

Power Systems

*Common procedures for installable
features*

IBM

Common procedures for installable features

Learn about the common procedures for installing, removing, and replacing features in the IBM® Power Systems servers.

Before you begin

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

About this task

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



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

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

- If IBM supplied the power cord(s), 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.
 - For AC power, disconnect all power cords from their AC power source.
 - For racks with a DC power distribution panel (PDP), disconnect the customer's DC power source to the PDP.
- When connecting power to the product ensure all power cables are properly connected.
 - For racks with AC power, 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.
 - For racks with a DC power distribution panel (PDP), connect the customer's DC power source to the PDP. Ensure that the proper polarity is used when attaching the DC power and DC power return wiring.
- 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.
- Do not attempt to switch on power to the machine until all possible unsafe conditions are corrected.
- Assume that an electrical safety hazard is present. Perform all continuity, grounding, and power checks specified during the subsystem installation procedures to ensure that the machine meets safety requirements.
- Do not continue with the inspection if any unsafe conditions are present.
- Before you open the device covers, unless instructed otherwise in the installation and configuration procedures: Disconnect the attached AC power cords, turn off the applicable circuit breakers located in the rack power distribution panel (PDP), and disconnect any telecommunications systems, networks, and modems.

**DANGER:**

- 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. For AC power, remove the power cords from the outlets.
3. For racks with a DC power distribution panel (PDP), turn off the circuit breakers located in the PDP and remove the power from the Customer's DC power source.
4. Remove the signal cables from the connectors.
5. 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. For AC power, attach the power cords to the outlets.
5. For racks with a DC power distribution panel (PDP), restore the power from the Customer's DC power source and turn on the circuit breakers located in the PDP.
6. Turn on the devices.

Sharp edges, corners and joints may be present in and around the system. Use care when handling equipment to avoid cuts, scrapes and pinching. (D005)

(R001 part 1 of 2):

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 if provided, unless the earthquake option is to be installed..
- 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. In addition, do not lean on rack mounted devices and do not use them to stabilize your body position (for example, when working from a ladder).



- Stability hazard:
 - The rack may tip over causing serious personal injury.
 - Before extending the rack to the installation position, read the installation instructions.
 - Do not put any load on the slide-rail mounted equipment mounted in the installation position.
 - Do not leave the slide-rail mounted equipment in the installation position.
- Each rack cabinet might have more than one power cord.
 - For AC powered racks, be sure to disconnect all power cords in the rack cabinet when directed to disconnect power during servicing.

- For racks with a DC power distribution panel (PDP), turn off the circuit breaker that controls the power to the system unit(s), or disconnect the customer's DC power source, 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. (R001 part 1 of 2)

(R001 part 2 of 2):



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 or if the rack is not bolted to the floor. 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 part 2 of 2)

Procedure

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

Blue 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.

5. Ensure that you have access to a medium flat-blade screwdriver, a Phillips screwdriver, and a pair of scissors.
6. Before you begin a procedure that turns the system off, ensure that there is no system dump in progress; otherwise you will lose that data.
7. If parts are incorrect, missing, or visibly damaged, complete the following steps:
 - If you are replacing a part, contact the provider of your parts or next level of support.
 - If you are installing a feature, contact one of the following service organizations:
 - The provider of your parts or next level of support.
 - In the United States, the IBM Rochester Manufacturing Automated Information Line (R-MAIL) at 1-800-300-8751.

In countries and regions outside of the United States, use the following website to locate your service and support telephone numbers: [Directory of worldwide contacts \(www.ibm.com/planetwide\)](http://www.ibm.com/planetwide)

8. Many parts are sensitive to static electricity.

Keep all electronic components inside their shipping container or envelope until you are ready to install them. If you removed an electronic component and if you are not ready to install it, temporarily place that component on an ESD mat.
9. If you encounter difficulties during the installation, contact your service provider, your IBM reseller, or your next level of support.
10. If you are installing new hardware in a logical partition, understand and plan for the implications of partitioning your system. For information, see [Logical Partitioning](#).

Identifying a part

Learn how to identify the system or enclosure that contains a failing part, the location code and light-emitting diode (LED) status for a part, and how to activate and deactivate the identify part LED.

Before you begin

Procedure

- To determine which server or enclosure contains the part, see [“Identifying the enclosure or server that contains the part to be replaced”](#) on page 4.
- To find the location of the part and to determine whether the part has an identifying LED, see [“Finding the part location code and LED support status”](#) on page 6.
- Turn on the identifying LED for a part.
 - If you have an HMC, see [“Identifying a part by using the HMC”](#) on page 12.
 - If your system is in the runtime state, see [“Identifying a part by using the operating system or VIOS”](#) on page 7.
 - If your system is in the standby power state, see [“Identifying a part by using the ASMI”](#) on page 11.
- To turn off an identify LED, see [“Deactivating an identify LED”](#) on page 94.
- To turn off a check log indicator, see [“Deactivating a check log indicator \(system information indicator\) by using the ASMI”](#) on page 96.

Identifying the enclosure or server that contains the part to be replaced

Learn how to determine which server or enclosure has the part you want to replace.

Enabling enclosure or server indicators by using the ASMI

Find out how to enable enclosure or server indicators by using the Advanced System Management Interface (ASMI).

About this task

To perform this operation, you must have one of the following authority levels:

- Administrator
- Authorized service provider

To enable the enclosure or server indicator states, complete the following steps:

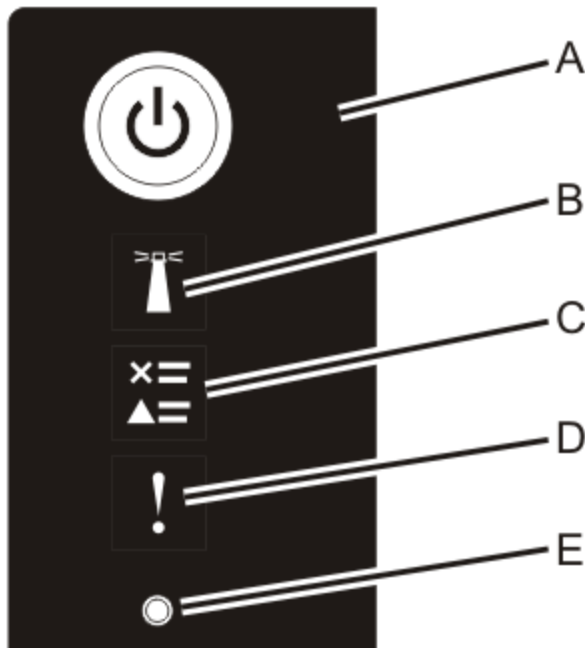
Procedure

1. On the ASMI Welcome pane, specify your user ID and password, and click **Log In**.
2. In the navigation area, expand **System Configuration** > **Service Indicators** > **Enclosure Indicators**.
A list of enclosures is displayed.
3. Select the enclosure and click **Continue**.
A list of location codes is displayed. Alternatively, you can click **Indicators by Location Code** and type the location code in the **Location code** field.
4. In the **Identify indicator status** field, select **Identify**.
5. To save the changes that are made to the state of an indicator, click **Save settings**.

Control panel LEDs

Use this information as a guide to the control panel LEDs and buttons.

Use [Figure 1](#) on page 5 with the control panel LED descriptions to understand the system status that is indicated by the control panel.



P9HAJ599-1

Figure 1. Control panel LEDs

Control panel LEDs and descriptions:

- **A:** Power-on button
 - A constant green light indicates full system power to the unit.

- A flashing green light indicates standby power to the unit.
- After the power-on button is pressed, the system takes approximately 30-seconds for the power LED to change from flashing to solid. During the transition period, the LED might flash faster.
- **B:** Enclosure identify light
 - A constant blue light indicates the identify state.
 - No light indicates that the system is operating normally.
- **C:** Check log light
 - No light indicates that the system is operating normally.
 - An amber light indicates that the system requires attention. Check the error log.
- **D:** Enclosure fault light
 - No light indicates that the system is operating normally.
 - An amber light indicates a fault in the system unit.
- **E:** Pinhole reset button

Activating an identify LED for an enclosure or server by using the HMC


Learn how to activate an identify LED for an enclosure or server by using the Hardware Management Console (HMC).

About this task

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

If you want to add a part to a specific enclosure or server, you need to know the machine type, model, and serial number (MTMS) of the enclosure or server. To determine whether you have the correct MTMS for the enclosure or server that needs the new part, you can activate the LED for an enclosure or server and verify that the MTMS corresponds to the enclosure or server that requires the new part.

Procedure

1. In the navigation area, click the **Resources** icon , and then click **All Systems**.
2. Click the server name for which you want to activate the identify LED.
3. Click **System Actions > Attention LED > Identify Attention LED**. The **Identify Attention LED, Select Enclosure** window is displayed.
4. To activate an identify LED for an enclosure or server, select an enclosure or server and then click **Activate LED**. The associated LED is turned on.

Finding the part location code and LED support status

You can use location codes for the server you are working with to find the part location code to identify the system that requires support.

About this task

To find the location code and to determine if there is an LED to help you identify the system that requires support, complete the following steps:

Procedure

1. Select the server you are working on to see the location codes:
 - [5105-22E, 9008-22L, 9009-22A, 9009-22G, 9223-22H, or 9223-22S locations](http://www.ibm.com/support/knowledgecenter/POWER9/p9ecs/p9ecs_922_loccodes.htm) (http://www.ibm.com/support/knowledgecenter/POWER9/p9ecs/p9ecs_922_loccodes.htm)

- 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S locations (http://www.ibm.com/support/knowledgecenter/POWER9/p9ecs/p9ecs_914_924_loccodes.htm)
 - 9040-MR9 locations (http://www.ibm.com/support/knowledgecenter/POWER9/p9ecs/p9ecs_950_loccodes.htm)
2. Record the location code.
 3. Refer to the field replaceable unit (FRU) location table, Identify LED column to see if the word **Yes** (there is an identify LED) or **No** (there is not an identify LED) appears.
 4. Choose one of the following options:
 - If the part has an identify LED, refer to the applicable procedure:
 - If your system is at runtime state, see [“Identifying a part by using the operating system or VIOS” on page 7.](#)
 - If your system is at standby power state, see [“Identifying a part by using the ASMI” on page 11.](#)
 - If the part does not have an identify LED, see [Identifying the enclosure or server that contains the part.](#)

Identifying a part by using the operating system or VIOS

Learn how to use the operating system or the Virtual I/O Server (VIOS) to identify a part.

About this task

For IBM Power Systems that contain the POWER9™ processor, the identify LEDs can be used to identify or verify the location of a part that you intend to install, remove, or replace. The identify function (flashing the amber LED) corresponds to the location code that you will be using.

When you are removing a part, first verify whether you are working on the correct part by using the identify function in the management console or other user interface. When you remove a part by using the Hardware Management Console (HMC), the identify function is activated and deactivated automatically at the correct times.

The identify function causes the amber LED to flash. When you turn off the identify function, the LED returns to the state it was previously. For parts that have a blue service button, the identify function sets LED information for the service button so that when the button is pressed, the correct LEDs on that part flash.

Note: Use the enclosure blue Identify LED to identify the enclosure that is being serviced. Then, confirm and verify the location of the FRU (to be serviced) in the enclosure by checking the active identify indicator (flashing LED) for the selected FRU. For some FRUs, you might need to remove the service access cover to be able to see the identify indicators.

Identifying a part in an AIX system or logical partition

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

Finding the location code for a part in an AIX system or logical partition

You might need to use one or more AIX tools before activating the indicator light to locate a part.

Procedure

1. Log in as root user or `celogin-`.
2. At the command line, type `diag` and press Enter.
3. From the Function Selection menu, select **Task Selection** and press Enter.
4. Select **Display Previous Diagnostic Results** and press Enter.
5. From the Display Previous Diagnostic Results display, select **Display Diagnostic Log Summary**.
The Display Diagnostic Log display shows a chronological list of events.
6. Look in the **T** column for the most recent **S** entry. Select this row in the table and press Enter.

7. Select **Commit**.

The details of this log entry are shown.

8. Record the location information and the service request number (SRN) value that is shown near the end of the entry.
9. Exit to the command line.

What to do next

Use the location information for the part to activate the indicator light that identifies the part. See [“Activating the indicator light for a part by using AIX diagnostics” on page 8.](#)

Activating the indicator light for a part by using AIX diagnostics

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

Procedure

1. Log in as root user.
2. At the command line, type `diag` and press Enter.
3. From the **Function Selection** menu, select **Task Selection** and press Enter.
4. From the **Task Selection** menu, select **Identify and Attention Indicators** and press Enter.
5. From the list of lights, select the location code for the part and press Enter.
6. Select **Commit**.

This turns on the amber indicator LED for the part and the blue indicator LED on the system.

Important: A flashing amber LED indicates the location of the part and a solid amber LED indicates that the part is failing.

7. Exit to the command line.

Identifying a part in an IBM i system or logical partition

You can activate or deactivate the indicator light to locate a part in an IBM i system or logical partition.

Finding the location code and activating the indicator light for a part by using the IBM i operating system

You can 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 part.

Procedure

1. Sign on to an IBM i session, with at least service level authority.
2. On the command line of the session, type `strsst` and press Enter.

Note: If you cannot navigate to the System Service Tools (SST) 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 navigate 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 and press Enter.

Remember: The service tools password is case sensitive.

4. Select **Start a service tool** from the System Service Tools (SST) display and press Enter.
5. Select **Hardware service manager** from the Start a Service Tool display and press Enter.
6. Select **Work with service action log** from the Hardware Service Manager display and 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:
 - System 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 system reference code for the resource displayed during the selected time range.
 11. If location information is available, select option **6** (Indicator on) to turn on the indicator light for the part.
Tip: If the part does not contain a physical indicator light, a higher-level indicator light is activated. For example, the indicator light for the backplane or unit that contains the part might be lit. In this case, use the location information to locate the actual part.
 12. Look for the enclosure indicator light to locate the enclosure that contains the part.
Important: A flashing amber LED indicates the location of the part and a solid amber LED indicates that the part is failing.

Identifying a part in a Linux system or logical partition

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

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

Use this procedure to retrieve the location code of the part to perform service operations.

About this task

To find the location code of a part in a Linux[®] system or logical partition, complete the following steps:

Procedure

1. Log in as root user.
2. At the command line, enter the command:

```
grep diagela /var/log/platform
```

3. Look for the most recent entry that contains a system reference code (SRC).
4. Record the location information.

Related information

[Service and productivity tools for PowerLinux servers from IBM](#)

Activating the indicator light for a part by using the Linux operating system

If you know the location code of a part, activate the indicator light to help locate the part while performing service operations.

Procedure

1. Log in as root user.
2. At the command line, enter the command:

```
/usr/sbin/usysident -s identify -l location_code
```

3. Look for the blue indicator LED on the system to identify the enclosure that contains the part.

Important: A flashing amber LED indicates the location of the part and a solid amber LED indicates that the part is failing.

Related information

[Service and productivity tools for Linux on Power servers](#)

Identifying a part in a VIOS system or logical partition

Learn how to find the location code and identify a part by using the Virtual I/O Server (VIOS) tools.

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

You can use Virtual I/O Server (VIOS) tools to find the location code of a part before you activate the indicator light.

About this task

To configure the Virtual I/O Server system for identifying a part, complete the following steps:

Procedure

1. Log in as root user or enter the command:

```
celogin-
```

2. On the command line, enter the following command:

```
diagmenu
```

3. From the **Function Selection** menu, select **Task Selection**.
4. Select **Display Previous Diagnostic Results**.
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 service request number (SRN) value shown near the end of the entry.
9. Exit to the command line.

Results

Use the location information for the part to activate the indicator light that identifies the part. For instructions, see [“Activating the indicator light for a part by using the VIOS tools” on page 10](#).

Activating the indicator light for a part by using the VIOS tools

You can use Virtual I/O Server (VIOS) tools to activate the indicator light to physically locate a part.

About this task

To turn on the indicator light for identifying a part, complete the following steps:

Procedure

1. Log in as root user.
2. On the command line, enter the following command:

```
diagmenu
```

3. From the **Function Selection** menu, select **Task Selection**.
4. From the **Task Selection** menu, select **Identify and Attention Indicators**.
5. From the list of lights, select the location code for the failing part and press Enter.
6. Select **Commit**.

Look for the blue indicator LED on the system to identify the enclosure that contains the part.

Important: A flashing amber LED indicates the location of the part and a solid amber LED indicates that the part is failing.

7. Exit to the command line.

Identifying a part by using the ASMI

Learn how to activate or deactivate amber identify indicator light-emitting diodes (LEDs) by using the Advanced System Management Interface (ASMI).

About this task

You can access the ASMI by using a web browser. For more information, see [Accessing the ASMI using a PC or notebook and web browser](http://www.ibm.com/support/knowledgecenter/POWER9/p9hby/browser.htm) (<http://www.ibm.com/support/knowledgecenter/POWER9/p9hby/browser.htm>).

For IBM Power Systems that contain the POWER9 processor, the identify LEDs can be used to identify or verify the location of a part that you intend to install, remove, or replace. The identify function (flashing the amber LED) corresponds to the location code that you will be using.

You can set the identify LED to flash and to stop flashing by using the ASMI.

Note: You can use the ASMI to turn on and turn off the identify indicators except for the adapters, disk drives, solid-state drives, and media devices.

Activating the identify LED by using the ASMI when you know the location code

Learn how to activate the identify LED by using the Advanced System Management Interface (ASMI) when you know the location code.

About this task

You can specify the location code of any indicator to view or modify its current state. If you provide the wrong location code, the ASMI attempts to go to the next higher level of the location code.

The next level is the base-level location code for that field replaceable unit (FRU). For example, a user types the location code for the FRU located on the second memory module slot of the third enclosure in the system. If the location code for the second memory module slot is incorrect (the FRU does not exist at this location), an attempt to set the indicator for the third enclosure is initiated. This process continues until a FRU is located or no other level location code is available.

To complete this operation, your authority level must be one of the following levels:

- Administrator
- Authorized service provider

Procedure

1. On the ASMI Welcome pane, specify your user ID and password, and click **Log In**.
2. In the navigation area, expand **System Configuration > Service Indicators > Indicators by Location code**.
3. In the **Location code** field, type the location code of the FRU and click **Continue**.
4. From the **Identify indicator status** list, select **Identify**.
5. Click **Save settings**.

Activating the identify LED by using the ASMI when you do not know the location code

Learn how to activate the identify LED by using the Advanced System Management Interface (ASMI) when you do not know the location code.

About this task

You can turn on the identify indicators in each enclosure.

To complete this operation, your authority level must be one of the following levels:

- Administrator
- Authorized service provider

Procedure

1. On the ASMI Welcome pane, specify your user ID and password, and click **Log In**.
2. In the navigation area, expand **System Configuration > Service Indicators > Enclosure Indicators**.
All servers and enclosures managed by the ASMI will be displayed.
3. Select the server or enclosure that has the part to be replaced and click **Continue**.
The location code identifiers are listed.
4. Select the location code identifier and select **Identify**.
5. To save the changes made to the state of one or more FRU indicators, click **Save settings**.


Identifying a part by using the HMC

You can use the following procedures to activate light-emitting diodes (LEDs) by using the Hardware Management Console (HMC).

About this task

You can use the identify LED for a FRU associated with a specified enclosure to help you identify a part. For example, if you want to hook up a cable to a specific I/O adapter, you can activate the LED for the adapter, which is a field replaceable unit (FRU). Then, you can physically check to see where you should hook up the cable. This action is especially useful when you have several adapters with open ports.

Procedure

1. In the navigation area, click the **Resources** icon , and then click **All Systems**.
2. Click the system name for which you want to activate the attention LED.
3. In the navigation area, click **System Actions > Attention LED > Identify Attention LED**. The **Identify LED, Select Enclosure** window is displayed.
4. To activate an identify LED for the enclosure, select an enclosure and then click **Activate LED**. The associated LED is turned on and is flashing.
5. To activate an identify LED for one or more FRUs in the enclosure, complete the following steps:
 - a) Select an enclosure and then click **List FRUs**.
 - b) Select the FRUs for which you want to activate the identify LED and click **Activate LED**. The associated LED is turned on and is flashing.

Starting a system

Learn how to start a system after performing a service action or upgrading a system.

About this task

Note: If the system is an IBM Elastic Storage Server, work with the customer to start the system.

Starting a system that is not managed by an HMC

You can use the power button or the Advanced System Management Interface (ASMI) to start a system that is not managed by a Hardware Management Console (HMC).

Starting a system by using the control panel

You can use the power button on the control panel to start a system that is not managed by a Hardware Management Console (HMC).

Procedure

1. Open the front rack door, if necessary.
2. Before you press the power button on the control panel, ensure that power is connected to the system unit as follows:
 - All system power cables are connected to a power source.
 - The power LED **(A)**, as shown in the following figure, is flashing.
3. Press the power button **(A)** on the control panel, as shown in [Figure 2 on page 13](#).

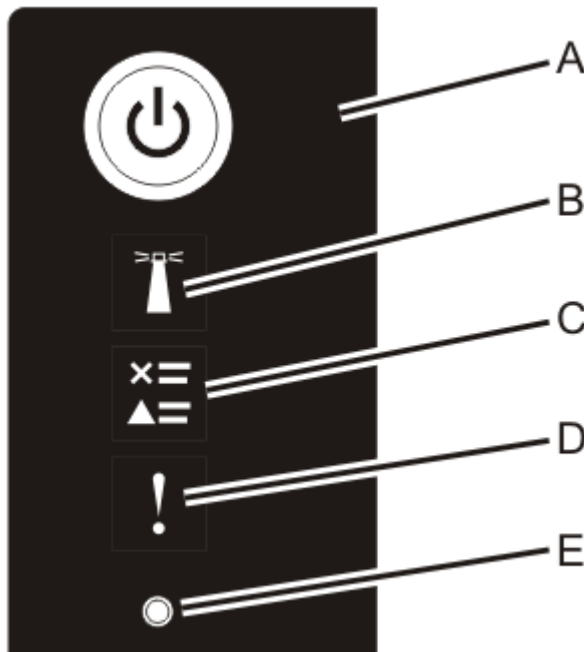


Figure 2. Control panel LEDs

4. Observe the following aspects after pressing the power button:
 - A constant green light indicates full system power to the unit.
 - A flashing green light indicates standby power to the unit.
 - After the power-on button is pressed, the system takes approximately 30-seconds for the power LED to change from flashing to solid. During the transition period, the LED might flash faster.
5. Choose from the following options:

- If your partitions does start, this ends the procedure.
 - If your partitions does not start, continue with step “6” on page 14.
6. On the ASMI Welcome pane, specify your user ID and password, and click **Log In**.
 7. In the navigation area, click **Power/Restart Control > Power On/Off System**.
 8. Click **Save settings and continue system server firmware boot**.

Starting a system by using the ASMI

You can use the Advanced System Management Interface (ASMI) to start a system that is not managed by a Hardware Management Console (HMC).

Procedure


1. On the ASMI Welcome pane, specify your user ID and password, and click **Log In**.
2. In the navigation area, click **Power/Restart Control > Power On/Off System**.
The power state of the system is displayed.
3. Specify the settings as required and click **Save setting and power on**.
Choose from the following options:
 - If the Server firmware start policy is set to **Running (Auto-Start Always)**, your partitions start. This ends the procedure.
 - If the **Server firmware start policy** is set to **Standby (User-Initiated)** or **Auto-Start (Automatic Restarts Only)**, the system begins to power on, but your partitions do not automatically start. Continue with step “4” on page 14.
4. Wait for the system to power on.
5. In the navigation area, click **Power/Restart Control > Power On/Off System**.
The system power setting is displayed. The **Current system server firmware state** should now be at **Standby**.
6. Click **Save settings** and continue with the system server firmware boot operation to start the partitions.

Starting a system or logical partition by using the HMC


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

Procedure



- To power on the managed system, complete the following steps:

- a) In the navigation area, click the **Resources** icon  , and then click **All Systems**.
- b) Select the system that you want to power on.
- c) In the content pane, click **Actions > View All Actions > Power On**.
- d) Click **Finish**.

- To activate a logical partition, complete the following steps:

- a) In the navigation area, click the **Resources** icon  , and then click **All Partitions**.
- b) Click the logical partition name that you want to activate.
- c) In the navigation area, click **Partition Actions > Operations > Activate**.
- d) Click **Finish**.

- To activate a logical partition for a specific system, complete the following steps:

- a) In the navigation area, click the **Resources** icon , and then click **All Systems**.
 - b) Click the system name in which you want to activate the logical partition.
 - c) Select logical partitions that you want to activate.
 - d) In the content pane, click **Actions > Activate**.
 - e) Click **Finish**.
- To verify that the logical partition start policy is set to **User-Initiated**, complete the following steps:
 - a) In the navigation area, click the **Resources** icon , and then click **All Systems**.
 - b) Click the system name to view details.
 - c) In the navigation area, click **Properties > Other Properties**.
 - d) Click the **Power-On Parameters** tab.
Ensure that the **Partition start policy** field is set to **User-Initiated**.

Stopping a system

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

About this task



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

Note: If the system is an IBM Elastic Storage Server, work with the customer to stop the system.

Stopping a system that is not managed by an HMC

You might need to stop the system to complete another task. If your system is not managed by the Hardware Management Console (HMC), use these instructions to stop the system by using the power button or the Advanced System Management Interface (ASMI).

Before you begin

Before you stop the system, follow these steps:

1. Ensure that all jobs are completed and end all applications.
2. If a Virtual I/O Server (VIOS) logical partition is running, ensure that all clients are shut down or that the clients have access to their devices by using an alternative method.

Stopping a system by using the control panel

You might need to stop the system to complete another task. If your system is not managed by the Hardware Management Console (HMC), use the instructions in this topic to stop the system by using the power button.

Procedure

1. Log in to the host partition as a user with the authority to run the **shutdown** or **pwrdwnsys** (Power Down System) command.
2. On the command line, enter one of the following commands:
 - If your system is running the AIX operating system, type **shutdown**.
 - If your system is running the Linux operating system, type **shutdown -h now**.

- If your system is running the IBM i operating system, type PWRDWN SYS. If your system is partitioned, use the **PWRDWN SYS** command to power off each of the secondary partitions. Then, use the **PWRDWN SYS** command to power off the primary partition.

The command stops the operating system. Choose from the following options:

- If the system power turns off, the power-on light begins to slowly flash, and the system goes into a standby state, continue with step “5” on page 16.
 - If your system does not power off when the last partition powers off, continue with step “3” on page 16.
3. Open the front rack door, if necessary.
 4. Hold the power button (A) on the control panel, as shown in the following figure. The control panel shows a countdown from 4 to 0. After the countdown is complete, release the power button.

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

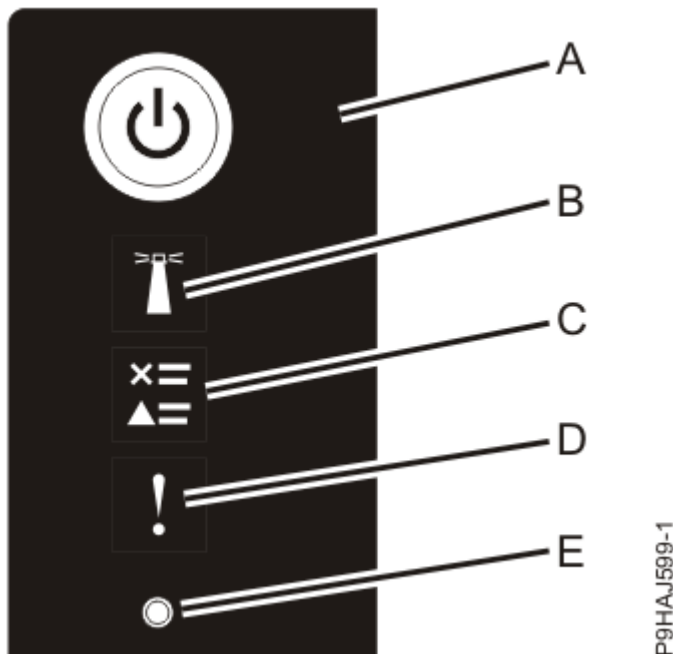


Figure 3. Control panel LEDs

5. Record the IPL type and the IPL mode from the control panel display to help you return the system to this state when the installation or replacement procedure is completed.
6. Set the power switches of any devices that are connected to the system to off.

Stopping a system by using the ASMI

You might need to stop the system to complete another task. If your system is not managed by the Hardware Management Console (HMC), use these instructions to stop the system by using the Advanced System Management Interface (ASMI).

Procedure

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

- If your system is running the IBM i operating system, type PWRDWNSYS. If your system is partitioned, use the **PWRDWNSYS** command to power off each of the secondary partitions. Then, use the **PWRDWNSYS** command to power off the primary partition.

The command stops the operating system. Choose from the following options:

- If the system power turns off, the power-on light begins to slowly flash, and the system goes into a standby state, continue with step “5” on page 17.
 - If your system does not power off when the last partition powers off, continue with step “3” on page 17.
3. On the ASMI Welcome pane, specify your user ID and password, and click **Log In**.
 4. In the navigation area, click **Power/Restart Control > Power On/Off System**.
The system power setting is displayed.
 5. Specify the settings as required and click **Save settings and power off**.
The system power turns off, the power-on light begins to slowly flash, and the system goes into a standby state.
 6. Set the power switches of any devices that are connected to the system to off.

Stopping a system by using the HMC

You can use the Hardware Management Console (HMC) to stop the system or logical partition.

About this task

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



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


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

- Super administrator
- Service representative
- Operator
- Product engineer

Note: If you are a product engineer, verify that the customer has shut down all active partitions and has powered off the managed system. Continue with the procedure only after the status of the server changes to **Power Off**.


Procedure

1. You must shut down all the active logical partitions before powering off the system. To shut down logical partitions for a specific system, complete the following steps:

- a) In the navigation area, click the **Resources** icon , and then click **All Systems**.
- b) Click the system name for which you want to shut down partitions.
- c) Select the logical partitions that you want to shut down.
- d) In the content pane, click **Actions > Shutdown**.
- e) Click **Finish**.

2. To power off the system, complete the following steps:



- a) In the navigation area, click the **Resources** icon , and then click **All Systems**.
- b) Select the system that you want to power off.
- c) In the content pane, click **Actions** > **View All Actions** > **Power Off**.
- d) Click **Finish**.

System covers

Use these procedures to remove and replace the covers on IBM Power Systems servers.

Removing and replacing covers on the 5105-22E, 9008-22L, 9009-22A, 9009-22G, 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-22H, 9223-22S, 9223-42H, or 9223-42S system

Use these instructions to remove and replace the covers on a 5105-22E, IBM Power[®] System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), IBM Power System H922S (9223-22S), IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server so that you can access the hardware parts or perform service.

Removing the front and side cover

Use these instructions to remove the front and side cover from a 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), IBM Power System H922S (9223-22S), IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server so that you can access the hardware parts or perform service.

Removing the front cover from a rack-mounted 5105-22E, 9008-22L, 9009-22A, 9009-22G, 9223-22H, or 9223-22S system

Use this procedure to remove the cover from a rack-mounted 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), or IBM Power System H922S (9223-22S) server.

About this task

The cover needs to be removed to service the following parts:

- Control panel and cable
- Control panel display and cable
- Fans
- Front USB cable

You do not need to remove the front cover to service the disk drives.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is connected to an unpainted metal surface. If not, do so now.
2. Remove the front cover by pulling it away from the system.

The cover has indentations **(A)** where you can hold it more easily. See [Figure 4 on page 19](#).

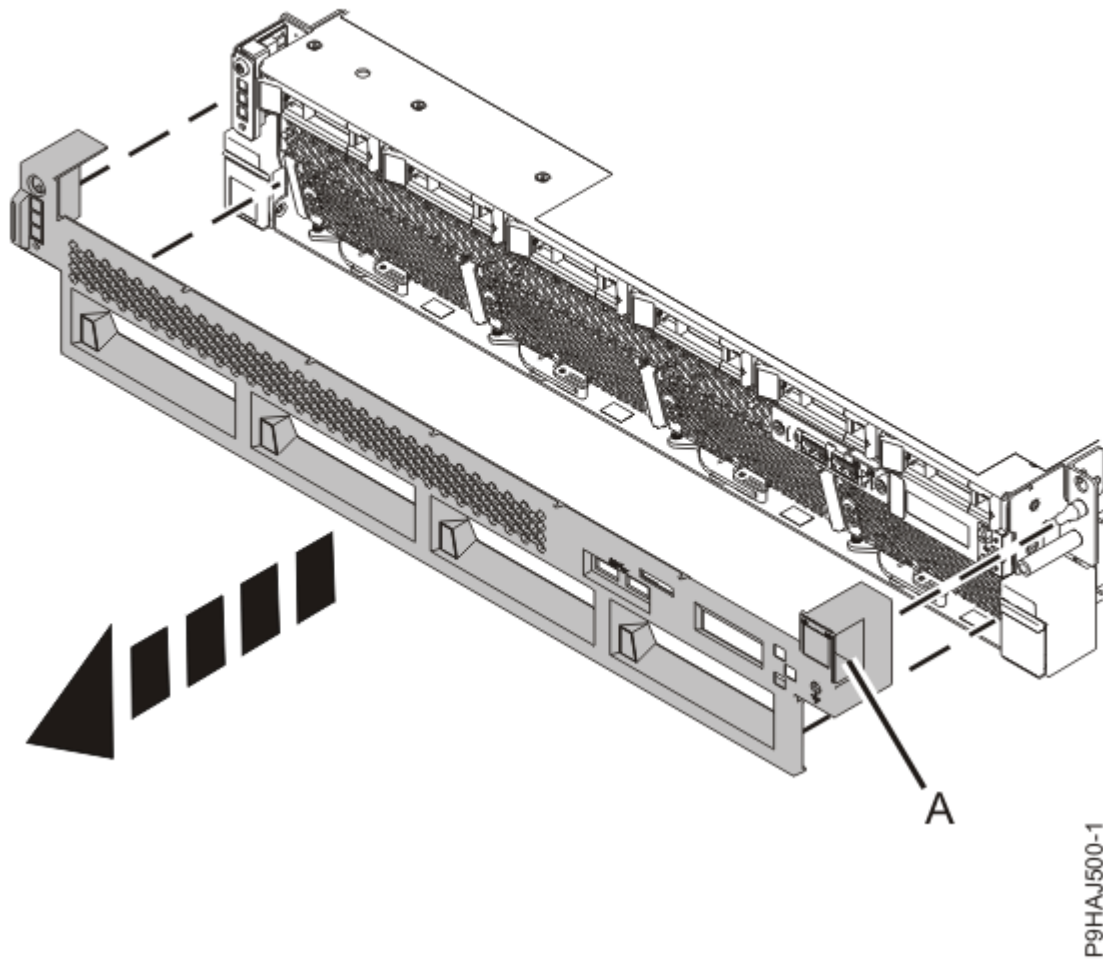


Figure 4. Removing the front covers

Removing the front cover from a rack-mounted 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

Use this procedure to remove the front cover from a rack-mounted IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

About this task

The cover needs to be removed to service the following parts:

- Control panel and cable
- Control panel display and cable
- Fans
- Front USB cable

You do not need to remove the front cover to service the disk drives.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is connected to an unpainted metal surface. If not, do so now.

2. For a rack-mounted system, remove the front cover by pulling it away from the system. The cover has indentations (**A**) where you can hold it more easily. See Figure 5 on page 20.

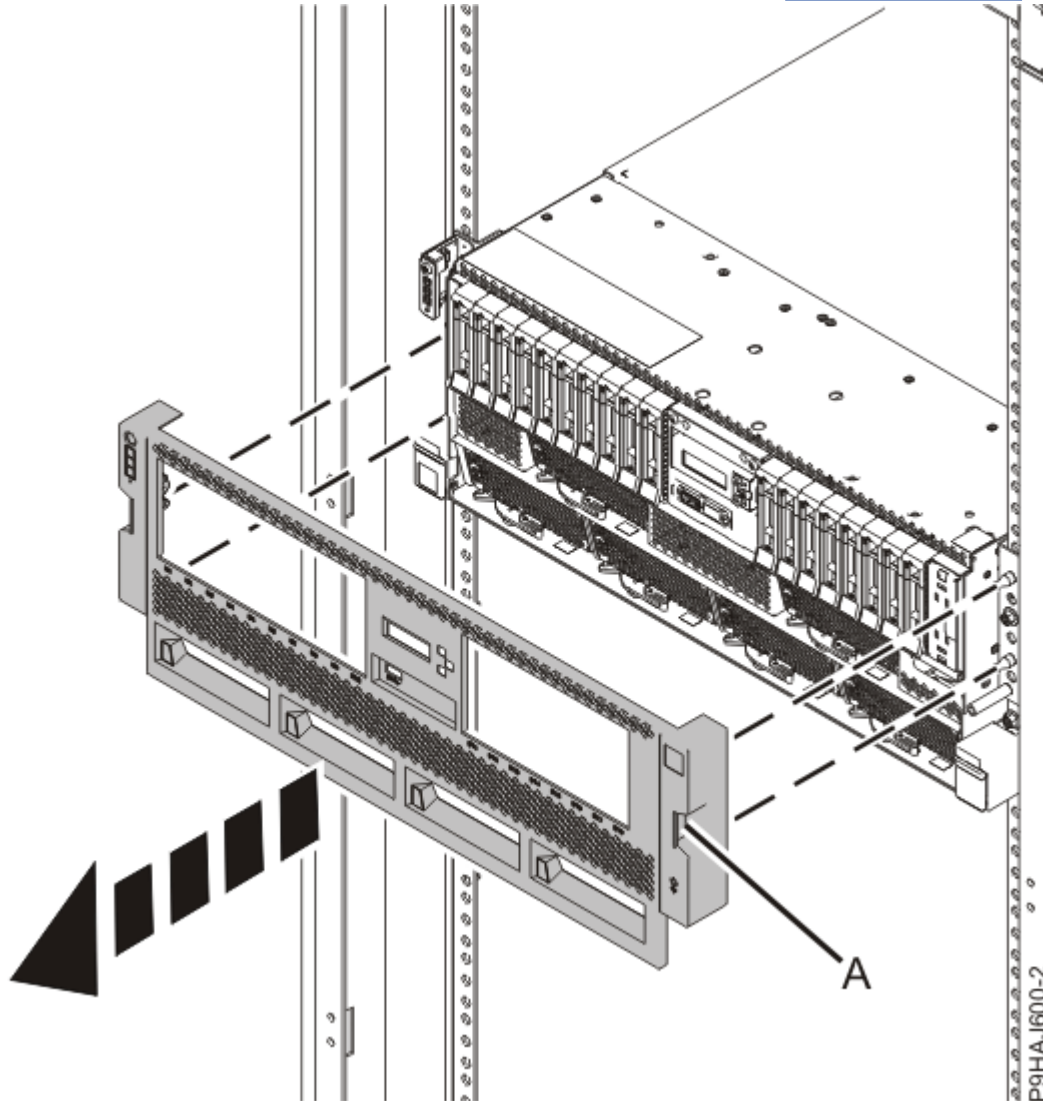


Figure 5. Removing the front cover

Removing the front covers from a stand-alone 9009-41A or 9009-41G system

Use this procedure to remove the cover from a stand-alone IBM Power System S914 (9009-41A or 9009-41G) server so that you can access components or perform service.

Procedure

Remove the front covers by completing the following steps.

- a) Insert the front door key into the lock as shown in Figure 6 on page 21. Twist the key to the left (counterclockwise) to unlock the door. Horizontal is locked; vertical is unlocked. Open the front door.

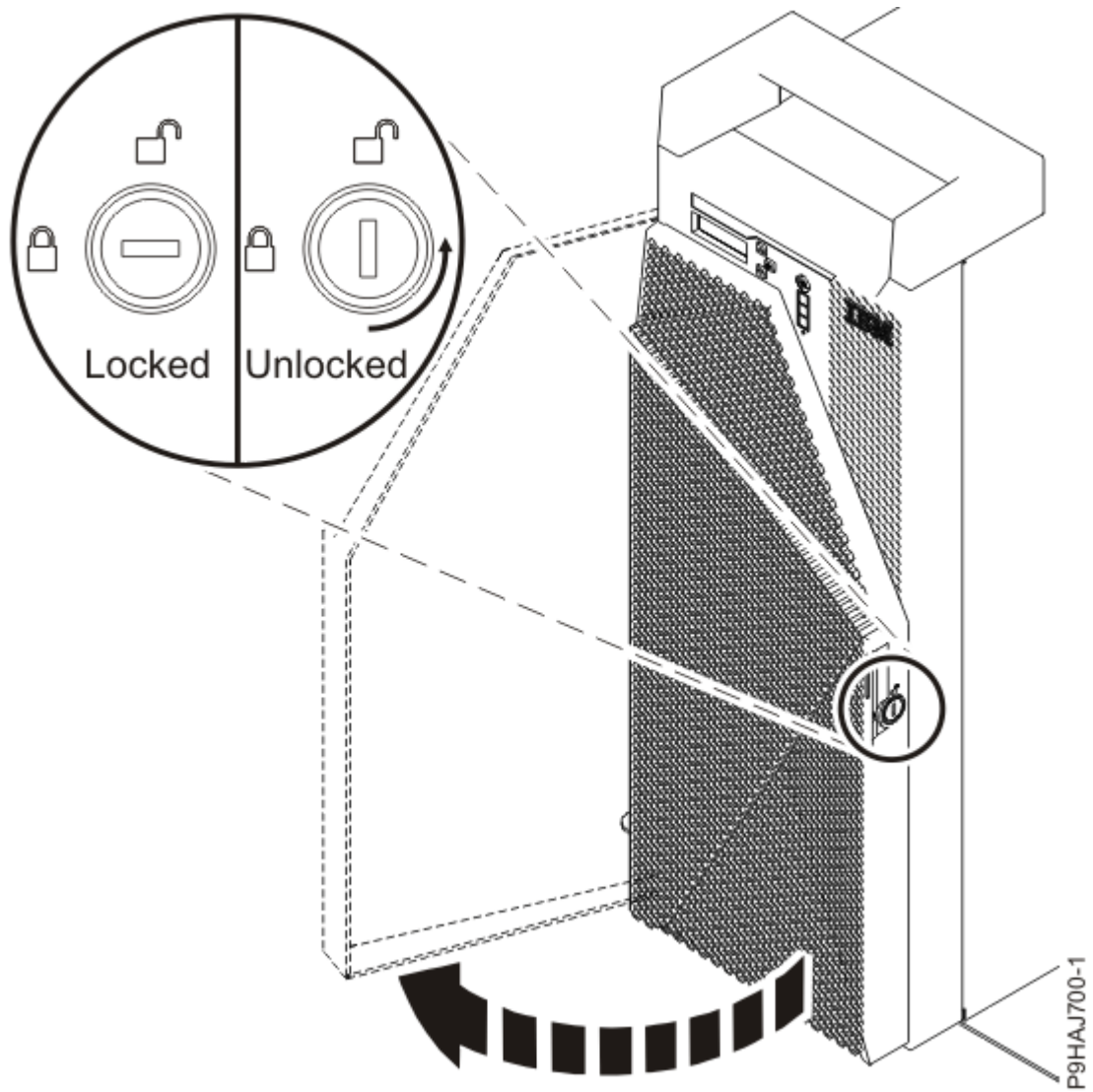


Figure 6. Unlocking the front door

- b) Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
 - c) Twist the cover latch to the left (counterclockwise) to unlock the cover as shown in [Figure 7 on page 22](#).
- Vertical is locked; horizontal is unlocked.

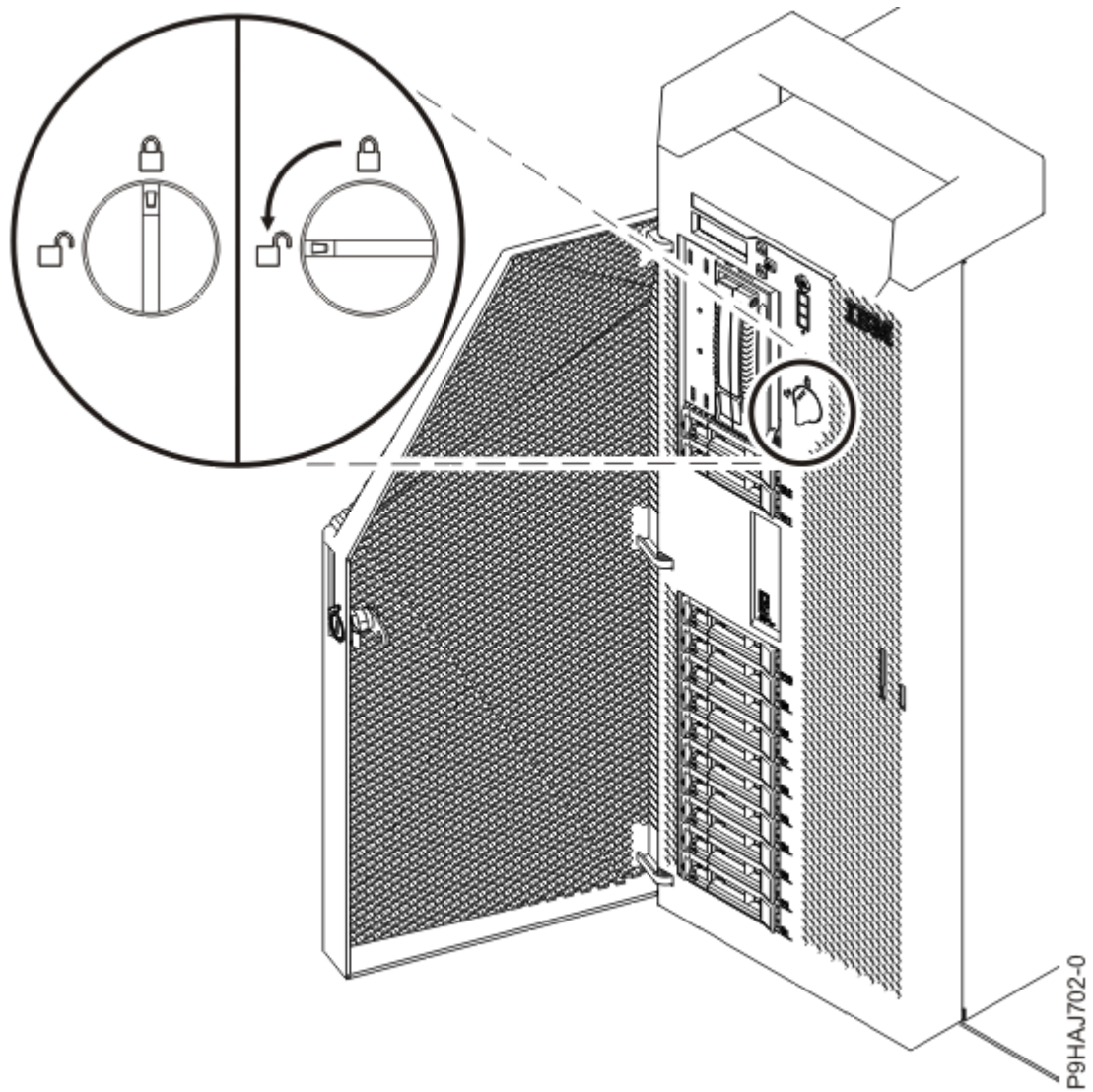


Figure 7. Opening the front cover latch

- d) Pull the cover away from the system as shown in [Figure 8 on page 23](#). The cover has an indentation where you can hold onto it more easily.

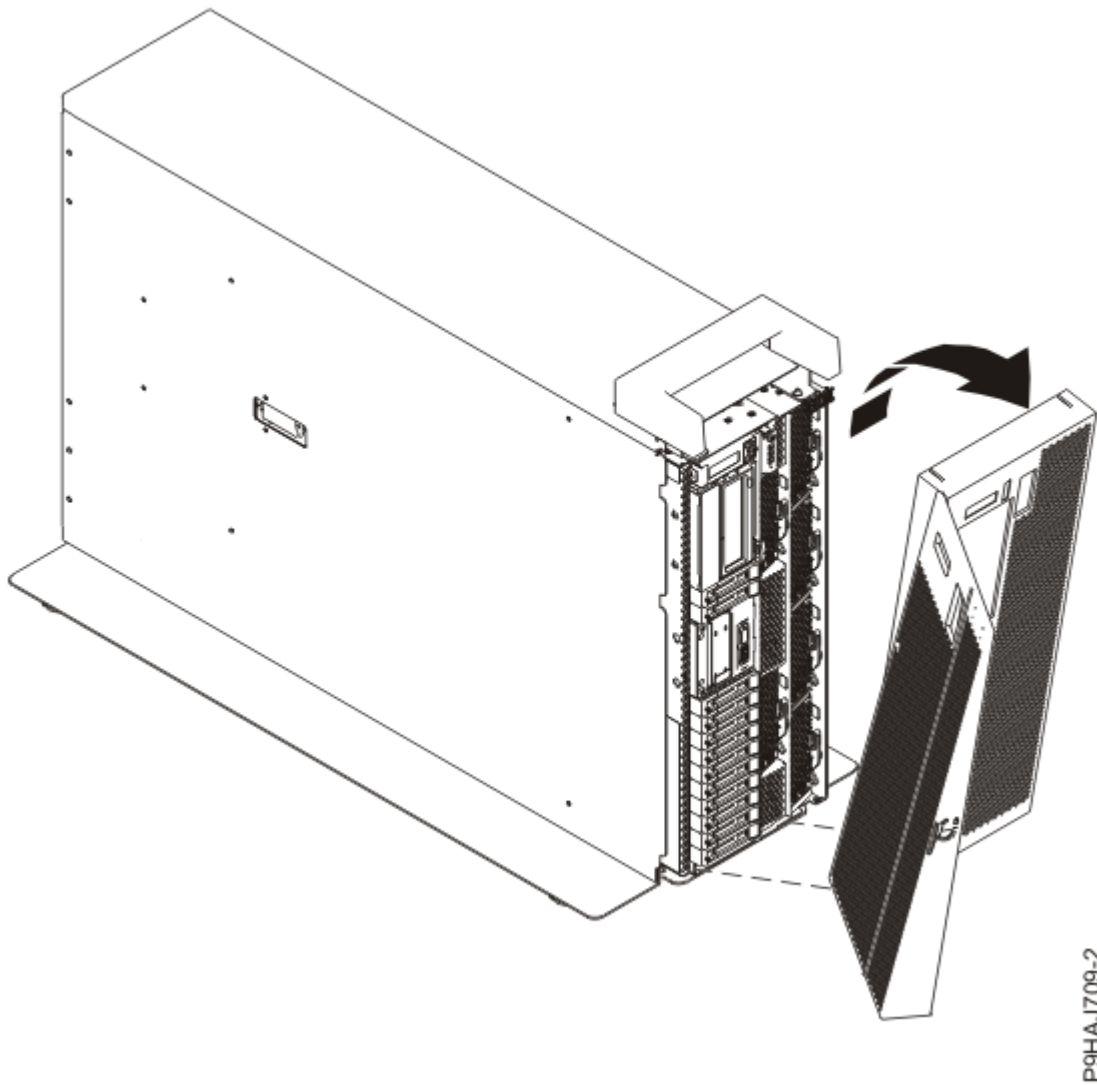


Figure 8. Removing the front cover

Removing the side cover from a stand-alone 9009-41A or 9009-41G system

Use this procedure to remove the side cover from a stand-alone IBM Power System S914 (9009-41A or 9009-41G) server.

About this task

This cover does not need to be removed to service internal parts.

Procedure

1. Remove the service access cover.

For instructions, see [“Removing the service access cover from a stand-alone 9009-41A or 9009-41G system”](#) on page 38.

2. Remove the plastic piece from the interior of the handle cover by pushing the latches on the inside firmly and sliding it out. See [Figure 9](#) on page 24.

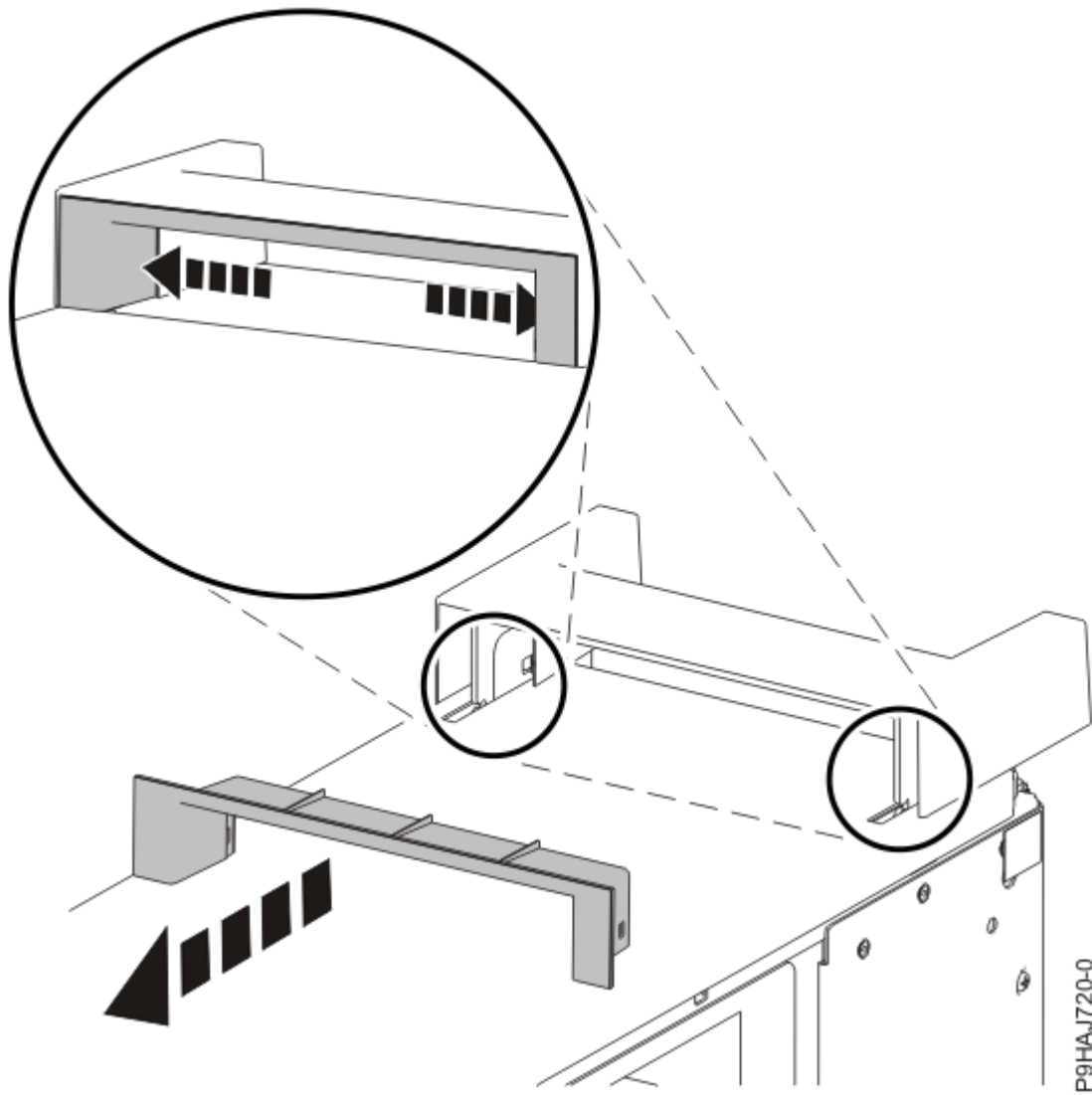
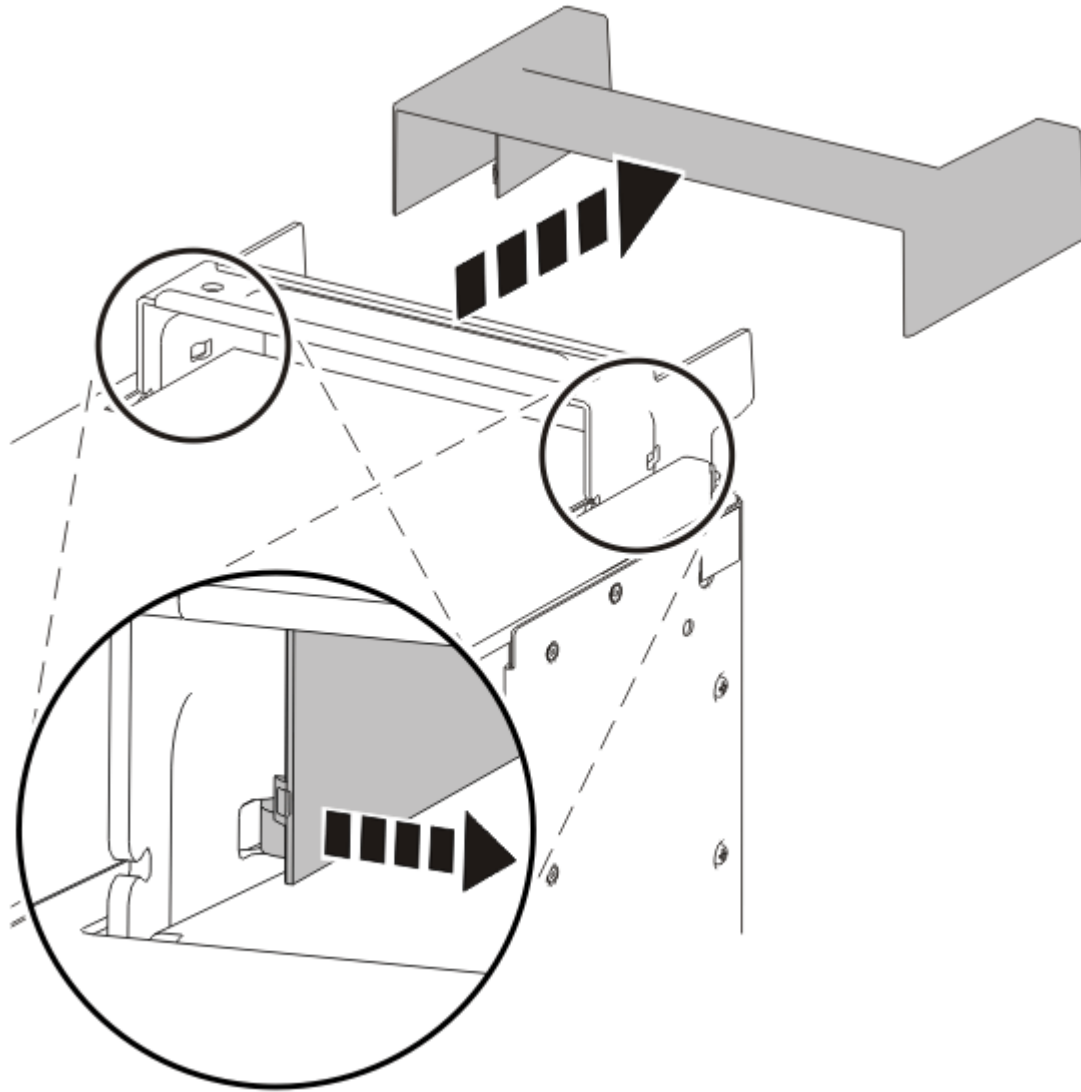


Figure 9. Removing the plastic piece from the handle cover

3. Pry the inner tabs that are located on the sides of the handle cover to the center to disengage the side latches.
4. Remove the handle cover by sliding it toward the front of the system, and then lifting it upwards. See [Figure 10 on page 25](#).



P9HAJ721-0

Figure 10. Removing the handle cover

5. Remove the rear screw from the side cover by using a Phillips screwdriver as shown in [Figure 11](#) on [page 26](#).

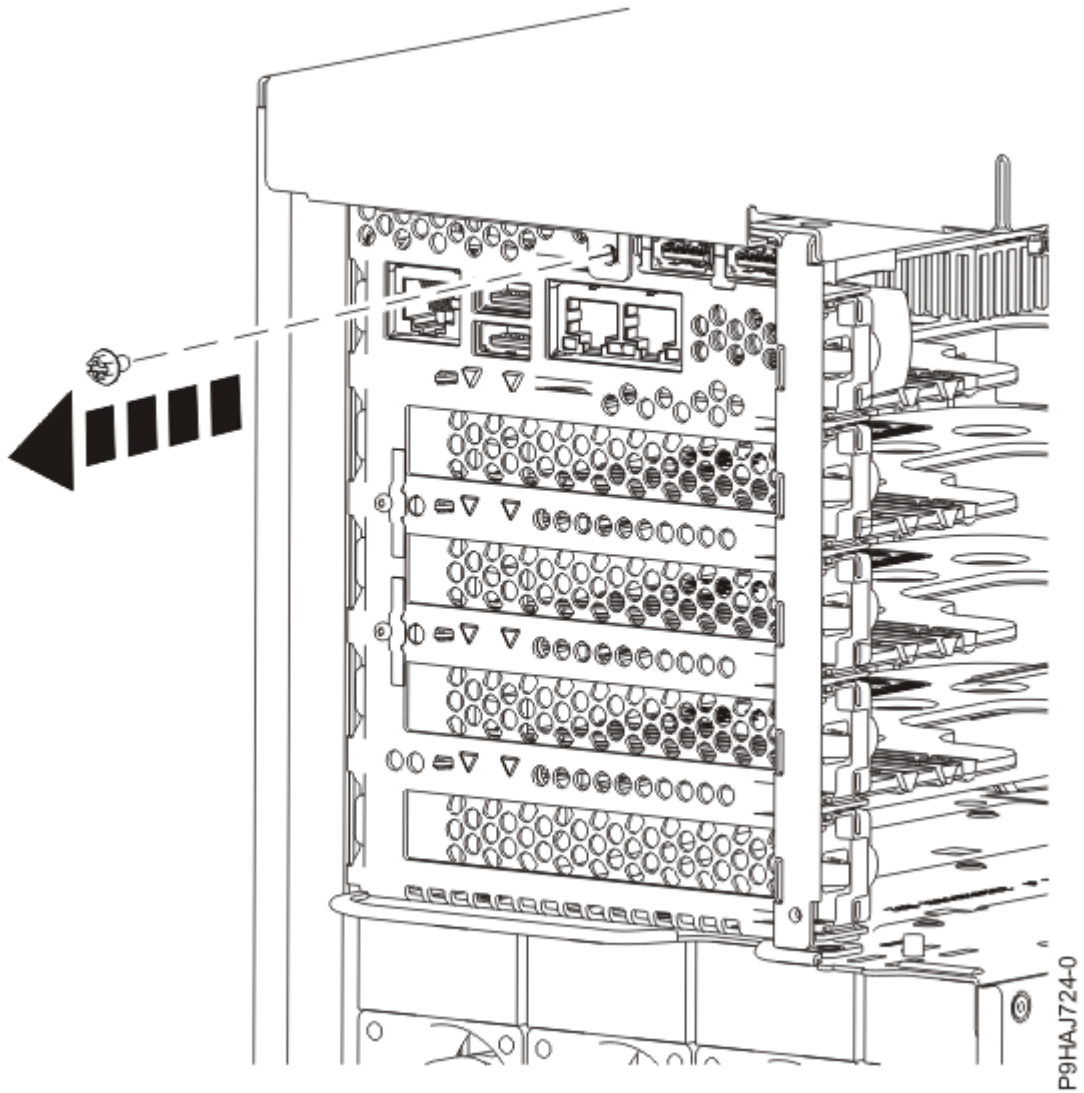


Figure 11. Removing the screw from the side cover

6. Slide the side cover off of the system in the direction that is shown in [Figure 12](#) on page 27.

Note: The side cover has cover tabs that lock it into place.

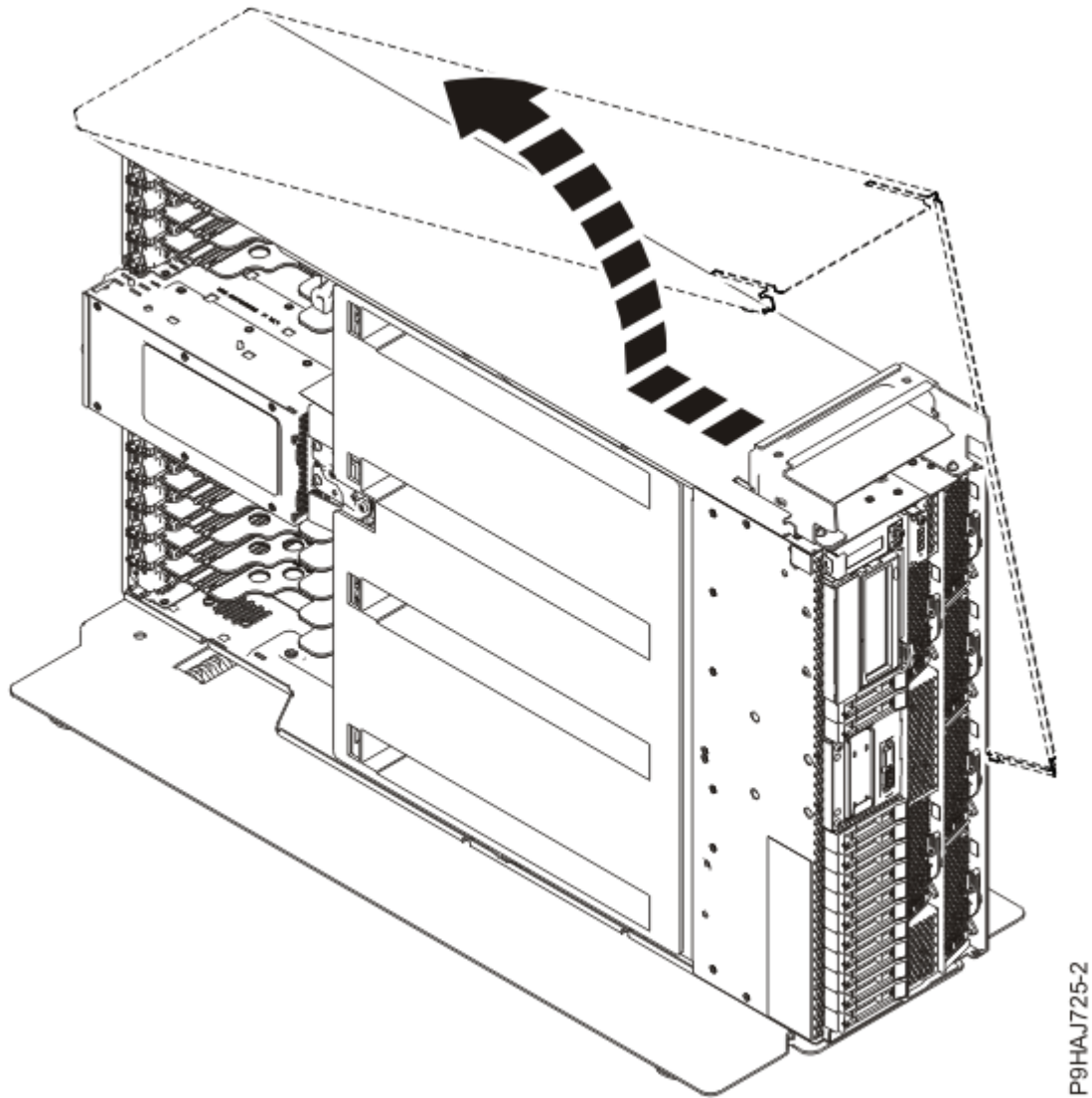


Figure 12. Removing the side cover

Installing the front and side cover

Use this procedure to install the front and side cover on a 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), IBM Power System H922S (9223-22S), IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

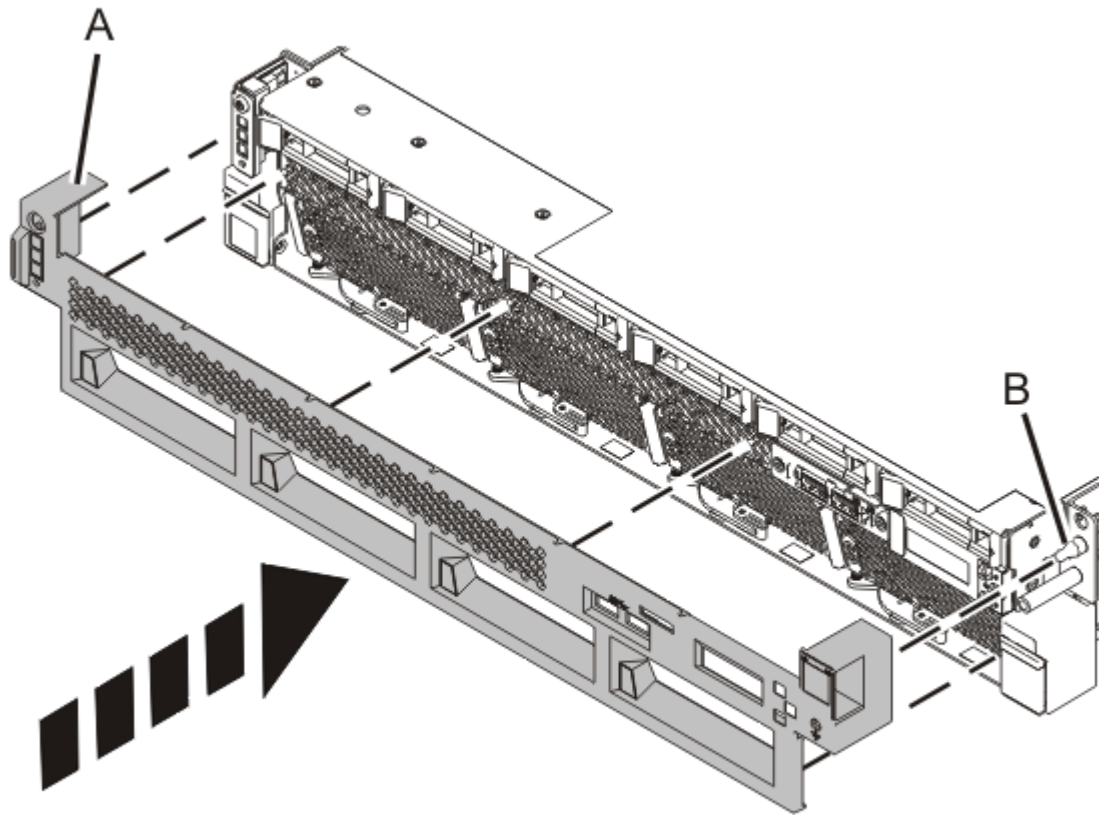
Installing the front cover on a rack-mounted 5105-22E, 9008-22L, 9009-22A, 9009-22G, 9223-22H, or 9223-22S system

Use this procedure to install the front cover on a rack-mounted 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), or IBM Power System H922S (9223-22S) server.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Gently push the cover **(A)** in until the cover snaps into place.

The cover has indentations where you can hold it more easily. Use the alignment pin **(B)** to secure the cover to the system as shown in [Figure 13 on page 28](#). Push along the grill area above the fans to secure the cover to the front.



P9HAJ501-2

Figure 13. Installing the front cover

Installing the front cover on a rack-mounted 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

Use this procedure to install the front cover on a rack-mounted IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. For a rack-mounted system, gently push the front cover **(A)** in until the cover snaps into place. The cover has indentations where you can hold it more easily. Use the alignment pins **(B)** to secure the cover to the system as shown in [Figure 14 on page 29](#).

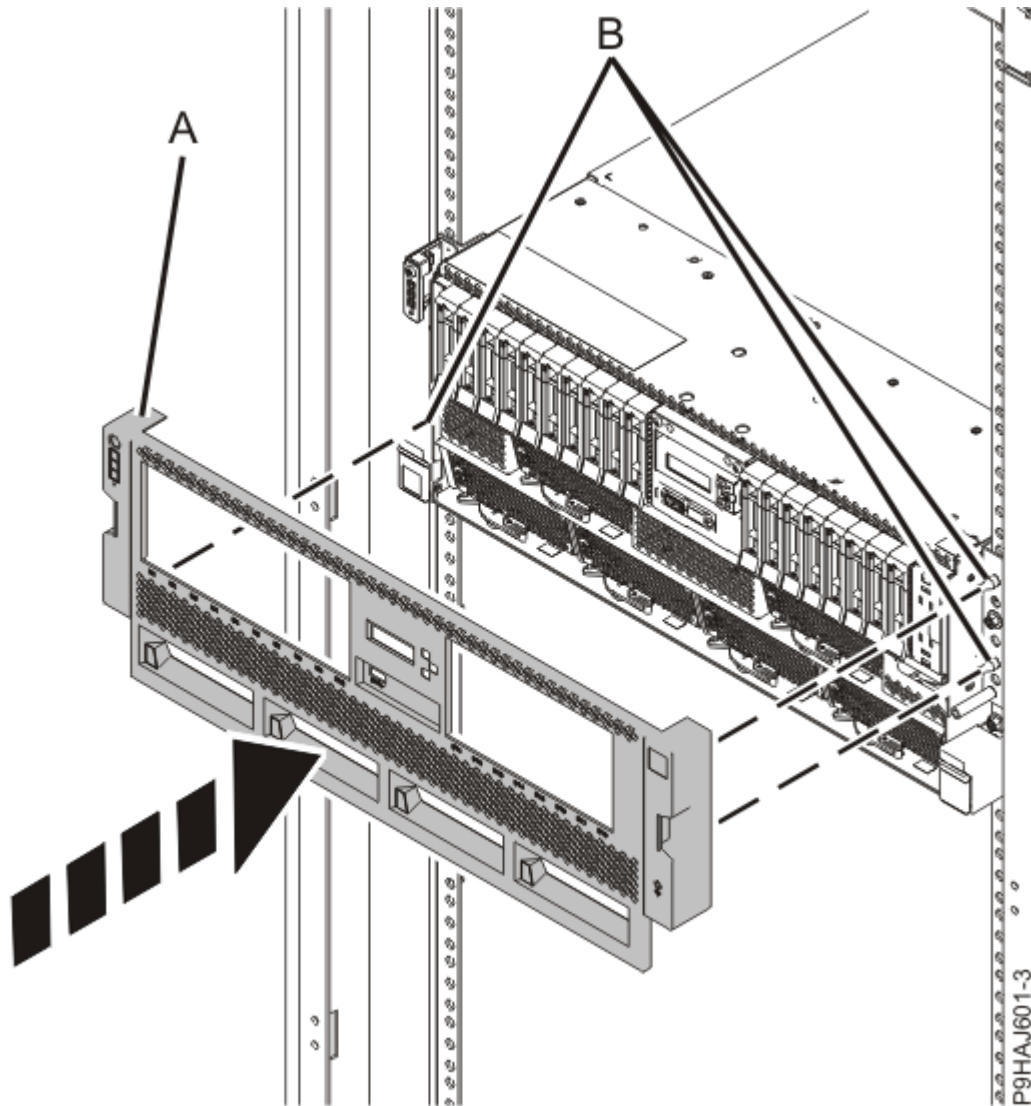


Figure 14. Installing the front cover

Installing the front cover and front door on a stand-alone 9009-41A or 9009-41G system

Use this procedure to install the front cover and front door on a stand-alone IBM Power System S914 (9009-41A or 9009-41G) server to access components or perform service.

About this task

To install the front cover and front door, complete the following steps.

Procedure

Install the front covers by completing the following steps.

- a) Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
- b) Align the cover until the two cover tabs **(A)** are seated into the slots on the base plate **(B)** as shown in [Figure 15 on page 30](#).

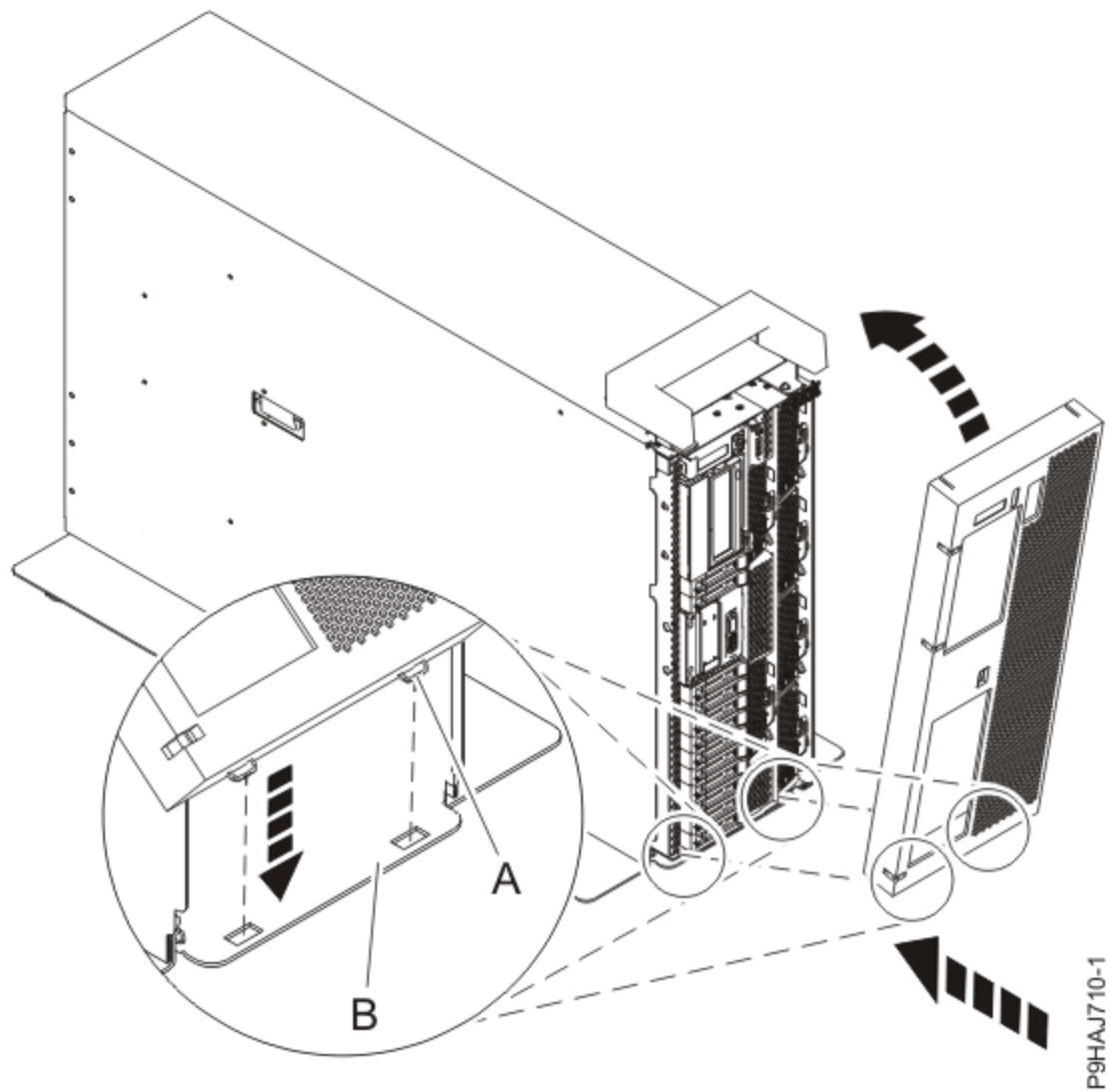


Figure 15. Installing the front cover and door

- c) Rotate the cover up and towards the system until the release latch is seated into its respective slot.
- d) Twist the cover latch to the right (clockwise) to lock the cover as shown in [Figure 16 on page 31](#).
Vertical is locked; horizontal is unlocked.

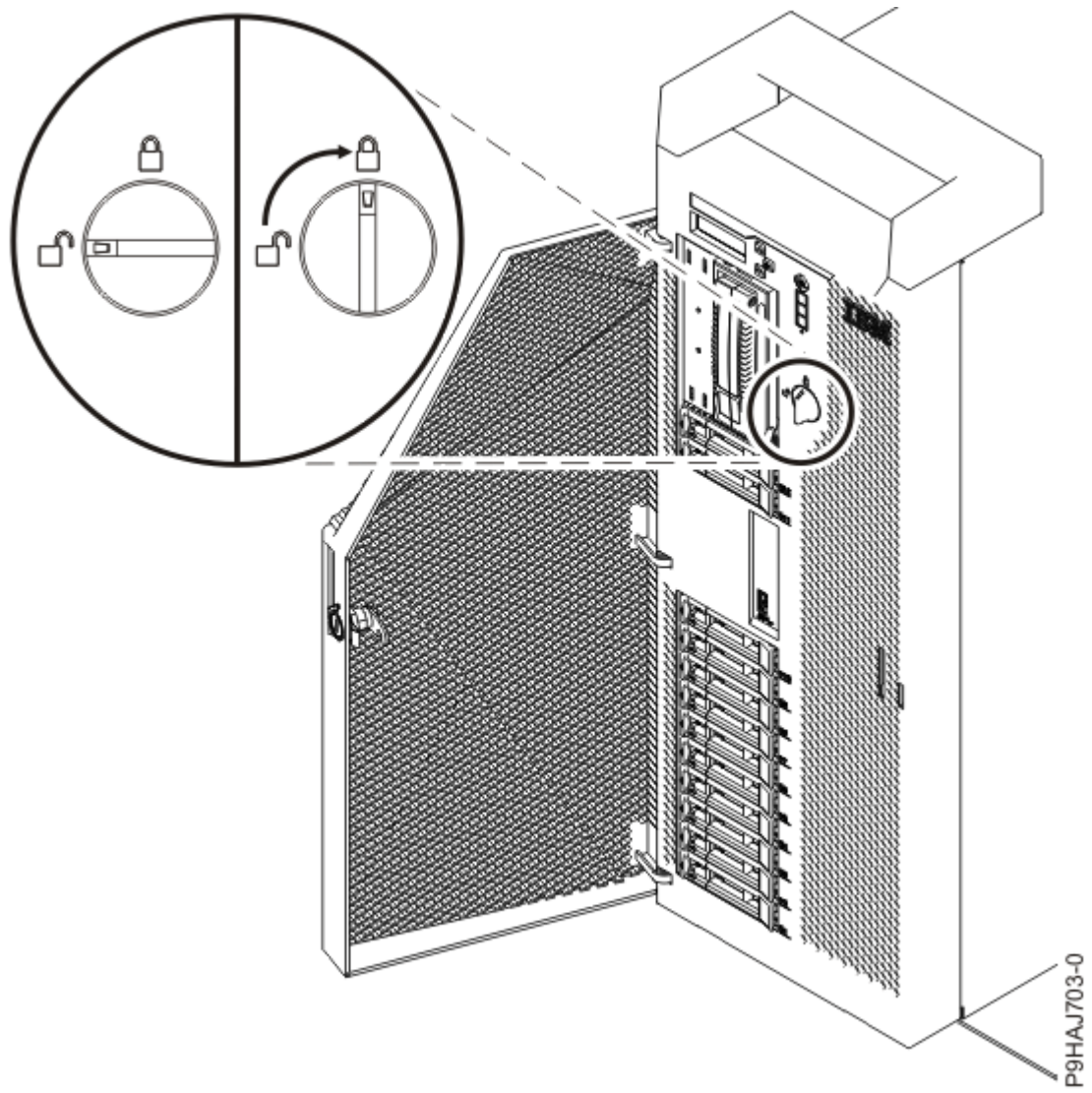


Figure 16. Closing the front cover latch

- e) Close the front door. Insert the front door key into the lock as shown in [Figure 17](#) on page 32. Twist the key to the right (clockwise) to lock the door. Horizontal is locked; vertical is unlocked.

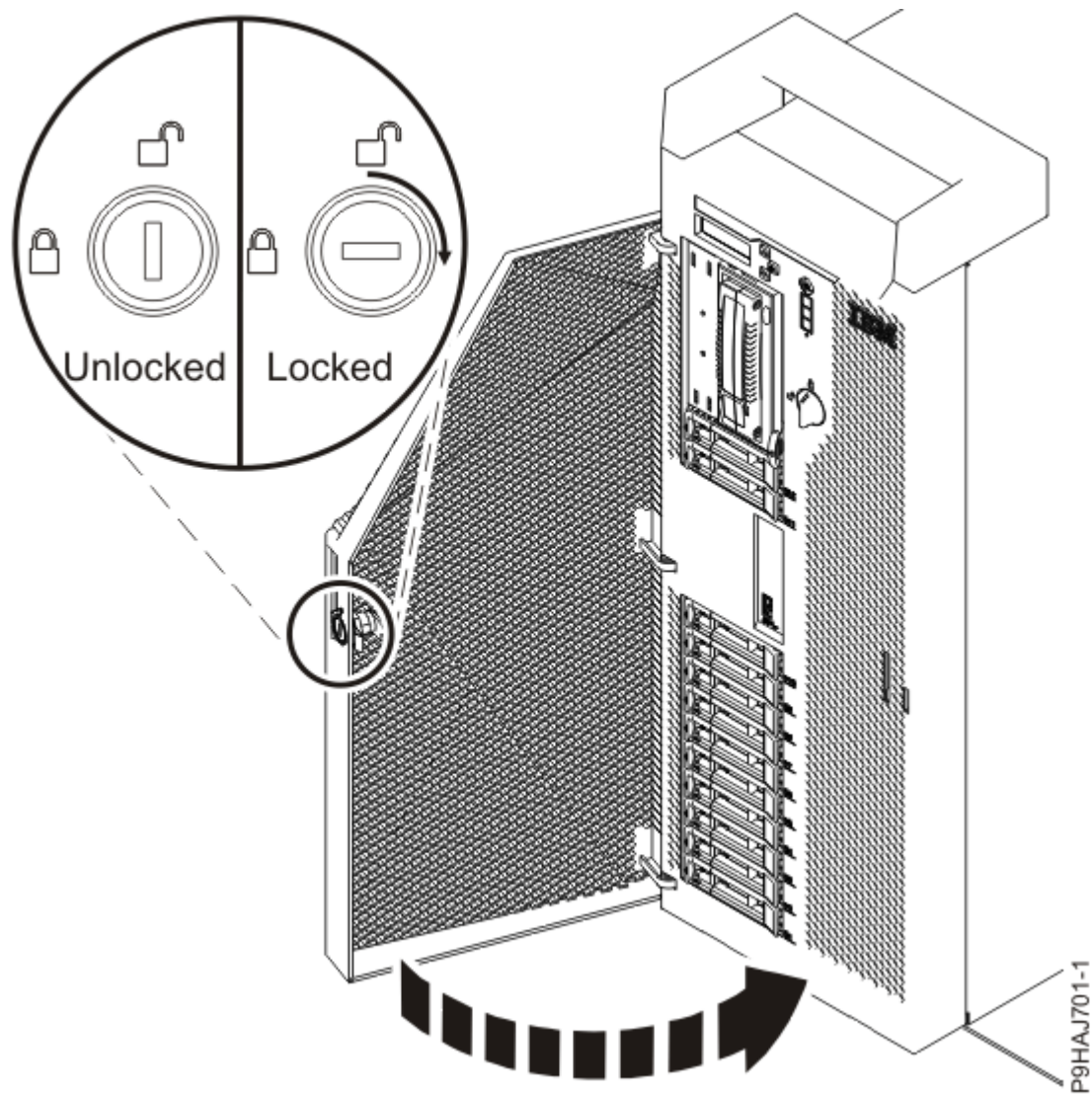


Figure 17. Locking the front door

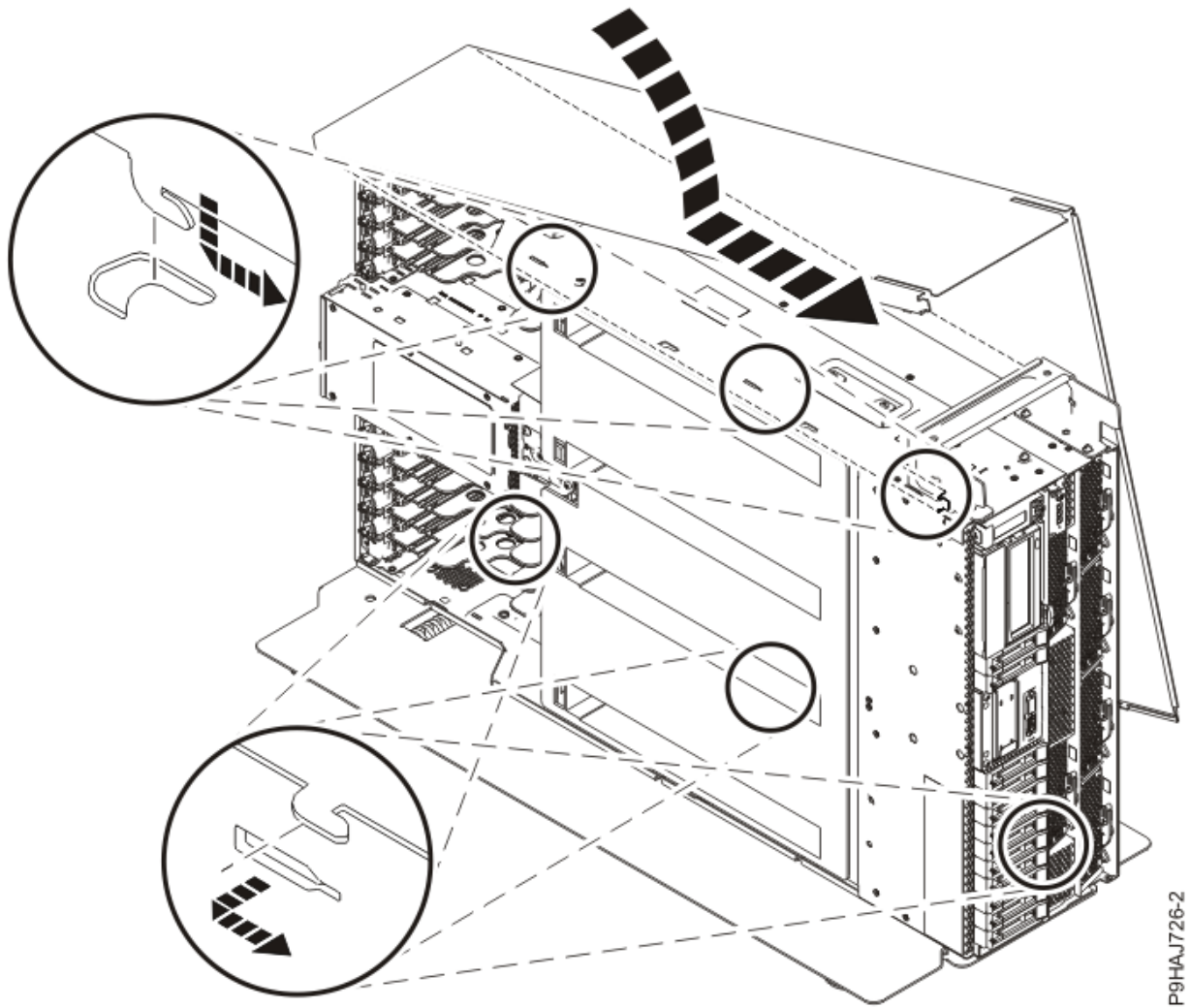
Installing the side cover on a stand-alone 9009-41A or 9009-41G system

Use this procedure to install the side cover on a stand-alone IBM Power System S914 (9009-41A or 9009-41G) server.

Procedure

1. Place the side cover down over the system.
2. Slide the side cover into place until secured onto the system as shown in [Figure 18 on page 33](#).

Note: Ensure that the side cover tabs are aligned properly.



P9HAJ726-2

Figure 18. Installing the side cover

3. Install the side cover screw at the rear of the system by using a Phillips screwdriver as shown in [Figure 19](#) on page 34.

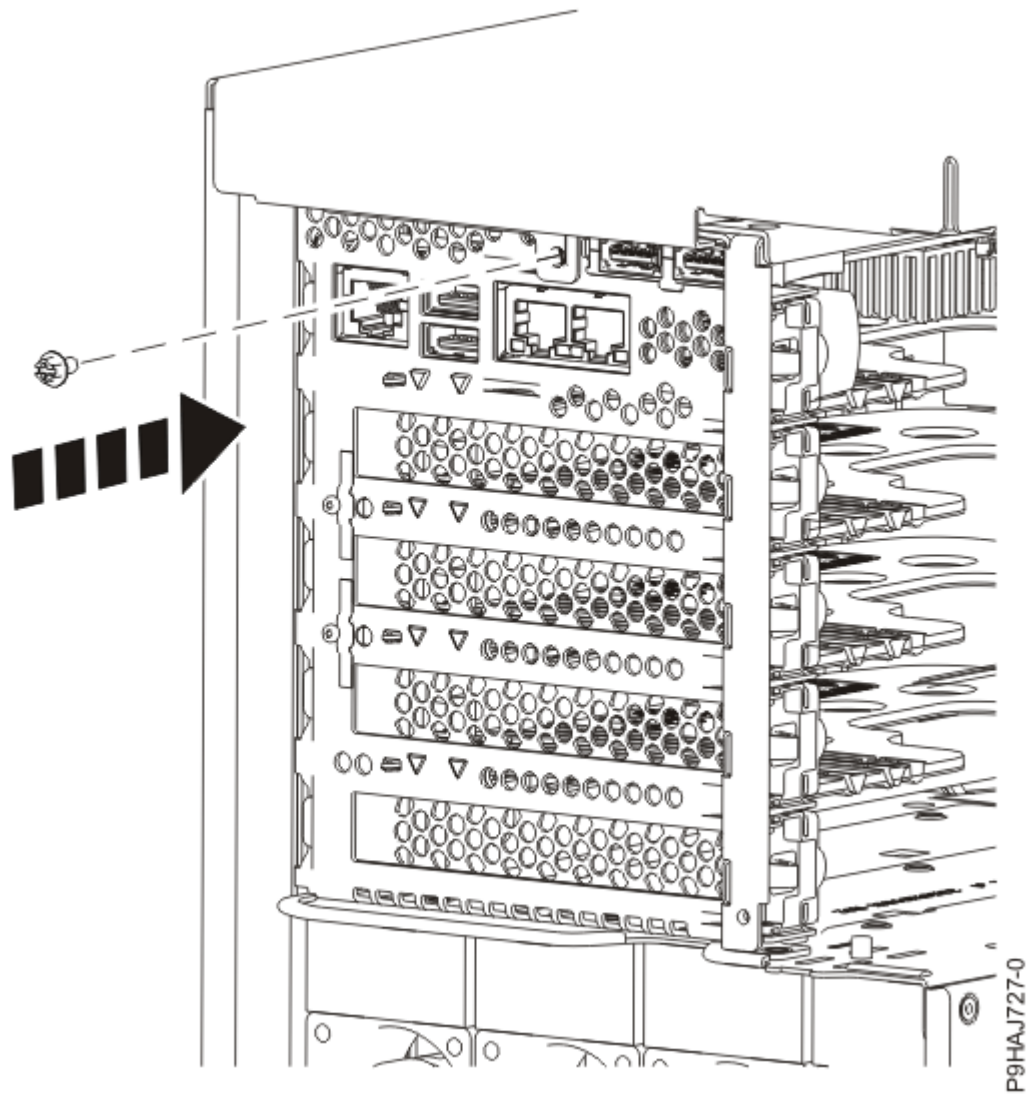
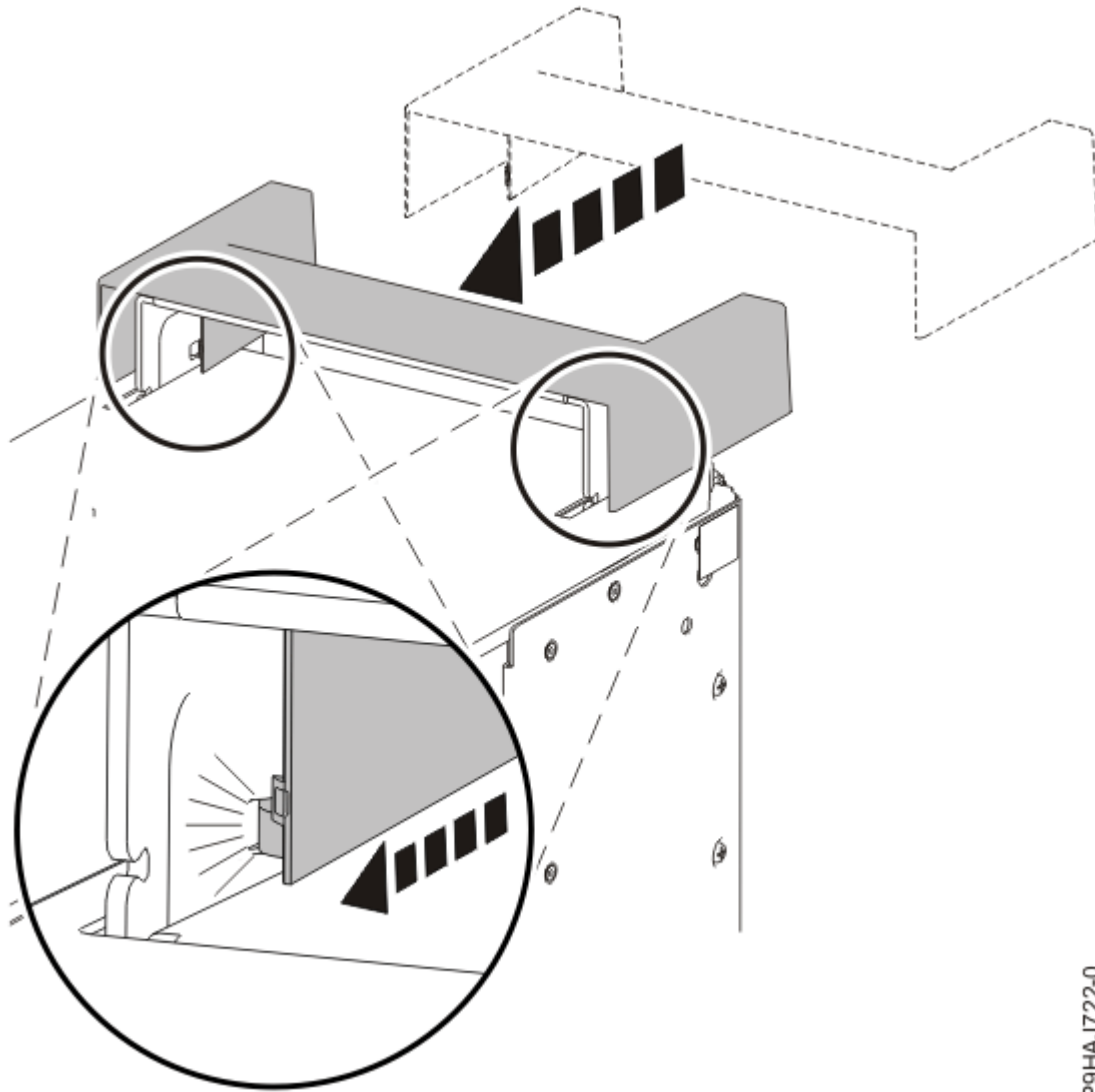


Figure 19. Installing the side cover screw

4. Secure the handle cover by sliding it toward the rear of the system. See [Figure 20 on page 35](#).



P9HAJ722-0

Figure 20. Securing the handle cover

5. Insert the plastic piece within the handle cover by pushing it firmly into the handle cover as shown in [Figure 21 on page 36](#).

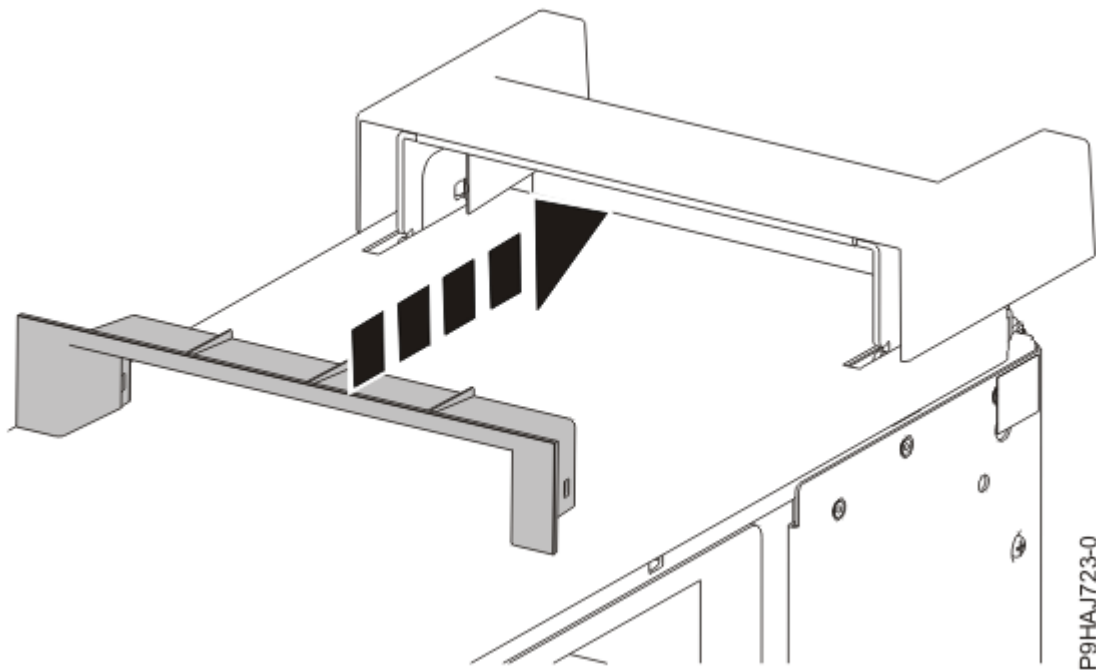


Figure 21. Inserting the plastic piece within the handle cover

6. Install the service access cover.

For instructions, see [“Installing the service access cover on a stand-alone 9009-41A or 9009-41G system”](#) on page 42.

Removing the service access cover

Use this procedure to remove the service access cover from an 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), IBM Power System H922S (9223-22S), IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

Removing the service access cover from a rack-mounted 5105-22E, 9008-22L, 9009-22A, 9009-22G, 9223-22H, or 9223-22S system

Use this procedure to remove the service access cover from a rack-mounted 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), or IBM Power System H922S (9223-22S) server.

Before you begin



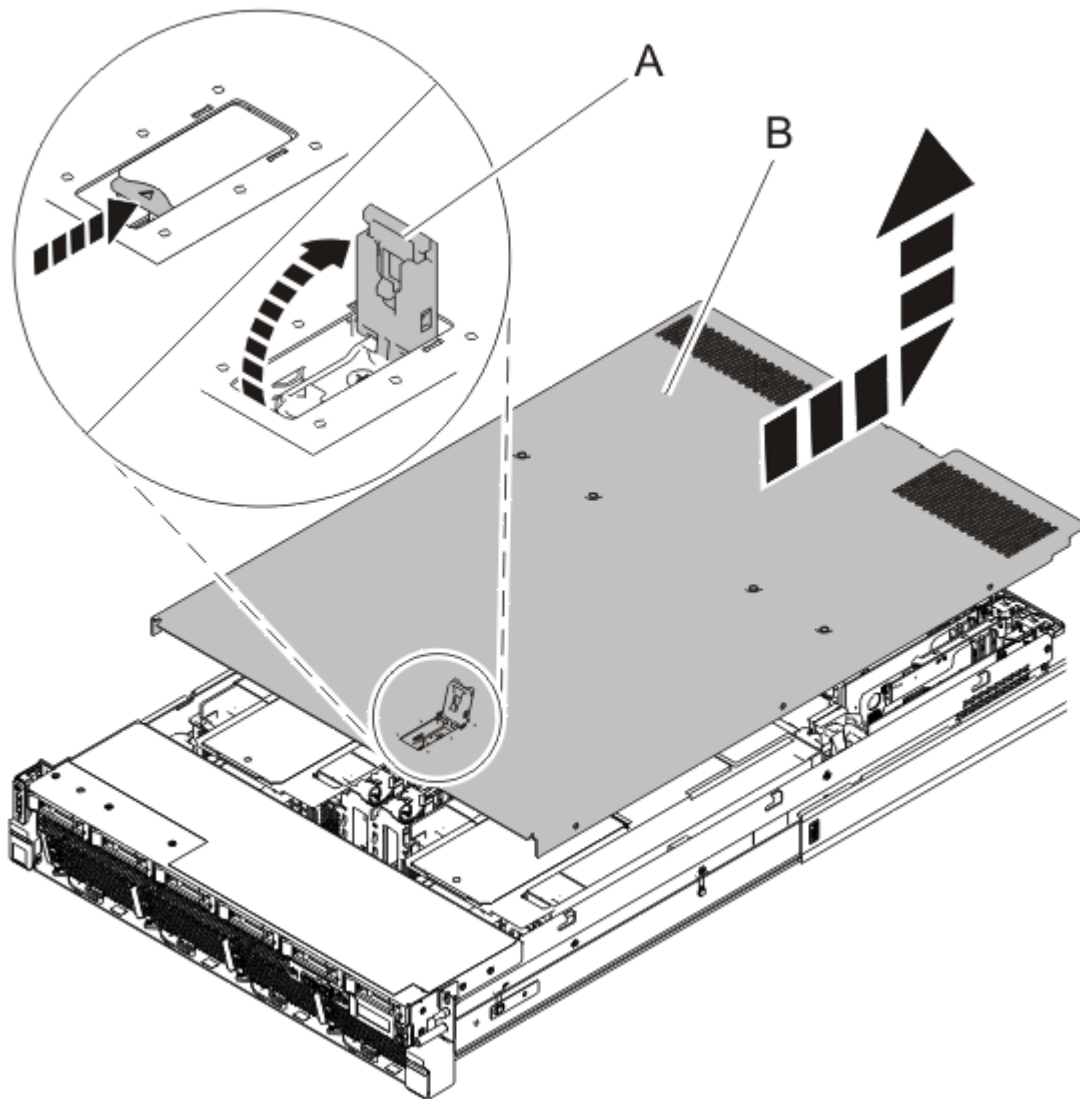
Attention: Operating the system without the service access cover on for more than 10 minutes when the system power is turned on might damage the system components.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Release the service access cover latch by pushing the release latch **(A)** in the direction shown.
3. Slide the cover **(B)** off the system unit. When the front of the service access cover clears the upper frame ledge, lift the cover up and off the system unit.



Attention: Operating the system without the service access cover on for more than 10 minutes when the system power is turned on might damage the system components.



P9HAJ505-1

Figure 22. Removing the service access cover

Removing the service access cover from a rack-mounted 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

Use this procedure to remove the service access cover from a rack-mounted IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

Before you begin



Attention: Operating the system without the service access cover on for more than 10 minutes when the system power is turned on might damage the system components.

Procedure

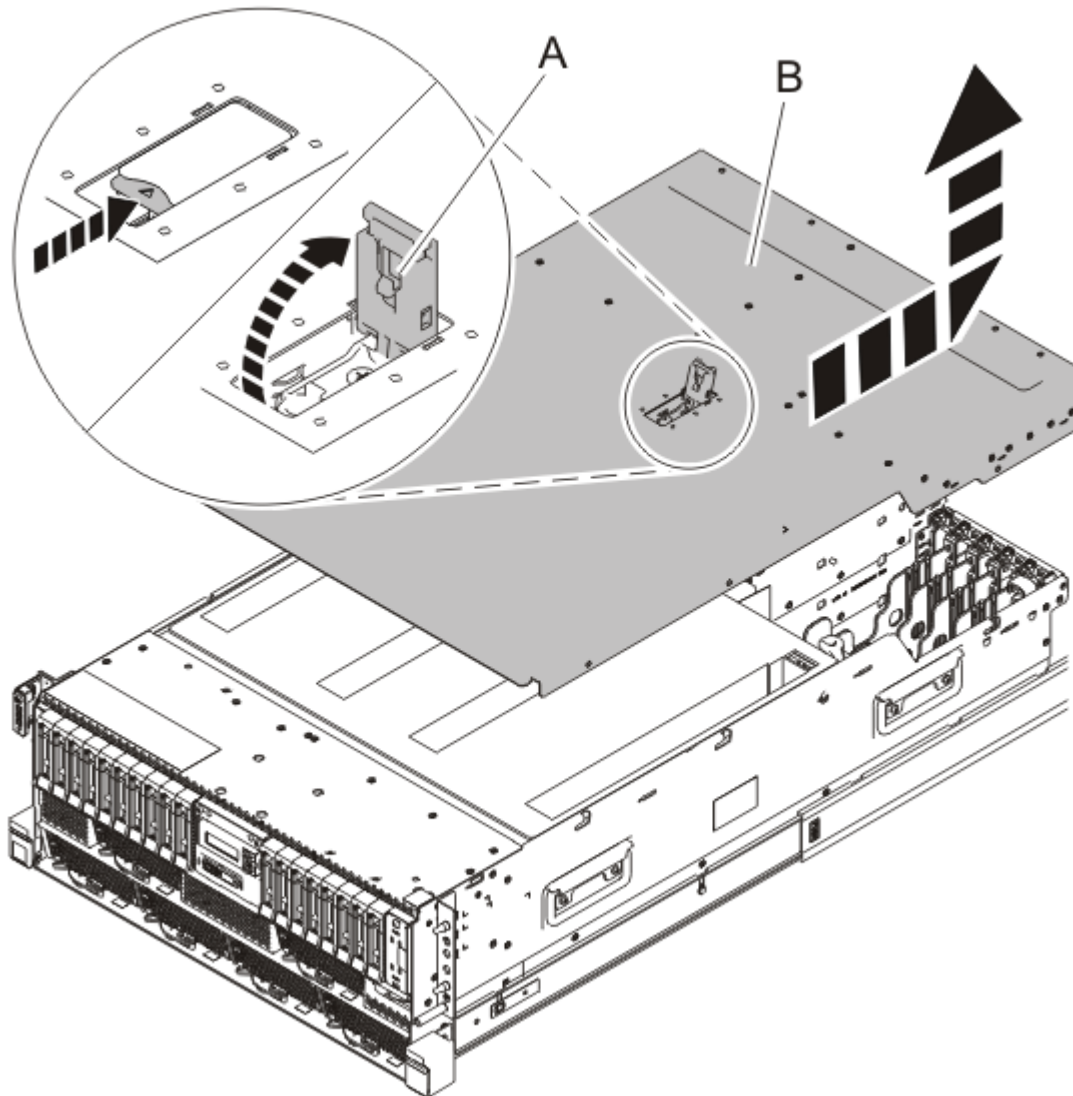
1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Remove the service access cover.

For a rack-mounted system, complete the following steps. Refer to [Figure 23 on page 38](#).



Attention: Operating the system without the service access cover on for more than 10 minutes when the system power is turned on might damage the system components.

- a. Release the service cover latch by pushing the release latch **(A)** in the direction shown.
- b. Slide the cover **(B)** off the system unit. When the front of the service access cover clears the upper frame ledge, lift the cover up and off the system unit.



P9HAJ605-2

Figure 23. Removing the service access cover from a rack-mounted system

Removing the service access cover from a stand-alone 9009-41A or 9009-41G system

Use this procedure to remove the service access cover from a stand-alone IBM Power System S914 (9009-41A or 9009-41G) server.

Before you begin



Attention: The system must be powered off before removing the side cover.




Attention: Operating the system without the service access cover on for more than 10 minutes when the system power is turned on might damage the system components.

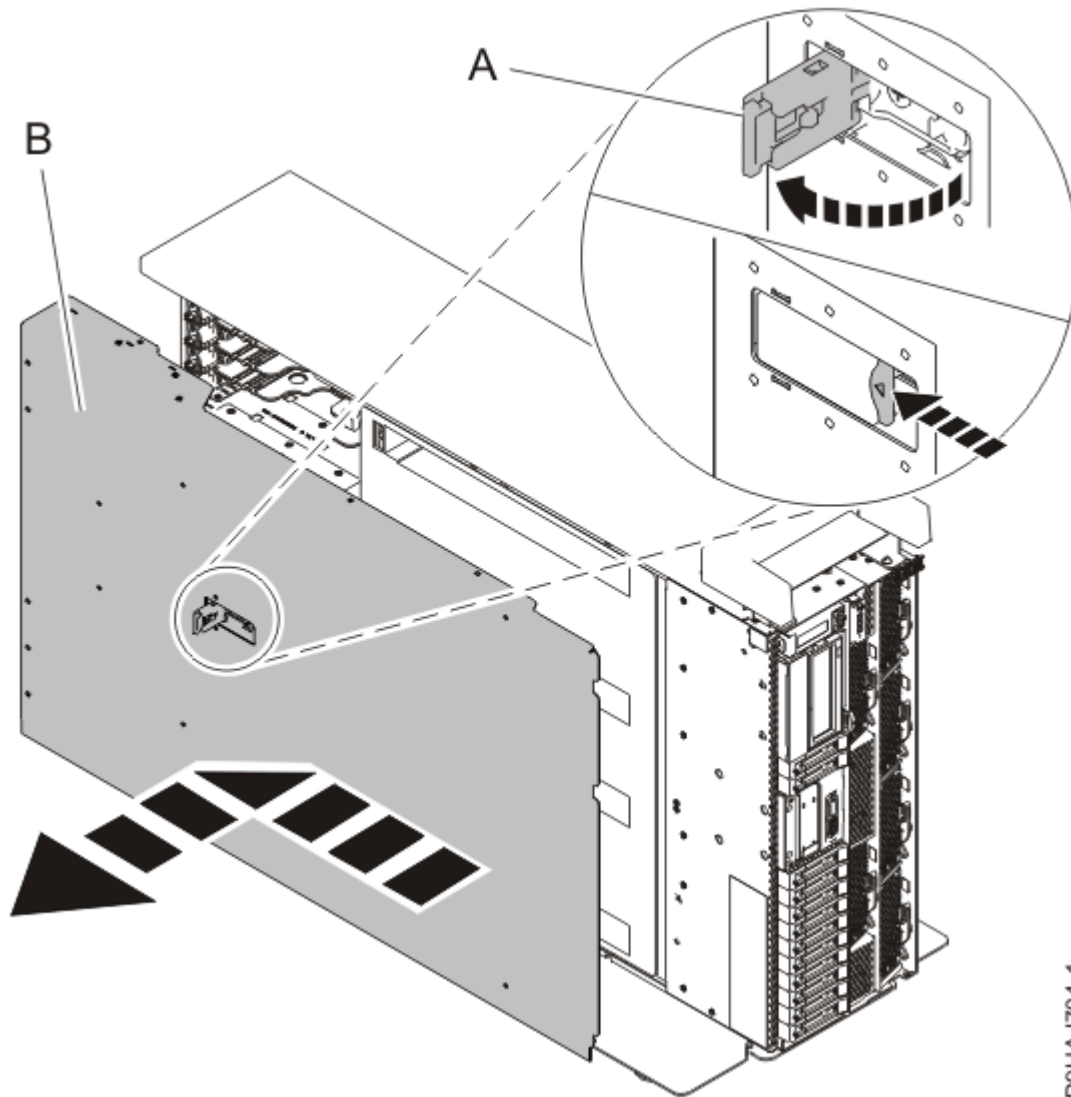
Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Remove the service access cover.

For a stand-alone system, complete the following steps. Refer to [Figure 24](#) on [page 39](#).

 **Attention:** Operating the system without the service access cover on for more than 10 minutes when the system power is turned on might damage the system components.

- a. Release the latch by pushing the release latch **(A)** in the direction shown.
- b. Slide the cover **(B)** off the system unit. When the front of the service access cover has cleared the upper frame ledge, lift the cover up and off the system unit.



P9HAJ704-1

Figure 24. Removing the service access cover

Installing the service access cover

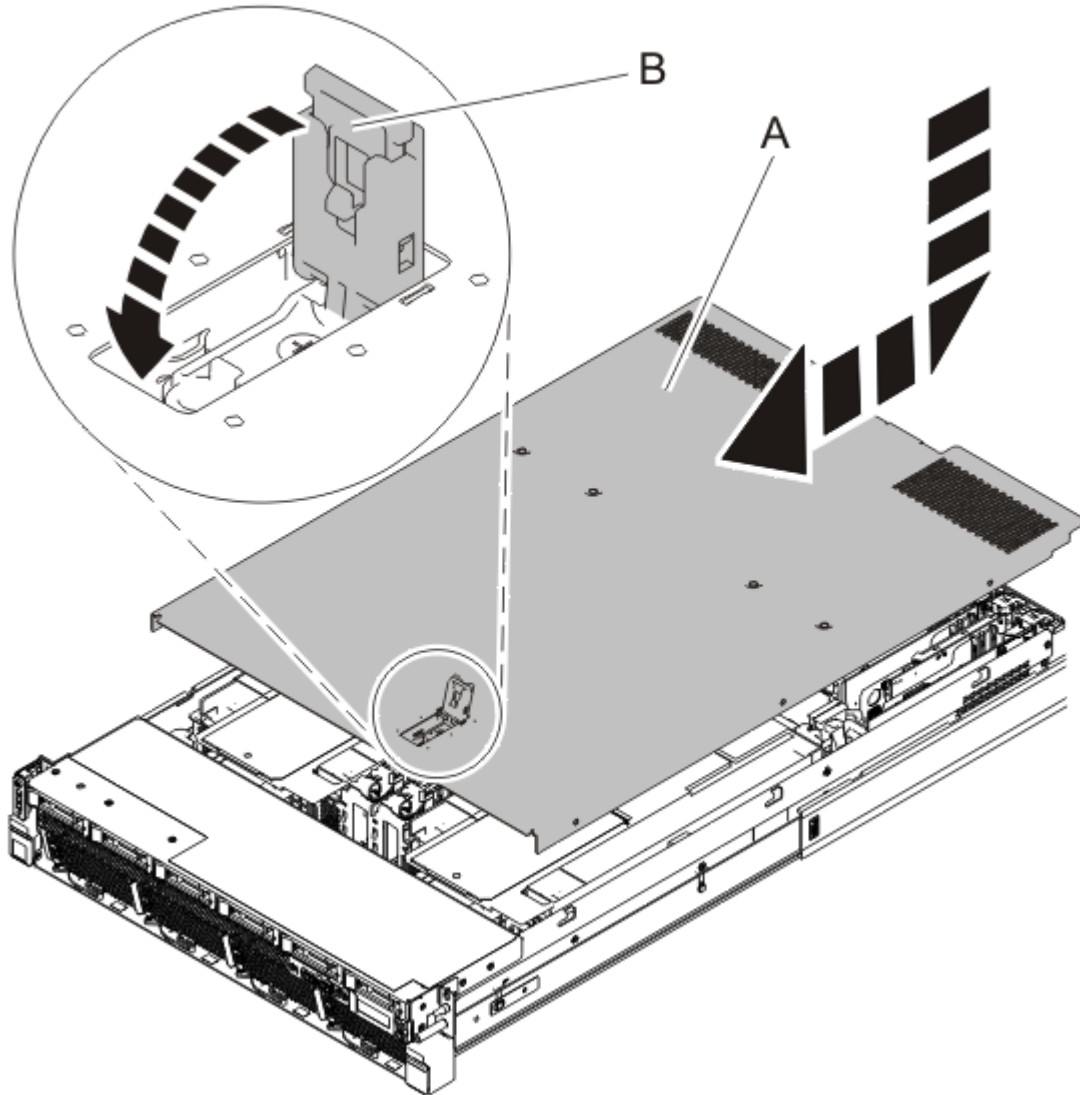
Use this procedure to install the service access cover on an 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), IBM Power System H922S (9223-22S), IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

Installing the service access cover on a rack-mounted 5105-22E, 9008-22L, 9009-22A, 9009-22G, 9223-22H, or 9223-22S system

Use this procedure to install the service access cover on a rack-mounted 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), or IBM Power System H922S (9223-22S) server.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Slide the service access cover **(A)** onto the system unit.
3. Close the release latch **(B)** by pushing it in the direction shown.



P9HAJ506-1

Figure 25. Installing the service access cover

Installing the service access cover on a rack-mounted 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

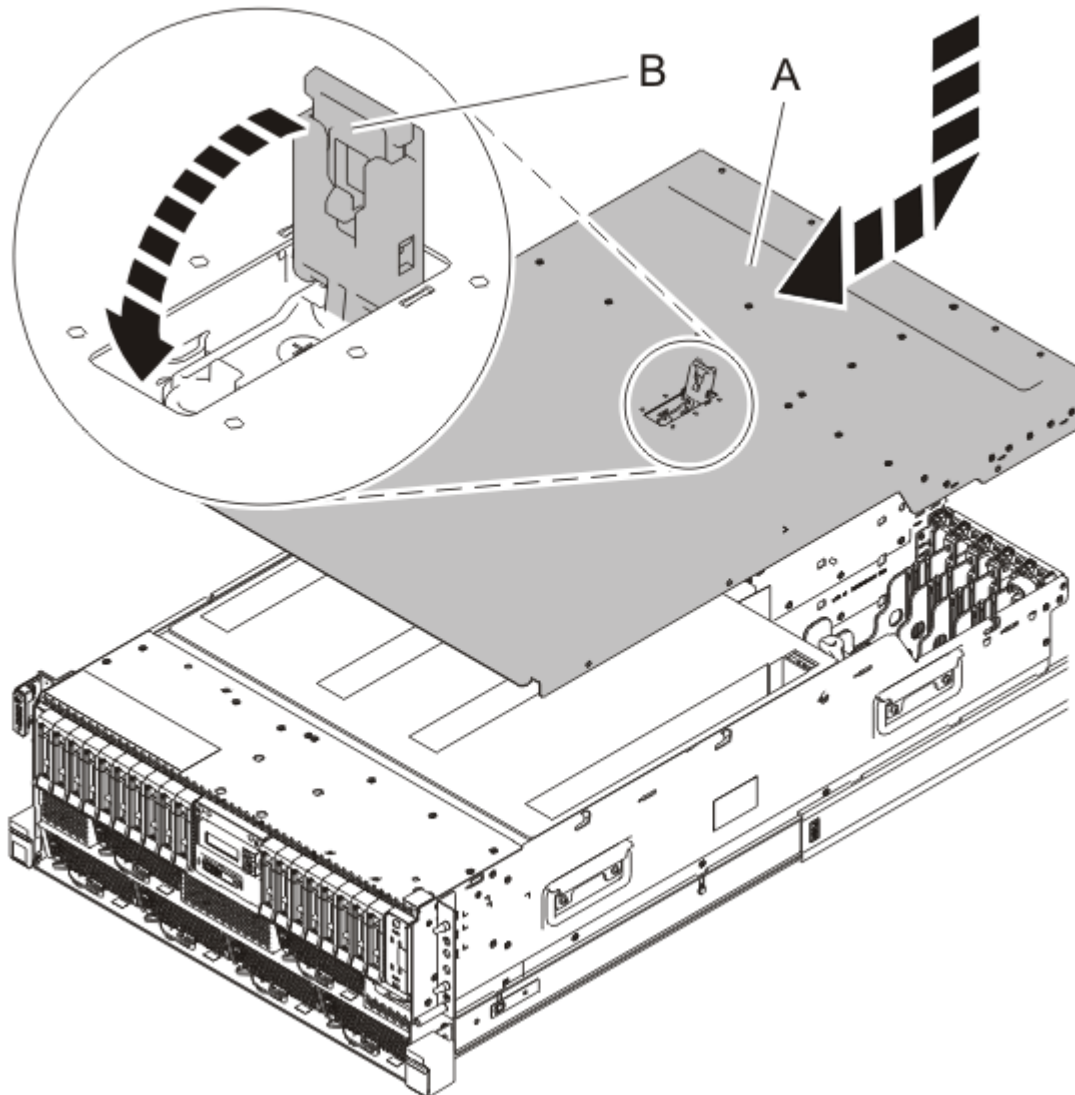
Use this procedure to install the service access cover on a rack-mounted IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Replace the service access cover.

For a rack-mounted system, complete the following steps. Refer to [Figure 26 on page 41](#).

- a. Slide the cover (**A**) onto the system unit.
- b. Close the release latch (**B**) by pushing it in the direction shown.



P9H4J606-2

Figure 26. Installing the service access cover

Installing the service access cover on a stand-alone 9009-41A or 9009-41G system

Use this procedure to install the service access cover on a stand-alone IBM Power System S914 (9009-41A or 9009-41G) server.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Replace the service access cover.

For a stand-alone system, complete the following steps. Refer to [Figure 27](#) on page 42.

- a. Slide the cover (**B**) on to the system unit as shown.
- b. Close the latch release (**A**) by pushing it in the direction shown.

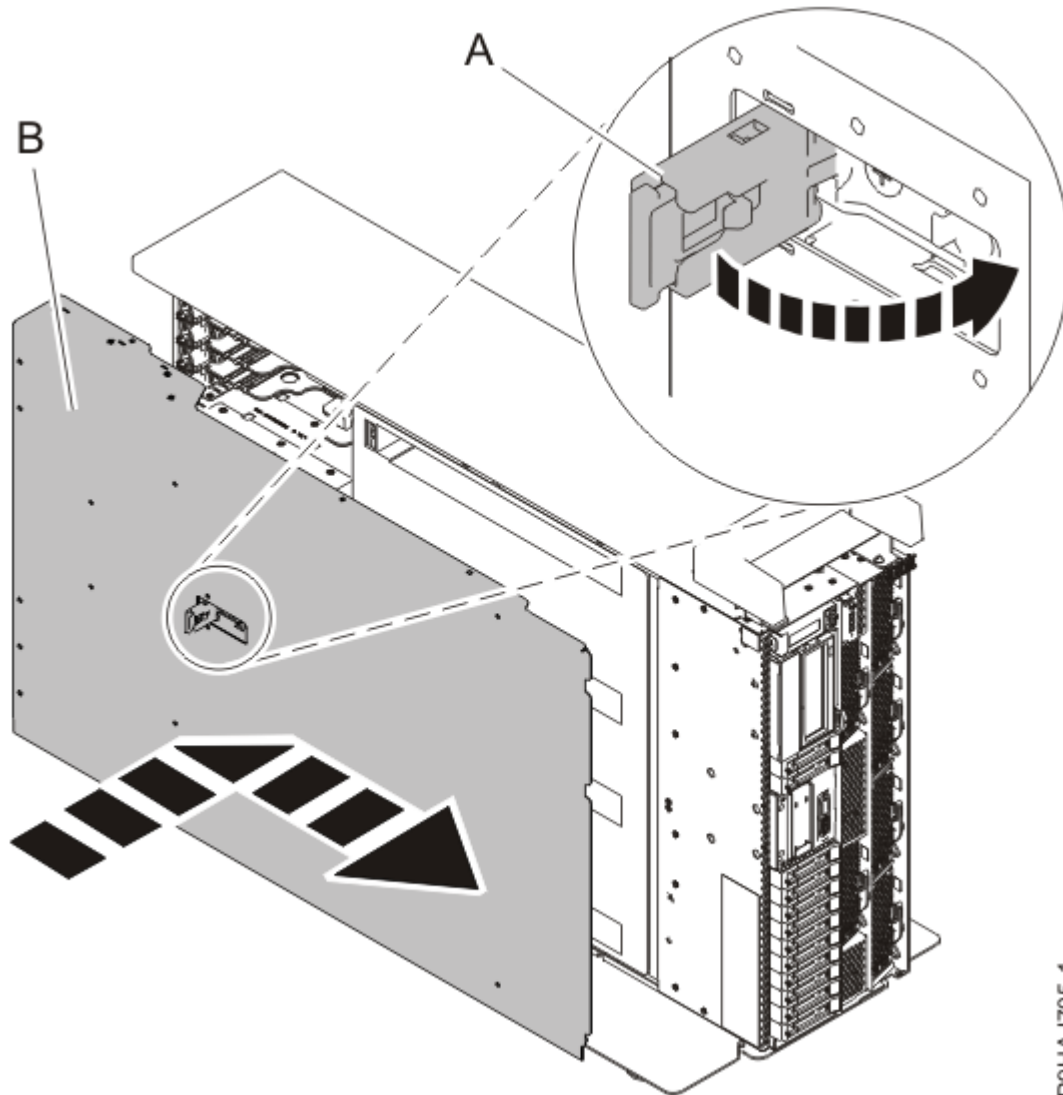


Figure 27. Installing the service access cover

Removing and replacing the air baffle

Use this procedure to remove and replace the air baffle in a 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), IBM Power System H922S (9223-22S), IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

P9HAJ705-1

Removing the air baffle from a 5105-22E, 9008-22L, 9009-22A, 9009-22G, 9223-22H, or 9223-22S system

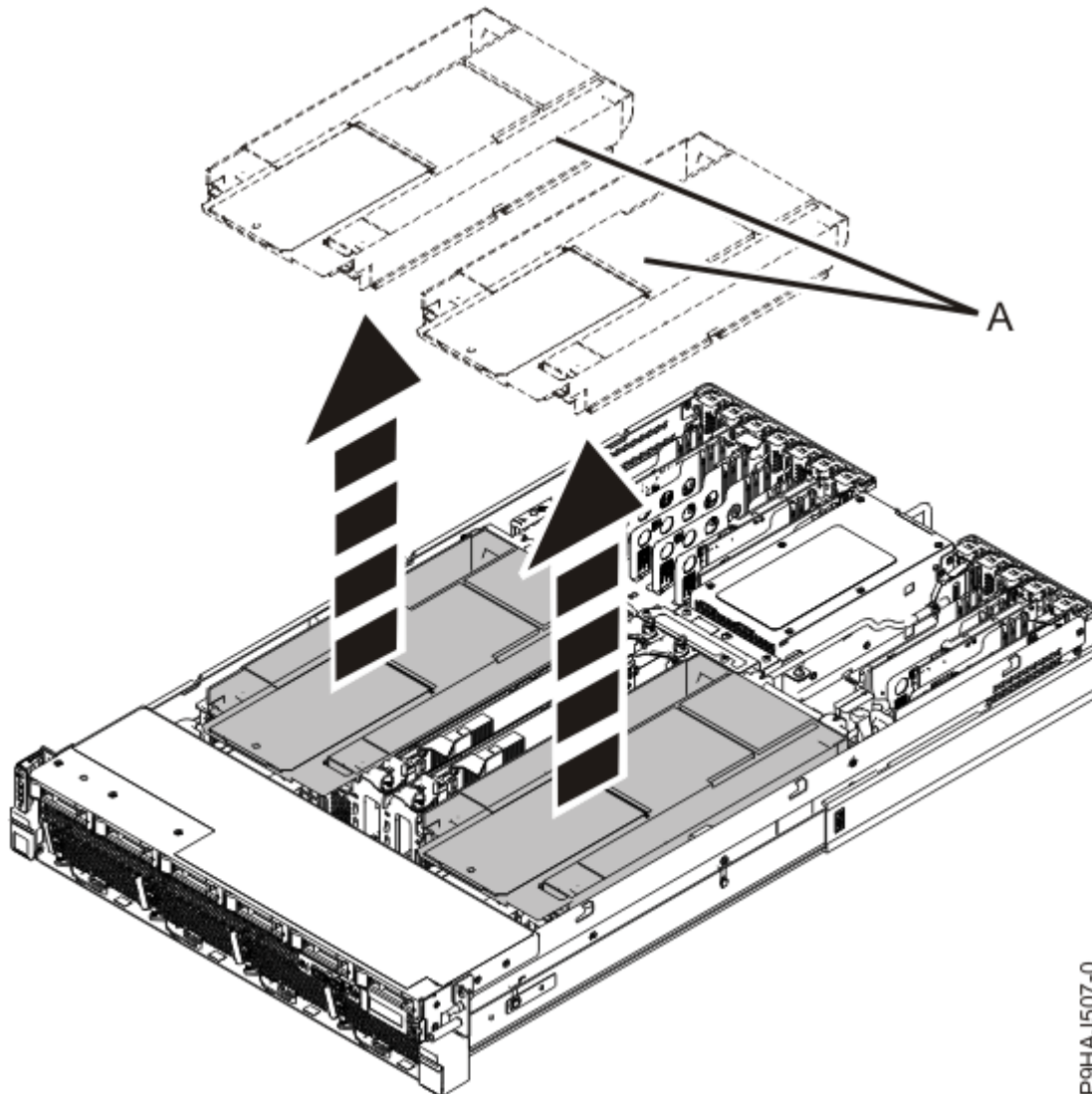
Use this procedure to remove the air baffle from a 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), or IBM Power System H922S (9223-22S) server.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Lift each air baffle (A) straight up.

See [Figure 28](#) on page 43.

Place air baffles upside down on a clean area. When you turn an air baffle over, hold the detachable drive cover to prevent it from coming loose.



P9HAJ507-0

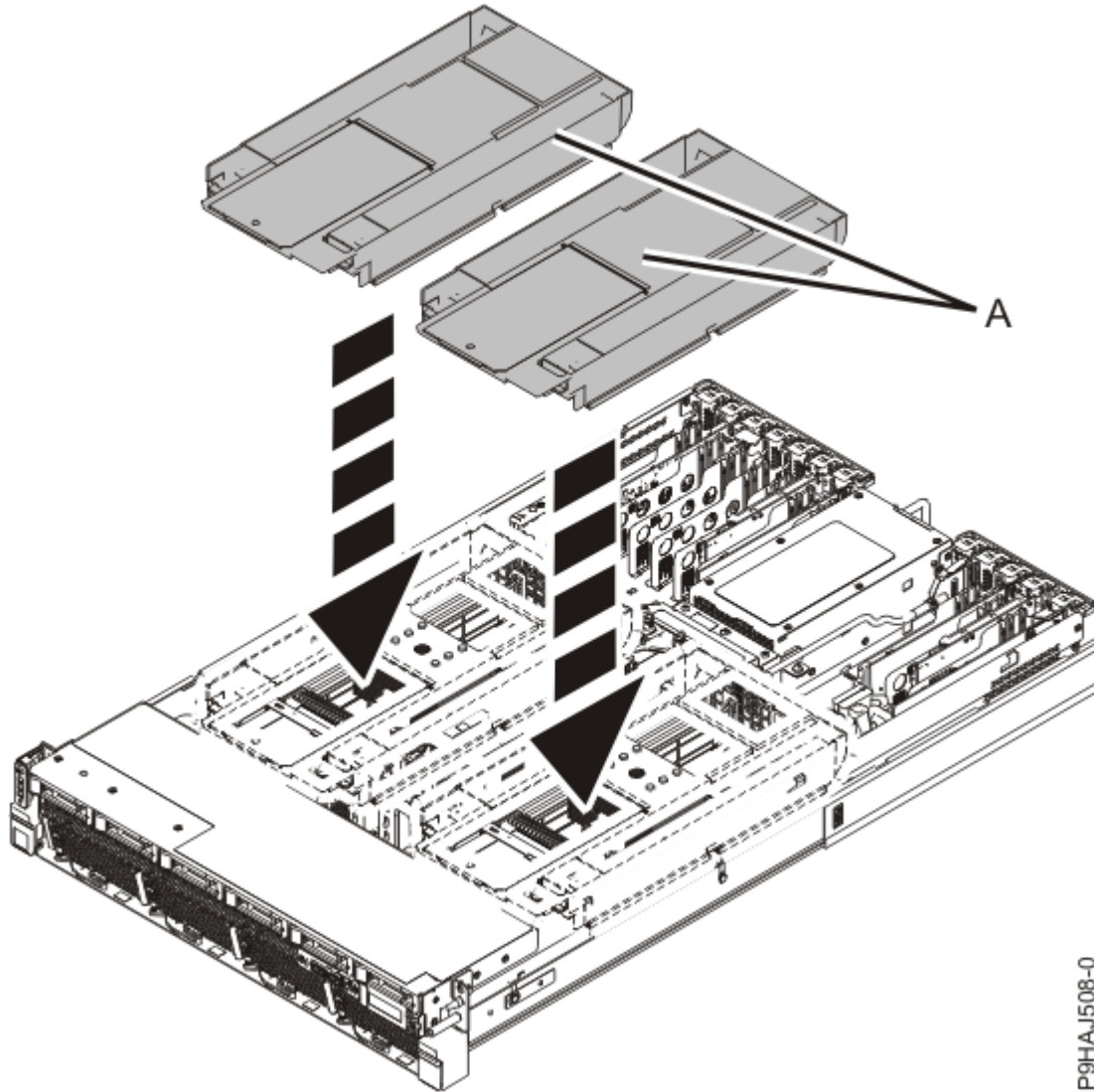
Figure 28. Removing the air baffle

Replacing the air baffle in a 5105-22E, 9008-22L, 9009-22A, 9009-22G, 9223-22H, or 9223-22S system

Use this procedure to replace the air baffle in a 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), or IBM Power System H922S (9223-22S) server.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Replace each air baffle **(A)** straight down into the chassis.
See [Figure 29](#) on [page 44](#). When an air baffle is upside-down, hold the detachable drive cover to prevent it from coming loose.



P9H4J508-0

Figure 29. Replacing the air baffle

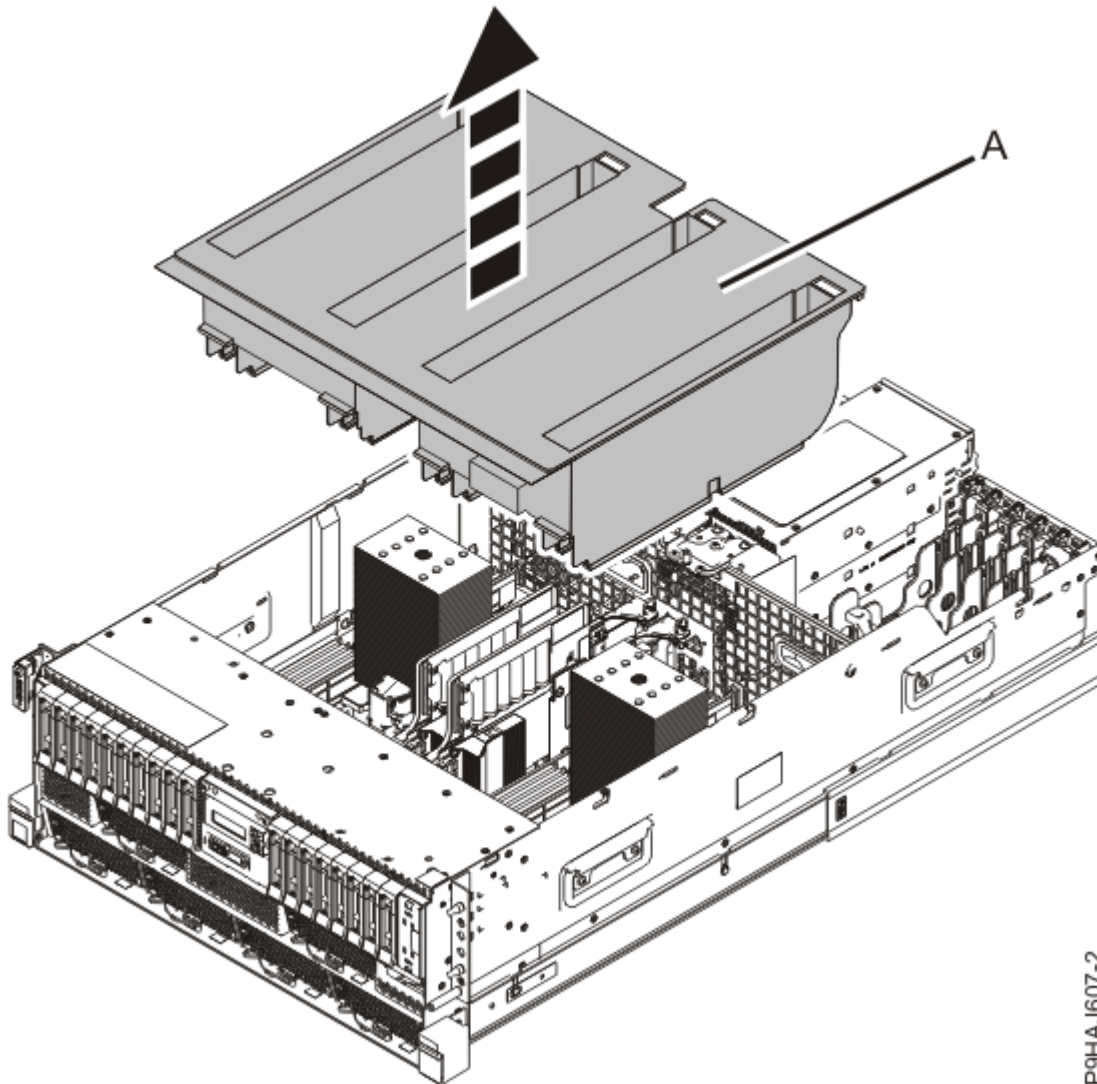
Removing the air baffle from a 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

Use this procedure to remove the air baffle from a IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. For a rack-mounted system, lift the air baffle (A) straight up as shown in [Figure 30](#) on page 45. For a stand-alone system, remove the air baffle (A) straight out as shown in [Figure 31](#) on page 46.

Place the air baffle upside down on a clean area.



P9HAJ607-2

Figure 30. Removing the air baffle from a rack-mounted system

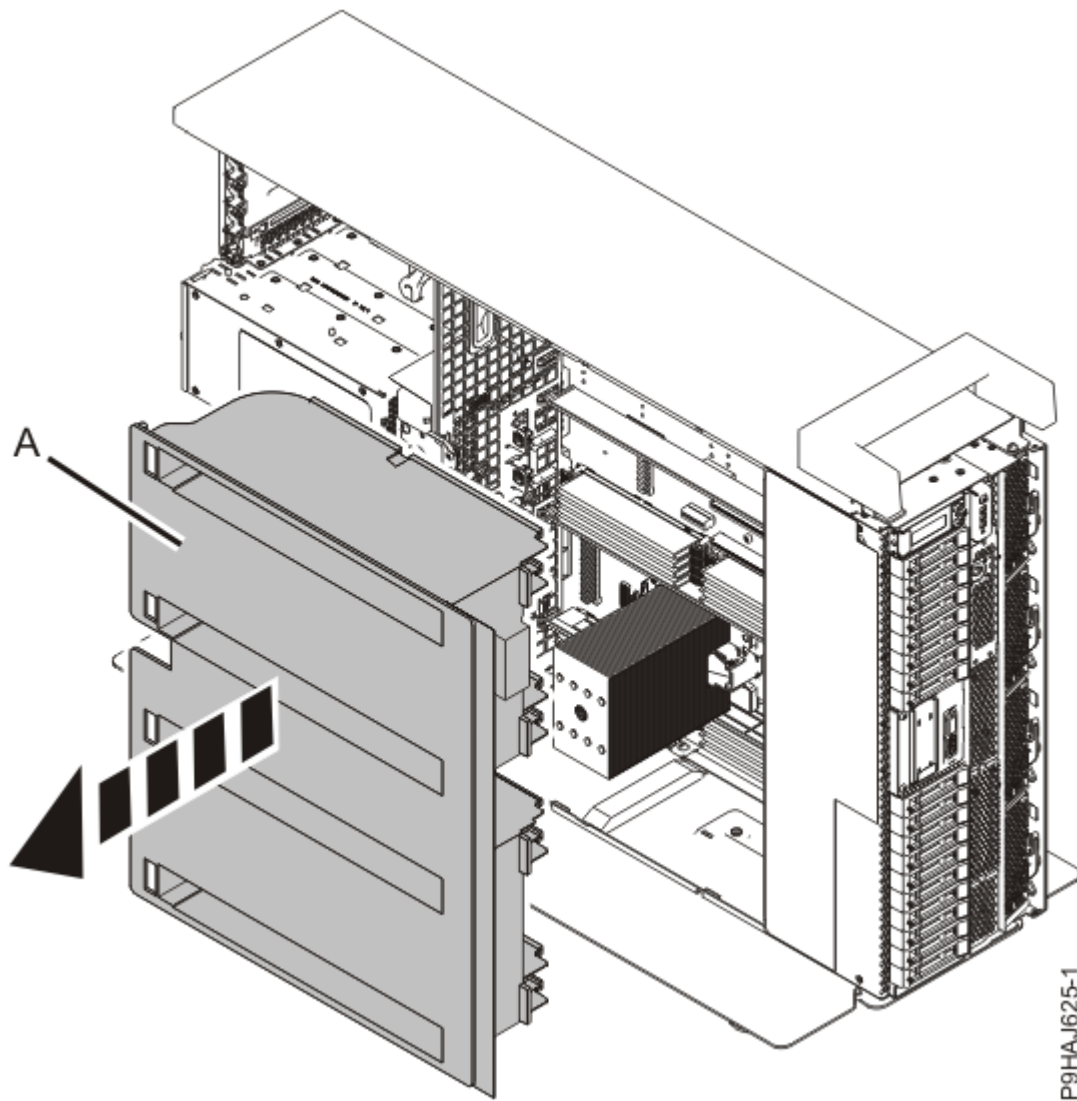


Figure 31. Removing the air baffle from a stand-alone system

Replacing the air baffle in a 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

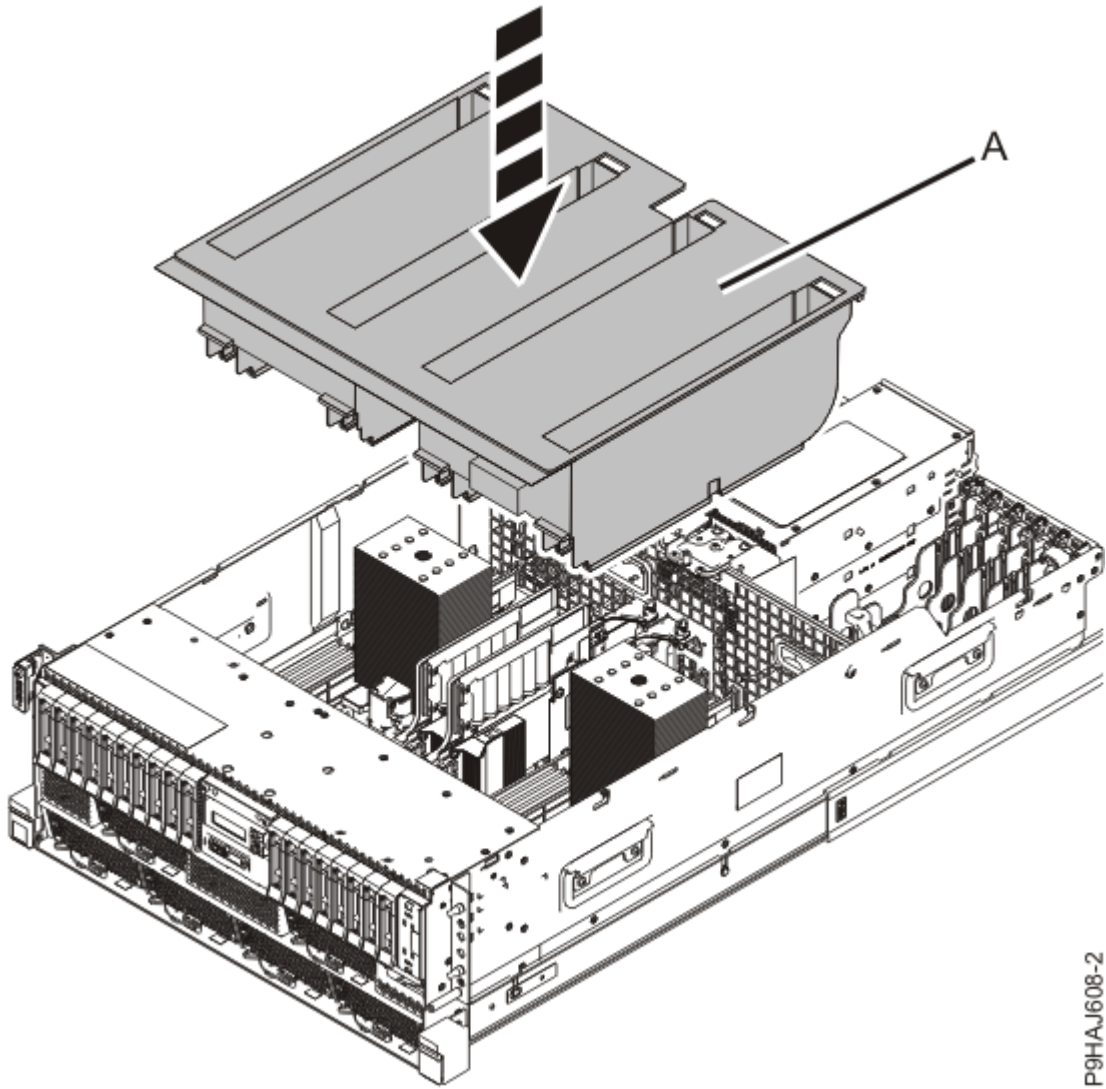
Use this procedure to replace the air baffle in a IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. For a rack-mounted system, replace the air baffle **(A)** straight down into the chassis as shown in [Figure 32 on page 47](#).

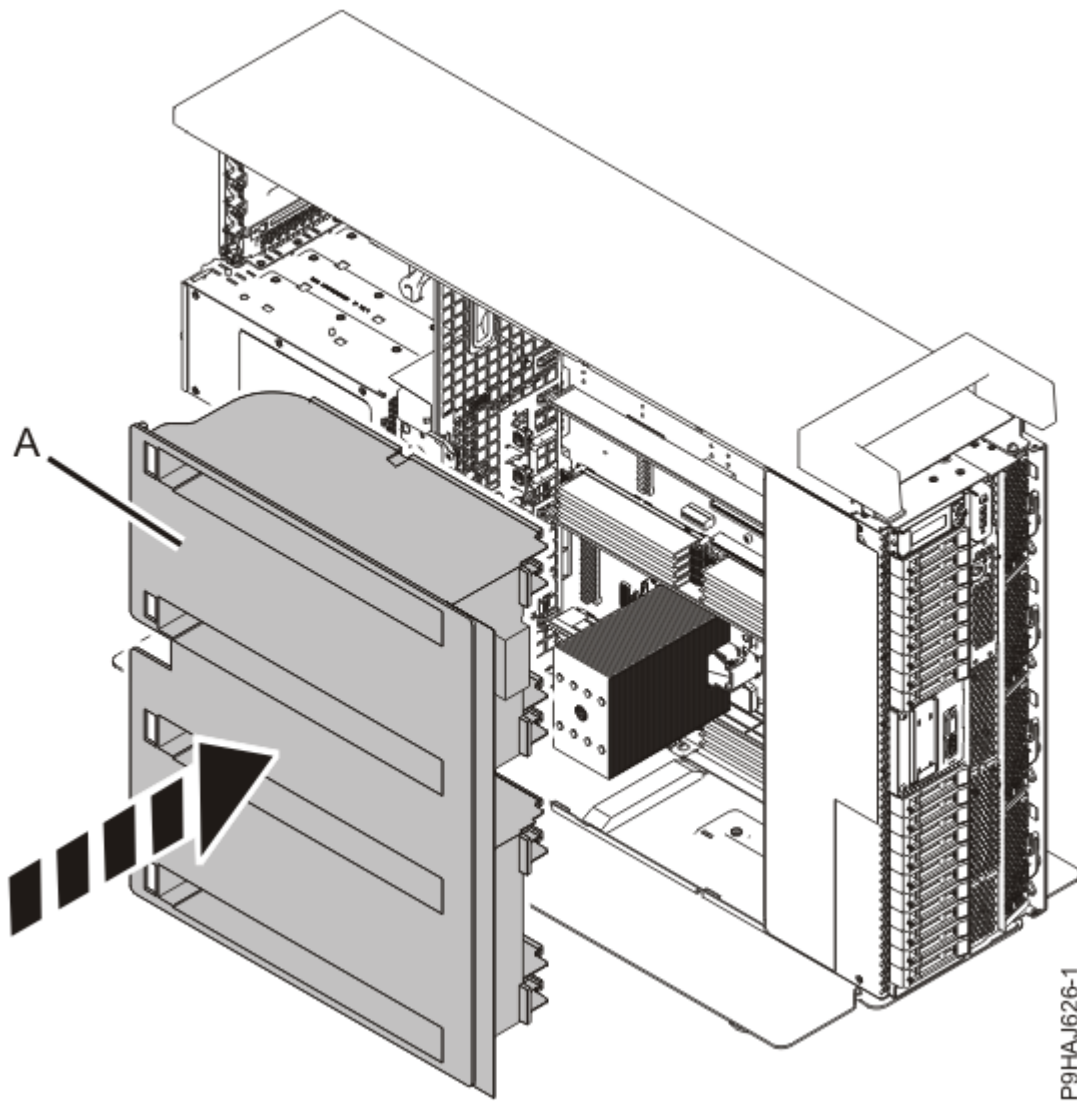
For a stand-alone system, replace the air baffle **(A)** straight into the side of the chassis as shown in [Figure 33 on page 48](#).

Ensure that the front flap tucks under the front chassis.



P9HAJ608-2

Figure 32. Replacing the air baffle in a rack-mounted system



P9HAJ626-1

Figure 33. Replacing the air baffle in a stand-alone system

Removing and replacing covers on the 9040-MR9 system

Use these instructions to remove and replace the covers on a IBM Power System E950 (9040-MR9) server so that you can access the hardware parts or perform service.

Removing and replacing front cover on a 9040-MR9 system

Use these instructions to remove and replace the front cover on a IBM Power System E950 (9040-MR9) system so that you can access the hardware parts or perform service.

Removing the front cover from a 9040-MR9 system

Use this procedure to remove the front cover from a IBM Power System E950 (9040-MR9) server so that you can access the components or perform service.

Procedure

1. If necessary, open the front rack door.
2. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
3. Place your fingers on the indentations and pull the latches **(B)** located on both sides of the cover as shown in the following figure.
Pull the cover **(A)** away from the system.



CAUTION: The fans can pull in hair, jewelry, loose clothing, and so forth, and cause injury or damage. Operate the system with the bezel installed. For service operations, if the front cover must be removed with the system operating, ensure that all such loose material is secured away from the fan area, to prevent any loose material from being pulled into the fan.

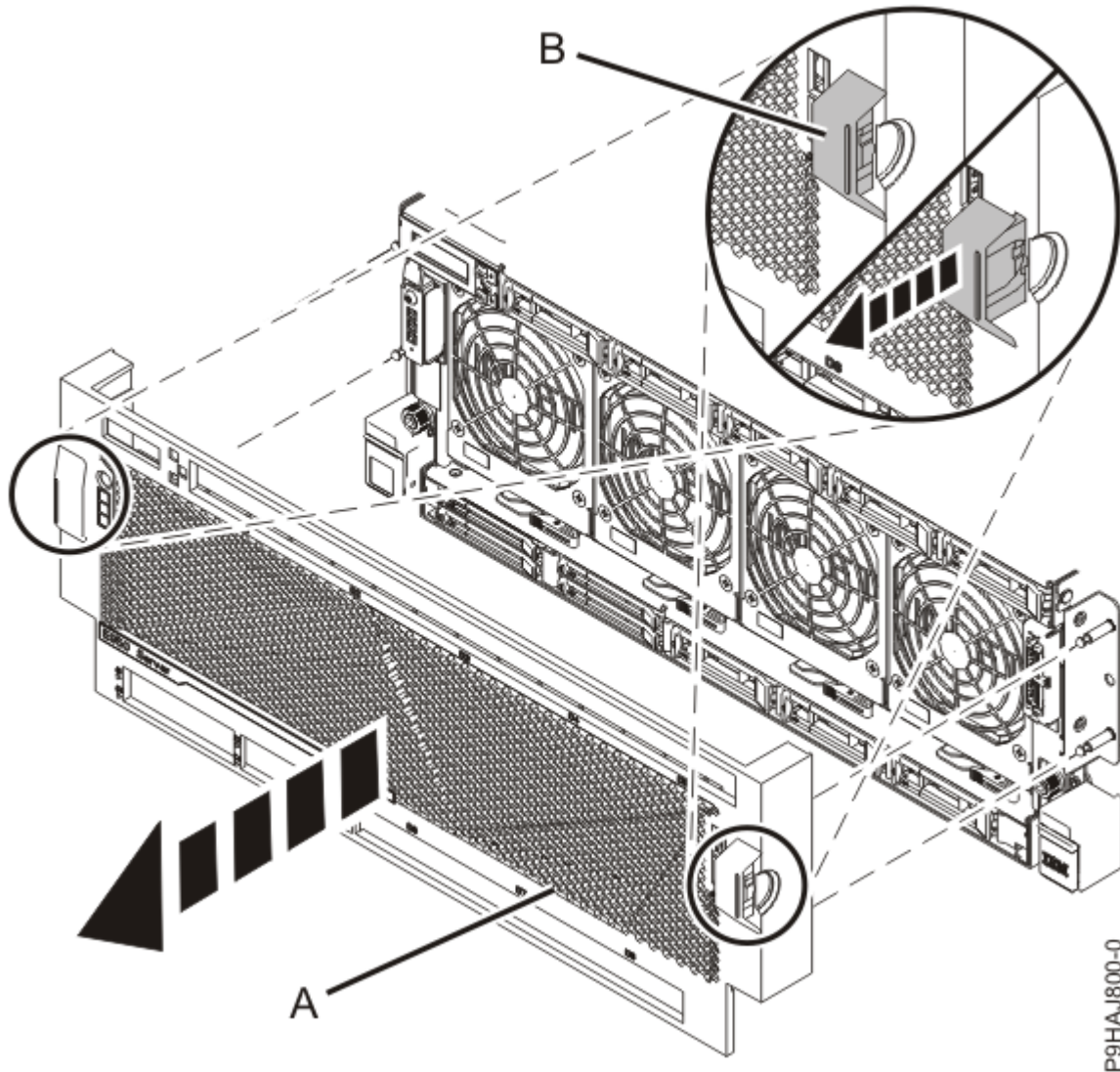


Figure 34. Removing the front cover

Installing the front cover on a 9040-MR9 system

Use this procedure to install the cover on a IBM Power System E950 (9040-MR9) server.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Position the cover (**A**) on the front of the system unit as shown in the following figure, so that the four pins (**B**) on the system match the four holes at the rear of the cover.
Press the tabs (**C**) to snap the cover into position.

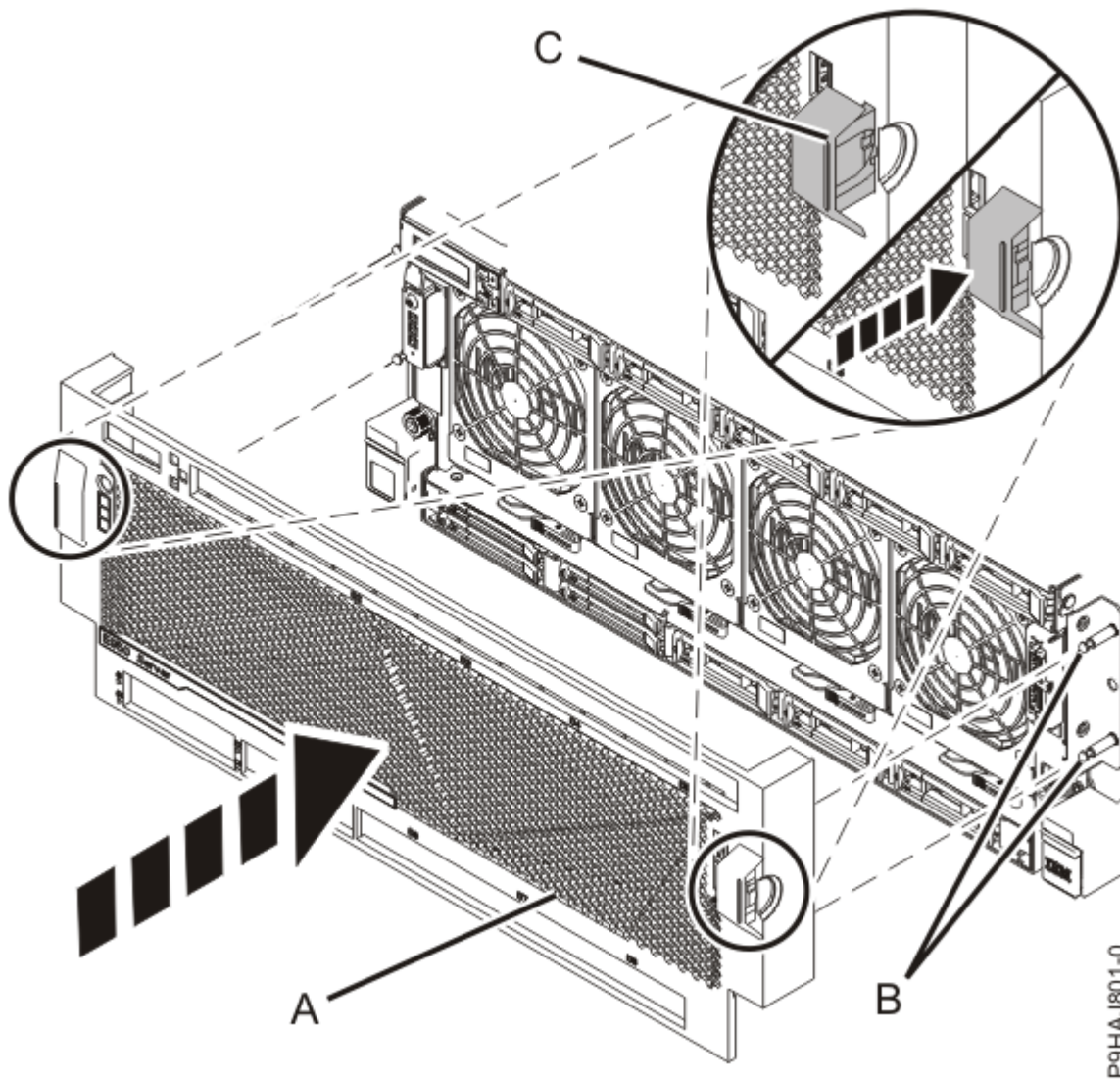


Figure 35. Installing the front cover

Removing and replacing service access cover on a 9040-MR9 system

Use these instructions to remove and replace the service access cover on an IBM Power System E950 (9040-MR9) system so that you can access the hardware parts or perform service.

Removing the service access cover from a 9040-MR9 system

Use this procedure to remove the service access cover from an IBM Power System E950 (9040-MR9) server.

Before you begin



Attention: Operating the system without the cover for more than 30 minutes might damage the system components.

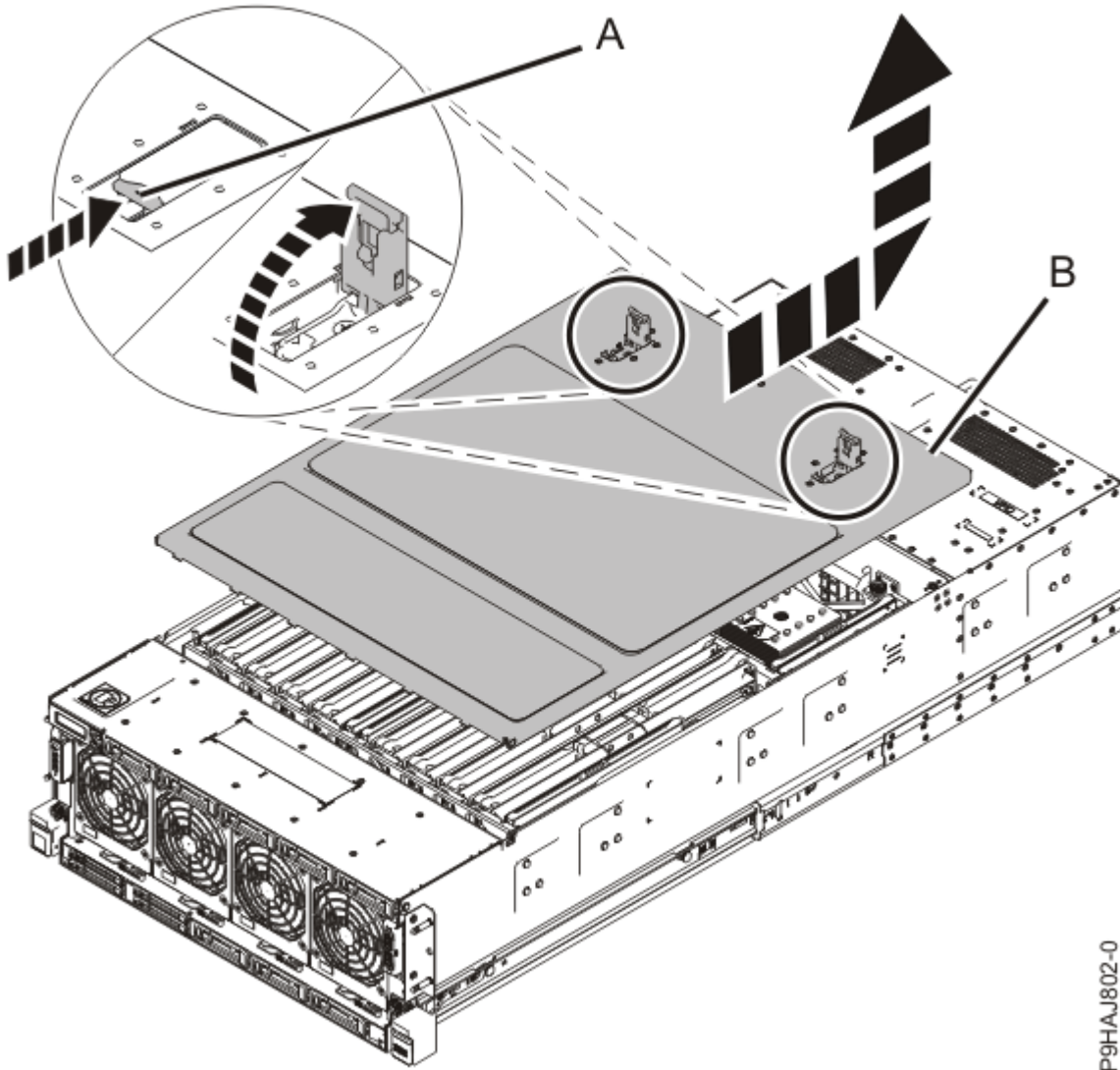
Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Complete the following steps to remove the cover.



Attention: Operating the system without the service access cover on for more than 10 minutes when the system power is turned on might damage the system components.

- a. Push the release latches **(A)** in the direction shown in the following figure.
- b. Slide the cover **(B)** off the system unit as shown in the following figure. When the front of the service access cover has cleared the upper frame ledge, lift the cover up and off the system unit.



P9HAJ802-0

Figure 36. Removing the service access cover

Installing the service access cover on the 9040-MR9 system

Use this procedure to install the service access cover on the IBM Power System E950 (9040-MR9) server.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Complete the following steps to replace the service access cover; refer to the following figure.
 - a) Lower the cover **(A)** onto the system unit. Ensure that the cover alignment pins **(C)** on each side of the cover fit into the matching slots in the chassis.
 - b) Slide the cover **(A)** onto the system unit. Ensure that the tabs **(D)** tuck under the mesh along the front opening of the chassis.
 - c) Close the release latches **(B)** by pushing it in the direction that is shown in the following figure.

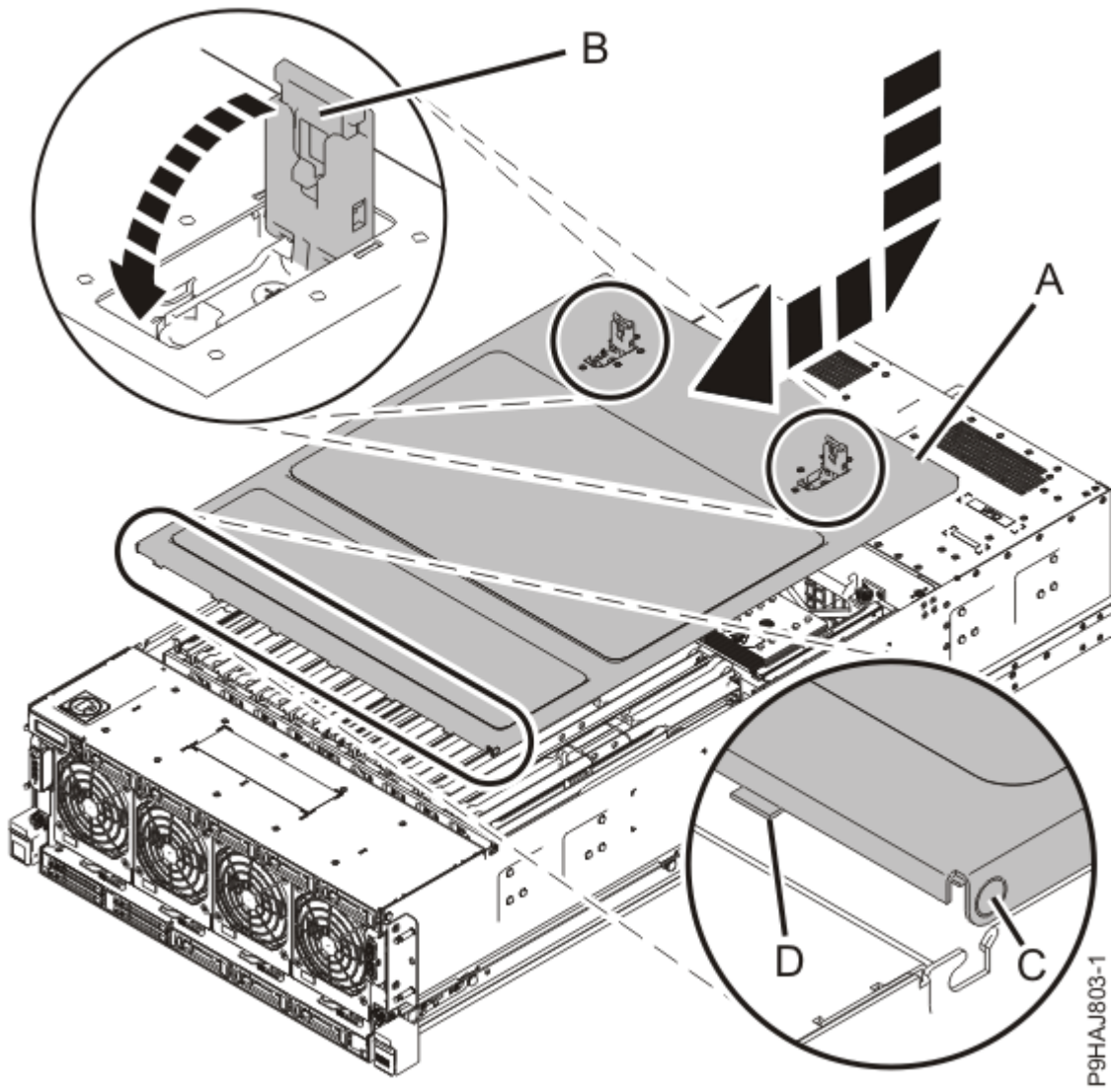


Figure 37. Installing the service access cover

Service and operating positions for the 5105-22E, 9008-22L, 9009-22A, 9009-22G, 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-22H, 9223-22S, 9223-42H, or 9223-42S

Use these procedures to place IBM Power Systems servers into the service or operating position.

Service and operating positions for the 5105-22E, 9008-22L, 9009-22A, 9009-22G, 9223-22H, or 9223-22S system

Use these procedures to place the 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), or IBM Power System H922S (9223-22S) server into the service or operating position.

Placing a 5105-22E, 9008-22L, 9009-22A, 9009-22G, 9223-22H, or 9223-22S system into the service position

Use this procedure to place the rack-mounted 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), or IBM Power System H922S (9223-22S) server into the service position.

Before you begin



Attention:

- When you place the system into the service position, it is essential that all stability plates are firmly in position to prevent the rack from toppling.
- Ensure that only one system unit is in the service position at a time.
- Ensure that the cables at the rear of the system unit do not catch or bind as you pull the system unit forward in the rack.
- When the rails are fully extended, the rail safety latches lock into place. This action prevents the system from being pulled out too far.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Open the side latches **(A)** and pull the latches to slide the system unit fully into the service position, until the slides click and hold the system unit securely. Ensure that the screws inside the latches are not secured to the rack.

Remove the hook-and-loop fasteners that secure the cable management arms. Ensure that the cable management arms can move freely. Ensure that the cables at the rear of the system do not catch or bind as you pull the system unit into the service position.

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.

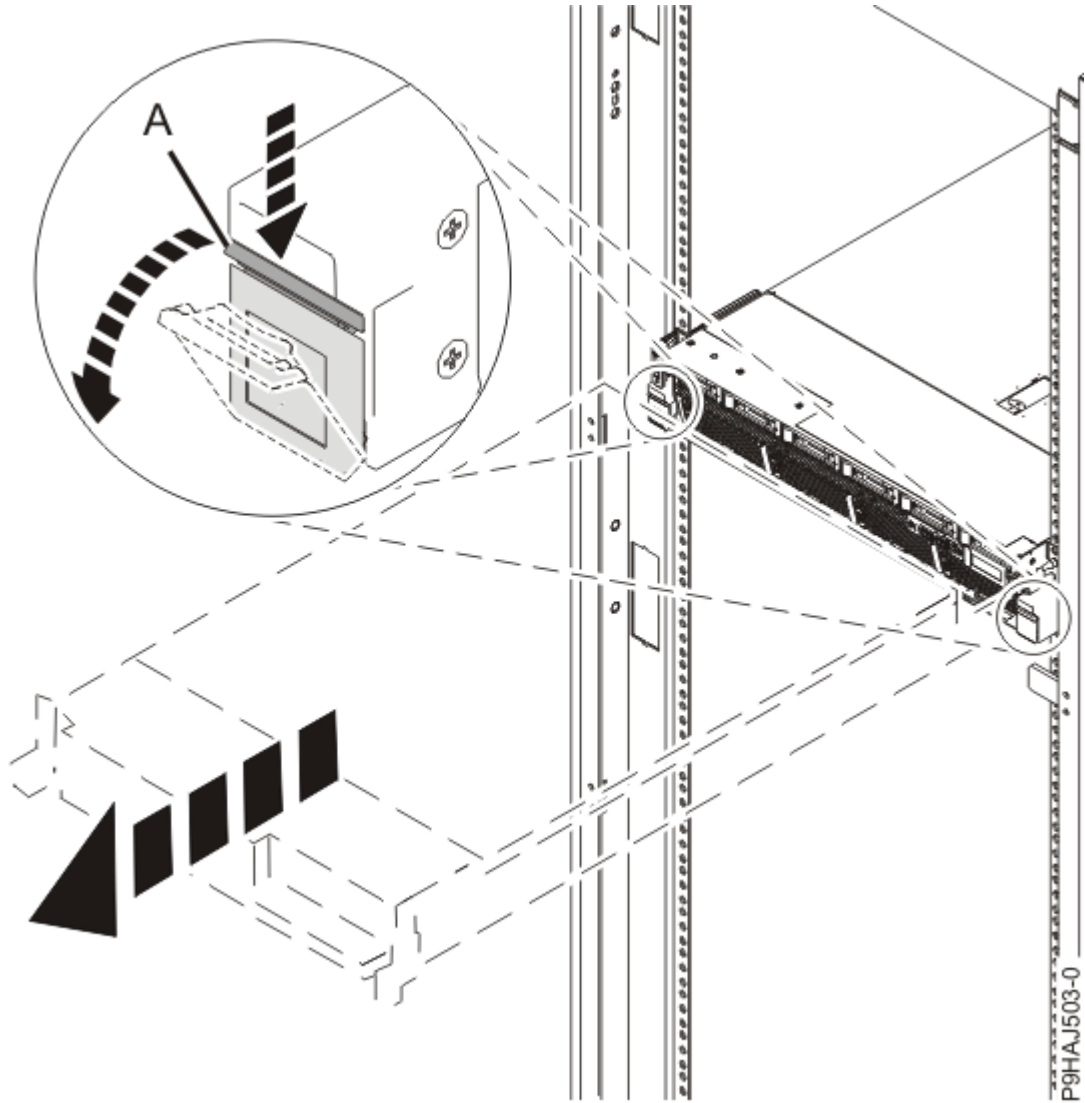


Figure 38. Releasing the side latches

Placing a 5105-22E, 9008-22L, 9009-22A, 9009-22G, 9223-22H, or 9223-22S system into the operating position

Use this procedure to place the rack-mounted 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), or IBM Power System H922S (9223-22S) server into the operating position.

Before you begin



Attention: When you place the system in the operating position, ensure that the cables at the rear of the system do not catch or bind as you push the system unit back into the rack.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Unlock the blue rail safety latches (**A**) by pushing them inward.

Ensure that the cable management arms can move freely. Ensure that the cables at the rear of the unit do not catch or bind as you push the unit into the operating position.

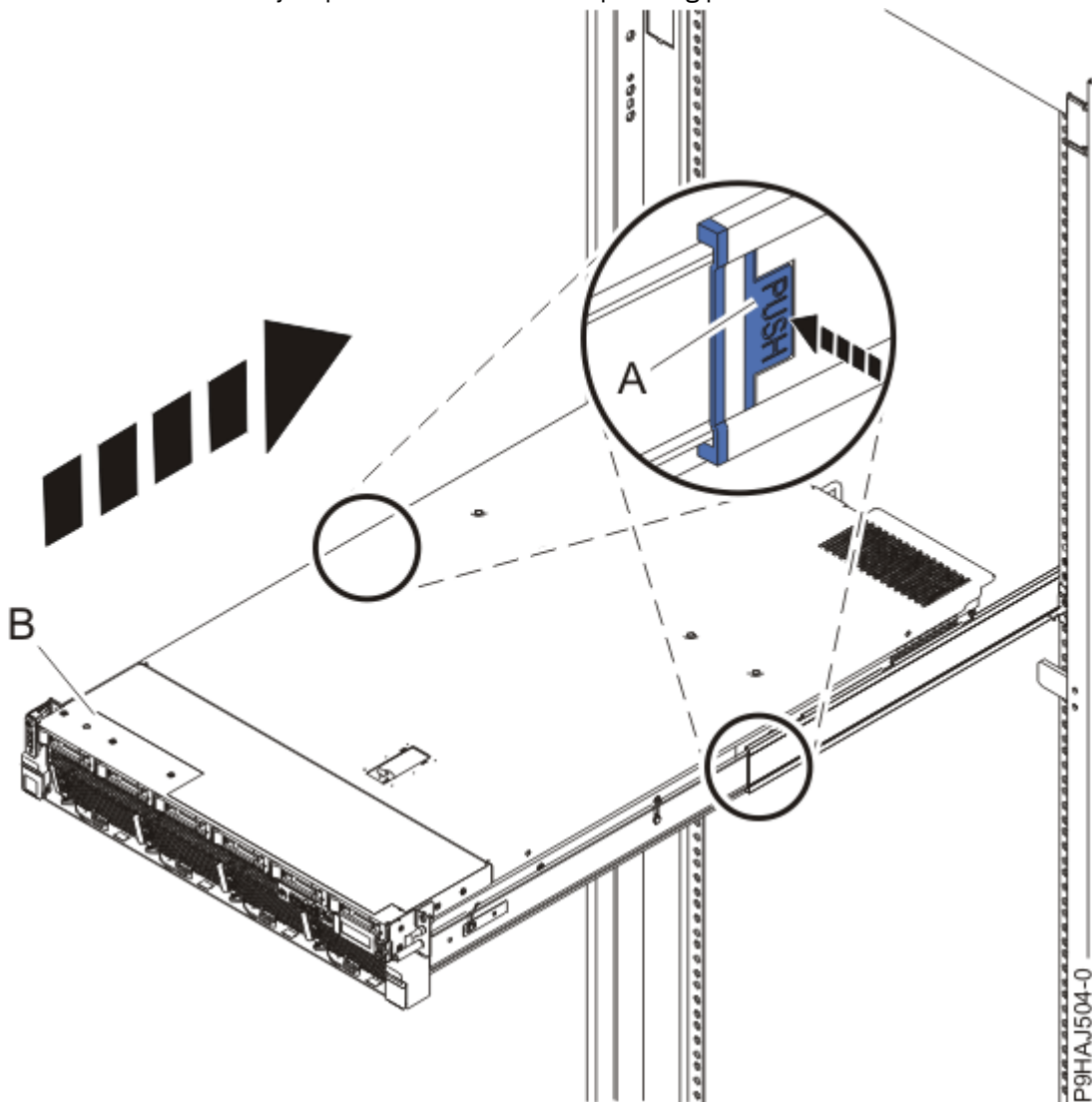


Figure 39. Placing the system into the operating position

3. Push the system unit (**B**) back into the rack until both release latches of the system unit lock into position.

Secure the cable management arm with hook-and-loop fasteners around the back side of the cable management arm, but not around the cables.

Service and operating positions for the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

Use these procedures to place an 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S server into the service or operating position.

Placing a rack-mounted 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system into the service position

Use this procedure to place a server IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) into the service position.

Before you begin



Attention:

- When you place the system into the service position, it is essential that all stability plates are firmly in position to prevent the rack from toppling.
- Ensure that only one system unit is in the service position at a time.
- Ensure that the cables at the rear of the system unit do not catch or bind as you pull the system unit forward in the rack.
- When the rails are fully extended, the rail safety latches lock into place. This action prevents the system from being pulled out too far.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. If you have not already done so, remove the front cover from the system. Hold the indentations **(A)** on the front cover and pull it away from the system. See the following figure.

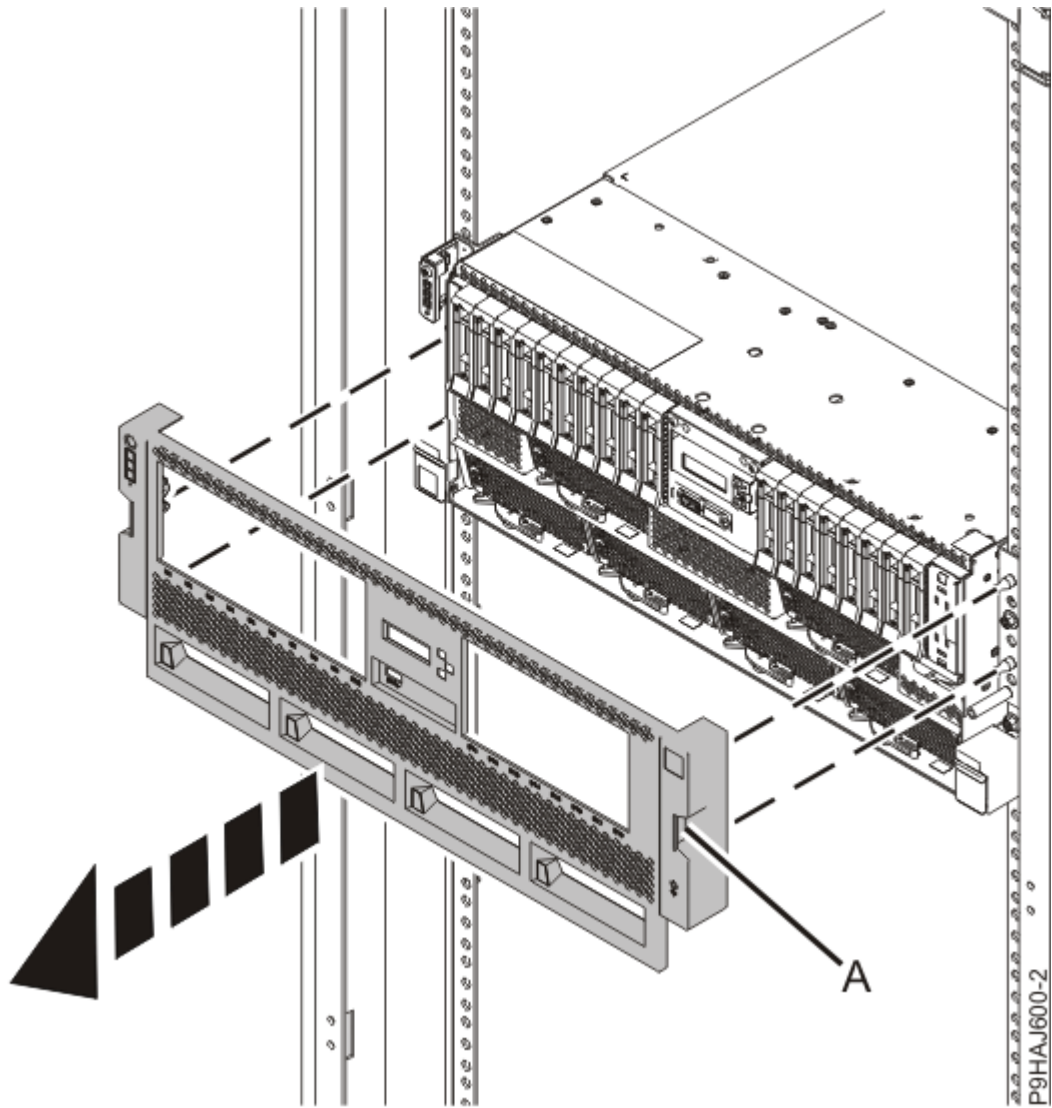


Figure 40. Removing the front cover

3. If not already removed, remove the front screws (**A**) that secure the system unit to the rack. See the following figure.

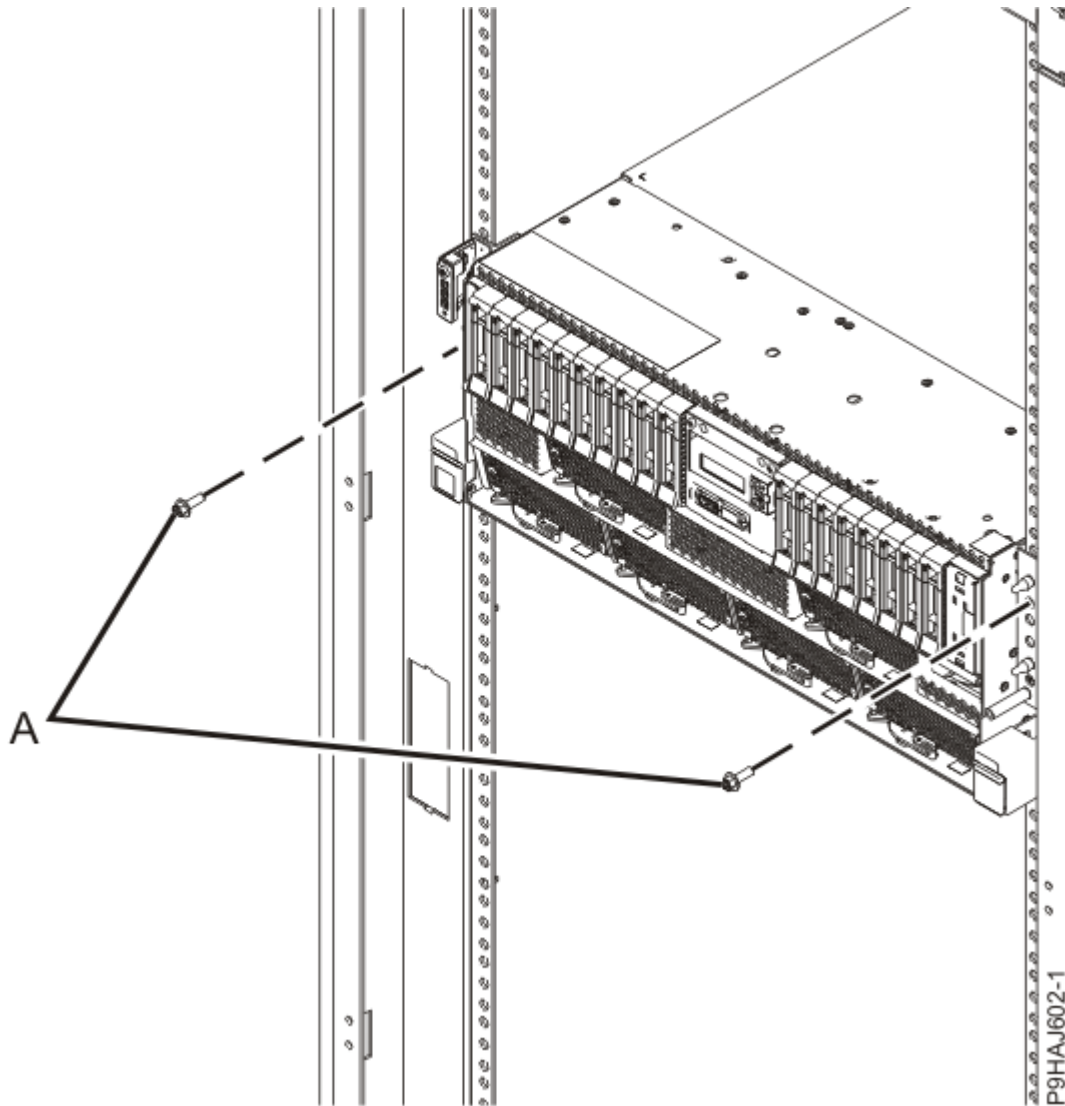


Figure 41. Removing the front screws

4. For a rack-mounted system, open the side latches (**A**) and pull the latches to slide the system unit fully into the service position until the slides click and hold the system unit securely. Ensure that the screws inside the latches are not secured to the rack.

See the following figure.

Remove the hook-and-loop fasteners that secure the cable management arms. Ensure that the cable management arms can move freely. Ensure that the cables at the rear of the system do not catch or bind as you pull the system unit into the service position.

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.

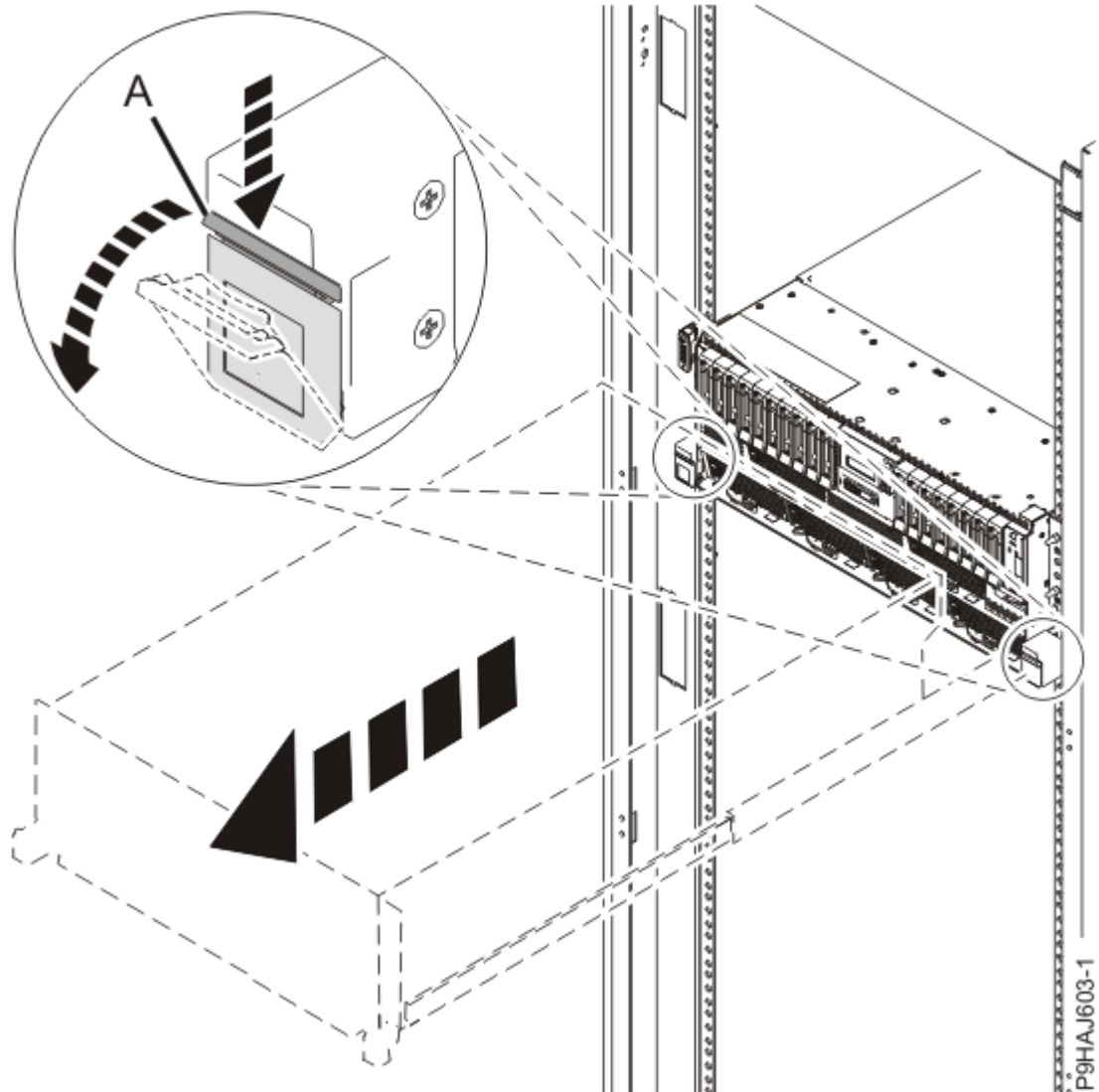


Figure 42. Releasing the side latches

Placing a rack-mounted 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system into the operating position

Use this procedure to place an IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server into the operating position.

Before you begin



Attention: When you place the system in the operating position, ensure that the cables at the rear of the system do not catch or bind as you push the system unit back into the rack.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. For a rack-mounted system, unlock the blue rail safety latches **(A)** as shown in [Figure 43](#) on page 60 by pushing them inward.

Ensure that the cable management arms can move freely. Ensure that the cables at the rear of the unit do not catch or bind as you push the unit into the operating position.

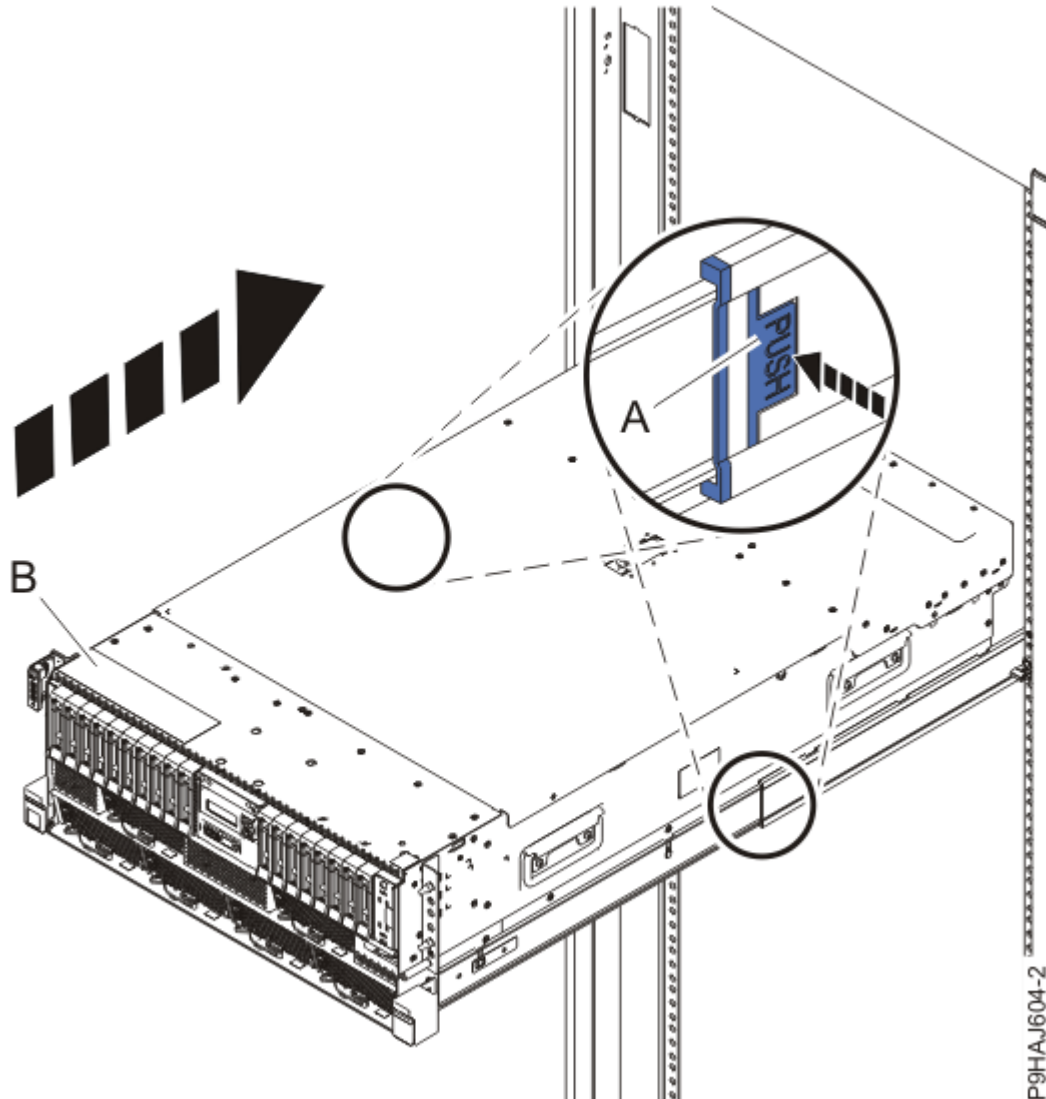


Figure 43. Placing the system into the operating position

3. For a rack-mounted system, push the system unit **(B)** as shown in the previous figure back into the rack until both release latches lock the system into position.

Secure the cable management arm with hook-and-loop fasteners around the back side of the cable management arm, but not around the cables.

Placing a stand-alone 9009-41A or 9009-41G system into the service position to work with the system processor or the system backplane

Use this procedure to place an IBM Power System S914 (9009-41A or 9009-41G) server into the service position to work with the system processor or the system backplane.

Before you begin

The recommended service position for working with the system processor or the system backplane is to lay the system sideways. You do not need to lift the system.



CAUTION: This system requires two people to tip the system onto its side.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Complete the following steps to place a stand-alone system into the service position:
 - a) Label and remove all cables that connect to the system.
 - b) Remove the power supplies from the system to lighten the system.
Refer to [Figure 44](#) on page 62.

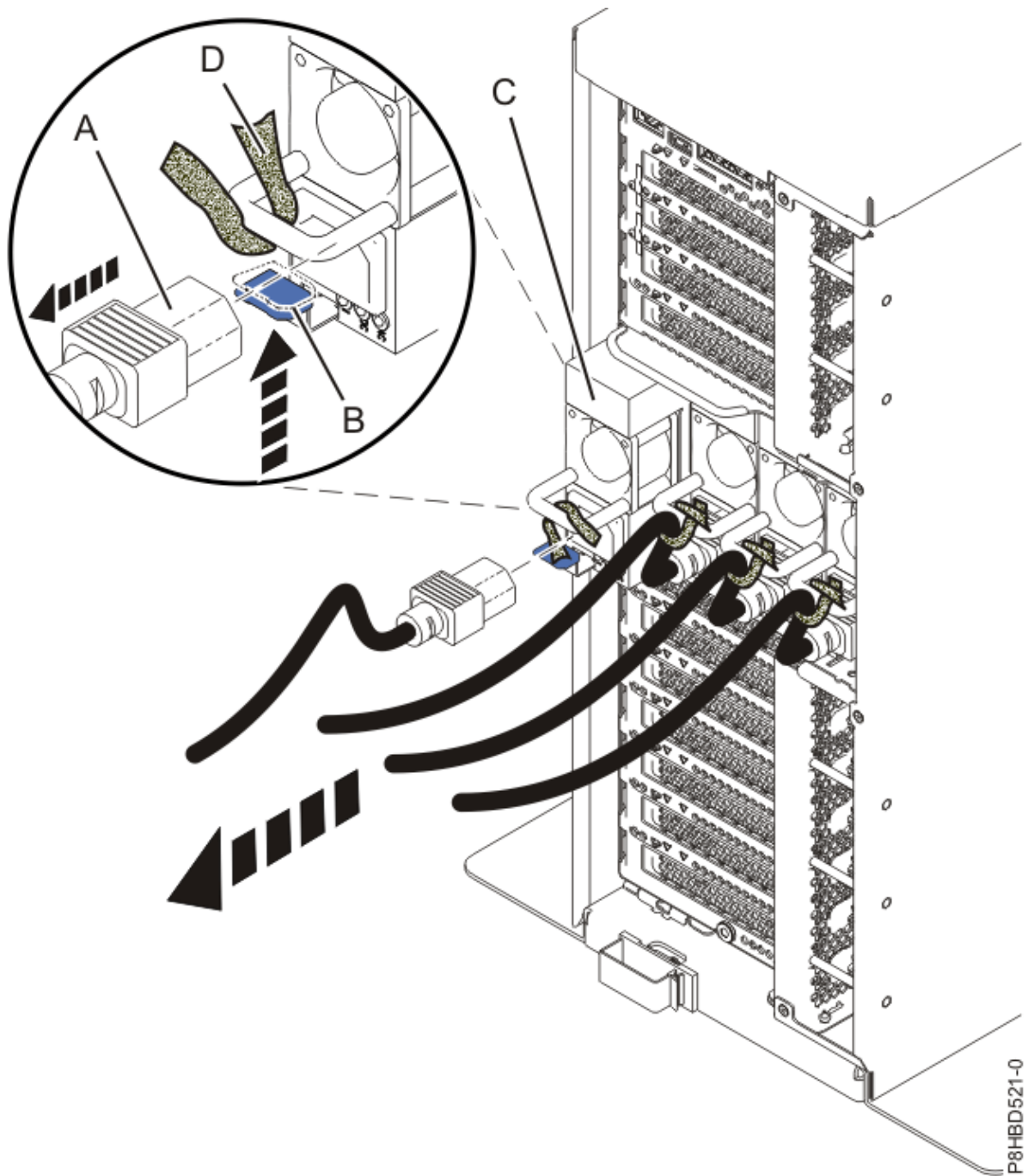
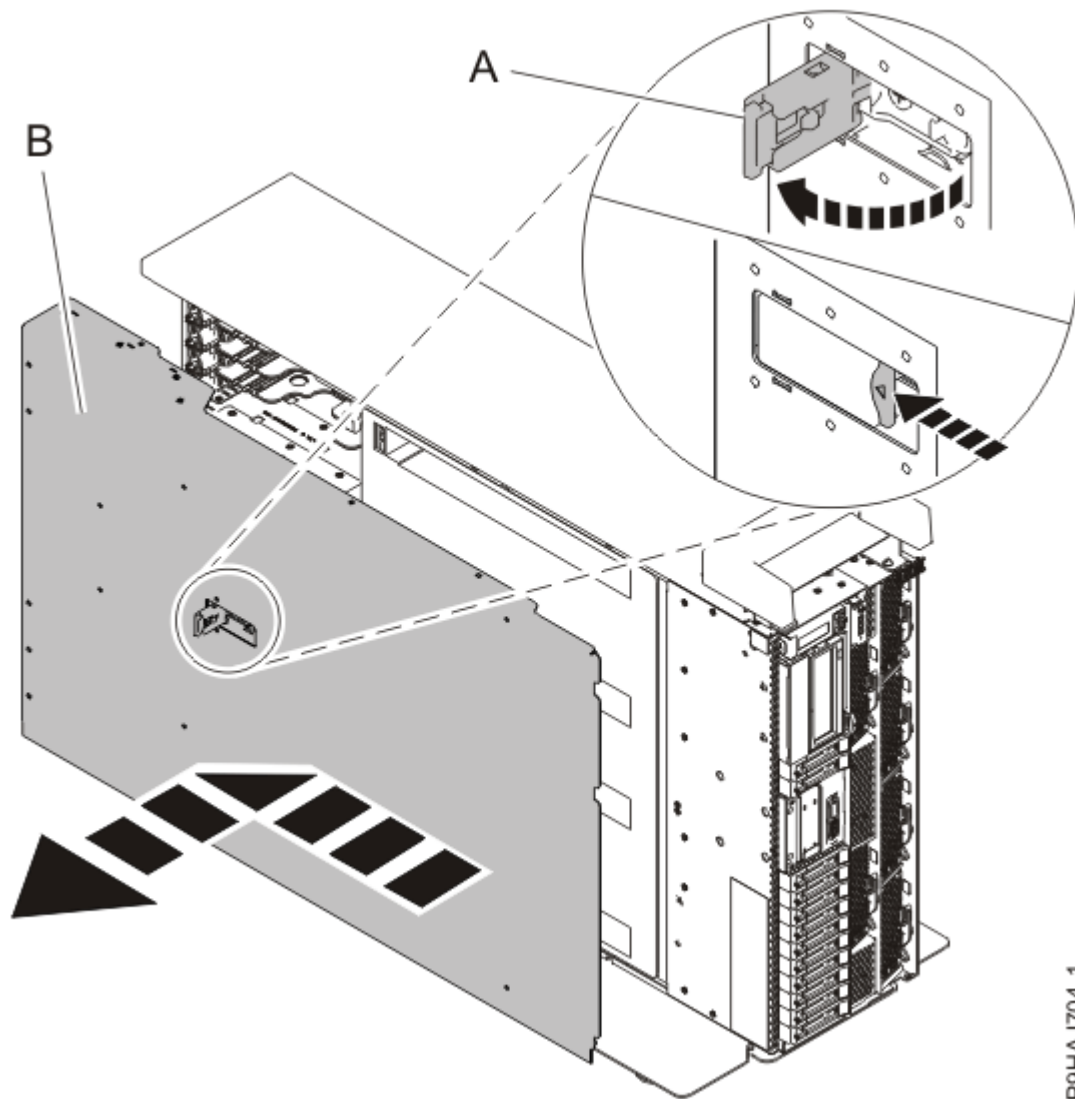


Figure 44. Removing the power supplies

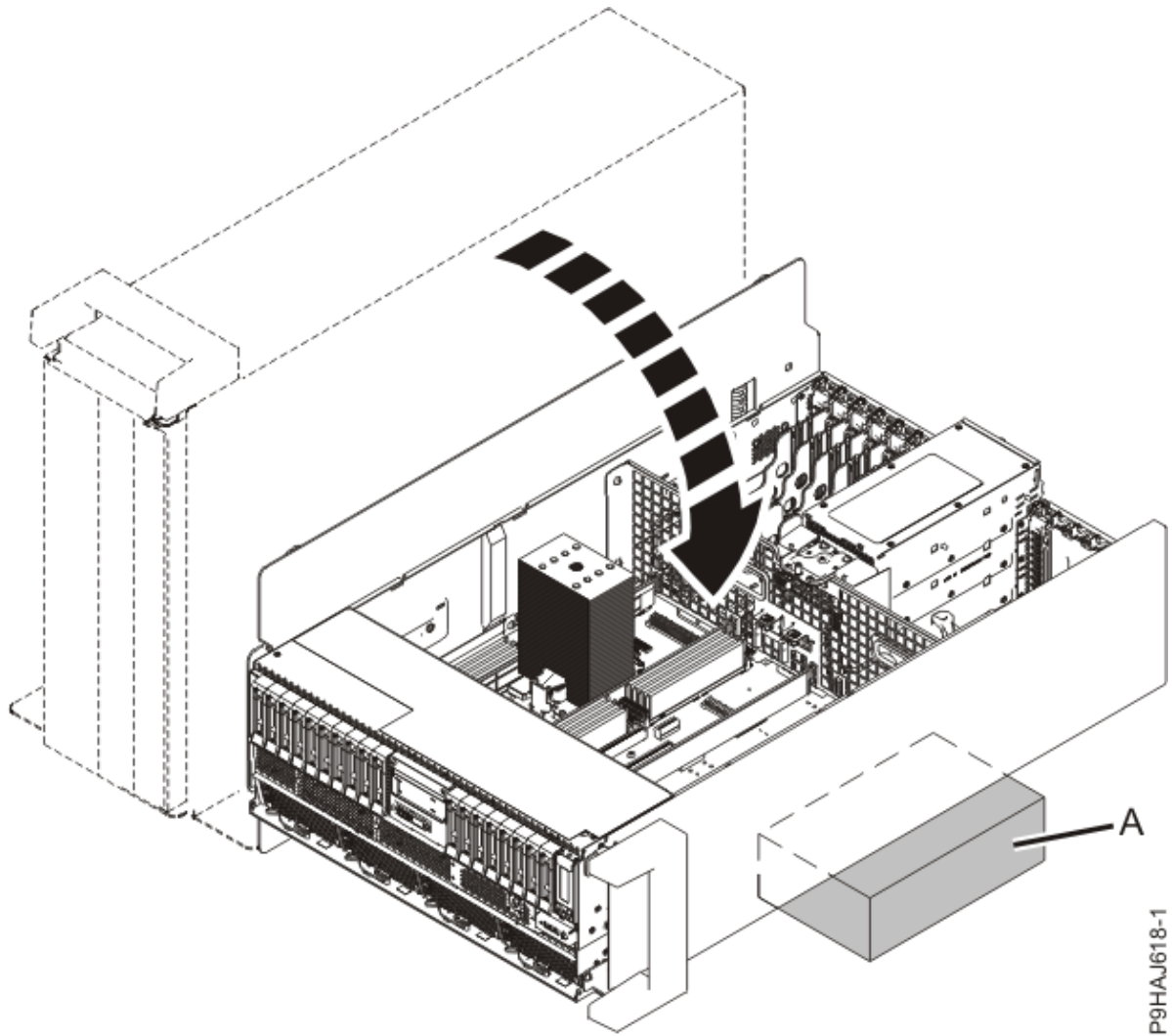
- 1) Label the power cord, and then unstrap the hook-and-loop fastener **(D)** to release the power cord **(A)** from the power supply handle. Retain the hook-and-loop fastener for future use.
 - 2) Pull the power cord **(A)** out of the power supply **(C)** in the direction shown. Pull the power cord connector; do not pull the cord itself.
 - 3) To unseat the power supply from its position in the system, push the locking-tab **(B)** in the direction shown.
 - 4) Using the handle **(E)**, pull the power supply **(C)** away from the system.
 - 5) Repeat steps “2.b.i” on page 62 - “2.b.iv” on page 62 for each power supply.
- c) Remove the side cover.
Refer to [Figure 45](#) on page 63.



P9HAJ704-1

Figure 45. Removing the service access cover

- 1) Release the latch by pushing the release latch **(A)** in the direction shown.
 - 2) Slide the cover **(B)** off the system unit. When the front of the service access cover has cleared the upper frame ledge, lift the cover up and off the system unit.
- d) Carefully tilt the stand-alone system from its vertical position to lay it in a horizontal position. Position the system with the open service area up, and with a 3 cm (1.5") support **(A)** along its top edge, as shown in [Figure 46 on page 64](#).
The support **(A)** is used to prevent the plastic handle from being damaged.



P9HAJ618-1

Figure 46. Tilting the stand-alone system to a horizontal position

Placing a stand-alone 9009-41A or 9009-41G system into the operating position after you work with the system processor or the system backplane

Use this procedure to place an IBM Power System S914 (9009-41A or 9009-41G) server into the operating position after you work with the system processor or the system backplane.

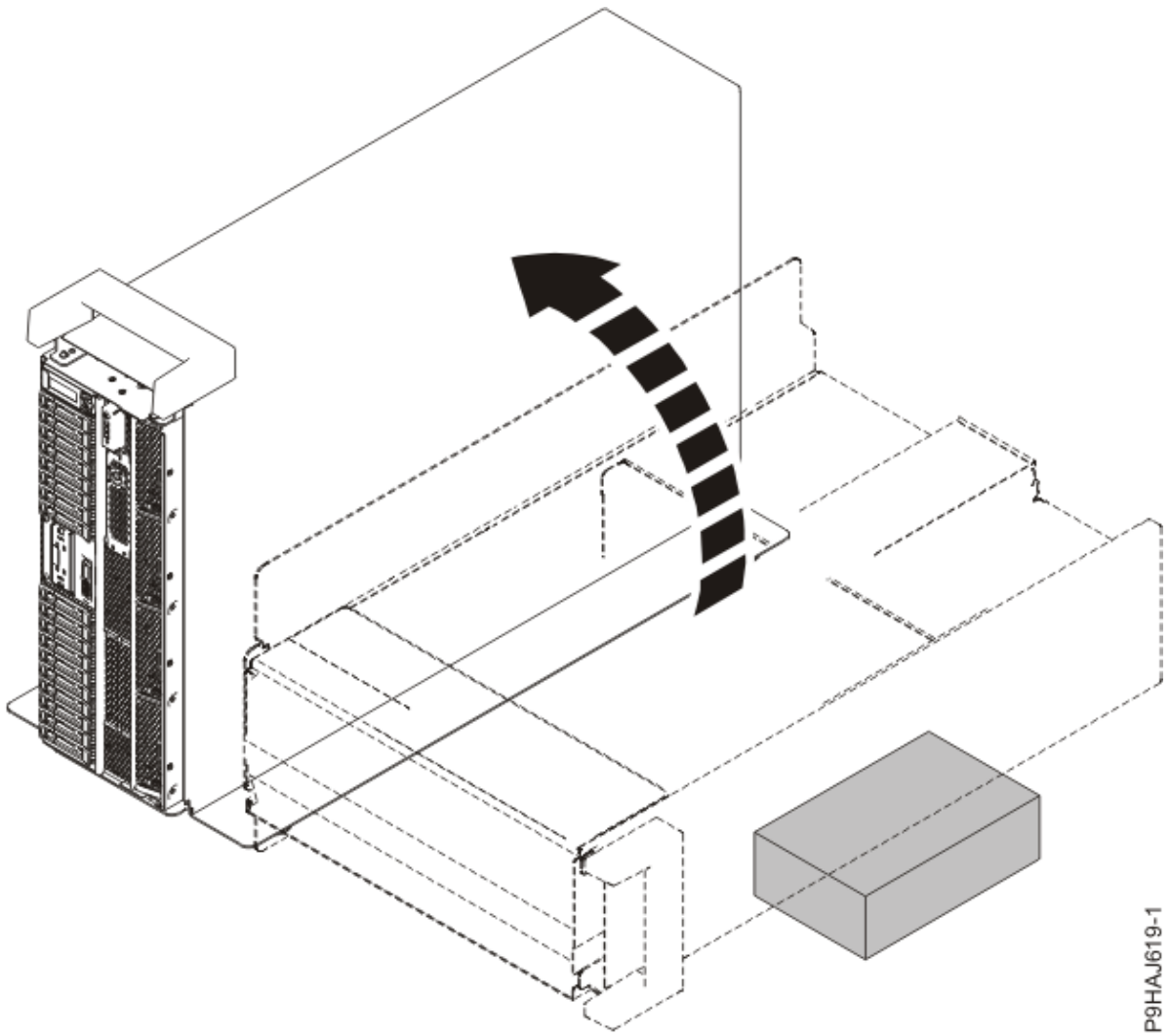
Before you begin



CAUTION: This system requires two people to tip the system upright.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Complete the following steps to place a stand-alone system into the operating position:
 - a) Carefully tilt the stand-alone system from its horizontal position back to its vertical position. See [Figure 47 on page 65](#).

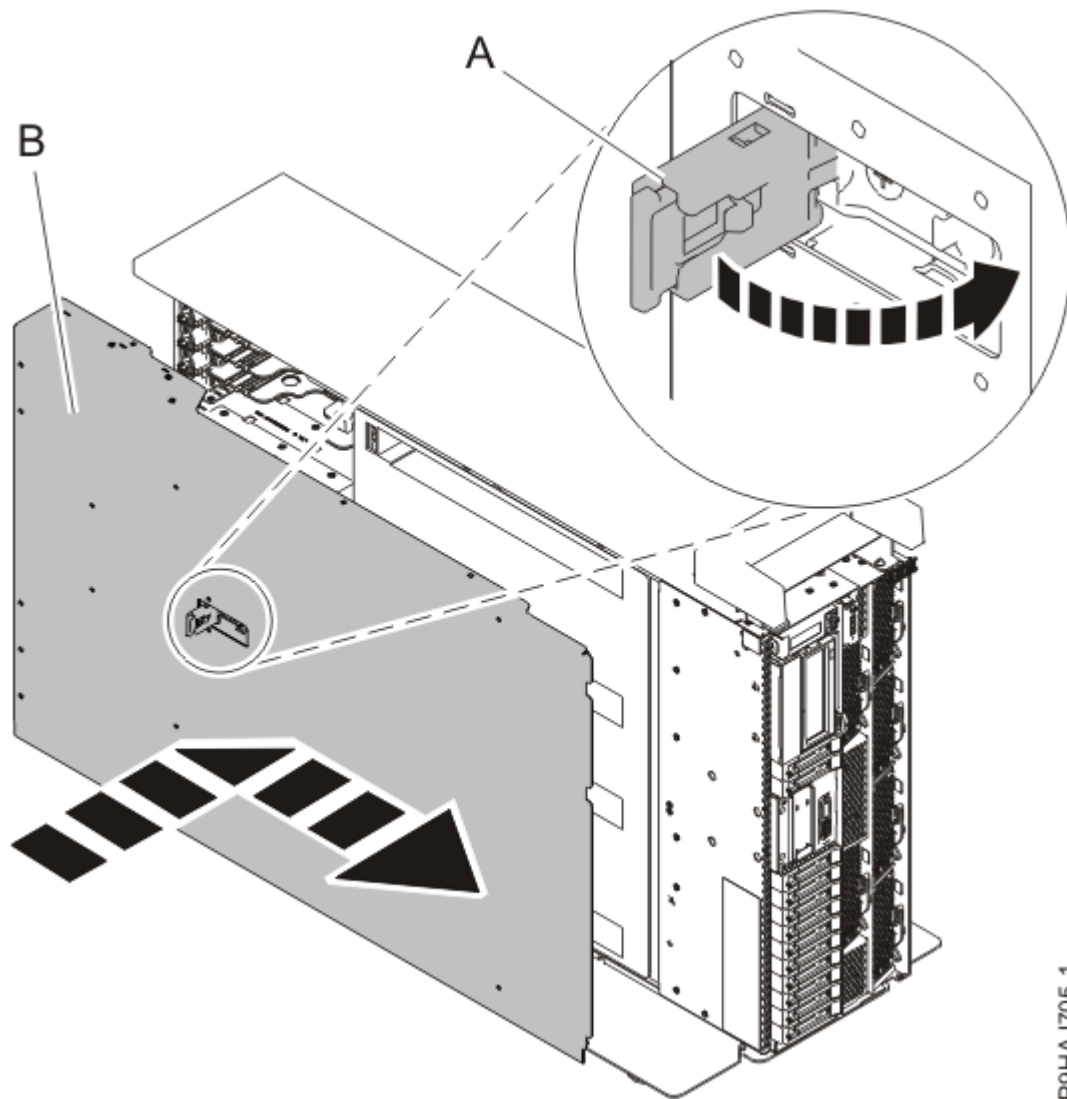


P9HAJ619-1

Figure 47. Moving the stand-alone system to the vertical position

b) Replace the side cover.

Refer to [Figure 48](#) on page 66.



P9HAJ705-1

Figure 48. Installing the service access cover

- 1) Slide the cover (**B**) on to the system unit as shown.
- 2) Close the latch release (**A**) by pushing it in the direction shown.
- c) Replace the power supplies into the system.
Refer to [Figure 49](#) on page 67.

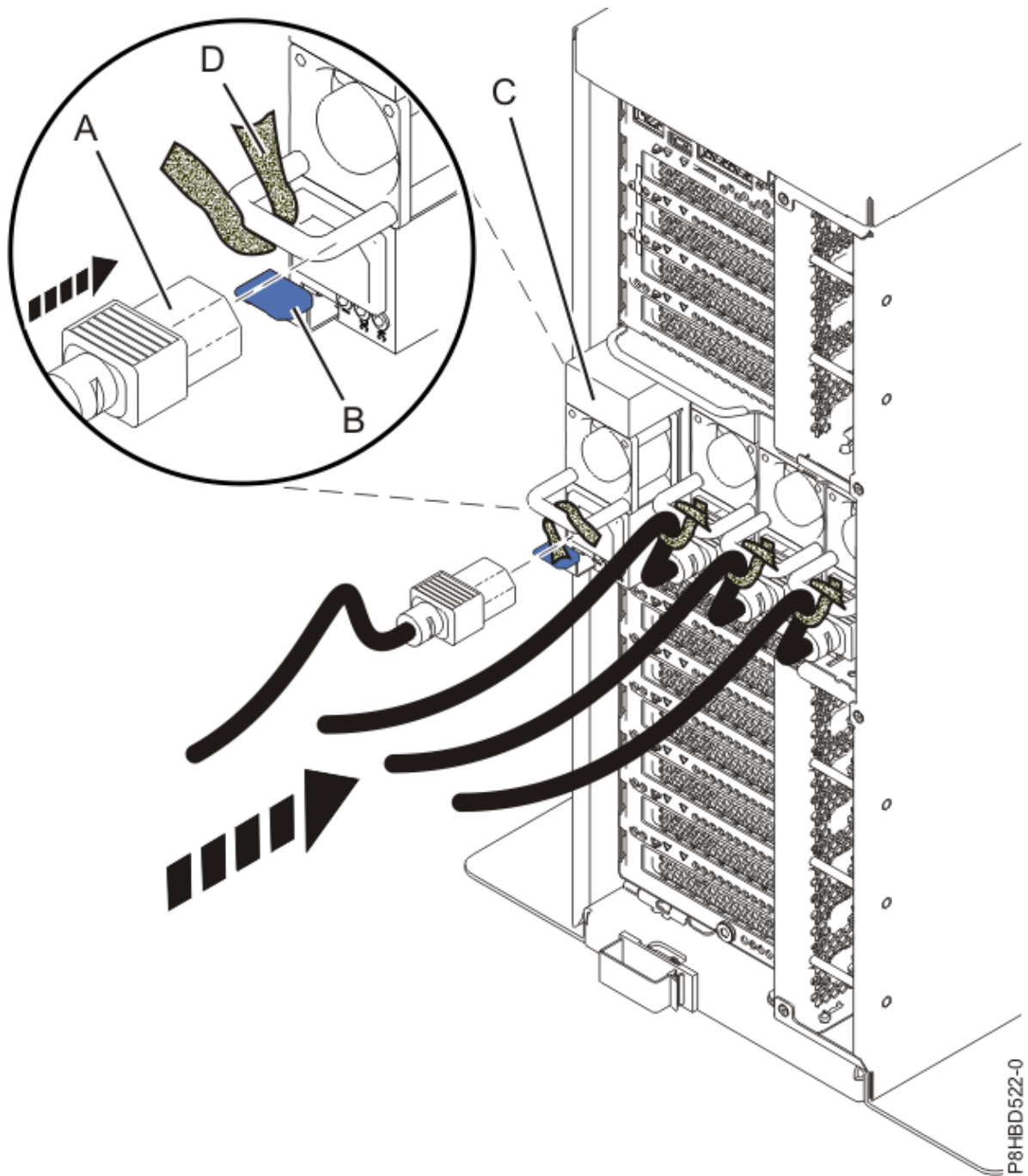


Figure 49. Replacing a power supply

- 1) Align the power supply (**C**) with the bay and slide the power supply into the system until the latch (**B**) locks in place.
- 2) Connect the power cord (**A**) to the power supply (**C**).
- 3) Use the hook-and-loop fastener (**D**) and tie the power cord to the power supply handle.
- d) Using your labels, replace the cables that connected to the system.

Service and operating positions for a 9040-MR9 system

Use these procedures to place an IBM Power System E950 (9040-MR9) server into the service or operating position.

Placing a 9040-MR9 system into the service position

Use this procedure to place an IBM Power System E950 (9040-MR9) system into the service position.

Before you begin



Attention:

- When you place the system into the service position, it is essential that all stability plates are firmly in position to prevent the rack from toppling.
- Ensure that only one system unit is in the service position at a time.
- Ensure that the cables at the rear of the system unit do not catch or bind as you pull the system unit forward in the rack.
- When the rails are fully extended, the rail safety latches lock into place. This action prevents the system from being pulled out too far.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Label and disconnect all external cables that are attached to the PCIe adapters.
3. If you have not already done so, remove the front cover from the system. For instructions, see [“Removing the front cover from a 9040-MR9 system” on page 48.](#)
4. Complete the following steps to place the system in the service position.

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.



- a. If not already removed, remove the shipping screws **(A)** as shown in the following figure by using a Phillips screwdriver.
- b. Release the side latches **(B)** by pressing them downward as shown in the following figure.
- c. Pull out the system **(C)** as shown in the following figure. Ensure that any cables do not catch or bind as you pull out the system.

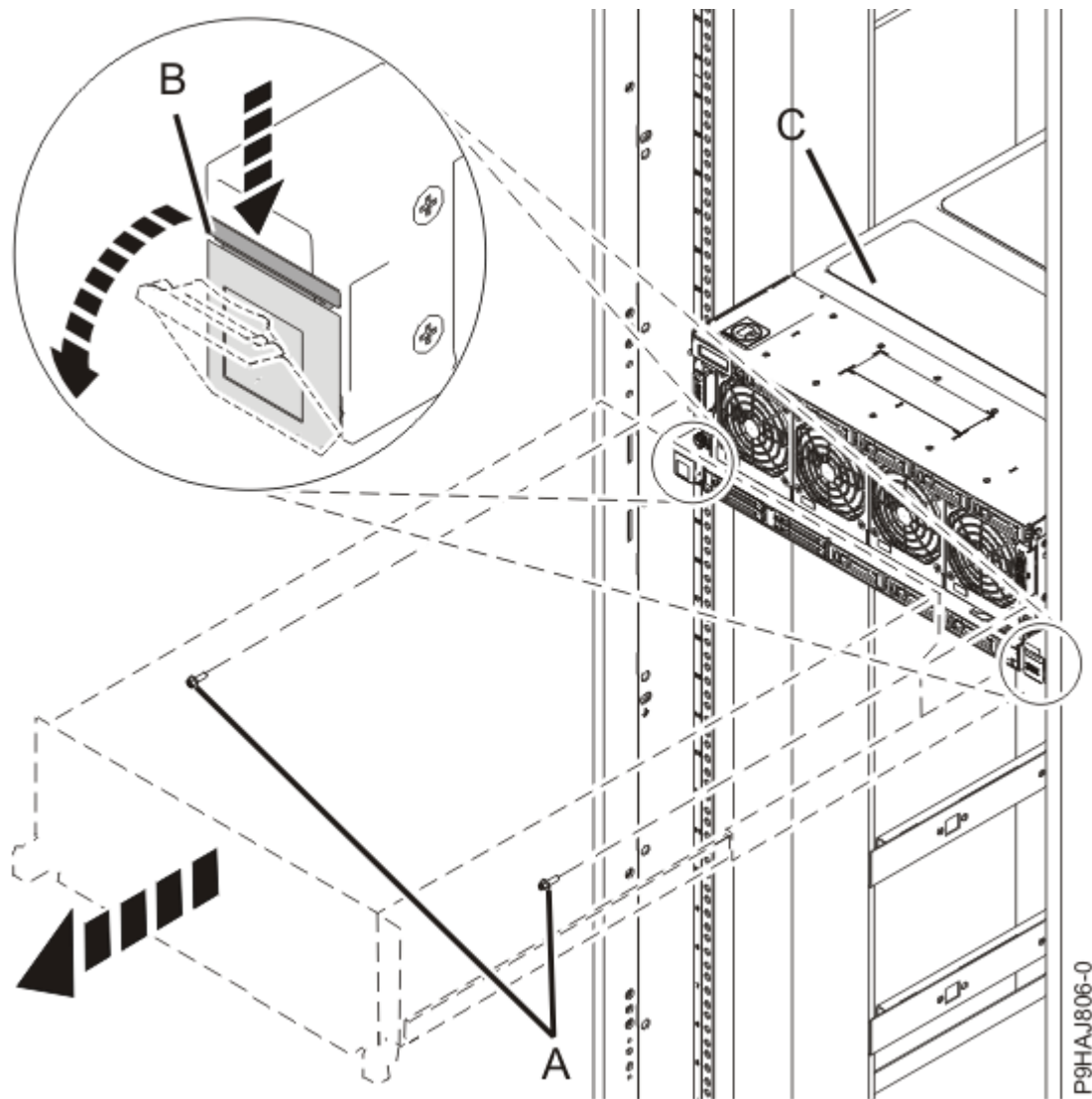


Figure 50. Placing the system in service position

Placing a 9040-MR9 system into the operating position

Use this procedure to place an IBM Power System E950 (9040-MR9) system into the operating position.

Before you begin



Attention: When you place the system in the operating position, ensure that the cables at the rear of the system do not catch or bind as you push the system unit back into the rack.

Procedure

1. Ensure that you have the electrostatic discharge (ESD) wrist strap on and that the ESD clip is plugged into a ground jack or connected to an unpainted metal surface. If not, do so now.
2. Complete the following steps to place the system in the operating position.
 - a. Unlock the blue rail safety latches (**A**) by pushing them towards the front as shown in the following figure.
 - b. Push the system unit back into the rack as shown in the following figure until both release latches of the system unit lock into position. Ensure that any cables do not catch or bind as you push in the system.

Note: Slide the system unit slowly into the rack to ensure that your fingers do not get caught in the side rails.

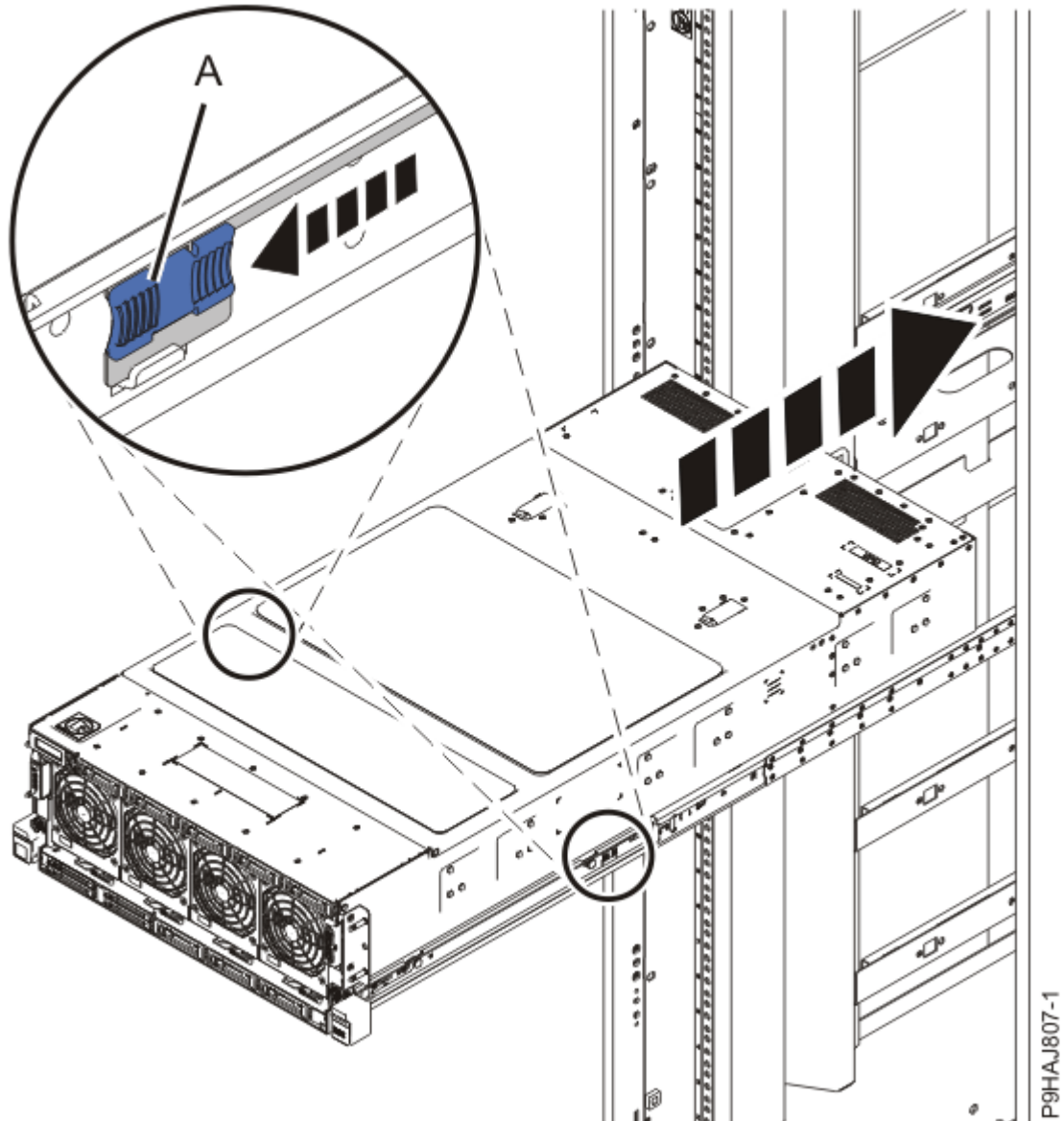


Figure 51. Placing the system into the operating position

3. Using your labels, reconnect all of the external cables that plug into the PCIe adapters.

Power cords

Use these procedures to disconnect and connect the power cords in IBM Power Systems servers.

Disconnecting power cords

Use these procedures to disconnect the power cords from 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), IBM Power System H922S (9223-22S), IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

Disconnecting the power cords from the 5105-22E, 9008-22L, 9009-22A, 9009-22G, 9223-22H, or 9223-22S system

Use this procedure to disconnect the power cords from the 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), or IBM Power System H922S (9223-22S) server.

Procedure

1. If applicable, open the rack door at the rear of the system unit that you are servicing.
2. Identify the system unit that you are servicing in the rack.
3. Label and disconnect the power cords from the system unit.

See [Figure 52](#) on page 71.

Notes:

- This system might be equipped with two or more power supplies. If the removing and replacing procedures require the system power to be turned off, ensure that all the power sources to the system are disconnected.
- The power cord (**B**) is fastened to the system with hook-and-loop fastener (**A**). If you are placing the system in a service position after you disconnect the power cords, ensure that you unstrap the fastener.

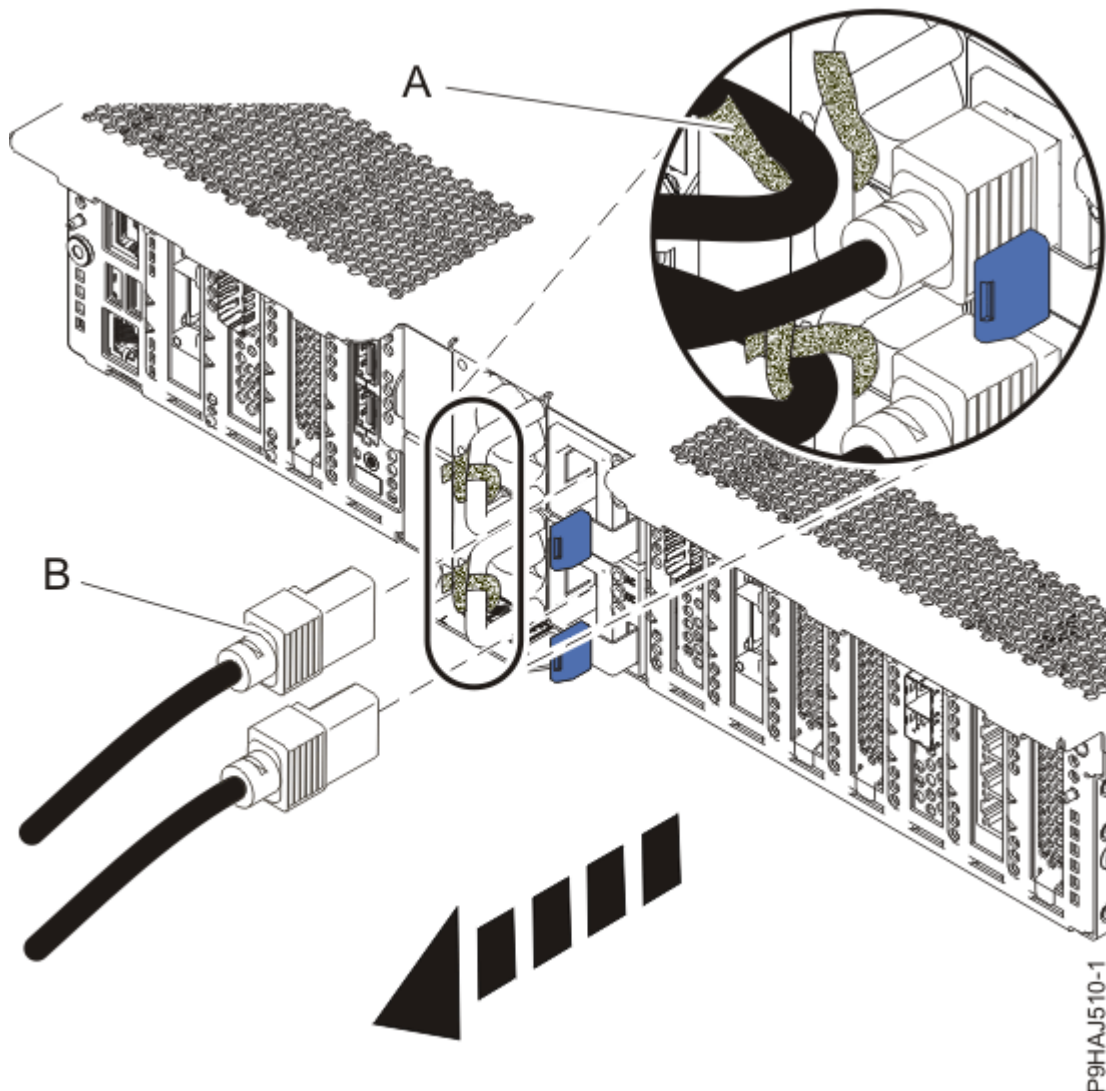
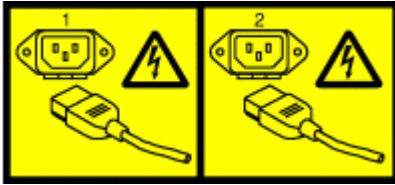


Figure 52. Removing the power cords

(L003)



or



or

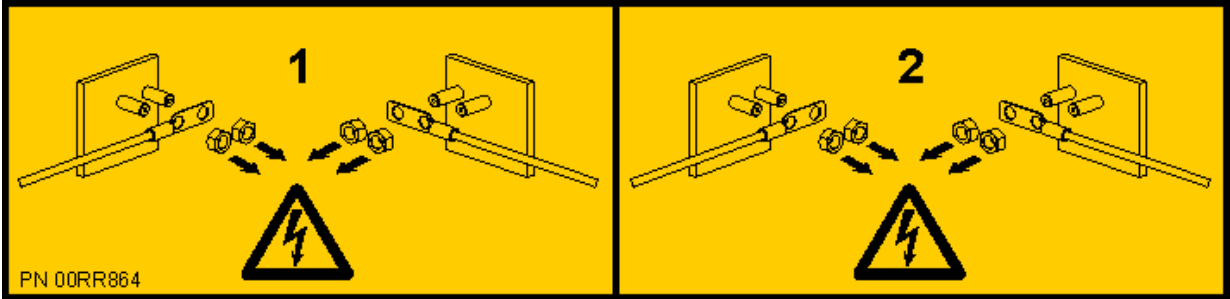
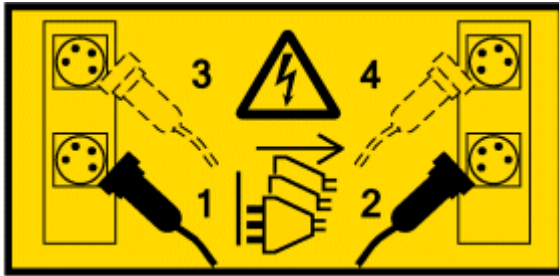


or



or





DANGER: Multiple power cords. The product might be equipped with multiple AC power cords or multiple DC power cables. To remove all hazardous voltages, disconnect all power cords and power cables. (L003)

Disconnecting the power cords from the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

Use this procedure to disconnect the power cords from the IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

Procedure

1. If applicable, open the rack door at the rear of the system unit that you are servicing.
2. Identify the system unit that you are servicing in the rack.
3. Label and disconnect the power cords from the system unit.

See [Figure 53 on page 74](#) or [Figure 54 on page 75](#).

Notes:

- This system might be equipped with two or more power supplies. If the removing and replacing procedures require the system power to be turned off, ensure that all the power sources to the system are disconnected.
- The power cord (**B**) is fastened to the system with hook-and-loop fastener (**A**). If you are placing the system in a service position after you disconnect the power cords, ensure that you unstrap the fastener.

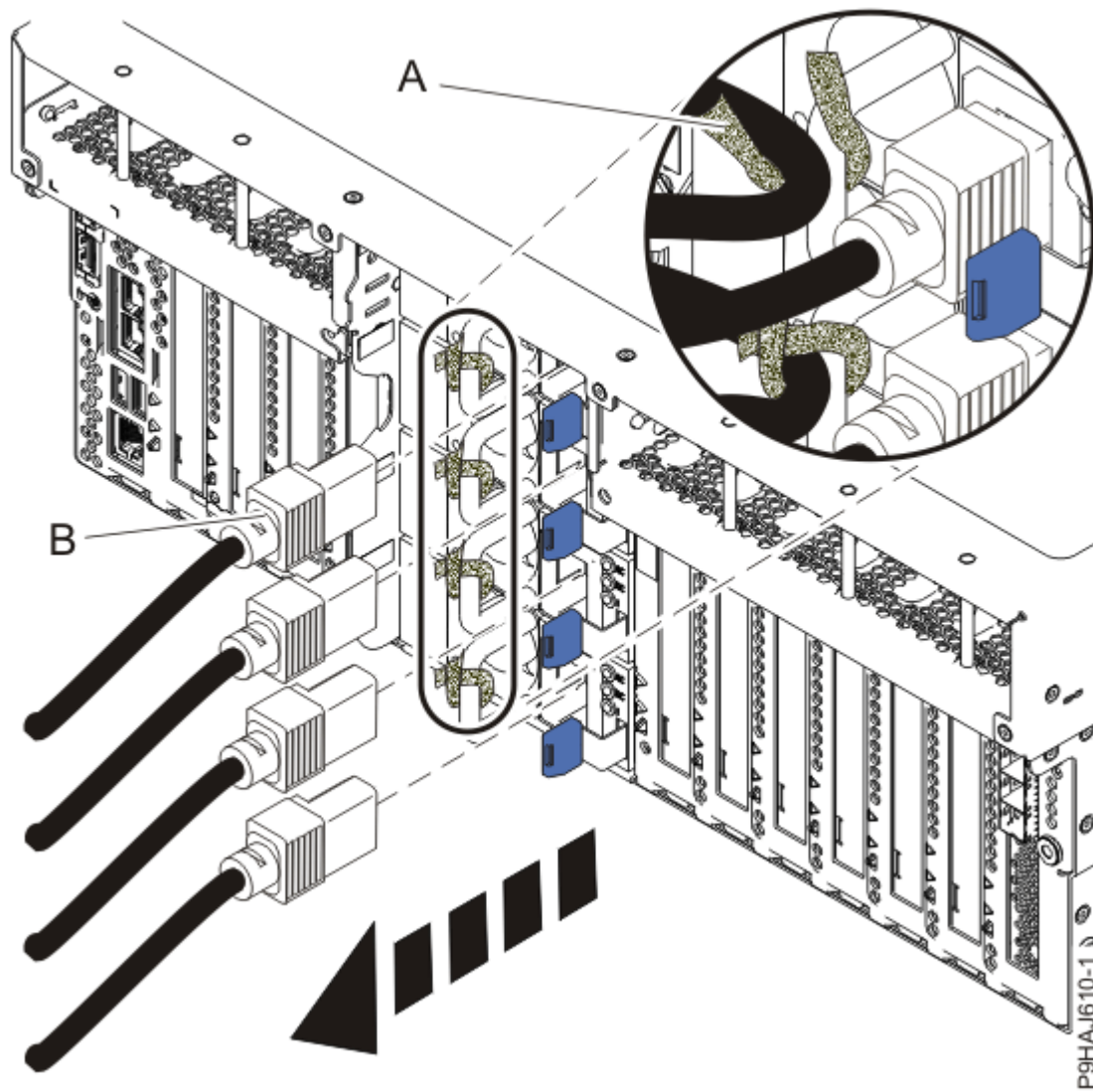


Figure 53. Removing the power cords from a rack-mounted server

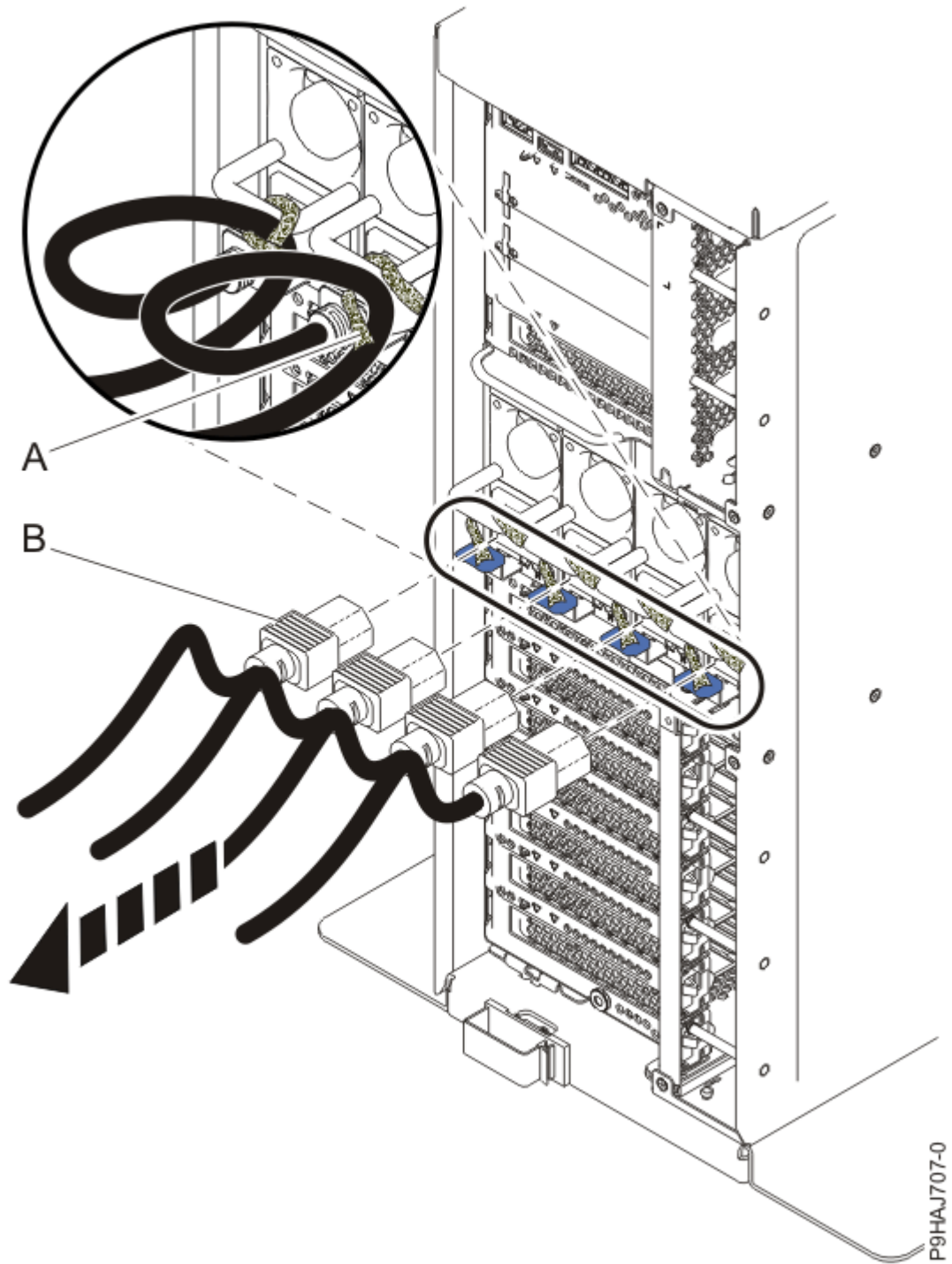
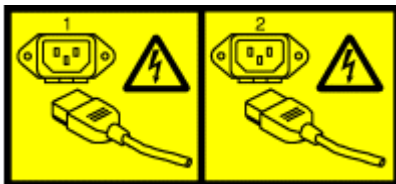


Figure 54. Removing the power cords from a stand-alone server

(L003)



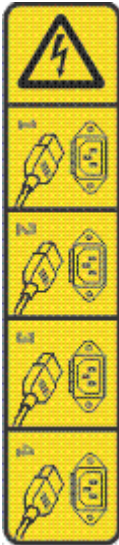
or



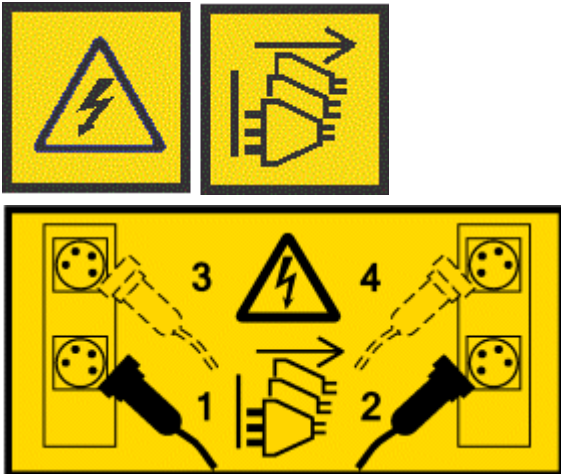
or

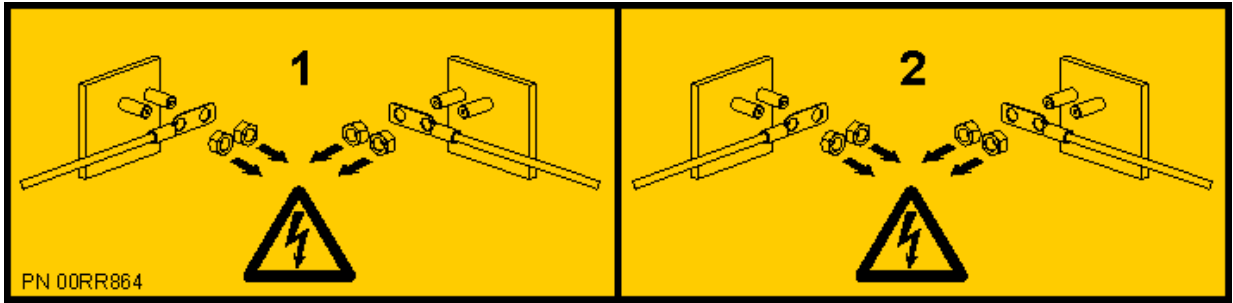


or



or





DANGER: Multiple power cords. The product might be equipped with multiple AC power cords or multiple DC power cables. To remove all hazardous voltages, disconnect all power cords and power cables. (L003)

Disconnecting the power cords from the 9040-MR9 system

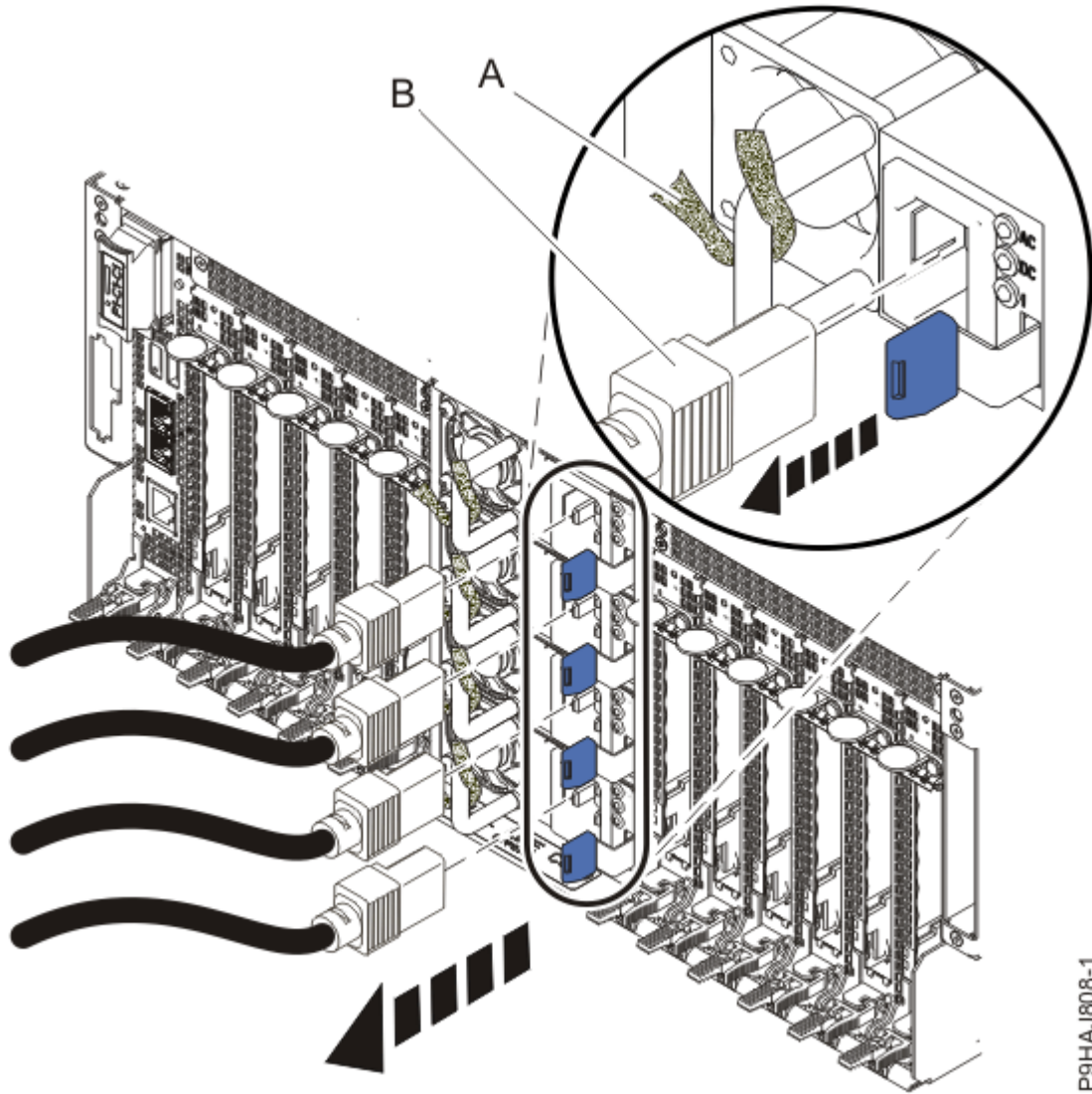
Use this procedure to disconnect the power cords from an IBM Power System E950 (9040-MR9) server.

Procedure

1. If applicable, open the rack door at the rear of the system.
2. Identify the system unit that you are servicing in the rack.
3. Label and disconnect the power cords from the system unit as shown in the following figure.

Notes:

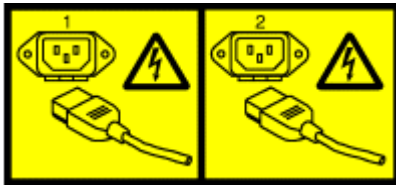
- This system might be equipped with two or more power supplies. If the removing and replacing procedures require the system power to be turned off, ensure that all power sources to the system are disconnected.
- The power cord (**B**) is fastened to the system with a hook-and-loop fastener (**A**). If you are placing the system in a service position after you disconnect the power cords, ensure that you unstrap the fastener.



P9HAJ808-1

Figure 55. Removing the power cords

(L003)



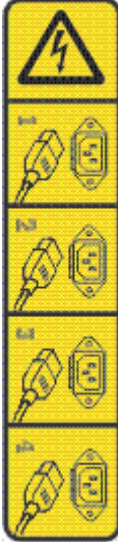
or



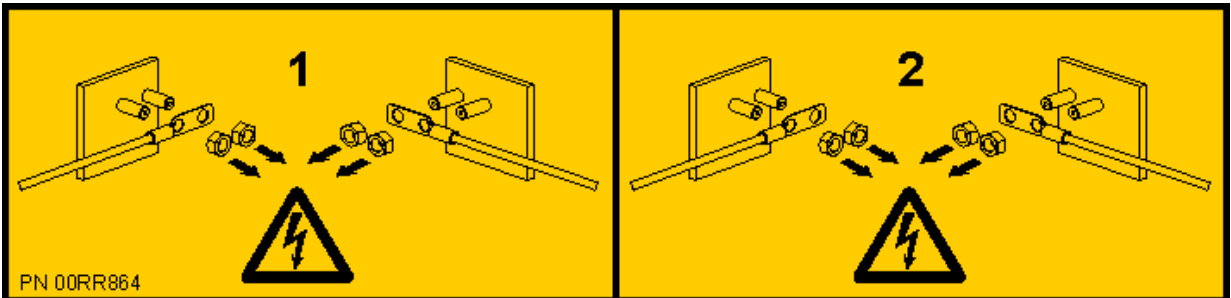
or



or



or



DANGER: Multiple power cords. The product might be equipped with multiple AC power cords or multiple DC power cables. To remove all hazardous voltages, disconnect all power cords and power cables. (L003)

Connecting power cords

Use these procedures to connect the power cords to an 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), IBM Power System H922S (9223-22S), IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

Connecting the power cords to the 5105-22E, 9008-22L, 9009-22A, 9009-22G, 9223-22H, or 9223-22S system

Use this procedure to connect the power cords to the 5105-22E, IBM Power System L922 (9008-22L), IBM Power System S922 (9009-22A and 9009-22G), IBM Power System H922 (9223-22H), or IBM Power System H922S (9223-22S) server.

Procedure

1. If applicable, open the rack door at the rear of the system unit that you are servicing.
2. Using your labels, reconnect the power cords **(A)** to the system unit.
Fasten the power cords to the system using the hook-and-loop fasteners **(B)** as shown in [Figure 56](#) on [page 80](#).

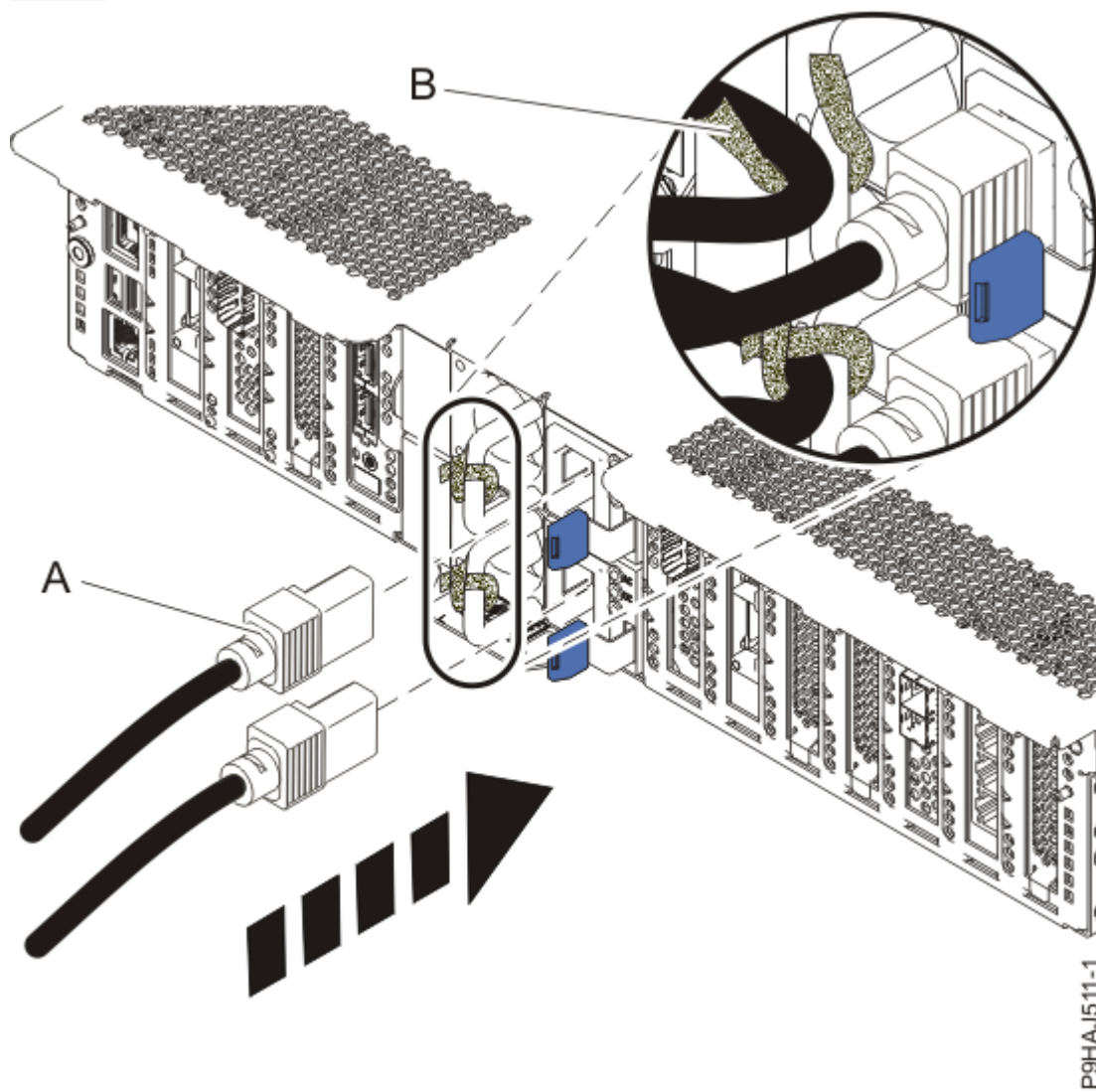


Figure 56. Connecting the power cords

3. Close the rack door at the rear of the system.

Connecting the power cords to the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

Use this procedure to connect the power cords to the IBM Power System S914 (9009-41A and 9009-41G), IBM Power System S924 (9009-42A and 9009-42G), IBM Power System H924 (9223-42H), or IBM Power System H924S (9223-42S) server.

Procedure

1. If applicable, open the rack door at the rear of the system unit that you are servicing.
2. Using your labels, reconnect the power cords **(A)** to the system unit.

Fasten the power cords **(A)** to the system using the hook-and-loop fasteners **(B)** as shown in [Figure 57](#) on page 81 or [Figure 58](#) on page 82.

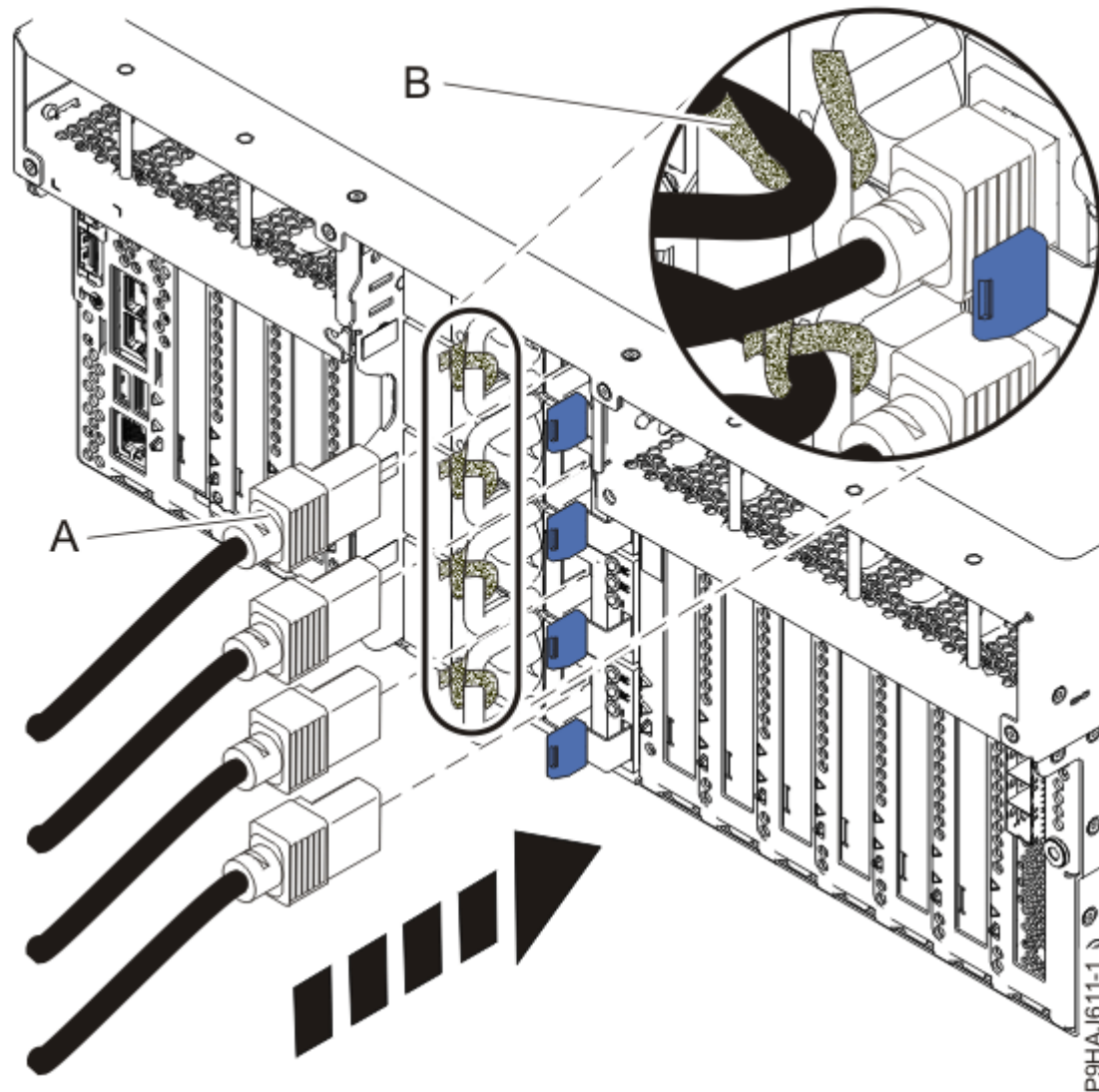


Figure 57. Connecting the power cords to a rack-mounted system

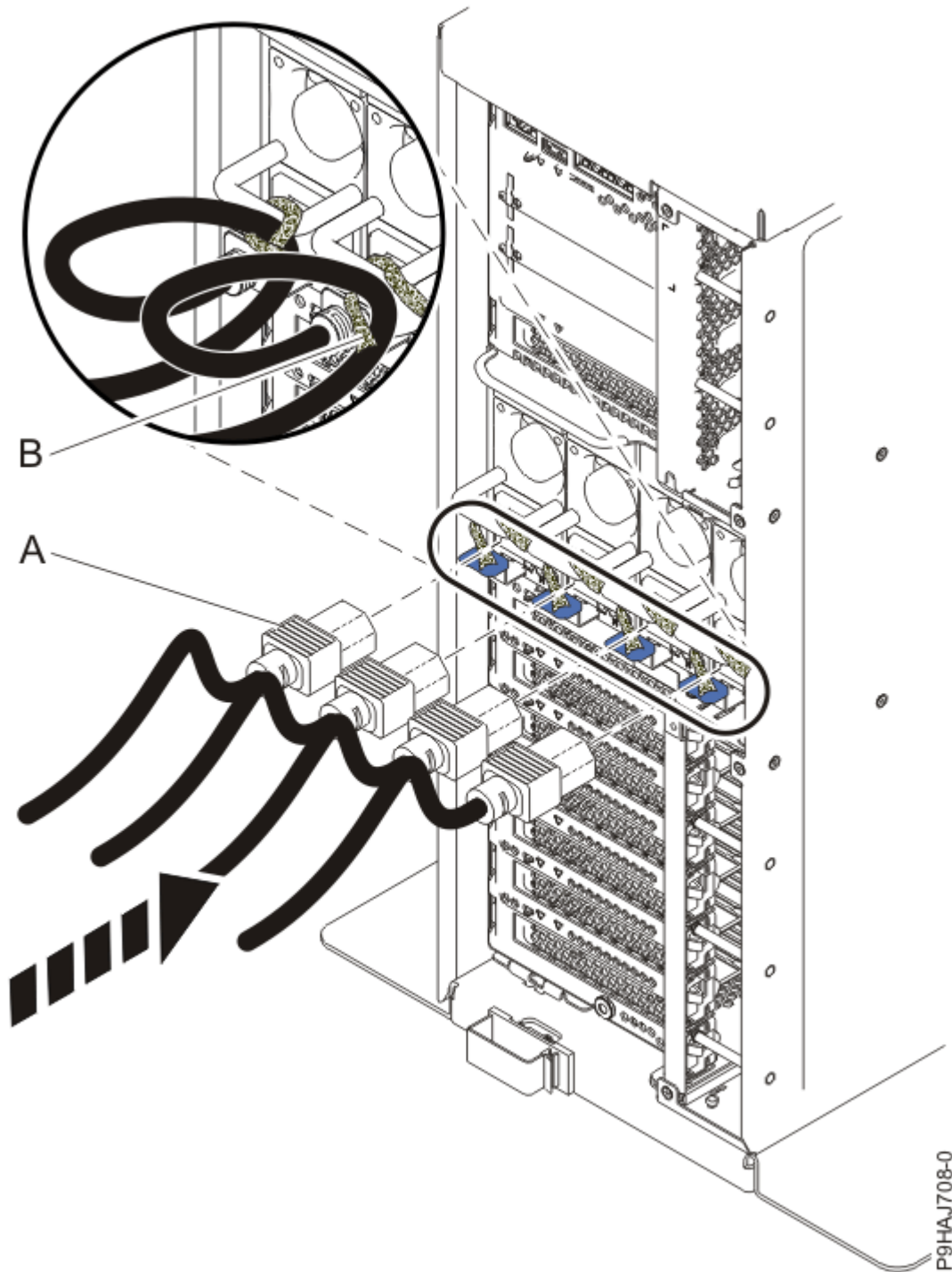


Figure 58. Connecting the power cords to a stand-alone system

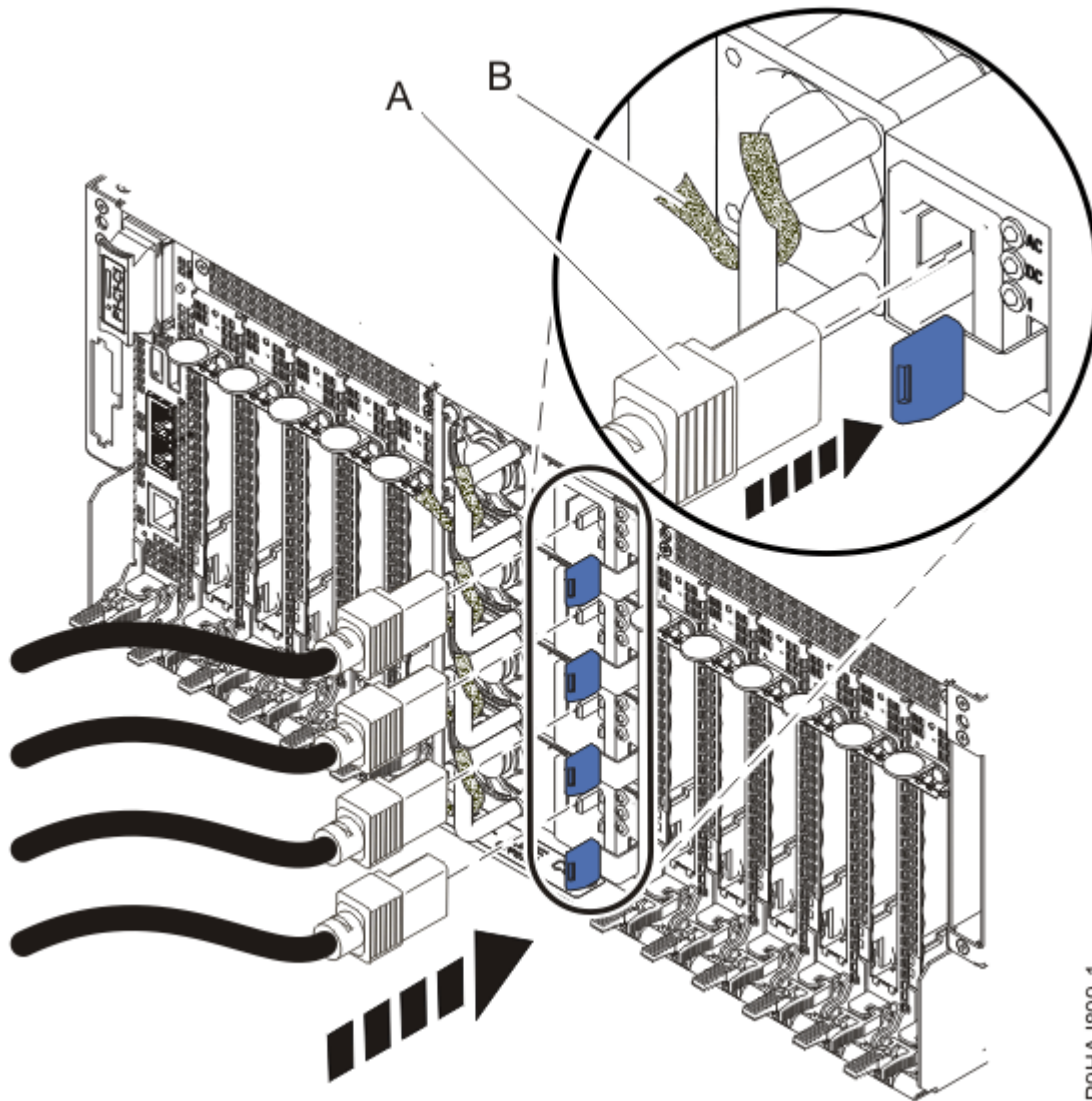
3. If applicable, close the rack door at the rear of the system.

Connecting the power cords to the 9040-MR9 system

Use this procedure to connect the power cords to an IBM Power System E950 (9040-MR9) server.

Procedure

1. If applicable, open the rack door at the rear of the system.
2. Using your labels, reconnect the power cords (A) to the system unit as shown in the following figure. Fasten the power cords to the system by using the hook-and-loop fasteners (B) as shown in the following figure.



P9HAJ809-1

Figure 59. Connecting the power cords

3. Close the rack door at the rear of the system.


Installing or replacing a part by using an HMC

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

Installing a part by using the HMC

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

Procedure

1. In the navigation area, click the **Resources** icon , and then click **All Systems**.
2. Click the system name for which you want to install the part.
3. In the navigation area, click **Serviceability**.
4. In the Serviceability window, click **Add FRU** (field replaceable unit).

5. In the **Add/Install/Remove Hardware-Add FRU, Select FRU Type** window, select the system or enclosure into which you are installing the feature.
6. Select the type of feature you are installing, and click **Next**.
7. Select the location code where you will install the feature, and click **Add**.
8. After the part is listed in the **Pending Actions** section, click **Launch Procedure** and follow the instructions to install the feature.

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


Removing a part by using the HMC

Learn how to remove a part by using the Hardware Management Console (HMC).

About this task

To remove a part in a system or an expansion unit by using the HMC, complete the following steps:

Procedure


1. In the navigation area, click the **Resources** icon , and then click **All Systems**.
2. Click the system name for which you want to remove a part.
3. In the navigation area, click **Serviceability**.
4. In the Serviceability window, click **Remove FRU**.
5. In the **Add/Install/Remove Hardware - Remove FRU, Select FRU Type** window, select the system or enclosure from which you are removing the part.
6. Select the type of part that you are removing, and click **Next**.
7. Select the location of the part that you are removing, and click **Add**.
8. After the part is listed in the **Pending Actions** section, click **Launch Procedure** and follow the instructions to remove the part.

Note: The HMC might display the IBM Knowledge Center instructions for removing the part. If so, follow those instructions to remove the part.

Repairing a part by using the HMC

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

Procedure

1. In the navigation area, click the **Resources** icon , and then click **All Systems**.
 2. Click the system name for which you want to remove a part.
 3. In the navigation area, click **Serviceability**.
 4. In the Serviceability window, click **Serviceable Events Manager**.
- Note:** You can also access the **Serviceable Events Manager** option from the **Actions** list after selecting the system.
5. In the **Manage Serviceable Events** window, specify the event criteria, error criteria, and FRU criteria.
If you do not want the results to be filtered, select **ALL**.
 6. Click **OK**.

The **Manage Serviceable Events - Serviceable Event Overview** window displays all of the events that match your criteria. The information that is displayed in the compact table view includes the following details:

- Problem number
- Machine management hardware (PMH) number
- Reference code - click the Reference code to display a description of the problem reported and actions that can be taken to fix the problem.
- Status of the problem
- Last reported time of the problem
- Failing MTMs of the problem

Note: The full table view includes more detailed information, including reporting MTMS, first reported time, and serviceable event text.

7. Select a serviceable event and use the **Selected** drop-down menu list to select **Repair**.
8. Follow the instructions to repair the part.

Note: The HMC might open IBM Knowledge Center instructions for repairing the part. If so, follow those instructions to repair the part.

Verifying the installed part

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

Verifying a part by using the operating system or VIOS

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

Verifying an installed feature or replaced part by using an AIX system or logical partition

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

Verifying an installed feature by using the AIX operating system

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

Procedure

1. Log in as root user.
2. At the command line, type `diag` and press Enter.
3. Select **Advanced Diagnostics Routines** and press Enter.
4. From the **Diagnostic Mode Selection** menu, select **System Verification** and press Enter.
5. When the **Advanced Diagnostic Selection** menu appears, select one of the following options:
 - To test a single resource, select the resource that you installed from the list of resources and press Enter.
 - To test all the resources that are available to the operating system, select **All Resources** and press Enter.
6. Select **Commit**, and wait until the diagnostic programs run to completion, responding to any prompts that appear.
7. Did the diagnostics run to completion and display the message `No trouble was found?`

- **No:** If a service request number (SRN) or other reference code is displayed, suspect a loose adapter or cable connection. Review the installation procedures to ensure that the new feature is installed correctly. If you cannot correct the problem, collect all SRNs or any other reference code information that is displayed. If the system is running in logical partitioning (LPAR) mode, note the logical partition in which you installed the feature. Contact your service provider for assistance.
- **Yes:** The new device is installed correctly. Exit the diagnostic programs and return the system to normal operations.

Verifying a replaced part by using the AIX operating system

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

Procedure

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

No: Go to step [“2” on page 86](#).

Yes: Go to step [“5” on page 86](#).

2. Is the system powered off?

No: Go to step [“4” on page 86](#).

Yes: Continue with the next step.

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

Did the AIX login prompt display?

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

If the system is partitioned, note the logical partition in which you replaced the part. Contact your service provider for assistance.

- **Yes:** Go to step [“4” on page 86](#).

4. At the command prompt, type `diag -a` and press Enter to check for missing resources.

- If you see a command prompt, go to step [“5” on page 86](#).
- If the **Diagnostic selection** menu is shown with **M** appearing next to any resource, complete the following steps:
 - a) Select the resource and press Enter.
 - b) Select **Commit**.
 - c) Follow any instructions that are shown.
 - d) If the *Do you want to review the previously displayed error?* message is shown, select **Yes** and press Enter.
 - e) If an SRN is shown, suspect a loose card or connection. If no obvious problem is shown, record the SRN and contact your service provider for assistance.
 - f) If no SRN is shown, go to step [“5” on page 86](#).

5. To test the part, complete the following steps:

- a) At the command line, type `diag` and press Enter.
- b) From the **Function Selection** menu, select **Advanced Diagnostics Routines** and press Enter.
- c) From the **Diagnostic Mode Selection** menu, select **System Verification** and press Enter.

- d) Select **All Resources**, or select the diagnostics for the individual part to test only the part you replaced and any devices that are attached to the part you replaced and press Enter.
- Did the **Resource Repair Action** menu appear?
- No:** Go to step [“6” on page 87](#).
- Yes:** Go to step [“7” on page 87](#).
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 in the resource list, select **sysplanar0** and press Enter.
- Tip:** This action changes the indicator light for the part from the fault state to the normal state.
- Go to step [“9” on page 87](#).
7. Select the resource for the replaced part from the **Resource Repair Action** menu. When a test is run on a resource in system verification mode, and that resource has an entry in the AIX error log, if the test on the resource was successful, the **Resource Repair Action** menu appears. Complete the following steps to update the AIX error log to indicate that a system-detectable part has been replaced.
- Note:** On systems with an indicator light for the failing part, this action changes the indicator light to the normal state.
- a) Select the resource that has been replaced from the **Resource Repair Action** menu. If the repair action was reseating a cable or adapter, select the resource associated with that repair action. If the resource associated with your action does not appear on the resource list, select **sysplanar0** and press Enter.
 - b) Select **Commit** after you make your selections. Did another **Resource Repair Action** display appear?
- No:** If the **No Trouble Found** display appears, go to step [“9” on page 87](#)
- Yes:** Go to step [“8” on page 87](#).
8. Select the parent or child of the resource for the replaced part from the **Resource Repair Action** menu if necessary.
- When a test is run on a resource in system verification mode, and that resource has an entry in the AIX error log, if the test on the resource was successful, the **Resource Repair Action** menu appears. Complete the following steps to update the AIX error log to indicate that a system-detectable part has been replaced.
- Note:** This action changes the indicator light for the part from the fault state to the normal state.
- a) From the **Resource Repair Action** menu, select the parent or child of the resource that has been replaced. If the repair action was to reseat a cable or adapter, select the resource associated with that repair action. If the resource associated with your action does not appear in the resource list, select **sysplanar0** and press Enter.
 - b) Select **Commit** after you make your selections.
 - c) If the **No Trouble Found** display appears, go to step [“9” on page 87](#).
9. If you changed the service processor or network settings as instructed in previous procedures, restore the settings to the values they had prior to servicing the system.
10. Did you perform any hot-plug procedures before doing this procedure?
- No:** Go to step [“11” on page 87](#).
- Yes:** Go to step [“12” on page 88](#).
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” on page 88.

12. Are the indicator lights still on?

- **No. This ends the procedure.**
- **Yes.** Turn off the lights. For instructions, see [Changing service indicators](http://www.ibm.com/support/knowledgecenter/POWER9/p9hby/serviceindicators.htm) (<http://www.ibm.com/support/knowledgecenter/POWER9/p9hby/serviceindicators.htm>).

Verifying the installed part by using an IBM i 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 IBM i system service tools.

Procedure

1. Deactivate the failing item indicator light. For instructions, see [“Deactivating the indicator light by using the IBM i operating system”](#) on page 94.
2. Sign on with at least service level authority.
3. On the command line of the IBM i session, type `strsst` and press Enter.

Note: If you cannot navigate 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 navigate 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 and press Enter.

Note: The service tools password is case-sensitive.

5. Select **Start a service tool** from the System Service Tools (SST) display and press Enter.
6. Select **Hardware service manager** from the Start a Service Tool display and press Enter.
7. Select **Logical hardware resources (buses, IOPs, controllers)** from the Hardware Service Manager display and press Enter.

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.

Results

With the Logical Hardware Resources display, you can view logical hardware resource status or information, and associated packaging hardware resources. Use the online Help information for details about specific functions, fields, or symbols.

Verifying an installed part by using a Linux system or logical partition

Learn how to verify that the system recognizes a new or replacement part.

About this task

To verify the newly installed or replaced part, continue with [“Verifying an installed part by using stand-alone diagnostics”](#) on page 88.

Verifying an installed part by using stand-alone diagnostics

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

Before you begin

- If this server is directly attached to another server or attached to a network, ensure communications with the other servers have stopped.
- The stand-alone diagnostics require use of all of the logical partition resources. No other activity can be running on the logical partition.

- The stand-alone diagnostics require access to the system console.

About this task

This procedure describes how to use the diagnostics from a CD-ROM. For information about other methods of running diagnostics, see [Running the stand-alone hardware diagnostics](#).

Procedure

1. Stop all jobs and applications and then stop the operating system on the system or logical partition.
2. Remove all tapes, diskettes, and CD-ROM.
3. Turn off the system unit power.

The next step boots the server or logical partition from the stand-alone diagnostics CD-ROM. If the optical drive is not available as a boot device on the server or logical partition on which you are working, complete the following steps:

- a. Access the ASMI. For information on using the ASMI, see [Managing the Advanced System Management Interface](#).
 - 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 drop-down list.
 - e. Click **Save settings and power on**. When the optical drive is powered on, insert the stand-alone diagnostic CD-ROM.
 - f. Go to step “5” on page 89.
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 must be initiated by using the default-service mode boot list.
 6. Enter any requested password.
 7. At the **Diagnostic Operating Instructions** display, press Enter.

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

Note: If you received an SRN or any other reference code when you attempted to start the system, contact your service provider for assistance.

8. If the terminal type is requested, select the **Initialize Terminal** option on the Function Selection menu to initialize the operating system.
9. From the Function Selection menu, select **Advanced Diagnostics Routines** and press Enter.
10. From the Diagnostic Mode Selection menu, select **System Verification** and press Enter.
11. When the Advanced Diagnostic Selection menu appears, select **All Resources**, or test only the part you replaced, and any devices that are attached to the part you replaced, by selecting the diagnostics for the individual part and press Enter.
12. Did the Testing Complete, No trouble was found message appear?
 - **No:** A problem still exists. Contact your service provider.
 - **Yes:** Go to step “13” on page 89.
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, complete the following steps:
 - a. Select **Identify and Attention Indicators** from the Task Selection menu to turn off the system attention and indicator lights and press Enter.
 - b. Select **Set System Attention Indicator to NORMAL** and press Enter.

- c. Select **Set All Identify Indicators to NORMAL** and press Enter.
- d. Choose **Commit**.

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

- e. Exit to the command line.

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

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

Verifying an installed part by using the VIOS

You can verify the operation of an installed part by using the VIOS.

Procedure

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

Verify the replacement part by using the VIOS

You can verify the operation of a replacement part by using the VIOS.

Procedure

1. Did you replace the part by using either the VIOS or the online diagnostics service aid's concurrent (hot-swap) service operation?
 - **No:** Go to step [“2”](#) on page 90.
 - **Yes:** Go to step [“5”](#) on page 91.
2. Is the system powered off?
 - **No:** Go to step [“4”](#) on page 91.
 - **Yes:** Go to step [“3”](#) on page 90.
3. Start the system and wait until the VIOS operating system login prompt displays or until apparent system activity on the operator panel or display has stopped.
Did the VIOS login prompt display?

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

If the system is partitioned, note the logical partition in which you replaced the part. Contact your service provider for assistance.
 - **Yes:** Go to step [“4” on page 91](#).
4. At the command prompt, type `diag -a` and press Enter to check for missing resources.
If you see a command prompt, go to step [“5” on page 91](#).
If the **Diagnostic selection** menu is shown with **M** appearing next to any resource, complete the following steps:
- a) Select the resource and press Enter.
 - b) Select **Commit**.
 - c) Follow any instructions that are shown.
 - d) If a *Do you want to review the previously displayed error?* message is shown, select **Yes** and press Enter.
 - e) If an SRN is shown, suspect a loose card or connection. If no obvious problem is shown, record the SRN and contact your service provider for assistance.
 - f) If no SRN is shown, go to [“5” on page 91](#).
5. To test the part, complete the following steps:
- a) On the command line, type `diagmenu` and press Enter.
 - b) From the **Function Selection** menu, select **Advanced Diagnostics Routines** and press Enter.
 - c) From the **Diagnostic Mode Selection** menu, select **System Verification** and press Enter.
 - d) Select **All Resources**, or select the diagnostics for the individual part to test only the part you replaced, and any devices that are attached to the part you replaced and press Enter.

Did the **Resource Repair Action** menu appear?
- **No:** Go to step [“6” on page 91](#).
 - **Yes:** Go to step [“7” on page 91](#).
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 error log. If the repair action was reseating a cable or adapter, select the resource associated with that repair action. If the resource associated with your action is not displayed on the Resource List, select **sysplanar0** and press Enter.

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

Go to step [“9” on page 92](#).
7. Select the resource for the replaced part from the **Resource Repair Action** menu. When a test is run on a resource in system verification mode, and that resource has an entry in the error log, if the test on the resource was successful, the **Resource Repair Action** menu appears. Complete the following steps to update the error log to indicate that a system-detectable part has been replaced. On systems with a indicator light for the failing part, this changes the indicator light to the normal state.
- a) Select the resource that has been replaced from the **Resource Repair Action** menu. If the repair action was reseating a cable or adapter, select the resource associated with that repair action. If the resource associated with your action does not appear in the Resource List, select **sysplanar0**. Press Enter.
 - b) Select **Commit** after you make your selections. Did another **Resource Repair Action** display appear?

- **No:** If the **No Trouble Found** display appears, go to step “9” on page 92.
 - **Yes:** Go to step “8” on page 92.
8. Select the parent or child of the resource for the replaced part from the **Resource Repair Action** menu if necessary. When a test is run on a resource in system verification mode, and that resource has an entry in the error log, if the test on the resource was successful, the **Resource Repair Action** menu appears. Complete the following steps to update the error log to indicate that a system-detectable part has been replaced. This changes the indicator light for the part from the fault state to the normal state.
 - a) From the **Resource Repair Action** menu, select the parent or child of the resource that has been replaced. If the repair action was to reseal a cable or adapter, select the resource associated with that repair action. If the resource associated with your action does not appear in the Resource List, select **sysplanar0**. Press Enter.
 - b) Select **Commit** after you make your selections.
 - a) If the **No Trouble Found** display appears, go to step “9” on page 92.
 9. If you changed the service processor or network settings, as instructed in previous procedures, restore the settings to the values they had prior to servicing the system.
 10. Did you perform any hot-plug procedures before doing this procedure?
 - **No:** Go to step “11” on page 92.
 - **Yes:** Go to step “12” on page 92.
 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” on page 92.
 12. Are the indicator lights still on?
 - **No:** This ends the procedure.
 - **Yes.** Turn off the lights. For instructions, see [Changing service indicators](#).

Verifying the installed part by using the 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. If you have reference codes, symptoms, or location codes that you used during the service action, locate the records for use during this procedure.

Procedure

1. At the HMC, examine the service action event log for any open service action events. See “[Viewing serviceable events by using the HMC](#)” on page 93 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 “[Deactivating LEDs by using the HMC](#)” on page 97. **This ends the procedure.**
 - **Yes:** Continue with the next step.
3. Record the list of open service action events.
4. Examine the details of the open service action event. Is the error code associated with this service action event the same as you gathered earlier.
 - **No:** Choose one of the following options:
 - Review the other serviceable events, find an event that does match, and continue with the next step.
 - If the log information does not match what you had gathered earlier, contact your service provider.

- **Yes:** Continue with the next step.
5. Select and highlight the service action event from the Error Associated With This Serviceable Event window.
 6. Click **Close Event**.
 7. Add comments for the serviceable event. Include any unique additional information. Click **OK**.
 8. Did you replace, add, or modify a field replaceable unit (FRU) of the open service action event?
 - **No:** Select the **No FRU Replaced for this Serviceable Event** option, and click **OK** to close the service action event.
 - **Yes:** Perform the following steps:
 - a. From the FRU list, select a FRU that you want 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.

Viewing serviceable events by using the HMC


Use this procedure to view a serviceable event, including details, comments, and service history by using the Hardware Management Console (HMC).

About this task

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

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

Procedure

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

Deactivating an identify LED

Learn how to deactivate an identifying LED for a part or enclosure.

Deactivating a system attention LED by using the operating system or VIOS tools

You can use the operating system or the Virtual I/O Server (VIOS) tools to deactivate a system attention LED.

Deactivating the indicator light for a part by using AIX diagnostics

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

Procedure

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

Deactivating the indicator light by using the IBM i operating system

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

Procedure

1. Sign on to an IBM i session, with at least service level authority.
2. On the command line of the session, type `strsst` and press Enter.
Note: If you cannot navigate 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 navigate 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 and press Enter.
Remember: The service tools password is case-sensitive.
4. Select **Start a service tool** from the System Service Tools (SST) display and press Enter.
5. Select **Hardware service manager** from the Start a Service Tool display and press Enter.
6. Select **Work with service action log** from the Hardware Service Manager display and 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:
 - System 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 system reference code for the resource displayed during the time range selected.
11. Select option **7** (Indicator off) to turn off the indicator light.

12. Select the **Acknowledge all errors** function at the bottom of the Service Action Log display, if all problems have been resolved.
13. Close the log entry by selecting option **8** (Close new entry) on the Service Action Log Report display.

Deactivating the indicator light by using the Linux operating system

After you complete a removal and replacement procedure, you can deactivate the indicator light.

Procedure

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

Related information

[Service and productivity tools for Linux on Power servers](#)

Deactivating the indicator light for a part by using the VIOS tools

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

Procedure

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

Deactivating a system attention LED by using the ASMI

You can use the Advanced System Management Interface (ASMI) to deactivate a system attention LED.

Deactivating the identify LED by using the ASMI when you know the location code

Learn how to deactivate the identify LED by using the Advanced System Management Interface (ASMI) when you know the location code.

About this task

You can specify the location code of any indicator to view or modify its current state. If you provide the wrong location code, the ASMI attempts to go to the next higher level of the location code.

The next level is the base-level location code for that field replaceable unit (FRU). For example, a user types the location code for the FRU located on the second memory module slot of the third enclosure in the system. If the location code for the second memory module slot is incorrect (the FRU does not exist at this location), an attempt to set the indicator for the third enclosure is initiated. This process continues until a FRU is located or no other level location code is available.

To complete this operation, your authority level must be one of the following levels:

- Administrator
- Authorized service provider

Procedure

1. On the ASMI Welcome pane, specify your user ID and password, and click **Log In**.
2. In the navigation area, expand **System Configuration > Service Indicators > Indicators by Location code**.

3. In the **Location code** field, type the location code of the FRU and click **Continue**.
4. From the **Identify indicator status** list, select **Off**.
5. Click **Save settings**.

Deactivating the identify LED by using the ASMI when you do not know the location code

Learn how to deactivate the identify LED by using the Advanced System Management Interface (ASMI) when you do not know the location code.

About this task

You can turn off the identify indicators in each enclosure.

To complete this operation, your authority level must be one of the following levels:

- Administrator
- Authorized service provider

Procedure

1. On the ASMI Welcome pane, specify your user ID and password, and click **Log In**.
2. In the navigation area, expand **System Configuration > Service Indicators > Enclosure Indicators**.
All servers and enclosures managed by the ASMI will be displayed.
3. Select the server or enclosure that has the part to be replaced and click **Continue**.
The location code identifiers are listed.
4. Select the location code identifier and select **Off**.
5. To save the changes made to the state of one or more FRU indicators, click **Save settings**.

Deactivating a check log indicator (system information indicator) by using the ASMI

You can deactivate a check log indicator (system information indicator) or logical partition check log indicator by using the ASMI.

About this task

The check log indicator provides a visual signal that the system as a whole requires attention or service. Each system has a single check log indicator. When an event occurs that either needs your intervention or that of service and support, the check log indicator lights continuously. The check log indicator is turned on when an entry is made in the error log of the service processor. The error entry is transmitted to the error log file of the system and to the error log file of the operating system.

To complete this operation, your authority level must be one of the following levels:

- Administrator
- Authorized service provider

Procedure

1. In the ASMI Welcome pane, specify your user ID and password, and click **Log In**.
2. In the navigation area, expand **System Configuration > Service Indicators > System Information Indicator**.
3. In the content pane, click **Turn off system information indicator**. If the attempt is unsuccessful, an error message is displayed.

Deactivating LEDs by using the HMC


Use this procedure to deactivate LEDs by using the Hardware Management Console (HMC).

Deactivating a system attention LED or partition LED by using the HMC

Use this procedure to deactivate a system attention LED or partition LED by using the Hardware Management Console (HMC).

Procedure




1. In the navigation area, click the **Resources** icon , and then click **All Systems**.
2. Click the server name for which you want to deactivate the attention LED.
3. In the navigation area, click **System Actions > Attention LED**.
4. Click **Turn Attention LED Off**. A confirmation window that provides the following information is displayed.
 - A verification that the system attention LED was deactivated.
 - An indication open problems might exist within the system.
5. Click **OK**.

Deactivating an identify LED for a FRU by using the HMC

Learn how to deactivate an identify LED by using the Hardware Management Console (HMC).

Procedure




1. In the navigation area, click the **Resources** icon , and then click **All Systems**.
2. To view the actions for that server, click the name of the required server.
3. In the navigation area, click **System Actions > Attention LED > Identify Attention LED**. The **Identify LED, Select Enclosure** window is displayed.
4. To deactivate an identify LED for a FRU, select an enclosure from the table, and then click **Selected > List FRUs**.
5. Select one or more FRUs from the table, and click **Deactivate LED**.
The associated LED is turned off.

Deactivating an identify LED for an enclosure by using the HMC

Learn how to deactivate an identify LED by using the Hardware Management Console (HMC).

Procedure



1. In the navigation area, click the **Resources** icon , and then click **All Systems**.
2. To view the actions for that server, click the name of the required server.
3. In the navigation area, click **System Actions > Attention LED > Identify Attention LED**.
4. To deactivate an identify LED for an enclosure, select an enclosure from the table, and click **Deactivate LED**.
The associated LED is turned off.

