Stop the system or logical partition” on page 72.

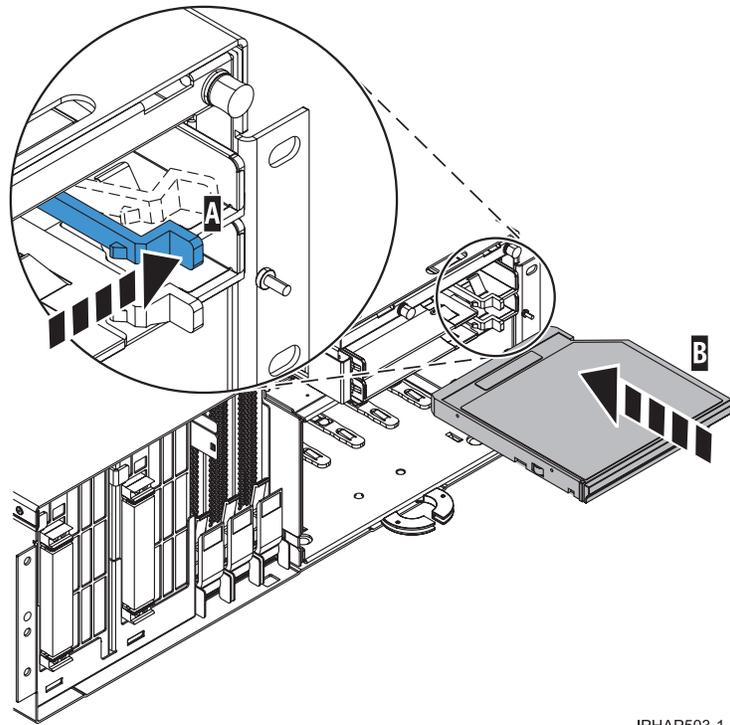
If you have an installed i5/OS logical partition on your system unit, see Restarting and shutting down i5/OS in a logical partition to find instructions on powering down a system with logical partitions.

**Attention:** Media devices are fragile. Handle with care.

2. Remove the system unit front cover. For instructions, see “Remove the front cover from the model 9116-561 or 570” on page 88.
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 metal surface of your hardware to prevent electrostatic discharge 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 metal surface of the system for a minimum of 5 seconds.
4. Align the media device with the Slimline media bay and support the bottom of the device as you slide it halfway into the system unit.
  5. While holding the blue plastic retaining tab **A**, push the device **B** fully into the system as shown in the following figure.



IPHAP503-1

Figure 18. Slimline media-device installation

6. Start the system. For instructions on starting the system, see “Start the system or logical partition” on page 70.
7. Verify that the new resource is functional. Refer to “Verify the installed part” on page 106.
8. Replace the system unit front cover. For instructions, see “Install the front cover on the model 9116-561 or 570” on page 89.
9. Close the front rack door.

## Remove and replace a Slimline media device for models 9116-561 and 570

You might need to remove and replace the Slimline media device to replace a failed device or as a part of another service task. Use the instructions in this section to accomplish this task.

To remove and replace a Slimline media device for models 9116-561 and 570, do the following:

1. Perform the prerequisite tasks described in “Before you begin” on page 68.
2. If you are removing a failing device, see “Identify a failing part” on page 102. If you are removing the device for other reasons, continue to the next step.
3. Open the front rack door.
4. “Remove the front cover from the model 9116-561 or 570” on page 88.

## Remove and replace a Slimline media device for model 9116-561 or 570 with the system powered on in i5/OS

You might want to remove and replace a Slimline media device to replace a failed device or as a part of another service action. Use the instructions in this section to accomplish this task.

The powered-on procedure is a complex set of steps that must be performed exactly to avoid potential data loss or system damage. You might also consider the powered off procedure, which is a simpler task

that involves less risk of data loss or system damage, see “Install a Slimline media device for models 9116-561 and 570 with the system powered off” on page 20.

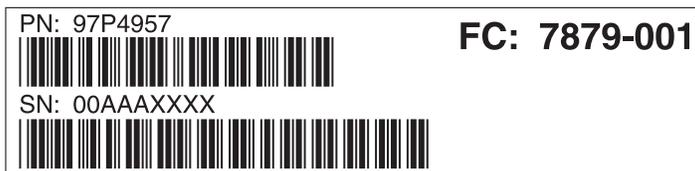
To replace a Slimline media device for models 9116-561 and 570 with the system or partition powered on, follow these steps from the system or partition that controls the media device:

1. Perform the prerequisite tasks described in “Before you begin” on page 68.
2. If you are removing the media device as part of another procedure, continue to the next step. If you are removing the device because of a system failure, refer to “Identify a failing part” on page 102.  
**Attention:** Follow these instructions exactly to avoid data loss or system damage.
3. If you have not done so already, sign on with service tools authority.
4. On an i5/OS command line, type `wrkcfgsts *dev`. Press Enter.
5. On the Work with Devices display, type **2** to make it unavailable (vary off) next to the media device you are replacing. Press Enter.
6. Press F12 to exit the Work with Devices display.
7. On the command line, type `strsst`. Press Enter.
8. Type your service tools user ID and service tools password on the System Service Tools (SST) Sign On display. Press Enter.
9. When the System Service Tools (SST) display appears, select **Start a service tool** and press Enter.
10. When the **Start a Service Tool** menu appears, select **Hardware service manager** and press Enter.
11. At the Hardware Service Manager display, select **Device Concurrent Maintenance** and press Enter.  
The following figure is an example of the next display:

```
Device Concurrent Maintenance
Type the choices, then press Enter.
Specify either physical location or resource name.
Physical location:
U7879.001.1234567-P4-D1
or
Device resource name:
Specify action as 1=Remove device 2=Install device
Action to be performed . . . . . : 1
Enter a time value between 00 and 19.
Time delay needed in minutes . . . . . : 01
F3=Exit F5=Refresh F12=Cancel
```

Figure 19. Device Concurrent Maintenance example display

12. If the physical location does not appear in the Device Concurrent Maintenance display, follow these steps:
  - a. Find the feature code (FC) and sequence number (SN or SEQ) on the label that appears on the front of the system unit as shown in the following figure.



IPHAP550-0

- b. In the **Specify either physical location or resource name** field, type the physical location where you will be replacing the media device as shown in the example Device Concurrent Maintenance display.

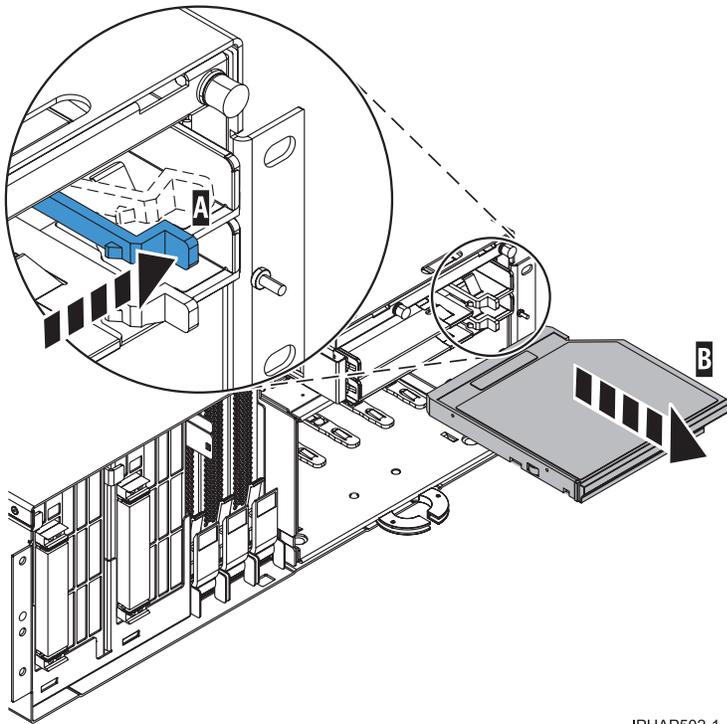
**Note:** If i5/OS is your primary operating system, one Slimline media device can be placed in the upper slot of the system unit. This position is P4-D1.

In the preceding example:

- U7879.001.1234567-P4-D1, U7879.001 comes from the feature code (FC) on the label
  - 1234567 comes from the last seven digits of the sequence number (SN or SEQ) on the label
  - P4-D1 is the position of the media device that you are replacing
13. Select option **1** (Remove device) for the action to be performed.
  14. Set the time delay for one minute 01 and press Enter.
  15. Watch the lights on the right side of the media devices. When you press Enter, after a one-minute delay, the amber light comes on solid. You then have nine seconds to remove the media device.
  16. While holding the blue plastic retaining tab **A**, grasp the device **B** and pull it out of the system unit as show in the following figure.

**Attention:**

- Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge 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 metal surface of the system for a minimum of 5 seconds.



IPHAP502-1

Figure 20. Slimline media-device removal

The light turns off when the device is removed.

**Attention:** Media devices are fragile. Handle with care.

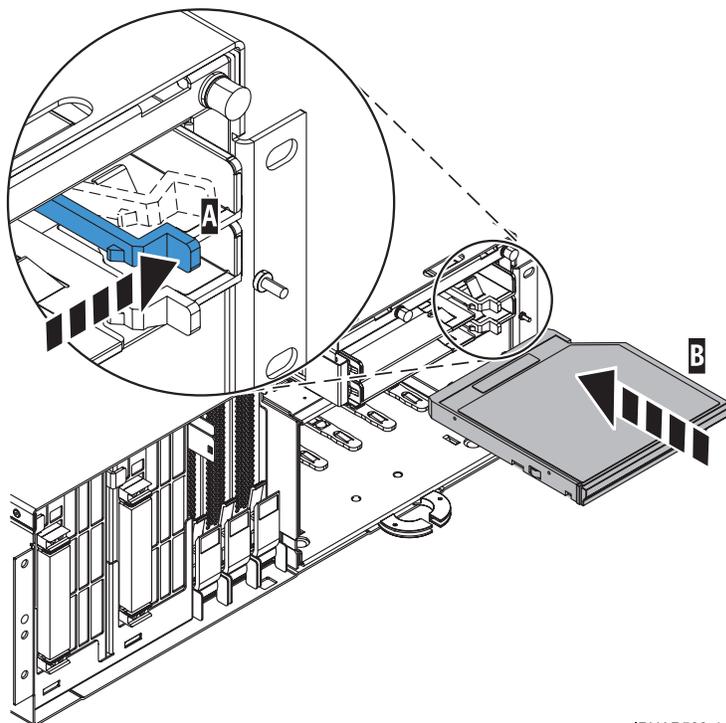
17. Find the package that contains the new media device and remove it from the static-protective package.

**Attention:**

- Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge 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 metal surface of the system for a minimum of 5 seconds.
18. Align the replacement media device with the Slimline media bay and support the bottom of the device as you slide it halfway into the system unit. Do not push the device in any farther; otherwise, you will install the device out of sequence.
  19. Return to the console and wait until the **Concurrent Maintenance Results** display appears.
  20. Press F12.
  21. On the Device Concurrent Maintenance display, select option 2 (Install device) for the action to be performed.
  22. Type 01, for one minute, in the **Enter a time value between 00 and 19** field and press Enter.
  23. Watch the lights on the right side of the media devices. When you press Enter, after a one-minute delay, the amber light comes on solid.

**Important:** You then have nine seconds to slide the media device into place.

24. While holding the blue plastic retaining tab **A**, push the device **B** fully into the system as shown in the following figure.



IPHAP503-1

Figure 21. Slimline media-device replacement

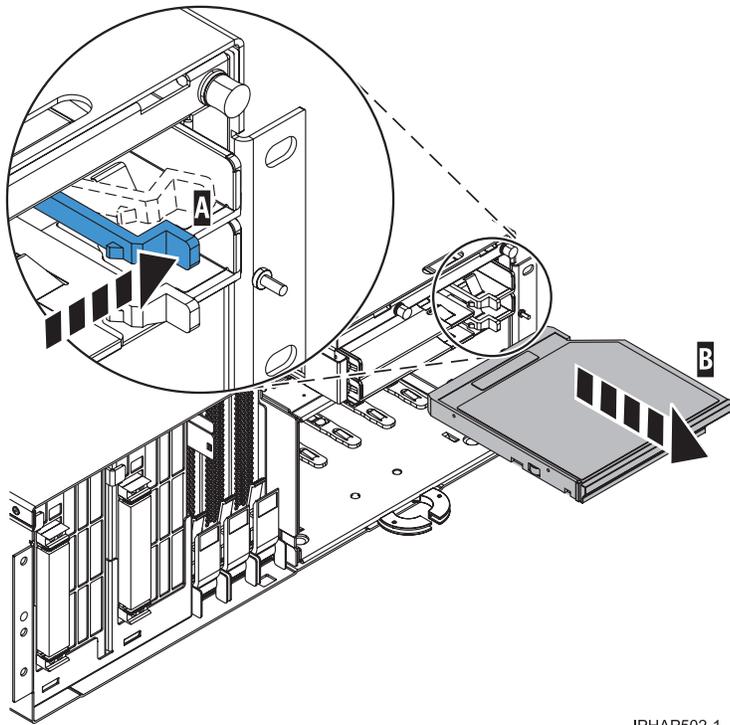
The solid amber light turns off and the green lights turn on for both media slots when you have correctly installed the media device.

25. Return to the console and wait until the **Concurrent Maintenance Results** display appears and then press Enter.
26. Press F12 to return to the **Hardware Service Manager** display.
27. Exit System Service Tools.
28. On the command line, type `wrkcfgsts *dev`. Press Enter.
29. On the **Work with Configuration Status** display, type **1** to make available (vary on) next to the media device you replaced. Press Enter. The status becomes active.
30. Press F12 to exit the **Work with Configuration Status** display.
31. Verify that the new resource is functional. Refer to “Verify the installed part” on page 106.
32. Replace the system unit front cover. For instructions, see “Install the front cover on the model 9116-561 or 570” on page 89.
33. Close the front rack door.

### **Remove and replace the model 570 media-device with the system power on using the ASMI**

If the operating system is AIX or Linux, use the Advanced System Management Interface (ASMI) to remove and replace a media-device with the power on. Use the procedure in this section to accomplish this task.

1. Perform the prerequisite tasks described in “Before you begin” on page 68.
2. If you are removing the media device as part of another procedure, continue to the next step. If you are removing the device because of a system failure, refer to “Identify a failing part” on page 102.
3. Ensure that any processes or applications that might use the media-device are stopped.
4. Access the Advanced System Management Interface (ASMI) for instructions see Accessing the ASMI.
5. On the ASMI Welcome pane, specify your user ID and password, and click **Log In**. Ensure you are logged on with at least Administrator or Service provider level authority.
6. In the navigation area, expand **Concurrent Maintenance**.
7. Select **IDE Device Control**. The location code and current power state of each IDE device is displayed.
8. Click **Power off** to remove power from the IDE devices displayed in the list. To restore power to the IDE devices displayed in the list, click **Power on**.
9. While holding the blue plastic retaining tab **A**, grasp the device **B** and pull it out of the system unit as shown in the following figure.



IPHAP502-1

Figure 22. Slimline media-device removal

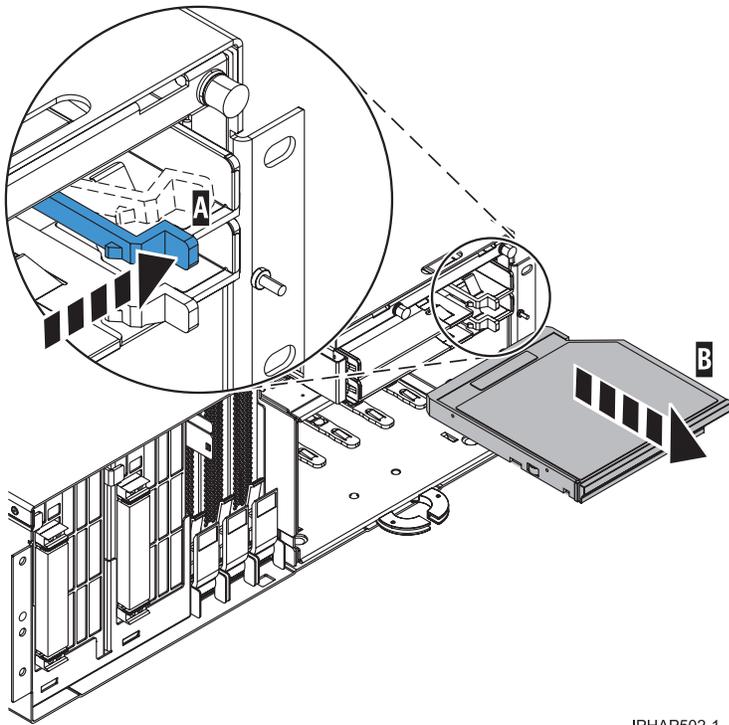
10. Align the replacement device with the Slimline media bay, then push it fully into the system.
11. From the ASMI, power on the media device as instructed in step 8.
12. Verify that the new resource is functional. Refer to “Verify the installed part” on page 106.
13. Replace the system unit front cover. For instructions, see “Install the front cover on the model 9116-561 or 570” on page 89.
14. Close the front rack door.

### Remove and replace a Slimline media device for models 9116-561 and 570 with the system powered off

You might need to remove and replace a Slimline media device with the system power off to replace a failed device or as a part of another service action. Use the procedure in this section to accomplish this task.

To replace a Slimline media device for models 9116-561 and 570 with the system or partition powered off, follow these steps from the system or partition that controls the media device:

1. Perform the prerequisite tasks described in “Before you begin” on page 68.
2. If you are removing the media device as part of another procedure, continue to the next step. If you are removing the device because of a system failure, refer to “Identify a failing part” on page 102.
3. Stop the system. For instructions, see “Stop the system or logical partition” on page 72.  
If you have an installed i5/OS logical partition on your system unit, see Restarting and shutting down i5/OS in a logical partition to find instructions on powering off a system with logical partitions.
4. While holding the blue plastic retaining tab **A**, grasp the device **B** and pull it out of the system unit as shown in the following figure.



IPHAP502-1

Figure 23. Slimline media-device removal

5. Align the replacement device with the Slimline media bay, then push it fully into the system.
6. Start the system. For instructions on starting the system, see “Start the system or logical partition” on page 70.
7. Verify that the new resource is functional. Refer to “Verify the installed part” on page 106.
8. Replace the system unit front cover. For instructions, see “Install the front cover on the model 9116-561 or 570” on page 89.
9. Close the front rack door.
10. Verify that the new resource is functional. Refer to “Verify the installed part” on page 106.

---

## Media device for model 7047-185 and 7037-A50

Learn how to install, or remove and replace Slimline or Small Computer System Interface (SCSI) media devices.

### Install a media device for model 7047-185 and 7037-A50

You might need to install a new or additional media device. Use the procedure in this section to accomplish this task.

**Note:** If you are installing a 3.5-in. media device in the bay, you must attach the 5.25-in. conversion kit, which you can order from an authorized dealer.

To install a media device, complete the following steps:

1. Turn off the computer and peripheral devices, and disconnect the power cords and all external cables.
2. Remove the side cover. For instructions, see Remove and replace model 7047-185 or 7037-A50 side cover.
3. Remove the front cover. For instructions, see Remove and replace model 185 or A50 front cover.

4. Open the drive cage by lifting the release tab A and lifting the cage up until it locks in place as shown in the following graphic.

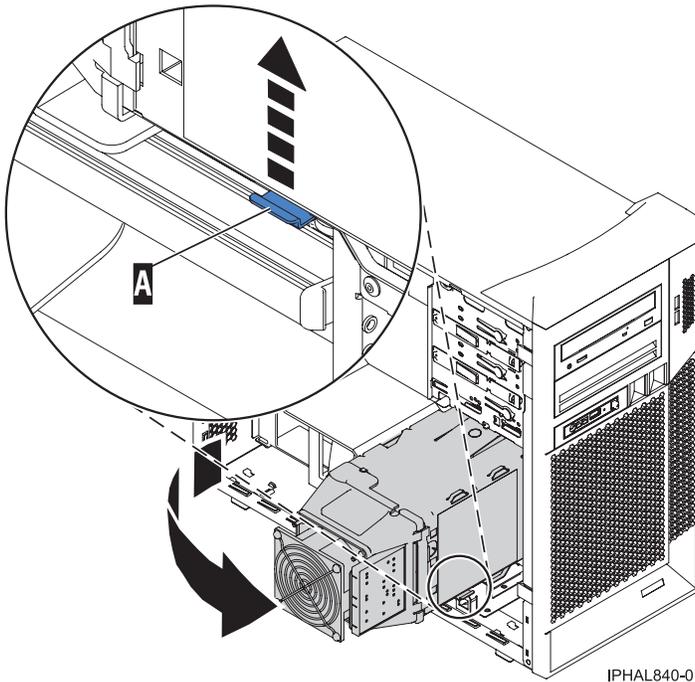
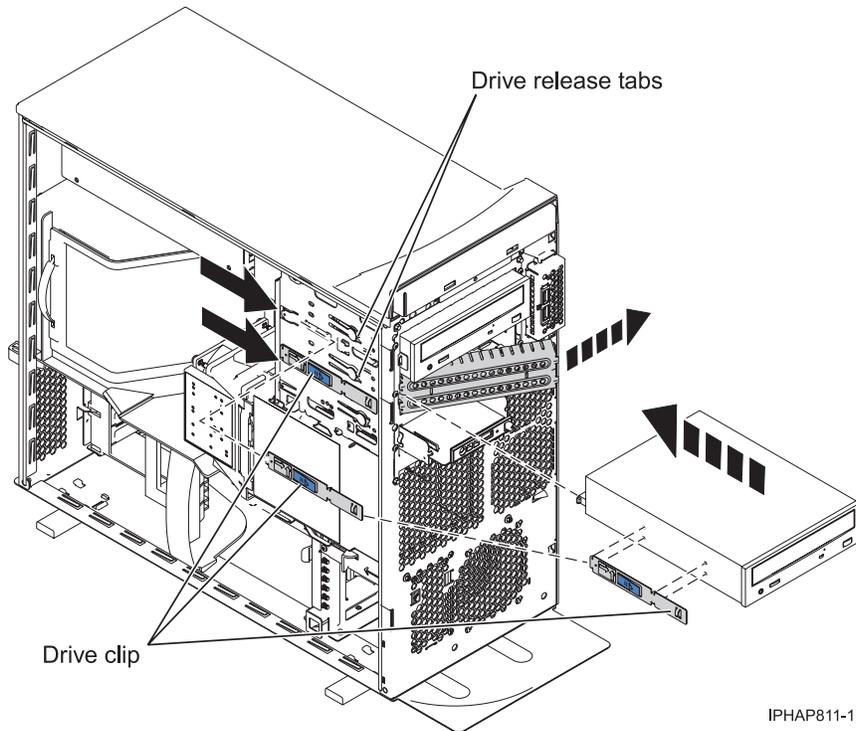


Figure 24. Lifting the disk drive cage

5. Touch the static-protective package containing the drive to any unpainted metal surface on the computer and remove the drive from the package and place it on a static-protective surface.
6. Set any jumpers or switches on the drive according to the documentation that comes with the drive.

**Tip:** You might find it easier to install the new drive from the front and then attach the cables.

7. Remove the drive bay cover.
8. Remove the drive clip that is attached to the side of the bay from the drive cage, as shown in the following figure.
  - a. Slide the drive clip to the left to disengage it from the drive cage
  - b. Snap the drive clip into the screw holes on the side of the device.



IPHAP811-1

Figure 25. Installing a media device

9. Slide the drive into the device bay until it snaps in place.
10. Connect the power cable and one end of IDE or SCSI cable into the back of the drive, and make sure that the other end of this cable is connected into the applicable IDE or SCSI connector on the system board.
11. Route the signal cable so that it is flat alongside the air baffle and does not become tangled or twisted under the drive cage.
12. Connect the power cable to the back of the drive. The connectors are keyed and can be inserted in only one way.
13. Lower the drive cage by pushing it slightly to the front of the system, pressing the release tab **A**, and lowering the cage into the system as shown in the following figure.

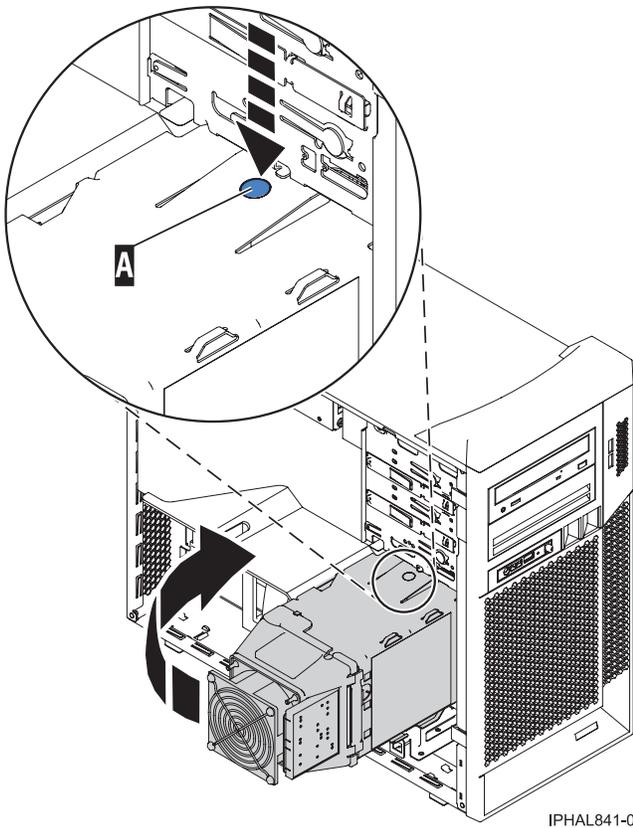


Figure 26. Lowering the drive cage

14. Replace the front cover. For instructions, see Remove and replace model 185 or A50 front cover.
15. Replace the side cover. For instructions, see Remove and replace model 7047-185 and 7037-A50 side cover.
16. Reconnect the power cable to the back of the system and to any other peripheral devices that you unplugged.

## Remove and replace a media device for model 7047-185 and 7037-A50

You might want to remove and replace a media device to replace a failed device or as a part of another service action. Use the procedure in this section to accomplish this task.

To remove or replace a media device, complete the following steps:

1. Turn off the computer and peripheral devices, and disconnect the power cords and all external cables.
2. Remove the side cover. For instructions see, Remove and replace model 7047-185 and 7037-A50 side cover.
3. Remove the front cover. For instructions see, Remove and replace model 185 or A50 front cover.
4. Open the disk drive cage by lifting up on the release tab **A** and lifting the cage up until it snaps into place as shown in the following graphic.

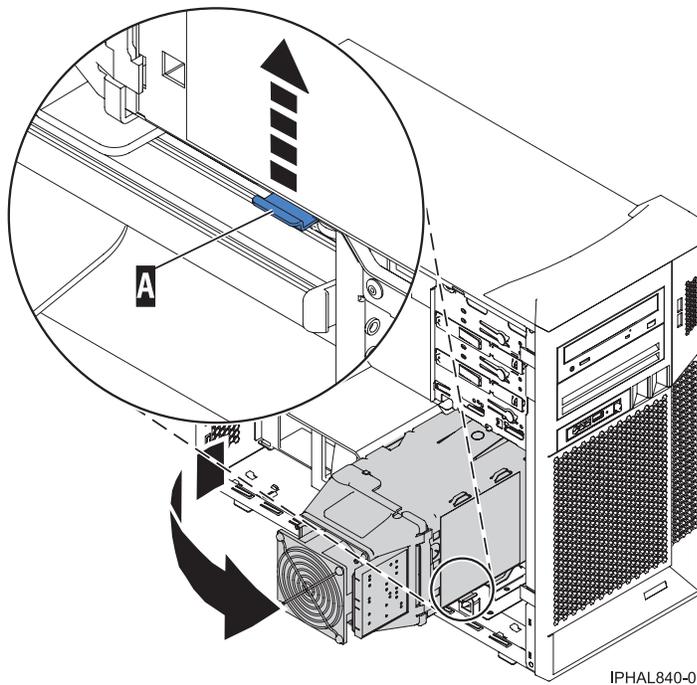


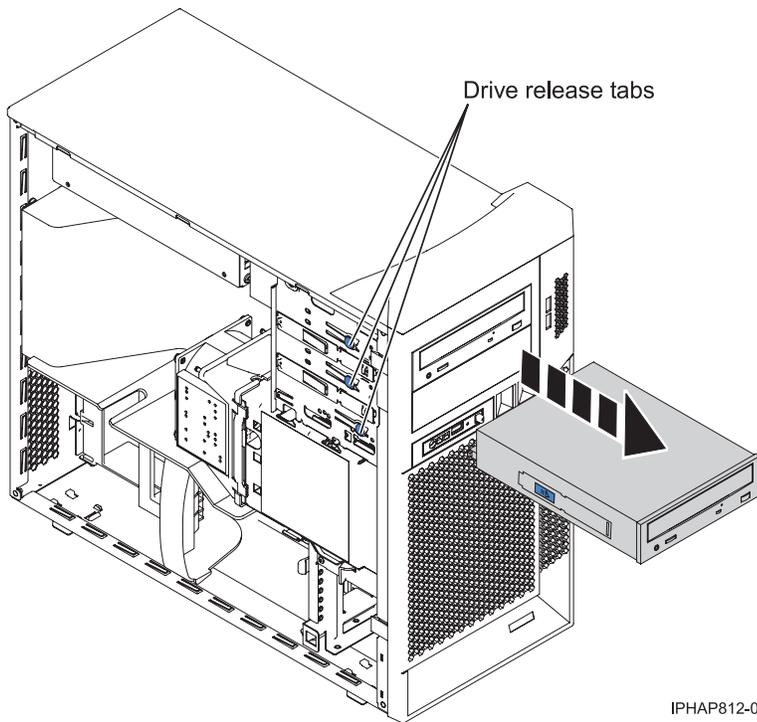
Figure 27. lifting the disk drive cage

5. Disconnect the IDE or SCSI cable, depending on the type of media device, and the power cable from the back of the media device. Then unplug the IDE or SCSI cable from the system board.

**Note:** If you are replacing the media device with the same type of cable (IDE or SCSI) then you do not need to remove the cable from the system board.

6. Press the drive release tab that corresponds the media device you want to remove and slide the device out from the front of the case, as shown in the following figure.

**Note:** If you are not replacing a media device and you still have the drive bay cover slide the left end into the bay opening, and then snap the right side into place.



IPHAP812-0

Figure 28. Removing a media device

7. Remove the drive clip that is attached to the side of the bay from the drive cage, as shown in the following figure.
  - a. Slide the drive clip to the front of the system unit to disengage it from the drive cage
  - b. Snap the drive clip into the screw holes on the side of the device.

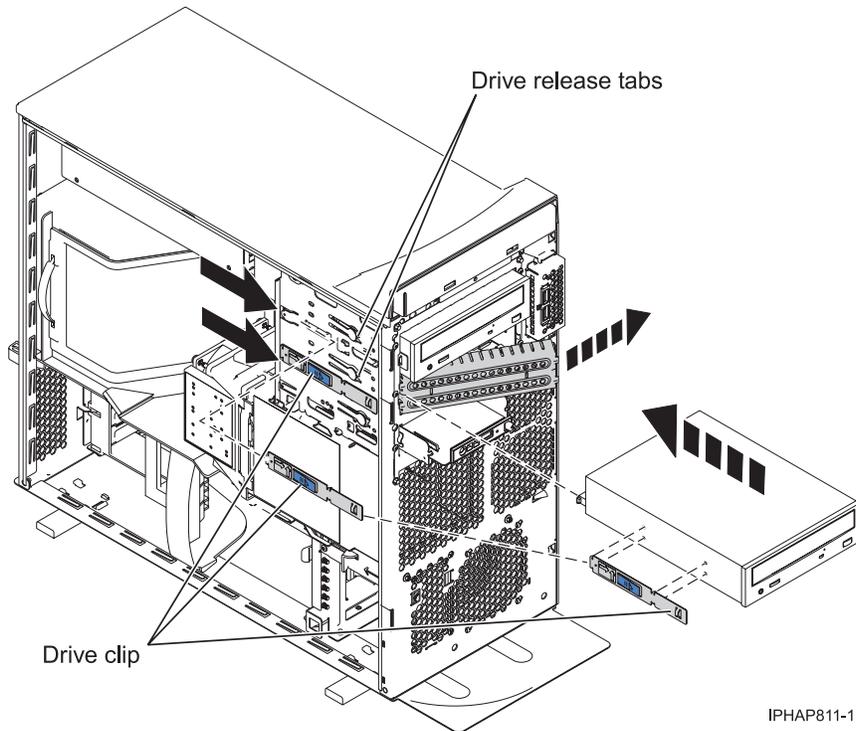


Figure 29. Installing a media device

8. Slide the drive into the device bay until it snaps in place.

**Note:** If you are installing a 3.5-in. media device in the bay, you must attach the 5.25-in. conversion kit, which you can order from an authorized dealer.

9. Connect the power cable and one end of IDE or SCSI cable into the back of the media device, and make sure that the other end of this cable is connected into the applicable IDE or SCSI connector on the system board.
10. Route the signal cable so that it is flat alongside the air baffle and does not become twisted or tangled under the drive cage.
11. Connect the power cable to the back of the drive. The connectors are keyed and can be inserted in only one way.
12. Lower the drive cage by pushing it slightly forward, pressing the release tab **A**, and lowering the cage until it locks into place as shown in the following figure.

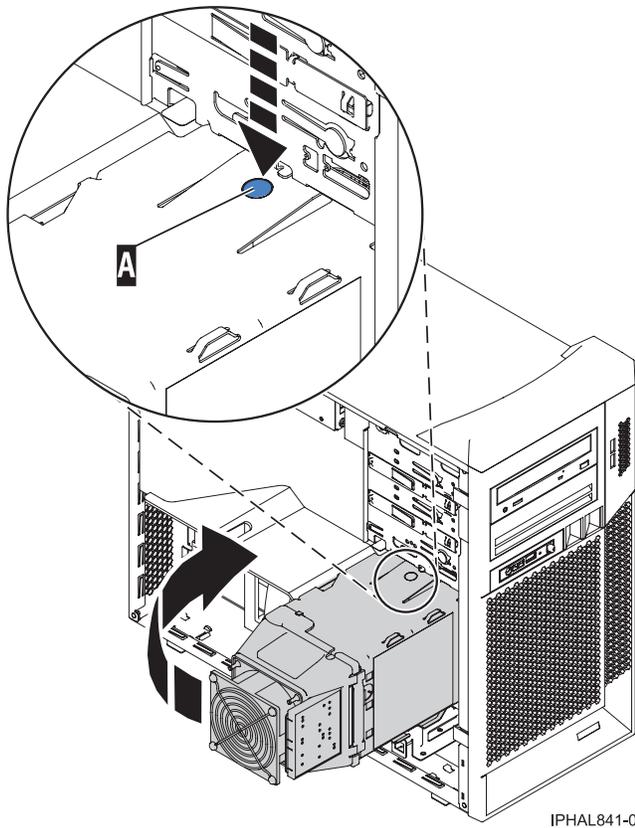


Figure 30. lowering the drive cage

13. Replace the front cover. For instructions see Remove and replace model 185 or A50 front cover.
14. Replace the side cover. For instructions see Remove and replace model 7047-185 and 7037-A50 side cover.
15. Reconnect the power cable to the back of the system and to any other peripheral devices that you unplugged.

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## Media-device enclosure

Learn how to remove and replace a media-device enclosure to service the media devices or perform other service actions.

Replacing this feature is a customer task. You can perform these tasks yourself, or contact an authorized service provider to perform the task for you. You might be charged a fee by the service provider for these services.

### Media-device enclosure for models 285, 52x, 55x, and 720

You might want to remove and replace a media-device enclosure to service the media devices or perform other service actions. Use the procedures in this section to accomplish these tasks.

#### Remove the media-device enclosure from models 285, 52x, 55x, and 720

You might need to remove a media-device enclosure to service the media devices or perform other service actions. Use the instructions in this section to accomplish this task.

The following procedure describes the removal of the media-device enclosure .

To remove the media-device enclosure, do the following:

1. Perform the prerequisite tasks described in “Before you begin” on page 68.
2. If you are removing the media-device enclosure as part of another procedure, continue to the next step. If you are removing the enclosure because of a system failure, refer to “Identify a failing part” on page 102.
3. “Stop the system or logical partition” on page 72.
4. Remove the front cover. For instructions, see “Remove the front cover from the model 285, 52x, 55x, OpenPower 720, or the 0595 expansion unit” on page 84.
5. Press and hold the media-device enclosure latches **A**, then pull the enclosure **B** out of the system chassis as shown in the following figures.

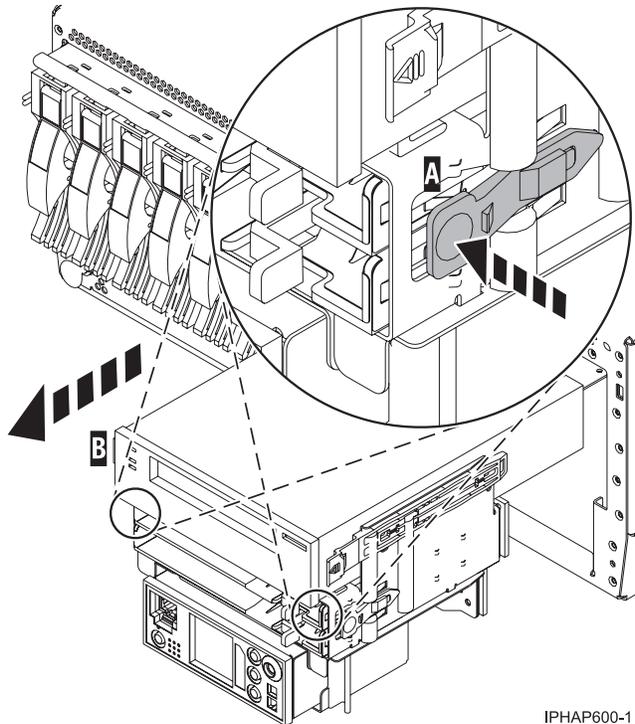
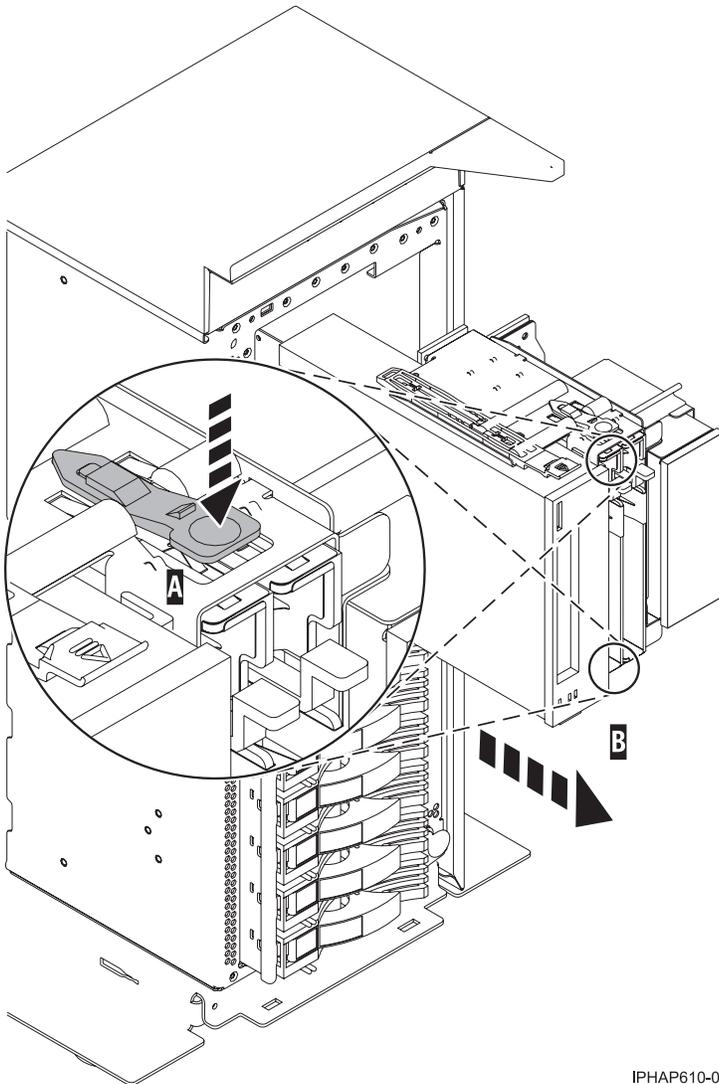


Figure 31. Rack-mounted system unit media-device enclosure removal



IPHAP610-0

Figure 32. Stand-alone system unit media-device enclosure removal

6. If you are servicing a stand-alone system unit, unplug the control panel cable from the media-device enclosure while you remove the media-device enclosure from the system chassis. If you are servicing a rack-mounted system unit, the control panel will remain in the media-device enclosure while it is being removed. Disconnect any other cables that are connected to the media device enclosure.
7. If you are removing the media-device enclosure as part of another procedure, return to that procedure now. If you are removing a failing enclosure to replace it with a new one, ensure that you have removed all devices and needed parts from the failing unit and place them in the new unit.
8. To replace the media-device enclosure in the system unit, see "Replace the media-device enclosure in models 285, 52x, 55x, and 720."

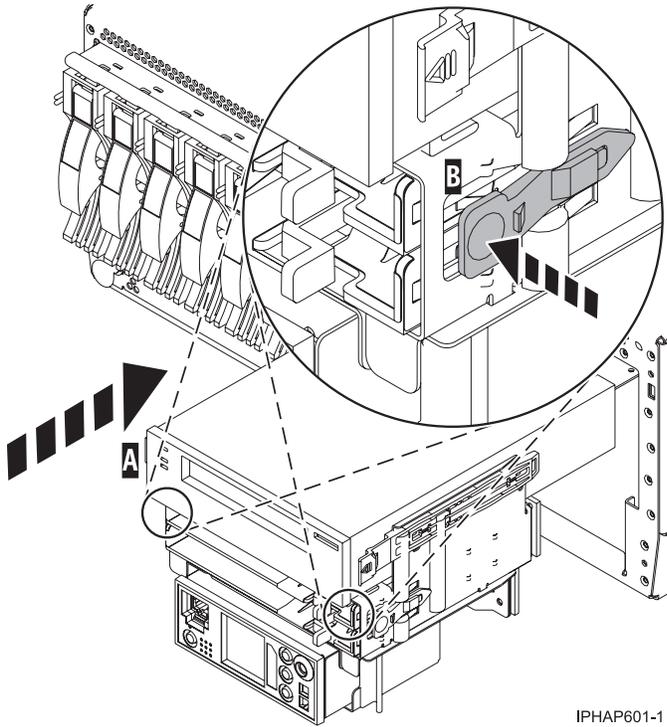
### Replace the media-device enclosure in models 285, 52x, 55x, and 720

Learn how to replace a media-device enclosure after you have completed a service action. Use the procedure in this section to complete this task.

The following procedure describes the replacement of the media-device enclosure in the rack-mounted and stand-alone system units.

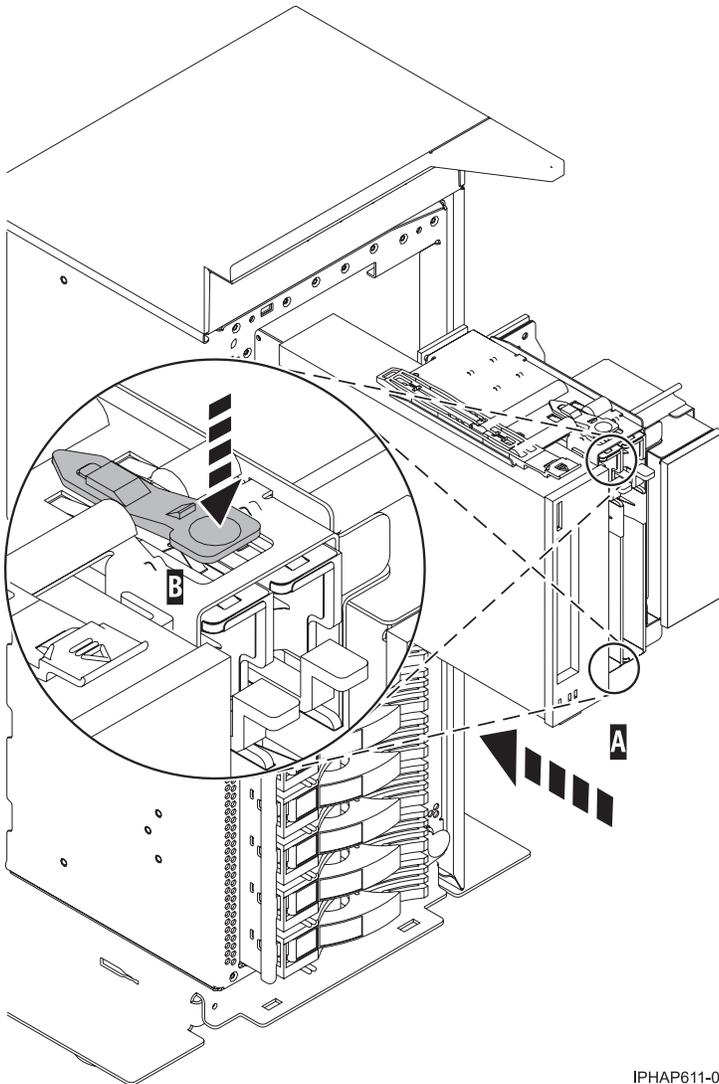
To replace the media-device enclosure, do the following:

1. If you have not previously removed the media-device enclosure, do so now.
2. If you are servicing a stand-alone system unit, plug the control panel cable into the media-device enclosure as you replace the media-device enclosure in the system chassis.
3. Align the media-device enclosure with the chassis opening.
4. Reconnect any cables that were connected to the media-device enclosure when it was removed.
5. Press and hold the media-device enclosure latches **A**, then push the enclosure **B** into place until you feel the latches lock as shown in the following figure.



IPHAP601-1

Figure 33. Rack-mounted system unit media-device enclosure replacement



IPHAP611-0

Figure 34. Stand-alone system unit media-device enclosure replacement

6. Reconnect all system power cables.
7. "Install the front cover on the model 285, 52x, 55x, OpenPower 720, or the 0595 expansion unit" on page 86.
8. "Place the rack-mounted system or expansion unit in the operating position" on page 78.
9. "Start the system or logical partition" on page 70.
10. If you replaced the media-device enclosure as part of another procedure, return to that procedure now. If you replaced the enclosure because of a system failure, verify that the new resource is functional. See "Verify the installed part" on page 106.

## Model 570 media-device enclosure

Learn how to remove and replace a media-device enclosure to service the media device or perform another service action. Use the instructions in this section to accomplish these tasks.

### Remove the model 570 media-device enclosure

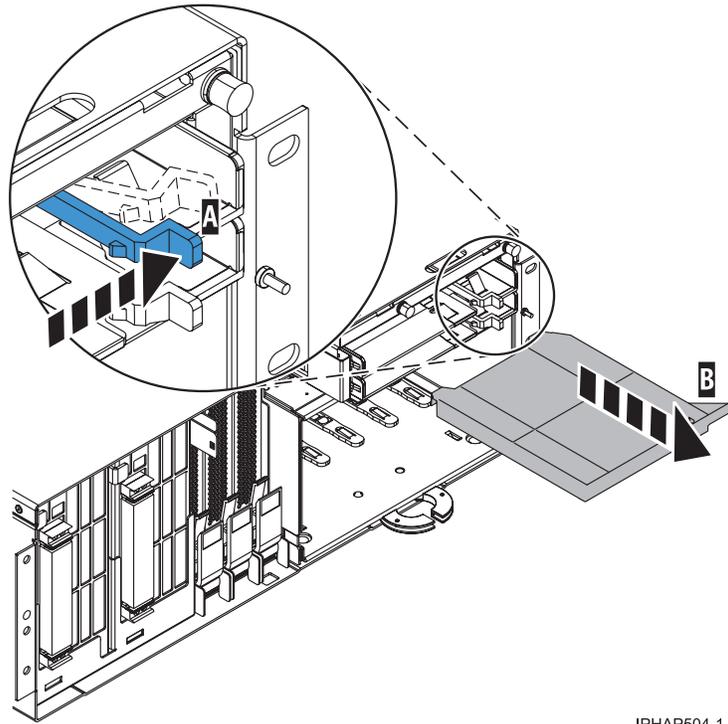
Learn how to remove a media device enclosure to service the media devices or perform another service action. Use the instructions in this section to accomplish this task.

### Remove the model 570 media-device enclosure with the system power on in i5/OS:

If i5/OS is the operating system, you can remove the media-device enclosure with the power on to perform a service action. Use the procedure in this section to perform this task.

To remove the media-device enclosure, do the following:

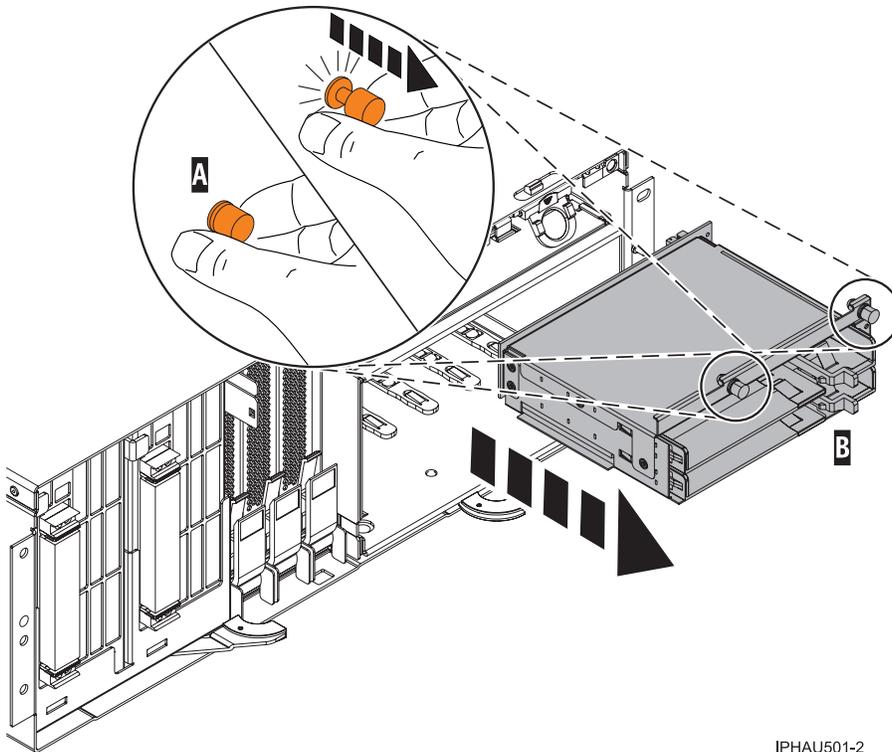
1. Perform the prerequisite tasks described in “Before you begin” on page 68.
2. If you are removing the media-device enclosure as part of another procedure, continue to the next step. If you are removing the enclosure because of a system failure, refer to “Identify a failing part” on page 102.
3. Remove the front cover. For instructions, see “Remove the front cover from the model 9116-561 or 570” on page 88.
4. If you are removing the media-device enclosure as part of another procedure, continue to the next step. If you are removing the enclosure because of a system failure, refer to “Identify a failing part” on page 102.
5. If there is a filler panel present in the media-device enclosure, while holding the blue plastic retaining tab **A**, pull the filler panel **B** out of the system unit as shown in Figure 35.



IPHAP504-1

Figure 35. media device filler panel removal

6. If there is a media device is present in the media-device enclosure, follow the steps in “Remove and replace a Slimline media device for models 9116-561 and 570” on page 21 to remove the media device. Then return to this procedure and continue with the next step.
7. Pull the two orange locking knobs **A** out until they unlock, then pull the enclosure **B** out of the system chassis as shown in the following figure.



IPHAU501-2

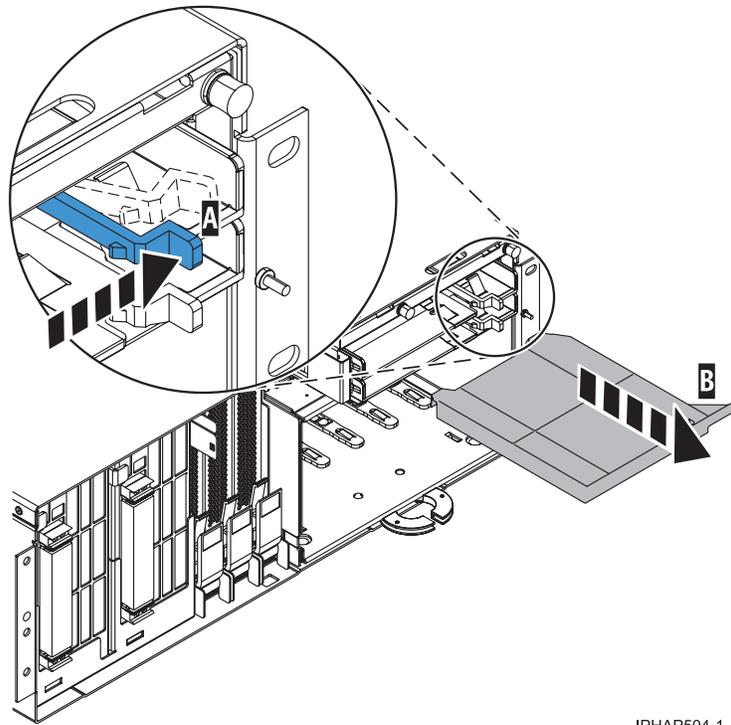
Figure 36. Model 570 media-device enclosure removal

8. If you are removing the media-device enclosure as part of another procedure, return to that procedure now. If you are removing a failing enclosure to replace it with a new one, ensure that you have removed all devices and needed parts from the failing unit and place them in the new unit.
9. To replace the media-device enclosure in the system unit, see “Replace the model 570 media-device enclosure with the system power on in i5/OS” on page 44.

**Remove the model 570 media-device enclosure with the system power on using the ASMI:**

Learn how to use the Advanced System Management Interface (ASMI) to remove the media-device enclosure without powering down the system. Use the procedure in this section to perform this task.

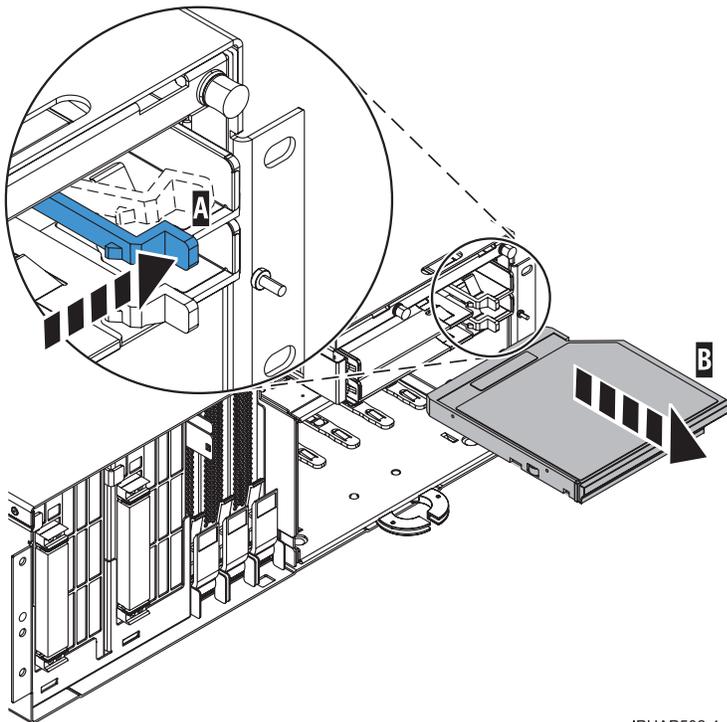
1. Perform the prerequisite tasks described in “Before you begin” on page 68.
2. If you are removing the media device as part of another procedure, continue to the next step. If you are removing the device because of a system failure, refer to “Identify a failing part” on page 102.
3. Ensure that any processes or applications that might use the media-device(s) are stopped.
4. Access the Advanced System Management Interface (ASMI) for instructions see Accessing the ASMI.
5. From the ASMI, power down the media device(s) for instructions see Controlling power to IDE devices.
6. Remove the front cover. For instructions, see “Remove the front cover from the model 9116-561 or 570” on page 88.
7. If there is a filler panel present in the media-device enclosure:, while holding the blue plastic retaining tab **A**, pull the filler panel **B** out of the system unit. See Figure 37 on page 41.



IPHAP504-1

Figure 37. media device filler panel removal

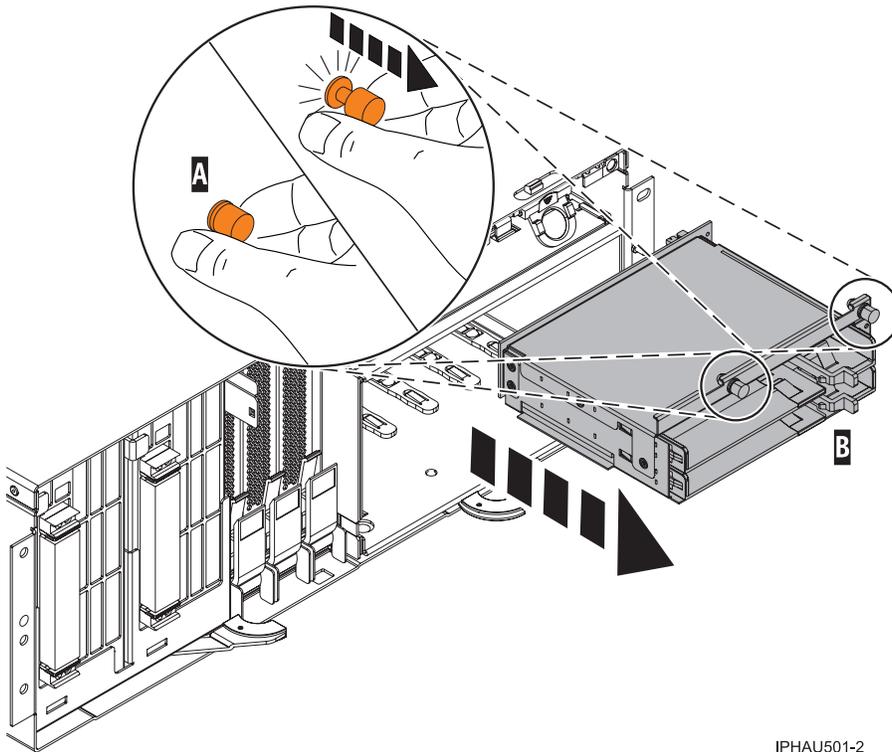
8. If there is a media device present in the media-device enclosure, while holding the blue plastic retaining tab A, grasp the device B and pull it out of the system unit as shown in the following figure.



IPHAP502-1

Figure 38. Slimline media device removal

- Pull the two orange locking knobs **B** out until they unlock, then pull the enclosure **A** out of the system chassis.



IPHAU501-2

Figure 39. Model 570 media-device enclosure removal

- If you are removing the media-device enclosure as part of another procedure, return to that procedure now. If you are removing a failing enclosure to replace it with a new one, ensure that you have removed all devices and needed parts from the failing unit and placed them in the new unit.
- To replace the media-device enclosure in the system unit, see “Replace the model 570 media-device enclosure with the system power on using the ASMI” on page 45.

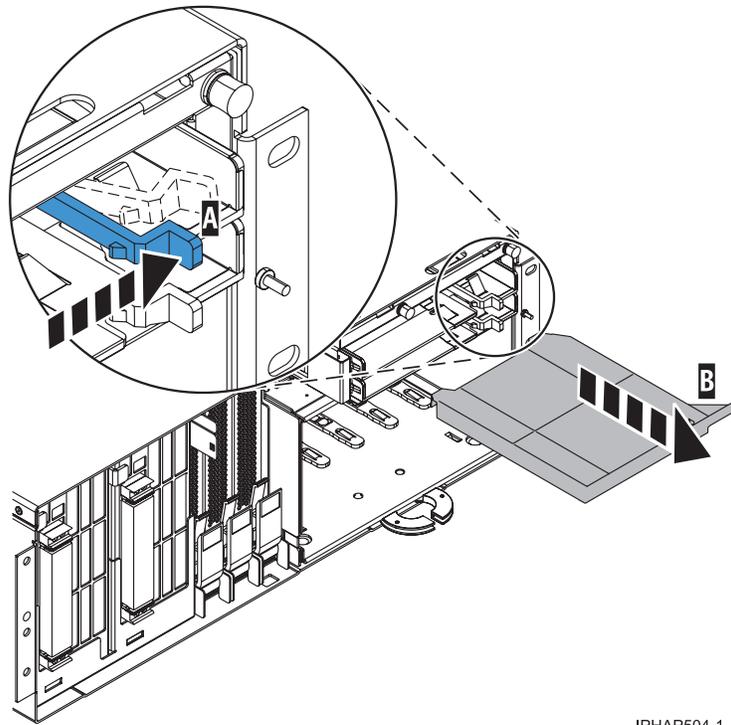
#### **Remove the model 570 media-device enclosure with the system power off:**

If you need to power off the system to service the media devices or perform another service action, use the procedure in this section to learn how to remove the media-device enclosure.

The following procedure describes the removal of the model 570 media-device enclosure with the system power off.

To remove the media-device enclosure, do the following:

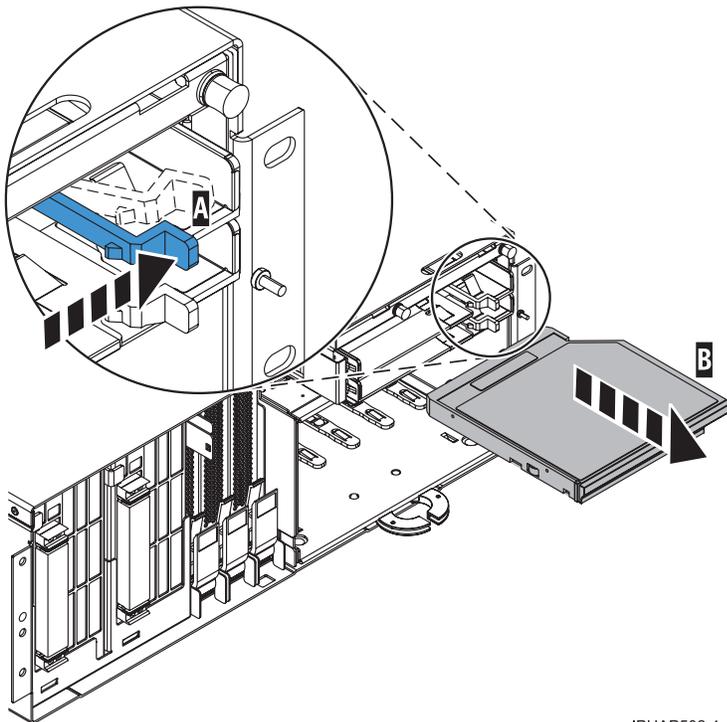
- Perform the prerequisite tasks described in “Before you begin” on page 68.
- If you are removing the media-device enclosure as part of another procedure, continue to the next step. If you are removing the enclosure because of a system failure, refer to “Identify a failing part” on page 102.
- “Stop the system or logical partition” on page 72.
- Remove the front cover. For instructions, see “Remove the front cover from the model 9116-561 or 570” on page 88.
- If there is a filler panel present in the media-device enclosure:, while holding the blue plastic retaining tab **A**, pull the filler panel **B** out of the system unit. See Figure 40 on page 43.



IPHAP504-1

Figure 40. Slimline media device removal

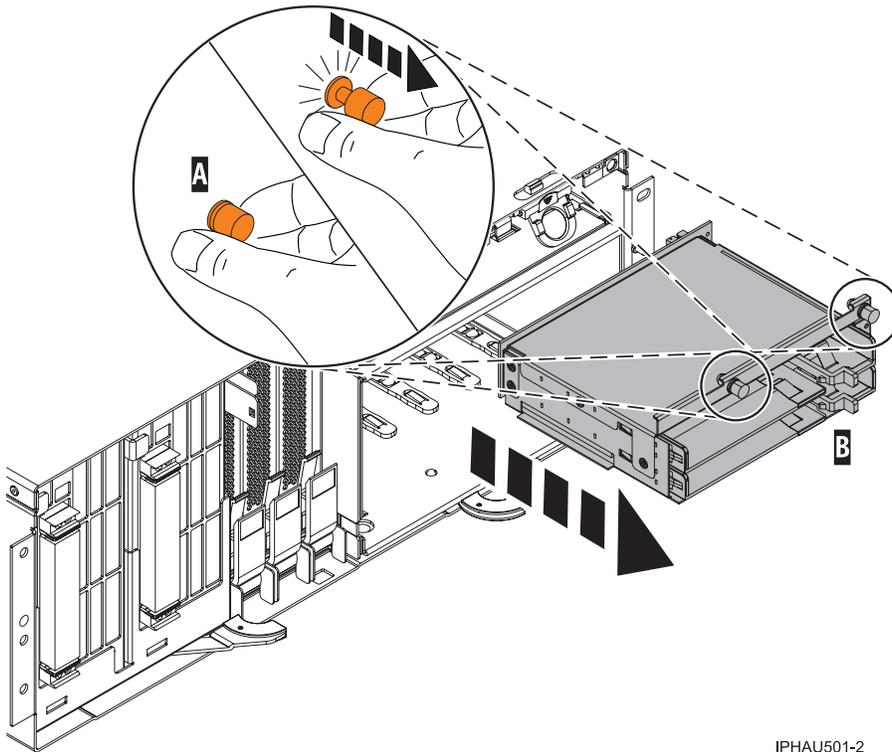
6. If there is a media device is present in the media-device enclosure, while holding the blue plastic retaining tab A, grasp the device B and pull it out of the system unit as shown in the following figure.



IPHAP502-1

Figure 41. Media device filler panel removal

7. Pull the two orange locking knobs **A** out until they unlock, then pull the enclosure **B** out of the system chassis.



IPHAU501-2

Figure 42. Model 570 media-device enclosure removal

8. If you are removing the media-device enclosure as part of another procedure, return to that procedure now. If you are removing a failing enclosure to replace it with a new one, ensure that you have removed all devices and needed parts from the failing unit and placed them in the new unit.
9. To replace the media-device enclosure in the system unit, see “Replace the model 570 media-device enclosure with the system power off” on page 47.

### Replace the model 570 media-device enclosure

Learn how to replace a media device enclosure after servicing the media devices or as part of another service action. Use the instructions in this section to accomplish this task.

#### Replace the model 570 media-device enclosure with the system power on in i5/OS:

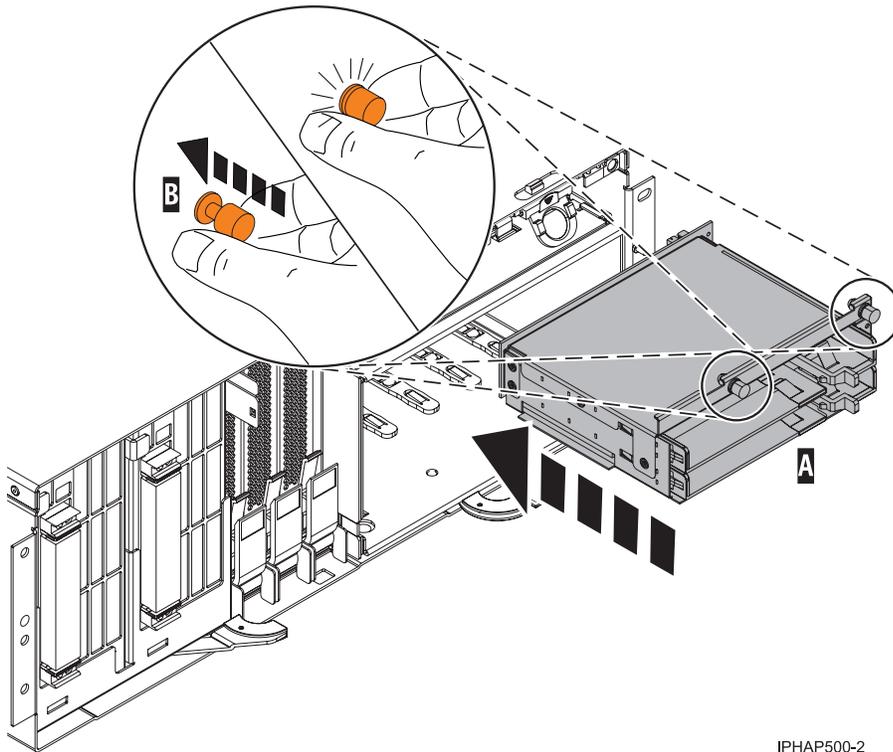
If the operating system is i5/OS, learn how to replace the media-device enclosure with the power on after servicing the media devices or performing another service action. Use the procedure in this section to perform this task.

The following procedure describes the replacement of the model 570 media-device enclosure with the system power on in i5/OS.

To replace the media-device enclosure, do the following:

1. Remove the media-device enclosure from the system unit. See “Remove the model 570 media-device enclosure with the system power on in i5/OS” on page 39.
2. Align the media-device enclosure with the chassis opening.

3. Push the media-device enclosure **A** into place, then push the two orange locking knobs **B** into the locked position as shown in the following figure.



IPHAP500-2

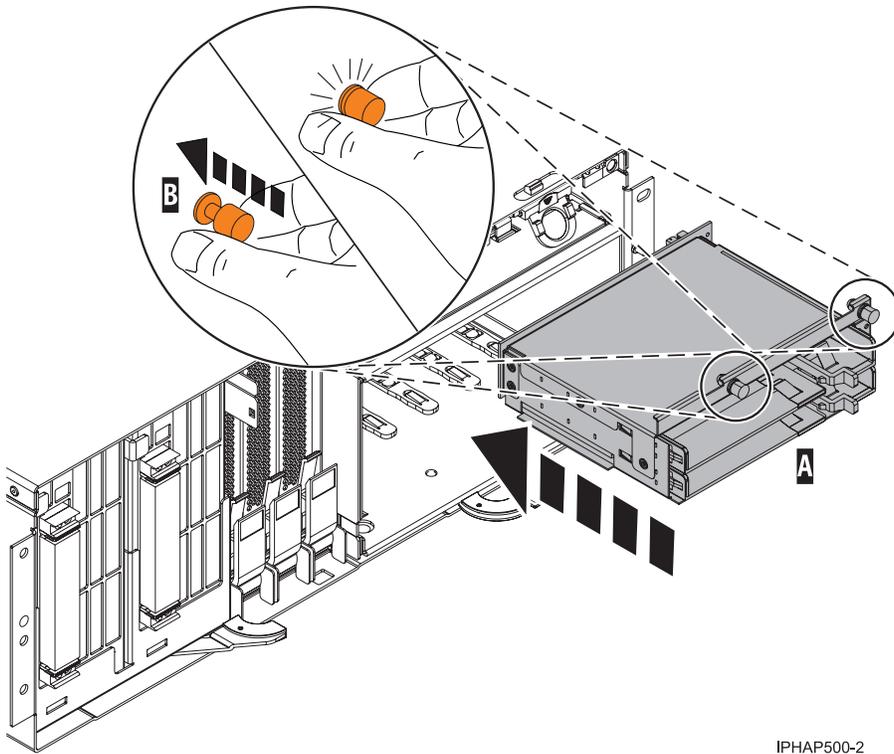
Figure 43. Model 570 media-device enclosure replacement

4. If there was a media device present in the media-device enclosure, follow the steps in “Remove and replace a Slimline media device for models 9116-561 and 570” on page 21 to replace the media device. Then return to this procedure and continue with the next step.
5. If there was a filler panel present in the media-device enclosure, replace the filler panel.
6. If you replaced the media-device enclosure as part of another procedure, return to that procedure now. If you replaced the enclosure because of a system failure, continue with the next step.
7. “Install the front cover on the model 9116-561 or 570” on page 89.
8. If you replaced the media-device enclosure as part of another procedure, return to that procedure now. If you replaced the enclosure because of a system failure, verify that the new resource is functional. See “Verify the installed part” on page 106.

#### **Replace the model 570 media-device enclosure with the system power on using the ASMI:**

Learn how to replace the media-device enclosure with the power on using the Advanced System Management Interface (ASMI) after servicing the media devices or performing another service action. Use the procedure in this section to perform this task.

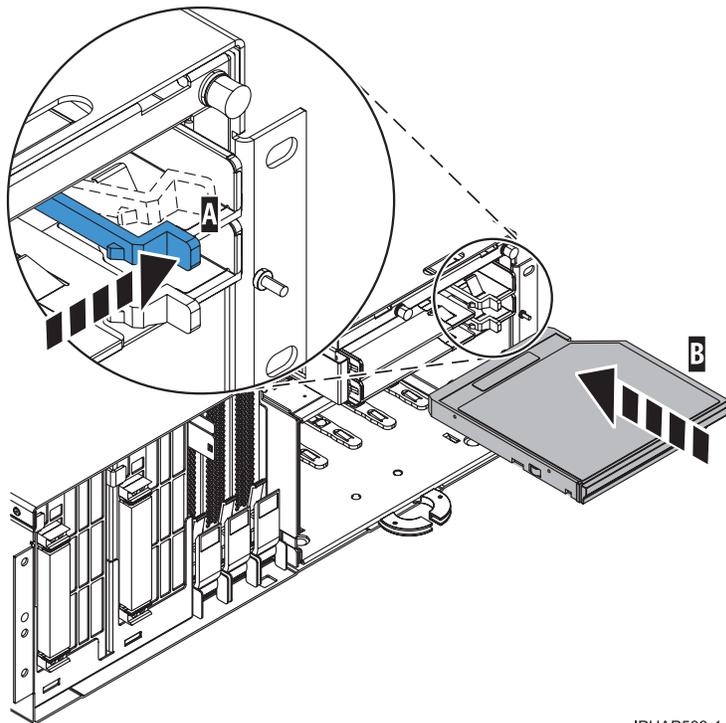
1. Remove the media-device enclosure from the system unit. See “Remove the model 570 media-device enclosure with the system power on using the ASMI” on page 40.
2. Align the media-device enclosure with the chassis opening.
3. Push the media-device enclosure **A** into place, then push the two orange locking knobs **B** into the locked position as shown in the following figure.



IPHAP500-2

Figure 44. Model 570 media-device enclosure replacement

4. If there was a media device present in the media-device enclosure, while holding the blue plastic retaining tab **A**, push the device **B** fully into the system as shown in Figure 45.



IPHAP503-1

Figure 45. Slimline media device replacement

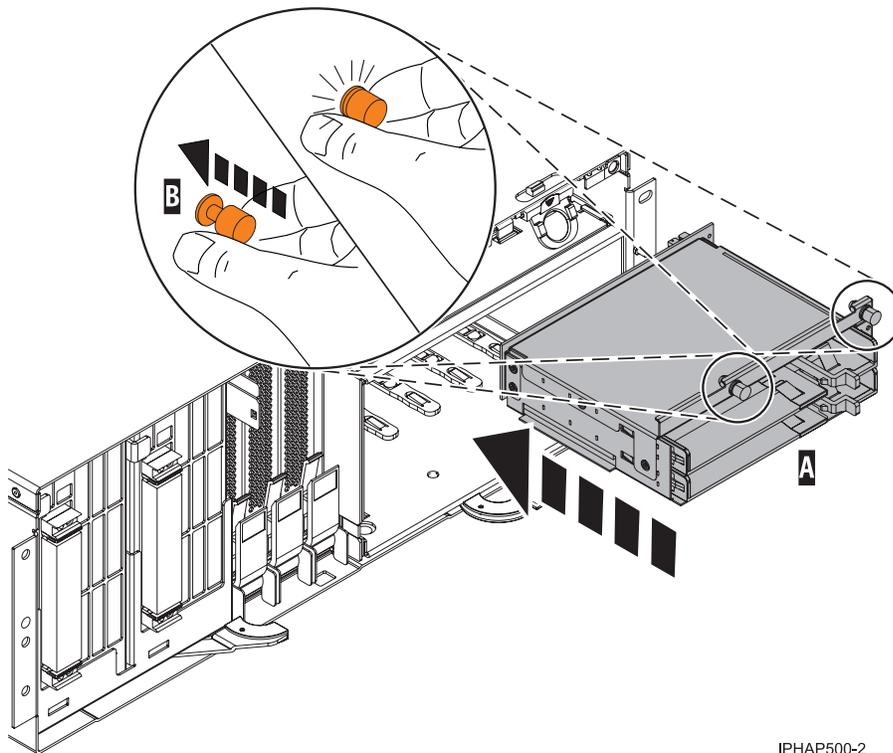
5. If there was a filler panel present in the media-device enclosure, replace the filler panel.
6. From the ASMI, power on the media device for instructions see Controlling power to IDE devices.
7. Verify that the new resource is functional. Refer to “Verify the installed part” on page 106.
8. Replace the system unit front cover. For instructions, see “Install the front cover on the model 9116-561 or 570” on page 89.
9. Close the front rack door.

If you replaced the media-device enclosure as part of another procedure, return to that procedure now.

**Replace the model 570 media-device enclosure with the system power off:**

If you powered the system off to service the media-devices or perform another service task, use the procedure in this section to replace the media-device enclosure.

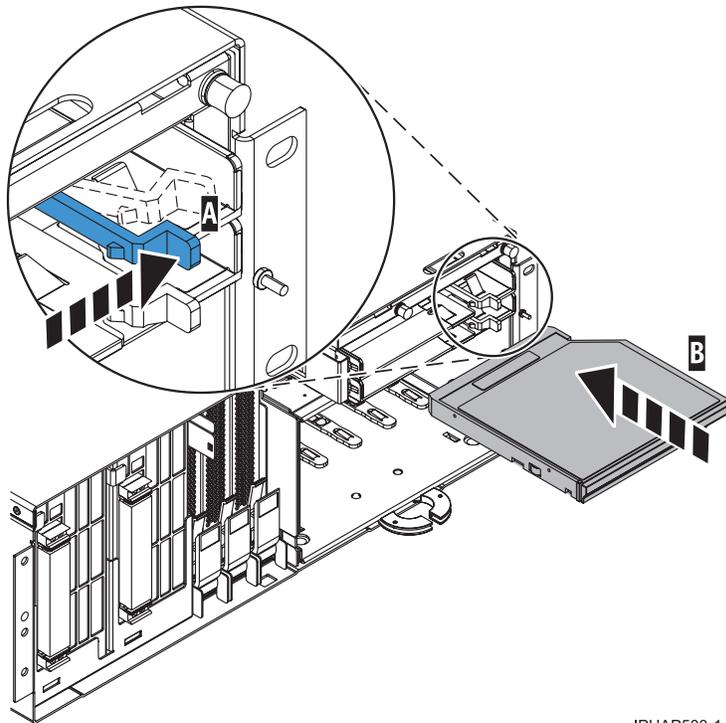
1. Remove the media-device enclosure from the system unit. See “Remove the model 570 media-device enclosure with the system power off” on page 42.
2. Align the media-device enclosure with the chassis opening.
3. Push the media-device enclosure **A** into place, then push the two orange locking knobs **B** into the locked position as shown in the following figure.



IPHAP500-2

Figure 46. Model 570 media-device enclosure replacement

4. If there was a media device present in the media-device enclosure, while holding the blue plastic retaining tab **A**, push the device **B** fully into the system as shown in “Remove and replace a Slimline media device for models 9116-561 and 570 with the system powered off” on page 26.



IPHAP503-1

Figure 47. Slimline media device replacement

5. If there was a filler panel present in the media-device enclosure, replace the filler panel.
6. If you replaced the media-device enclosure as part of another procedure, return to that procedure now. If you replaced the enclosure because of a system failure, continue with the next step.
7. Reconnect all system power cables.
8. “Start the system or logical partition” on page 70.
9. “Install the front cover on the model 9116-561 or 570” on page 89.
10. If you replaced the media-device enclosure as part of another procedure, return to that procedure now. If you replaced the enclosure because of a system failure, verify that the new resource is functional. See “Verify the installed part” on page 106.

---

## Media device in an expansion unit

Learn how to install or remove and replace a media device using the instructions in this section.

### Install a media device in an expansion unit

Learn how to prepare to install a media device, and decide to use the power on or power off procedure to complete the installation.

This procedure gives you the steps you need to install media devices in your expansion unit. It will help you to decide between a concurrent (power on) media device installation and a shut-down (power off) media device installation. During a concurrent installation, you do not shut down your expansion unit.

If you encounter difficulties during the installation, contact your authorized dealer or service provider.

1. Perform prerequisite tasks as described in “Before you begin” on page 68.
2. Open the front cover **A** (shown in Figure 48 on page 49 for feature 5074, 5094, 9194, or 8093; or in Figure 49 on page 50 for features 5079, 5294, or 8294).

3. Use the latch that is shown **B** to remove the cover as shown in the following figures.

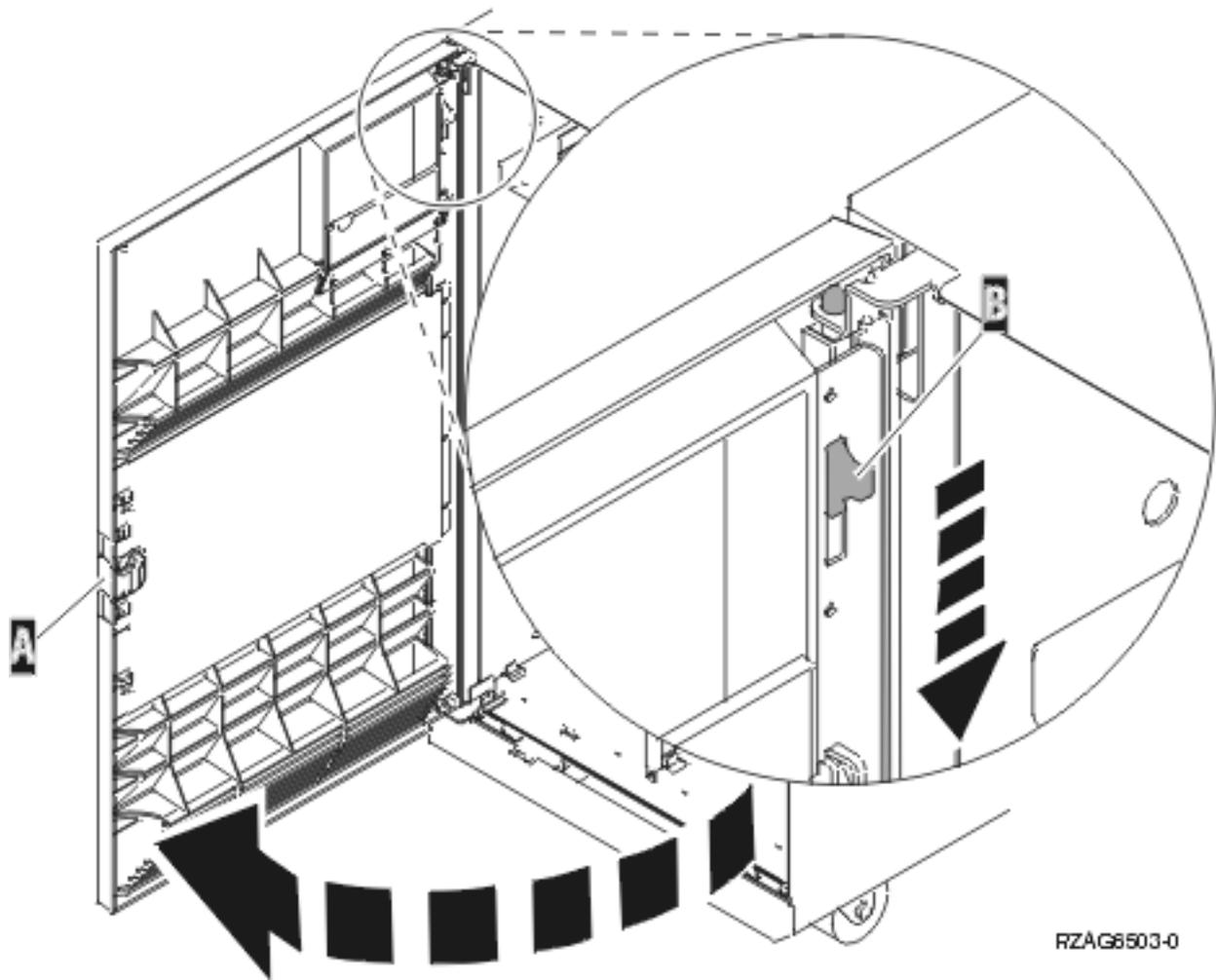
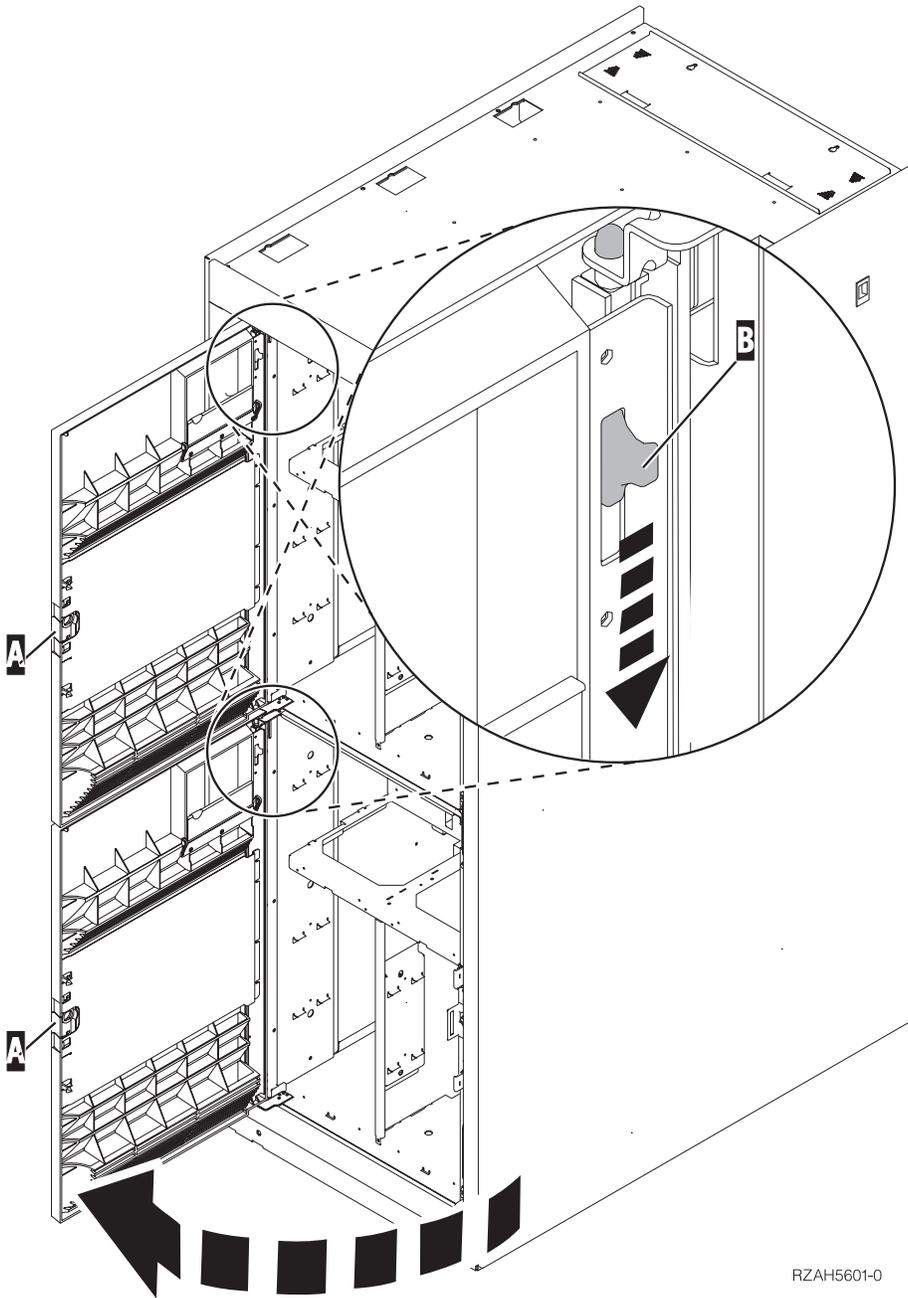


Figure 48. Opening and removing the front cover door (5074, 5094, 9194, or 8093)



RZAH5601-0

Figure 49. Opening and removing the front cover door (5079, 5294, or 8294)

4. Select the appropriate procedure from the following:
  - “Install a media device in an expansion unit with the system power on in i5/OS.” Be sure you understand this complex task before you begin. If you do not understand this task use the power off procedure.
  - “Install a media device in an expansion unit with the system power off” on page 53. If the operating system on the server or the partition is AIX or Linux.

### **Install a media device in an expansion unit with the system power on in i5/OS**

Learn how to install a media device with the power on using the i5/OS System Service Tools. Use the procedure in this section to perform this task.

The powered-on procedure is a complex set of steps that must be performed exactly to avoid potential data loss or system damage. You might also consider the powered off procedure, which is a simpler task that involves less risk of data loss or system damage, see “Remove and replace a media device in an expansion unit with the system power off” on page 60.

**Attention:** If you do not follow these instructions, you might damage the media device or the system unit and lose your data.

To perform the concurrent installation, follow these steps from the system or partition that contains the media device:

1. If you have not done so already, sign on with **service tools authority**.
2. On an i5/OS command line, type `strsst`. Press Enter.
3. Type your service tools user ID and service tools password on the System Service Tools (SST) Sign On display. Press Enter.
4. When the System Service Tools (SST) display appears, select the **Start a service tool** option. Press Enter.
5. When the Start a Service Tool menu appears, select the **Hardware service manager** option. Press Enter.
6. When the Hardware Service Manager menu appears, select the **Packaging hardware resources (system, frames, cards...)** option. Press Enter.
7. On the Packaging Hardware Resources menu, locate the expansion unit in which you are installing the media device.
8. Find the position where you will be installing your media device (indicated in step 1 on page 59).
9. Remember the number that appears in the **Phys** column. This number is the device position.
10. Return to the Hardware Service Manager menu by pressing F3.
11. At the Hardware Service Manager display, select the **Device Concurrent Maintenance** option. Press Enter.

You see the following display:

```
Device Concurrent Maintenance
Type the choices, then press Enter.
Specify either physical location or resource name.
Physical location:
U5074.001.1234567-DB3-D42
or
Device resource name:
Specify action as 1=Remove device 2=Install device
Action to be performed . . . . .: 2
Enter a time value between 00 and 19.
Time delay needed in minutes . . . . .: 01
F3=Exit F5=Refresh F12=Cancel
```

12. At the **Specify either physical location or resource name** field, type the physical location you determined in step 9 for Position.
13. Pull out the media filler bezel from the location in which you are installing the new device.

**Attention:**

- Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge 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 metal surface of the system for a minimum of 5 seconds.

14. Follow the steps in “Details: Install a media device in an expansion unit with system powered on in i5/OS” to install the new media device.

**Attention:** Media devices are fragile. Handle with care.

**Details: Install a media device in an expansion unit with system powered on in i5/OS:**

If you are installing a media device using the power on using i5/OS System Service Tools, use the procedure in this section to complete the installation.

To install the media device, follow these steps from the system or partition that contains the media device:

**Attention:** If you do not follow these instructions, you might damage the media device or the system unit and lose your data.

1. Find the package that contains the new media device and remove it from the static-protective package.

**Attention:** Media devices are fragile. Handle with care.

2. Pull the handles out toward you before you install the media device into the expansion unit.
3. Hold the device with the eject button located in the upper right for tape units or lower right for CD-ROMs. Do not hold the media device by the handle.
4. Refer to Figure 50 on page 53 and support the bottom of the media device as you slide it half way into the selected position. Do not push it any further.
5. At the Hardware Service Manager display, select **Device Concurrent Maintenance** and press Enter.

You see the following display:

```
Device Concurrent Maintenance
Type the choices, then press Enter.
Specify either physical location or resource name.
Physical location:
U5074.001.1234567-DB3-D42
or
Device resource name:
Specify action as 1=Remove device 2=Install device
Action to be performed . . . . .: 2
Enter a time value between 00 and 19.
Time delay needed in minutes . . . . .: 01
F3=Exit F5=Refresh F12=Cancel
```

6. At the **Specify action as** field, select **Install device**.
7. At the **Enter a time value between 00 and 19** field, type 01 for one minute and press Enter.

**Note:** Watch the light on the right side of the media devices. When you press Enter, after a one-minute delay, this light comes on and begins to blink rapidly. You then have nine seconds to slide the media device into place.

8. When the light starts blinking, slide the media device in until it seats properly.

9. Push both handles in at the same time to lock the media device into place as shown in the following figure. The green light will stop blinking and remain on solid when you have correctly installed the media device.

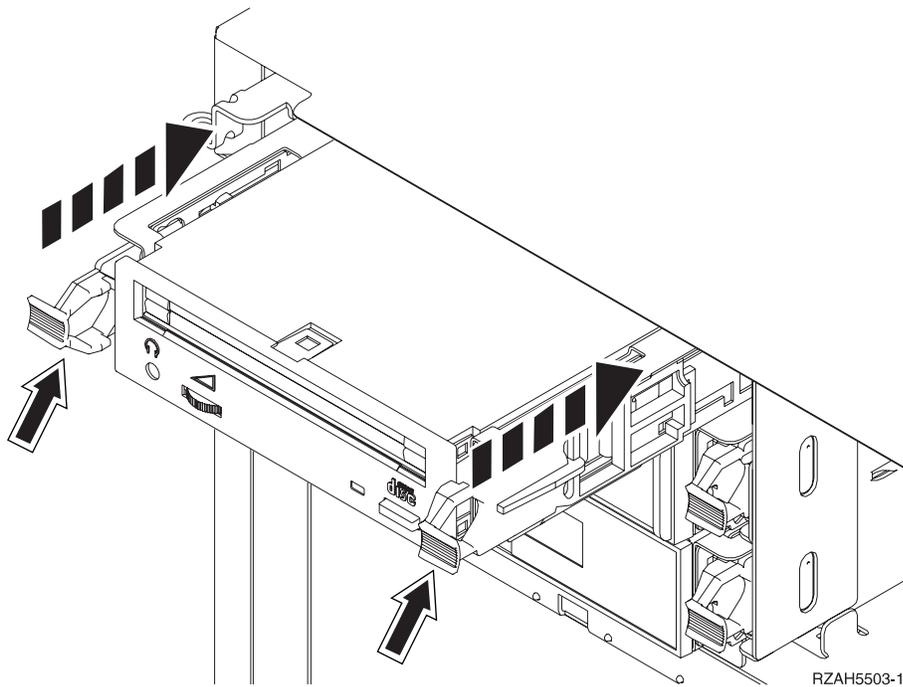


Figure 50. Install media device

10. Return to the console and wait until the **Concurrent Maintenance Results** display appears and press Enter
11. When the **Hardware Service Manager** menu appears, select the **Packaging hardware resources (system, frames, cards...)** option and press Enter.
12. On the **Packaging Hardware Resources** menu, enter a 9 in the **Opt** column next to the expansion unit with the new media device and press Enter. The **Description** and **Device Type-Model** is displayed along with the position of the media device that you installed.
13. Press F3 to return to the **Hardware Service Manager** display.
14. At the **Hardware Service Manager** display, press F6 to print the configuration list if you have a printer. You or a service representative may refer to the configuration list in the future.
15. Install the front cover for the expansion unit.
16. Press F12 twice and press Enter to return to the Main menu.
17. Verify that the new resource is functional. Refer to “Verify the installed part” on page 106.

### Install a media device in an expansion unit with the system power off

You might need to power off the system or partition and access the expansion unit to install a media device. Use the procedure in this section to accomplish this task.

1. If you have installed logical partitions on your system unit, see the following instructions on shutting down a system with logical partitions:
  - Restarting and shutting down AIX in a logical partition
  - Restarting and shutting down i5/OS in a logical partition
  - Restarting and shutting down Linux in a logical partition
2. “Stop the system or logical partition” on page 72.

3. Open the front cover **A** (shown in Figure 48 on page 49 for feature 5074, 5094, 9194, or 8093; or in Figure 49 on page 50 for features 5079, 5294, or 8294).
4. If needed, use the latch **B** to remove the front cover (Figure 48 on page 49 for feature 5074, 5094, 9194, or 8093; or in Figure 49 on page 50 for features 5079, 5294, or 8294).

**Attention:**

- Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge 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 metal surface of the system for a minimum of 5 seconds.
5. Pull out the media filler bezel from the location in which you are installing the new device.
  6. Follow the steps in “Details: Install a media device in an expansion unit with system power off” to install the new media device.

**Details: Install a media device in an expansion unit with system power off:**

If you are installing a media device using the power off procedure, use the procedure in this section to complete the installation.

**Attention:** Media devices are fragile. Handle with care.

1. Find the package that contains the new device and remove it from the static-protective package.
2. Ensure the media-device bay is empty by removing the filler bezel.
3. Hold the device upright and pull both handles on both sides of the device toward you.
4. Hold the device with the button in the upper right for tape units or lower right for CD-ROMs. Do not hold the device by the handles.
5. Refer to Figure 51 on page 55 and align the device with the position where you removed the filler bezel.
6. Slide it into the unit until it **stops**.
7. Push both handles in at the same time to lock the media device into place as shown in the following figure.

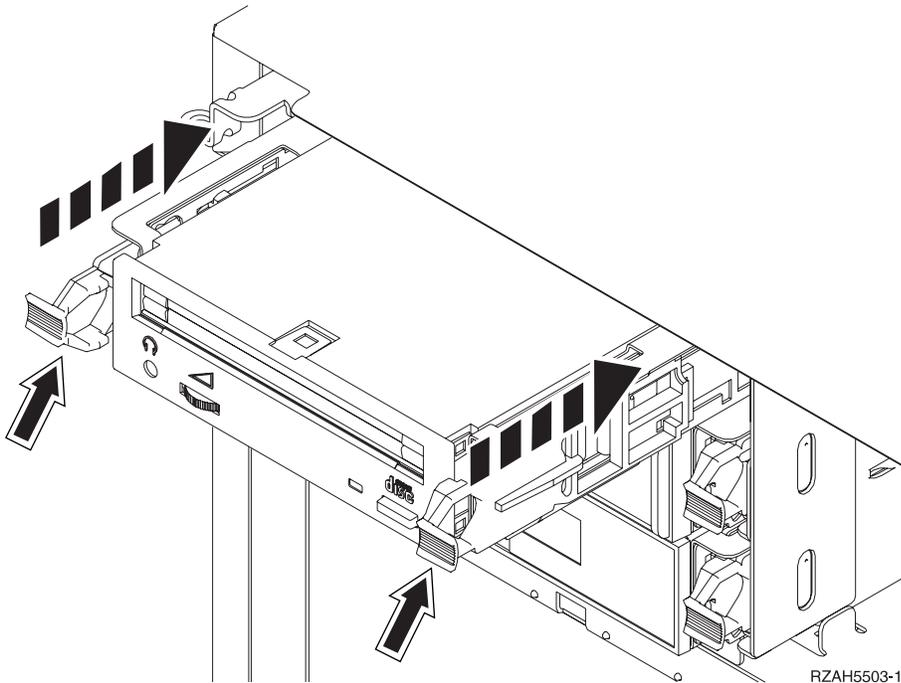


Figure 51. Install media device

8. Do you have any other devices to install?

**No:** Continue with the next step.

**Yes:** If you have another device such as a tape unit or a CD-ROM drive, refer to the instructions that came with that device.

9. Install the front cover.

**DANGER**

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. (D004)

10. Plug in the system unit and system unit console. Plug in all the components you previously unplugged such as printers and displays.
11. Power on all attached devices, such as printers and displays.
12. "Start the system or logical partition" on page 70.
13. Sign on the system unit. Ensure that you have service tools authority.
14. Do the following to verify your media device configuration:
  - a. On a command line, type `strsst`. Press Enter.
  - b. Type your service tools user ID and service tools password on the System Service Tools (SST) Sign On display.
  - c. When the System Service Tools (SST) display appears, select the **Start a service tool** option. Press Enter.
  - d. When the Start a Service Tool display appears, select the **Hardware service manager** option. Press Enter.
  - e. When the Hardware Service Manager display appears, select the **Packaging hardware resources (system, frames, cards...)** option. Press Enter.

- f. On the Packaging Hardware Resources display, enter a **9** in the **Opt** column next to the expansion unit with the new media device. The **Description** and **Device Type-Model** will be displayed along with the position where your new media device was installed.
- g. Press F3 to return to the Hardware Service Manager display.
- h. At the Hardware Service Manager display, press F6 to print the configuration list if you have a printer. You or a service representative may refer to the configuration list in the future.
- i. Press F12 twice and press Enter to return to the Main Menu.
- j. Verify that the new resource is functional. Refer to “Verify the installed part” on page 106.

## Remove and replace a media device in an expansion unit

Learn how to prepare to install a media device and select the power on or power off procedure to complete the installation.

To remove and replace a media device, perform these tasks:

1. Perform prerequisite tasks as described in “Before you begin” on page 68.
2. Use the service action log to help identify the failing part. For instructions, see “Identify a failing part” on page 102.
3. Open the front cover **A** (shown in Figure 48 on page 49 for features 5074, 5094, 8093, or 9194, or in Figure 49 on page 50 for features 5079, 5294, or 8294).
4. Use the latch **B** to remove the cover as shown in the following figures.

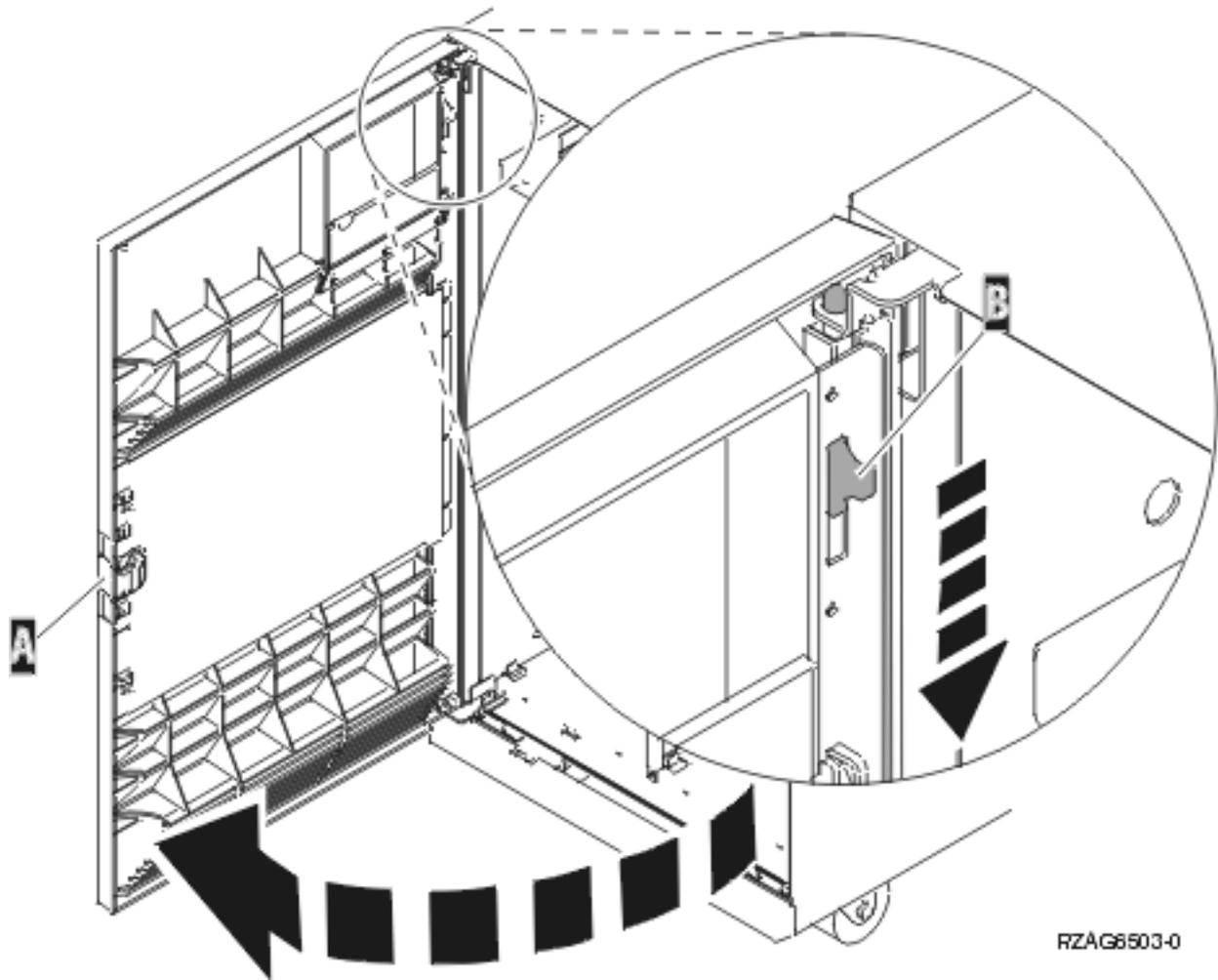
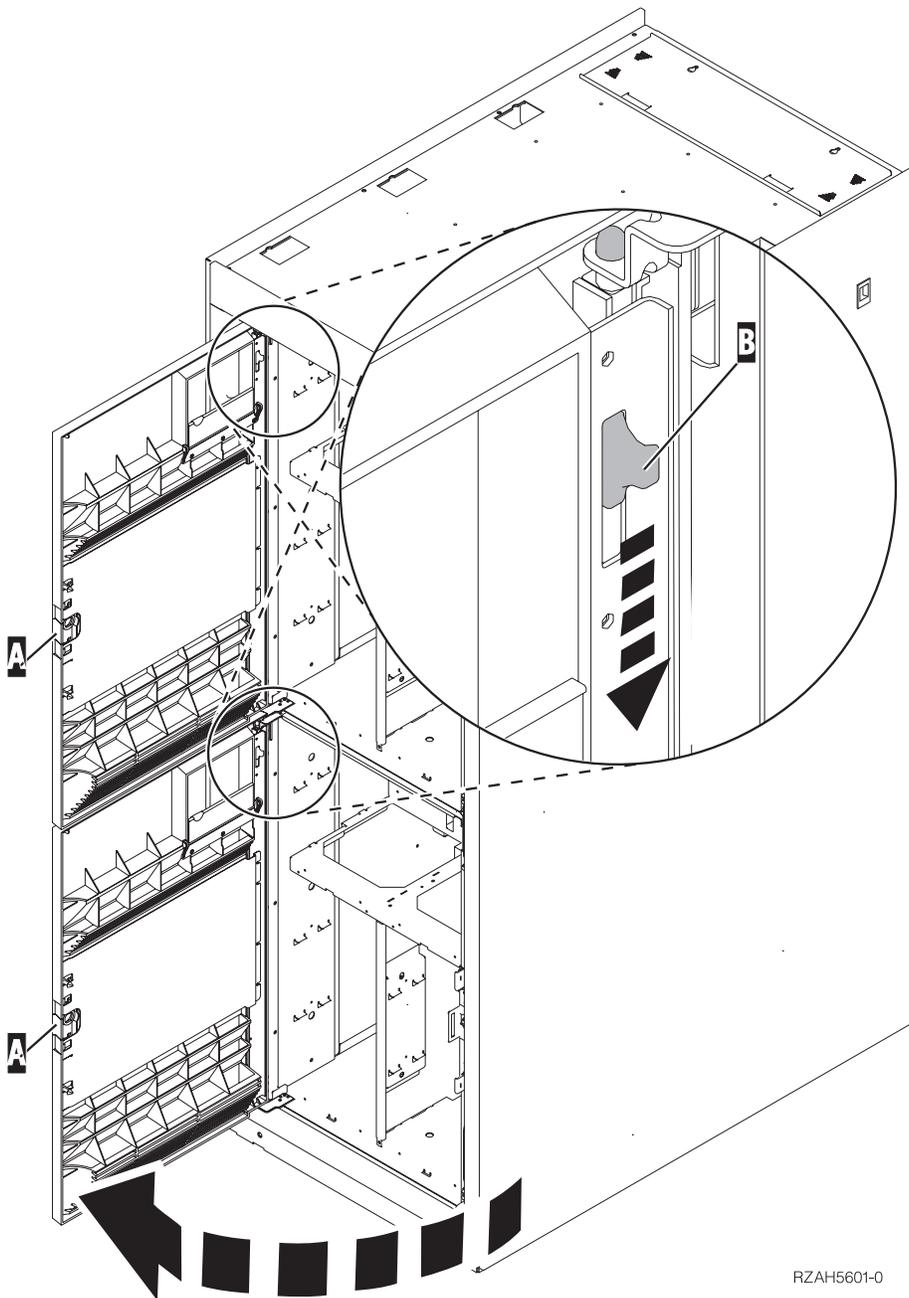


Figure 52. Opening the front cover door (features 5074, 5094, 8093, or 9194)



RZAH5601-0

Figure 53. Opening the front cover door (5079, 5294, or 8294)

**Attention:** If the server or the partition is running the AIX or Linux operating systems see “Remove the model 570 media-device enclosure with the system power on using the ASMI” on page 40 or “Install a media device in an expansion unit with the system power off” on page 53.

If the system unit or partition you are servicing is i5/OS, your system can either be powered off (nonconcurrent) or powered on (concurrent) when you replace the media device. Unless the system is already powered off, replacing the media device with the system powered on is recommended.

Select the appropriate procedure from the following:

## Remove and replace a media device in an expansion unit with system power on in i5/OS

You might want to use the System Service Tools in the i5/OS operating system to remove and replace a media device. Use the procedure in this section to accomplish this task.

The powered-on procedure is a complex set of steps that must be performed exactly to avoid potential data loss or system damage. You might also consider the powered off procedure, which is a simpler task that involves less risk of data loss or system damage, see “Remove and replace a media device in an expansion unit with the system power off” on page 60.

**Attention:** If you do not follow these instructions, you might damage the media device or the system unit and lose your data.

To perform the concurrent replacement procedure, follow these steps from the system or partition that contains the media device:

To help identify the failing part, see “Identify a failing part” on page 102.

1. Locate the media device to be replaced. For details, see “Locations for expansion units” on page 65.

Record or remember the physical location of the system unit or expansion unit.

Record or remember the number of the device position for the media device to be replaced.

For example, U5074.001.1234567-DB3-D42 indicates that you would install a media device in an expansion unit with type 5074, model 001, sequence number 1234567, and media device position DB3-D42.

2. If you have not done so already, sign on with service tools authority.
3. On an i5/OS command line, type `strsst`. Press Enter.
4. Type your service tools user ID and service tools password on the **System Service Tools (SST) Sign On** display. Press Enter.
5. When the **System Service Tools (SST)** display appears, select the **Start a service tool** and press Enter.
6. When the **Start a Service Tool** menu appears, select the **Hardware service manager** and press Enter.
7. At the **Hardware Service Manager** display, select the **Device Concurrent Maintenance** and press Enter.

You see the following display:

```
Device Concurrent Maintenance
Type the choices, then press Enter.
Specify either physical location or resource name.
Physical location:
U5074.001.1234567-DB3-D42
or
Device resource name:
Specify action as 1=Remove device 2=Install device
Action to be performed . . . . . : 1
Enter a time value between 00 and 19.
Time delay needed in minutes . . . . . : 01
F3=Exit F5=Refresh F12=Cancel
```

8. At the **Specify either physical location or resource name** field, type the number that you recorded for the physical location. The example display shows U5074.001.1234567-DB3-D42. Refer to the physical location you recorded in step 1 of this procedure.
9. Select **1** (Remove device) for the action to be performed.
10. Set the time delay for one minute 01 and press Enter on the console.

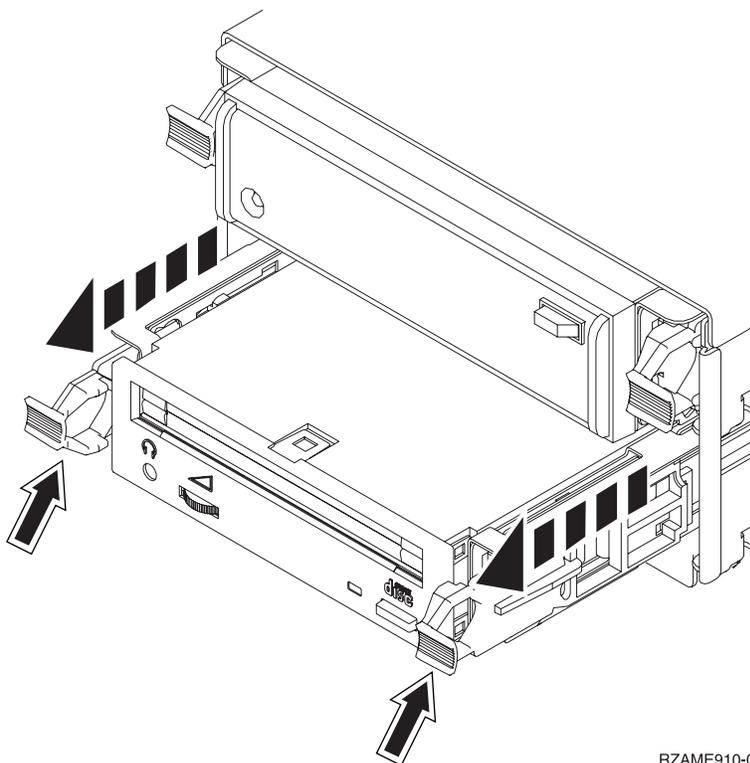
**Note:** Watch the light on the right side of the media devices. When you press Enter, after a one minute delay, this light comes on and begins to blink rapidly. You then have nine seconds to remove

the device.

**Attention:**

- Attach a wrist strap to an unpainted metal surface of your hardware to prevent electrostatic discharge 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 metal surface of the system for a minimum of 5 seconds.

11. When the light starts blinking, pull both handles on both sides of the device toward you.



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12. Slide the device out. The light will stop blinking and remain off when the device is removed.

**Note:** Do not hold the device by the handles.

13. Return to the console and wait until the Concurrent Maintenance Results display appears. Press F12.
14. Follow the steps in “Details: Install a media device in an expansion unit with system powered on in i5/OS” on page 52 to install the new media device.
15. Verify that the new resource is functional. Refer to “Verify the installed part” on page 106.

### **Remove and replace a media device in an expansion unit with the system power off**

You might need to remove and replace a media device with the system power off to exchange a failed device or as a part of another service action. Use the procedure in this section to accomplish this task.

To help identify the failing part, see “Identify a failing part” on page 102.

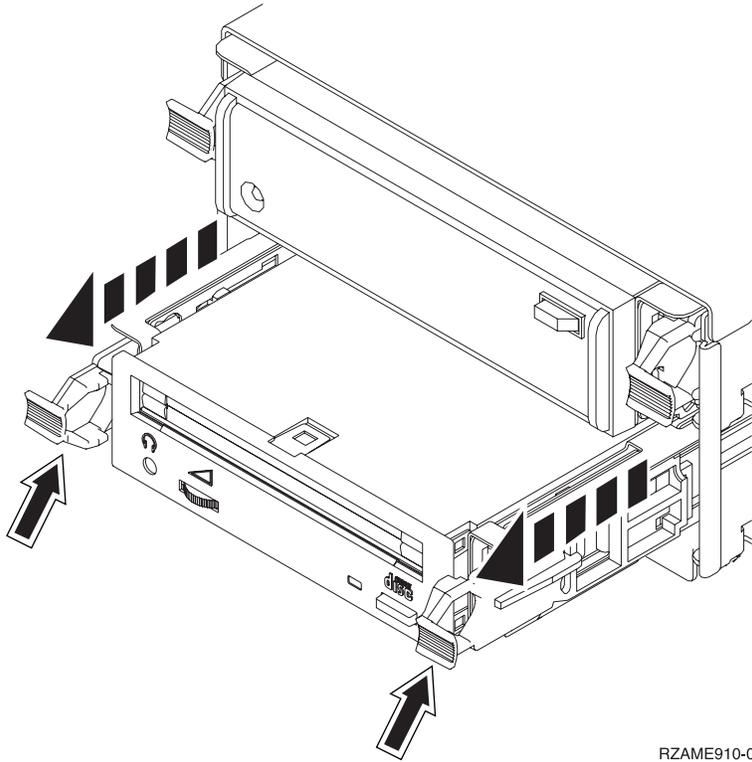
If you have installed logical partitions on your system unit, see the following appropriate instructions on shutting down a system with logical partitions:

- Restarting and shutting down AIX in a logical partition

- Restarting and shutting down i5/OS in a logical partition
- Restarting and shutting down Linux in a logical partition

If you do not have logical partitions on your system, see “Identify a failing part” on page 102.

1. “Stop the system or logical partition” on page 72.
2. Locate the device you want to replace.
3. Pull both handles on both sides of the device toward you as shown in the following figure.



4. Slide the device out.

**Note:** Do not hold the device by the handles.

5. Follow the instructions in “Details: Install a media device in an expansion unit with system power off” on page 54 to install the new media device.

---

## Manually removing a tape cartridge from a drive

Learn how to manually remove a tape cartridge from a drive when the eject and emergency eject methods fail.

### Manually removing a tape from a Half High Ultrium 2 tape drive (FC 5755)

Learn how to manually remove a tape from a drive when the eject and emergency eject methods have failed.

**Attention:** The procedure for manually removing a tape cartridge might damage your tape cartridge, the tape drive, or both. Use this procedure only after you have:

1. Turned off the power to the tape drive or system to clear any hang conditions.
2. Issued an unload SCSI command from your system command menu, if available.
3. Attempted an emergency eject by pressing and holding the unload button for at least five seconds.

The following procedure describes how to manually remove a data cartridge from the tape drive. If this procedure is performed, replace the drive, discard the used media, and use new media.

1. Remove the drive from the system, see “Media device” on page 1 and select instructions for the model you are removing the drive from. Then return to these instructions.
2. Remove the front bezel (the bezel snaps on) by doing the following:
  - a. Use a small screwdriver to press the bezel tabs on each side of the drive.
  - b. Snap the tabs off the drive assembly.
  - c. Remove the bezel from the unit.
3. Remove the bottom cover of the drive mechanism by doing the following:
  - a. Remove the three screws that are holding the bottom cover.
  - b. Press the bottom cover to the side while lifting the side of the cover. Be careful to avoid damaging the flex cables when removing the cover.
4. Secure the printed circuit board assembly (PCBA) to the assembly by reinstalling the center screw.
5. Unplug the two flex cables that run from the main board to the top cover module.
6. Remove the five top cover screws (one in the center, one in each front corner, and one on each side).
7. Carefully remove the top cover while making sure the two flex cables that attach to the PCBA can easily be removed with the top cover.
8. Turn the drive to gain access to the center of the hub motors.
9. Unwind the tape by winding the cartridge hub clockwise with a screwdriver. To maintain tension in the tape, provide some friction to the take-up hub motor.
10. Position the take-up hub with the slot aligned in front of the bridge guide.
11. Turn the hook step motor to position the hook lock so that it is ready to receive tape pin. The slot on the bracket gripper will be pointing towards the notch on the load box.
12. Unwind the tape (by winding the cartridge hub clockwise with a screwdriver) and let the guiding tape pin follow the tape path until it is locked into the cartridge.
13. Turn the hook step motor back, to release the hook lock. The slot on the bracket gripper will now be pointing toward the notch on the load box.
14. Retract the gripper from the cartridge and place it in the Bridge path.
15. Turn the hook step motor until the bracket gripper stops.
16. On the front of the drive assembly, remove the right screw on the Eject Button Plate, and tilt the plate to the side to obtain access to the screw hole in the CAM gearbox.
17. Use a screwdriver in the front of the drive to turn the Cartridge Load motor CCV until the cartridge is released.
18. Remove the cartridge.
19. Assemble the drive by doing the following:
  - a. Secure the Eject Button plate in position with the screw that you removed previously.
  - b. Replace the top cover, thread the flex cables through to the PCBA, and secure the cover with the 5 screws that you removed previously.
  - c. Connect the two flex cables from the top cover to the PCBA.
  - d. Remove the temporary screw on the PCBA, and replace the bottom cover. Secure the bottom cover with the three screws that you removed previously.
  - e. Replace the front bezel.

## Manually removing a tape from a VXA-2, 80/160 GB internal tape drive (FC 6120)

Learn how to manually remove a tape from a drive when the eject and emergency eject methods have failed.

**Attention:** The procedure for manually removing a tape cartridge might damage your tape cartridge, the tape drive, or both. Use this procedure only after you have:

1. Turned off the power to the tape drive or system to clear any hang conditions.
2. Issued an unload SCSI command from your system command menu, if available.
3. Attempted an emergency eject by pressing and holding the unload button for at least five seconds.

The following procedure describes how to manually remove a data cartridge from the tape drive. If this procedure is performed, replace the drive, discard the used media, and use new media.

1. Remove the drive from the system, see “Media device” on page 1 and select instructions for the model you are removing the drive from. Then return to these instructions.
2. Remove the front bezel (the bezel snaps on) by doing the following:
  - a. Use a small screwdriver to press the bezel tabs on each side of the drive.
  - b. Rotate the bottom of the bezel toward the front to release the bezel attachments on the top of the drive.
  - c. Lift the bezel off the top locating tabs.
  - d. Remove the bezel from the unit.
3. Remove the top lid of the drive mechanism by doing the following:
  - a. Use a small screwdriver to press the top tabs on each side of the drive.
  - b. Slide the cover approximately 5mm to the rear, and then lift the cover off.
4. Locate the large thumb wheel below the right side of the data cartridge.
5. Gently rotate the thumb wheel counterclockwise to remove slack from the tape by winding the media onto the take-up reel.
6. Insert a Phillips screwdriver in the Load Motor Access hole. Rotate the load motor clockwise to unwind the tape path. Unwind the mechanism until tape slack appears.
7. When tape slack appears, gently rotate the thumb wheel again to remove the slack from the tape by winding the media onto the take-up reel.
8. Repeat steps 6 and 7 until all of the tape media is wound onto the cartridge take-up wheel.
9. When the tape is completely rewound into the cartridge, turn the load motor clockwise until the tape cartridge is lifted out of the drive mechanism and ejected.
10. Remove the tape cartridge.
11. Install the bezel by doing the following:
  - a. Insert Bezel top catch tabs into their the respective openings in the top of the drive chassis so that notches catch on drive chassis.
  - b. Open bezel door by inserting one index finger through the door opening.

**Important:** Keep the door open until the bezel has been fully seated to be sure the door is positioned behind the door opening mechanism.
  - c. With the bezel door open, and top catch tabs inserted into their slots, rotate the bezel down slowly, ensuring the side catch tabs clip on the inside of the metal drive chassis.
  - d. Ensure chassis tabs located on bottom edge of the metal drive chassis fit into the notches on the bottom of the bezel.

- e. After the bezel is installed on the drive, make sure that the front door opens and closes without resistance. If the door appears stuck when you try and open it, then the bezel is installed improperly. Remove the bezel and repeat the bezel installation procedure, insuring that the door is kept open while installing the bezel.

**Attention:** Attempting to force the door open with the bezel installed incorrectly may result in damage to both the bezel and drive, requiring repair or replacement.

12. Attach the top cover.
13. Reassemble the enclosure in reverse order.

## Manually removing a tape from a 36/72GB Data72 4mm tape drive (FC 6258)

Learn how to manually remove a tape from a drive when the eject and emergency eject methods have failed.

**Attention:** The procedure for manually removing a tape cartridge could damage your tape cartridge, the tape drive, or both. Use this procedure only after you have:

1. Turned off the power to the tape drive or system to clear any hang conditions.
2. Issued an unload SCSI command from your system command menu, if available.
3. Attempted an emergency eject by pressing and holding the unload button for at least five seconds.

The following procedure describes how to manually remove a data cartridge from the tape drive. If this procedure is performed, replace the drive, discard the used media, and use new media.

1. Remove the drive from the system, see “Media device” on page 1 and select instructions for the model you are removing the drive from. Then return to these instructions.
2. Remove the mounting rails by removing the four screws near the lower edge of the drive (two on each side). Access the screws through holes in the side of each rail.
3. Remove the front bezel (the bezel snaps on) by doing the following:
  - a. Use a small screwdriver to depress one of the bezel tabs.
  - b. Pull the bezel down from the top.
  - c. Lift the bezel off the bottom locating tabs.
  - d. Remove the bezel from the unit.
4. Remove the top lid of the drive mechanism (4 screws).
5. Insert a 1.5 mm hexagonal key or a small Phillips screwdriver into the aperture on the right side of the drive looking from rear. This gives you access to the motor worm wheel. Turn the hexagonal key or small screwdriver counter-clockwise to release the cartridge.
6. Reassemble the drive in reverse order.

## Manually removing a tape from a VXA-320 internal tape drive (FC 6279)

Learn how to manually remove a tape from a drive when the eject and emergency eject methods have failed.

**Attention:** The procedure for manually removing a tape cartridge could damage your tape cartridge, the tape drive, or both. Use this procedure only after you have:

1. Turned off the power to the tape drive or system to clear any hang conditions.
2. Issued an unload SCSI command from your system command menu, if available.
3. Attempted an emergency eject by pressing and holding the unload button for at least five seconds.

The following procedure describes how to manually remove a data cartridge from the tape drive. If this procedure is performed, replace the drive, discard the used media, and use new media.

1. Remove the drive from the system, see “Media device” on page 1 and select instructions for the model you are removing the drive from. Then return to these instructions.
2. Remove the front bezel (the bezel snaps on) by doing the following:
  - a. Use a small screwdriver to press the bezel tabs on each side of the drive.
  - b. Rotate the bottom of the bezel toward the front to release the bezel attachments on the top of the drive.
  - c. Lift the bezel off the top locating tabs.
  - d. Remove the bezel from the unit.
3. Remove the top lid of the drive mechanism by doing the following:
  - a. Use a small screwdriver to press the top tabs on each side of the drive.
  - b. Slide the cover approximately 5mm to the rear, and then lift the cover off.
4. Locate the large thumb wheel below the right side of the data cartridge.
5. Gently rotate the thumb wheel counter-clockwise to remove slack from the tape by winding the media onto the take-up reel.
6. Insert a Phillips head screwdriver in the Load Motor Access hole. Rotate the load motor clockwise to unwind the tape path. Unwind the mechanism until tape slack appears.
7. Once tape slack appears, gently rotate the thumb wheel again to remove the slack from the tape by winding the media onto the take-up reel.
8. Repeat steps 6 and 7 until all of the tape media is wound onto the cartridge take-up wheel.
9. When the tape is completely rewound into the cartridge, turn the load motor clockwise until the tape cartridge is lifted out of the drive mechanism and ejected.
10. Remove the tape cartridge.
11. Install the bezel.
12. Attach the top cover.
13. Reassemble the drive in reverse order.

If you do not have a replacement drive available you can reinstall the drive at this time. However, the procedure for manually removing a tape cartridge could damage your tape cartridge, the tape drive, or both, and the problem your drive experienced to begin with could repeat resulting in data loss, damage to the tape, system, or both.

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## Locations for expansion units

The following figures show the layout for the 5074 Expansion Unit:

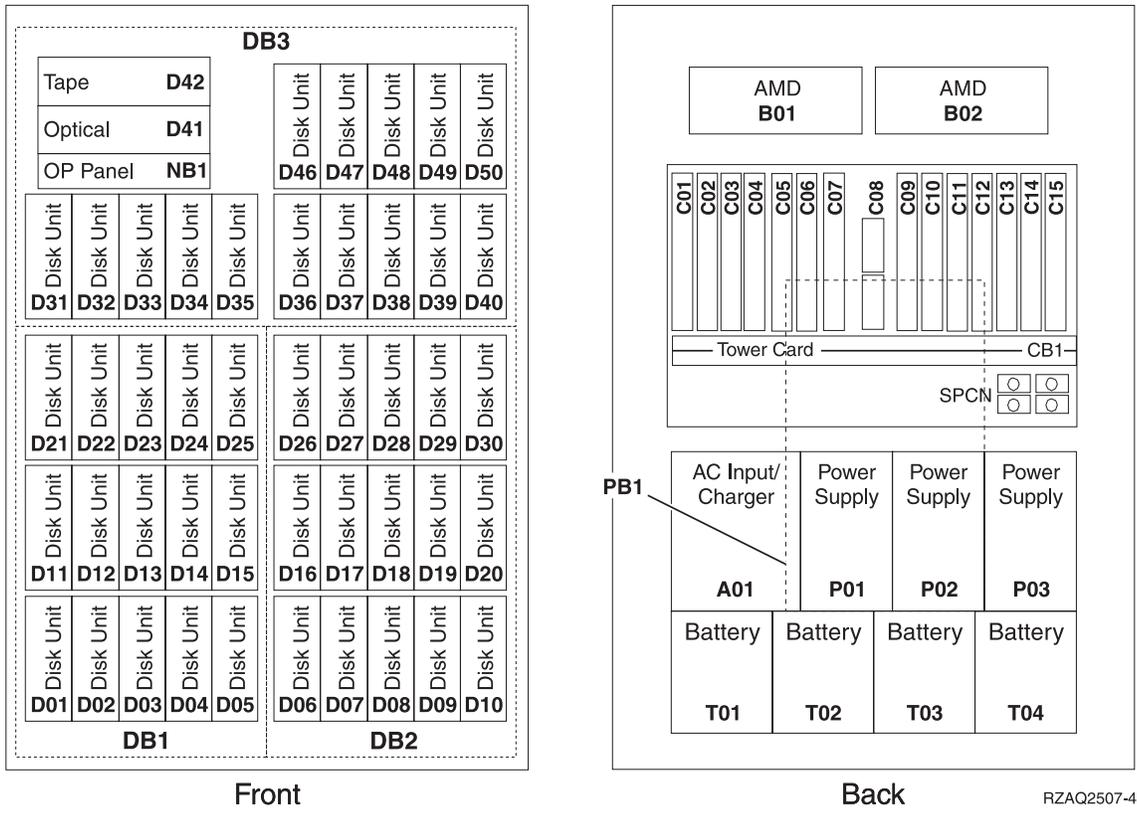


Figure 54. Locations for 5074 Expansion Unit (single line cord)

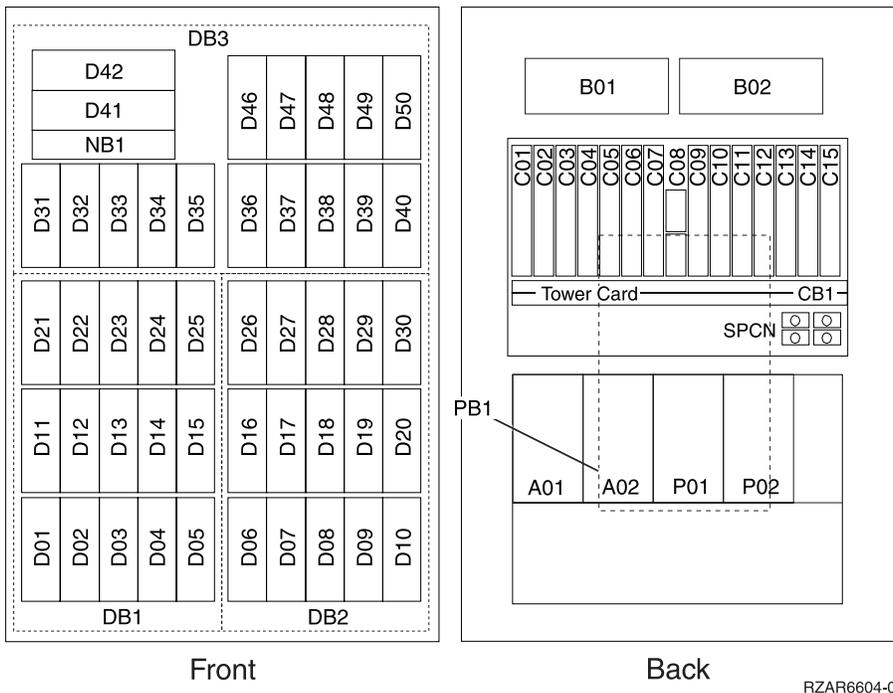


Figure 55. Locations for 5074 Expansion Unit (dual line cord)

The following figure shows the layout for the 5094, 5294, or the 9194 Expansion Unit:

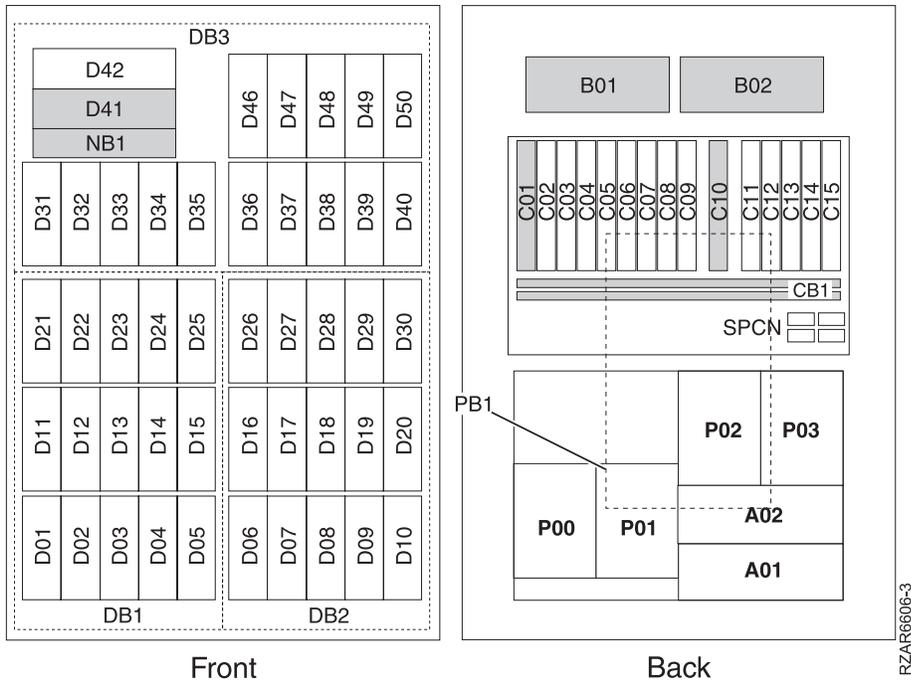


Figure 56. Locations for 5094, 5294, or the 9194 Expansion Unit

## Related procedures

Locate instructions to complete some of the additional procedures you might need. These procedures might include removing covers and doors, starting and stopping the system, placing a system or server in the service position, identifying a failing part, or verifying a replaced part.

## Before you begin

Understand prerequisites for installing, removing, or replacing features and parts.

### 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 IBM provided power cord. Do not use the IBM 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.

(D005)

### 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:

1. If you are installing a new feature, ensure that you have the software required to support the new feature and determine if there are any existing PTF prerequisites.

To do this, go to the following Web site: [http://www-912.ibm.com/e\\_dir/eServerPrereq.nsf](http://www-912.ibm.com/e_dir/eServerPrereq.nsf)

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).

For information on backing up your system or logical partition, select from the following:

- AIX backup
- i5/OS backup

- Linux backup
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.
  6. If parts are incorrect, missing, or visibly damaged, do the following:
    - If you are replacing a part, contact your service provider or next level of support.
    - If you are installing a feature, contact one of the following:
      - Your service provider or next level of support.
      - In the United States, contact the IBM Rochester Manufacturing Automated Information Line (R-MAIL) at 1-800-300-8751.

In countries outside of the United States, use the following Web site to locate your service and support telephone numbers:  
<http://www.ibm.com/planetwide>
  7. If you encounter difficulties during the installation, contact your service provider, your IBM reseller, 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, and then return to these instructions.

## Start or stop the system or logical partition

Learn how to start or stop a system or logical partition.

### Start the system or logical partition

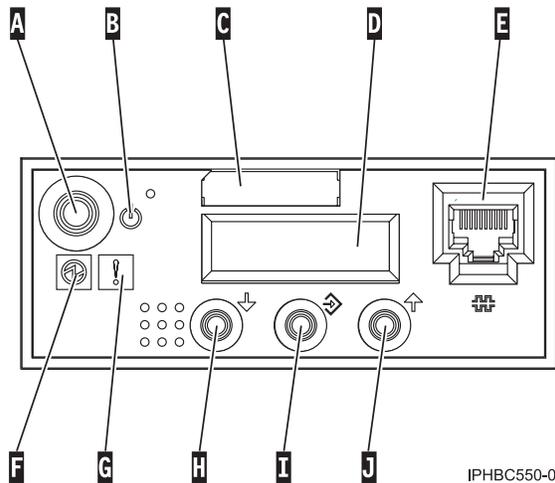
You might need to start a system or logical partition. You can use this procedure to start the system or logical partition.

#### Start a system that is not managed by a Hardware Management Console:

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.

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

1. On a rack-mounted system unit, open the front rack door, if necessary. On a stand-alone system unit, open the front door.
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 **F**, as shown in the following figure, is slowly blinking.
  - The top of the display **D**, as shown in the following figure, shows 01 V=F.



**Tip:** The system attention light **G**, as shown in the previous figure, does not appear on the control panel on the model 570.

3. Press the power button **A**, as shown in the previous figure, on the control panel.

**Note:** On the OpenPower® 710 or model 9110-510, the power button is on the operations panel.

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.

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

- Set up access to the ASMI. For instructions, see [Accessing the ASMI](#).
- Start the system using the ASMI. For instructions, see [Powering the system on and off](#).

### **Start the system or logical partition 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.

For instructions on working with the HMC, see [Managing the Hardware Management Console](#). For instructions on starting a logical partition, see [Activating a partition profile](#). 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. The power-on light on the control panel stops blinking and remains on, indicating that system power is on.

## Stop the system or logical partition

Learn how to stop a system or logical partition.

**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:

### Stop the system that is not managed by a Hardware Management Console:

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.

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

After you stop the operating system, or if you need to use the control panel power button to power off the system see, Using the control panel power button to power off.

### Prepare to stop the system

Before you stop the system, do the following:

1. If an Integrated xSeries® Adapter (IXA) is present on the system, shut it down using i5/OS options.
2. Ensure that all jobs are completed and end all applications.
3. Ensure that the operating system is stopped. Failure to do so can result in the loss of data.
4. Record the IPL type and IPL mode from the control panel display to help you return the system to this state when the installation or replacement procedure is completed.
5. Write down the information displayed on the control panel if you are stopping your system due to an error or to make a repair. For more information, see Collecting reference codes and system information.

### Stop the system

To stop a system, follow these steps:

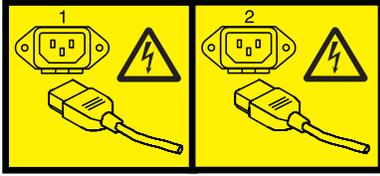
1. Log in to the system as a user with the authority to run the shutdown or pwrdownsys (Power Down System) command.
2. At the command line, enter one of the following commands:
  - If your system is running AIX, type **shutdown**.
  - If your system is running i5/OS, type **pwrdownsys \*immed**.
  - If your system is running Linux, type **shutdown -h now**.

The command stops the operating system. The system power turns off, the power-on light begins to slowly blink, and the system goes into a standby state.

3. Set the power switches of any devices connected to the system to off.
4. 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 might be equipped with a second power supply. Before continuing with this procedure, ensure that all power sources to the system have been completely disconnected.

(L003)



or



### Stop the system or logical partition using the Hardware Management Console:

You can use the Hardware Management Console (HMC) user interface to stop the system or a logical partition. For instructions on stopping the system, see [Powering off the managed system](#), or you can also find instructions at

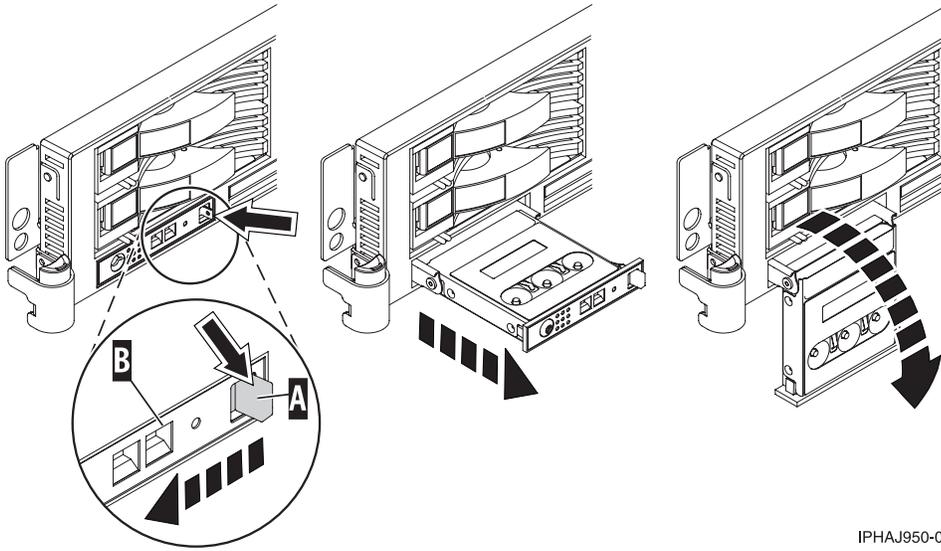
### Gain access to the model 51x and OpenPower 710 control panels

Since only part of the control panel is visible from the front of the server, you can use this procedure to gain access to all of the control panel's features, including the display.

Because only part of the control panel is visible from the front of the server, the following procedure describes how to gain access to all of the control panel's features, including the display.

To access all of the control panel's features, complete the following steps:

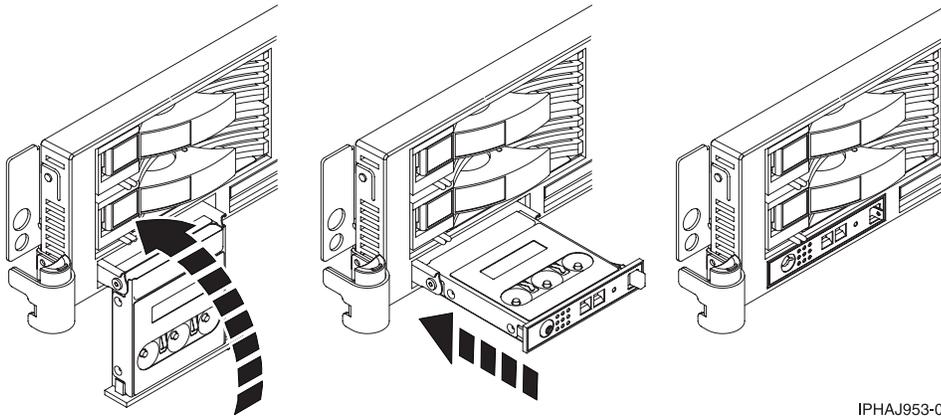
1. Press inward on the spring-loaded tab **A** located on the right side of the control panel **B** so that it pops out slightly, as shown in the following figure.



IPHAJ950-0

Figure 57. Gain access to the control panels

2. Pull the control panel out, toward the front of the system, until it can be pivoted downward on its hinge.
3. To move the control panel back into the device enclosure, lift the control panel up to align it with the opening and push it into place until you feel the tab lock, as shown in the following figure.



IPHAJ953-0

Figure 58. Close the control panels

## Place the rack-mounted system or expansion unit in the service position or operating position

You might need to place a system or expansion unit into the service position or operating position to perform service or gain access to internal components. Use the instructions in this section to perform these tasks.

### Place the rack-mounted system or expansion unit in the service position

You might need to perform service or gain access to internal components by placing the rack-mounted system or expansion unit in the service position. Use the procedure in this section to accomplish 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 IBM provided power cord. Do not use the IBM 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.

(D005)

## 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.

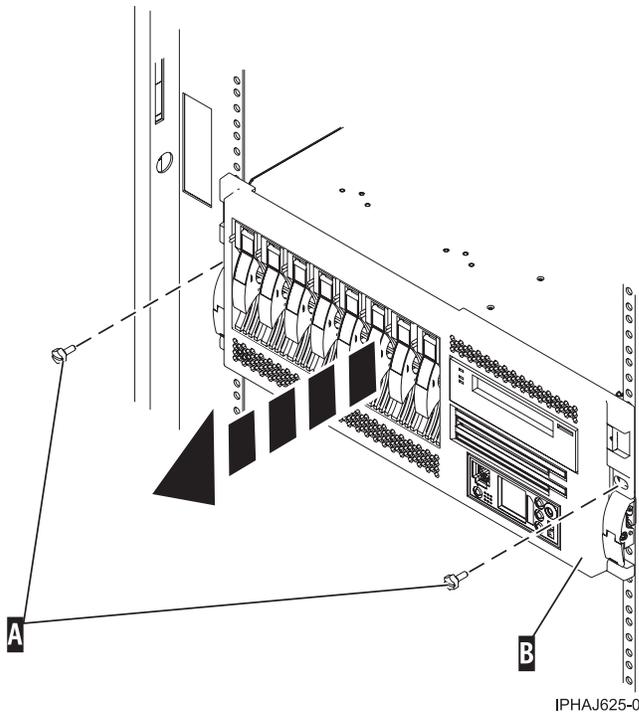
#### CAUTION

- 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.

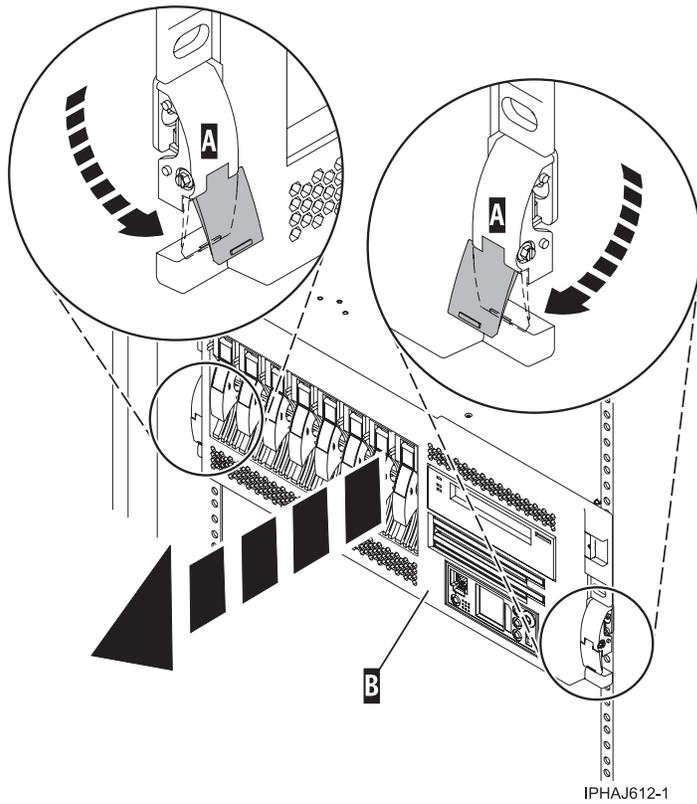
(R001)

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

1. If necessary, open the front rack door.
2. Remove the two thumbscrews **A** that secure the system or expansion unit **B** to the rack as shown in the following figure.



3. Release the rack latches A on both the left and right sides as shown in the following figure.



4. Review the following note, and then slowly pull the system or expansion unit out from the rack until the rails are fully extended and locked.

**Note:**

- If the procedure you are performing requires you to unplug cables from the back of the system or expansion unit, do so 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.
- Ensure 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.

### Place the rack-mounted system or expansion unit in the operating position

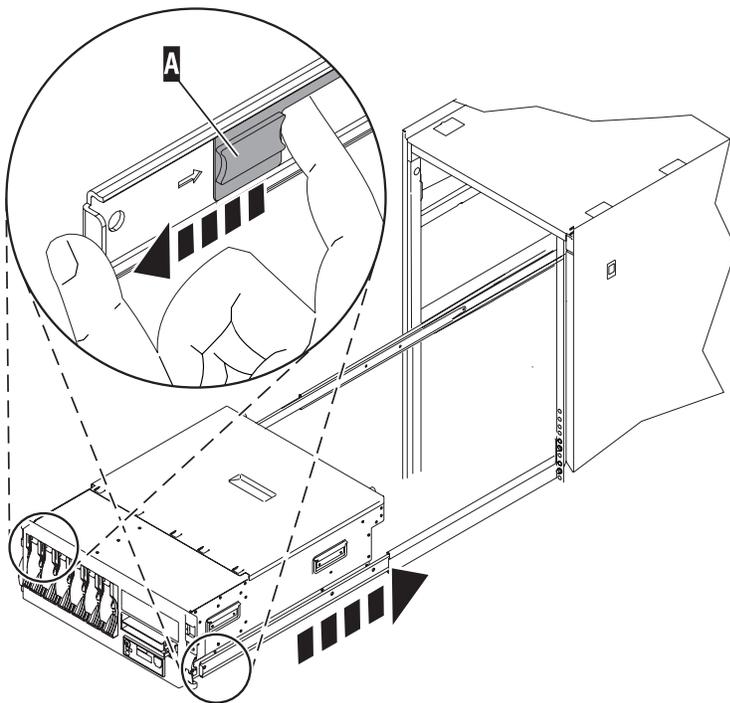
You might need to place the rack-mounted system or expansion unit in the operating position to make the unit available for use. Use the instructions in this section to accomplish this task.

**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.

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

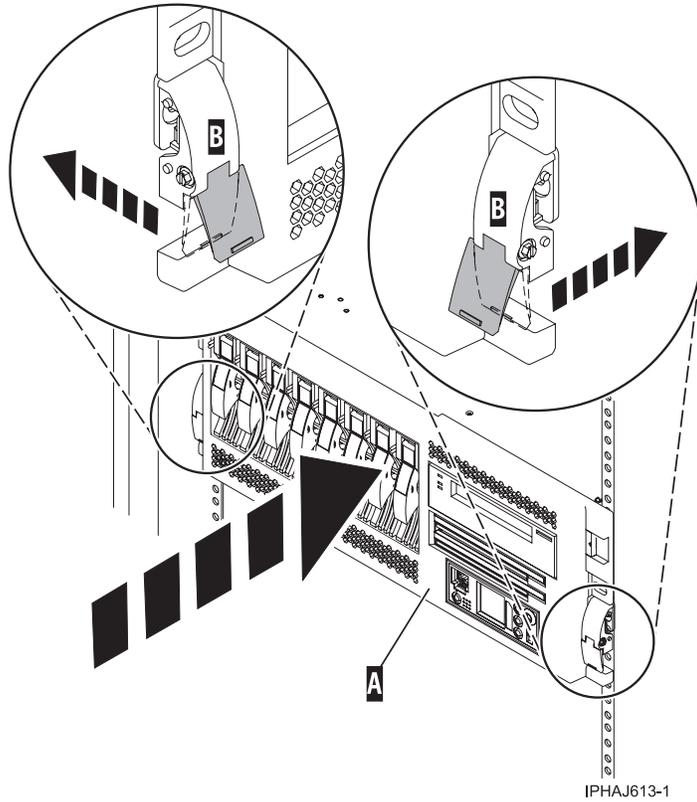
1. Simultaneously release the blue rail safety latches **A**, located near the front of each rail, and push the system or expansion unit into the rack as shown in the following figure.

**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.

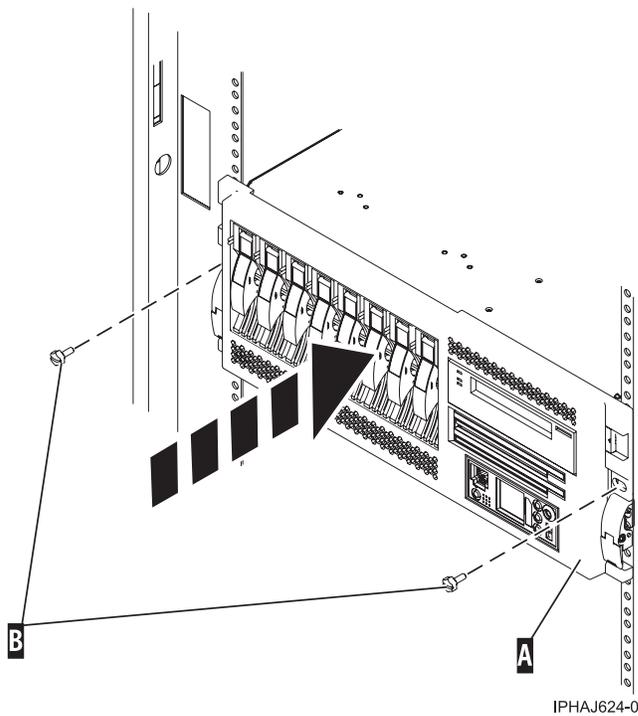


IPHBF509-1

- a. Both rack latches **B** should lock into position as shown in the following figure.



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



3. Close the front rack door.

## Place the model 51x or 710 in the service position

You might need to place a system into the service position to perform service or gain access to internal components. Use the instructions in this section to perform this task.

**Note:** Some of the figures in these procedures might not look exactly like the system 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 IBM provided power cord. Do not use the IBM 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.

(D005)

### 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.

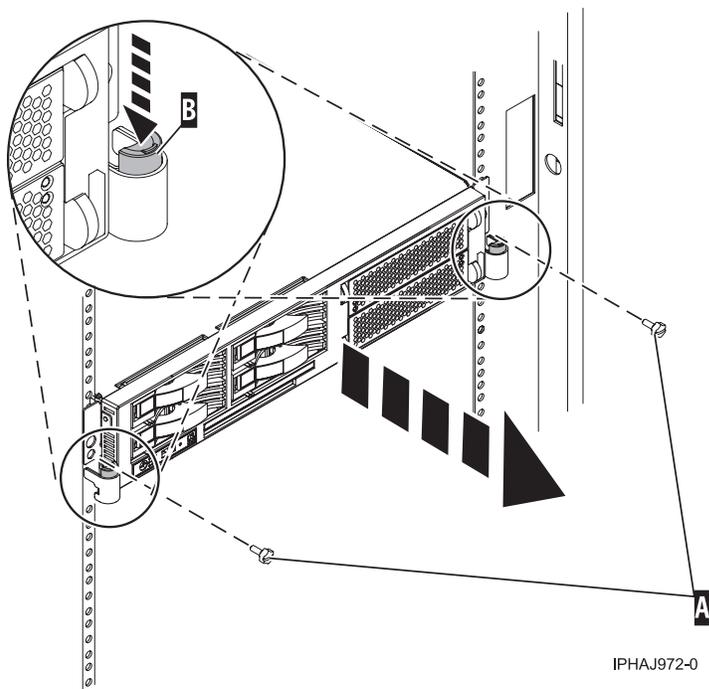
#### CAUTION

- 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 unit into the service position, follow these steps:

1. If necessary, open the front rack door.
2. Remove the two thumbscrews 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 previous figure.
4. Review the following note, and then slowly pull the system unit out from the rack until the rails are fully extended and locked.

**Note:**

- If the procedure you are performing requires you to unplug cables from the back of the system unit, do so before you pull the unit out from the rack.
- Ensure that the cables at the rear of the system unit do not catch or bind as you pull the unit out from the rack.
- Ensure the rails are fully extended. When the rails are fully extended, the rail safety latches lock into place. This action prevents the system unit from being pulled out too far.

## Place the model 51x or 710 in the operating position

You might need to place a system into the operating position to make the system available for use. Use the procedure in this section to perform this task.

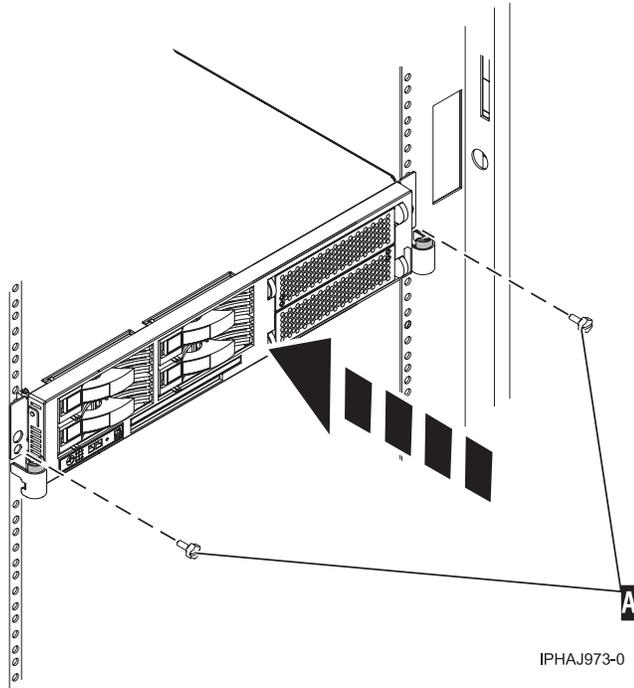
**Tip:** Some of the figures in these procedures might not look exactly like the system unit that you have. However, the steps to perform the task are the same.

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

1. Simultaneously release the blue rail safety latches, located near the middle of each rail, and push the system unit into the rack. Both rack latches should lock into position.

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

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



3. Close the front rack door.

## Front cover

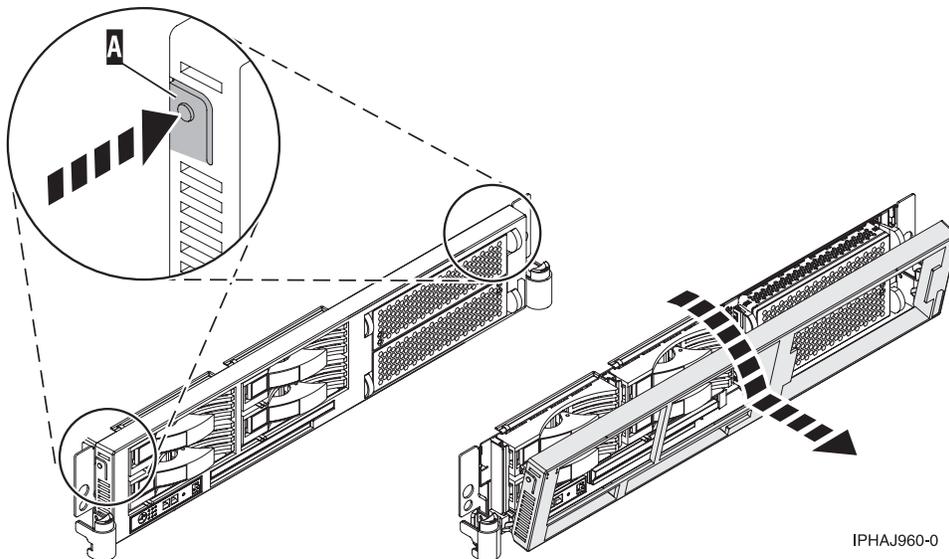
You might need to remove, replace, or install covers to access components or perform service. Use the instructions in this section to accomplish these tasks.

### Remove the front cover from the model 51x or 710

You might need to remove the cover to access components or perform service. Use the procedure in this section to accomplish this task.

To remove the front cover, follow these steps:

1. If necessary, open the front rack door.
2. Push both cover-release latches **A** down to release the cover as shown in the following figure.



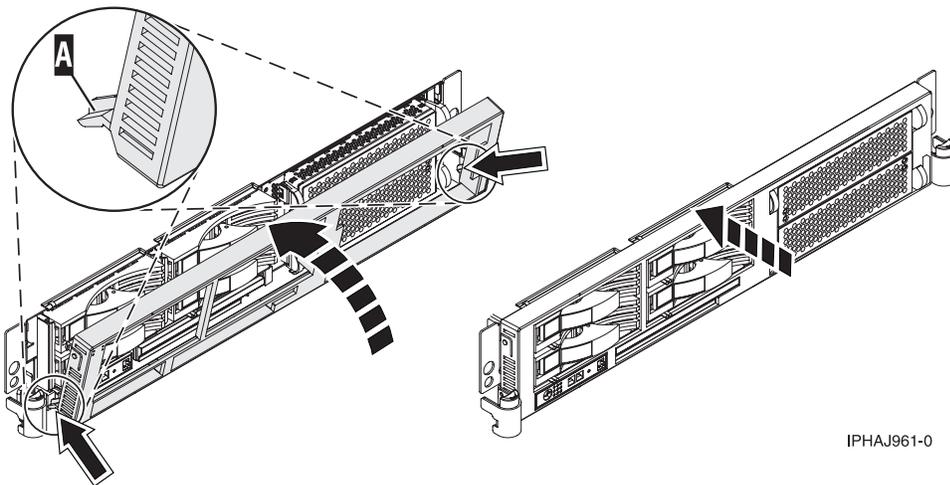
3. Pivot the cover from the bottom and swing the top of the cover out.
4. Pull the bottom of the cover up and then away from the system unit. This releases the two tabs located on the bottom of the cover.
5. Put the cover in a safe place.

#### **Install the front cover on the model 51x or 710:**

You might need to install the cover after accessing components or performing service. Use the procedure in this section to accomplish this task.

To install the front cover, follow these steps:

1. If necessary, open the front rack door.
2. Insert the two tabs **A** located on the bottom edge of the cover into their locking slots, located on the system unit frame as shown in the following figure.



IPHAJ961-0

3. Pivot the front cover up toward the top of the system unit frame.
4. Align the tabs to the matching slots located on the front of the system unit frame.
5. Gently push the tabs into the slots until the cover seats against the front of the system unit.
6. Close the front rack door.

#### **Front cover for models 285, 52x, 55x, or OpenPower 720 and the 0595 expansion unit**

You might need to remove or replace covers to access components or perform service. Use the instructions in this section to accomplish these tasks.

##### **Remove the front cover from the model 285, 52x, 55x, OpenPower 720, or the 0595 expansion unit:**

You might need to remove the cover to access components or perform service. Use the procedures in this section to accomplish this task.

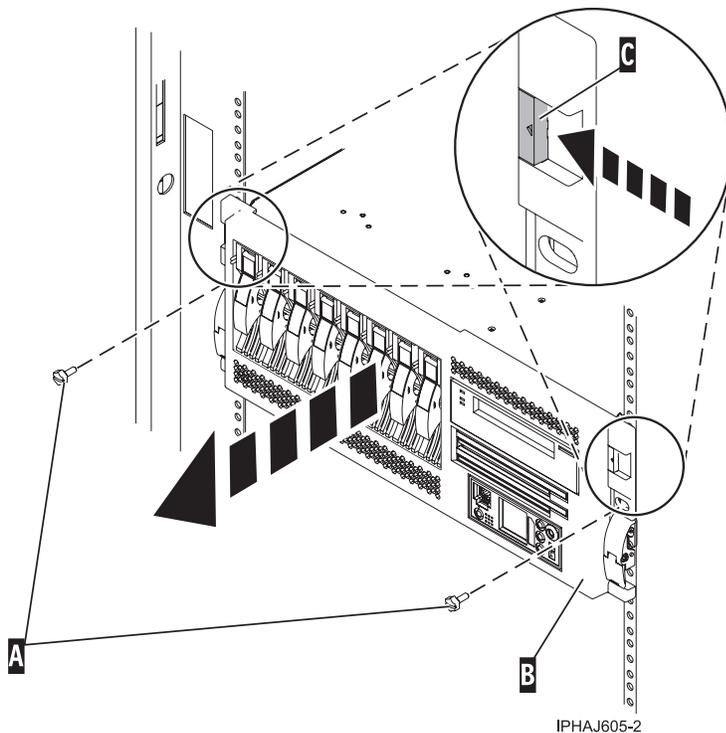
*Remove the front cover from the rack-mounted model 285, 52x, 55x, or OpenPower 720 and the 0595 expansion unit:*

You might need to remove the cover to access components or perform service. Use the procedure in this section to accomplish this task.

To remove the rack-mounted system or expansion unit front cover, follow these steps:

1. Open the front rack door.

2. Remove the two thumbscrews **A** that secure the system or expansion unit **B** to the rack as shown in the following figure.
3. Push both cover-release latches **C** in the direction of the arrows to release the cover from the system or expansion unit.
4. Pull the cover out and away from the system or expansion unit.



*Remove the front cover from the stand-alone model 285, 52x, 55x, or OpenPower 720:*

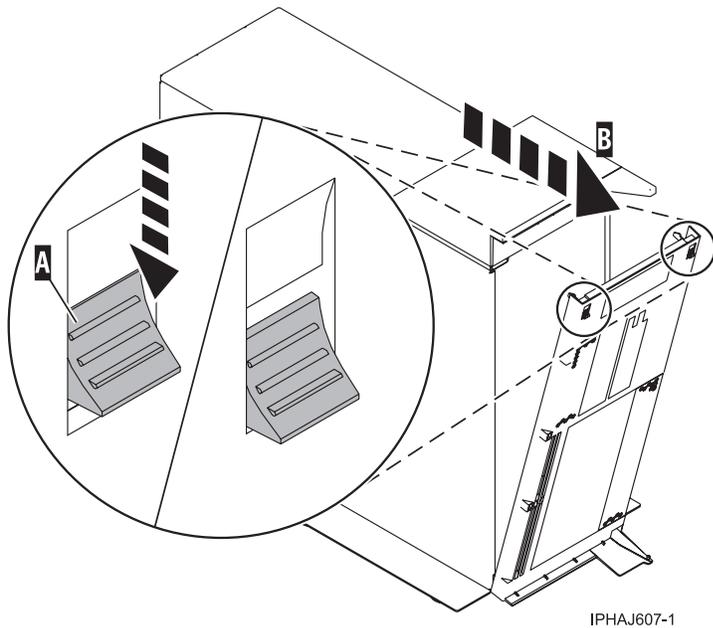
You might need to remove the cover to access components or perform service. Use the procedure in this section to accomplish this task.

To remove the stand-alone front cover, follow these steps:

1. "Remove the door from the model 285, 52x, 55x, or OpenPower 720" on page 90.

**Tip:** If you have a large four slot filler in the bottom drive bays you must remove the filler before removing the front cover. You might also wish to remove any fillers in the two bottom drive bays for easier access to the cover.

2. Press down on the two cover-release levers.
3. Pull the top of the cover out and away from the system as shown in the following figure.



IPHAJ607-1

4. Gently pull the cover up and off the base, releasing the lower cover-locking tabs.

**Install the front cover on the model 285, 52x, 55x, OpenPower 720, or the 0595 expansion unit:**

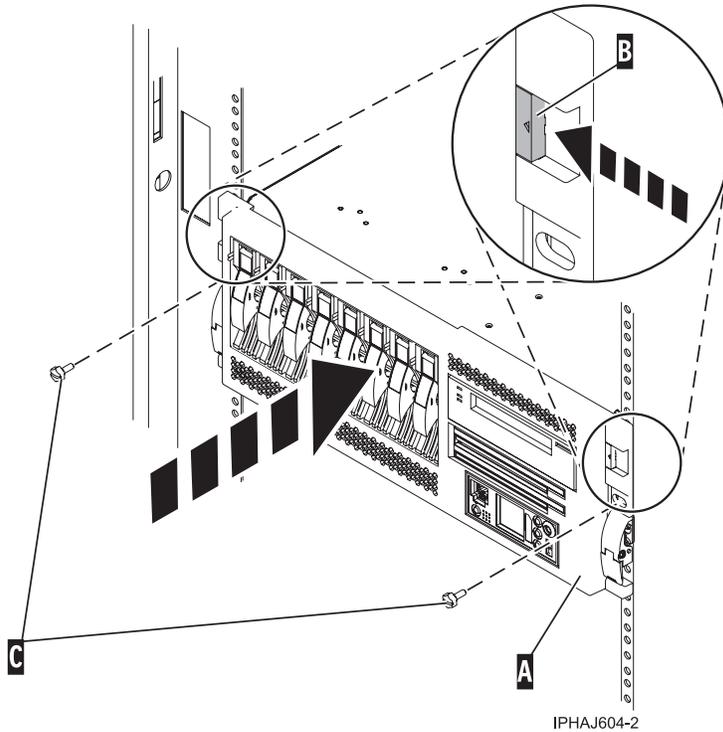
You might need to install the cover after accessing components or performing service. Use the procedures in this section to accomplish this task.

*Install the front cover on the rack-mounted model 285, 52x, 55x, or OpenPower 720, or the 0595 expansion unit:*

You might need to install the cover after accessing components or performing service. Use the procedure in this section to accomplish this task.

To install the front cover on a rack-mounted model follow these steps:

1. Position the cover on the front of the system or expansion unit so that the two thumbscrews **C** align with the screw holes on the front of the system or expansion unit **A**, as shown in the following figure.
2. Push the cover-release latches **B** in the direction of the arrows to attach the cover to the front of the system or expansion unit. The latches will hold the cover in place.



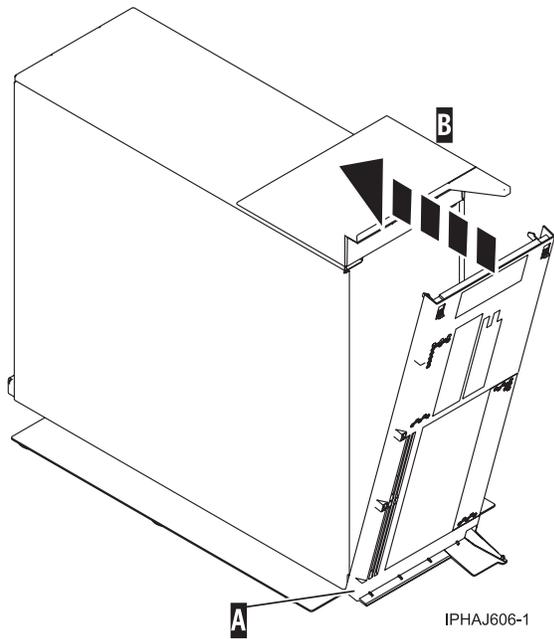
3. Tighten the thumbscrews.
4. Close the front rack door.

*Install the front cover on the stand-alone model 285, 52x, 55x, or OpenPower 720:*

You might need to install the cover after accessing components or performing service. Use the procedure in this section to accomplish this task.

To install the stand-alone model front cover, follow these steps:

1. Place the two lower cover-locking tabs into the retaining slots located on the base of the system unit as shown in the following figure.



2. Rotate the cover up toward the top of the system, ensuring that the aligning pins are aligned with their matching slots located on the system.
3. Gently push the cover in until the two cover-release levers are seated in their respective slots.
4. "Install or replace the door on the model 285, 52x, 55x, or OpenPower 720" on page 92.

### **Front cover for the model 9116-561 or 570**

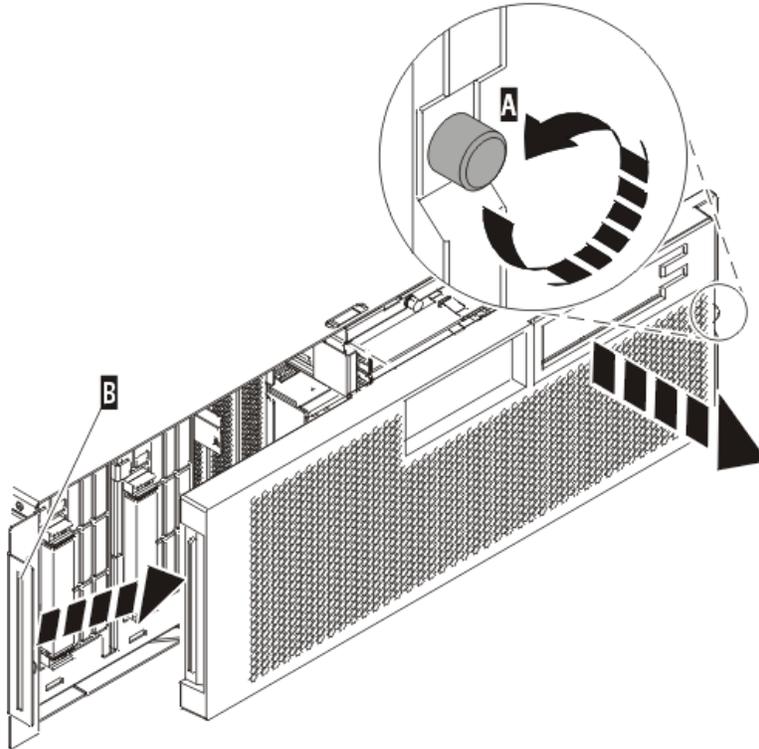
You might need to remove and replace the cover to access components or perform service. Use the procedures in this section to accomplish these tasks.

#### **Remove the front cover from the model 9116-561 or 570:**

You might need to remove the cover to access components or perform service. Use the procedure in this section to accomplish this task.

To remove the front cover follow these steps:

1. If necessary, open the front rack door.
2. Loosen the thumbscrew on the right side of the cover as shown in the following figure.



IPHA1701-1

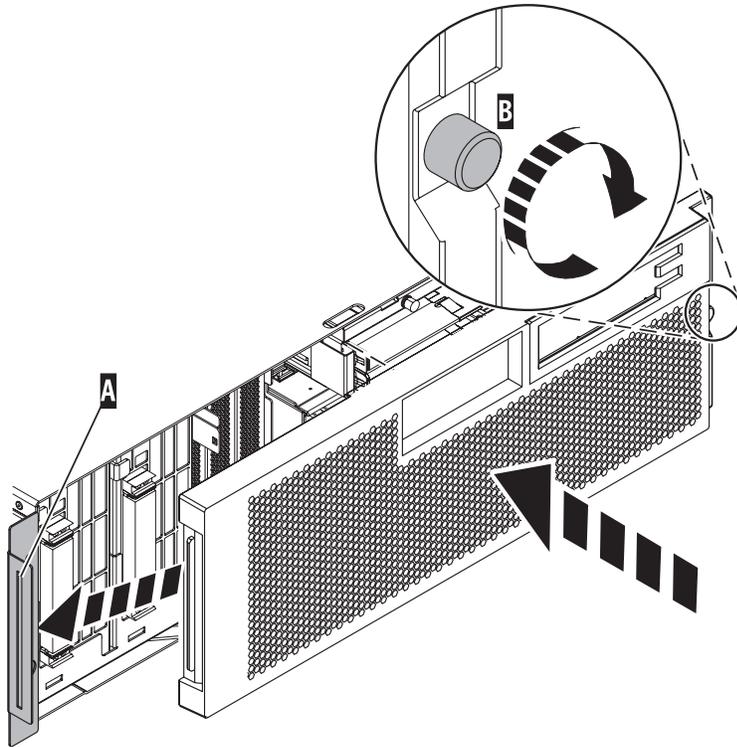
3. Slide the cover to the right and remove it from the system unit.

**Install the front cover on the model 9116-561 or 570:**

You might need to install the cover after accessing components or performing service. Use the procedure in this section to accomplish this task.

To install the front cover follow these steps:

1. Position the cover on the front of the system unit so that the tab on the left side of the cover is in the matching slot on the left side of the system unit as shown in the following figure.



IPHAJ500-1

2. Tighten the thumbscrew on the right side of the cover.
3. Close the front rack door.

## Model 285, 52x, 55x, or OpenPower 720 door

You might need to remove and replace the front door of a stand-alone model. This section includes procedures so that you can perform this task.

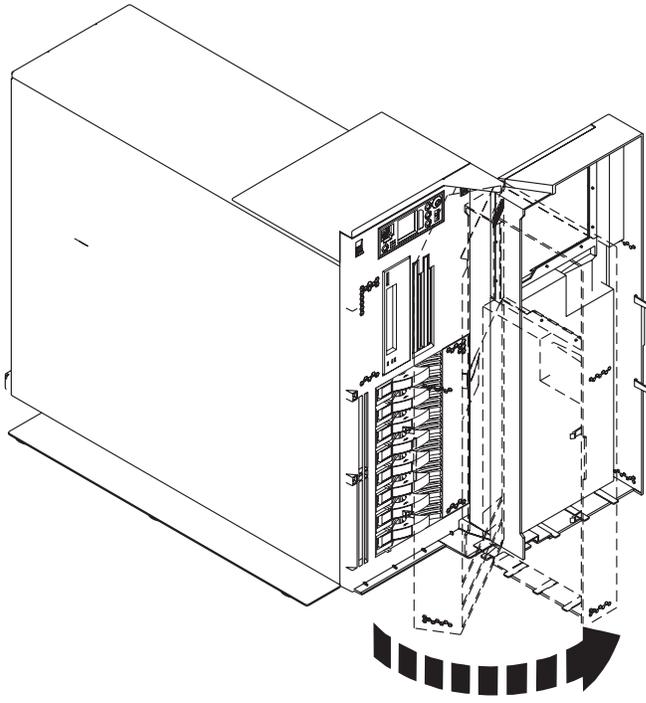
### Remove the door from the model 285, 52x, 55x, or OpenPower 720

You might need to remove the door to access components or perform service. Use the procedure in this section to accomplish this task.

To remove the door from the model 285 or 9131-52A see, “Remove the door from the model 285 or 9131-52A” on page 91.

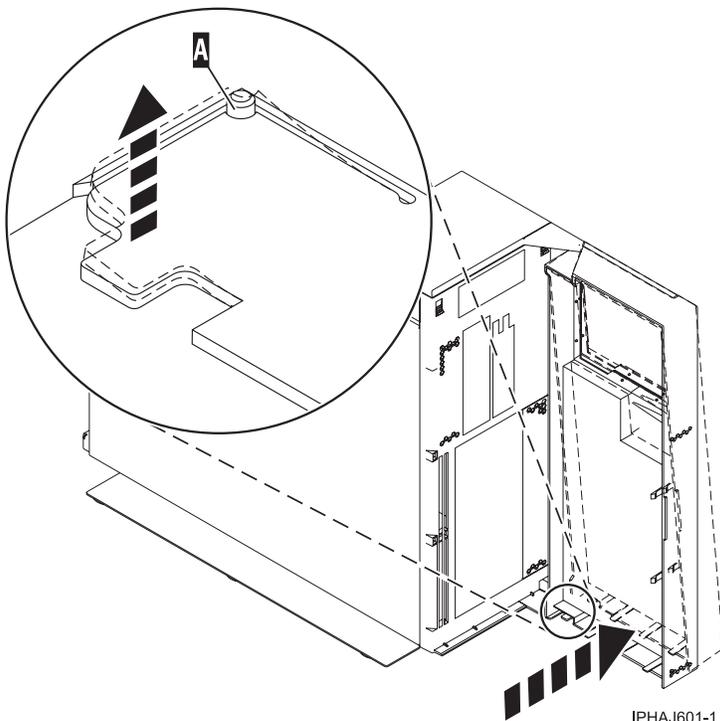
To remove the 52x, 55x, or OpenPower 720 door, do the following:

1. Open the front door by grasping the door handle and pulling the door out and away from the system unit as shown in the following figure.



IPHAJ602-0

2. To remove the door, press down on the top back edge of the door.
3. Gently swivel the top back edge of the door forward and out past the top of the system unit.
4. Lift the door up to release it from the lower retaining post.



IPHAJ601-1

**Remove the door from the model 285 or 9131-52A:**

You might need to remove the door to access components or perform service. Use the procedure in this section to accomplish this task.

The model 285 or 9131-52A has two doors. The top door allows access to the media and the bottom allows access to the DASD. Use the following procedure for removing both doors.

1. Open the door that you want to remove and release the tab at the center hinge point as shown in the following figure.
  - a. Lift up the bottom tab at hinge **A** to release the top door.
  - b. Press down on the top tab at the hinge **A** to release the bottom door
2. Gently swivel the top back edge of the door forward until it releases from the system unit.

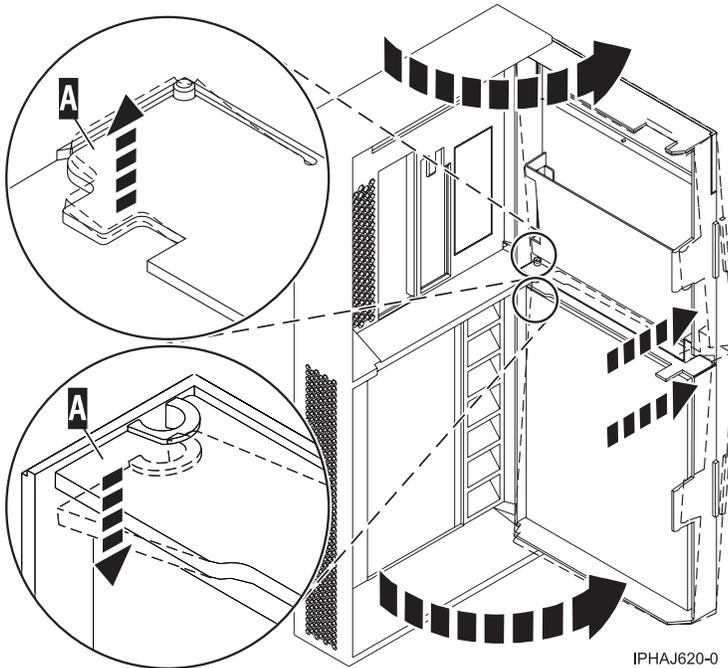


Figure 59. Removing the model 285 or 9131-52A door

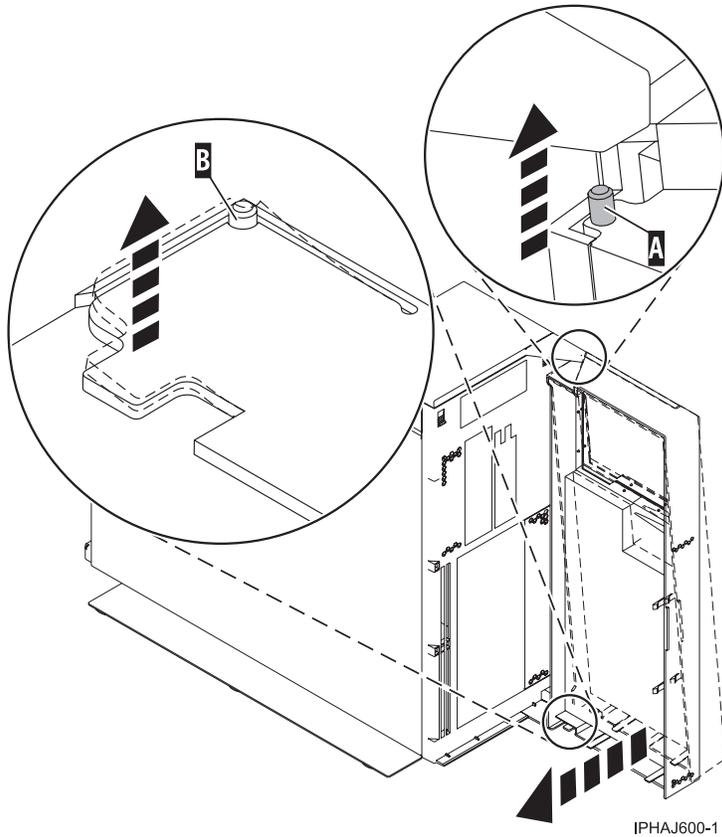
### Install or replace the door on the model 285, 52x, 55x, or OpenPower 720

You might need to install the door after accessing components or performing service. Use the instructions in this section to accomplish this task.

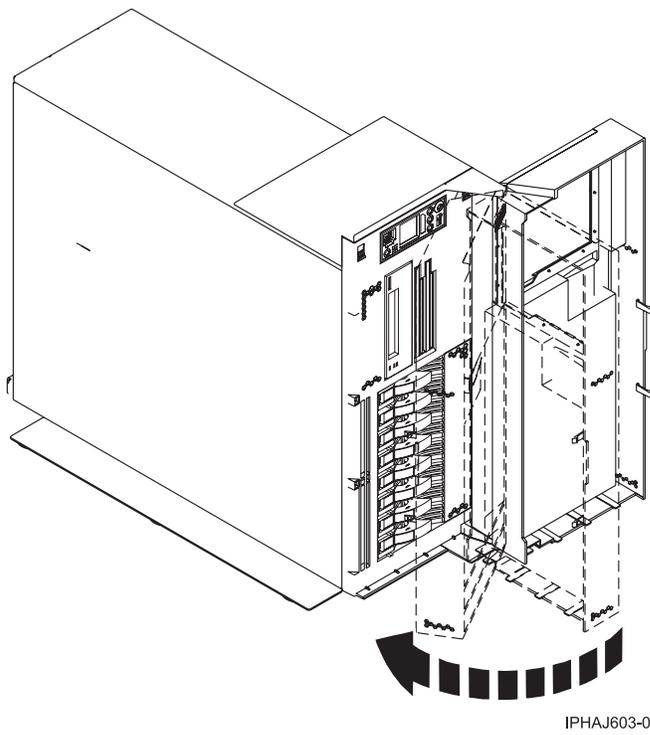
To install the model 285 or 9131-52A with acoustic feature front door see, “Install the door on the model 285 or 9131-52A” on page 93

To install the model 52x, 55x, or OpenPower 720 front door, do the following:

1. Set the door on the lower retaining post **B**, as shown in the following figure.
2. Rotate the door toward the top of the system unit.
3. Press down on the lower back edge of the door, and seat the top post **A** into its matching slot.



4. Close the door.



Install the door on the model 285 or 9131-52A:

You might need to install the door after accessing components or performing service. Use the instructions in this section to accomplish this task.

The model 285 or 9131-52A has two doors. The top door covers the media bays, and the bottom door covers the DASD bays.

1. Set the door into the retaining post A.

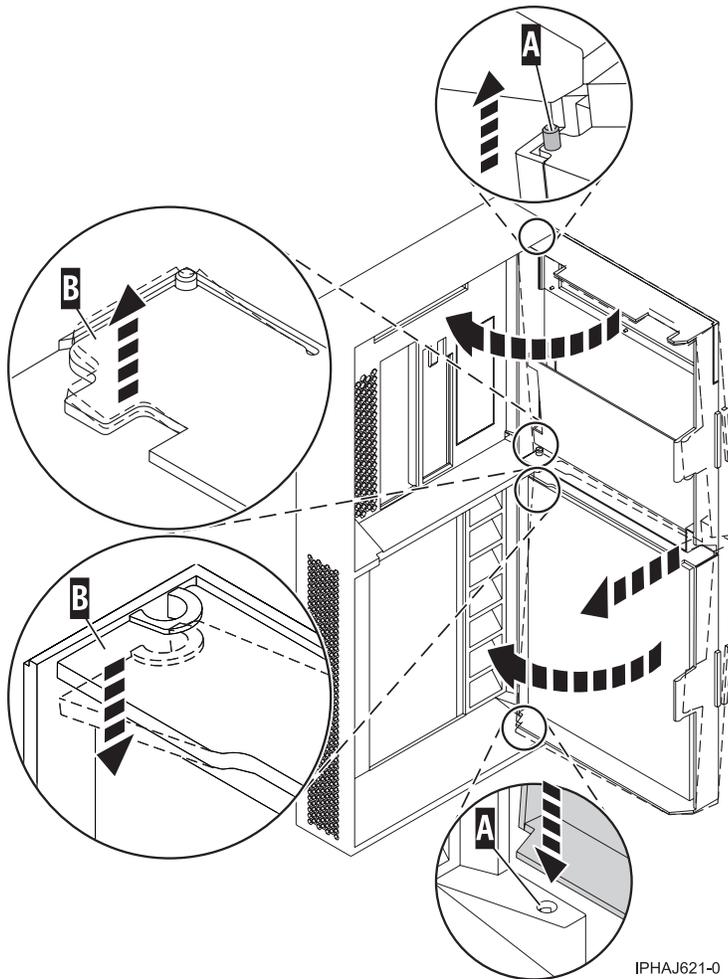


Figure 60. Installing the model 285 door

2. Rotate the door toward the system unit.
3. Press down on the back edge of the door, and seat the post B into its matching slot.
4. Close the door.

## Expansion unit cover or door

You might need to remove, replace, or install covers or doors on an expansion unit as a part of accessing components or servicing your unit. This section includes instructions to accomplish these tasks.

### Remove the front door from the 5074 or 5094 expansion unit

You might need to remove the door to access components or perform service. Use the instructions in this section to accomplish this task.

To remove the front door from the expansion unit, follow these steps:

1. Open the front door **A** as shown in the following figure.
2. Press the latch **B** to remove the door.

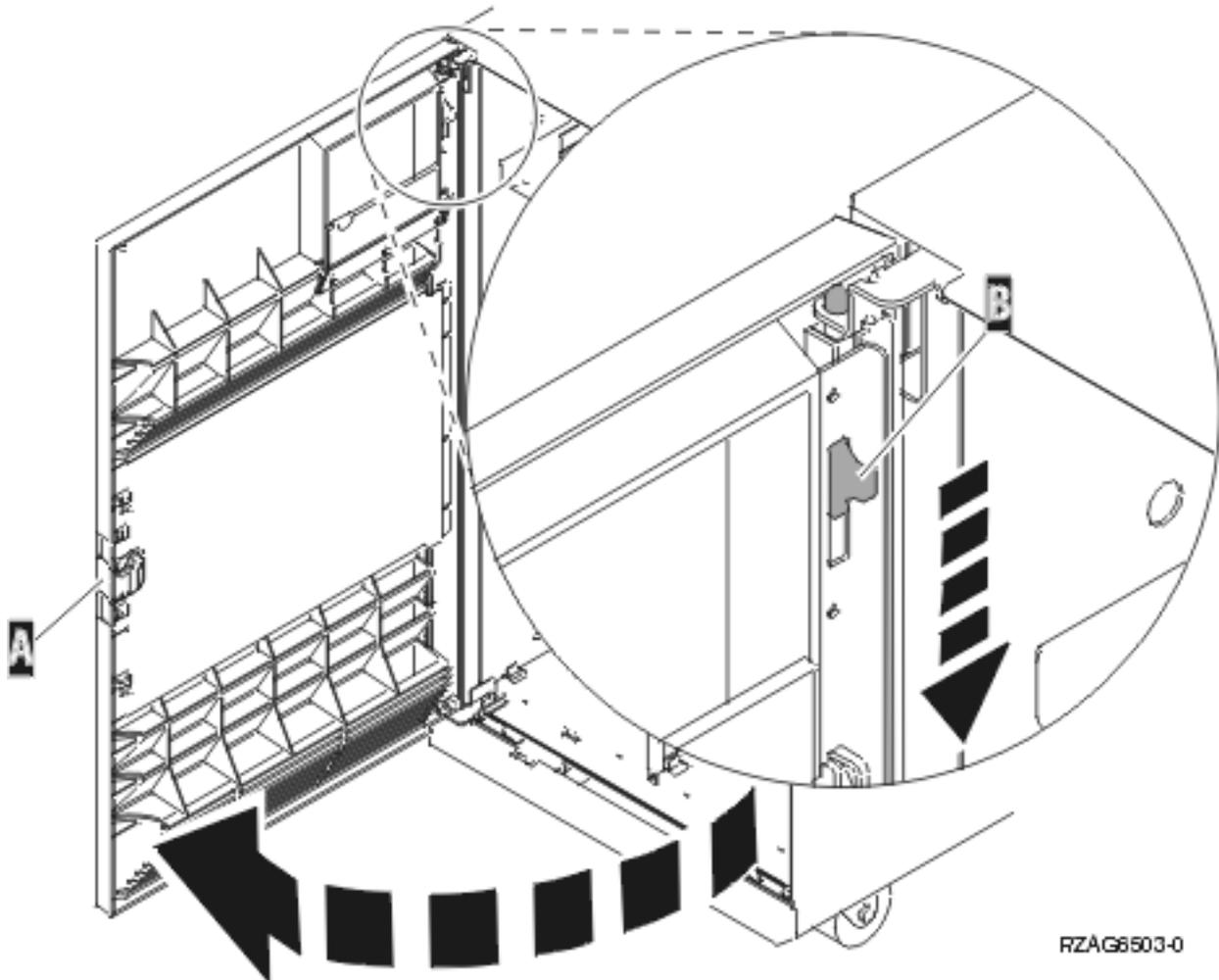


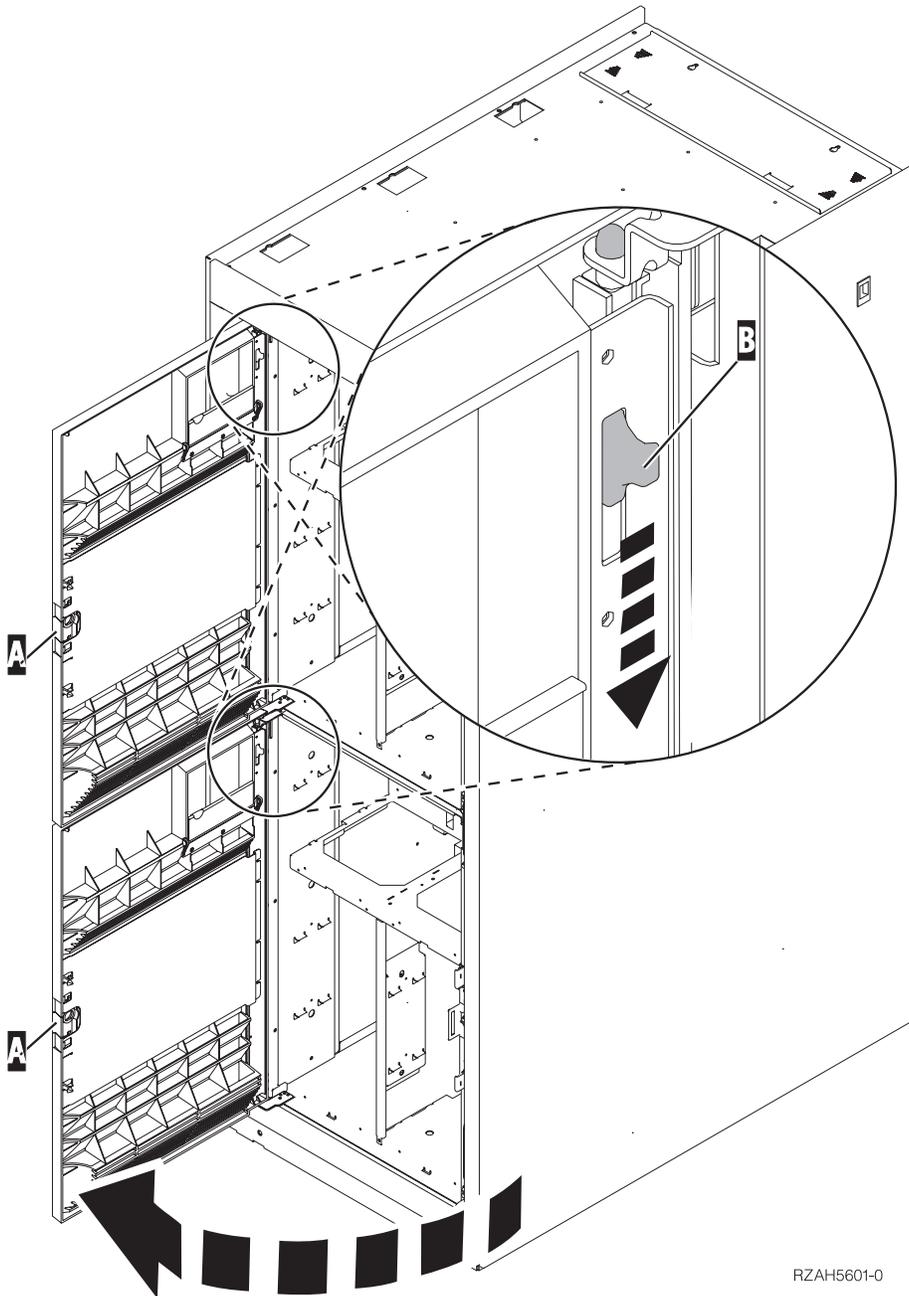
Figure 61. Removing the expansion unit front door

### **Remove the front door from the 5079 or 5294 expansion unit**

You might need to remove the door to access components or perform service. Use the instructions in this section to accomplish this task.

To remove the front door from the expansion unit, follow these steps:

1. Open the front door **A** as shown in the following figure.
2. Press the latch **B** to remove the door.



RZAH5601-0

Figure 62. Removing the expansion unit front door

### Remove the back door from the 5074, 5079, and 5094 expansion unit

You might need to remove the door to access components or perform service. Use the instructions in this section to accomplish this task.

To remove the back door from the expansion unit, follow these steps:

- Open the back door A as shown in the following figure.
- Press the latch B to remove the door.

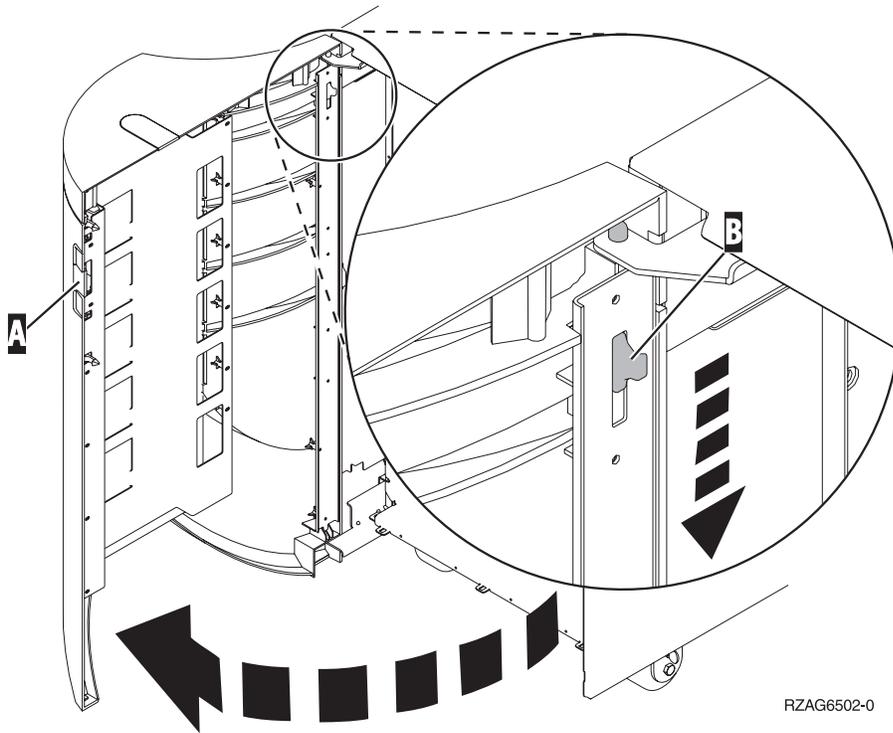
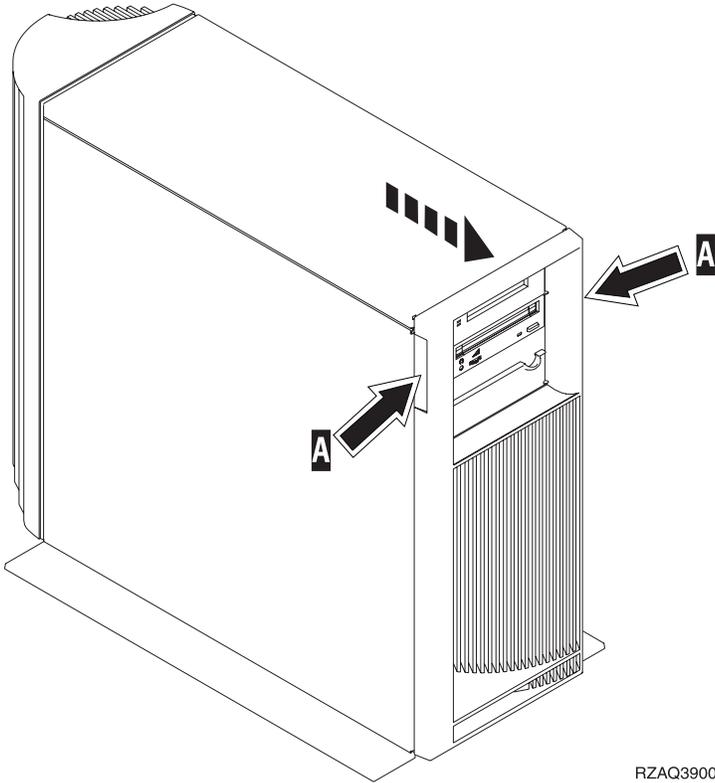


Figure 63. Removing the expansion unit back door

### Remove the front cover from the 5095 expansion unit

You might need to remove the cover to access components or perform service. Use the instructions in this section to accomplish this task.

To remove the front cover from the expansion unit, grip the sides of the cover **A** and pull the cover toward you, as shown in the following figure.



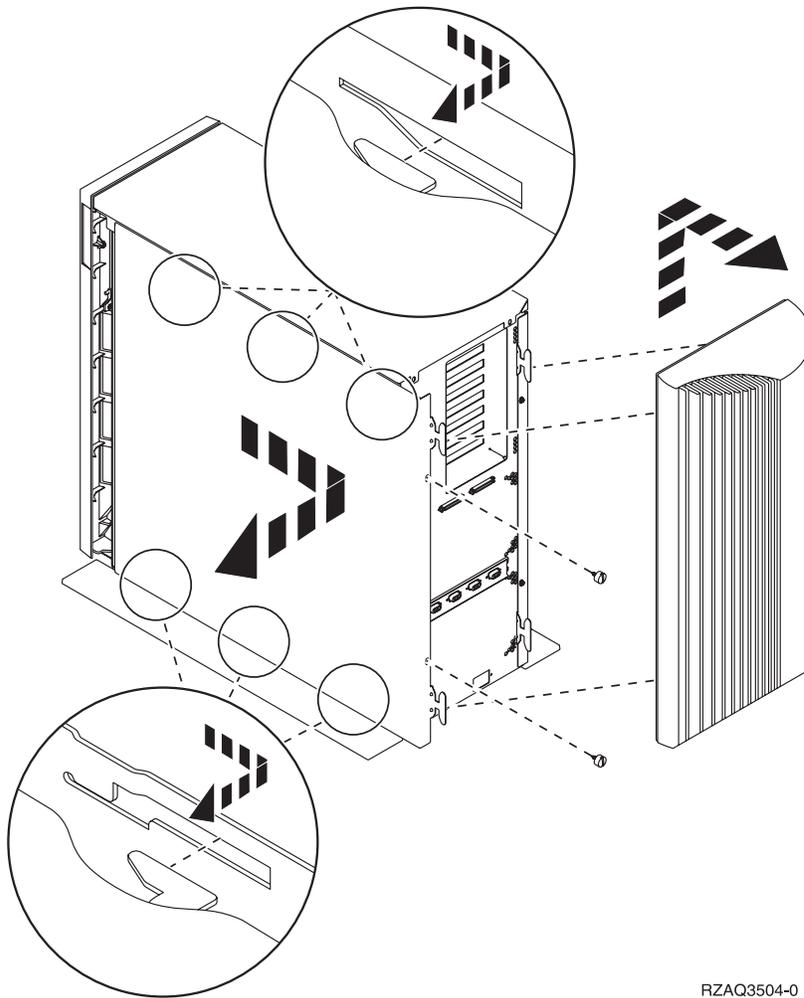
RZAQ3900-0

### Remove the back door and cover from the 5095 expansion unit

You might need to remove the door and cover to access components or perform service. Use the instructions in this section to accomplish this task.

To remove the back door and cover from the expansion unit, follow these steps:

1. Place your hand near the bottom of the back cover and lift up and out.  
**Attention:** If you remove the cover while the server is powered on, errors might occur due to electromagnetic interference.
2. Remove the left cover, view from back, by loosening the thumbscrews and sliding the cover from front to back until it stops.



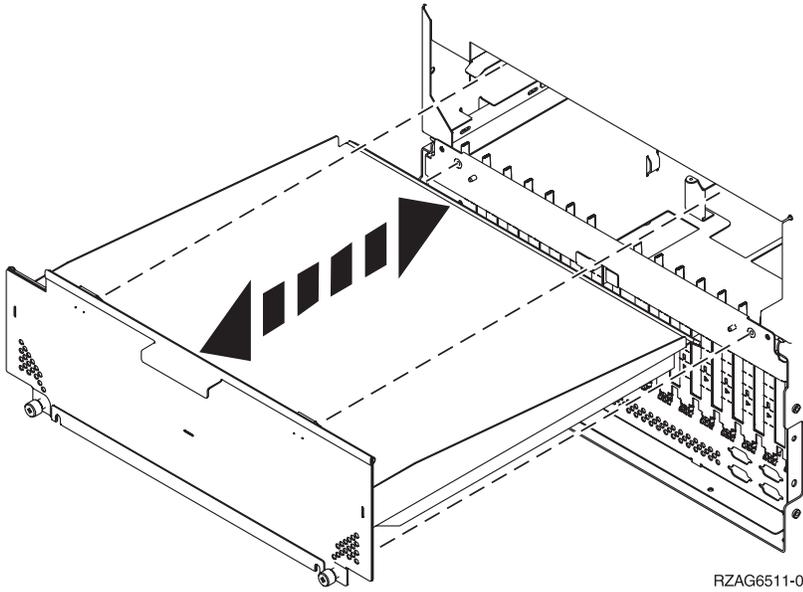
RZAQ3504-0

3. Pull the cover out.

### **Remove the back cover from the 0588 expansion unit**

You might need to remove the cover to access components or perform service. Use the instructions in this section to accomplish this task.

Open the back cover and remove the air flow shield, as shown in the following figure.



### **Remove and install the front cover on the 5791 or 5794 expansion unit**

You might need to remove and install the front cover to access components or perform service. This section includes instructions to accomplish these tasks.

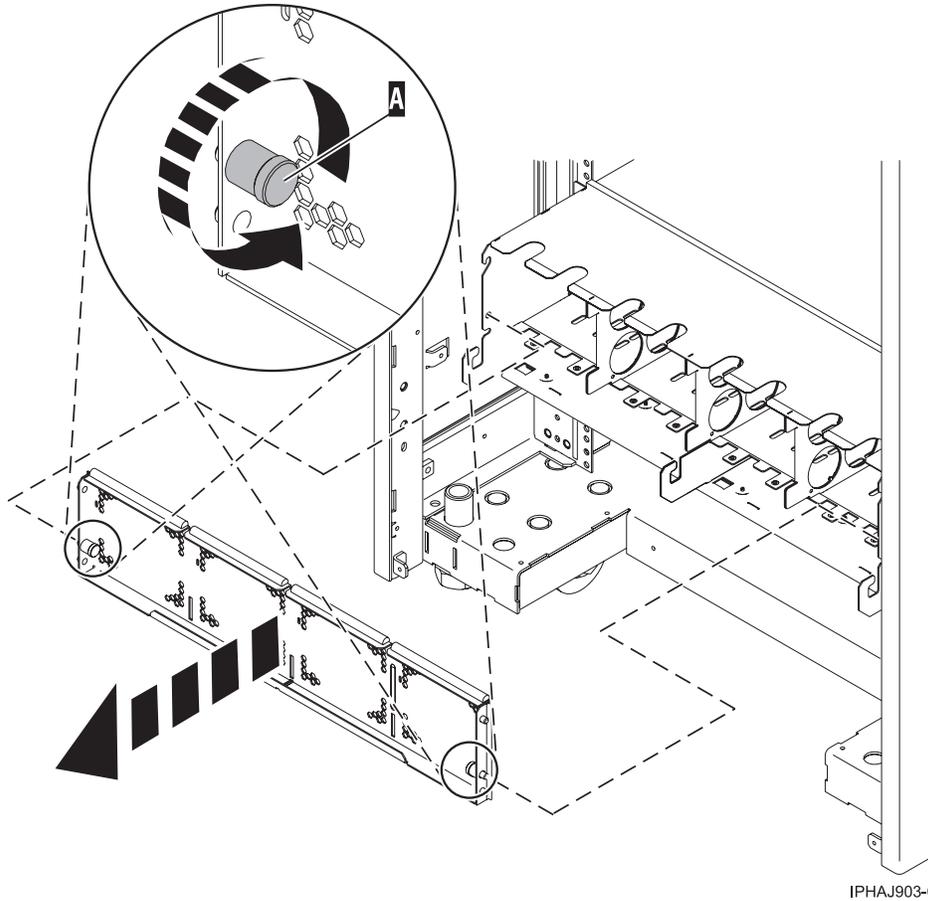
#### **Remove the front cover from the 7311-D11, 5791, or 5794 expansion unit:**

You might need to remove the cover to access components or perform service. Use the procedure in this section to accomplish this task.

To remove the front cover, follow these steps:

1. Open the rack front door, if necessary.

2. Pull in the knobs on the left and right of the front cover as shown in the following figure:



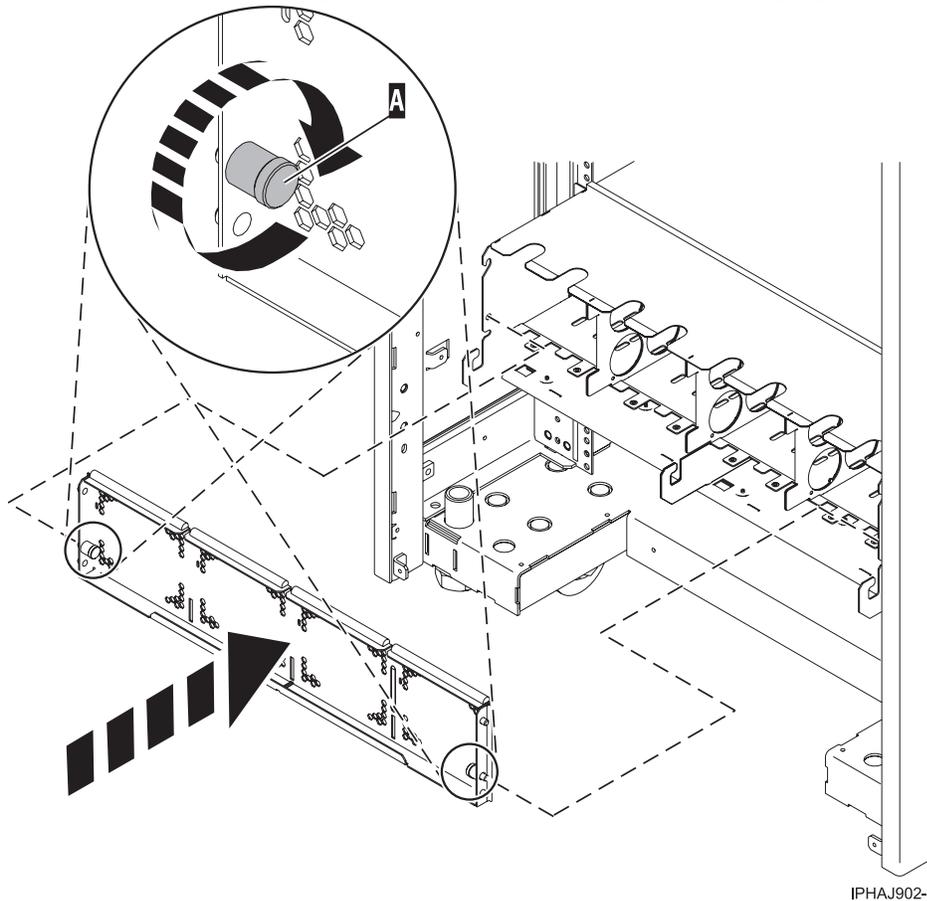
3. Pull the cover out and away from the expansion unit.

**Install the front cover on the 7311-D11, 5791, or 5794 expansion unit:**

You might need to install the cover after accessing components or performing service. Use the instructions in this section to accomplish this task.

To install the front cover, follow these steps:

1. Position the cover on the front of the expansion unit so that the pins on the cover line up with the slots on the front of the expansion unit as shown in the following figure:



2. Pull in the knobs on the left and right of the front cover.
3. Push the cover on to the front of the expansion unit.
4. Release the knobs on the left and right of the front cover.

## Identify a failing part

Use the instructions in this section to learn how to locate and identify a failing part on your system or expansion unit using the appropriate method for your system.

### Identify a failing part on an AIX system or logical partition

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

#### Locate 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. Use the procedure in this section to accomplish this task.

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**. 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.

Use the location information for the failing part to activate the indicator light that identifies the failing part. For instructions, see “Activate the indicator light for the failing part.”

#### **Activate the indicator light for the failing part:**

You might need to use the indicator light to help you physically locate a part. Use the procedure in this section to accomplish this task.

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**. 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.

#### **Identify a failing part on an i5/OS system or logical partition**

You might need to activate or deactivate the indicator light using i5/OS to assist in locating a failing part. Use the instructions in this section to accomplish these tasks.

#### **Activate the failing-part indicator light:**

You might need to search the service action log for an entry that matches the time, reference code, or resource of a problem, and then activate the indicator light for a failing part. Use the procedure in this section to accomplish this task.

1. Signed on to an i5/OS session, **with at least service level authority**.
2. On the command line of the i5/OS session, type `strsst` and press Enter.

**Note:** If you cannot get to the System Service Tools display, use function 21 from the control panel. Alternatively, if the system is managed by a Hardware Management Console (HMC), use the Service Focal Point utilities to get to the Dedicated Service Tools (DST) display.

3. Type your service tools user ID and service tools password on the System Service Tools (SST) Sign On display. Press Enter.

**Remember:** The service tools password is case-sensitive.

4. Select **Start a service tool** from the System Service Tools (SST) display. Press Enter.
5. Select **Hardware service manager** from the Start a Service Tool display. Press Enter.
6. Select **Work with service action log** from the Hardware Service Manager display. Press Enter.
7. On the Select Timeframe display, change the **From: Date and Time** field to a date and time prior to when the problem occurred.
8. Search for an entry that matches one or more conditions of the problem:
  - Reference code
  - Resource
  - Date and Time
  - Failing item list
9. Select option 2, Display failing item information, to display the service action log entry.

10. Select option 2, Display details, to display location information for the failing part to be replaced. The information displayed in the date and time fields is the date and time for the first occurrence of the specific reference code for the resource displayed during the time range selected.
11. If location information is available, select option 6, indicator on, to turn on the failing part's indicator light.

**Tip:** If the failing part does not contain a physical indicator light, a higher-level indicator light will be activated. For example, the indicator light for the backplane or unit that contains the failing part might be lit. In this case, use the location information to locate the actual failing part.

12. Look for the enclosure indicator light to locate the enclosure that contains the failing part.

#### **Deactivate the failing-part indicator light:**

If you turned on the indicator light during a removal and replacement procedure, turn it off to complete that procedure. Use the instructions in this section to accomplish this task.

1. Select option 7, Indicator off, to turn off the indicator light.
2. If all problems have been resolved, use the **Acknowledge all errors** function at the bottom of the service action log display.
3. Close the log entry by selecting option 8, Close a new entry, on the service action log report display.

#### **Identify a failing part on a Linux system or logical partition**

Use the instructions in this section to learn how to identify a failing part using one of a number of methods on a system or logical partition running Linux.

#### **Locate a failing part and activate the indicator light:**

If the service aids have been installed on a system or logical partition running Linux, you can use the instructions in this section to locate the failing part, and then activate the indicator light for that part.

*Locate a failing part in a Linux system or logical partition:*

If you do not know the location code of the failing part, use the instructions in this section to locate the failing part.

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

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.

#### **Activate 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. Use the procedure in this section to accomplish this task.

To activate the indicator light, follow these steps:

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

#### **Deactivate the failing-part indicator light:**

After you complete a removal and replacement procedure, use this task to deactivate the failing-part indicator light.

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

### Identify a failing part using stand-alone eServer diagnostics:

If the operating system is stopped or if you need to stop the system or logical partition to replace the failing part, use the procedure in this section to identify a failing part.

You can use stand-alone diagnostics to identify a failing part in a Linux system, expansion unit, or logical partition. 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 the stand-alone eServer™ diagnostics from a Network Installation Management server*.

#### Prerequisites:

- If this server is directly attached to another server or attached to a network, be sure communications with the other servers are stopped.
- Ensure that no other activity is running on the logical partition. Stand-alone eServer diagnostics require use of all of the logical partition resources. No other activity can be running on the logical partition.
- You must have access to the system console to use stand-alone eServer diagnostics.

To use stand-alone diagnostics from a CD-ROM, follow these steps:

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.

**Note:** The next step starts the server or logical partition from the eServer stand-alone diagnostic CD-ROM. If the CD-ROM or DVD-ROM drive is not available as the startup device on the server or logical partition on which you are working, follow these steps:

- a. Access the Advanced System Management Interface (ASMI). See *Managing your server using the Advanced System Management Interface* for information on using the ASMI.
  - b. On the ASMI main menu, click **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 list.
  - e. Click **Save settings** and power on the system. As soon as the optical drive has power, insert the AIX diagnostic diskette.
  - f. Go to step 5.
4. Turn on the system unit power and insert the diagnostics CD-ROM into the CD-ROM drive.
  5. After the keyboard POST indicator displays on the firmware console and before the last POST indicator (speaker) displays, press the 5 key on either the directly attached keyboard or the ASCII terminal. This indicates 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 the Diagnostic Operating Instructions display does not appear, contact your support center for assistance.

8. If the terminal type is requested, use the **Initialize Terminal** option on the **Function Selection** menu to initialize the operating system.

## Identify a failing part using the Advanced System Management Interface

If the Linux operating system is running on the system or logical partition, use the procedure in this section to identify a failing part.

To activate the indicator light for a failing part, follow these steps:

1. If the unit ID does not match the label on the system or expansion unit, update the configuration information.
  - For information on setting up the ASMI refer to Accessing the Advanced System Management Interface.
  - For information on using the ASMI, refer to Managing your server using the Advanced System Management Interface
2. Turn on the failing part indicator light. For instructions, see Changing service indicators.

## Verify the installed part

Use the instructions in this section to learn how to verify a newly installed or replaced part on your system, logical partition, or expansion unit by selecting the appropriate procedure for the operating system or console.

## Verify an installed feature or replaced part on 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. Use the procedure in this section to accomplish 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 using AIX:

1. Log in as root user.
2. At the command line, type `diag` and press Enter.
3. Select **Advanced Diagnostics Routines**. Press Enter.
4. From the **Diagnostic Mode Selection** menu, select **System Verification**. 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. You can learn more about these codes in Reference codes. 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 using AIX

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

1. Did you replace the part using either AIX or the online diagnostics service aid's concurrent (hot-swap) service operation?
  - No:** Go to step 2.
  - Yes:** Go to step 5.
2. Is the system powered off?
  - Yes:** If the system supports slow boot, set the system to perform a slow boot. For information, see *Performing a slow boot*.
  - No:** Go to step 4.
3. Start the system and wait until the AIX operating system login prompt displays or until apparent system activity on the operator panel or display has stopped.
 

Did the AIX login prompt display?

  - **Yes:** Go to step 4
  - **No:** If an SRN or other reference code is displayed, suspect a loose adapter or cable connection. You can learn more about these codes in the *Reference codes*. 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.
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 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 go to AIX fast-path problem isolation.
  - f. If no SRN is shown, go to 5.
5. Test the part by doing the following:
  - a. At the command line, type `diag` and press Enter.
  - b. From the **Function Selection** menu, select **Advanced Diagnostics Routines**. Press Enter.
  - c. From the **Diagnostic Mode Selection** menu, select **System Verification**. 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. Press Enter.
 

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

    - No:** Go to step 6.
    - Yes:** Go to step 7 on page 108.
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**. Press Enter.

**Tip:** This action changes the indicator light for the part from the fault state to the normal state.  
Go to step 9

7. 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. After replacing a part, you must select the resource for that part from the *Resource Repair Action* menu. This updates 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.

Follow these steps:

- 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  
**Yes:** Go to step 8.
8. The parent or child of the resource you just replaced may also require that you run the Resource Repair Action option on it. 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. After replacing that part, you must select the resource for that part from the *Resource Repair Action* menu. This updates 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.

Follow these steps:

- 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 value 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:
      - Identify a failing part using stand-alone eServer diagnostics

- Running the stand-alone eServer diagnostics from a Network Installation Management server
- Changing service indicators with the ASMI menus

### **Verify the presence of an installed part on an i5/OS system or logical partition**

If you have installed a new feature or part, verify that the system recognizes the feature or part by using the i5/OS system service tools. Use the procedure in this section to accomplish this task.

1. Deactivate the failing item indicator light and close the service action log entry. For instructions, see “Deactivate the failing-part indicator light” on page 104.
2. Be sure you are signed on **with at least service level authority**.
3. On the command line of the i5/OS session, type `strsst` and press Enter.

**Note:** If you cannot get to the System Service Tools display, use function 21 from the control panel. Alternatively, if the system is managed by Hardware Management Console (HMC), use the Service Focal Point Utilities to get to the Dedicated Service Tools (DST) display.

4. Type your service tools user ID and service tools password on the System Service Tools (SST) Sign On display. Press Enter.

**Note:** The service tools password is case-sensitive.

5. Select **Start a service tool** from the System Service Tools (SST) display. Press Enter.
6. Select **Hardware service manager** from the Start a Service Tool display. Press Enter.
7. Select **Logical hardware resources (buses, IOPs, controllers)** from the Hardware Service Manager display. This option allows you to display and work with logical resources. Logical hardware resources are the functional resources of the system used by the operating system.
8. Press Enter.

When you select one of the options from the Logical Hardware Resources display, you can do the following:

- Display logical hardware resource status
- Display or change logical hardware resource information
- Display associated packaging hardware resources

For more information on collecting information and performing specific functions using the options and function keys from the Logical Hardware Resources display or for details on the symbols that appear next to the Resource Description field, see the online Help information.

### **Verify the installed part on a Linux system or logical partition (run AIX diagnostics)**

If you have installed a new part, use the instructions in this section to learn how to verify that the system recognizes the part.

To verify the newly installed or replaced part, choose one of the following:

#### **Verify an installed part using the eServer stand-alone diagnostics:**

If you have installed or replaced a part, verify that the system recognizes the new part. Use the procedure in this section to accomplish this task.

You can use stand-alone diagnostics to verify an installed part in a Linux system, expansion unit, or logical partition. 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 the eServer stand-alone diagnostics from a Network Installation Management server*.

## Prerequisites

- If this server is directly attached to another server or attached to a network, be sure communication with the other servers is stopped.
- eServer stand-alone diagnostics require use of all of the logical partition resources. No other activity can be running on the logical partition.
- eServer stand-alone diagnostics require access to the system console.

To use stand-alone diagnostics, follow these steps:

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 eServer 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 *Managing your server using the Advanced System Management Interface* for information on using the ASMI.
  - b. On the ASMI main menu, click on **Power/Restart Control**.
  - c. Click on **Power On/Off System**.
  - d. Select the **Service mode boot from default boot list** option in the AIX/Linux logical partition mode boot drop-down menu.
  - e. Click on **Save settings and power on**. As soon as the optical drive has power, insert the eServer 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.

**Note:** 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 will not boot or you have no login prompt go to *Problems with loading and starting the operating system*.

**Note:** If you received an SRN or any other reference code when you attempted to start the system, you can learn more about these codes in *Reference codes*.

8. If the terminal type is requested, you must use the **Initialize Terminal** option on the *Function Selection* menu to initialize the operating system before you can continue.
9. From the Function Selection menu, select **Advanced Diagnostics Routines**. Press Enter.
10. From the Diagnostic Mode Selection menu, select **System Verification**. 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. 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.
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. 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.

### **Verify the presence of an installed part using Hardware Management Console (HMC)**

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. Use the procedure in this section to accomplish this task. If you have reference codes, symptoms, or location codes that you used during the service action, locate the records to use during this procedure.

1. At the HMC, examine the service action event log for any open service action events. See *Viewing serviceable events* 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*. **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.
  - **Yes:** Continue with the next step.
  - **No:** Choose from the following options:
    - Review the other serviceable events and 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.
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 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.

### **Verify the presence of an installed part using the Advanced System Management Interface**

If you have installed or replaced a part, verify that the system recognizes the new part and turn off the failing part indicator light. Use the procedure in this section to accomplish this task using the Advanced System Management Interface (ASMI).

For information on accessing up the ASMI, refer to Accessing the Advanced System Management Interface

Use the instructions from Changing service indicators to turn off the indicator light.

## Install a feature using the Hardware Management Console

You might need to use the Hardware Management Console to install a feature. Use the procedure in this section to perform this task.

- If you are using if you are using an HMC with Version 6 or earlier use the following steps 1
  - If you are using a an HMC with Version 7 or later use the steps in the next section “Install a feature using the HMC Version 7 or later”
1. In the navigation area, expand **Management Environment**.
  2. Expand the managed system into which you are installing a feature.
  3. Expand **Service Applications**.
  4. Select **Service Focal Point**.
  5. In the contents area, select **Install/Add/Remove Hardware**.
  6. In the **Install/Add/Remove Hardware** window, highlight system or unit into which you are installing a feature.
  7. Click **Selected**.
  8. From the Selected menu, select **Add FRU**.
  9. In the **Enclosure type** field, select the system or expansion unit into which you are installing a feature.
  10. In the FRU types for selected enclosure, select the feature you are installing.
  11. Click **Next**.
  12. Follow the instructions to install the feature.

**Note:** The HMC might open the information center instructions for installing the feature. If so, follow these instructions to install the feature.

## Install a feature using the HMC Version 7 or later

1. In the navigation area, expand **Systems Management**.
2. Expand **Servers**.
3. Select the managed system you will install the part in.
4. In the Tasks area expand **Serviceability**.
5. Expand **Hardware**.
6. Select **Add FRU**.
7. In the **Add/Install/Remove Hardware** window select the system or enclosure into which you are installing the feature.
8. Select the type of feature you are installing from the menu and click **Next**
9. Select the location code for where you will install the feature and click **Add**.
10. Once the FRU is in pending actions 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 these instructions to install the feature.

## Remove a part using the Hardware Management Console

You might need to use the Hardware Management Console to facilitate removing a part from your managed system. Use the procedure in this section to accomplish this task.

- If you are using if you are using an HMC with Version 6 or earlier use the following steps 1.
- If you are using a an HMC with Version 7 or later use the steps in the next section “Remove a part using the HMC Version 7 or later.”

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

1. In the navigation area, expand the **Management Environment**.
2. Expand the managed system in which you are replacing a part.
3. Expand **Service Applications**.
4. Select **Service Focal Point**.
5. In the contents area, select **Install/Add/Remove Hardware**.
6. In the **Install/Add/Remove Hardware** window, click System Processor.
7. From the Selected menu, select **Remove FRU**.
8. In the **Installed enclosure types** field, select the system or expansion unit from which you are removing a part.
9. In the Available FRU types for selected enclosure, select the part you are removing.
10. Click **Next**.
11. Follow the instructions to remove the part.

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

## Remove a part using the HMC Version 7 or later

1. In the navigation area, expand **Systems Management**.
2. Expand **Servers**.
3. Select the managed system from which you are removing a part.
4. In the Tasks area expand **Serviceability**.
5. Expand **Hardware**.
6. Select **Remove FRU**.
7. In the **Add/Install/Remove Hardware - Remove FRU, Select FRU Type** window select the system or enclosure from which you are removing the part from the list.
8. Select the type of part you are removing from the menu and click **Next**.
9. Select the location of the part you are removing and click **Add**.
10. Once the part is listed in **Pending Actions** click **Launch Procedure** and follow the instructions to remove the part.

**Note:** The HMC might open external instructions for removing the part. If so, follow these instructions to remove the part.

## Replace a part using the Hardware Management Console

You might need to use the Hardware Management Console to replace a part in your managed system. Use the procedure in this section to accomplish this task.

To use the Hardware Management Console Version 6 or earlier, follow these steps, 1

1. In the navigation area, expand the **Management Environment**.
2. Expand the managed system in which you are replacing a part.
3. Expand **Service Applications**.
4. Select **Service Focal Point**.
5. In the contents area, select **Repair Serviceable Event**.
6. Select the system and click **OK**.
7. In the window, click the problem number for the part you want to replace.
8. Follow the instructions to replace the part.

**Note:** The HMC might open the information center instructions for replacing the part. If so, follow these instructions to replace the part.

### Exchange a part using the HMC Version 7

1. In the navigation area, expand **Systems Management**.
2. Expand **Servers**.
3. Select the managed system in which you are exchanging a part.
4. In the Tasks area expand **Serviceability**.
5. Expand **Hardware**.
6. Select **Exchange FRU**.
7. 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.
8. Select the type of part you will exchange from the menu and click **Next**.
9. Select the location code of the part you will exchange from the menu and click **Add**.
10. Once the part is listed in **Pending Actions** click **Launch Procedure** and follow the instructions to exchange the part.

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

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## Related information

Find additional information about media devices, their operation, and how they work within various operating environments.

For information on prerequisites and device operations related to specific media devices, refer to *Managing media devices*.

For more information on media devices running in AIX, refer to the *60/150GB 8 mm Internal Tape Drive Installation and Using Guide, SA23-1282*, or the *80/160GB VXA-2 Internal Tape Drive Installation and Using Guide, SA23-1297*. These publications are available from the IBM System p and AIX Information Center. [Select Hardware documentation >Tape Drives/Autoloader](#).

For information on media devices running in i5/OS, refer to *Storage solutions and Basic system operations topics*.

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## Appendix. Accessibility features

Accessibility features help users who have a physical disability, such as restricted mobility or limited vision, to use information technology products successfully.

The following list includes the major accessibility features:

- Keyboard-only operation
- Interfaces that are commonly used by screen readers
- Keys that are tactilely discernible and do not activate just by touching them
- Industry-standard devices for ports and connectors
- The attachment of alternative input and output devices

### IBM and accessibility

See the IBM Accessibility Center at <http://www.ibm.com/able/> for more information about the commitment that IBM has to accessibility.



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## Electronic emission notices

### Class A Notices

The following Class A statements apply to the IBM System i models and IBM System p servers with the exception of those that are specifically identified as Class B.

## **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 respecte 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.

European Community contact:  
IBM Technical Regulations  
Pascalstr. 100, Stuttgart, Germany 70569  
Tele: 0049 (0)711 785 1176  
Fax: 0049 (0)711 785 1283  
E-mail: tjahn@de.ibm.com

**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.

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**IBM Taiwan Contact Information:**

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台北市松仁路7號3樓  
電話：0800-016-888

## Electromagnetic Interference (EMI) Statement - Korea

이 기기는 업무용으로 전자파적합등록을 한 기기이오니 판매자 또는 사용자는 이점을 주의하시기 바라며, 만약 잘못 판매 또는 구입하였을 때에는 가정용으로 교환하시기 바랍니다.

Please note that this equipment has obtained EMC registration for commercial use. In the event that it has been mistakenly sold or purchased, please exchange it for equipment certified for home use.

## Germany Compliance Statement

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

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse A ein.

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der IBM empfohlene Kabel angeschlossen werden. IBM übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung der IBM verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung der IBM gesteckt/eingebaut werden.

EN 55022 Klasse A Geräte müssen mit folgendem Warnhinweis versehen werden:

"Warnung: Dieses ist eine Einrichtung der Klasse A. Diese Einrichtung kann im Wohnbereich Funk-Störungen verursachen; in diesem Fall kann vom Betreiber verlangt werden, angemessene Maßnahmen zu ergreifen und dafür aufzukommen."

### Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten

Dieses Produkt entspricht dem "Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG)". Dies ist die Umsetzung der EU-Richtlinie 2004/108/EG in der Bundesrepublik Deutschland.

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

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

Verantwortlich für die Konformitätserklärung nach des EMVG ist die IBM Deutschland GmbH, 70548 Stuttgart.

Generelle Informationen:

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

### **Electromagnetic Interference (EMI) Statement - Russia**

**ВНИМАНИЕ!** Настоящее изделие относится к классу А.  
В жилых помещениях оно может создавать  
радиопомехи, для снижения которых необходимы  
дополнительные меры

### **Class B Notices**

The following Class B statements apply to model 9111-520 (stand-alone version), 9131-52A (stand-alone version), 7047-185 and the 9111-285.

### **Federal Communications Commission (FCC) statement**

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

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

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

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

### **Industry Canada Compliance Statement**

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

### **Avis de conformité à la réglementation d'Industrie Canada**

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

## European Community Compliance Statement

This product is in conformity with the protection requirements of EC 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 B Information Technology Equipment according to CISPR 22 / European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

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

European Community contact:  
IBM Technical Regulations  
Pascalstr. 100, Stuttgart, Germany 70569  
Tele: 0049 (0)711 785 1176  
Fax: 0049 (0)711 785 1283  
E-mail: tjahn@de.ibm.com

## VCCI Statement - Japan

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。  
取扱説明書に従って正しい取り扱いをして下さい。

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

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

## IBM Taiwan Product Service Contact Information

台灣IBM 產品服務聯絡方式：  
台灣國際商業機器股份有限公司  
台北市松仁路7號3樓  
電話：0800-016-888

## Electromagnetic Interference (EMI) Statement - Korea

이 기기는 가정용으로 전자파적합등록을 한 기기로서 주거 지역에서는 물론 모든 지역에서 사용할 수 있습니다.

## Radio Protection for Germany

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

Dieses Produkt entspricht den Schutzanforderungen der EU-Richtlinie 2004/108/EG zur Angleichung der Rechtsvorschriften über die elektromagnetische Verträglichkeit in den EU-Mitgliedsstaaten und hält die Grenzwerte der EN 55022 Klasse B ein.

Um dieses sicherzustellen, sind die Geräte wie in den Handbüchern beschrieben zu installieren und zu betreiben. Des Weiteren dürfen auch nur von der IBM empfohlene Kabel angeschlossen werden. IBM übernimmt keine Verantwortung für die Einhaltung der Schutzanforderungen, wenn das Produkt ohne Zustimmung der IBM verändert bzw. wenn Erweiterungskomponenten von Fremdherstellern ohne Empfehlung der IBM gesteckt/eingebaut werden.

### Deutschland: Einhaltung des Gesetzes über die elektromagnetische Verträglichkeit von Geräten

Dieses Produkt entspricht dem "Gesetz über die elektromagnetische Verträglichkeit von Geräten (EMVG)". Dies ist die Umsetzung der EU-Richtlinie 2004/108/EG in der Bundesrepublik Deutschland.

### 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.

Verantwortlich für die Konformitätserklärung nach des EMVG ist die IBM Deutschland GmbH, 70548 Stuttgart.

Generelle Informationen:

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

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