

Power Systems

*Drive backplane for the
9009-41A, 9009-41G, 9009-42A,
9009-42G, 9223-42H, or 9223-42S*

IBM

Note

Before using this information and the product it supports, read the information in [“Safety notices” on page v](#), [“Notices” on page 169](#), the *IBM Systems Safety Notices* manual, G229-9054, and the *IBM Environmental Notices and User Guide*, Z125-5823.

This edition applies to IBM® Power Systems servers that contain the POWER9™ processor and to all associated models.

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Safety notices

Safety notices may be printed throughout this guide:

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

World Trade safety information

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

Replacement or additional copies of safety information documentation can be obtained by calling the IBM Hotline at 1-800-300-8751.

German safety information

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

Laser safety information

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

Laser compliance

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



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

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

- 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)



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

- Reduce the weight of the rack cabinet by removing equipment starting at the top of the rack cabinet. When possible, restore the rack cabinet to the configuration of the rack cabinet as you received it. If this configuration is not known, you must observe the following precautions:
 - Remove all devices in the 32U position and above.
 - Ensure that the heaviest devices are installed in the bottom of the rack cabinet.
 - Ensure that there are little-to-no empty U-levels between devices installed in the rack cabinet below the 32U level, unless the received configuration specifically allowed it.
- If the rack cabinet you are relocating is part of a suite of rack cabinets, detach the rack cabinet from the suite.
- If the rack cabinet you are relocating was supplied with removable outriggers they must be reinstalled before the cabinet is relocated.
- Inspect the route that you plan to take to eliminate potential hazards.
- Verify that the route that you choose can support the weight of the loaded rack cabinet. Refer to the documentation that comes with your rack cabinet for the weight of a loaded rack cabinet.
- Verify that all door openings are at least 760 x 2083 mm (30 x 82 in.).
- Ensure that all devices, shelves, drawers, doors, and cables are secure.
- Ensure that the four leveling pads are raised to their highest position.
- Ensure that there is no stabilizer bracket installed on the rack cabinet during movement.
- Do not use a ramp inclined at more than 10 degrees.
- When the rack cabinet is in the new location, complete the following steps:
 - Lower the four leveling pads.
 - Install stabilizer brackets on the rack cabinet or in an earthquake environment bolt the rack to the floor.
 - If you removed any devices from the rack cabinet, repopulate the rack cabinet from the lowest position to the highest position.
- If a long-distance relocation is required, restore the rack cabinet to the configuration of the rack cabinet as you received it. Pack the rack cabinet in the original packaging material, or equivalent. Also lower the leveling pads to raise the casters off of the pallet and bolt the rack cabinet to the pallet.

(R002)

(L001)



DANGER: Hazardous voltage, current, or energy levels are present inside any component that has this label attached. Do not open any cover or barrier that contains this label. (L001)

(L002)

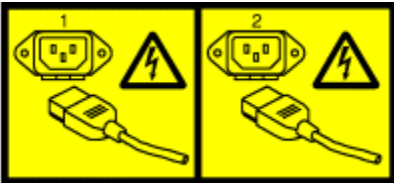


DANGER: Rack-mounted devices are not to be used as shelves or work spaces. Do not place objects on top of rack-mounted devices. In addition, do not lean on rack-mounted devices and do not use them to stabilize your body position (for example, when working from a ladder). Stability hazard:

- 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.

(L002)

(L003)



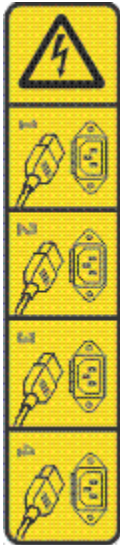
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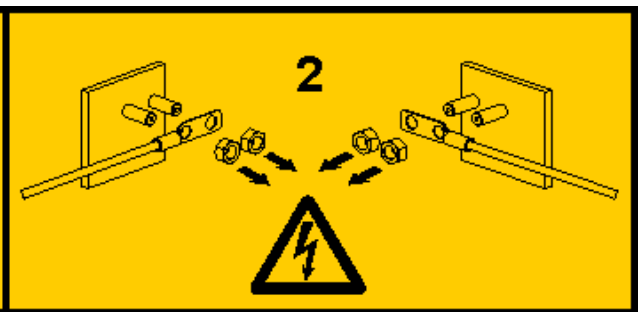
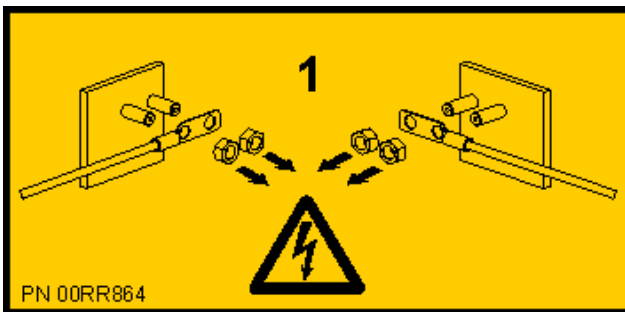
or




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)


(L007)




 **CAUTION:** A hot surface nearby. (L007)

(L008)




 **CAUTION:** Hazardous moving parts nearby. (L008)


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


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

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

(C026)


 **CAUTION:** Data processing environments can contain equipment transmitting on system links with laser modules that operate at greater than Class 1 power levels. For this reason, never look into the end of an optical fiber cable or open receptacle. Although shining light into one end and looking into the other end of a disconnected optical fiber to verify the continuity of optic fibers may not injure the eye, this procedure is potentially dangerous. Therefore, verifying the continuity of optical fibers by shining light into one end and looking at the other end is not recommended. To verify continuity of a fiber optic cable, use an optical light source and power meter. (C027)

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

 **CAUTION:** Some laser products contain an embedded Class 3A or Class 3B laser diode. Note the following information:

- Laser radiation when open.
- Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam. (C030)


(C030)

 **CAUTION:** The battery contains lithium. To avoid possible explosion, do not burn or charge the battery.

Do Not:

- Throw or immerse into water
- Heat to more than 100 degrees C (212 degrees F)
- Repair or disassemble

Exchange only with the IBM-approved part. Recycle or discard the battery as instructed by local regulations. In the United States, IBM has a process for the collection of this battery. For information, call 1-800-426-4333. Have the IBM part number for the battery unit available when you call. (C003)

 **CAUTION:** Regarding IBM provided VENDOR LIFT TOOL:

- Operation of LIFT TOOL by authorized personnel only.

- LIFT TOOL intended for use to assist, lift, install, remove units (load) up into rack elevations. It is not to be used loaded transporting over major ramps nor as a replacement for such designated tools like pallet jacks, walkies, fork trucks and such related relocation practices. When this is not practicable, specially trained persons or services must be used (for instance, riggers or movers).
- Read and completely understand the contents of LIFT TOOL operator's manual before using. Failure to read, understand, obey safety rules, and follow instructions may result in property damage and/or personal injury. If there are questions, contact the vendor's service and support. Local paper manual must remain with machine in provided storage sleeve area. Latest revision manual available on vendor's web site.
- Test verify stabilizer brake function before each use. Do not over-force moving or rolling the LIFT TOOL with stabilizer brake engaged.
- Do not raise, lower or slide platform load shelf unless stabilizer (brake pedal jack) is fully engaged. Keep stabilizer brake engaged when not in use or motion.
- Do not move LIFT TOOL while platform is raised, except for minor positioning.
- Do not exceed rated load capacity. See LOAD CAPACITY CHART regarding maximum loads at center versus edge of extended platform.
- Only raise load if properly centered on platform. Do not place more than 200 lb (91 kg) on edge of sliding platform shelf also considering the load's center of mass/gravity (CoG).
- Do not corner load the platforms, tilt riser, angled unit install wedge or other such accessory options. Secure such platforms -- riser tilt, wedge, etc options to main lift shelf or forks in all four (4x or all other provisioned mounting) locations with provided hardware only, prior to use. Load objects are designed to slide on/off smooth platforms without appreciable force, so take care not to push or lean. Keep riser tilt [adjustable angling platform] option flat at all times except for final minor angle adjustment when needed.
- Do not stand under overhanging load.
- Do not use on uneven surface, incline or decline (major ramps).
- Do not stack loads.
- Do not operate while under the influence of drugs or alcohol.
- Do not support ladder against LIFT TOOL (unless the specific allowance is provided for one following qualified procedures for working at elevations with this TOOL).
- Tipping hazard. Do not push or lean against load with raised platform.
- Do not use as a personnel lifting platform or step. No riders.
- Do not stand on any part of lift. Not a step.
- Do not climb on mast.
- Do not operate a damaged or malfunctioning LIFT TOOL machine.
- Crush and pinch point hazard below platform. Only lower load in areas clear of personnel and obstructions. Keep hands and feet clear during operation.
- No Forks. Never lift or move bare LIFT TOOL MACHINE with pallet truck, jack or fork lift.
- Mast extends higher than platform. Be aware of ceiling height, cable trays, sprinklers, lights, and other overhead objects.
- Do not leave LIFT TOOL machine unattended with an elevated load.
- Watch and keep hands, fingers, and clothing clear when equipment is in motion.
- Turn Winch with hand power only. If winch handle cannot be cranked easily with one hand, it is probably over-loaded. Do not continue to turn winch past top or bottom of platform travel. Excessive unwinding will detach handle and damage cable. Always hold handle when lowering, unwinding. Always assure self that winch is holding load before releasing winch handle.
- A winch accident could cause serious injury. Not for moving humans. Make certain clicking sound is heard as the equipment is being raised. Be sure winch is locked in position before releasing handle. Read instruction page before operating this winch. Never allow winch to unwind freely.

Freewheeling will cause uneven cable wrapping around winch drum, damage cable, and may cause serious injury.

- This TOOL must be maintained correctly for IBM Service personnel to use it. IBM shall inspect condition and verify maintenance history before operation. Personnel reserve the right not to use TOOL if inadequate. (C048)

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

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

The equipment is suitable for installation in the following:

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

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

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

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

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

The dc-powered system is intended to be installed in a common bonding network (CBN) as described in GR-1089-CORE.

Drive backplanes for the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S

Find information about removing and replacing a drive backplane in 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.

Removing and replacing the base function disk drive backplane in the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S

Find information about removing and replacing the base function disk drive backplane in 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.

About this task

If your system is managed by the Hardware Management Console (HMC), use the HMC to repair a part in the system. For instructions, see [Repairing a part by using the HMC](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_hmc_repair.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_hmc_repair.htm).

If your server is not managed by an HMC, complete the steps in the following procedures to remove and replace the base function disk drive backplane.

Preparing the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system to remove and replace the base function disk drive backplane

To prepare the system to remove and replace the base function disk drive backplane, complete the steps in this procedure.

Procedure

1. Identify the part and the system that you are working on. For instructions, see [Identifying a part](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/sal.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/sal.htm).

Use the blue identify LED on the enclosure to locate the system. Ensure that the serial number of the system matches the serial number to be serviced.

2. Stop the system. For instructions, see [Stopping a system](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustopsys.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustopsys.htm).

3. Label and disconnect the power cords from the system unit.

See [Figure 1 on page 2](#) or [Figure 2 on page 3](#).

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.

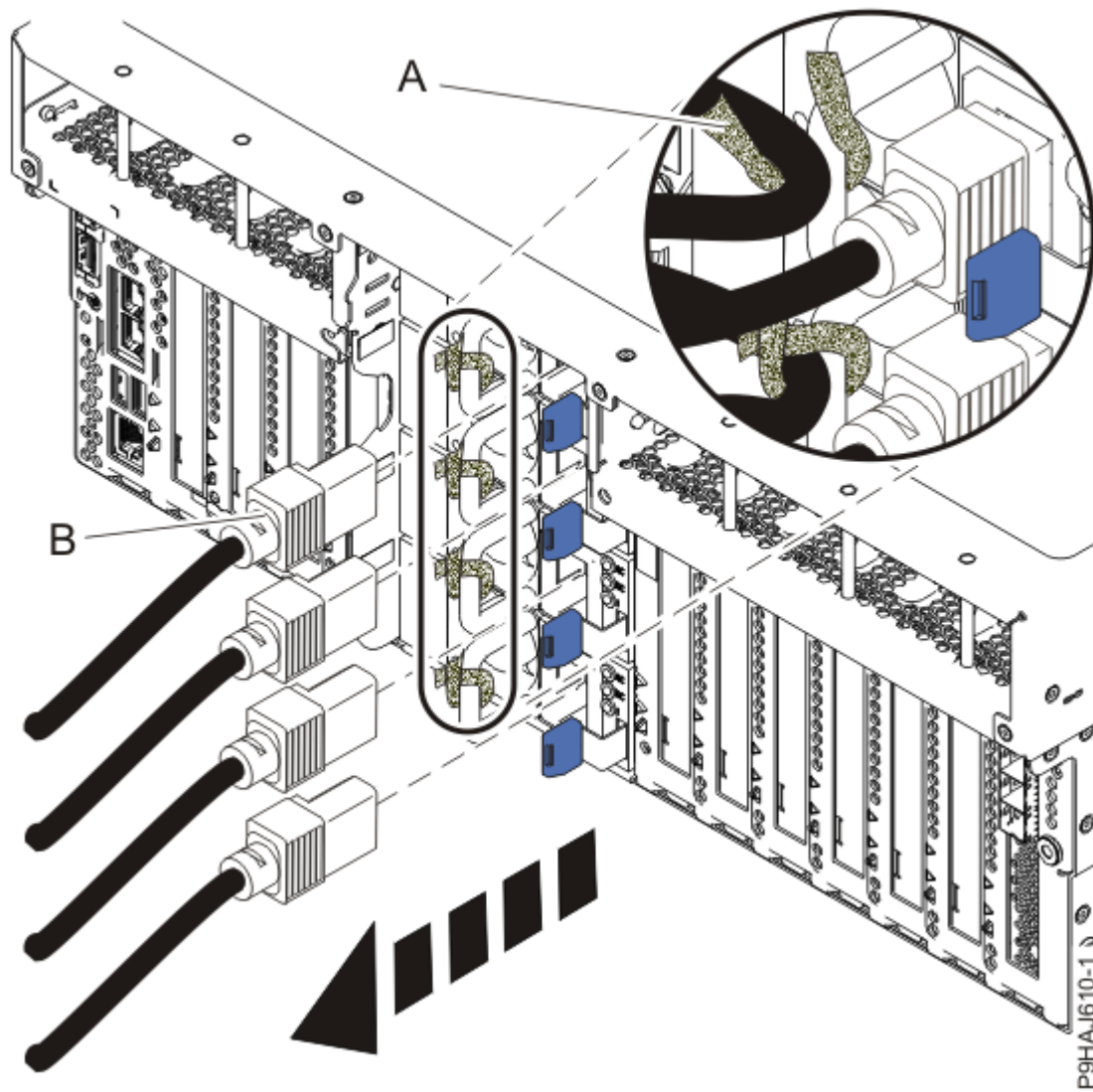


Figure 1. Removing the power cords from a rack-mounted server

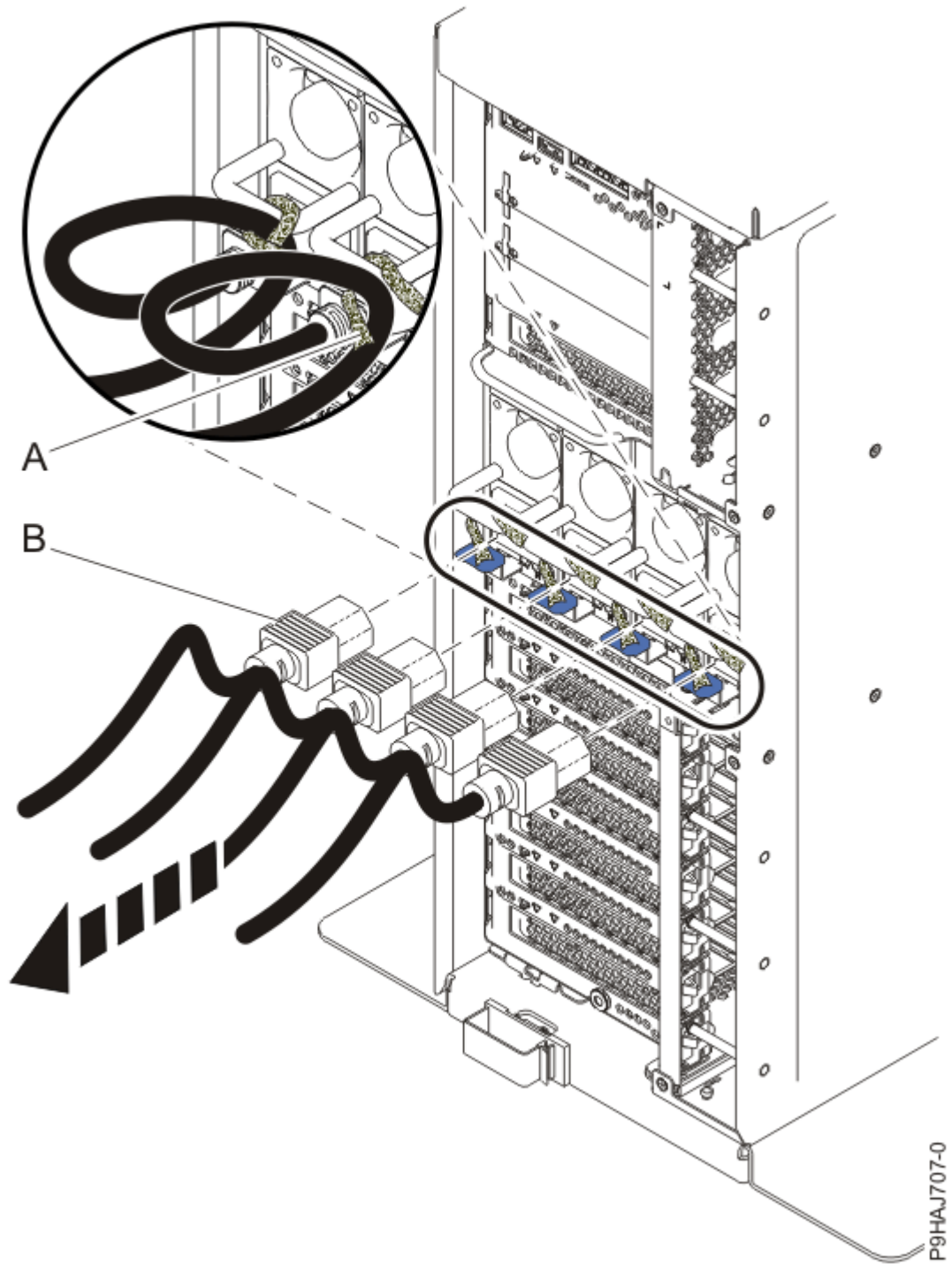
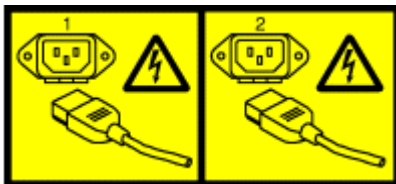


Figure 2. Removing the power cords from a stand-alone server

(L003)



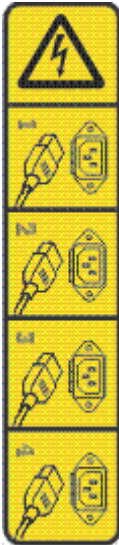
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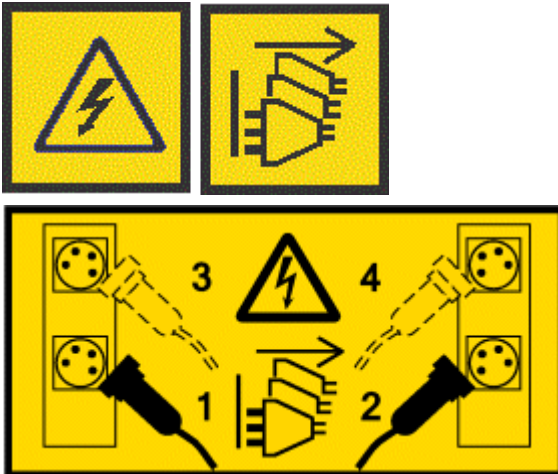
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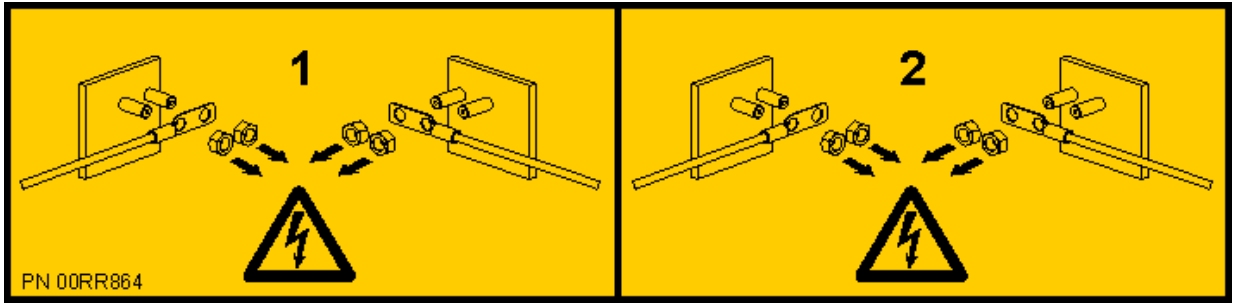


or



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)

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.



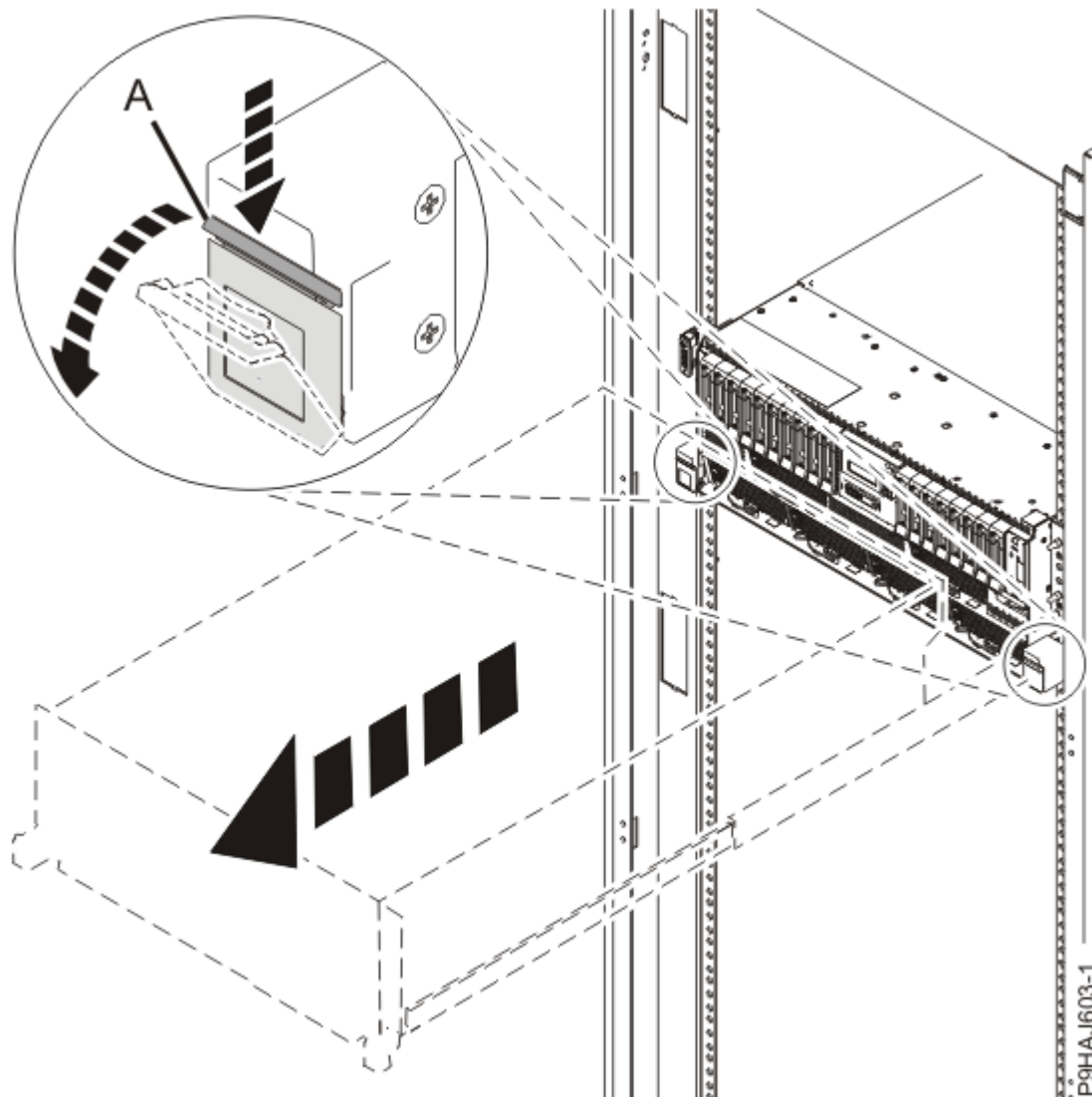


Figure 3. Releasing the side latches

5. Attach the electrostatic discharge (ESD) wrist strap. Your system has ESD jacks on the front and on the rear of the system as shown in the following figure. Plug the ESD wrist strap into the ESD jack.



Attention:

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

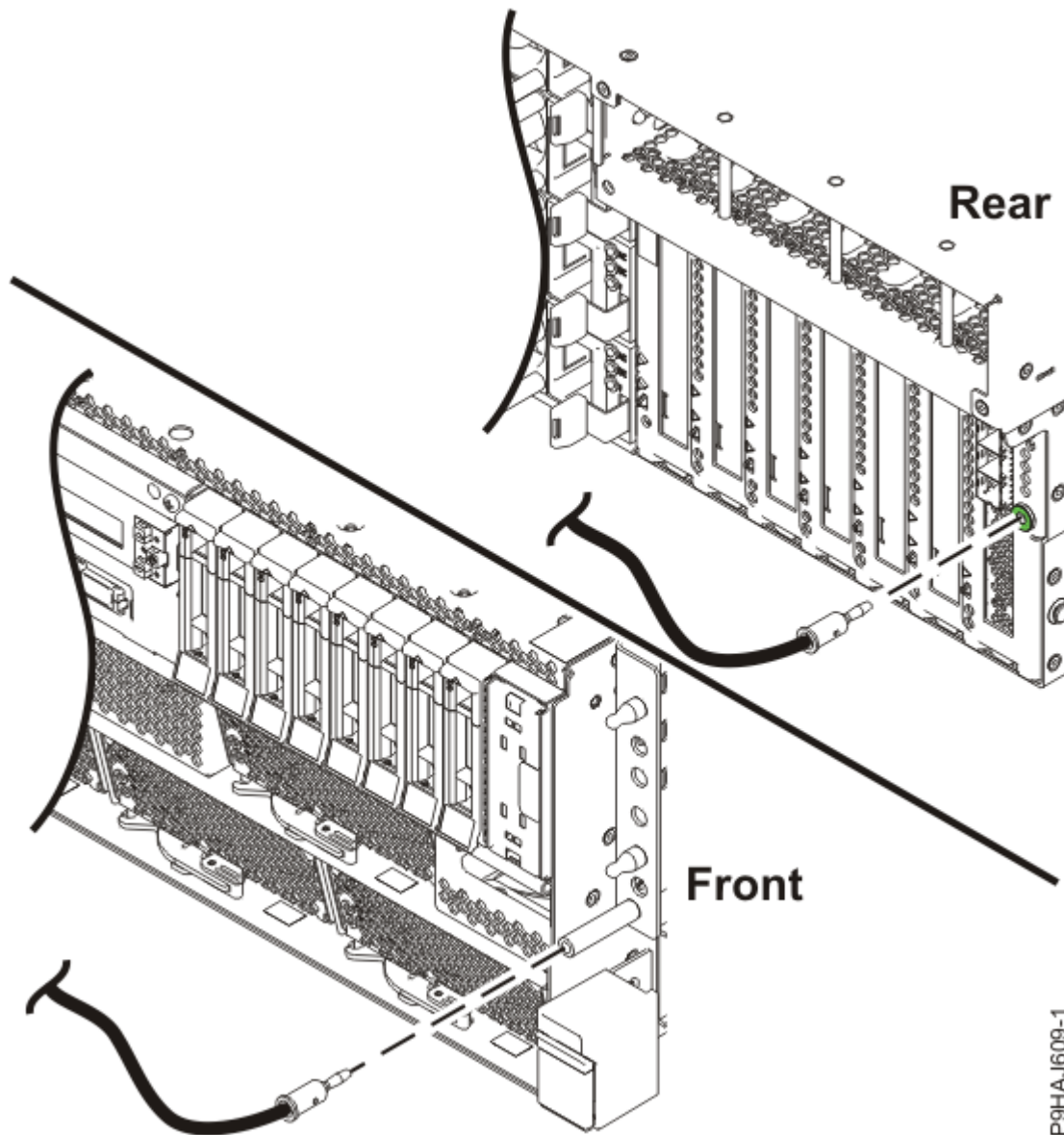


Figure 4. Location of ESD plugs

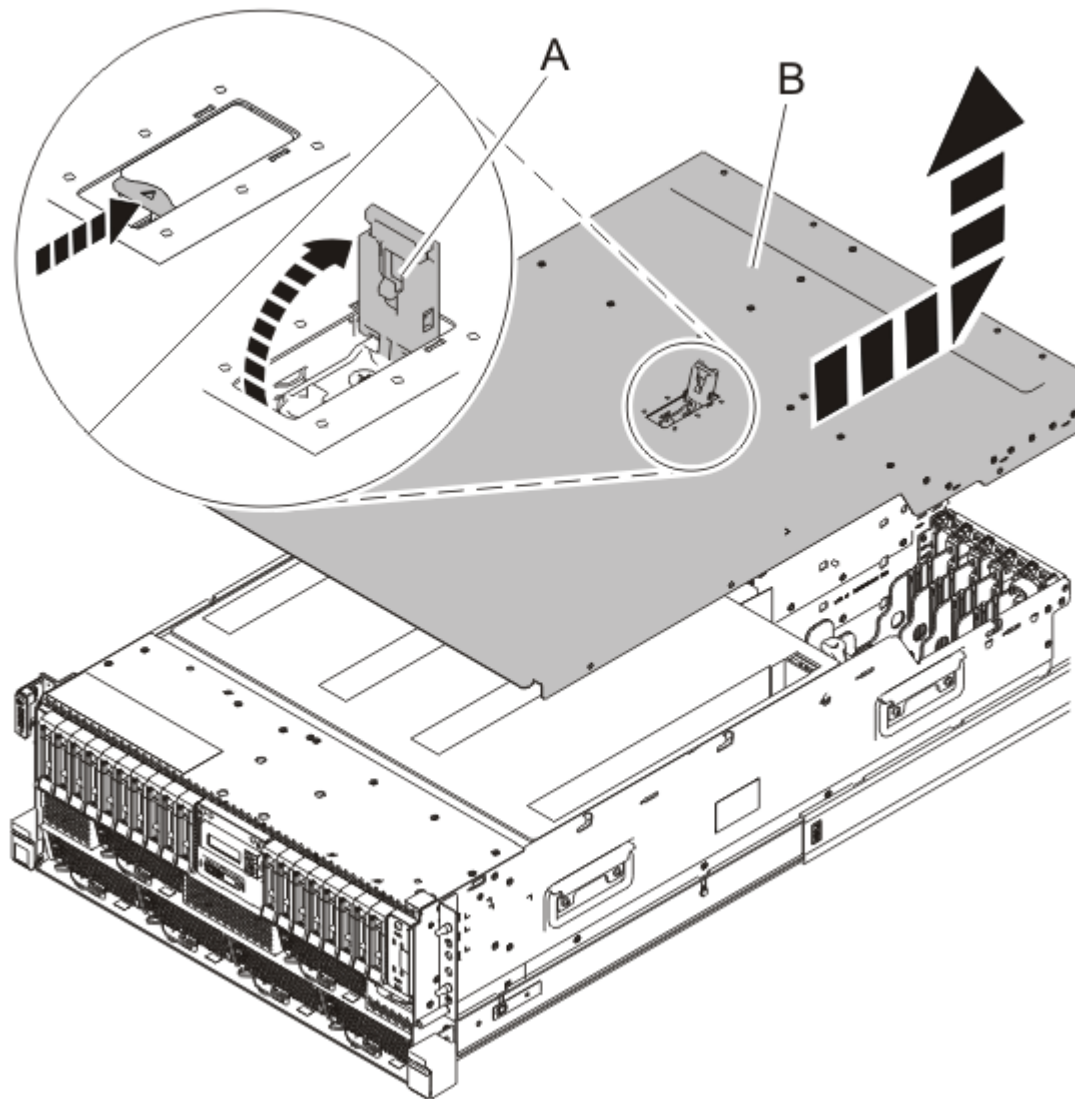
6. Remove the service access cover.

For a rack-mounted system, complete the following steps. Refer to [Figure 5](#) on page 8.



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

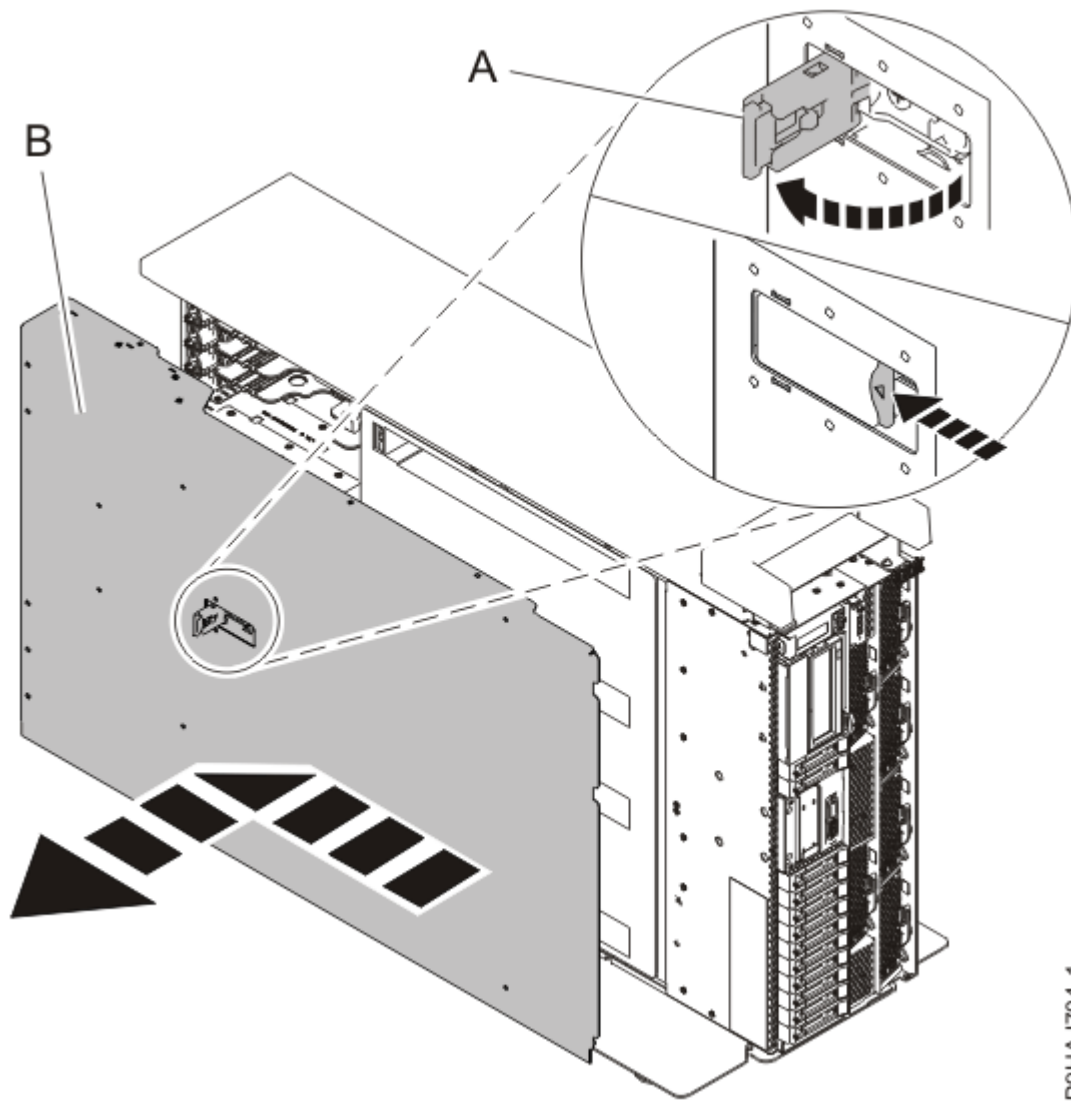
Figure 5. Removing the service access cover from a rack-mounted system

For a stand-alone system, complete the following steps. Refer to [Figure 6 on page 9](#).



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 6. Removing the service access cover

Removing the base function disk drive backplane from the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

To remove the base function disk drive backplane from the system, complete the steps in this procedure.

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 air baffle. For instructions, see [Removing the air baffle \(www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbafflerremove.htm\)](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbafflerremove.htm).
3. If the system has an RDX drive, complete the following steps to partially remove the RDX docking station:
 - a) For a stand-alone system, open the front door.
Insert the front door key into the lock as shown in the following figure. Twist the key to the left (counterclockwise) to unlock the door. Horizontal is locked; vertical is unlocked. Open the front door.

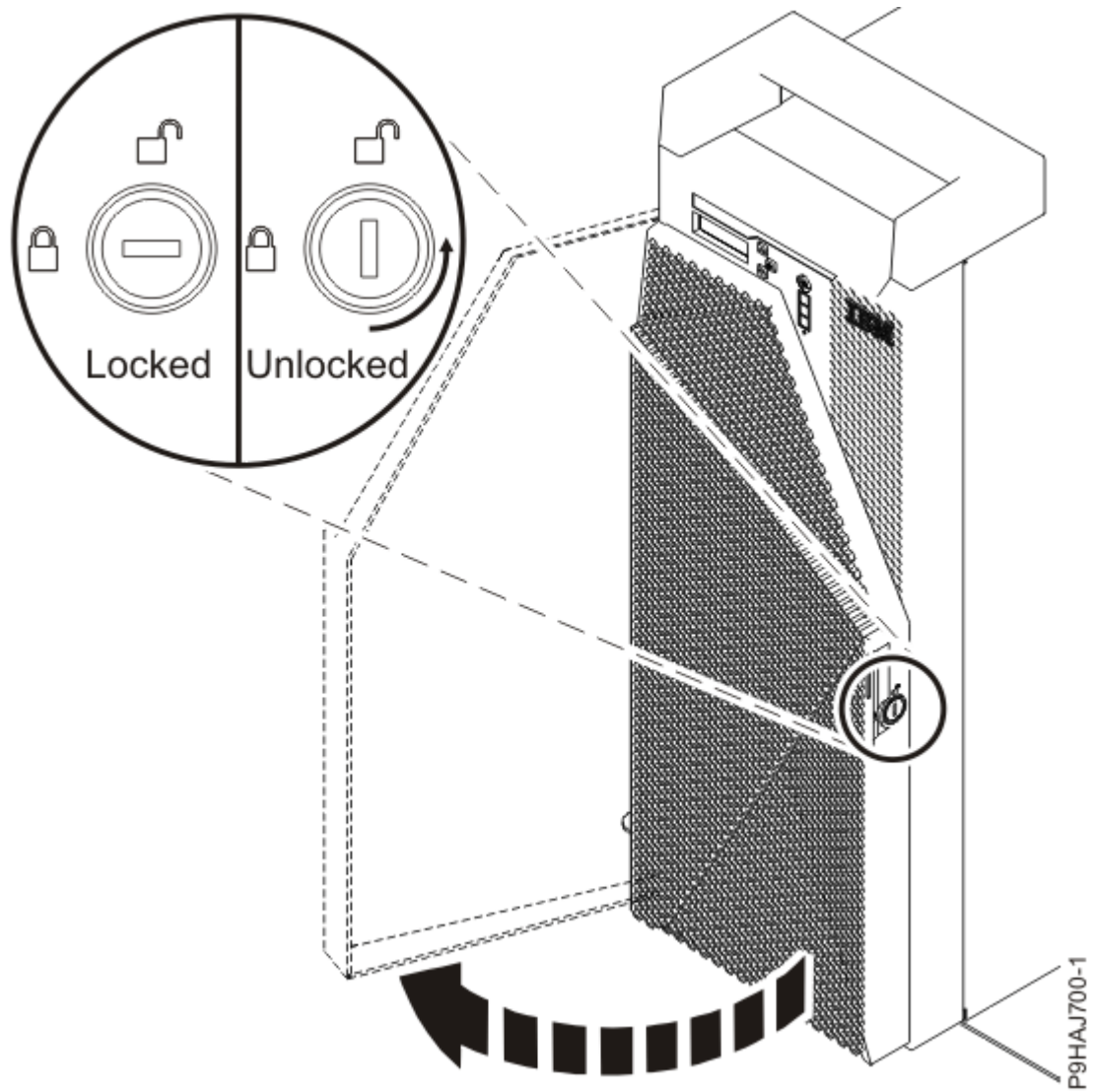


Figure 7. Unlocking the front door

b) Unplug the RDX power cable **(A)** from the disk drive backplane as shown in the following figure.

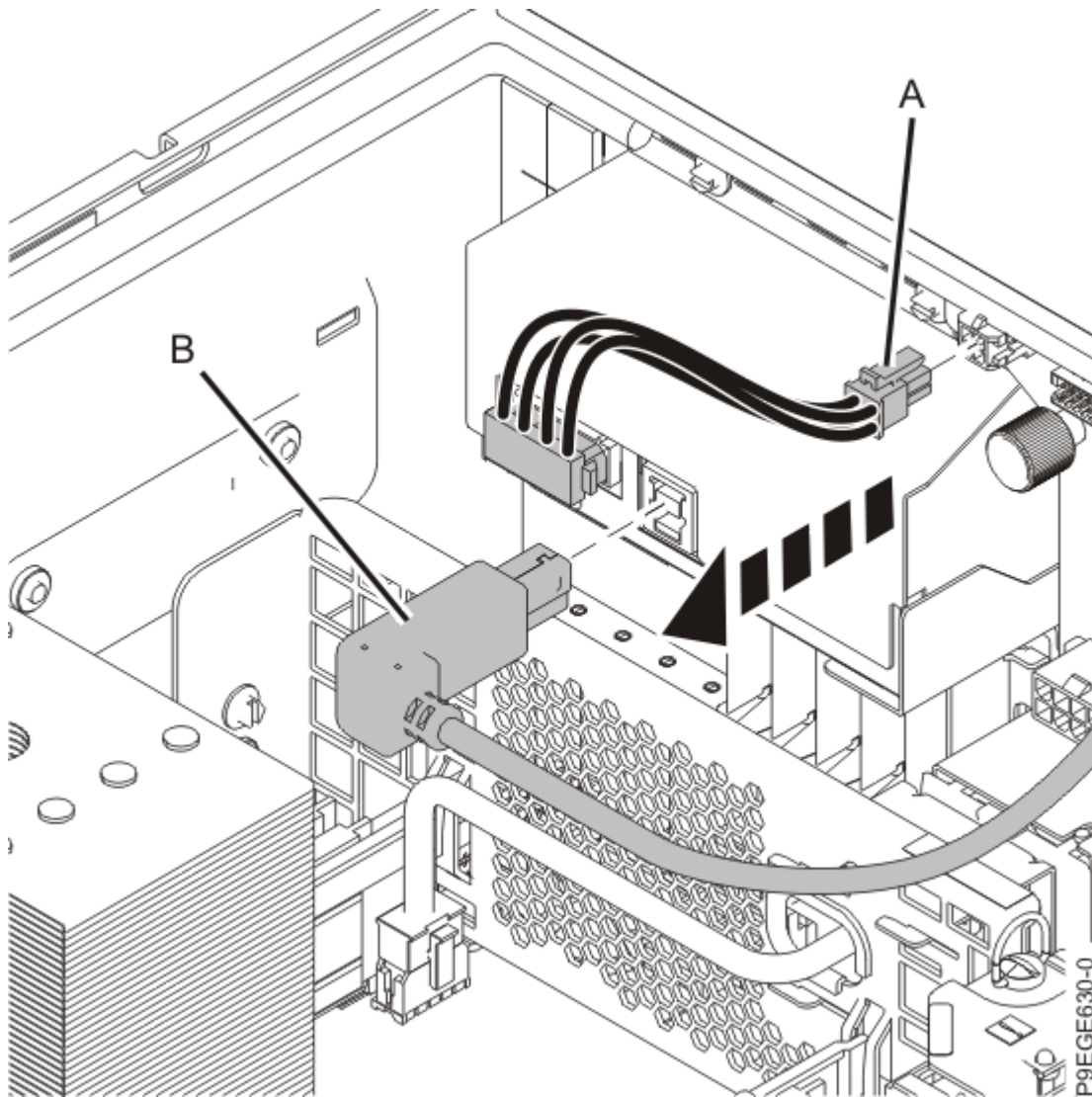


Figure 8. Disconnecting the RDX power cable and USB cable

- c) Disconnect the USB cable (**B**) from the rear of the RDX docking station as shown in the previous figure.
- d) Partially remove the RDX docking station. Push the RDX docking station latch upwards as shown in the following figure.

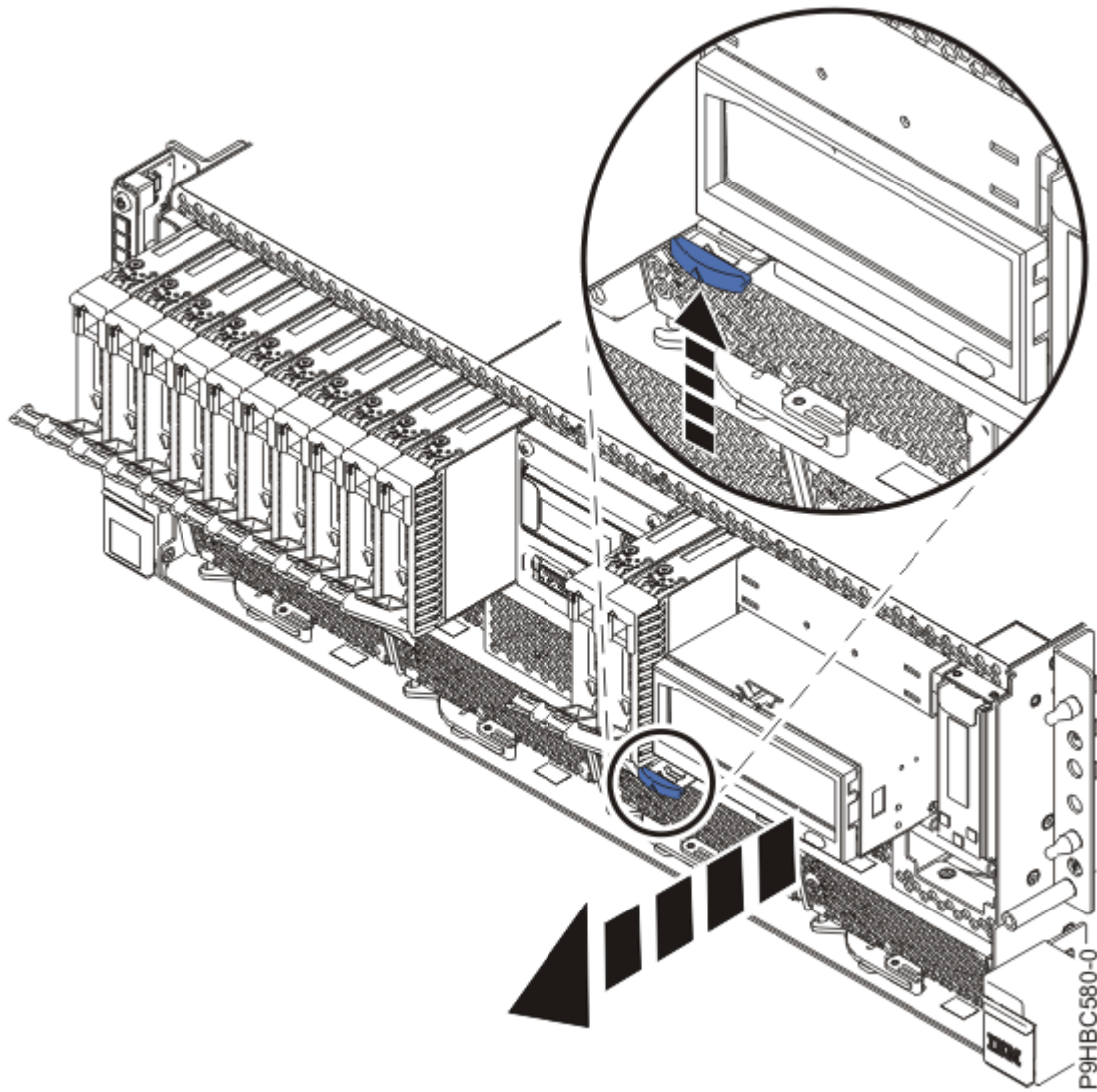


Figure 9. Removing the RDX docking station

- e) Slide the RDX docking station about 5 cm (2 in) from the system.
- 4. If the server has a filler for the RDX drive, complete the following steps:
 - a) Push down on the clips **(A)** to unlock the filler from the chassis as shown in the following figure.

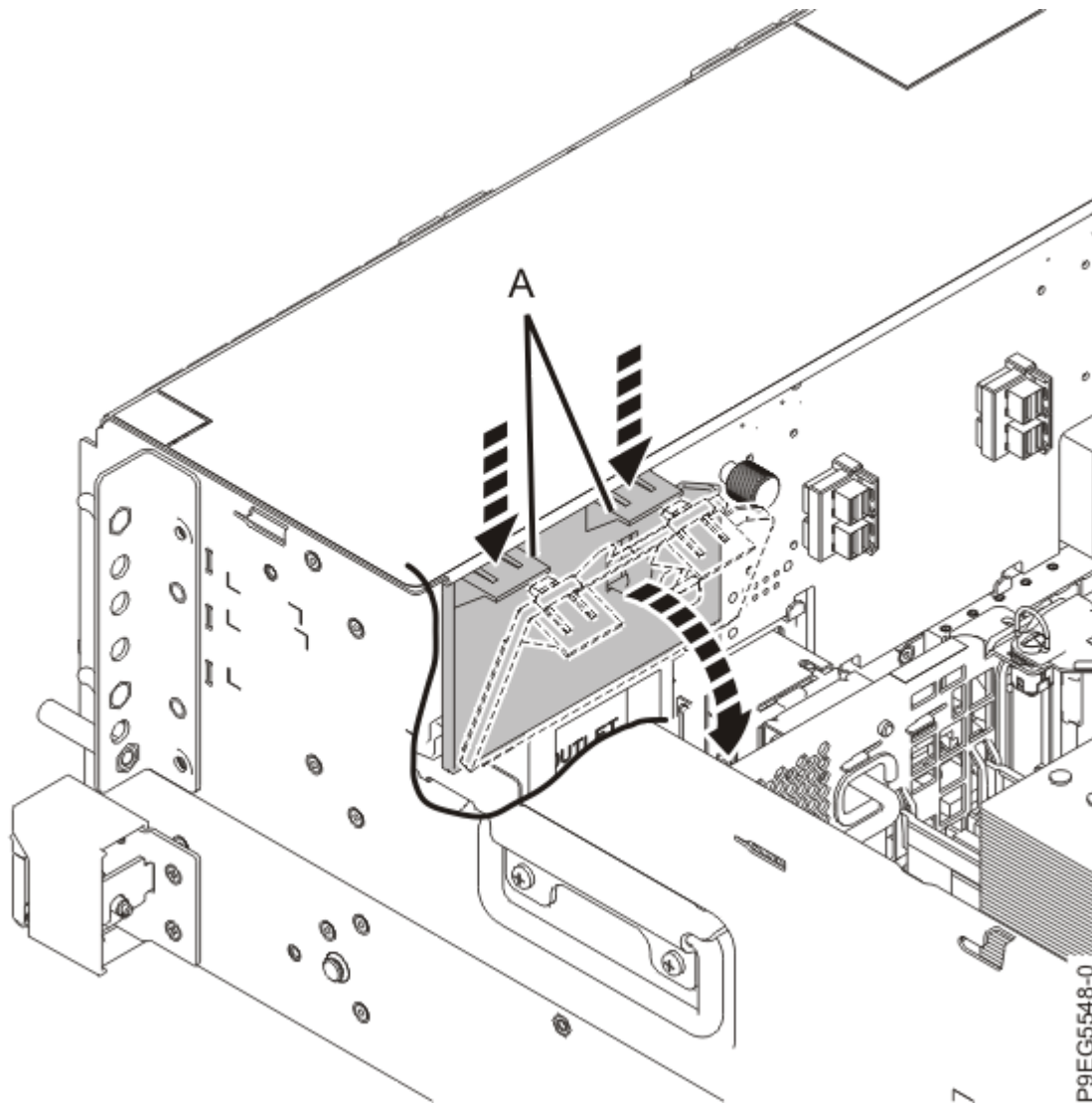


Figure 10. Removing the RDX drive filler

- b) Holding the clips, pivot the filler away from the disk drive backplane.
 - c) Lift the filler out of the system.
5. Unplug but do not remove the front drives and front fillers if present from their slots. Pull the disk drives and fillers out far enough to prevent them from interfering with the removal of the disk drive backplane as shown in the following figure.

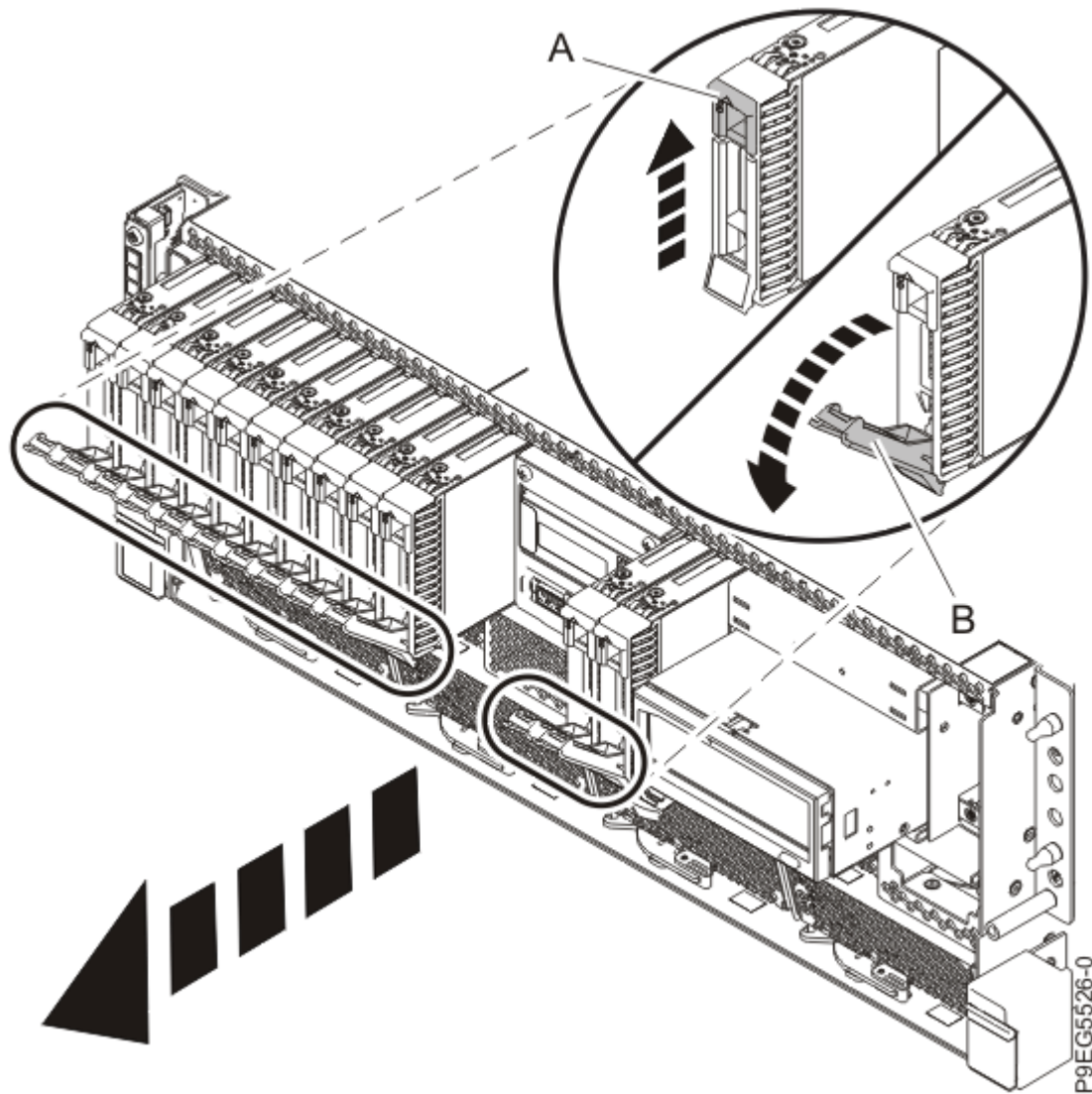


Figure 11. Partially removing the front drives and fillers

- a) Push the drive tab **(A)** to release the drive lever **(B)**.
 - b) Using the drive lever, pull the drive and filler about 2.5 cm (1 in) from the system.
 - c) Repeat steps “5.a” on page 14 - “5.b” on page 14 for the other drives and fillers.
6. Label the front SAS cables. Press the cable connector latch and disconnect the front SAS cables from the disk drive backplane as shown in the following figure.

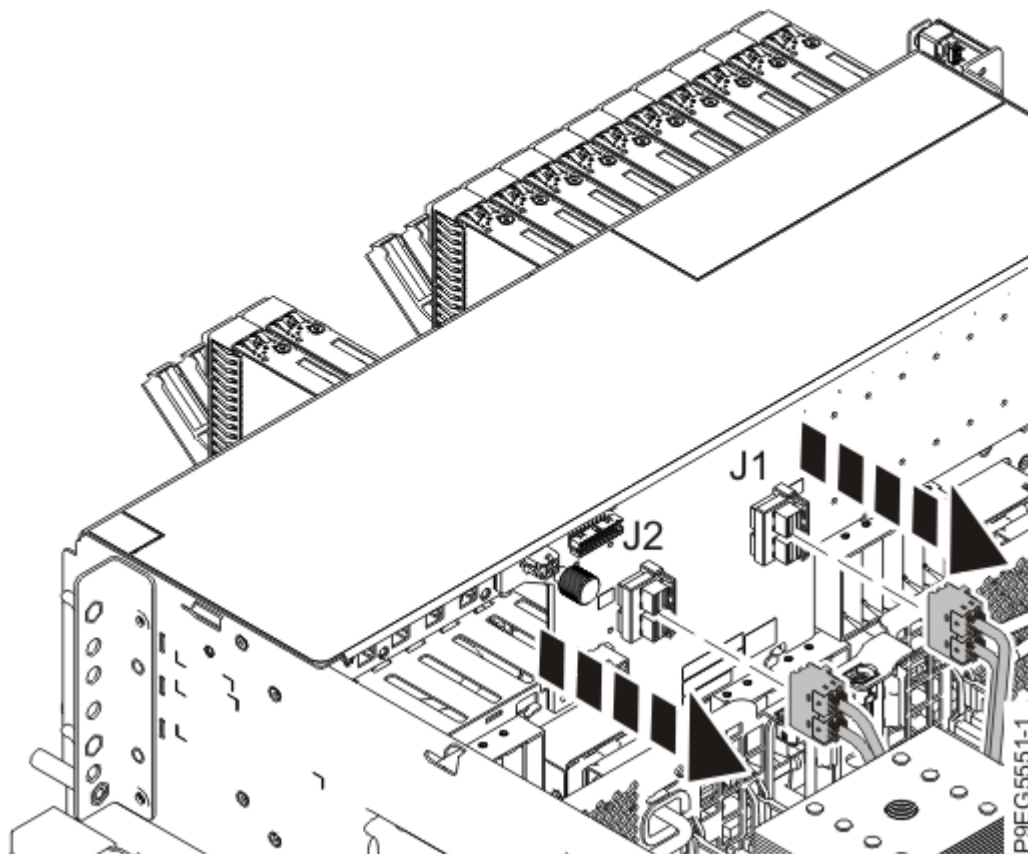


Figure 12. Disconnecting the front SAS cables

7. Label and disconnect the signal cable **(A)** and the power cable **(B)** from the disk drive backplane as shown in the following figure.

Unlatch the clips that secure the connectors to the disk drive backplane.

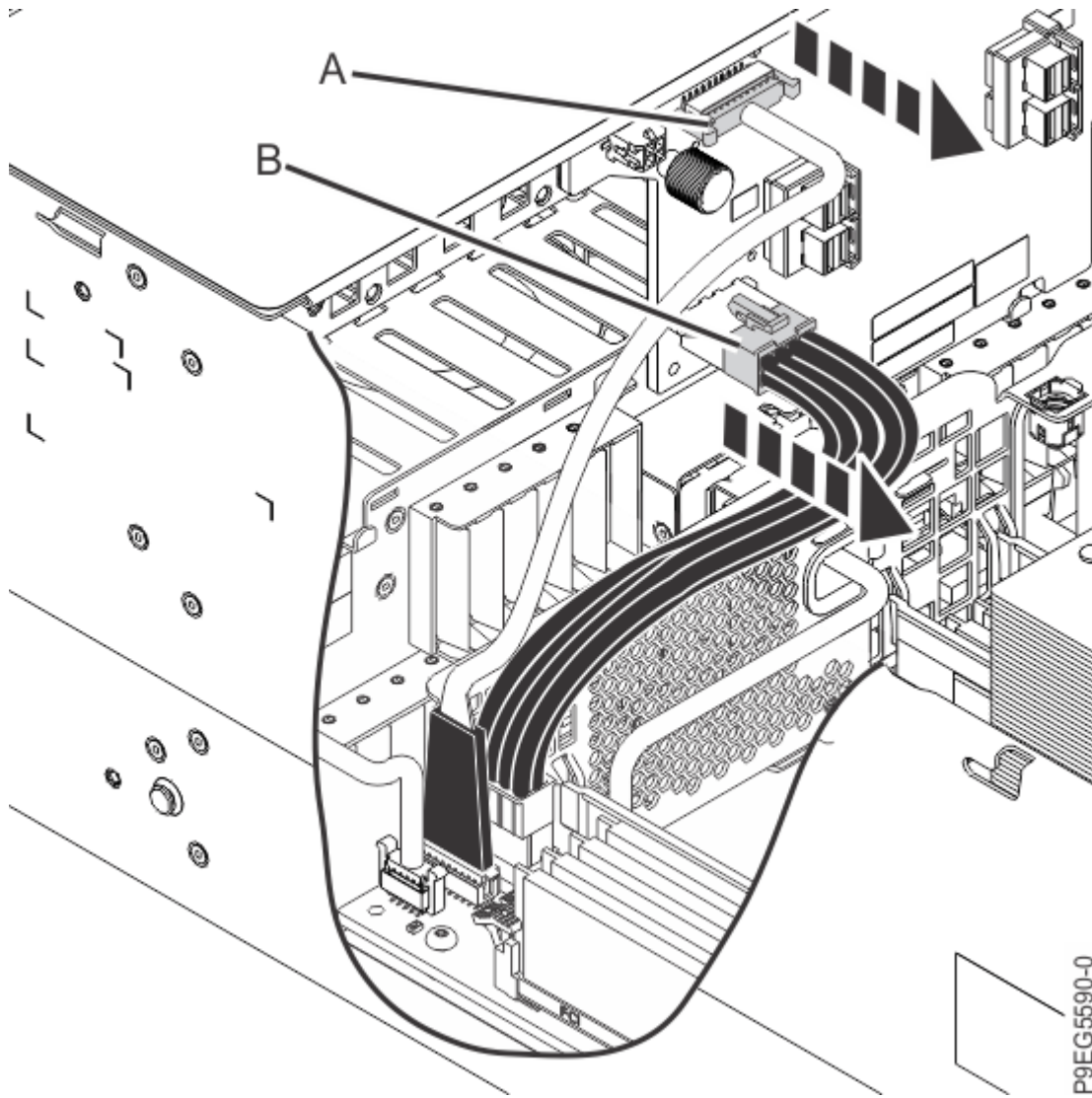


Figure 13. Disconnecting the signal cable and the power cable

8. Ensure that all cables are carefully positioned out of the way, such that the disk drive backplane can be easily lifted and removed.
9. Carefully unscrew the captive thumbscrew **(A)** of the disk drive backplane until fully loose as shown in the following figure.
If needed, use a Phillips screwdriver to loosen the screws.

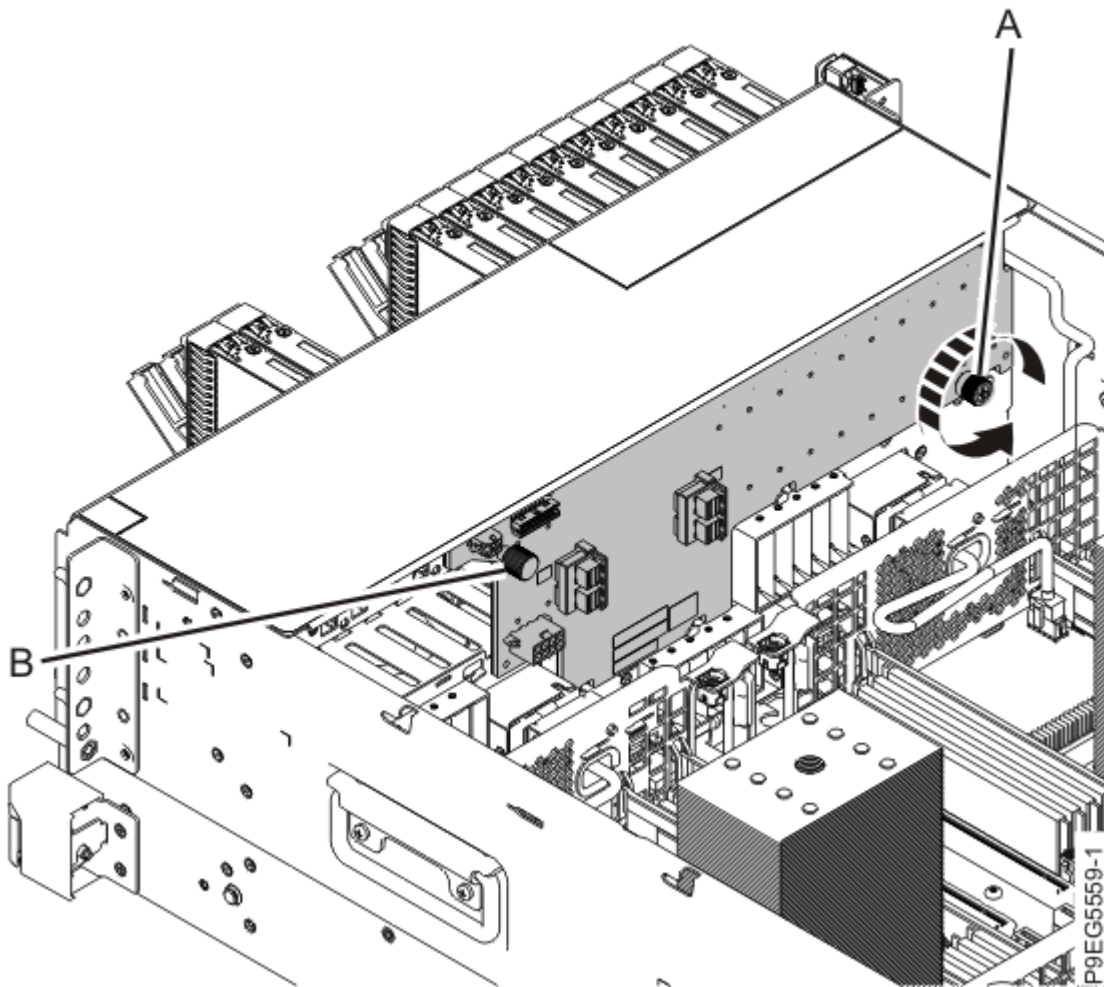


Figure 14. Loosening the disk drive backplane screw

10. Using the thumbscrew **(A)** and the disk drive backplane holder **(B)**, slide the disk drive backplane to the side in the direction that is shown in the following figure, so that the disk drive backplane clears the tabs in the chassis.

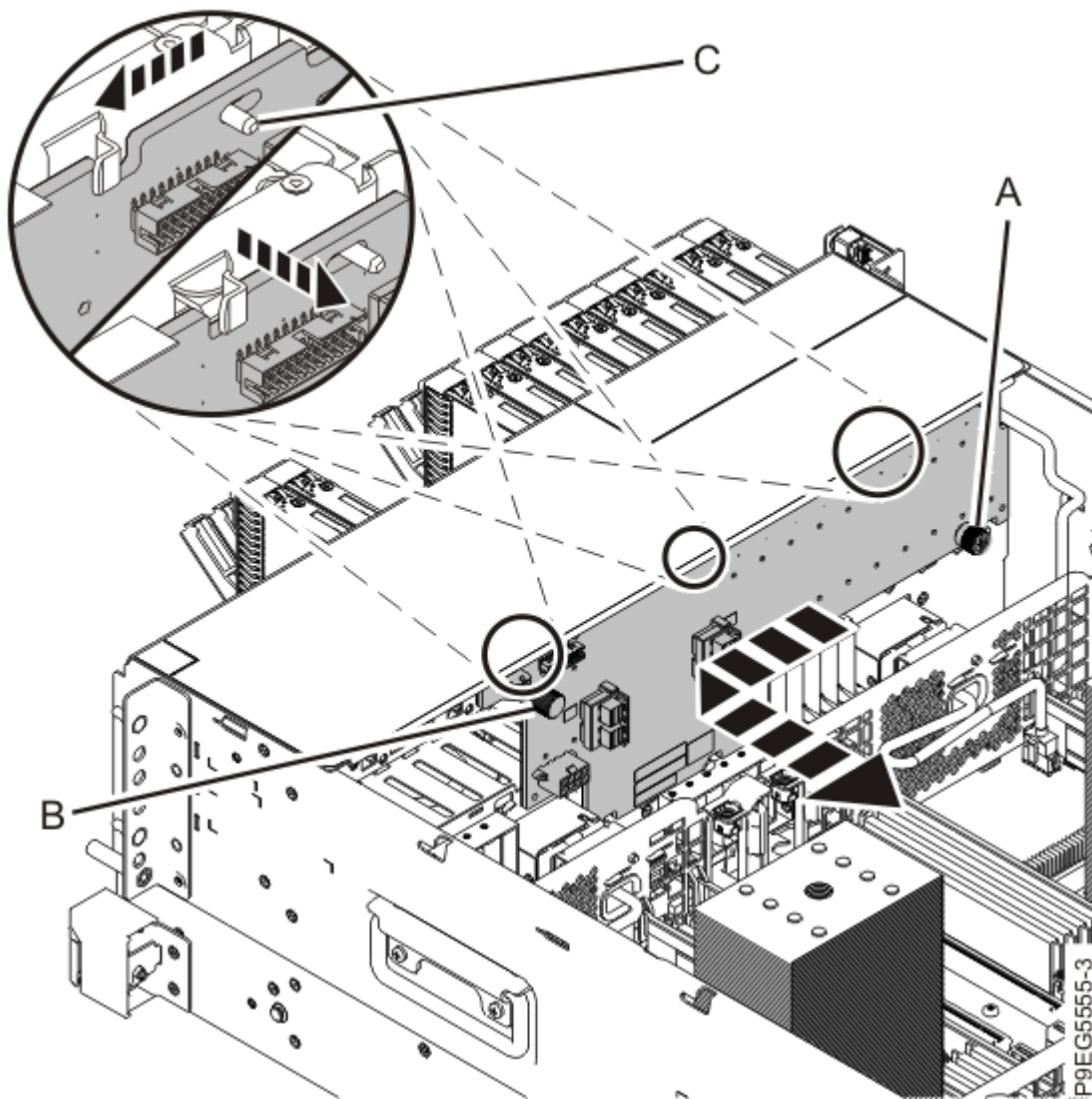


Figure 15. Removing the disk drive backplane

11. Lift the disk drive backplane out of the chassis.
12. If the removed part is used again, place the part on an electrostatic discharge (ESD) mat.

Replacing the base function disk drive backplane in the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

To replace the base function disk drive backplane in the system, complete the steps in this procedure.

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. The chassis has two alignment pins and several brackets **(A)** to secure the disk drive backplane. Using the disk drive backplane touchpoint **(B)**, thumbscrew **(C)**, and alignment pins **(A)**, insert the disk drive backplane into the chassis as shown in the following figure.

Slide the disk drive backplane to the side in the direction that is shown so that the disk drive backplane slides under tabs in the chassis.

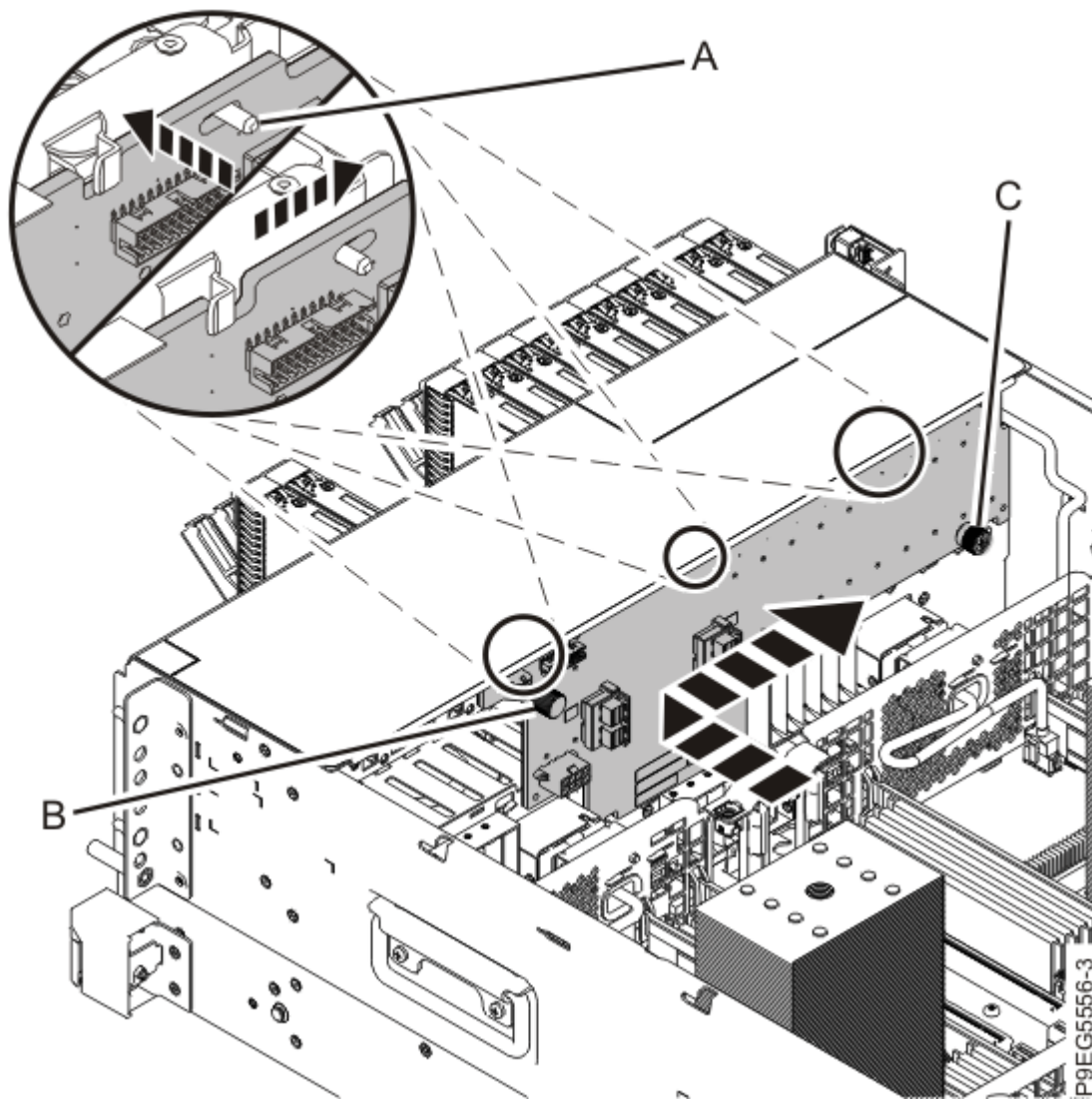


Figure 16. Replacing the disk drive backplane by using alignment pins

3. Carefully tighten the captive thumbscrew **(C)** to secure the disk drive backplane to the system chassis as shown in the following figure.

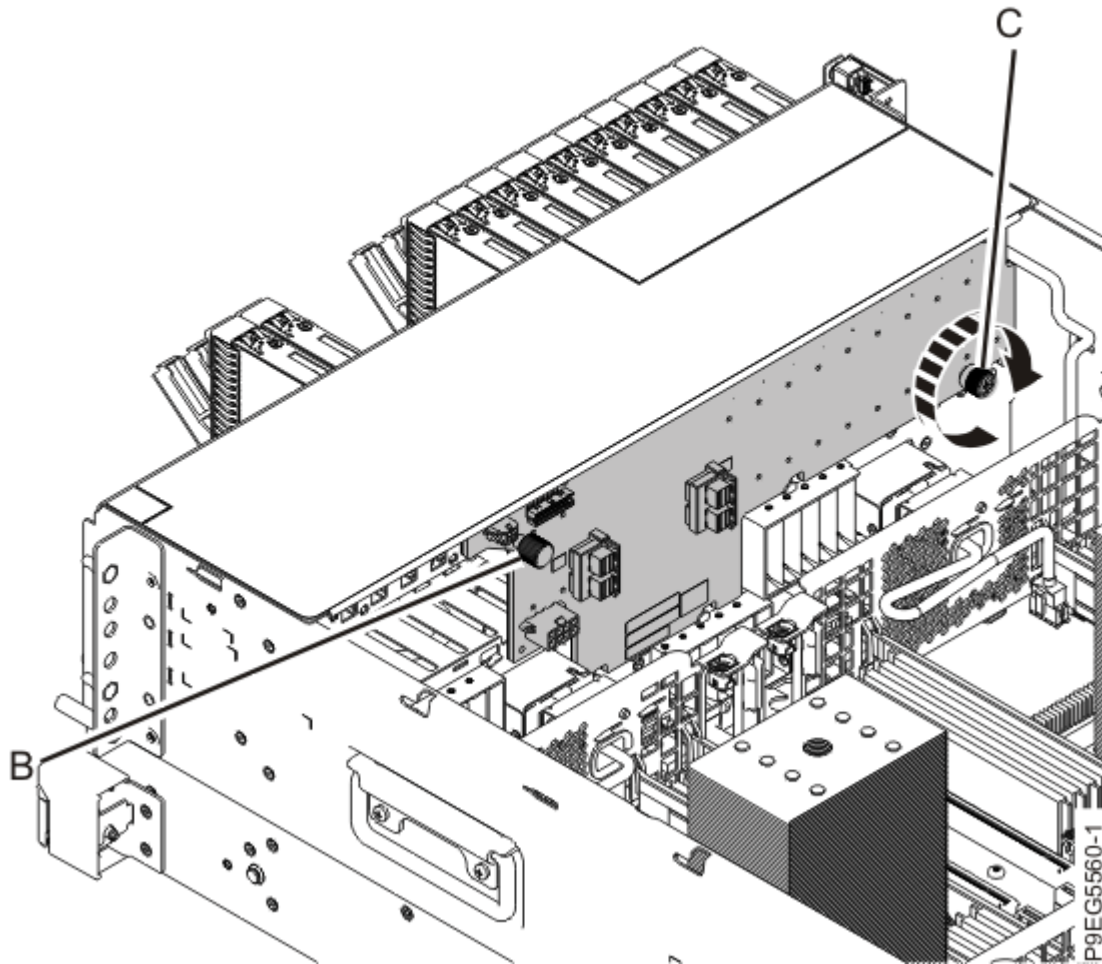


Figure 17. Replacing the disk drive backplane

4. Reconnect the signal cable **(A)**, and the power cable **(B)**, to the disk drive backplane as shown in the following figure.

Push the connectors in until the latches click.

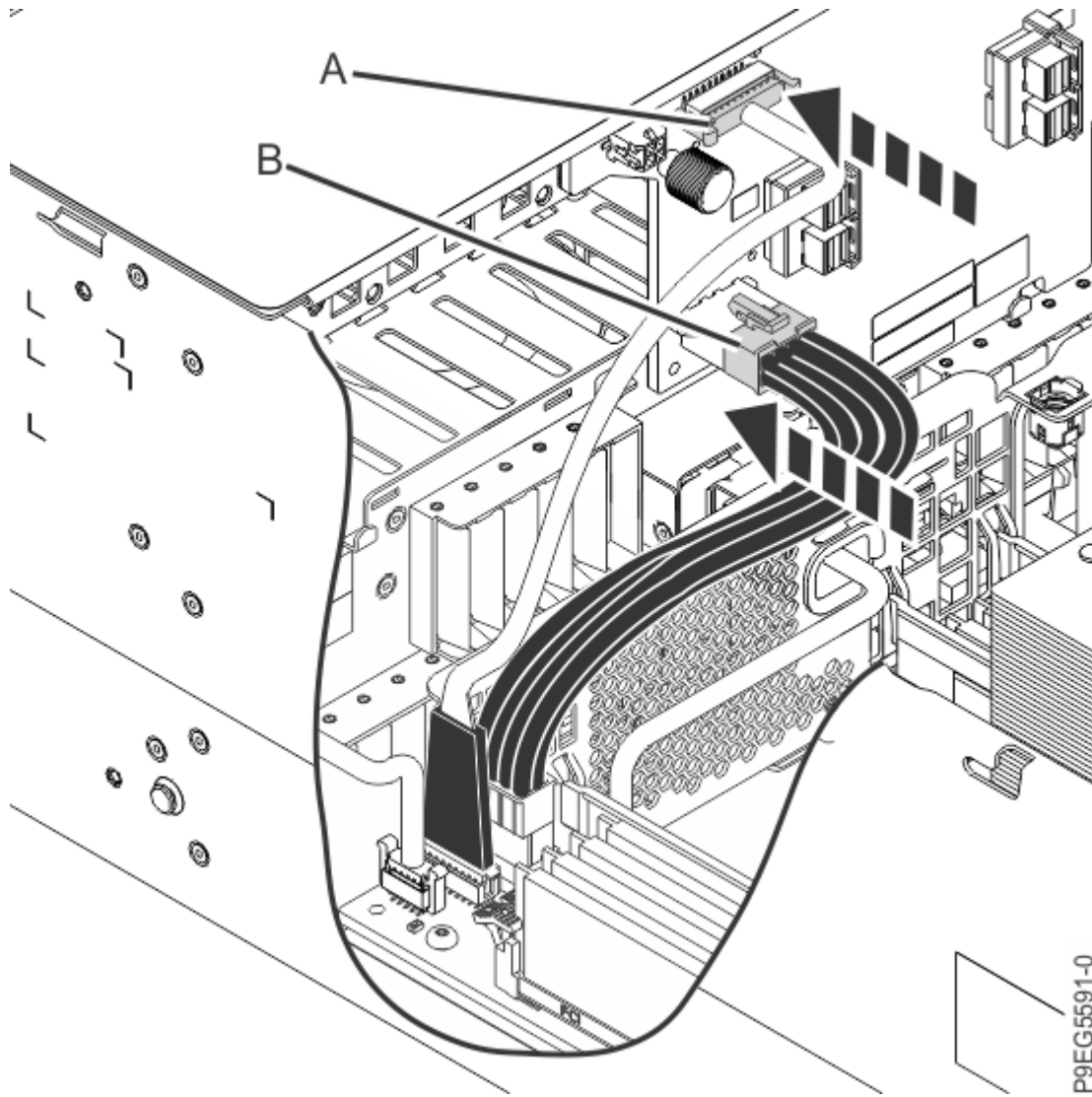


Figure 18. Reconnecting the power cable and the signal cable to the disk drive backplane

5. Using your labels, reconnect the front SAS cables to the disk drive backplane as shown in the following figure.

Push the connectors in until the latches click. Also ensure that the front SAS cables are fully seated into the SAS controller card.

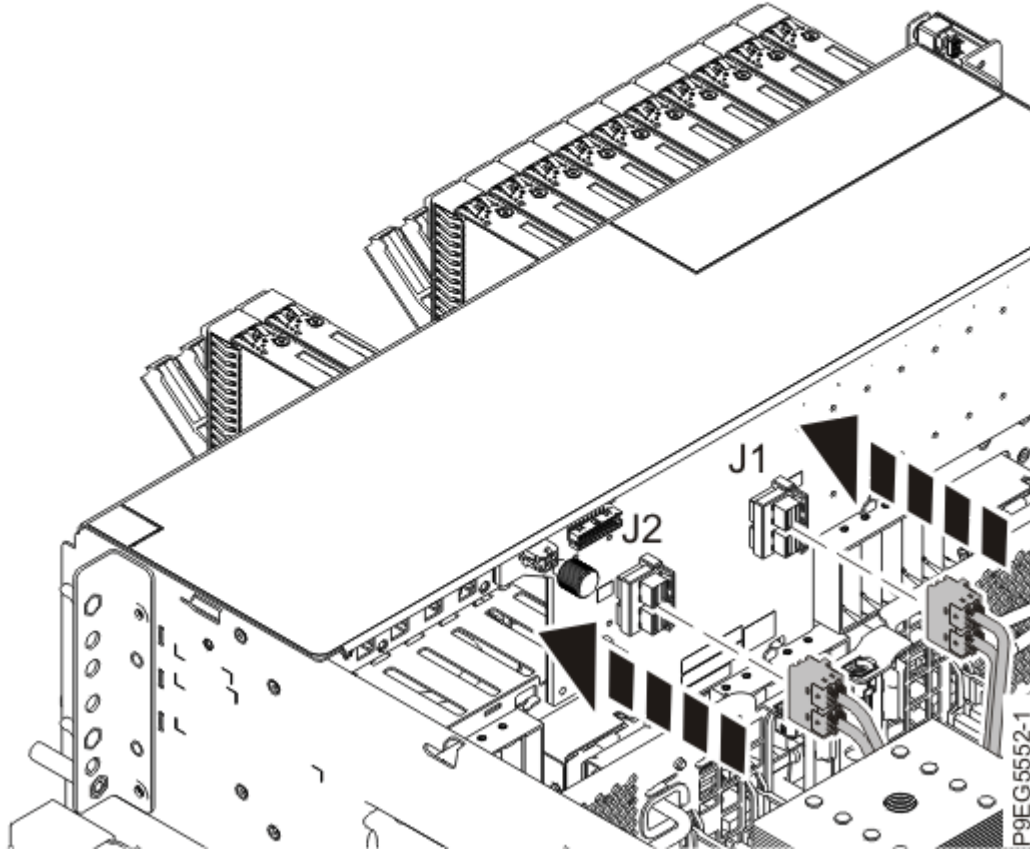
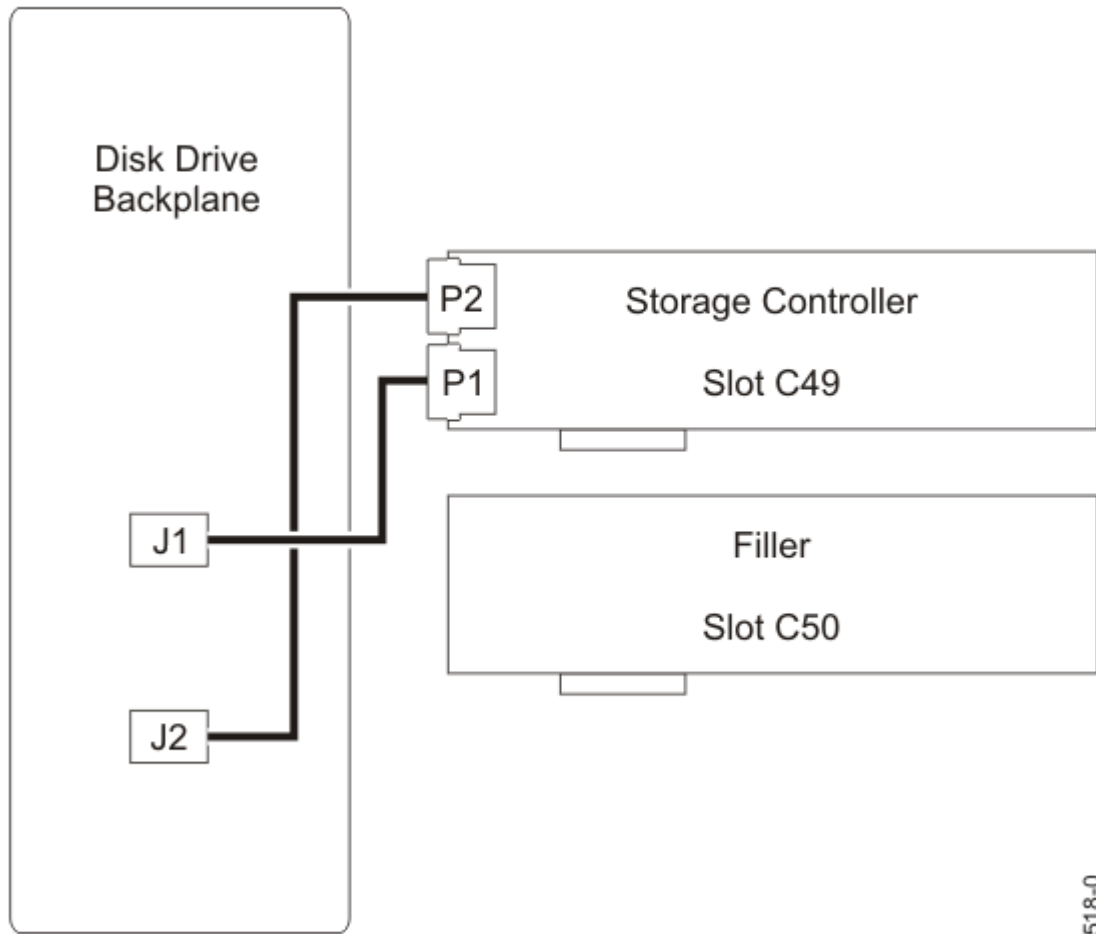


Figure 19. Reconnecting the front SAS cables

Notes:

If you have one storage controller in slot P1-C49 (base-storage feature) and a filler in slot P1-C50

One SAS cable connects the disk drive backplane connector J1 to the P1 connector on the storage controller. Another SAS cable connects the disk drive backplane connector J2 to the P2 connector on the same storage controller. See the following figure.

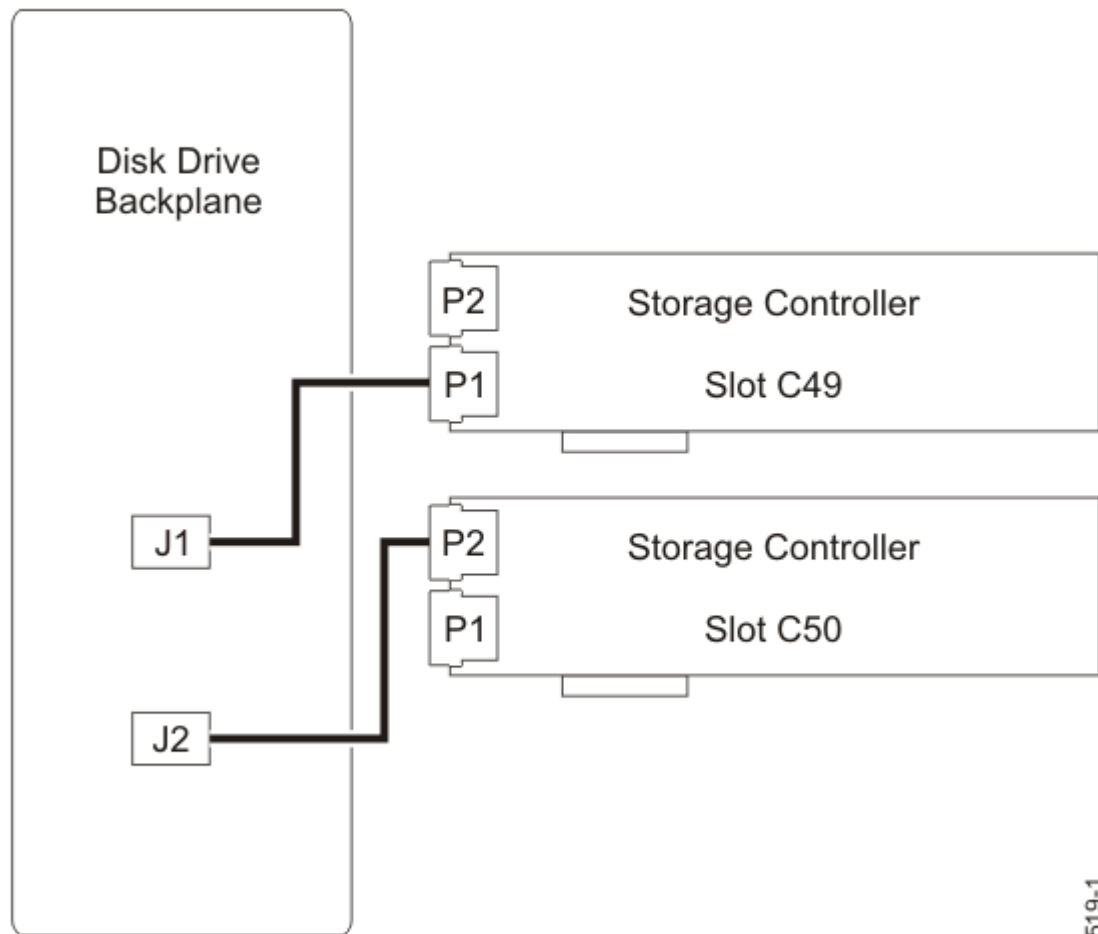


P9EG5518-0

Figure 20. Reconnecting the SAS cable in a base-storage configuration

If you have two storage controllers (split-disk feature), in slots P1-C49 and P1-C50

One SAS cable connects the disk drive backplane connector J1 to the P1 connector on the storage controller in slot P1-C49. The other SAS cable connects the disk drive backplane connector J2 to the P2 connector on the storage controller in slot P1-C50. See the following figure.



P9EG5519-1

Figure 21. Reconnecting the SAS cable in a split-disk configuration

For information about SAS cable part numbers, see [9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system parts \(http://www.ibm.com/support/knowledgecenter/POWER9/p9ecs/p9ecs_914_924_parts.htm\)](http://www.ibm.com/support/knowledgecenter/POWER9/p9ecs/p9ecs_914_924_parts.htm).

6. Fully seat all the front drives and front fillers if present into their slots as shown in the following figure. Push drive lever **(A)** until the front drive and filler is seated and the lever snaps closed.

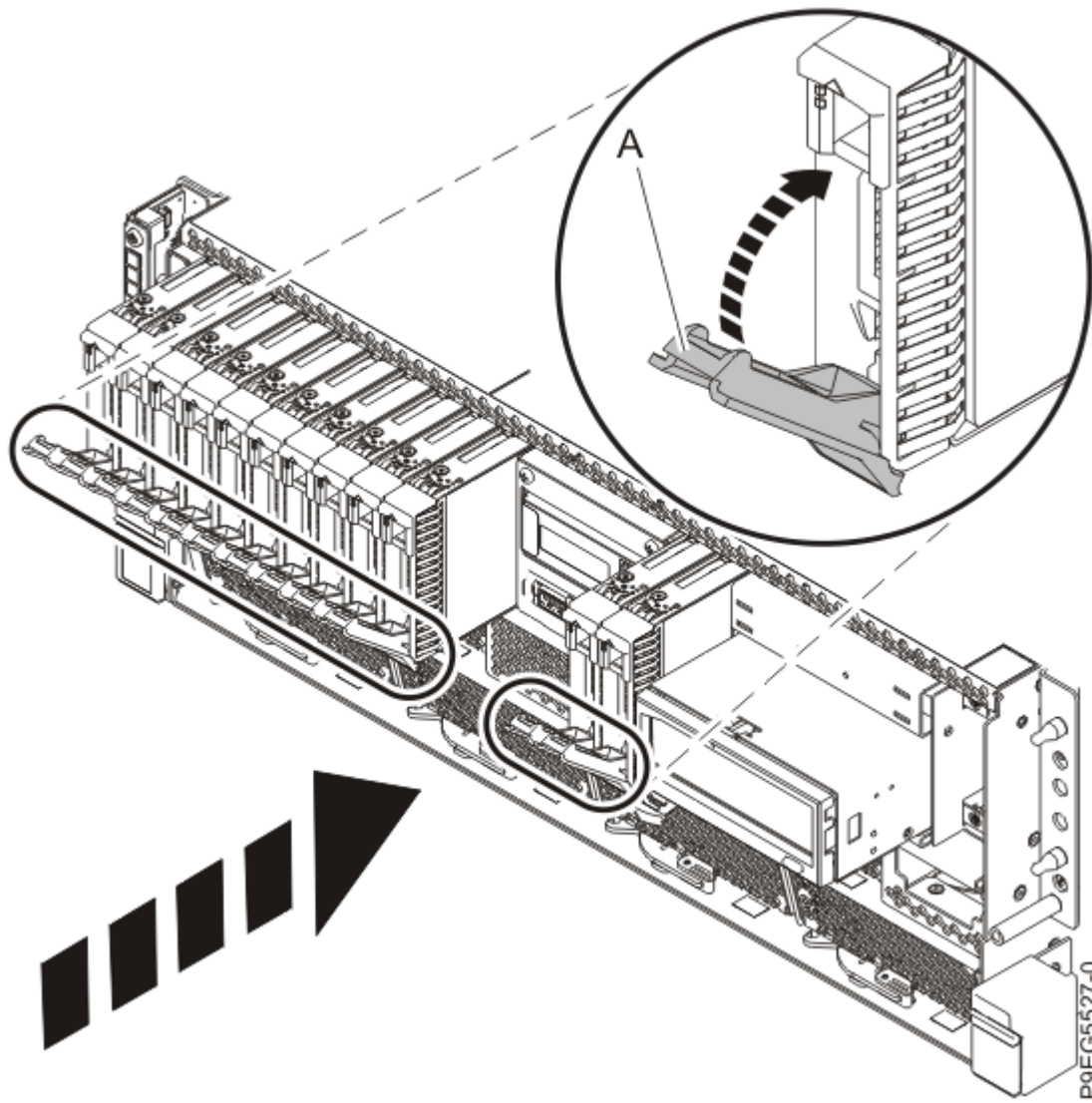


Figure 22. Replacing the front drives and fillers

7. If you slid out the RDX docking station, complete the following steps:

- a) Push the RDX docking station into the system until the latch clicks into place as shown in the following figure.

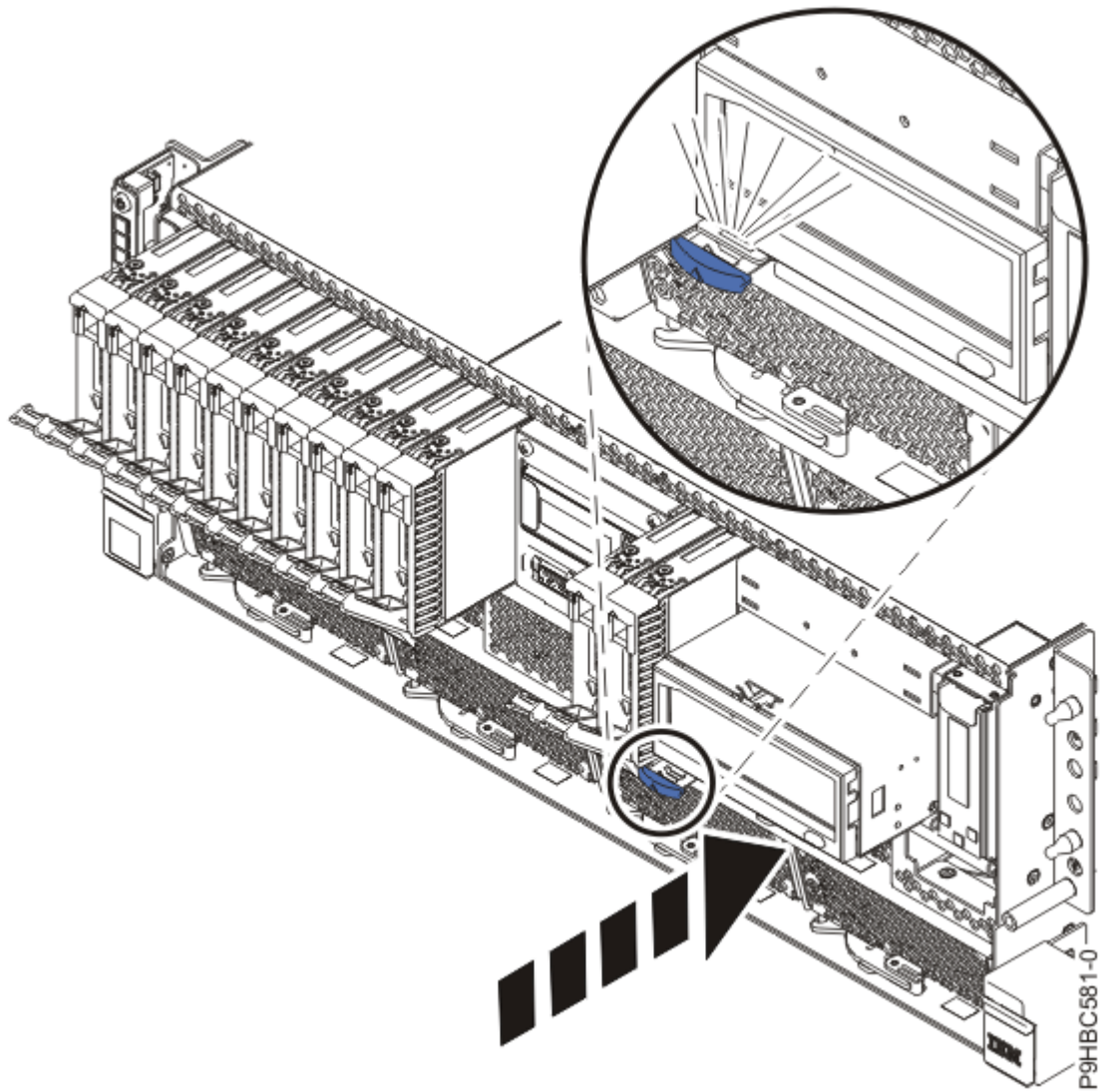


Figure 23. Replacing the RDX docking station

- b) Connect the RDX power cable **(A)** into the disk drive backplane as shown in the following figure. Ensure that the latch **(B)** on the RDX power cable is oriented upwards for a rack-mounted system; and to the outside for a stand-alone system.

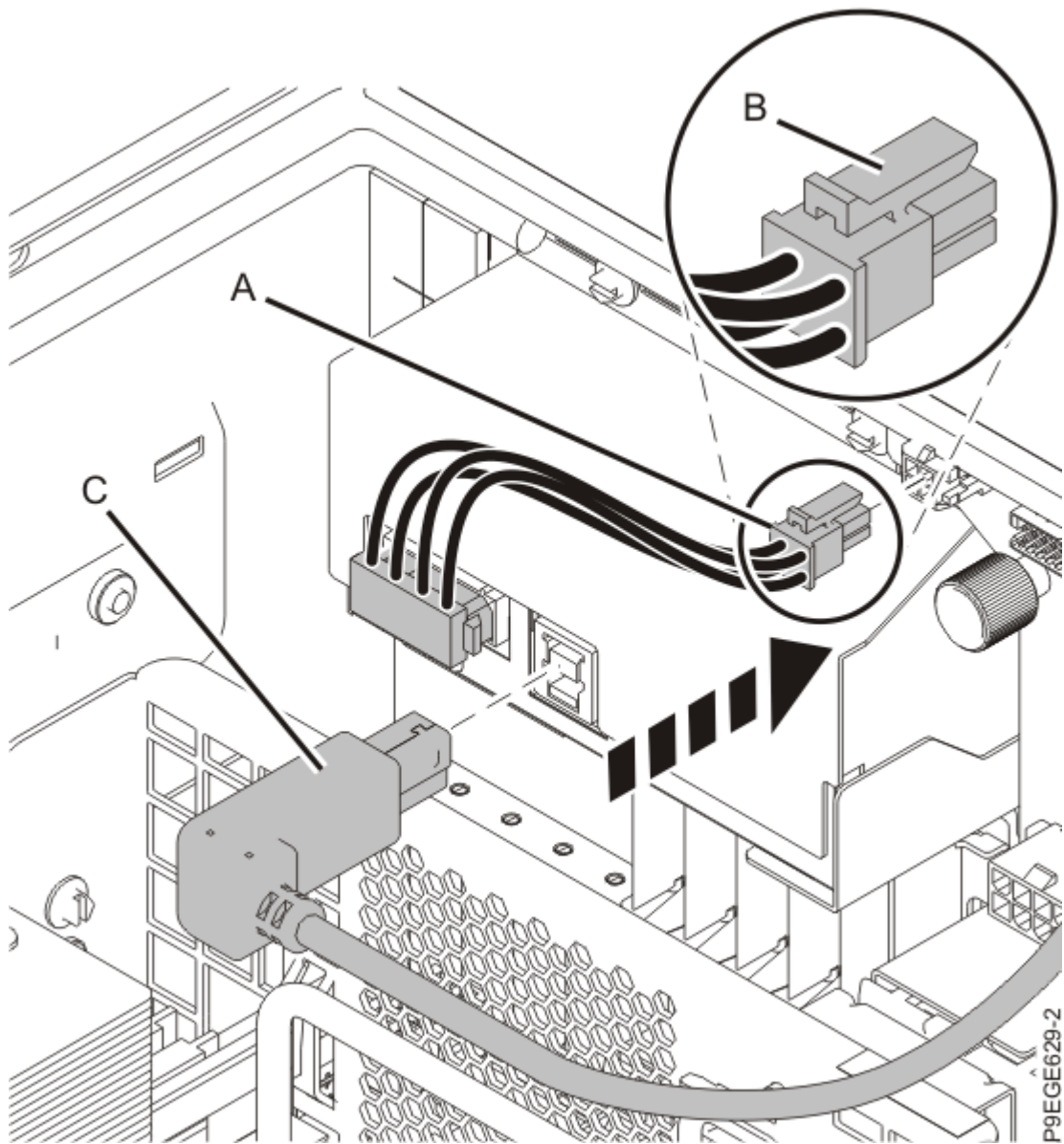


Figure 24. Reconnecting the RDX power cable and USB cable

c) Connect the USB cable (C) into the rear of the RDX docking station as shown in the previous figure.

d) For a stand-alone system, close the front door.

Insert the front door key into the lock as shown in the following figure. Twist the key to the right (clockwise) to lock the door. Horizontal is locked; vertical is unlocked.

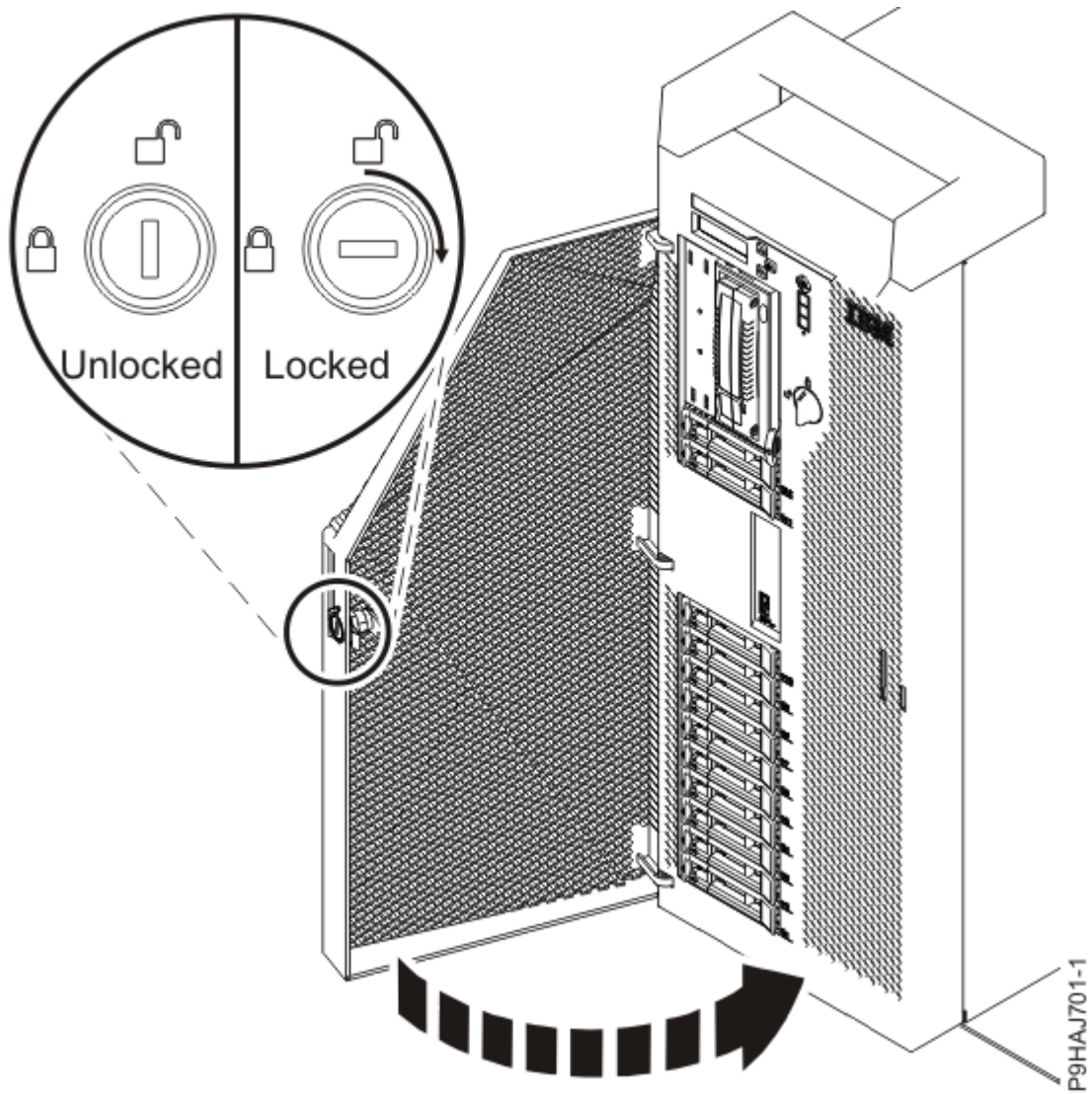


Figure 25. Locking the front door

8. If you removed the filler for the RDX drive, complete the following steps:
 - a) Place the filler into the system as shown in the previous figure, ensure that the filler is in the tab at **(A)**.

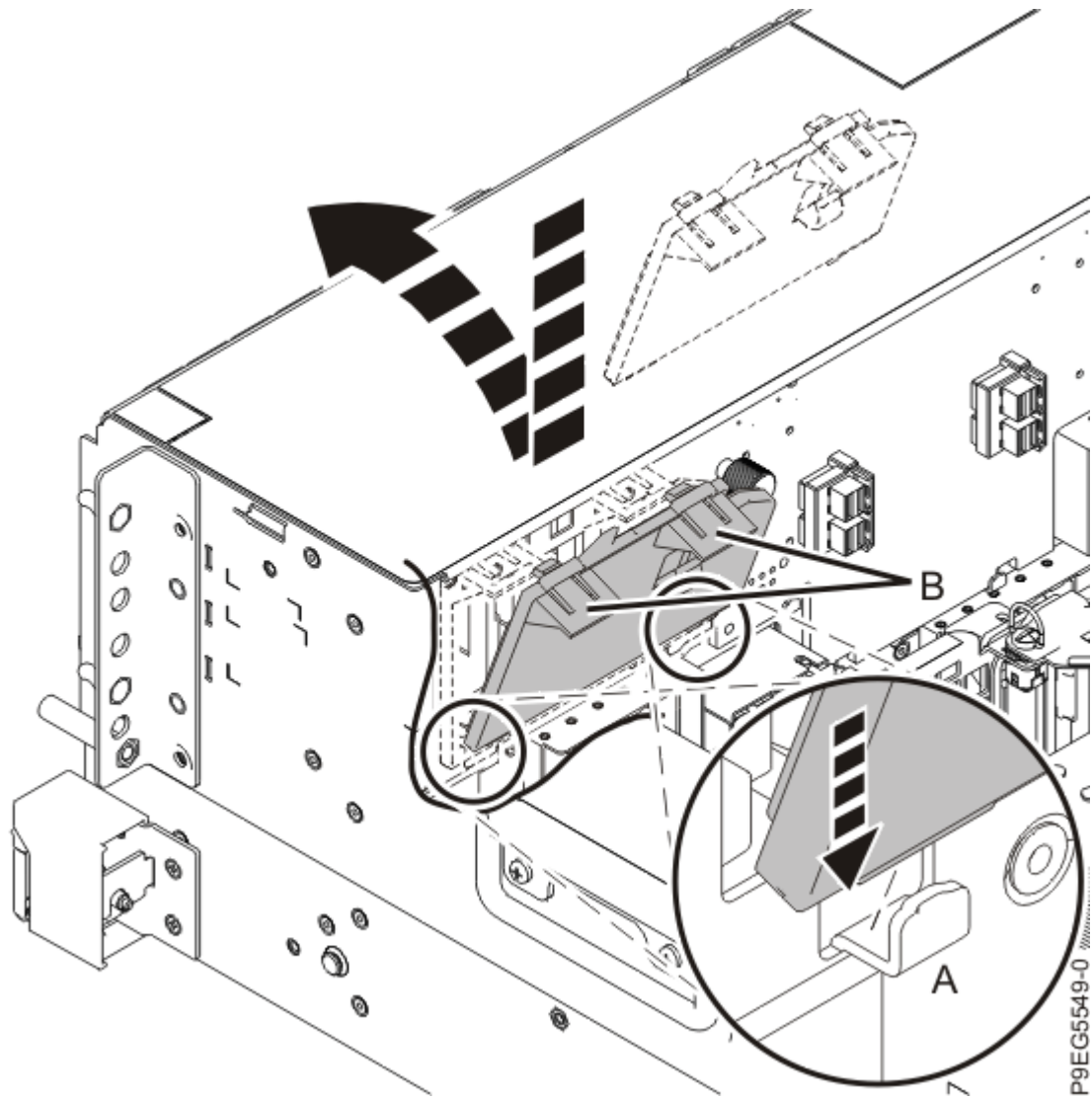
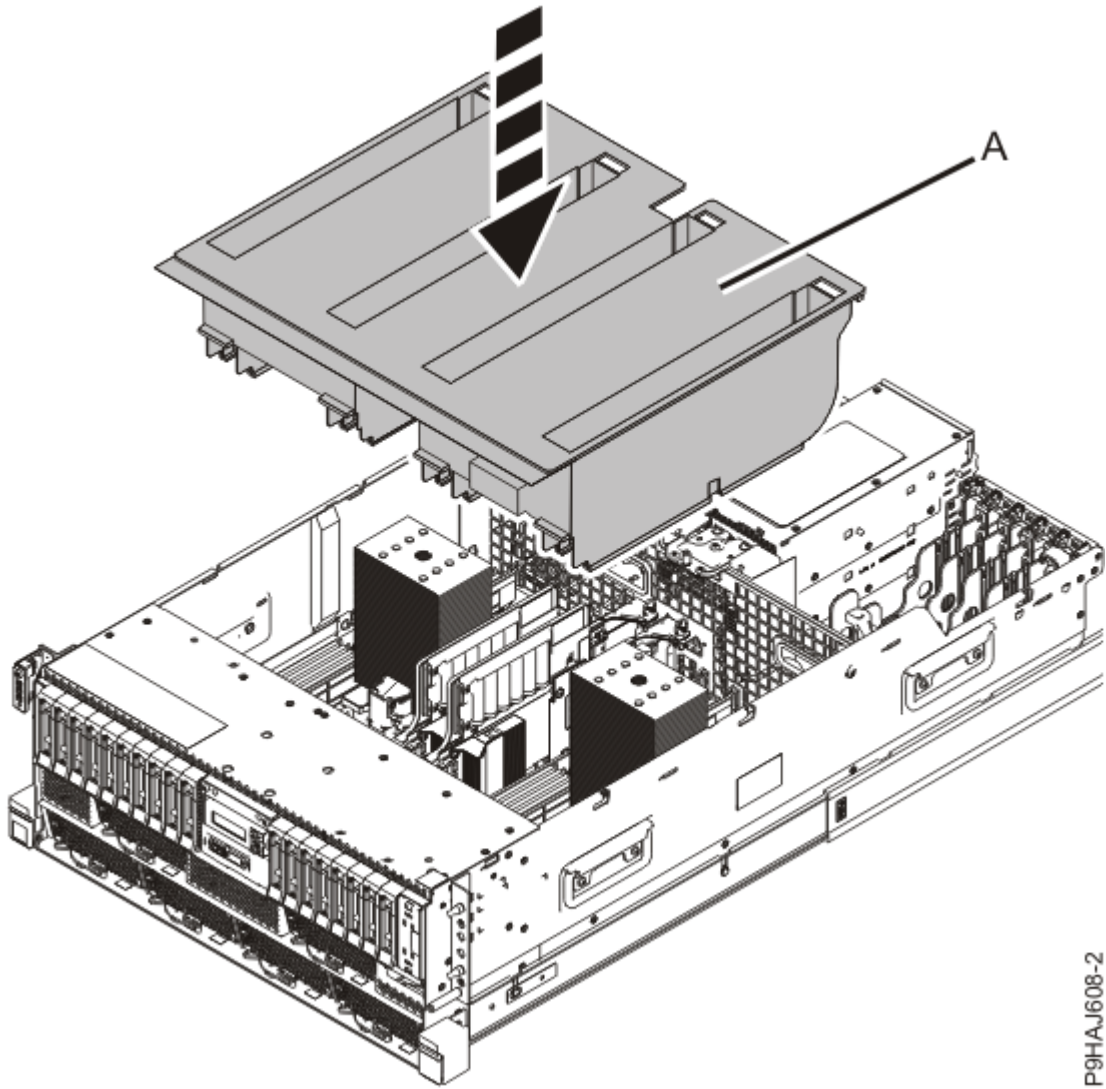


Figure 26. Replacing the RDX drive filler

- b) Push in the clips **(B)** to snap the filler into the chassis
9. For a rack-mounted system, replace the air baffle **(A)** straight down into the chassis as shown in [Figure 27](#) on page 30.

For a stand-alone system, replace the air baffle **(A)** straight into the side of the chassis as shown in [Figure 28](#) on page 31.

Ensure that the front flap tucks under the front chassis.



P9HAJ608-2

Figure 27. Replacing the air baffle in a rack-mounted system

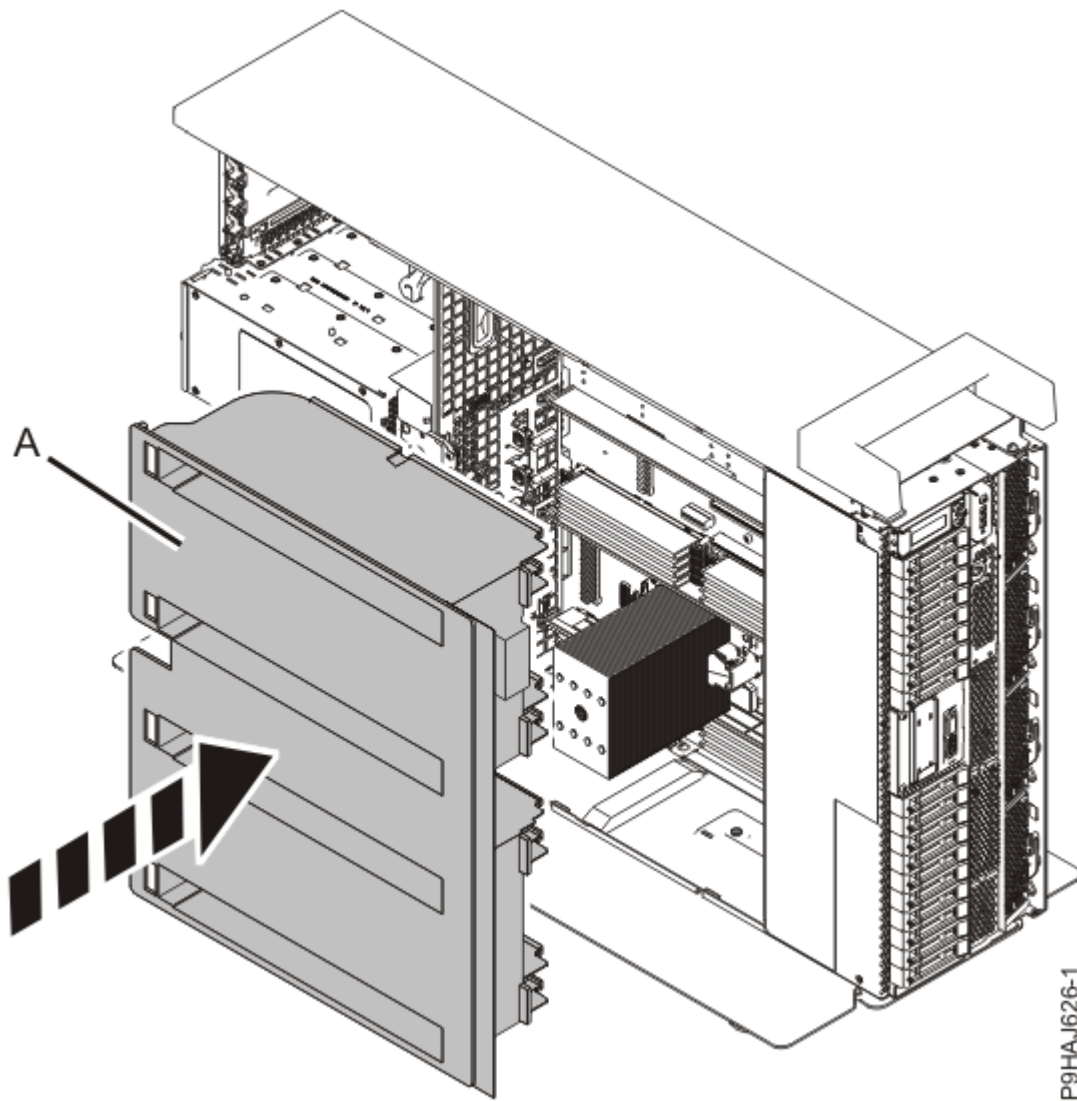


Figure 28. Replacing the air baffle in a stand-alone system

Preparing the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system for operation after removing and replacing the base function disk drive backplane

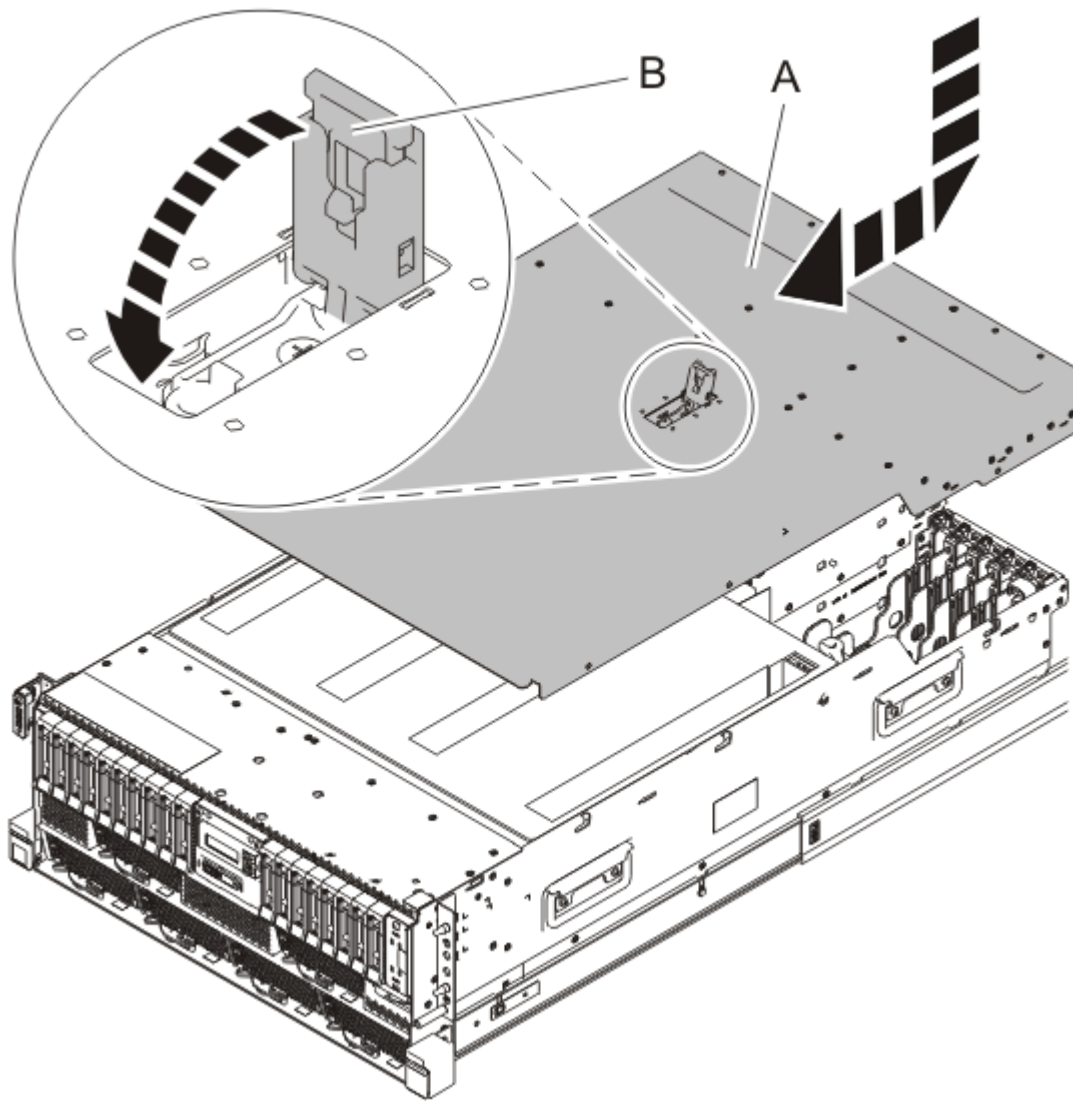
To prepare the system for operation after removing and replacing the base function disk drive backplane, complete the steps in this procedure.

Procedure

1. Replace the service access cover.

For a rack-mounted system, complete the following steps. Refer to [Figure 29 on page 32](#).

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

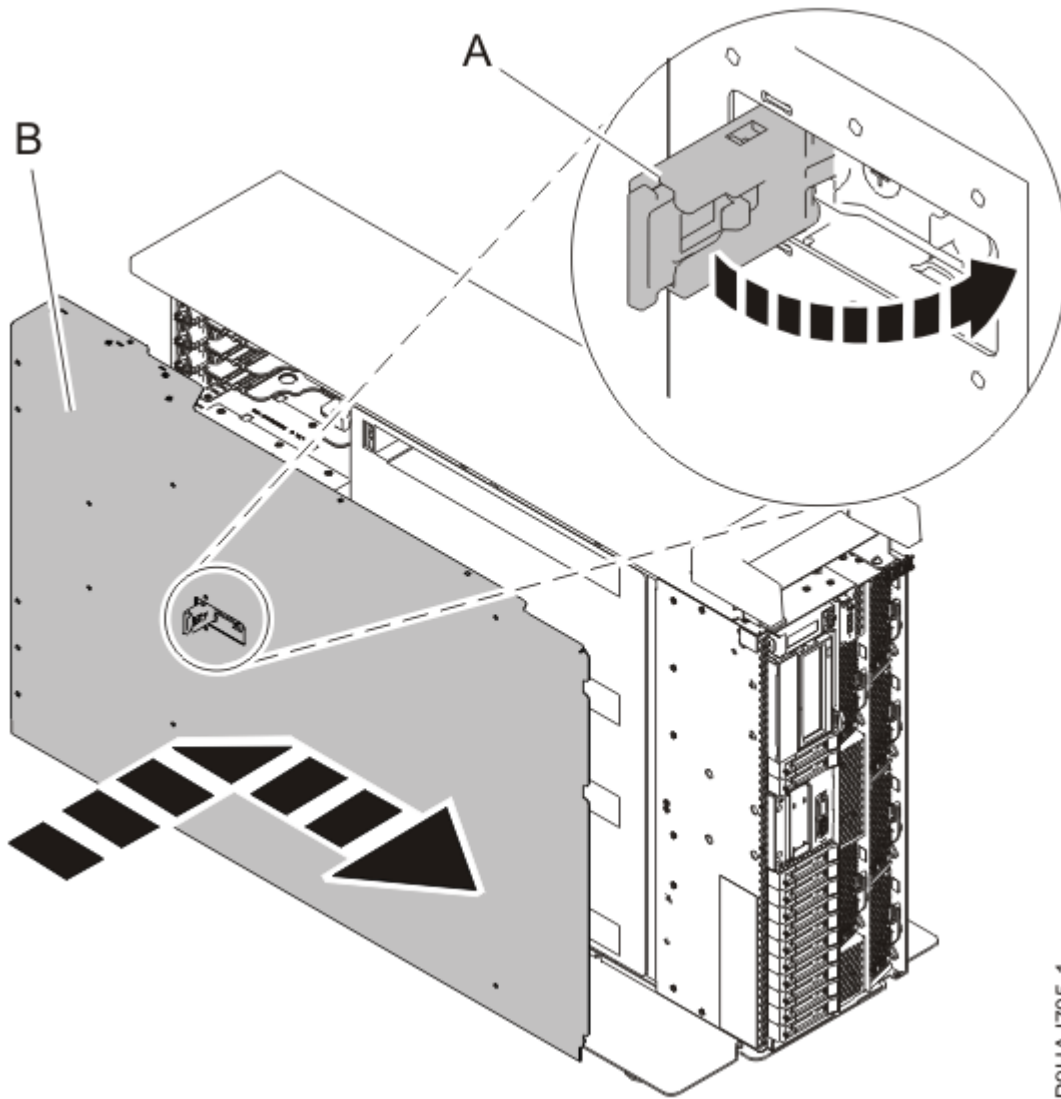


P9HAJ606-2

Figure 29. Installing the service access cover

For a stand-alone system, complete the following steps. Refer to [Figure 30 on page 33](#).

- 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.

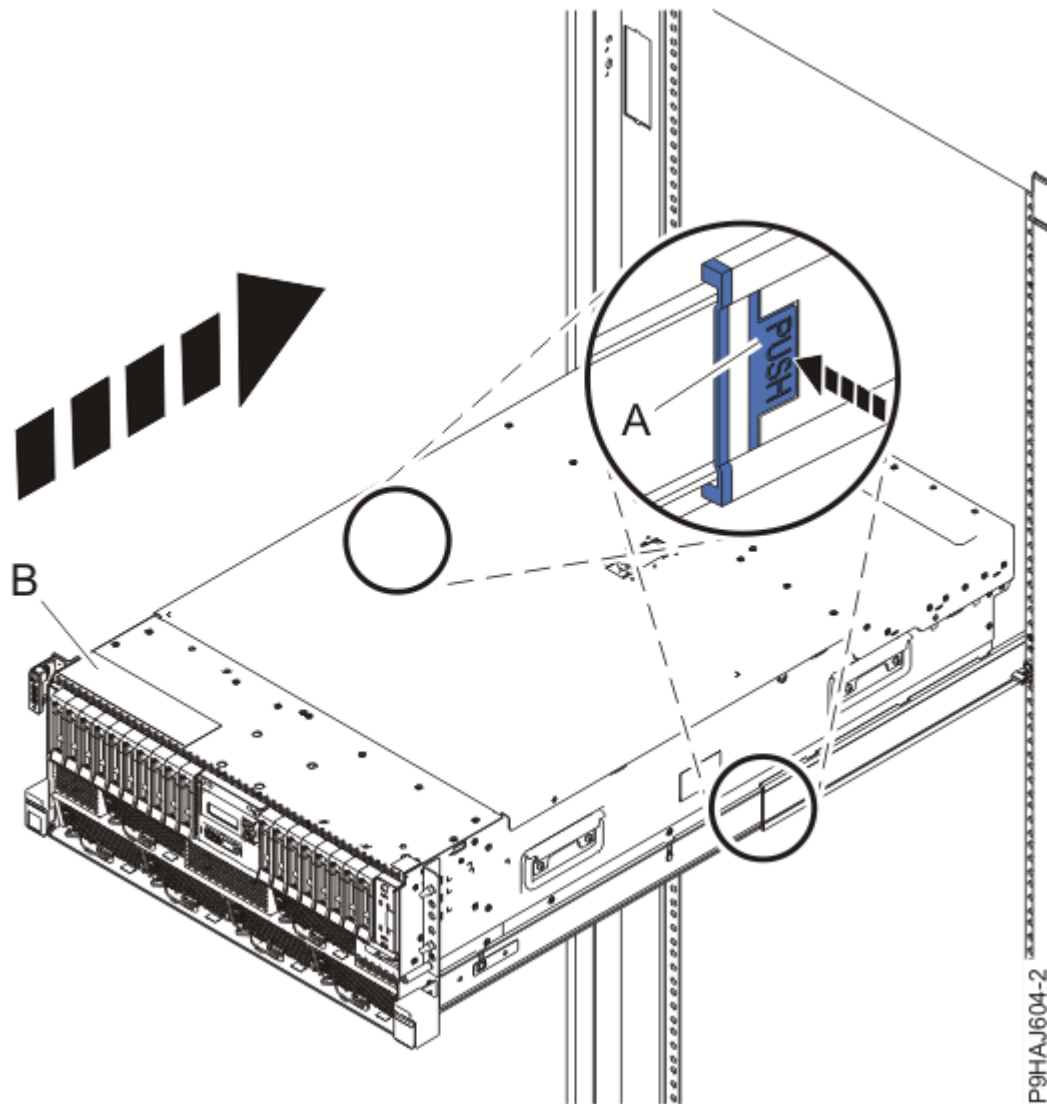


P9HAJ705-1

Figure 30. Installing the service access cover

2. For a rack-mounted system, unlock the blue rail safety latches **(A)** as shown in [Figure 31](#) on page 34 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.



P9HAJ604-2

Figure 31. 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.

4. 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 32](#) on page 35 or [Figure 33](#) on page 36.

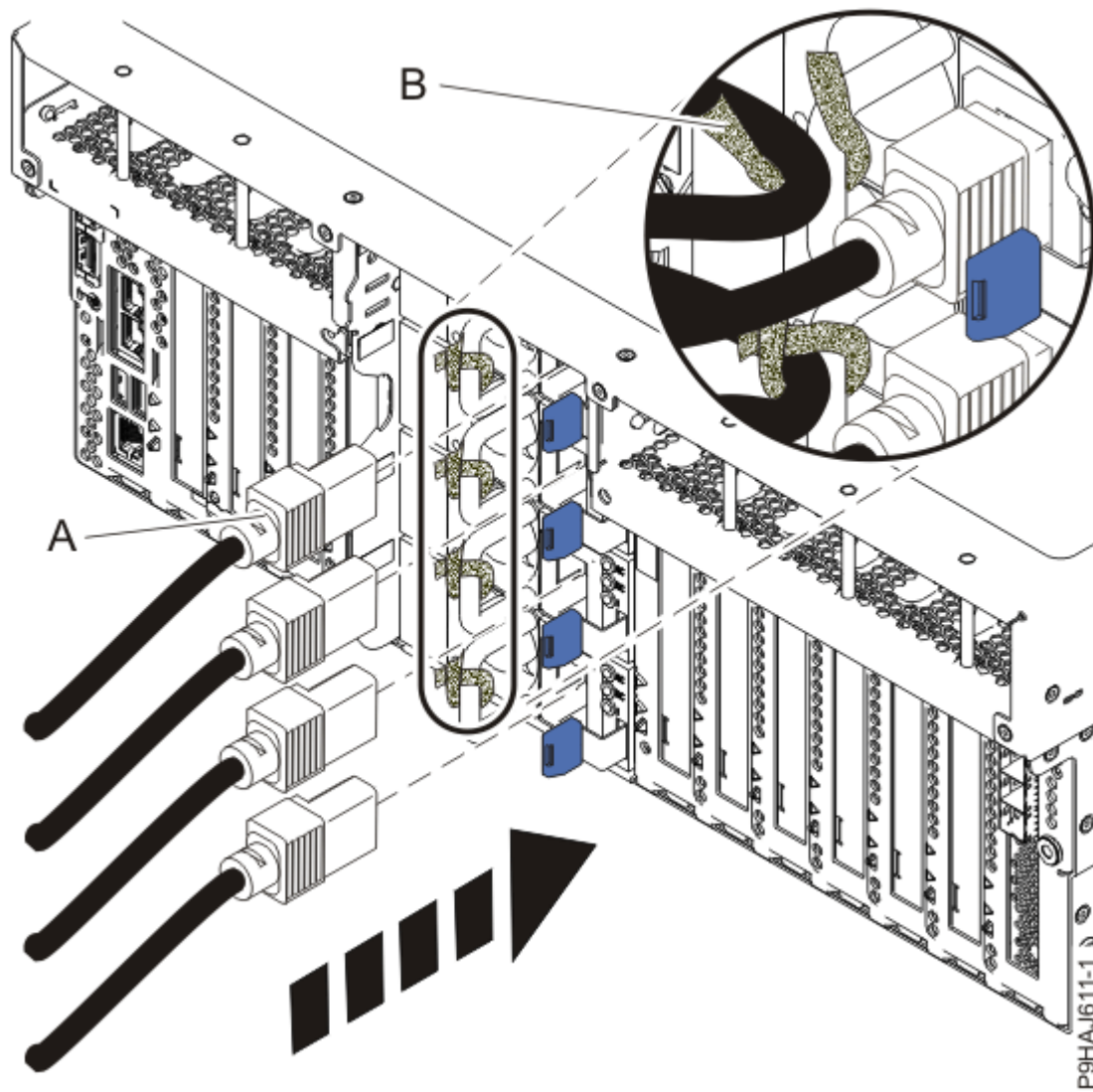


Figure 32. Connecting the power cords to a rack-mounted system

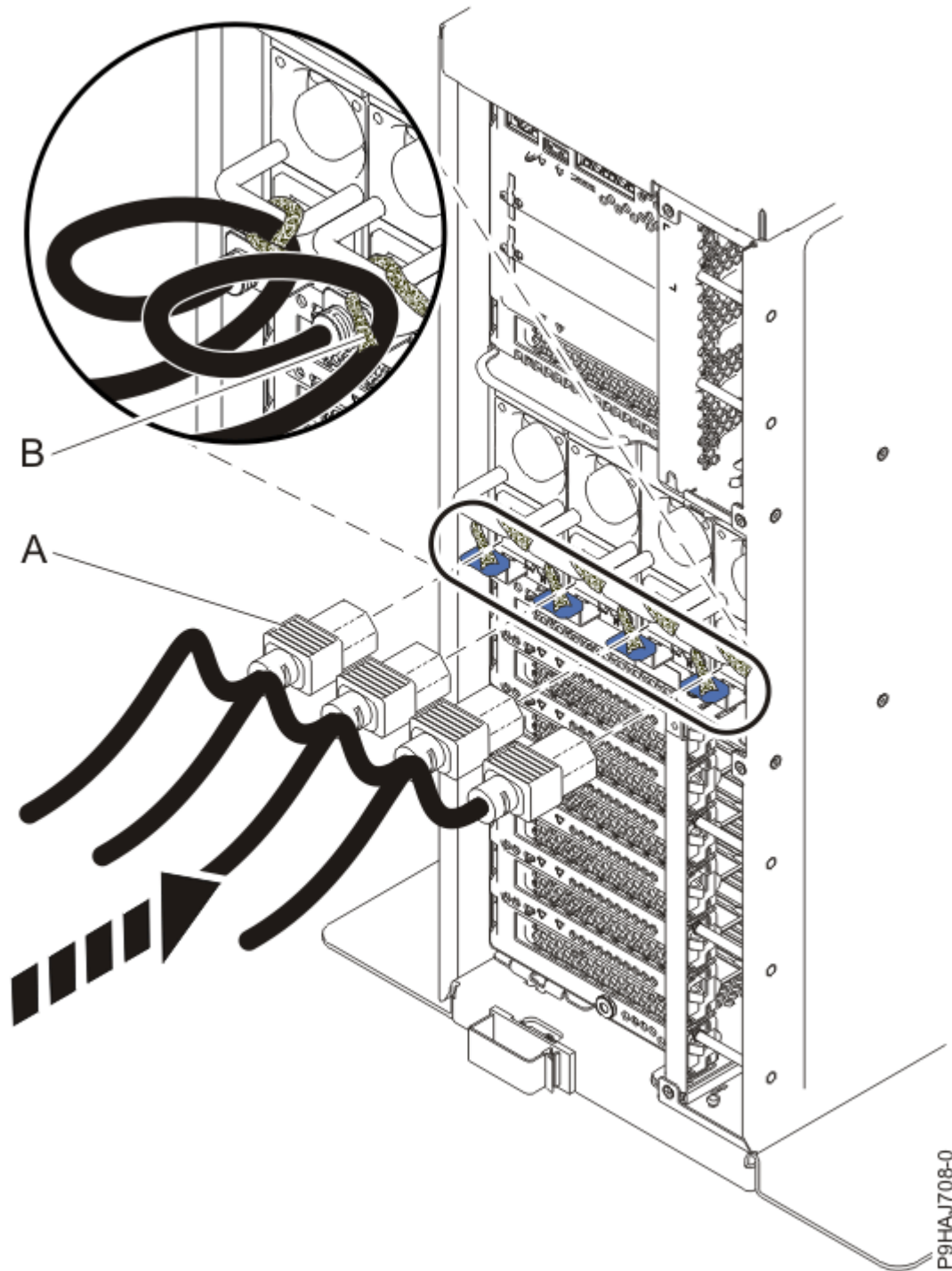


Figure 33. Connecting the power cords to a stand-alone system

5. Start the system. For instructions, see [Starting a system](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustartsys.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustartsys.htm).
6. Turn off the identify LED. For instructions, see [Deactivating an identify LED](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_turn_off_identify_led.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_turn_off_identify_led.htm).
7. Verify the installed part.
 - If you replaced the part because of a service action, verify the installed part. For instructions, see [Verifying a repair](http://www.ibm.com/support/knowledgecenter/POWER9/p9ect/pxect_verifyrepair.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9ect/pxect_verifyrepair.htm).
 - If you installed the part for any other reason, verify the installed part. For instructions, see [Verifying the installed part](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/pxhaj_hsmverify.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/pxhaj_hsmverify.htm).

Removing and replacing the 12-drive expanded function disk drive backplane in the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S

Find information about removing and replacing the 12-drive expanded function disk drive backplane in 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.

About this task

If your system is managed by the Hardware Management Console (HMC), use the HMC to repair a part in the system. For instructions, see [Repairing a part by using the HMC](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_hmc_repair.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_hmc_repair.htm).

If your server is not managed by an HMC, complete the steps in the following procedures to remove and replace the 12-drive expanded function disk drive backplane.

Preparing the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system to remove and replace the 12-drive expanded function disk drive backplane

To prepare the system to remove and replace the 12-drive expanded function disk drive backplane, complete the steps in this procedure.

Procedure

1. Identify the part and the system that you are working on. For instructions, see [Identifying a part](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/sal.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/sal.htm).

Use the blue identify LED on the enclosure to locate the system. Ensure that the serial number of the system matches the serial number to be serviced.

2. Stop the system. For instructions, see [Stopping a system](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustopsys.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustopsys.htm).
3. Label and disconnect the power cords from the system unit.
See [Figure 34 on page 38](#) or [Figure 35 on page 39](#).

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.

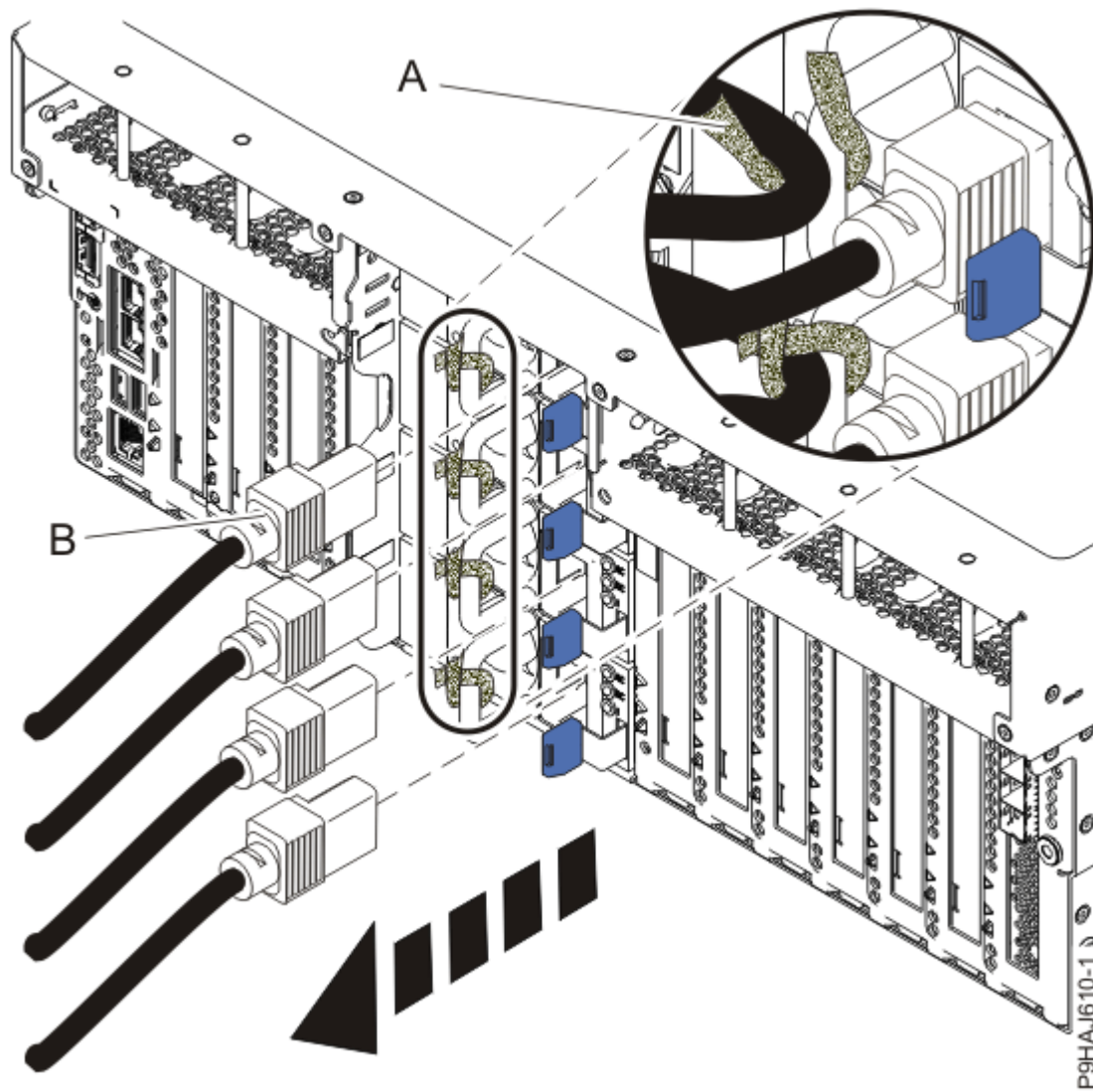


Figure 34. Removing the power cords from a rack-mounted server

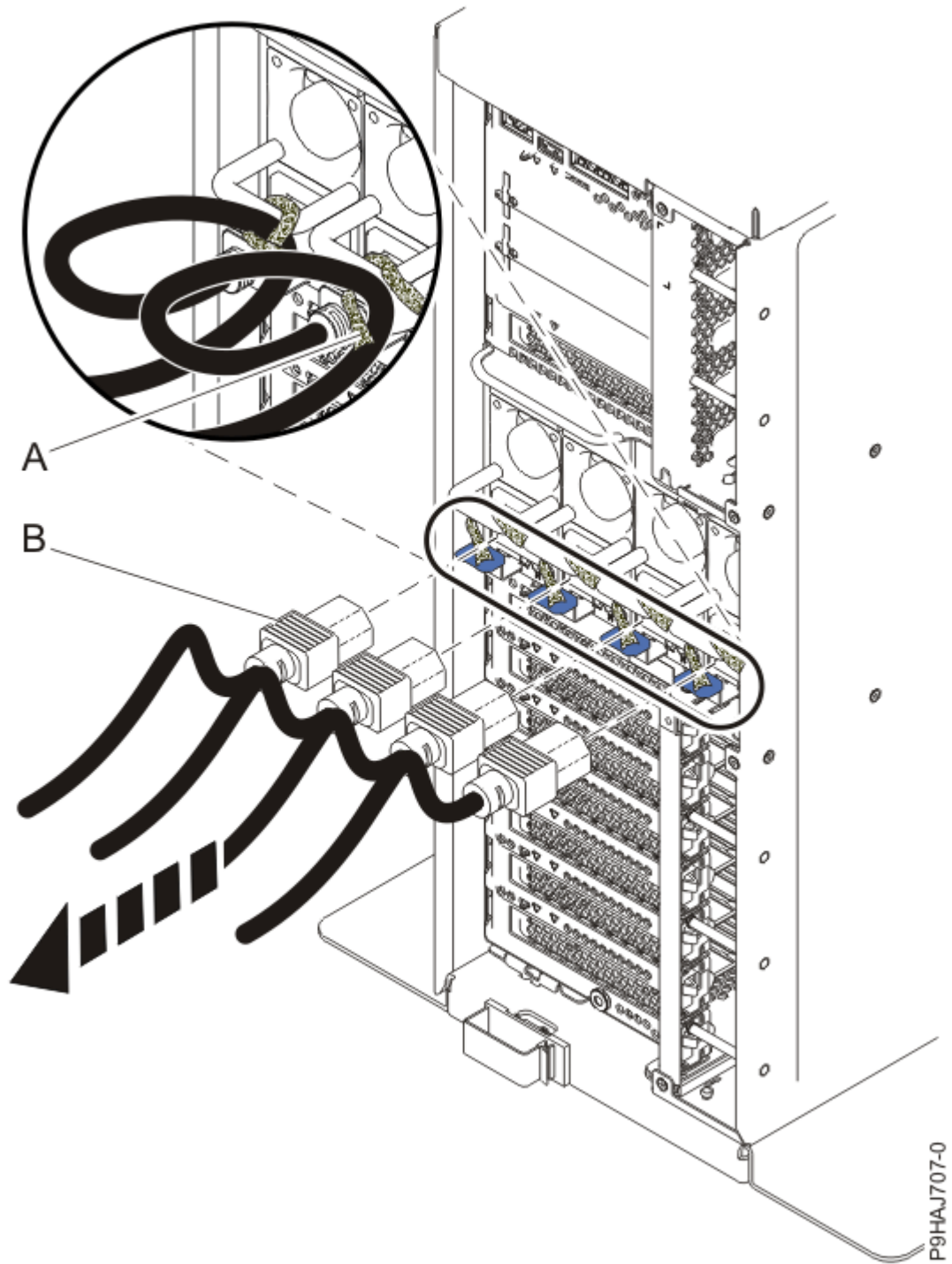
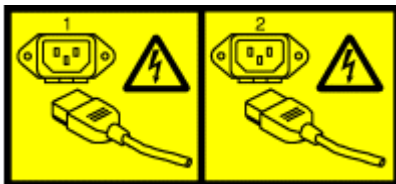


Figure 35. Removing the power cords from a stand-alone server

(L003)



or



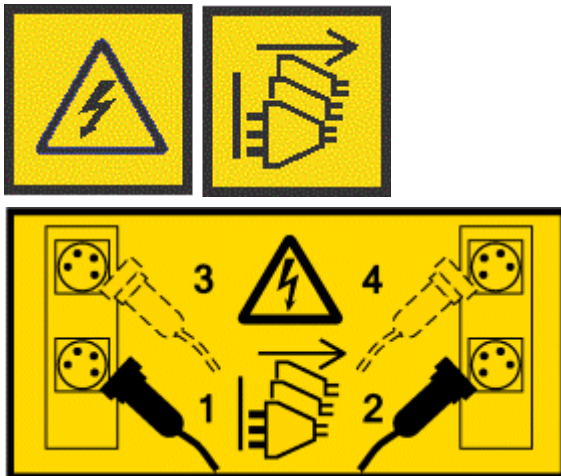
or

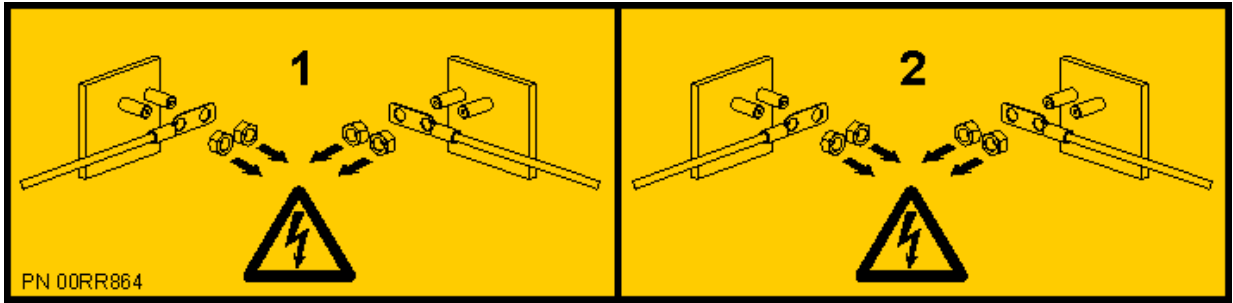


or



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)

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.



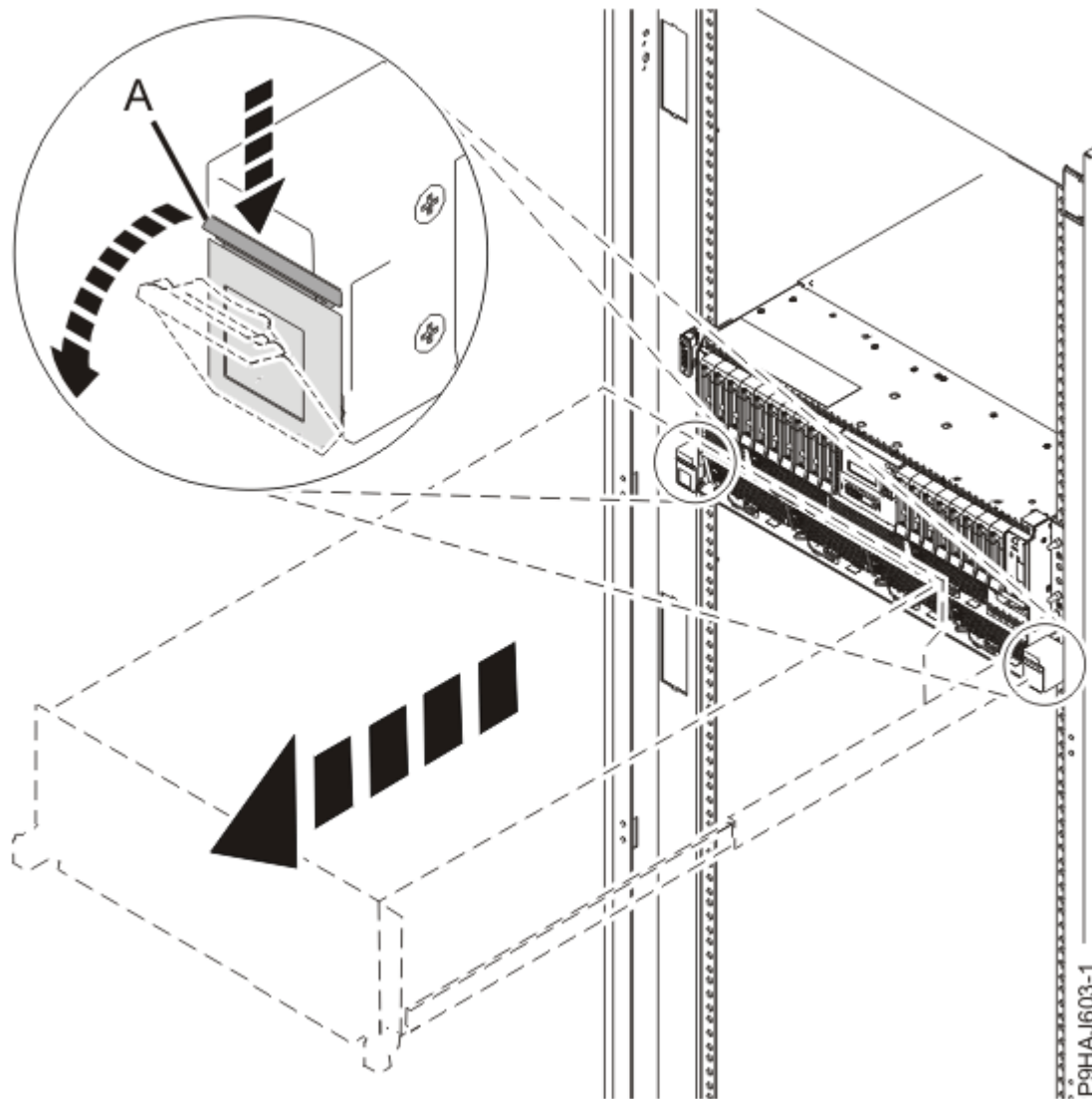


Figure 36. Releasing the side latches

5. Attach the electrostatic discharge (ESD) wrist strap. Your system has ESD jacks on the front and on the rear of the system as shown in the following figure. Plug the ESD wrist strap into the ESD jack.

 **Attention:**

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

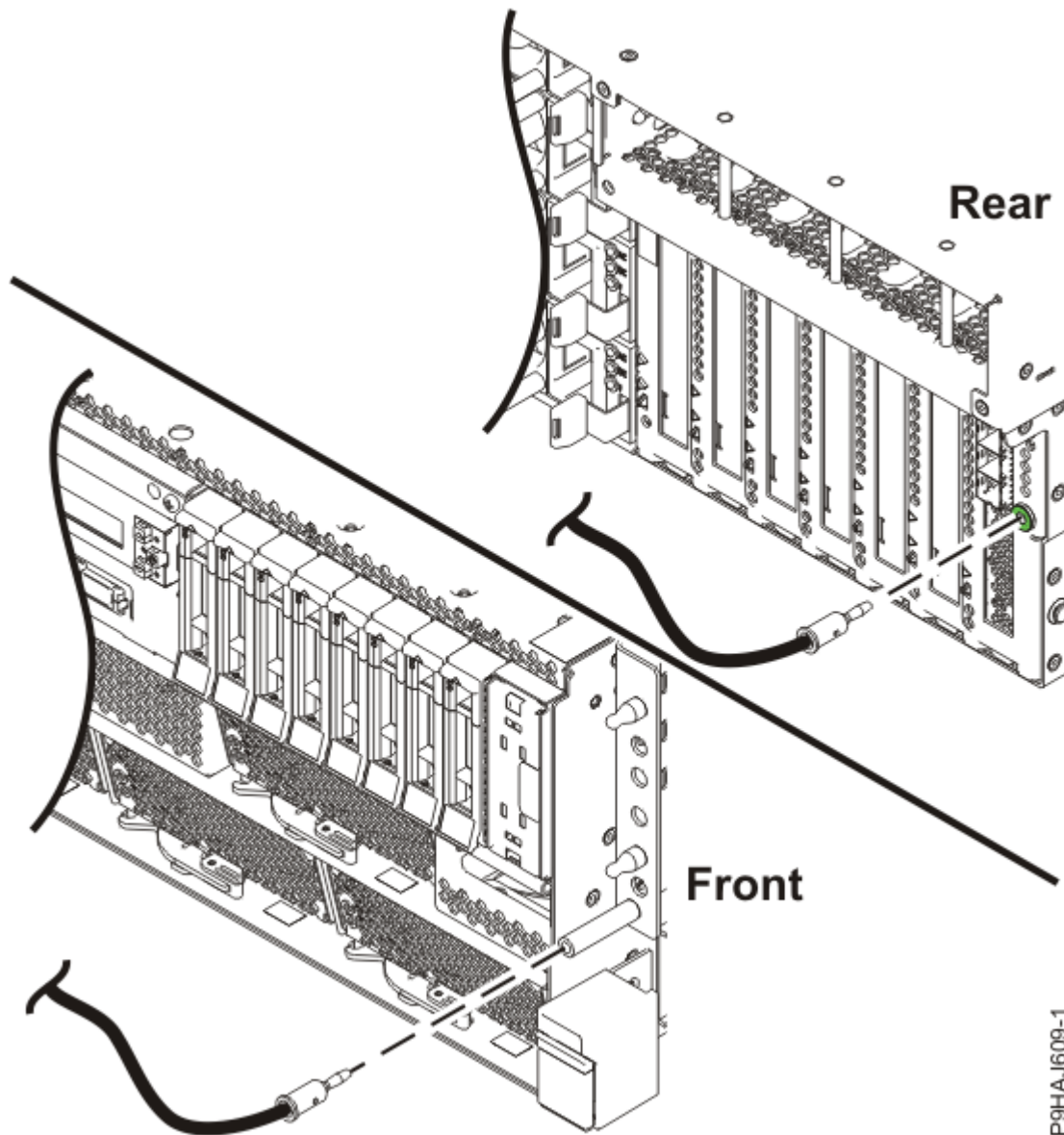


Figure 37. Location of ESD plugs

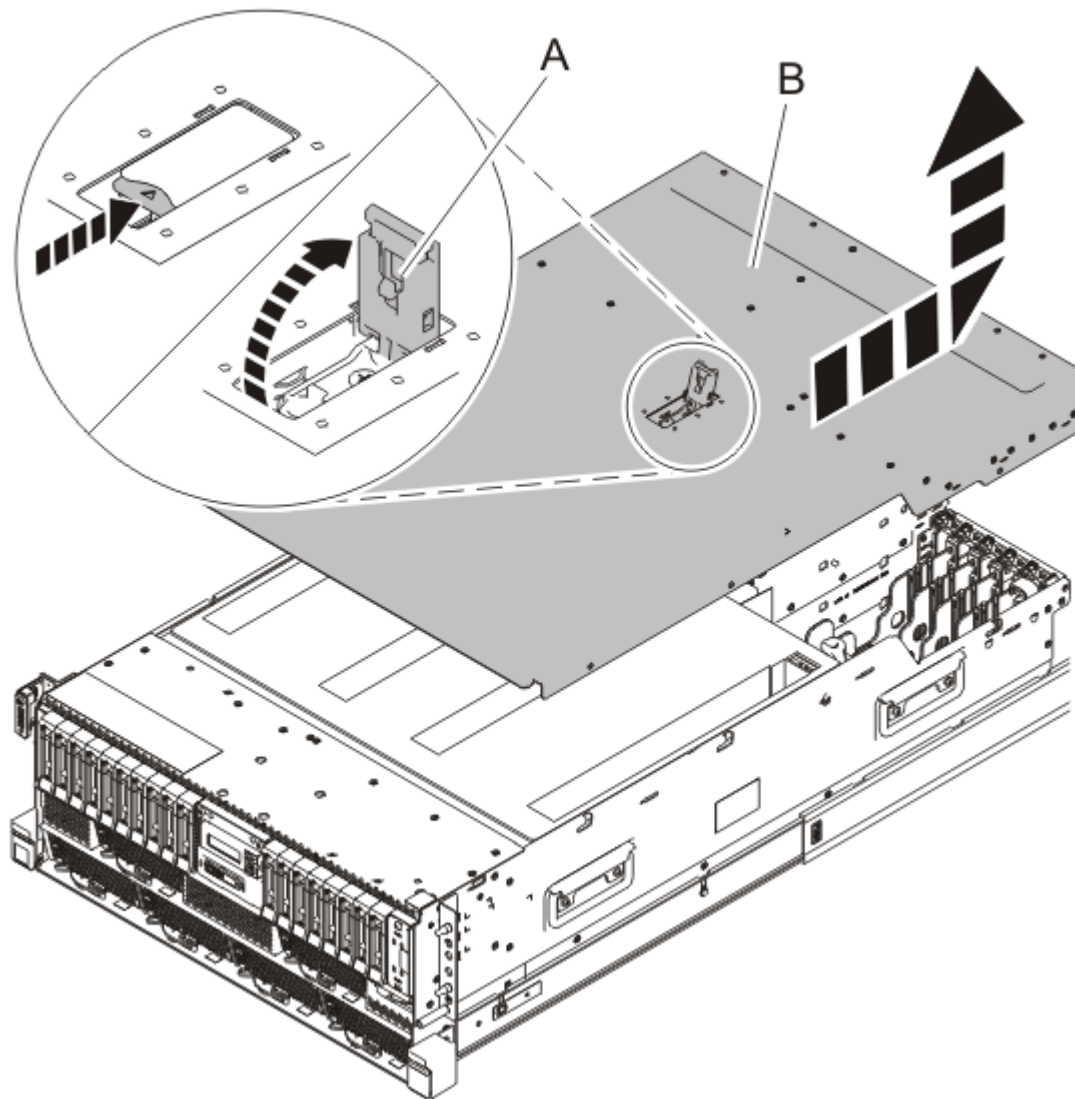
6. Remove the service access cover.

For a rack-mounted system, complete the following steps. Refer to [Figure 38](#) on page 44.



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.



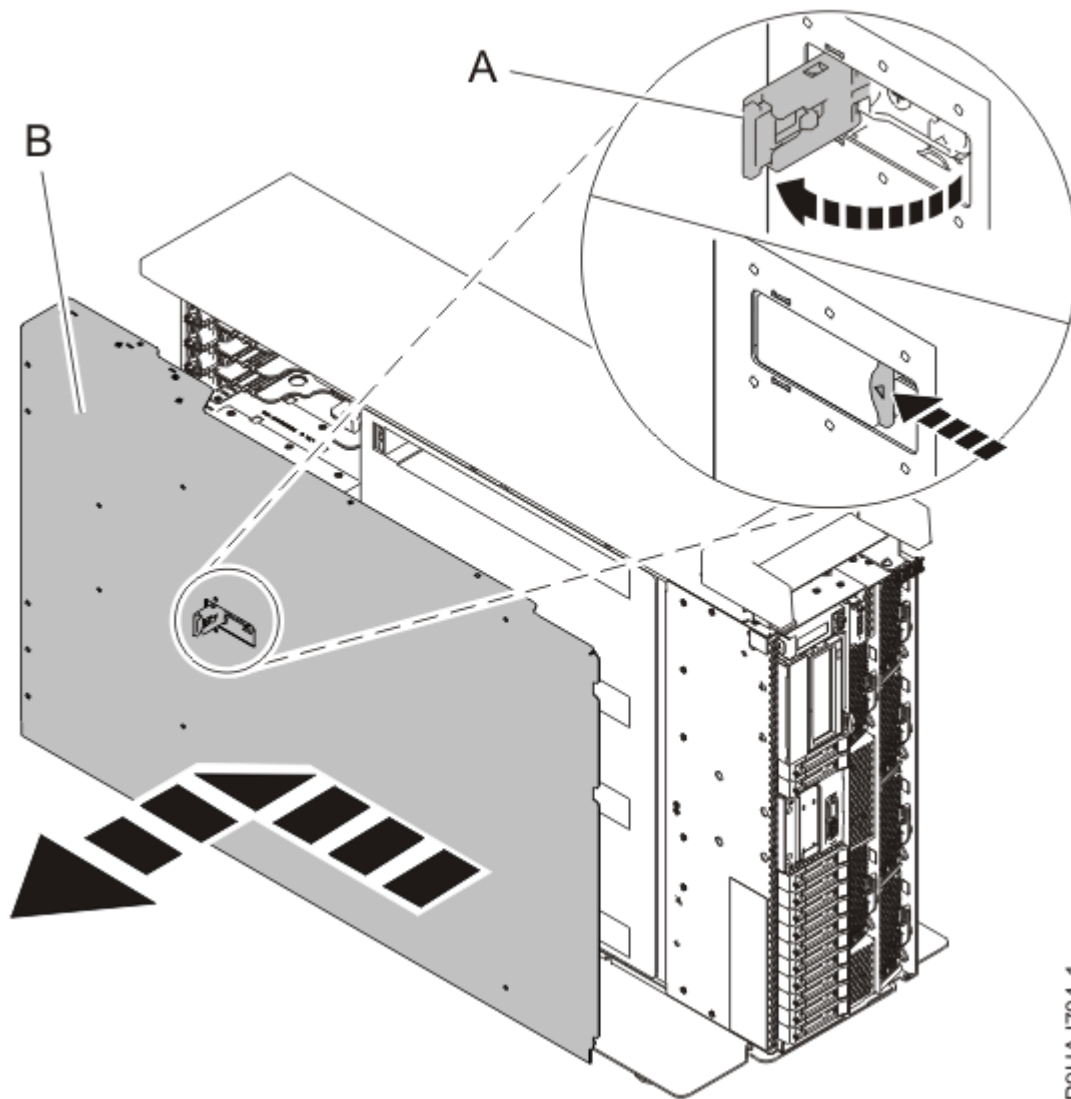
P9HAJ605-2

Figure 38. Removing the service access cover from a rack-mounted system

For a stand-alone system, complete the following steps. Refer to [Figure 39](#) on [page 45](#).

⚠ 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 39. Removing the service access cover

Removing the 12-drive expanded function disk drive backplane from the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

To remove the 12-drive expanded function disk drive backplane from the system, complete the steps in this procedure.

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 air baffle. For instructions, see [Removing the air baffle \(www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbaffleremove.htm\)](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbaffleremove.htm).
3. If the system has an RDX drive, complete the following steps to partially remove the RDX docking station:
 - a) For a stand-alone system, open the front door.
Insert the front door key into the lock as shown in the following figure. Twist the key to the left (counterclockwise) to unlock the door. Horizontal is locked; vertical is unlocked. Open the front door.

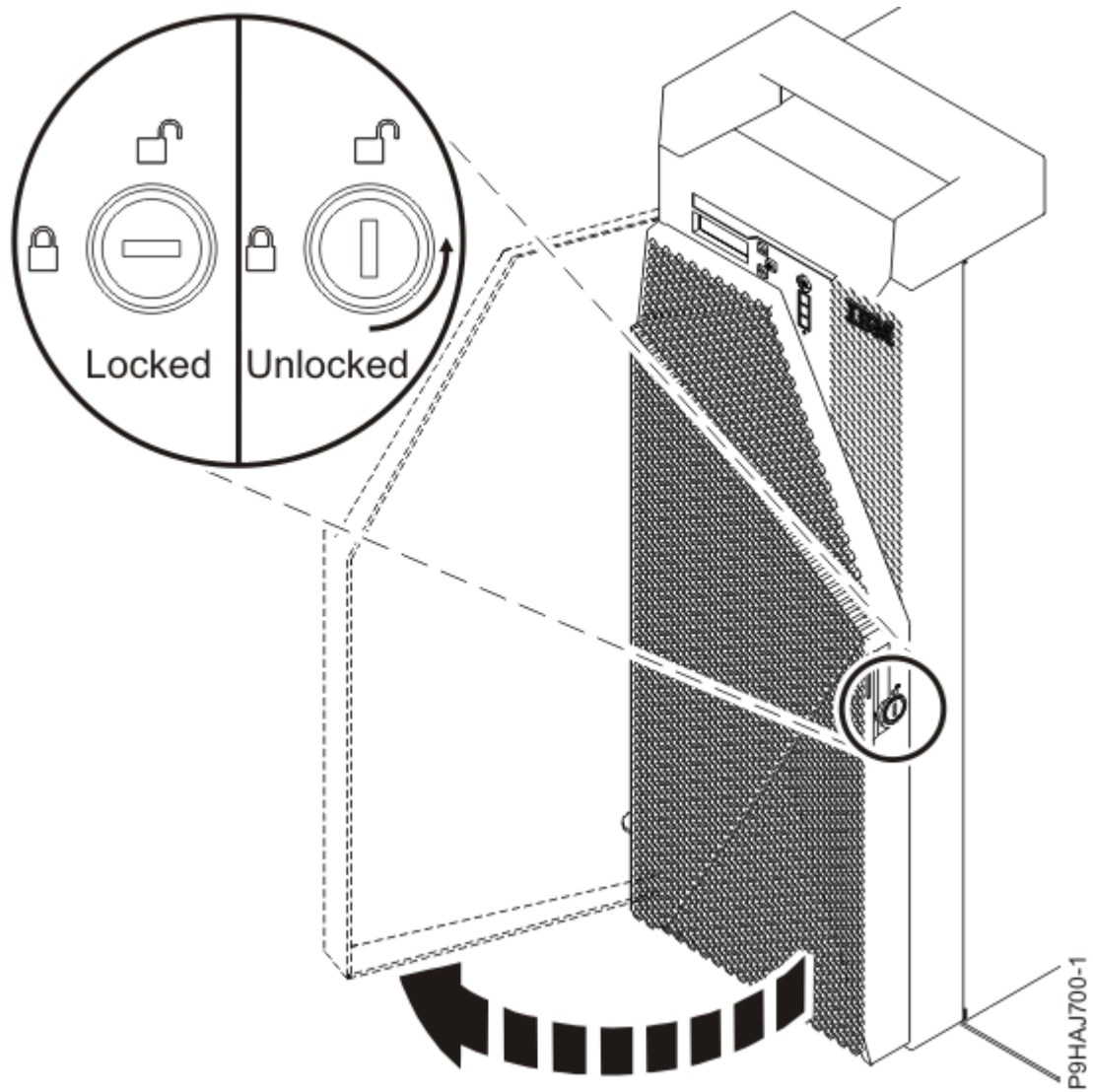


Figure 40. Unlocking the front door

b) Unplug the RDX power cable (**A**) from the disk drive backplane as shown in the following figure.

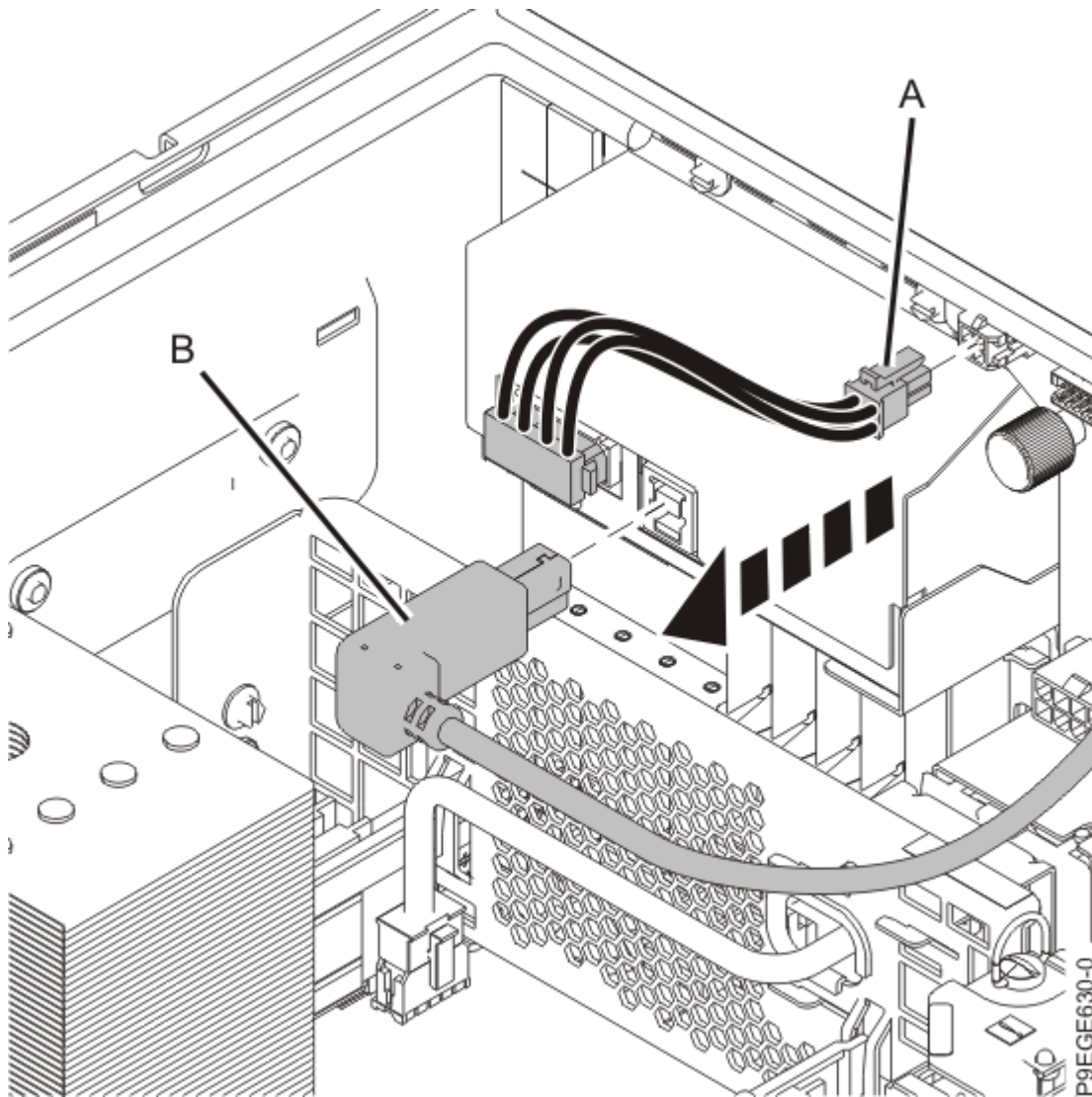


Figure 41. Disconnecting the RDX power cable and USB cable

- c) Disconnect the USB cable (**B**) from the rear of the RDX docking station as shown in the previous figure.
- d) Partially remove the RDX docking station. Push the RDX docking station latch upwards as shown in the following figure.

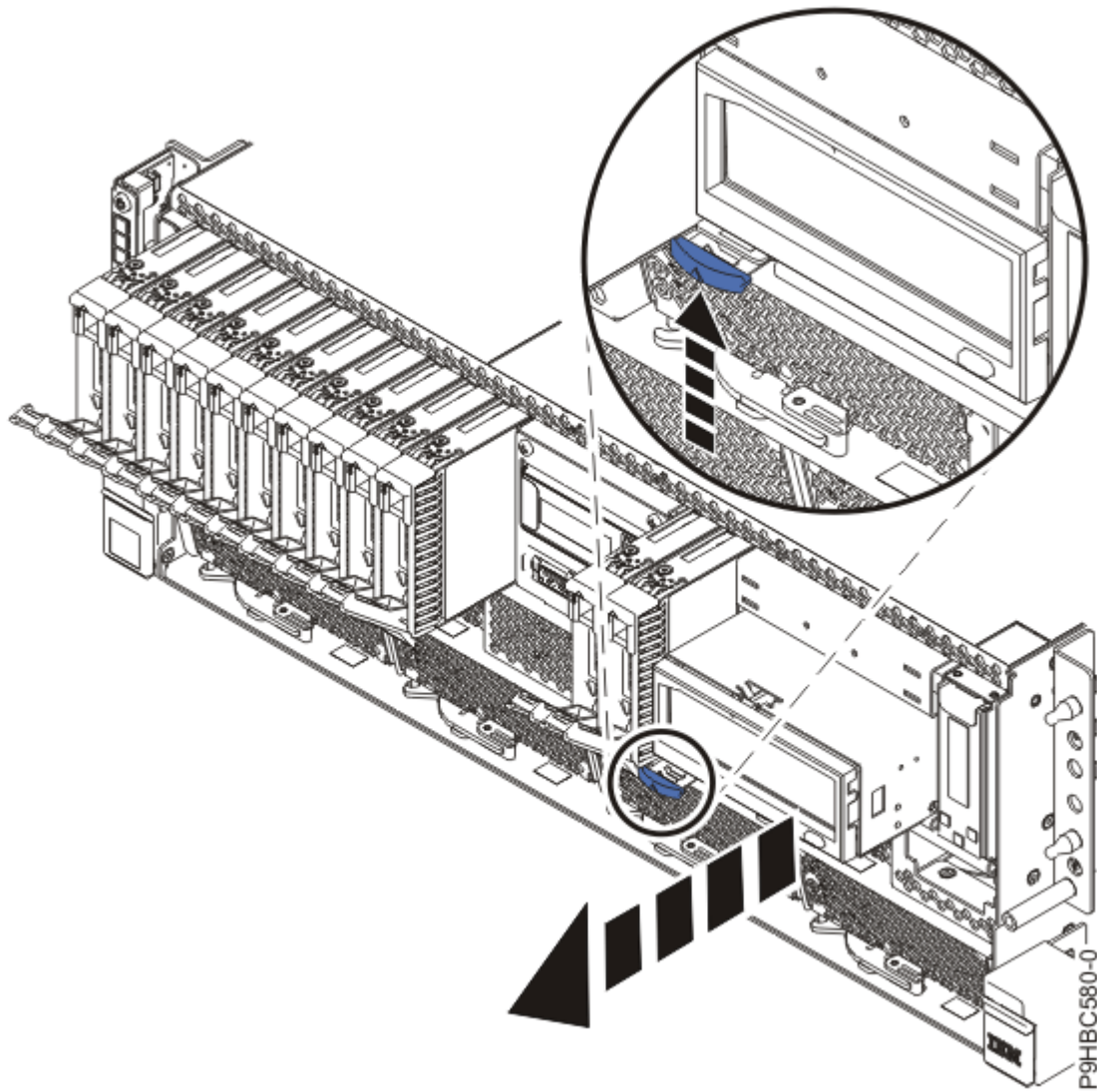


Figure 42. Removing the RDX docking station

- e) Slide the RDX docking station about 5 cm (2 in) from the system.
- 4. If the server has a filler for the RDX drive, complete the following steps:
 - a) Push down on the clips **(A)** to unlock the filler from the chassis as shown in the following figure.

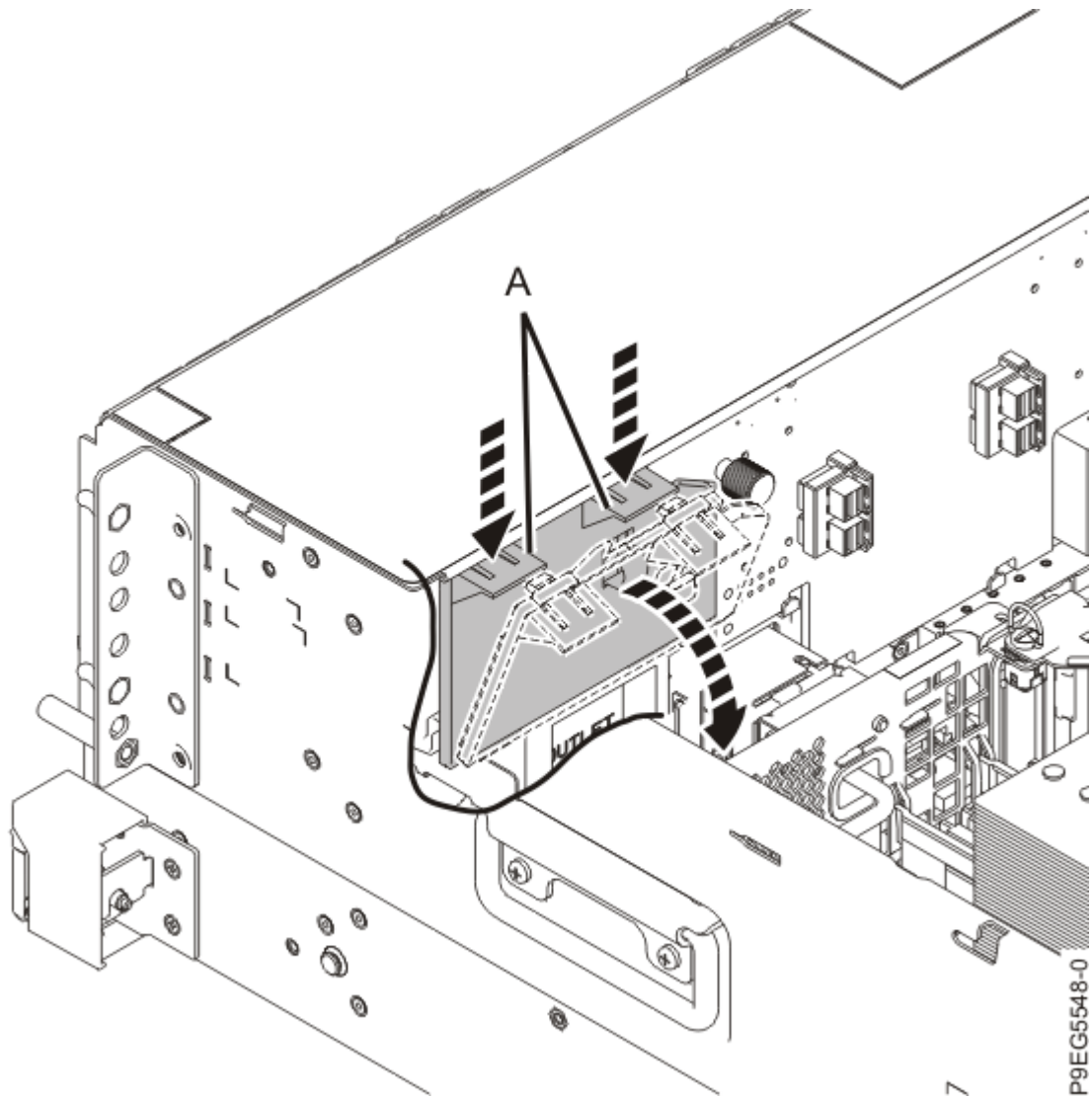


Figure 43. Removing the RDX drive filler

- b) Holding the clips, pivot the filler away from the disk drive backplane.
 - c) Lift the filler out of the system.
5. Unplug but do not remove the front drives and front fillers if present from their slots. Pull the disk drives and fillers out far enough to prevent them from interfering with the removal of the disk drive backplane as shown in the following figure.

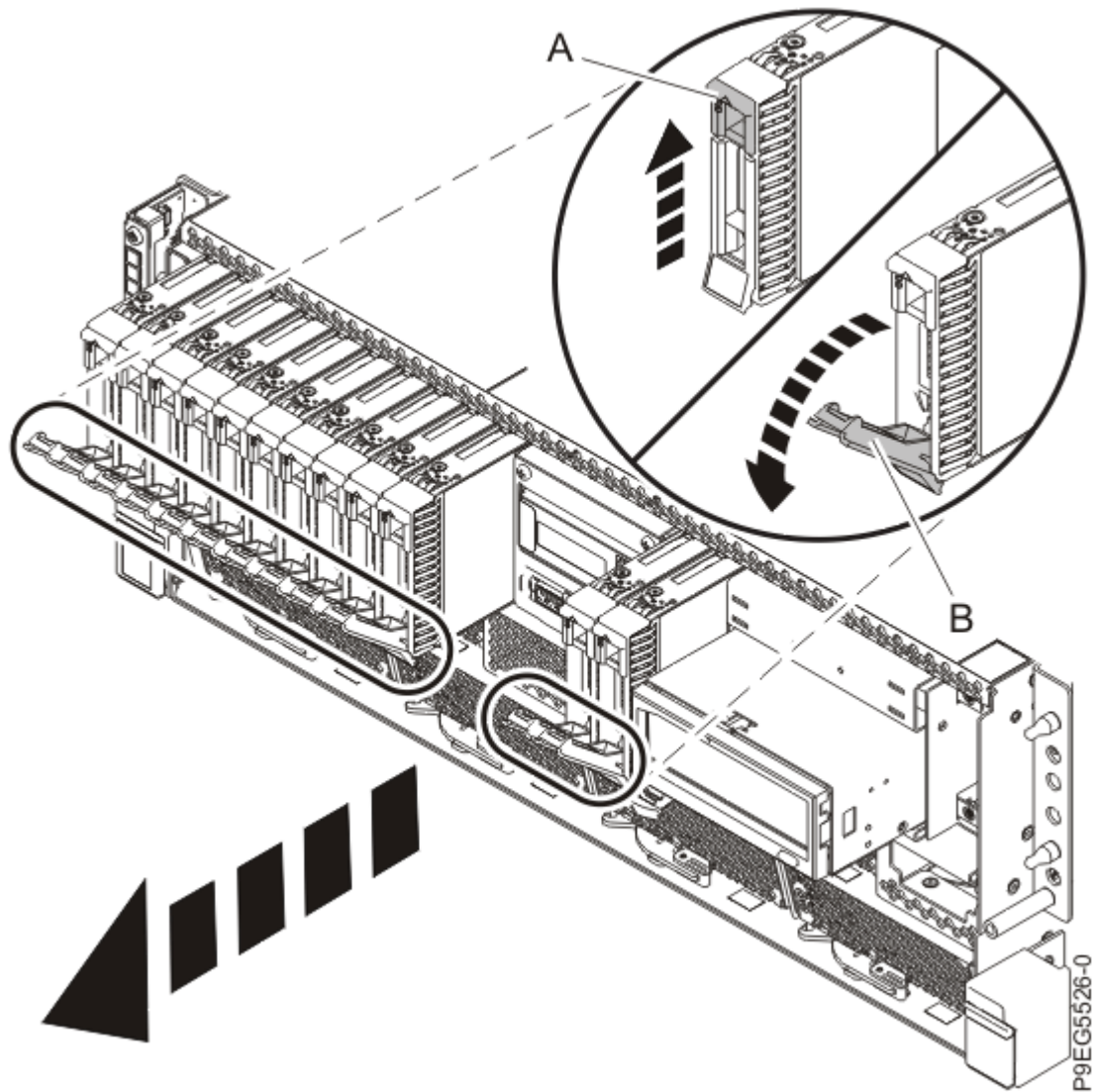


Figure 44. Partially removing the front drives and fillers

- a) Push the drive tab **(A)** to release the drive lever **(B)**.
 - b) Using the drive lever, pull the drive and filler about 2.5 cm (1 in) from the system.
 - c) Repeat steps “5.a” on page 50 - “5.b” on page 50 for the other drives and fillers.
6. Label and disconnect the signal cable **(A)** and the power cable **(B)** from the disk drive backplane as shown in the following figure.
- Unlatch the clips that secure the connectors to the disk drive backplane.

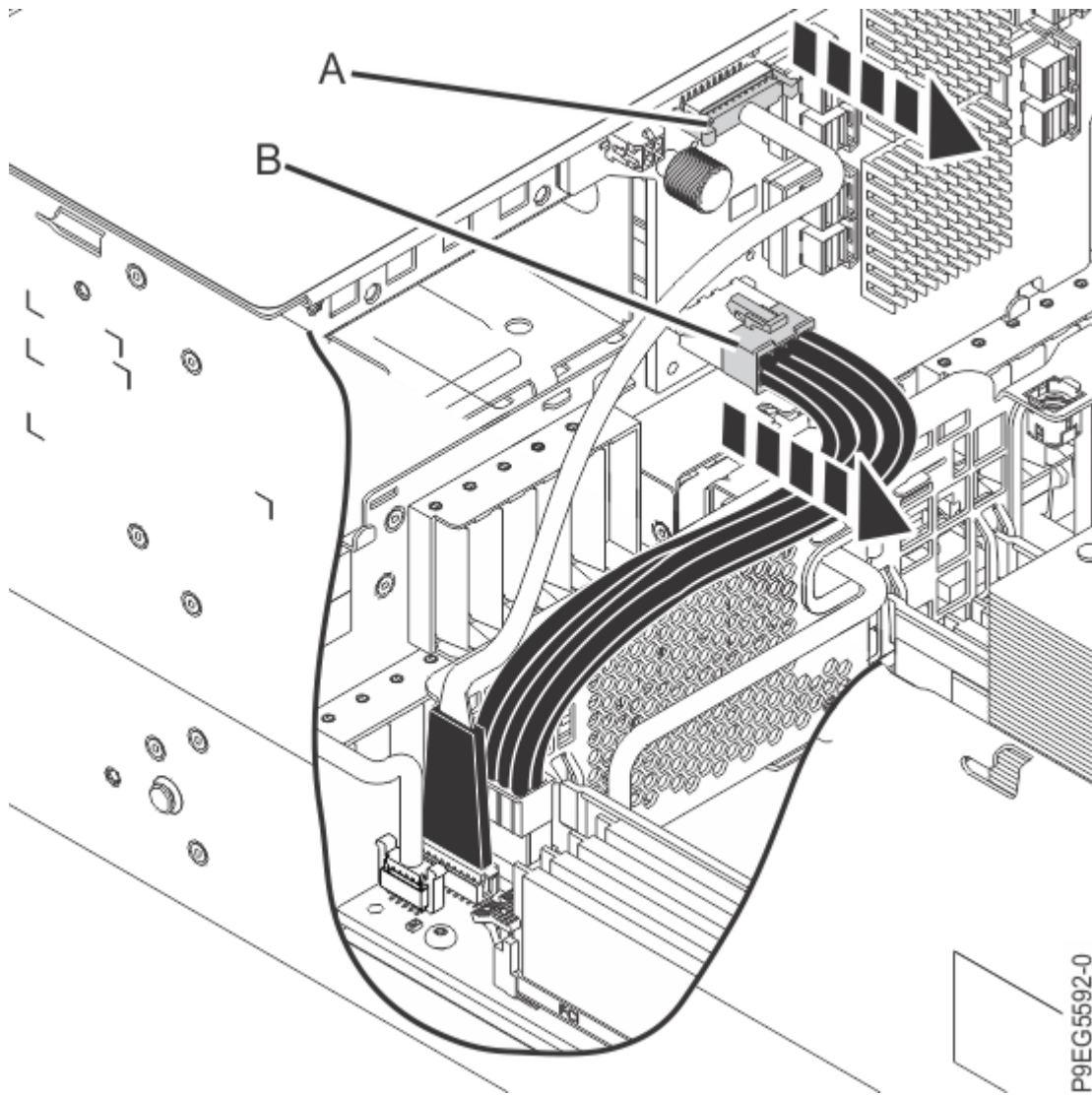


Figure 45. Disconnecting the signal cable and power cable

7. Label the front SAS cables. Press the cable connector latch and disconnect the front SAS cables (**J2**) and (**J4**) from the disk drive backplane as shown in the following figure.

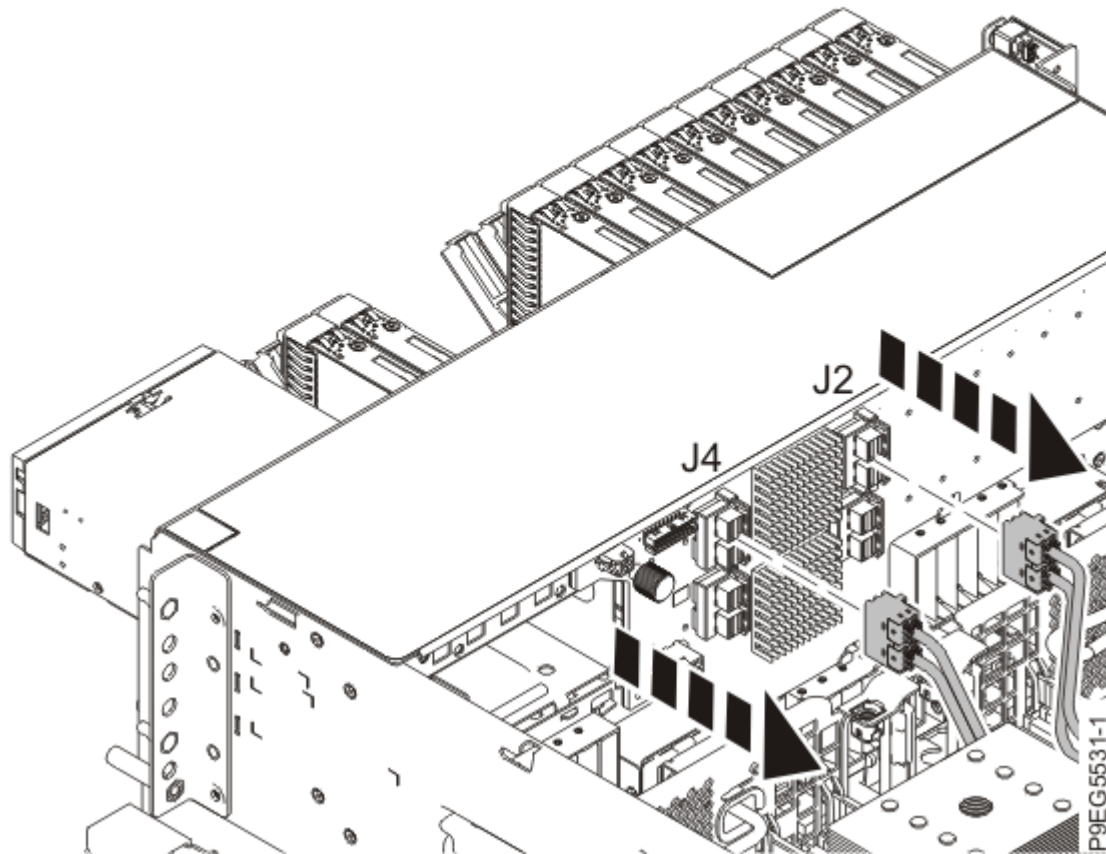


Figure 46. Disconnecting the front SAS cables

8. Ensure that all cables are carefully positioned out of the way, such that the disk drive backplane can be easily lifted and removed.
9. Carefully unscrew the captive thumbscrew **(A)** of the disk drive backplane until fully loose as shown in [Figure 47](#) on page 53.
If needed, use a Phillips screwdriver to loosen the screws.

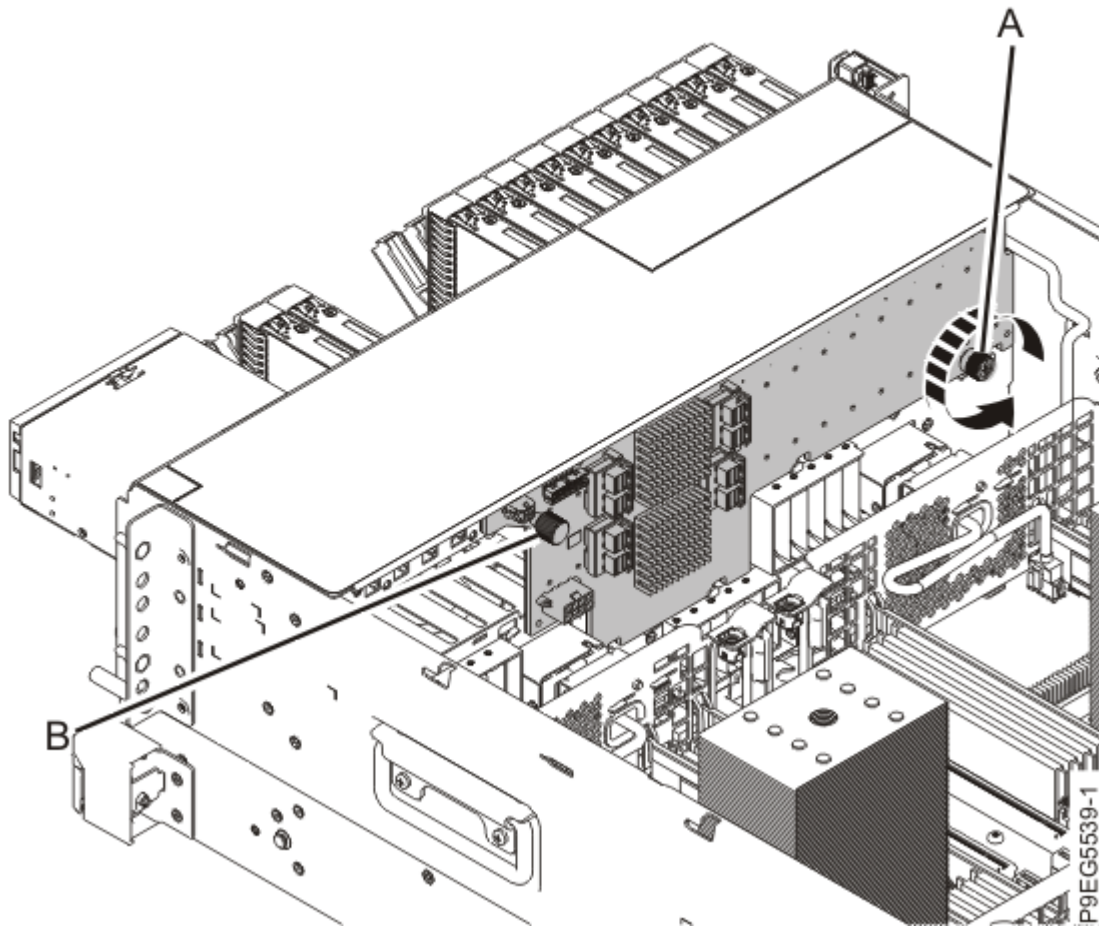


Figure 47. Loosening the disk drive backplane screw

10. Using the thumbscrew **(A)** and the disk drive backplane holder **(B)**, slide the disk drive backplane to the side in the direction that is shown in the following figure, so that the disk drive backplane cutouts clear the tabs in the chassis.

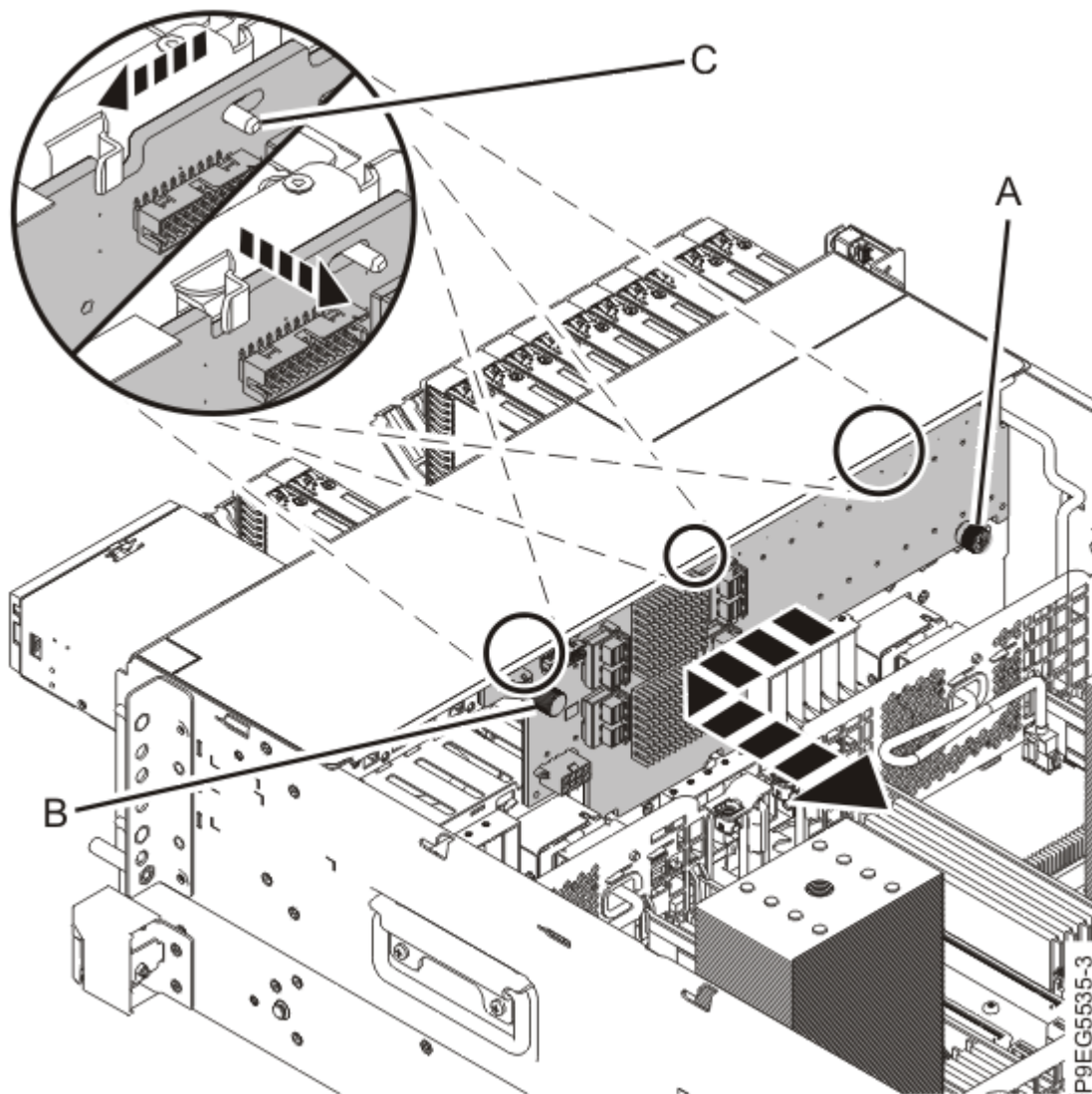


Figure 48. Removing the disk drive backplane

11. Lift the disk drive backplane out of the chassis.
12. If the removed part is used again, place the part on an electrostatic discharge (ESD) mat.

Replacing the 12-drive expanded function disk drive backplane in the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

To replace the 12-drive expanded function disk drive backplane in the system, complete the steps in this procedure.

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. The chassis has two alignment pins and several brackets (A) to secure the disk drive backplane. Using the disk drive backplane touchpoint (B), thumbscrew (C) and alignment pins (A), insert the disk drive backplane as shown in the following figure, while you ensure that the alignment pins fit through the holes in the disk drive backplane.

Slide the disk drive backplane to the side in the direction that is shown so that the disk drive backplane slides under tabs in the chassis.

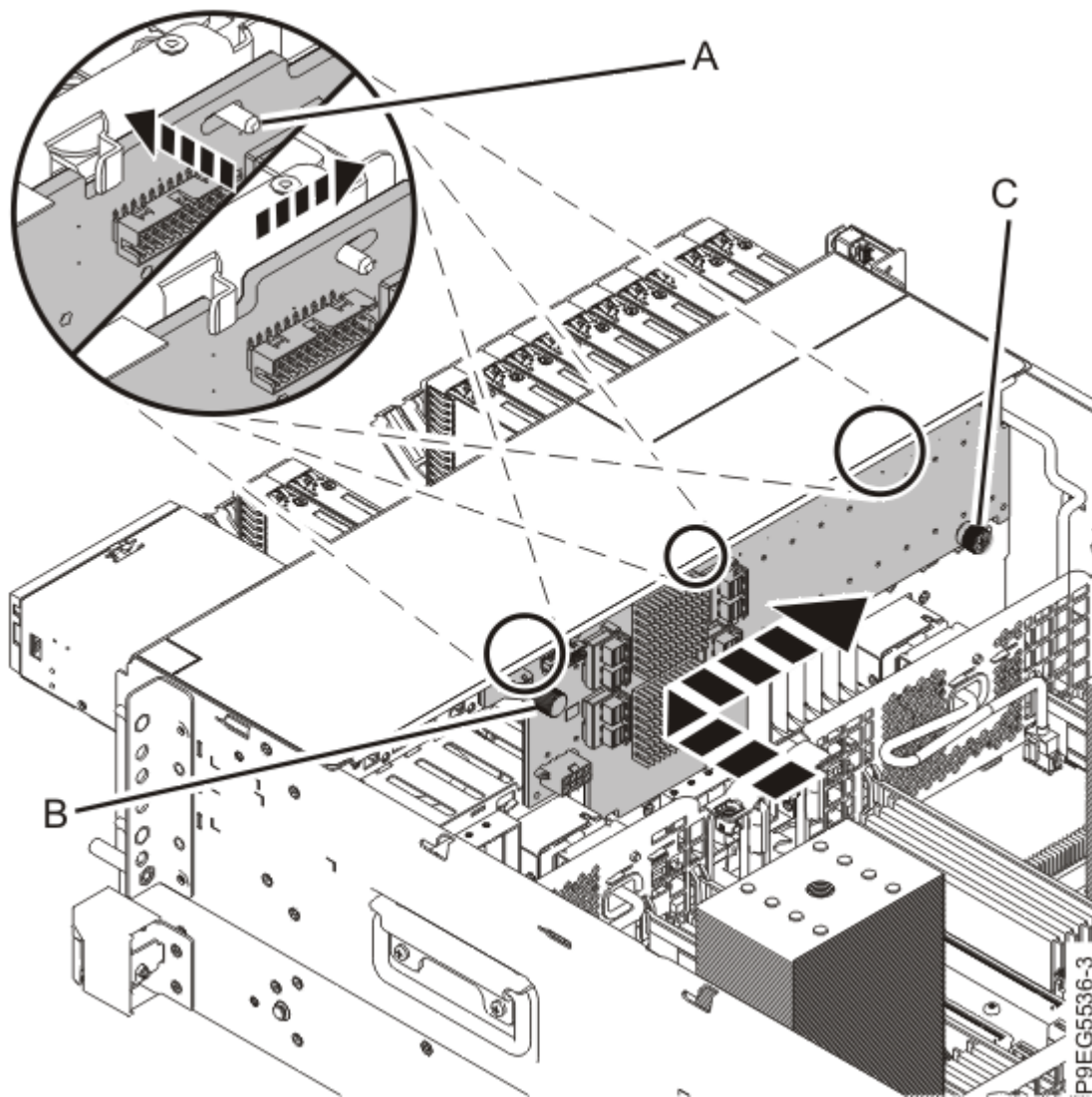


Figure 49. Replacing the disk drive backplane by using alignment pins

3. Carefully tighten the captive thumbscrew **(C)** to secure the disk drive backplane to the system chassis as shown in the following figure.

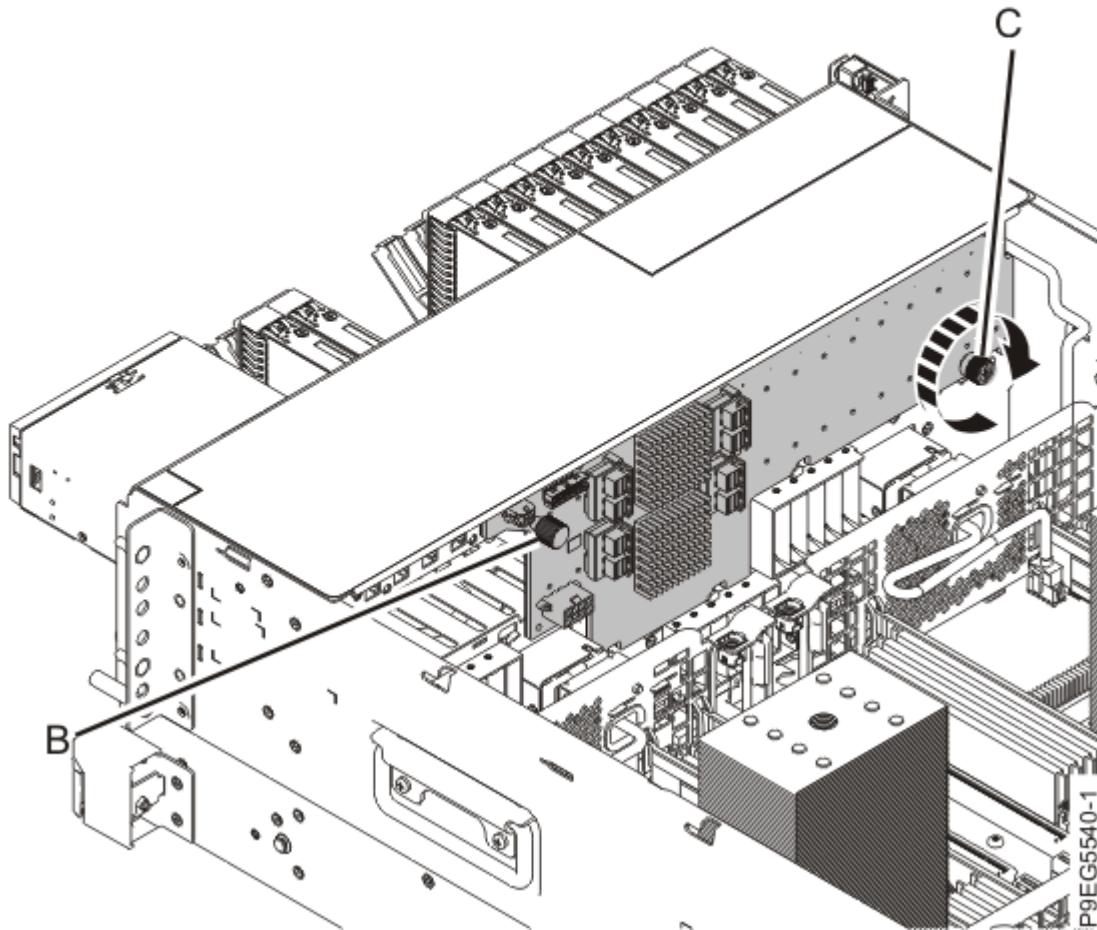


Figure 50. Replacing the disk drive backplane

4. Reconnect the signal cable **(A)** and the power cable **(B)** to the disk drive backplane as shown in the following figure.

Push the connectors in until the latches click.

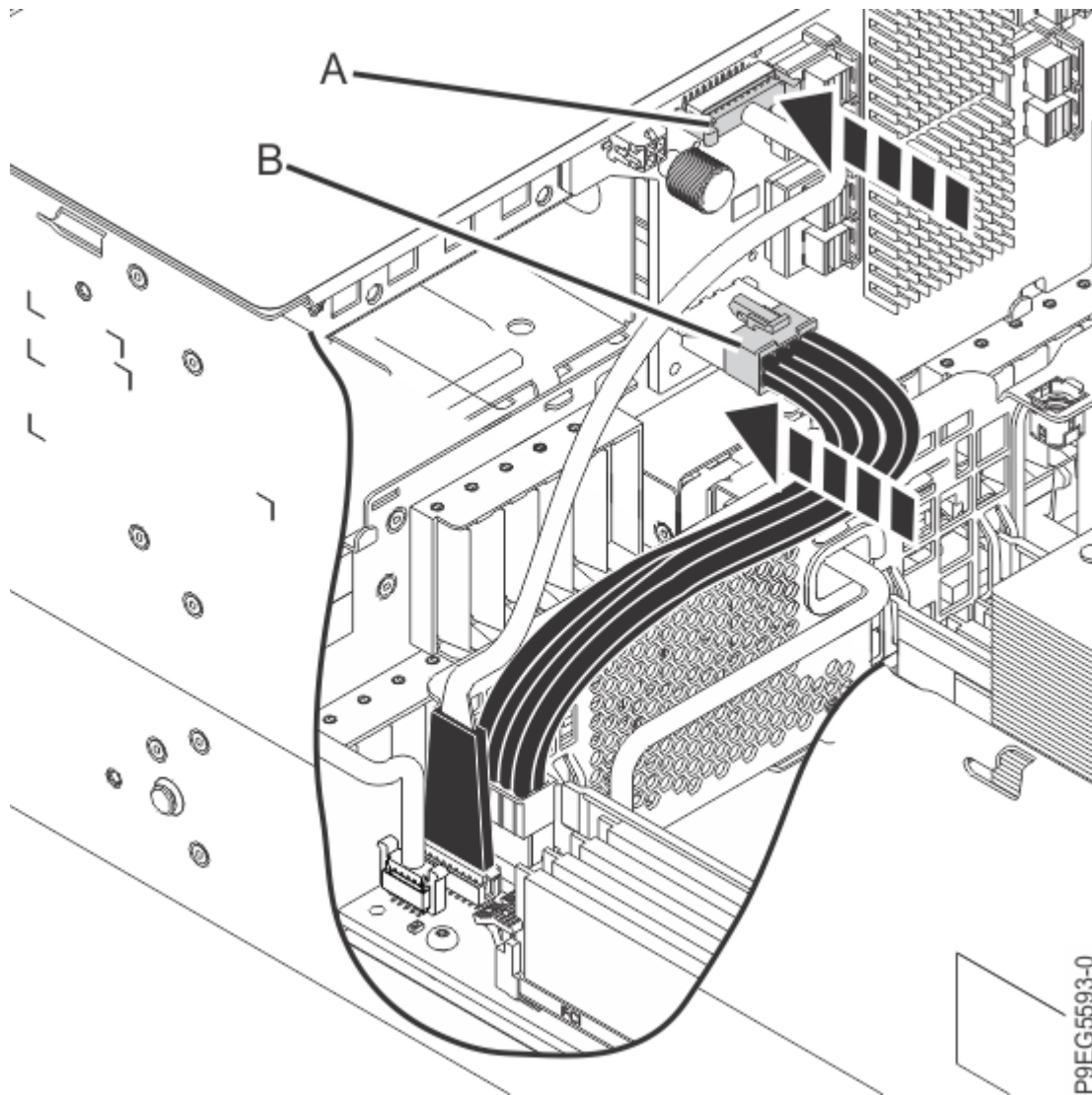


Figure 51. Reconnecting the power cable and signal cable to the disk drive backplane

5. Using your labels, reconnect the front SAS cables to the disk drive backplane connectors **(J2)** and **(J4)** as is shown in the following figure.

Push the connectors in until the latches click. Also ensure that the front SAS cables are fully seated into the SAS controller card.

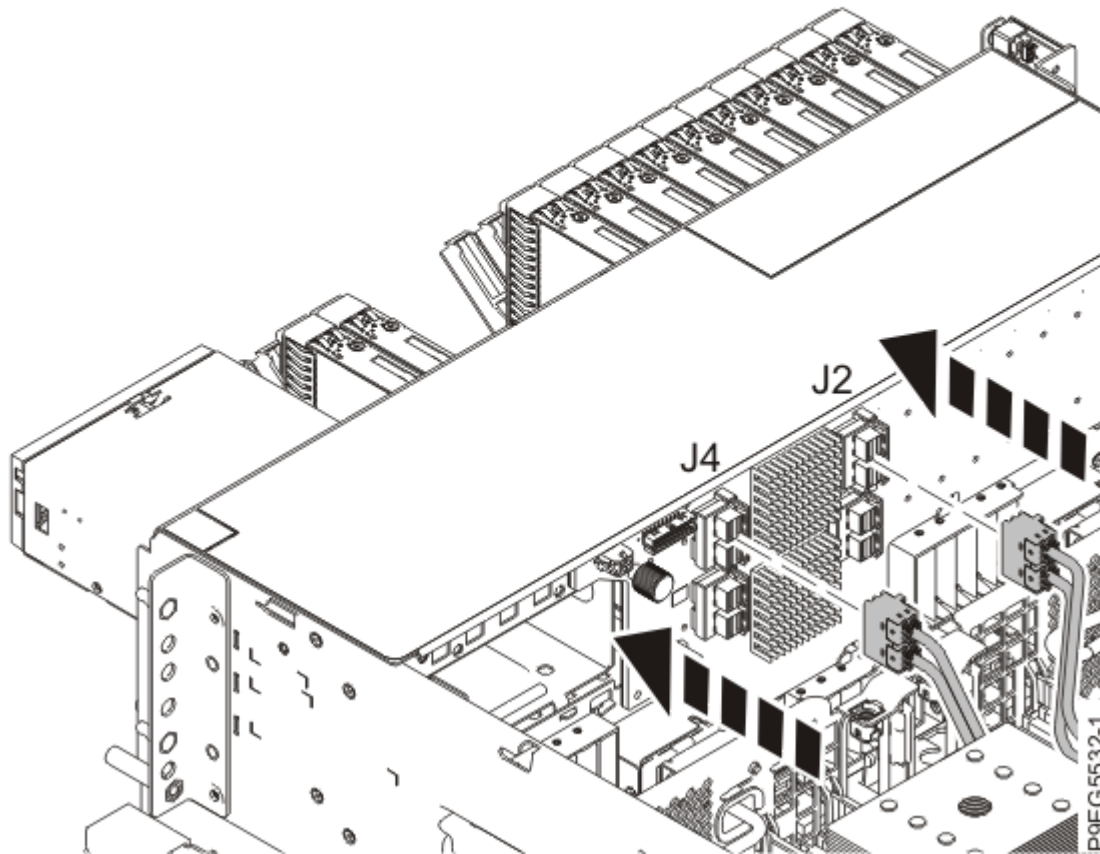


Figure 52. Reconnecting the front SAS cables

Note: One SAS cable connects the disk drive backplane connector J2 to the P1 connector on the storage controller in slot P1-C49. The other SAS cable connects the disk drive backplane connector J4 to the P1 connector on the storage controller in slot P1-C50. See the following figure.

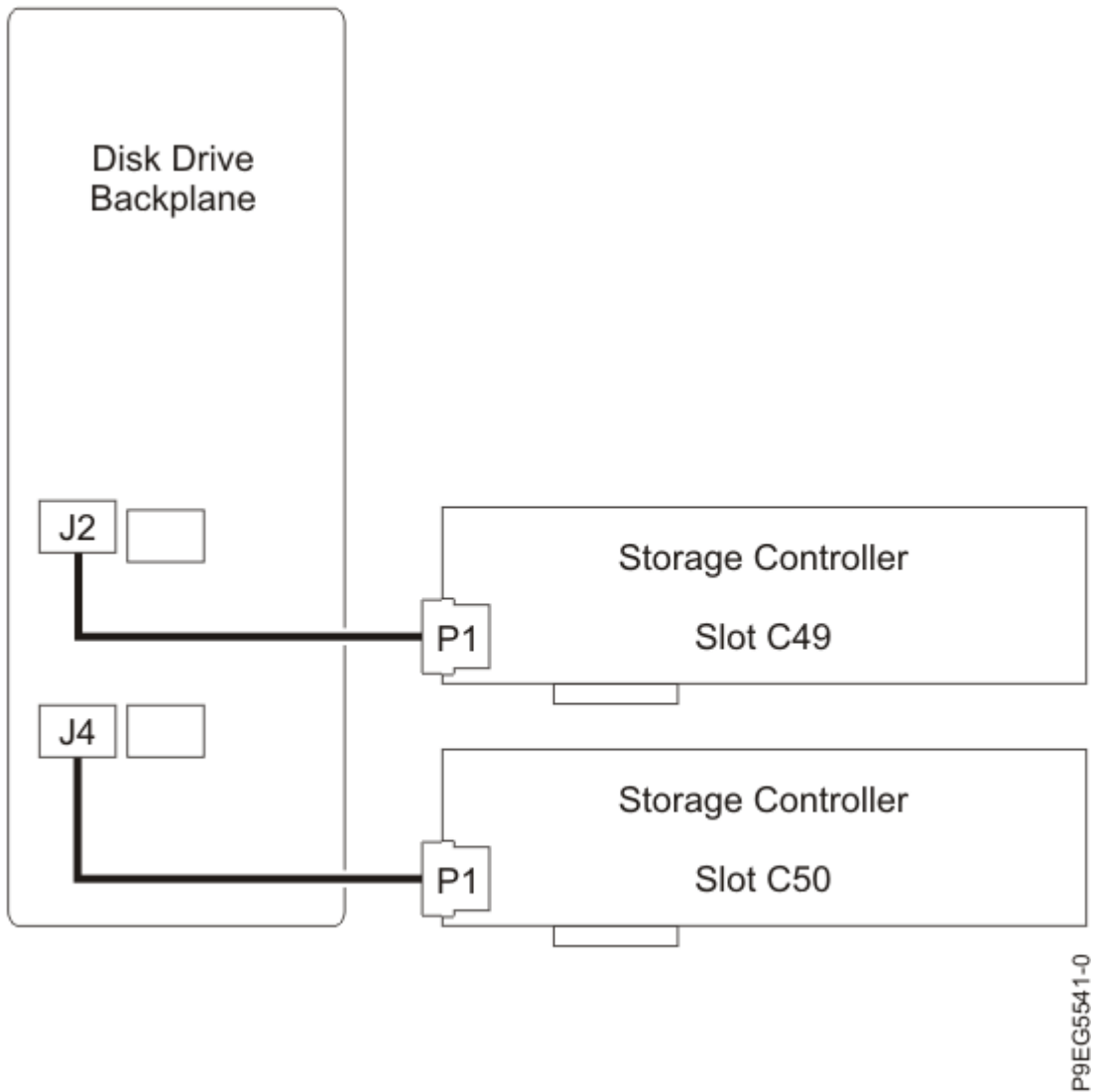


Figure 53. Reconnecting the SAS cable in the 12-drive expanded function configuration

For information about SAS cable part numbers, see 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system parts (http://www.ibm.com/support/knowledgecenter/POWER9/p9ecs/p9ecs_914_924_parts.htm).

6. Fully seat all the front drives and front fillers if present into their slots as shown in the following figure. Push drive lever **(A)** until the front drive and filler is seated and the lever snaps closed.

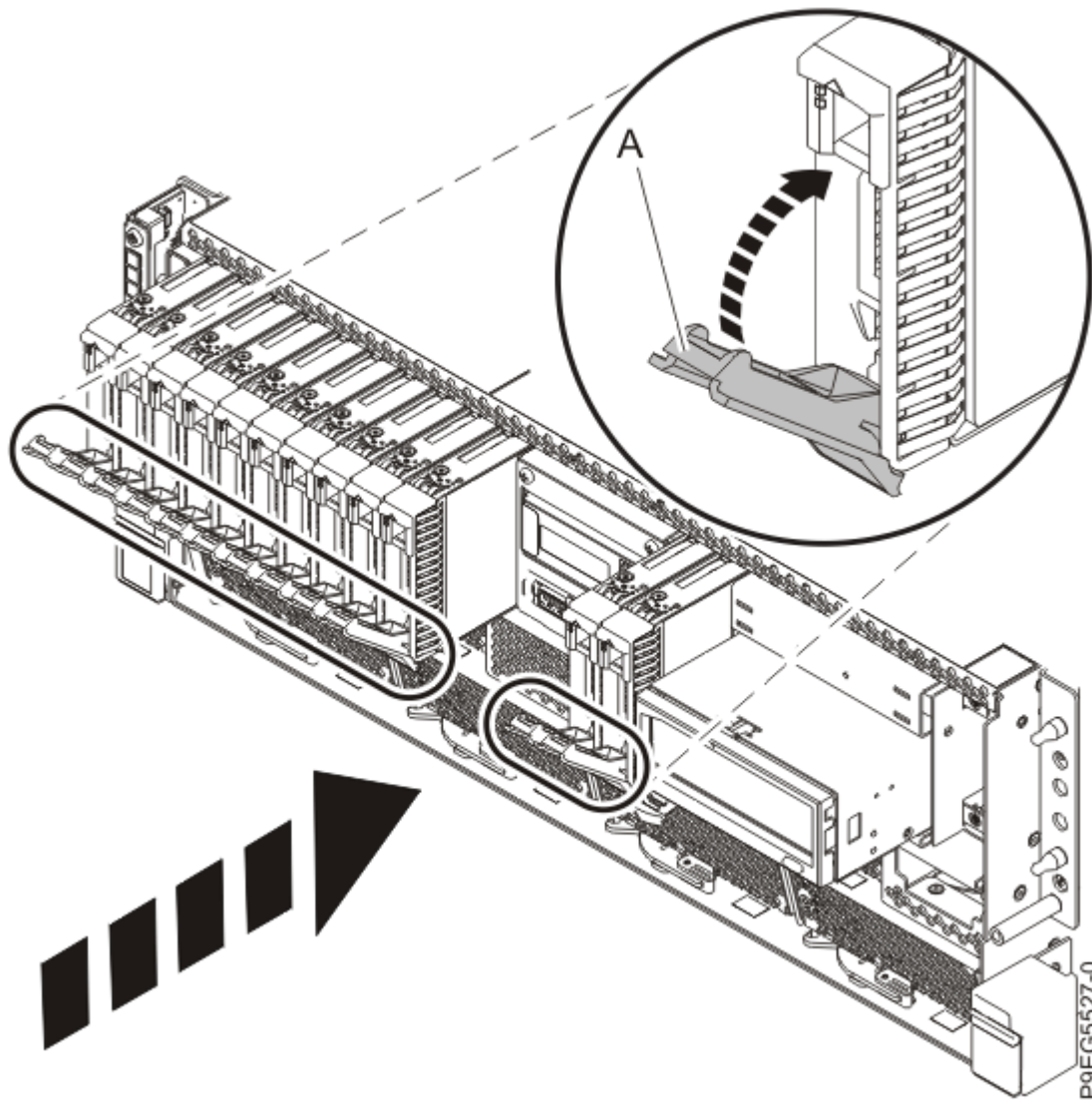


Figure 54. Replacing the front drives and fillers

7. If you slid out the RDX docking station, complete the following steps:

- a) Push the RDX docking station into the system until the latch clicks into place as shown in the following figure.

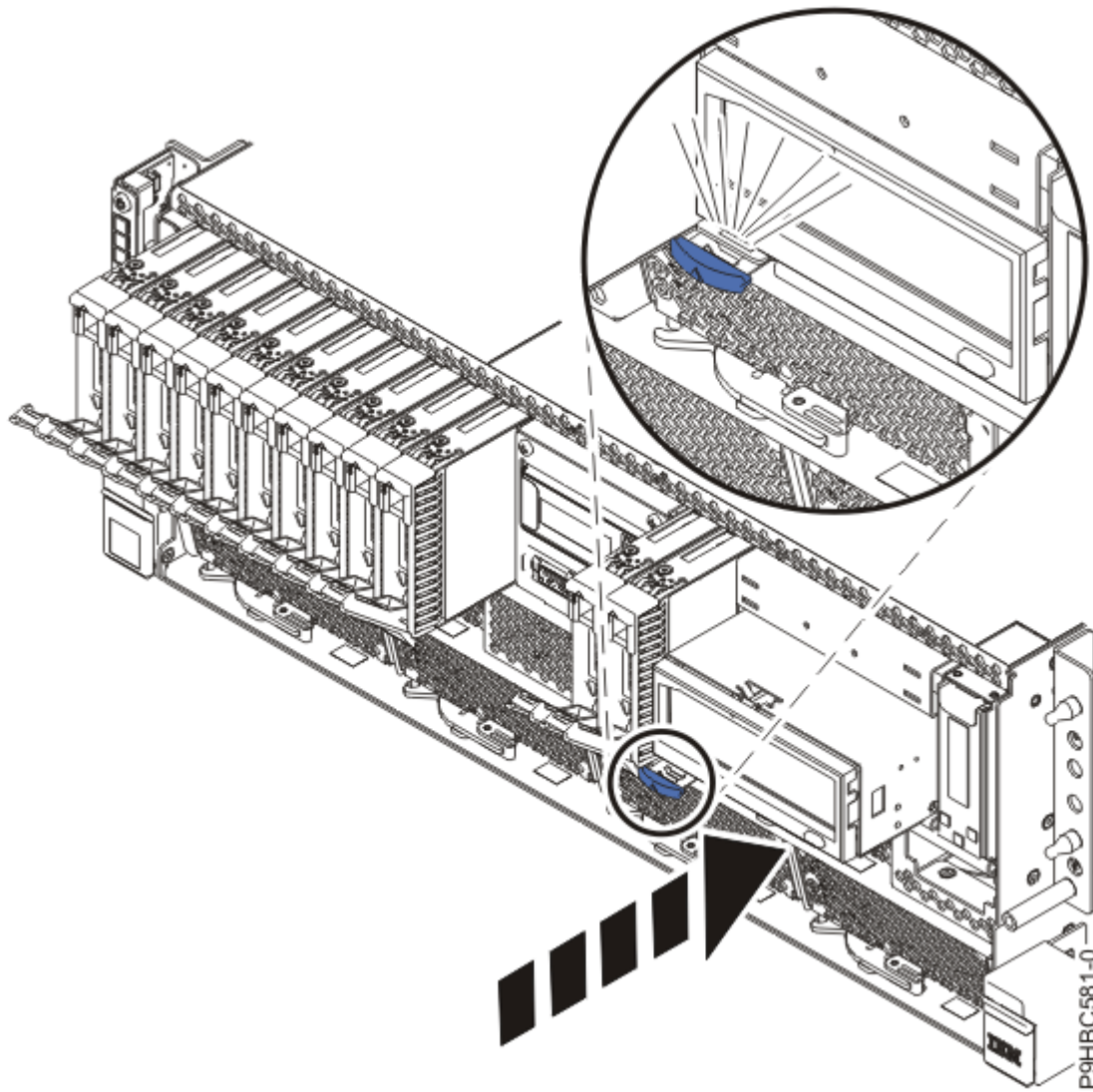


Figure 55. Replacing the RDX docking station

- b) Connect the RDX power cable **(A)** into the disk drive backplane as shown in the following figure. Ensure that the latch **(B)** on the RDX power cable is oriented upwards for a rack-mounted system; and to the outside for a stand-alone system.

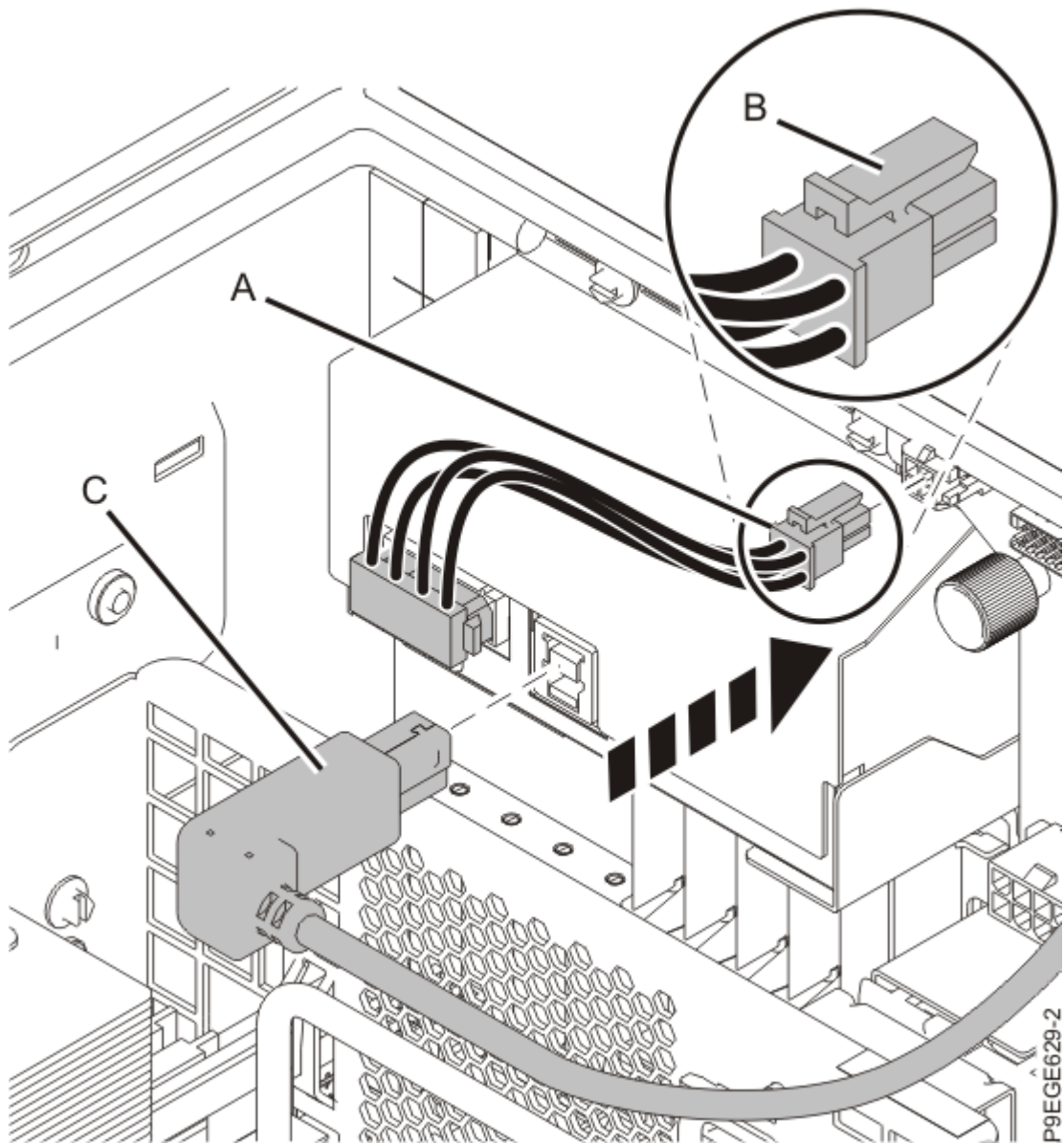


Figure 56. Reconnecting the RDX power cable and USB cable

c) Connect the USB cable (**C**) into the rear of the RDX docking station as shown in the previous figure.

d) For a stand-alone system, close the front door.

Insert the front door key into the lock as shown in the following figure. Twist the key to the right (clockwise) to lock the door. Horizontal is locked; vertical is unlocked.

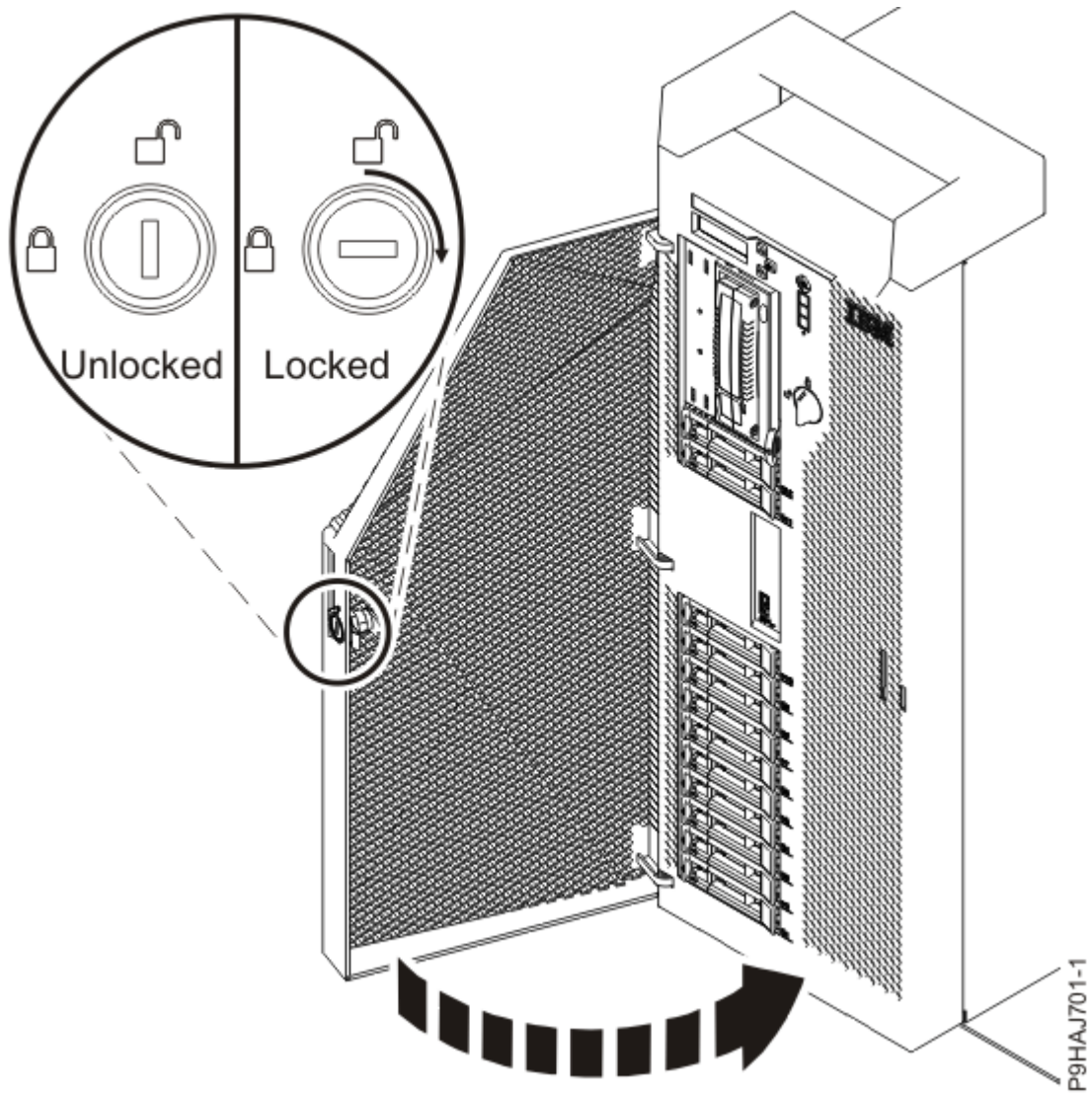


Figure 57. Locking the front door

8. If you removed the filler for the RDX drive, complete the following steps:
 - a) Place the filler into the system as shown in the previous figure, ensure that the filler is in the tab at **(A)**.

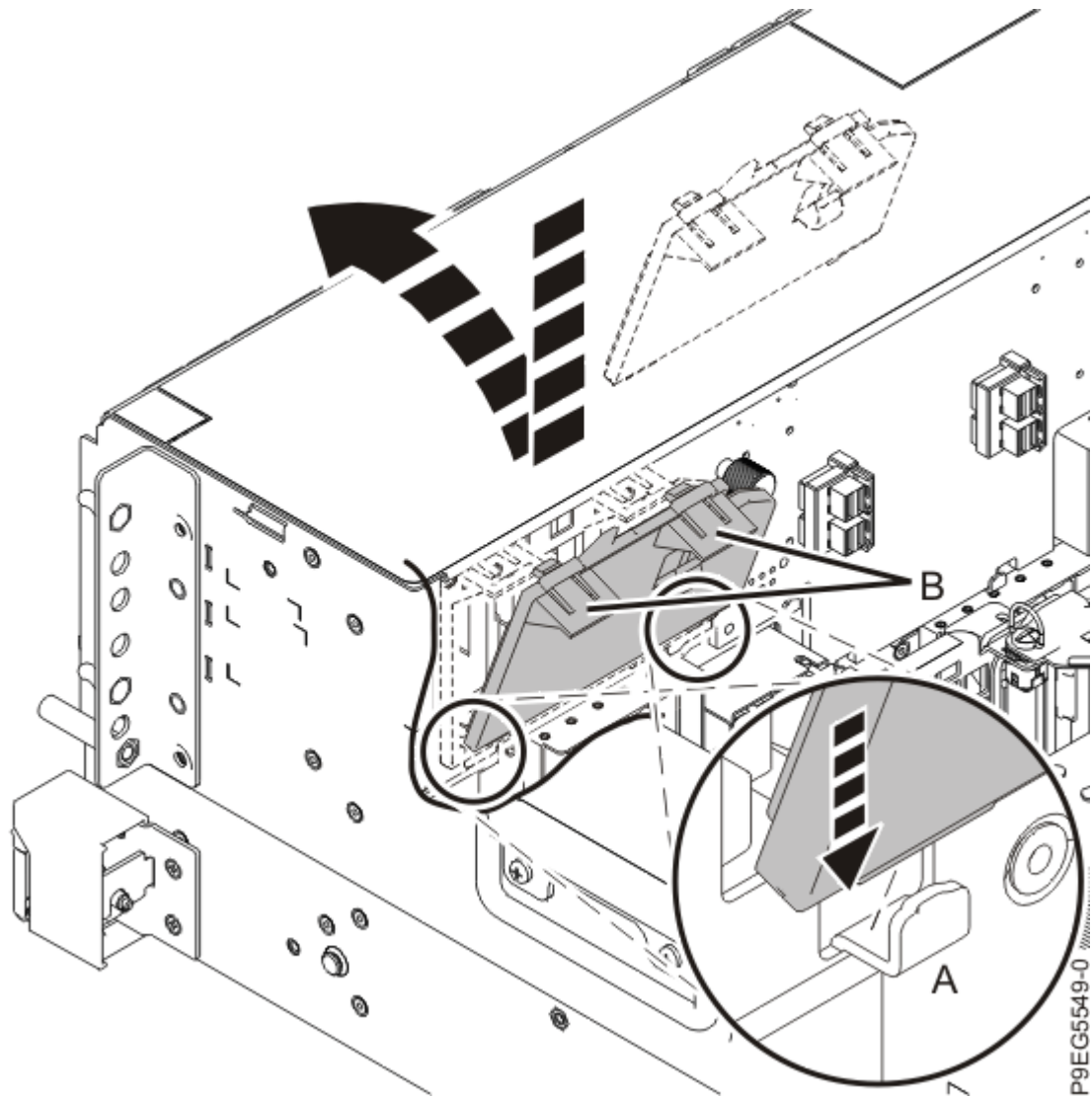


Figure 58. Replacing the RDX drive filler

- b) Push in the clips **(B)** to snap the filler into the chassis
9. Replace the air baffle. For instructions, see [Replacing the air baffle](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbafflereplace.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbafflereplace.htm).

Preparing the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system for operation after removing and replacing the 12-drive expanded function disk drive backplane

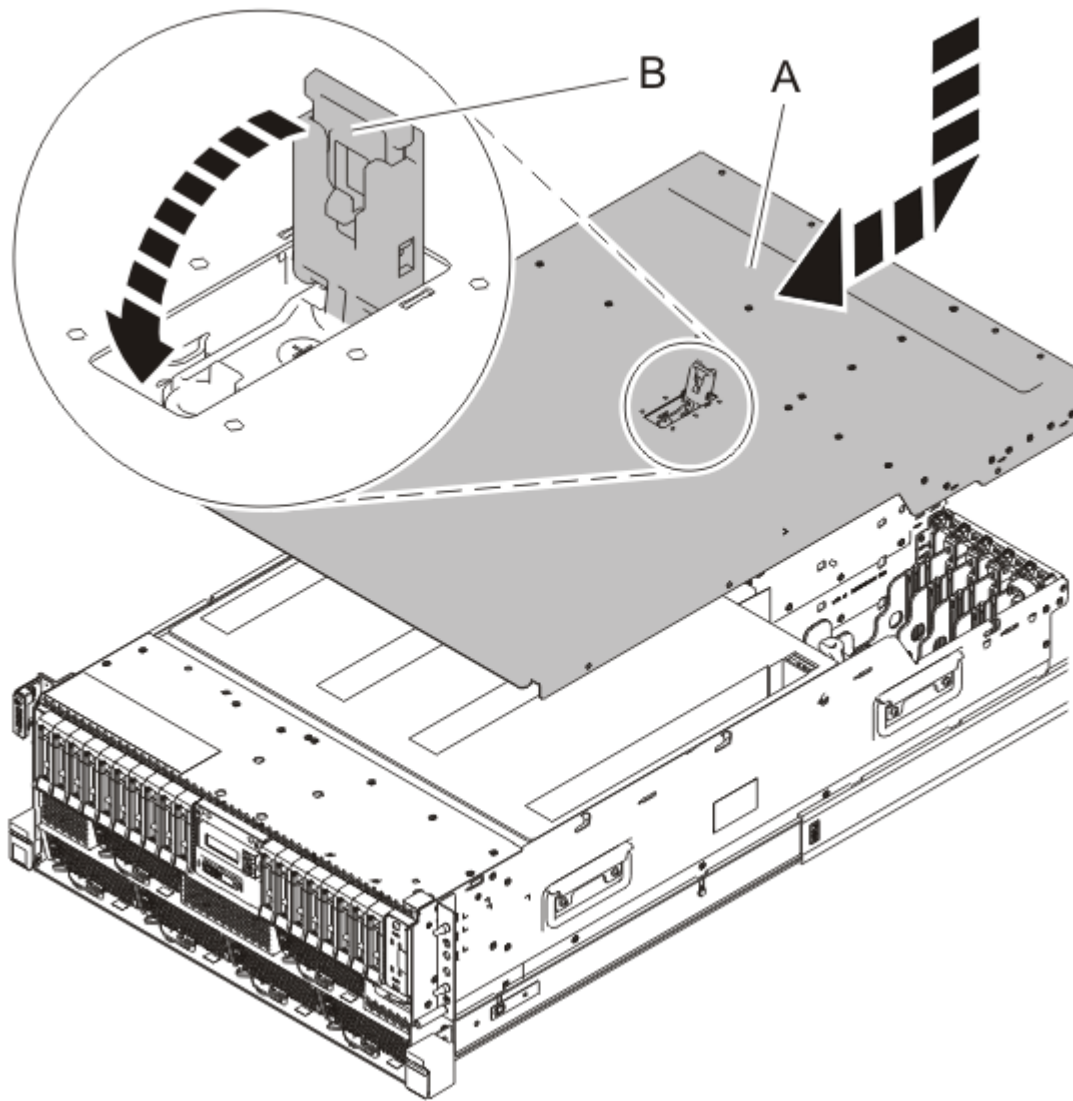
To prepare the system for operation after removing and replacing the 12-drive expanded function disk drive backplane, complete the steps in this procedure.

Procedure

1. Replace the service access cover.

For a rack-mounted system, complete the following steps. Refer to [Figure 59 on page 65](#).

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

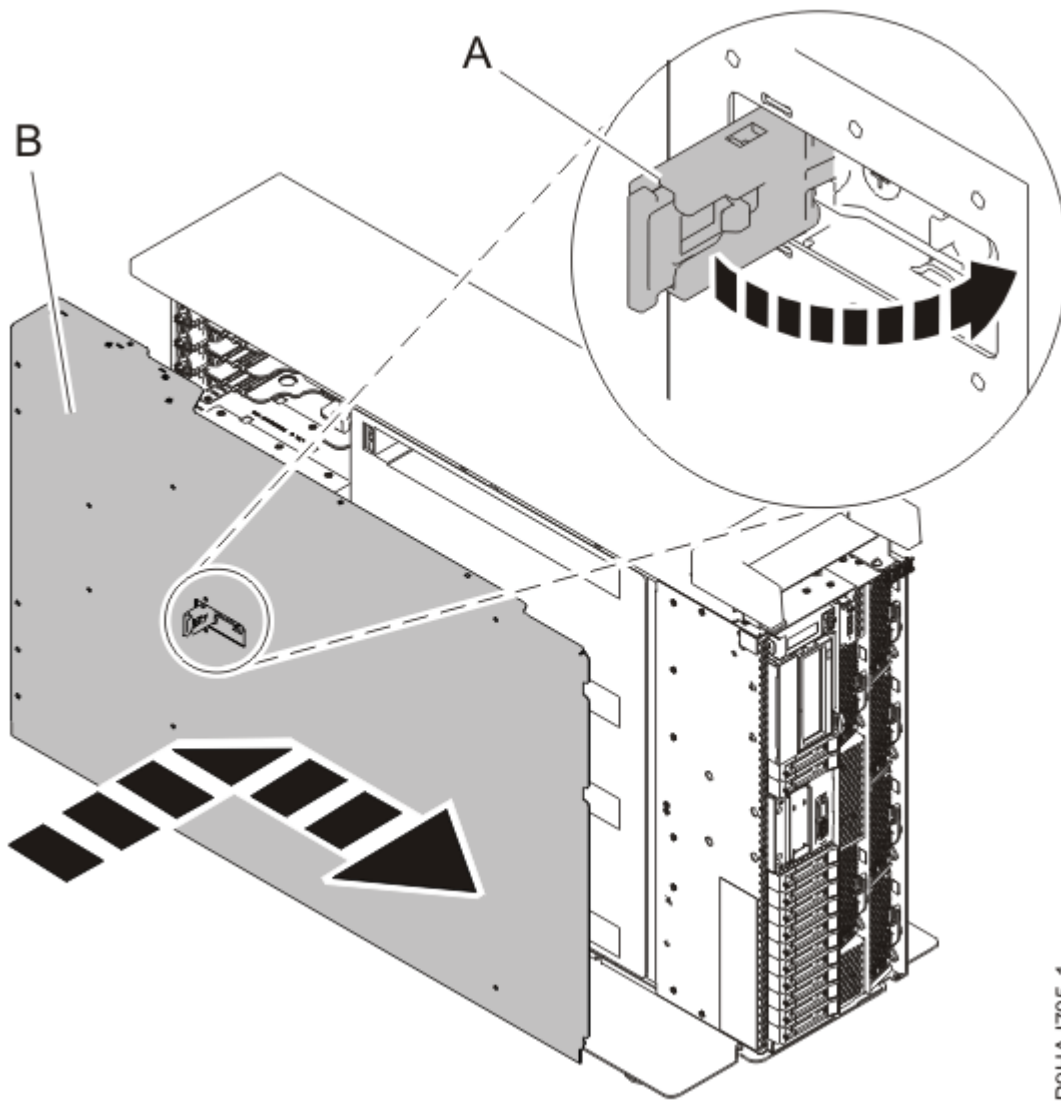


P9HAJ606-2

Figure 59. Installing the service access cover

For a stand-alone system, complete the following steps. Refer to [Figure 60 on page 66](#).

- 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.



P9HAJ705-1

Figure 60. Installing the service access cover

2. For a rack-mounted system, unlock the blue rail safety latches **(A)** as shown in [Figure 61](#) on page 67 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.

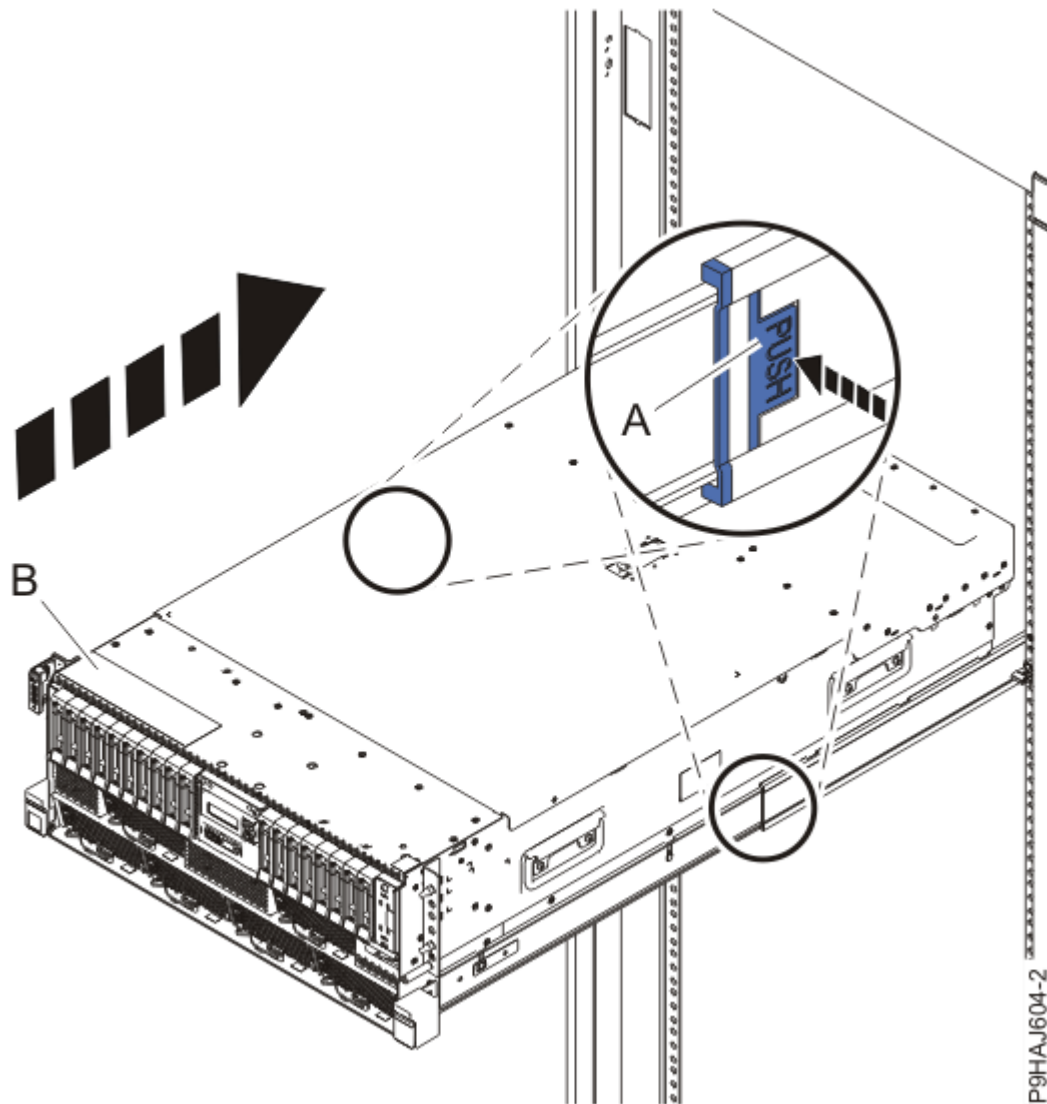


Figure 61. Placing the system into the operating position

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.

4. 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 62 on page 68](#) or [Figure 63 on page 69](#).

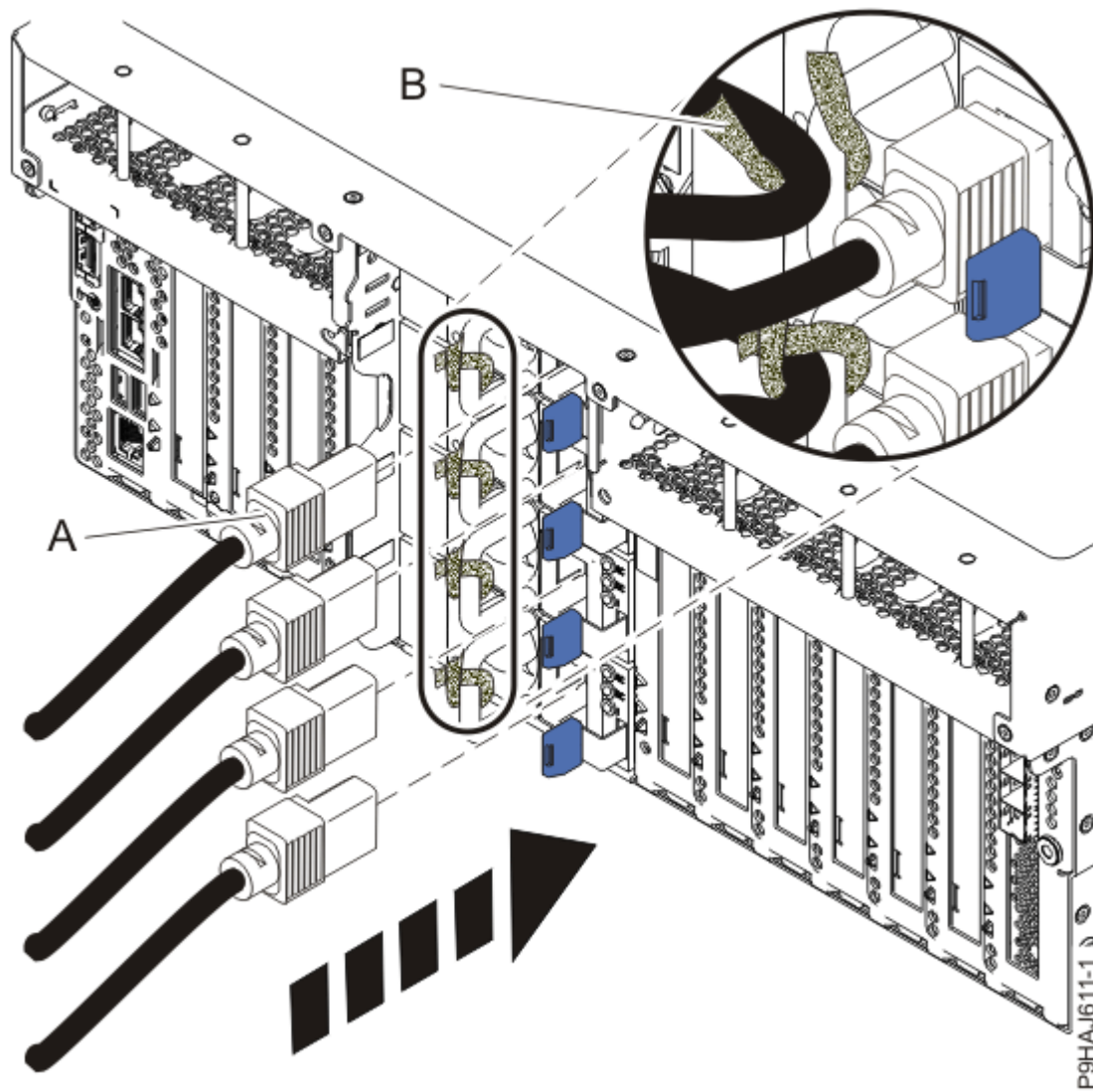


Figure 62. Connecting the power cords to a rack-mounted system

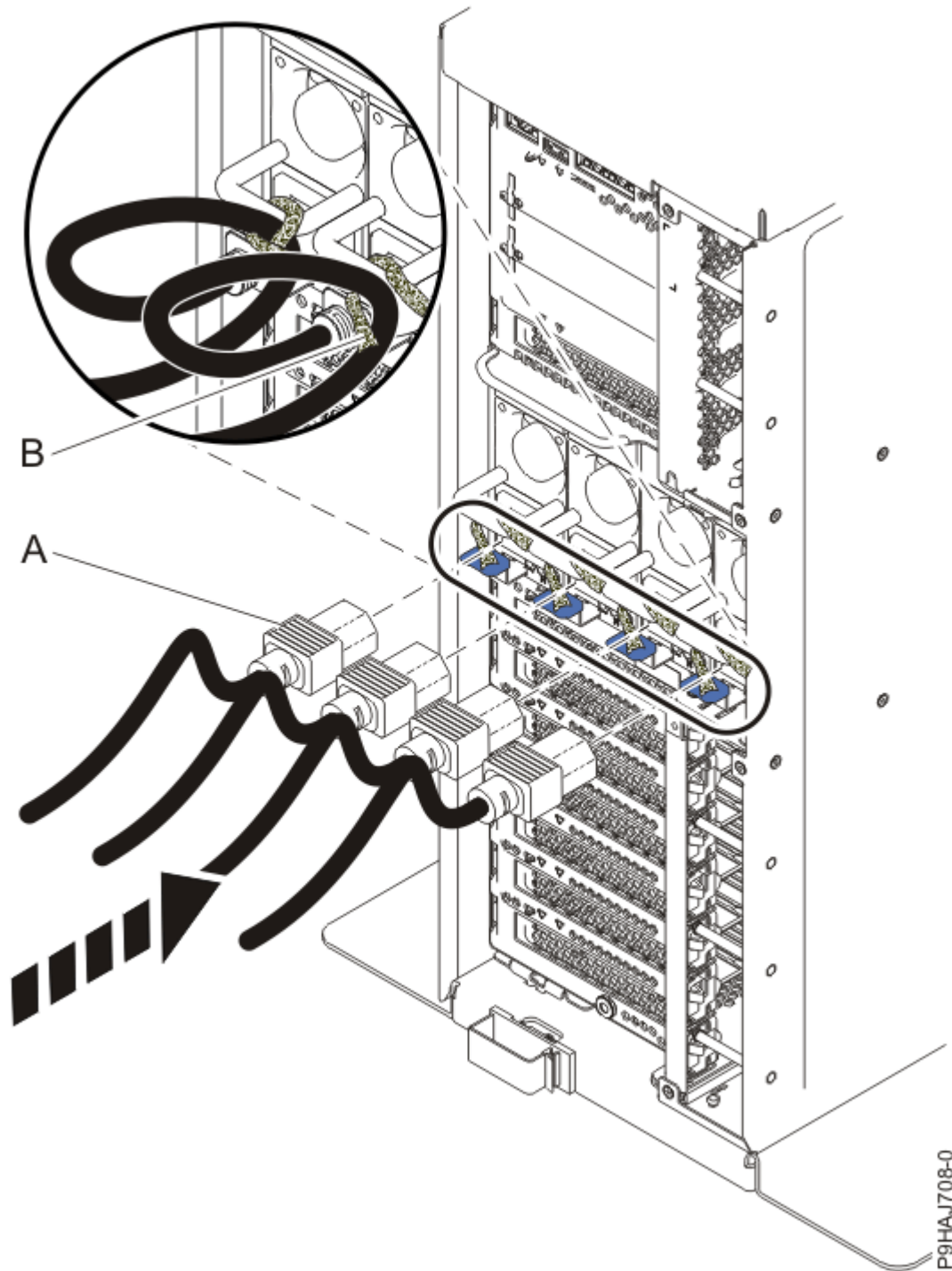


Figure 63. Connecting the power cords to a stand-alone system

5. Start the system. For instructions, see [Starting a system](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustartsys.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustartsys.htm).
6. Turn off the identify LED. For instructions, see [Deactivating an identify LED](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_turn_off_identify_led.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_turn_off_identify_led.htm).
7. Verify the installed part.
 - If you replaced the part because of a service action, verify the installed part. For instructions, see [Verifying a repair](http://www.ibm.com/support/knowledgecenter/POWER9/p9ect/pxect_verifyrepair.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9ect/pxect_verifyrepair.htm).
 - If you installed the part for any other reason, verify the installed part. For instructions, see [Verifying the installed part](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/pxhaj_hsmverify.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/pxhaj_hsmverify.htm).

Removing and replacing the 18-drive expanded function disk drive backplane in the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S

Find information about removing and replacing the 18-drive expanded function disk drive backplane in 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.

About this task

If your system is managed by the Hardware Management Console (HMC), use the HMC to repair a part in the system. For instructions, see [Repairing a part by using the HMC](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_hmc_repair.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_hmc_repair.htm).

If your server is not managed by an HMC, complete the steps in the following procedures to remove and replace the 18-drive expanded function disk drive backplane.

Preparing the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system to remove and replace the 18-drive expanded function disk drive backplane

To prepare the system to remove and replace the 18-drive expanded function disk drive backplane, complete the steps in this procedure.

Procedure

1. Identify the part and the system that you are working on. For instructions, see [Identifying a part](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/sal.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/sal.htm).

Use the blue identify LED on the enclosure to locate the system. Ensure that the serial number of the system matches the serial number to be serviced.

2. Stop the system. For instructions, see [Stopping a system](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustopsys.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustopsys.htm).

3. Label and disconnect the power cords from the system unit.

See [Figure 64 on page 71](#) or [Figure 65 on page 72](#).

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.

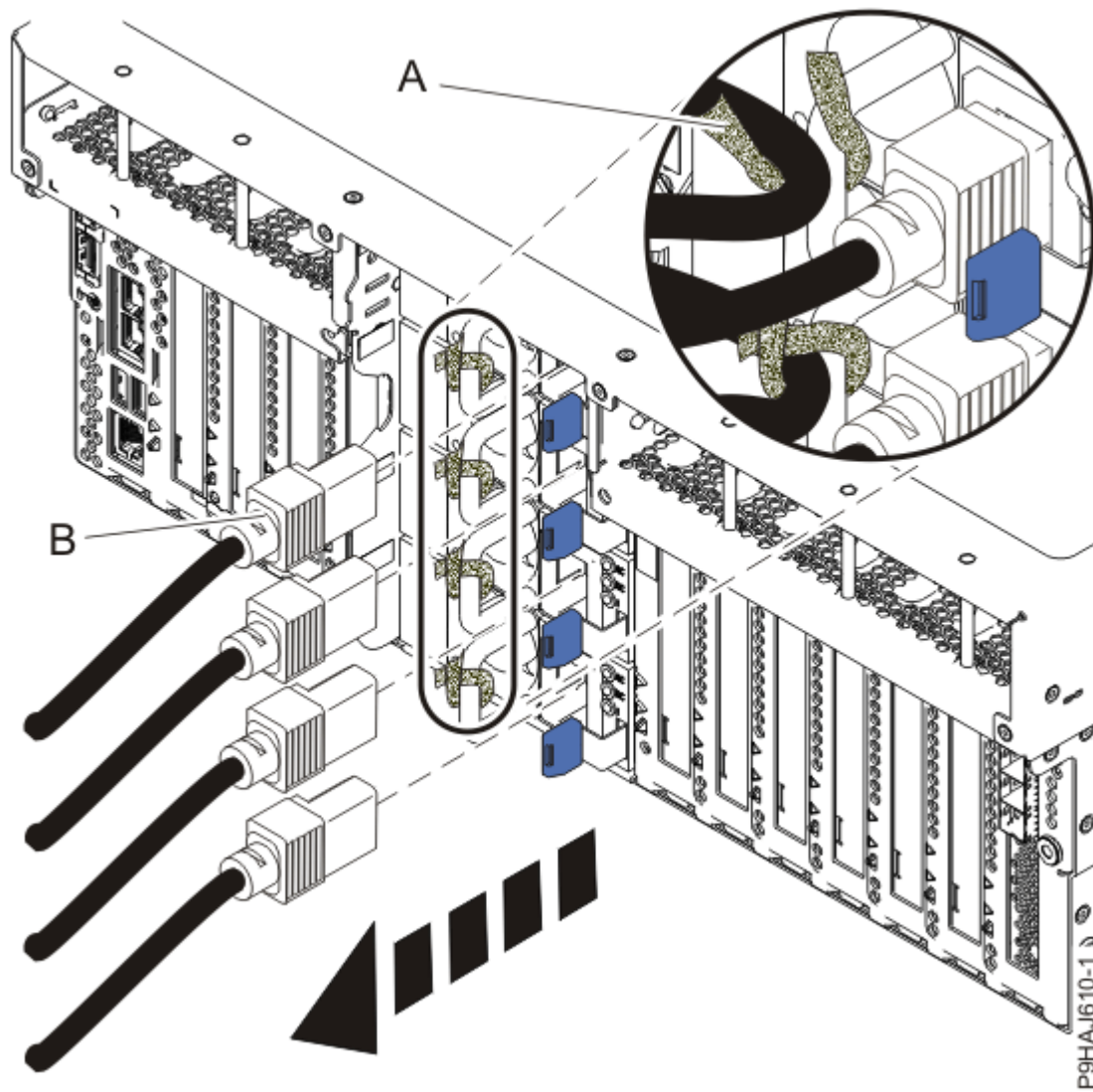


Figure 64. Removing the power cords from a rack-mounted server

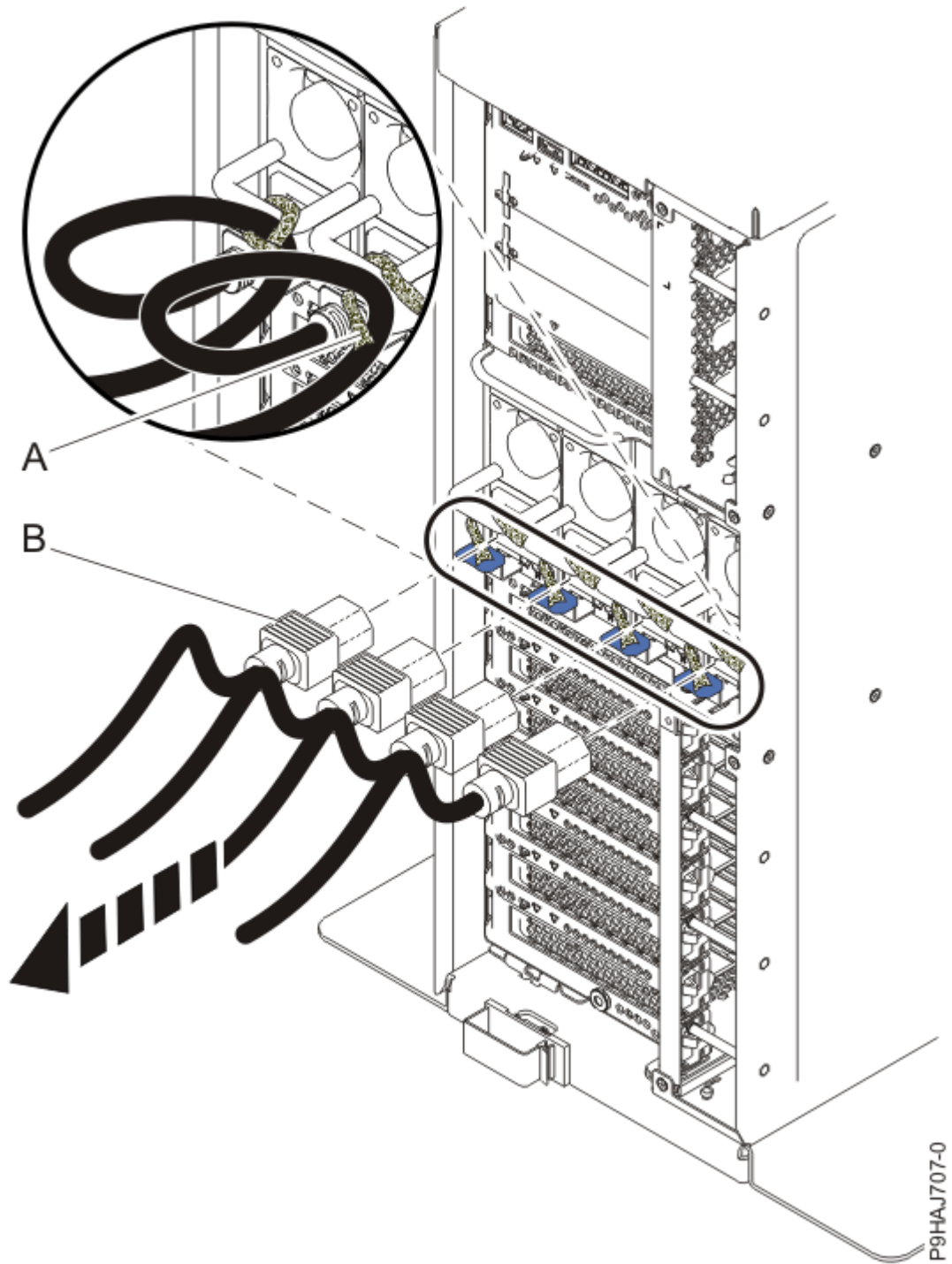
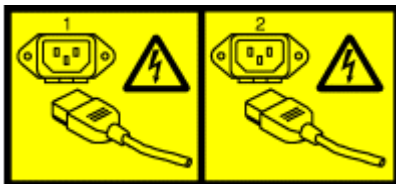


Figure 65. Removing the power cords from a stand-alone server

(L003)



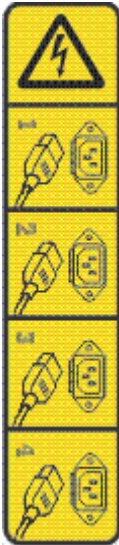
or



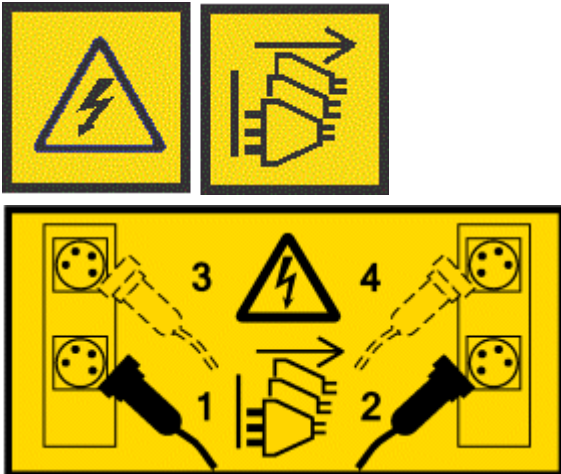
or

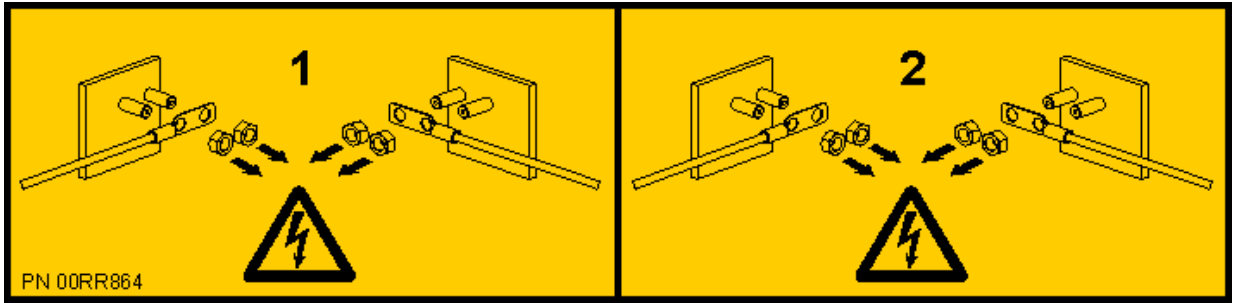


or



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)

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.



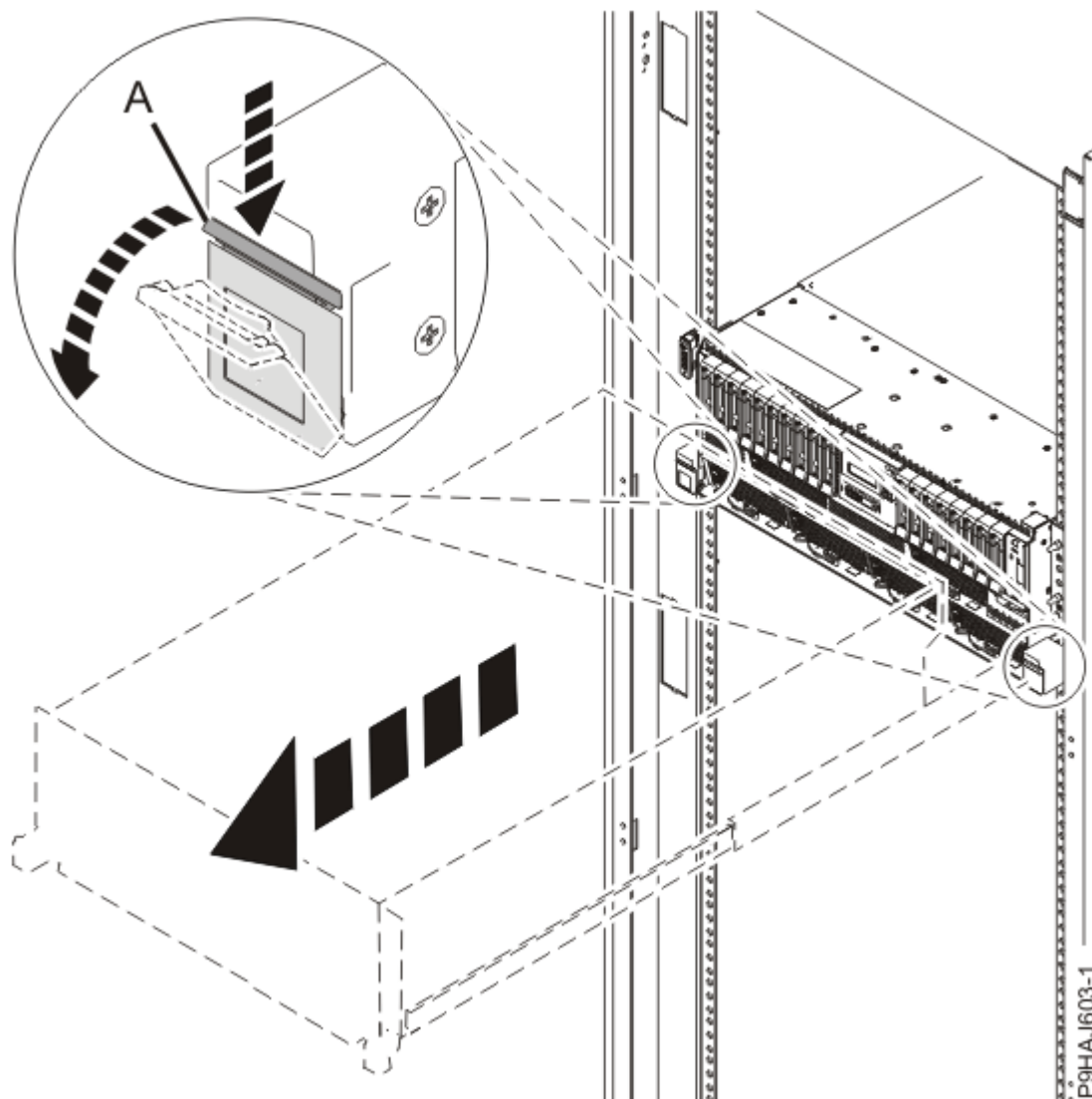


Figure 66. Releasing the side latches

5. Attach the electrostatic discharge (ESD) wrist strap. Your system has ESD jacks on the front and on the rear of the system as shown in the following figure. Plug the ESD wrist strap into the ESD jack.

 **Attention:**

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

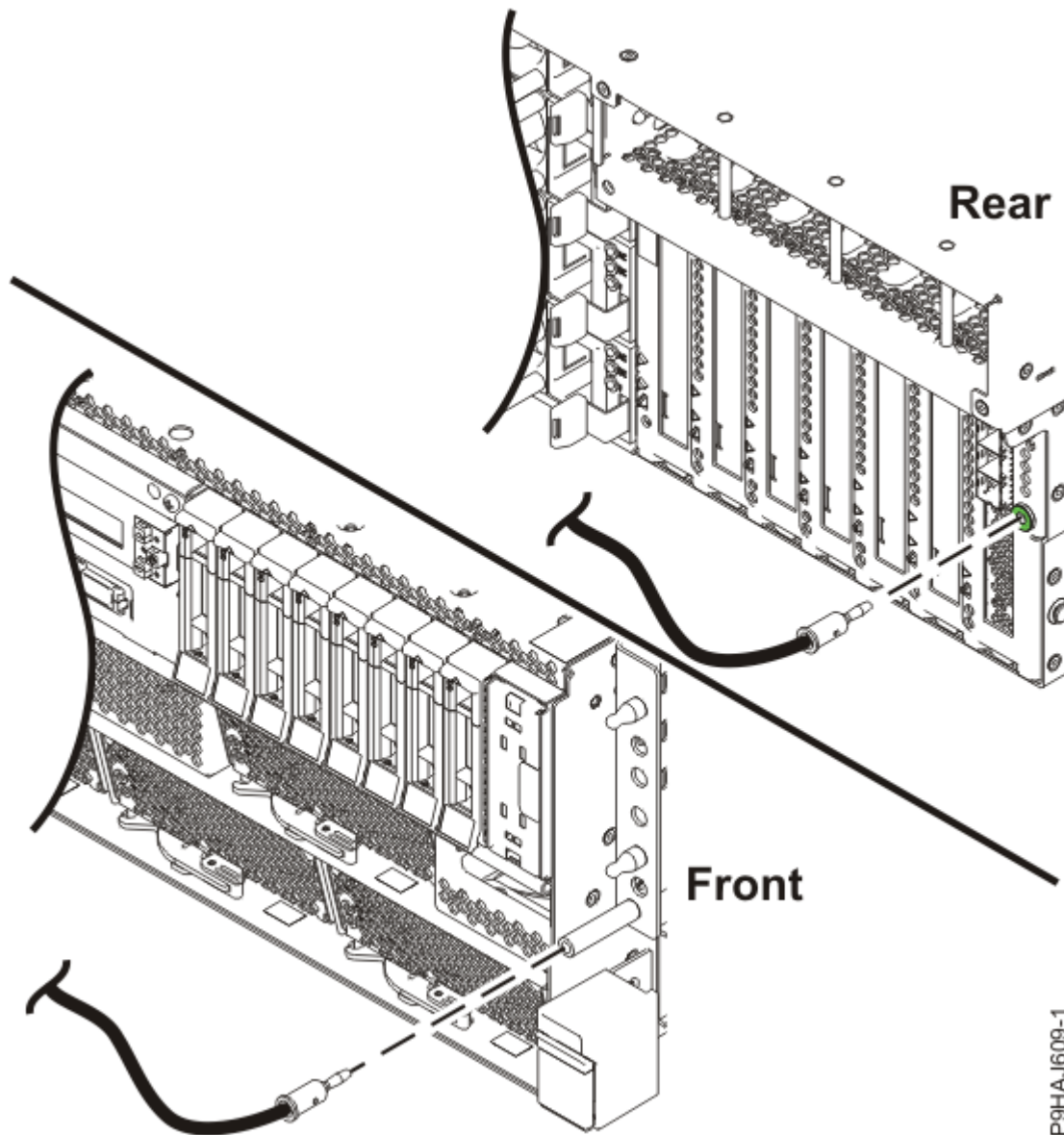


Figure 67. Location of ESD plugs

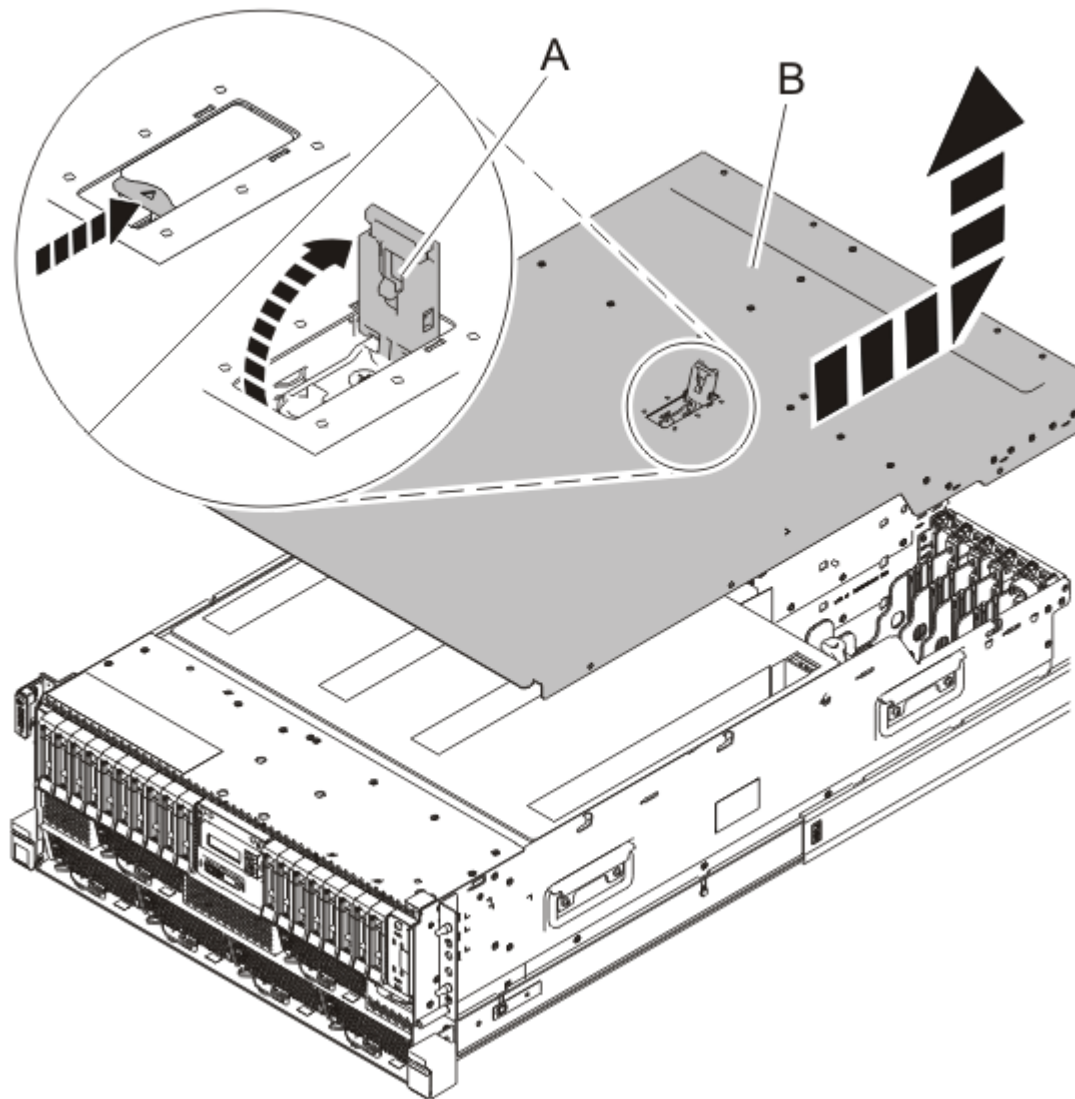
6. Remove the service access cover.

For a rack-mounted system, complete the following steps. Refer to [Figure 68](#) on page 77.



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

For a stand-alone system, complete the following steps. Refer to [Figure 69](#) on [page 78](#).



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.

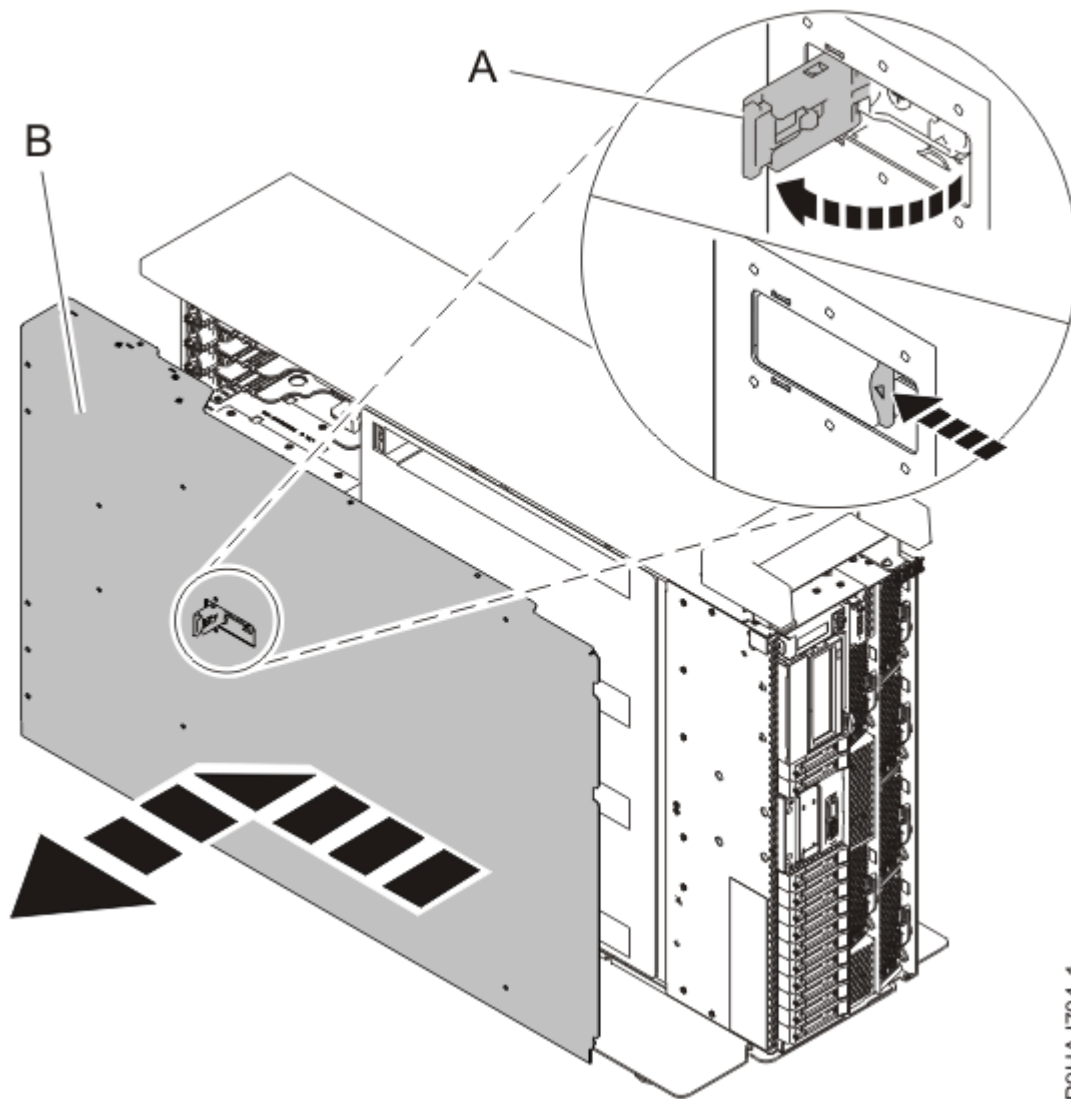


Figure 69. Removing the service access cover

Removing the 18-drive expanded function disk drive backplane from the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

To remove the 18-drive expanded function disk drive backplane from the system, complete the steps in this procedure.

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 air baffle. For instructions, see [Removing the air baffle \(www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbafflerremove.htm\)](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbafflerremove.htm).
3. Unplug but do not remove the front drives and front fillers if present from their slots. Pull the drives and fillers out far enough to prevent them from interfering with the removal of the disk drive backplane as shown in the following figure.

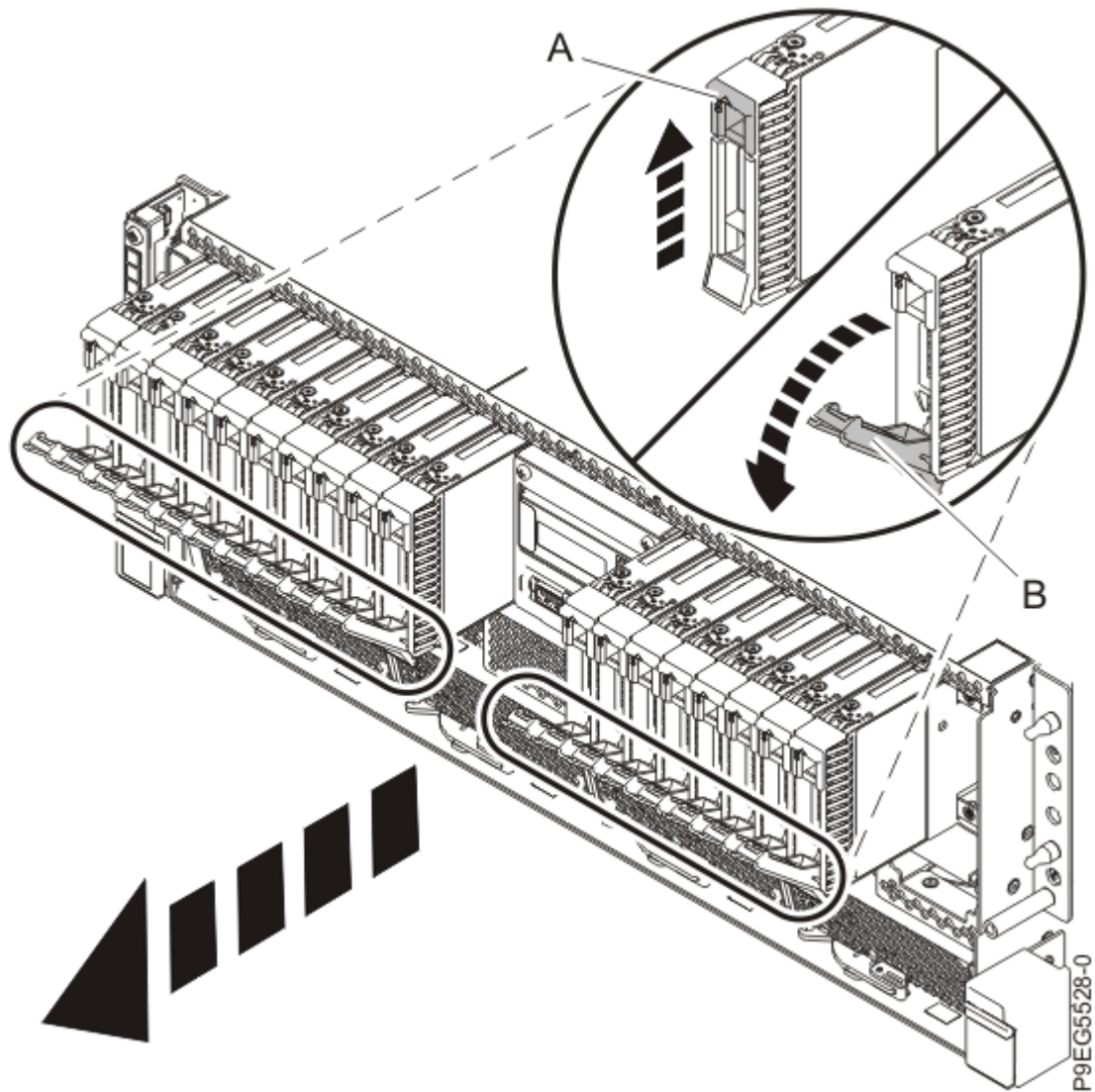


Figure 70. Partially removing the front drives and fillers

- a) Push the drive tab **(A)** to release the drive lever **(B)**.
 - b) Using the drive lever, pull the drive and filler about 2.5 cm (1 in) from the system.
 - c) Repeat steps “3.a” on page 79 - “3.b” on page 79 for the other drives and fillers.
4. Label and disconnect the signal cable **(A)** and the power cable **(B)** from the disk drive backplane as shown in the following figure.
- Unlatch the clips that secure the connectors to the disk drive backplane.

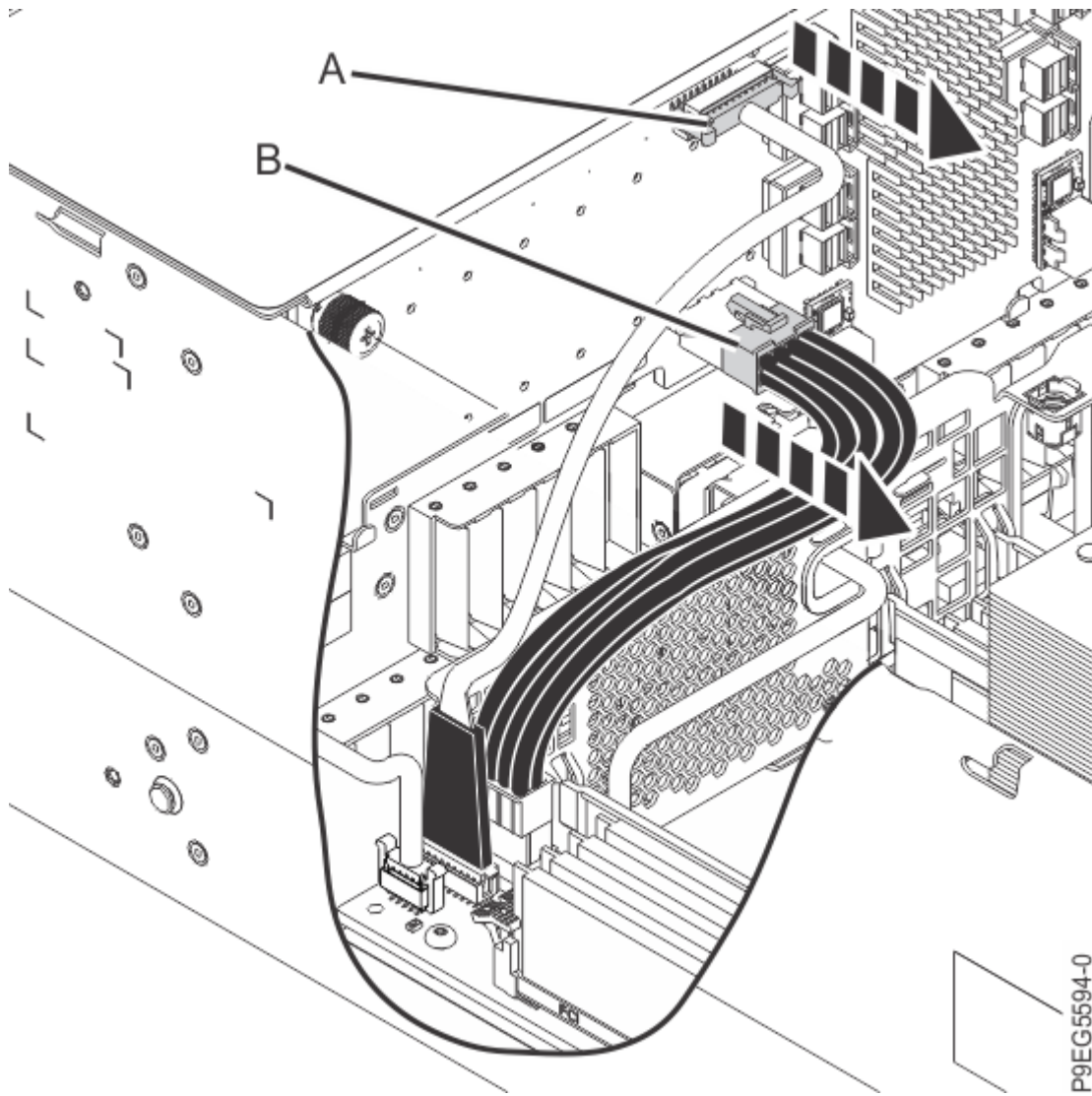


Figure 71. Disconnecting the signal cable and power cable

5. Label the front SAS cables. Press the cable connector latch and disconnect the front SAS cables (**J2**) and (**J4**) from the disk drive backplane as shown in the following figure.

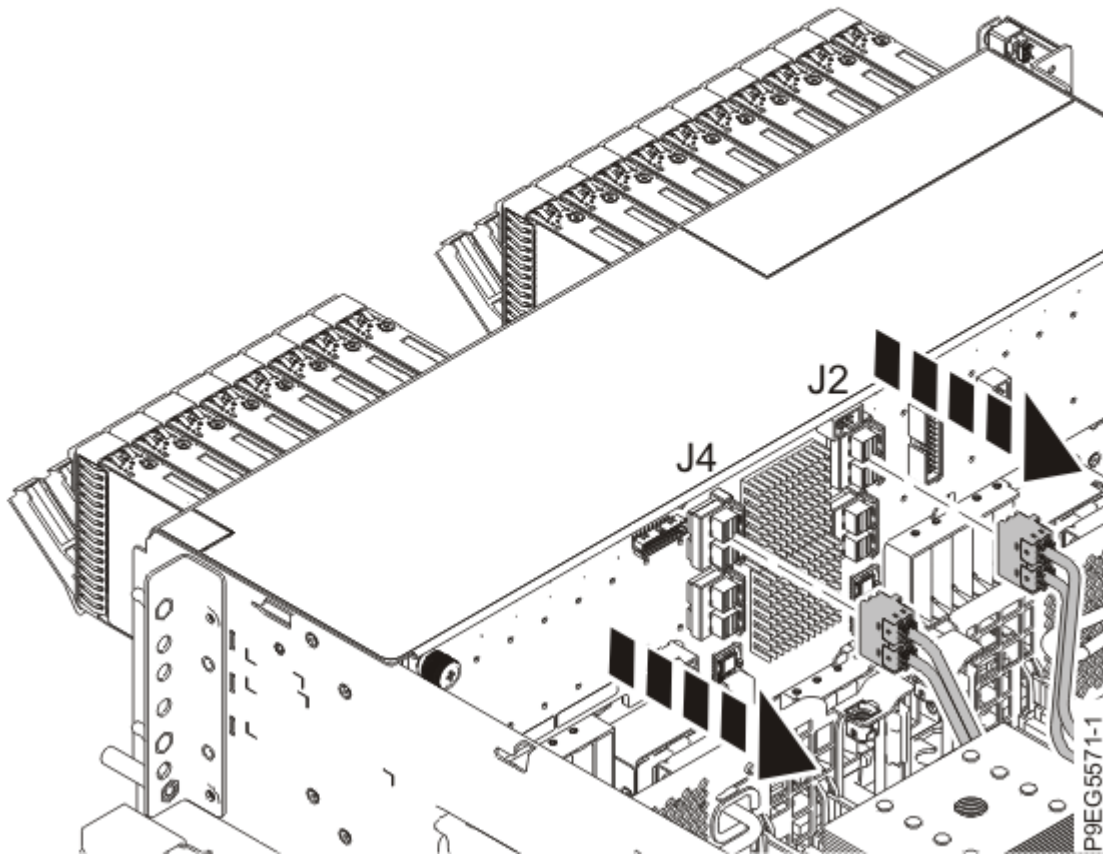


Figure 72. Disconnecting the front SAS cables

6. Ensure that all cables are carefully positioned out of the way, such that the disk drive backplane can be easily lifted and removed.
7. Carefully unscrew the captive thumbscrews **(A)** and **(B)** of the disk drive backplane until fully loose as shown in the following figure.
If needed, use a Phillips screwdriver to loosen the screws.

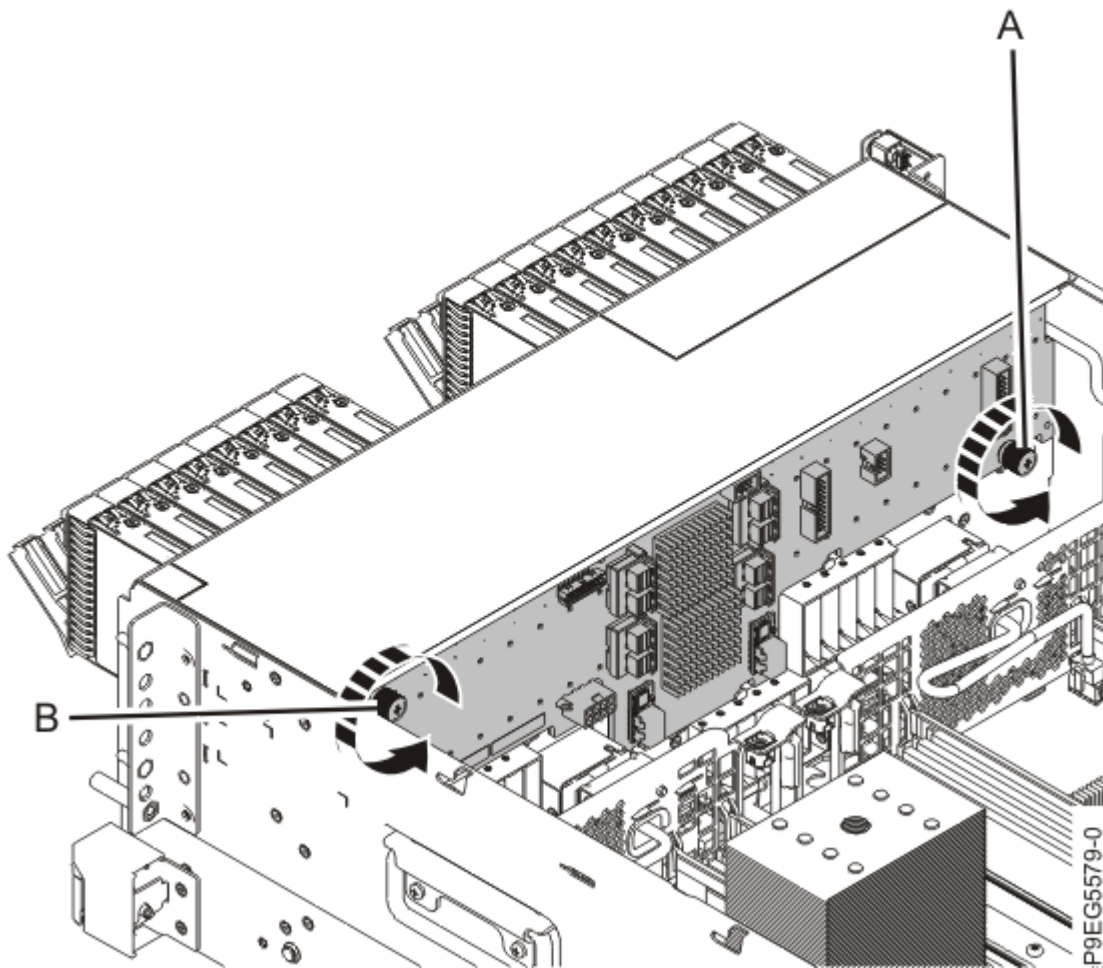


Figure 73. Loosening the disk drive backplane screws

8. Using the thumbscrews **(A)** and **(B)**, slide the disk drive backplane to the side in the direction that is shown in the following figure, so that the disk drive backplane clears the tabs in the chassis.

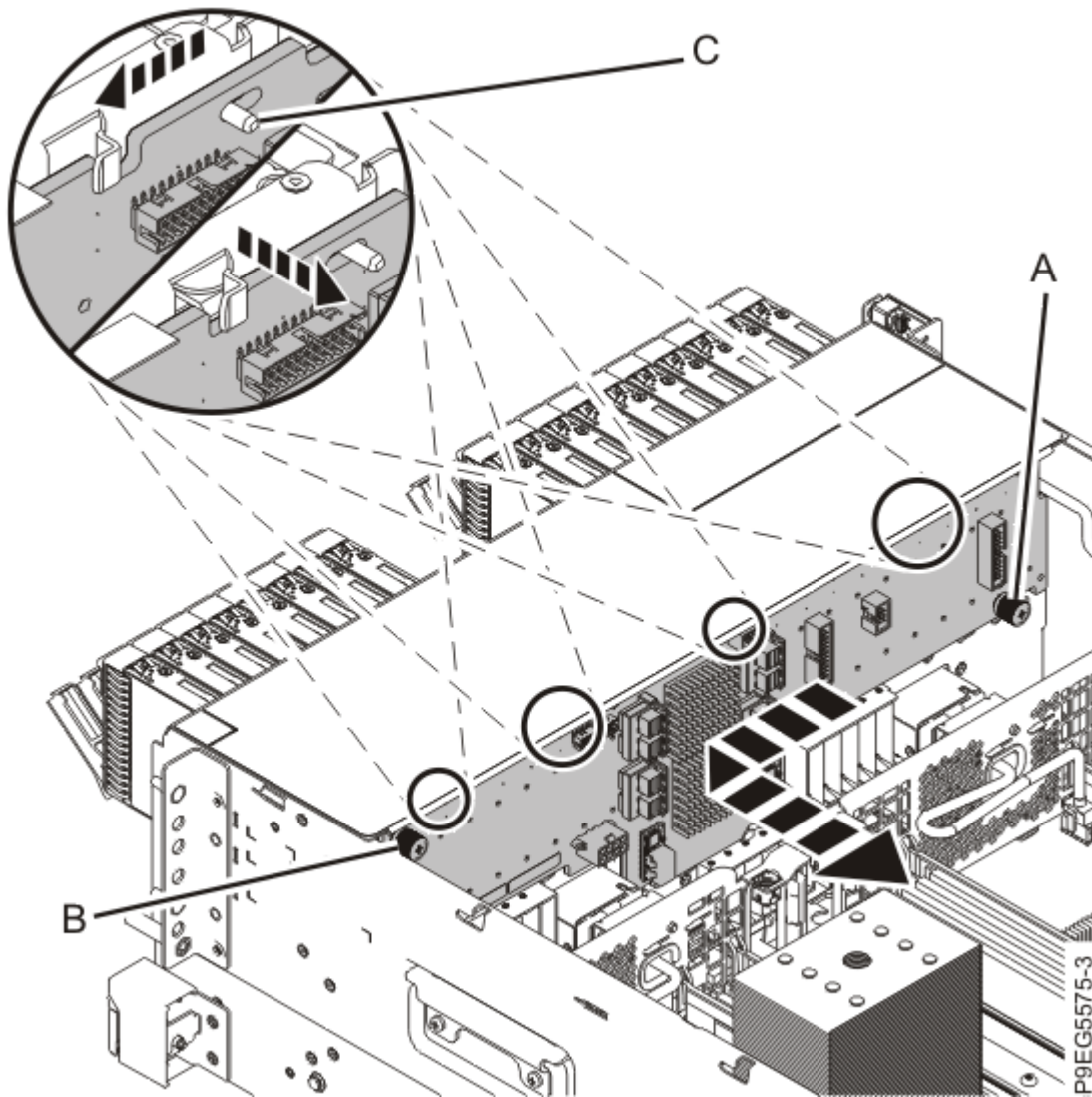


Figure 74. Removing the disk drive backplane

9. Lift the disk drive backplane out of the chassis.
10. If the removed part is used again, place the part on an electrostatic discharge (ESD) mat.

Replacing the 18-drive expanded function disk drive backplane in the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

To replace the 18-drive expanded function disk drive backplane in the system, complete the steps in this procedure.

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. The chassis has two alignment pins and several brackets **(A)** to secure the disk drive backplane. Using the thumbscrews **(B)**, **(C)**, and the alignment pins **(A)**, insert the disk drive backplane as shown in the following figure, while you ensure that the alignment pins fit through the holes in the disk drive backplane.

Slide the disk drive backplane to the side in the direction shown so that the disk drive backplane slides under the tabs in the chassis.

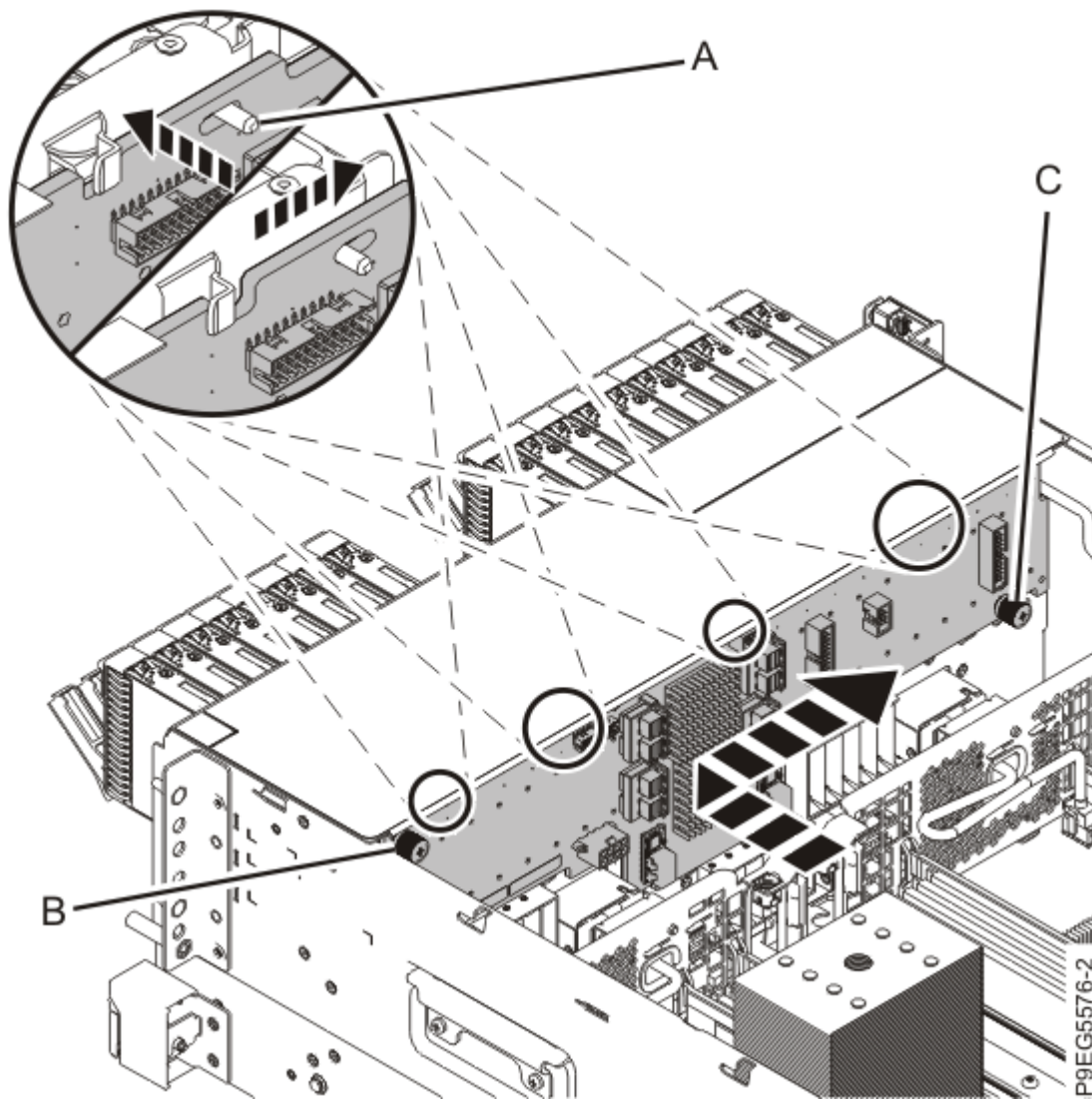


Figure 75. Replacing the disk drive backplane by using alignment pins

3. Carefully tighten the captive thumbscrews (**B**) and (**C**) to secure the disk drive backplane to the system chassis as shown in the following figure.

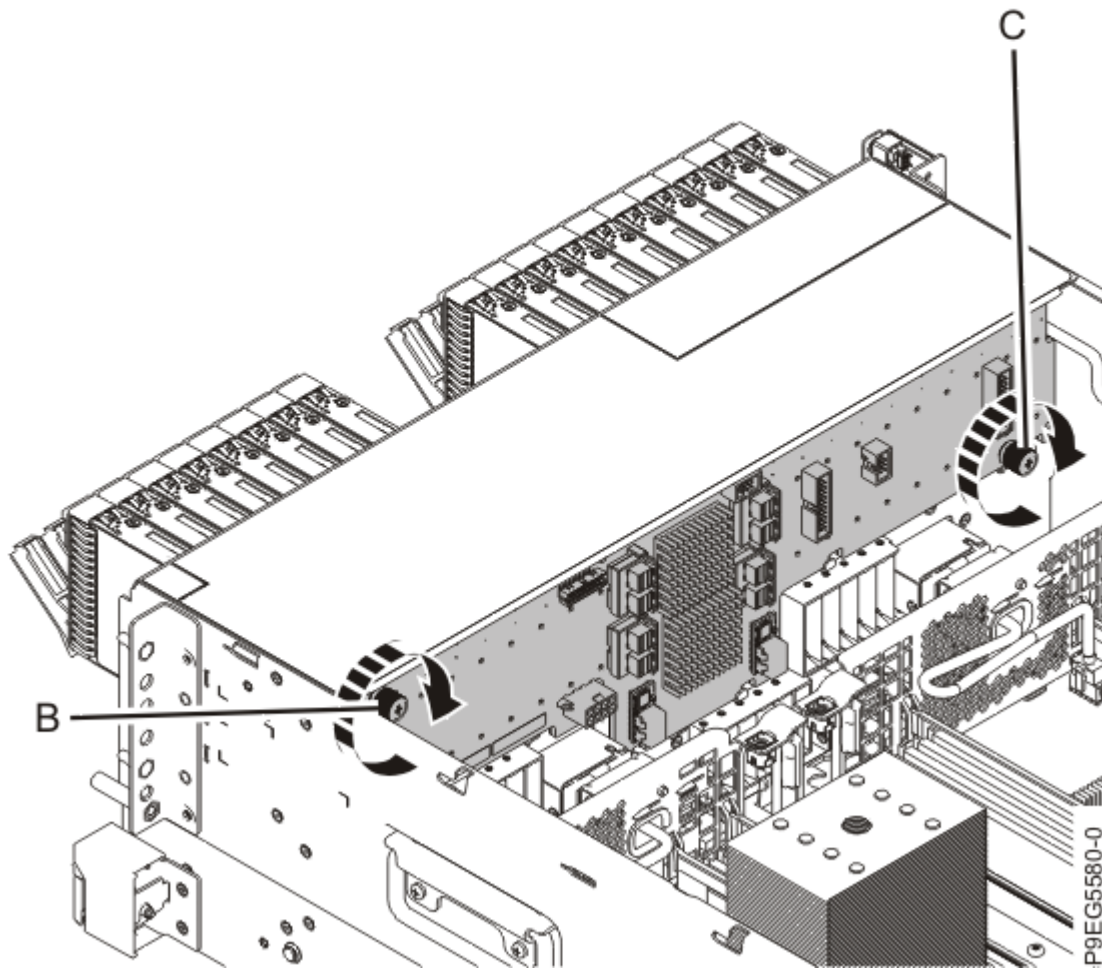


Figure 76. Replacing the disk drive backplane

4. Reconnect the signal cable **(A)** and the power cable **(B)** to the disk drive backplane as shown in the following figure.

Push the connectors in until the latches click.

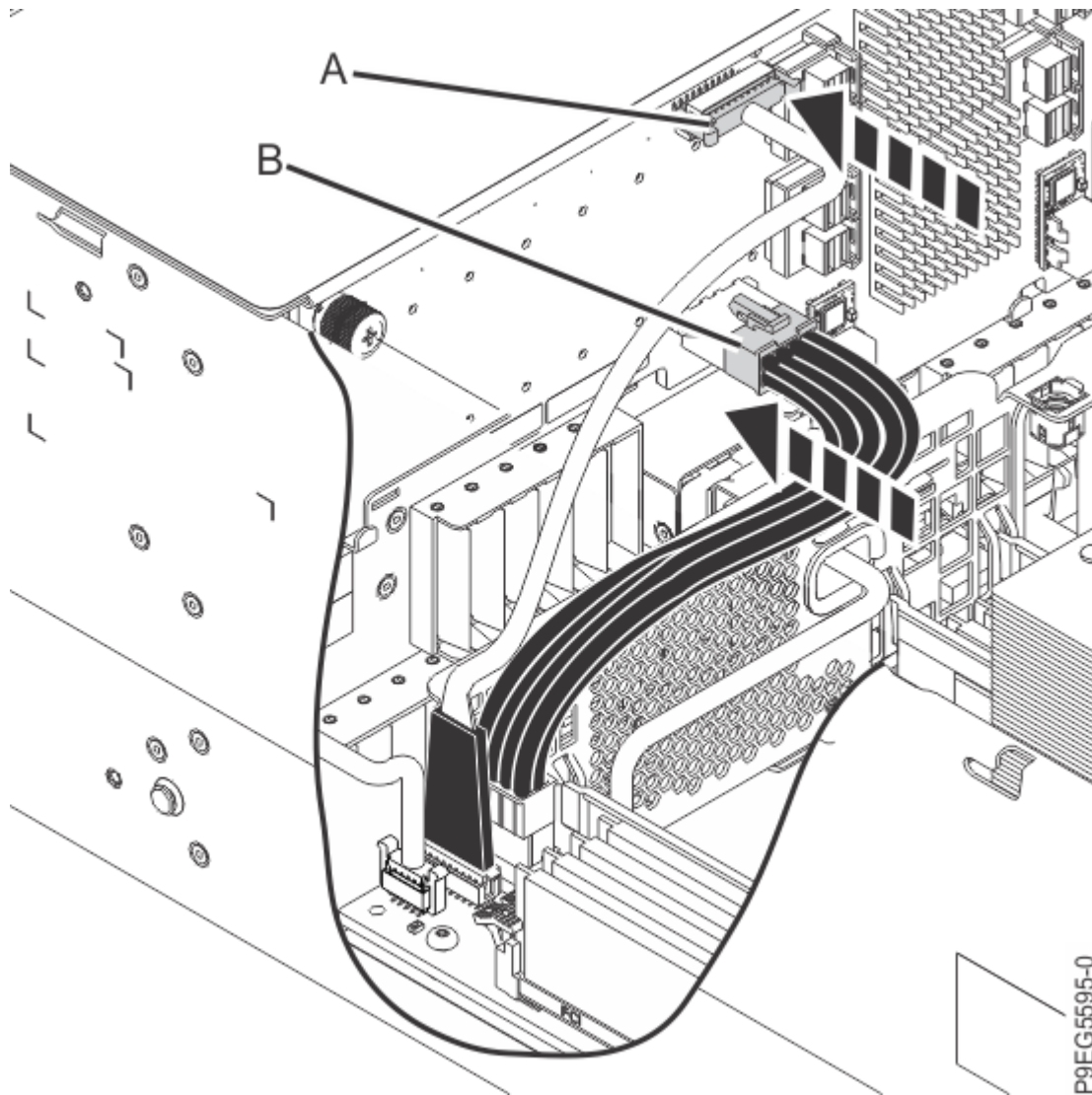


Figure 77. Reconnecting the power cable and signal cable to the disk drive backplane

5. Using your labels, reconnect the front SAS cables to the disk drive backplane connectors **(J2)** and **(J4)** as is shown in the following figure.

Push the connectors in until the latches click. Also ensure that the front SAS cables are fully seated into the SAS controller card.

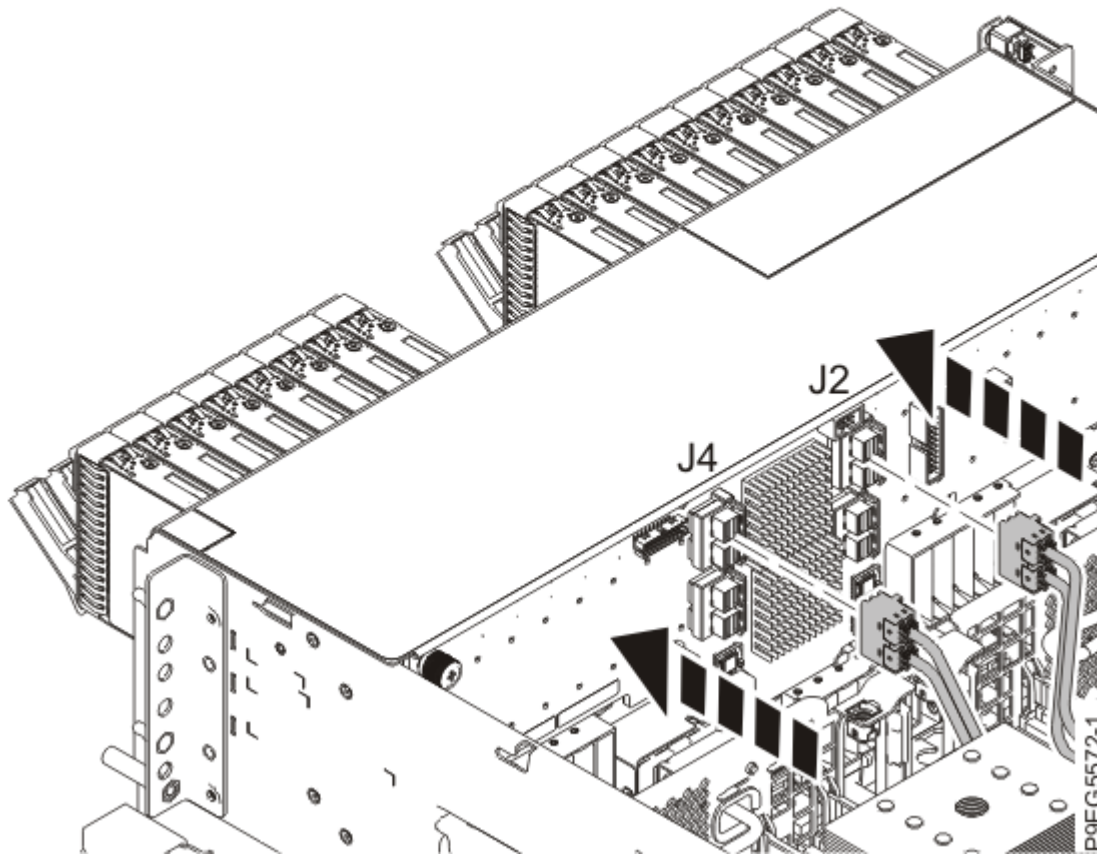


Figure 78. Reconnecting the front SAS cables

Note: One SAS cable connects the disk drive backplane connector J2 to the P1 connector on the storage controller in slot P1-C49. The other SAS cable connects the disk drive backplane connector J4 to the P1 connector on the storage controller in slot P1-C50. See the following figure.

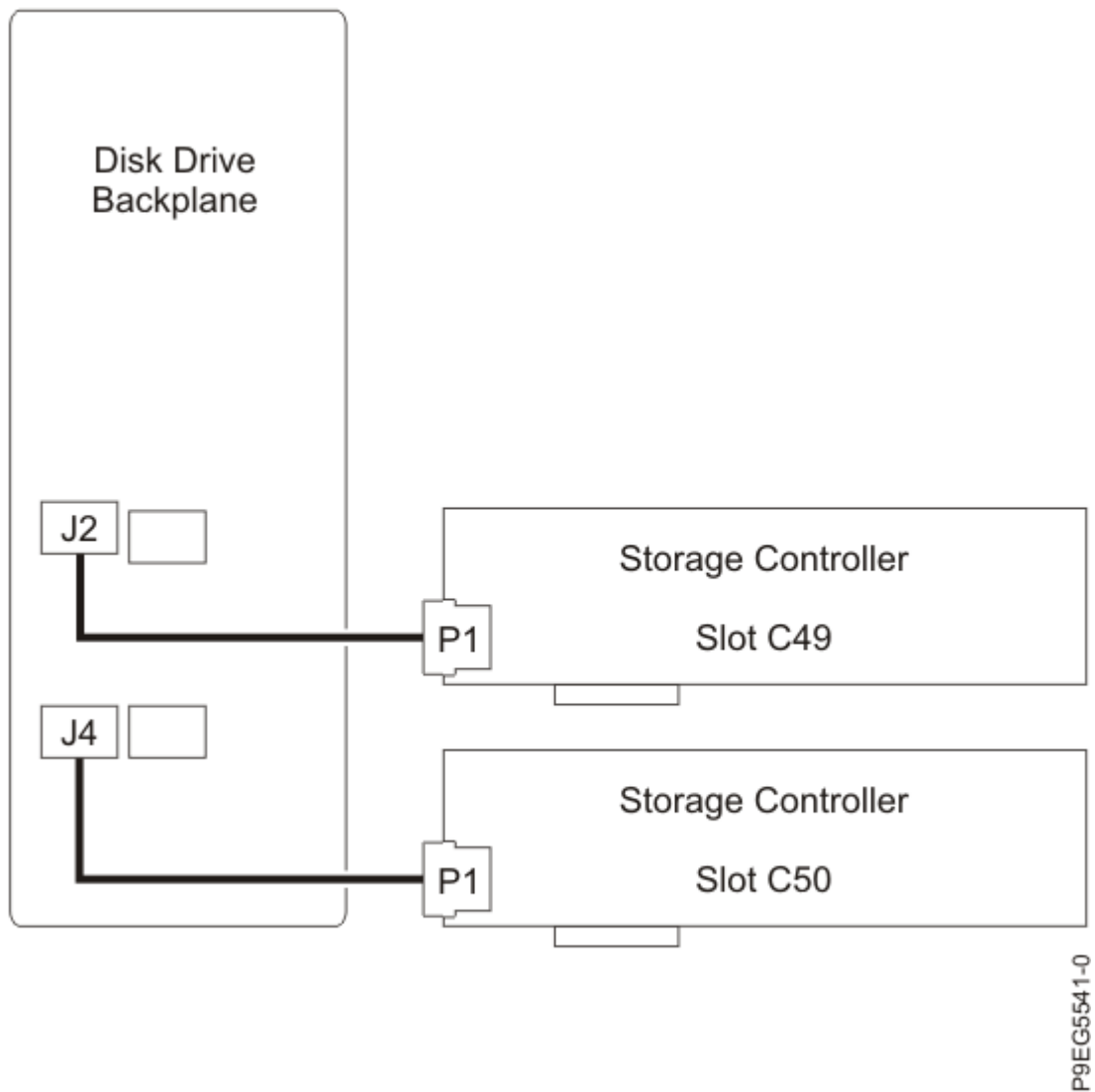


Figure 79. Reconnecting the SAS cable in the 18-drive expanded function configuration

For information about SAS cable part numbers, see 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system parts (http://www.ibm.com/support/knowledgecenter/POWER9/p9ecs/p9ecs_914_924_parts.htm).

6. Fully seat all the front drives and front fillers if present into their slots as shown in the following figure. Push drive lever **(A)** until the front drive and front is seated and the lever snaps closed.

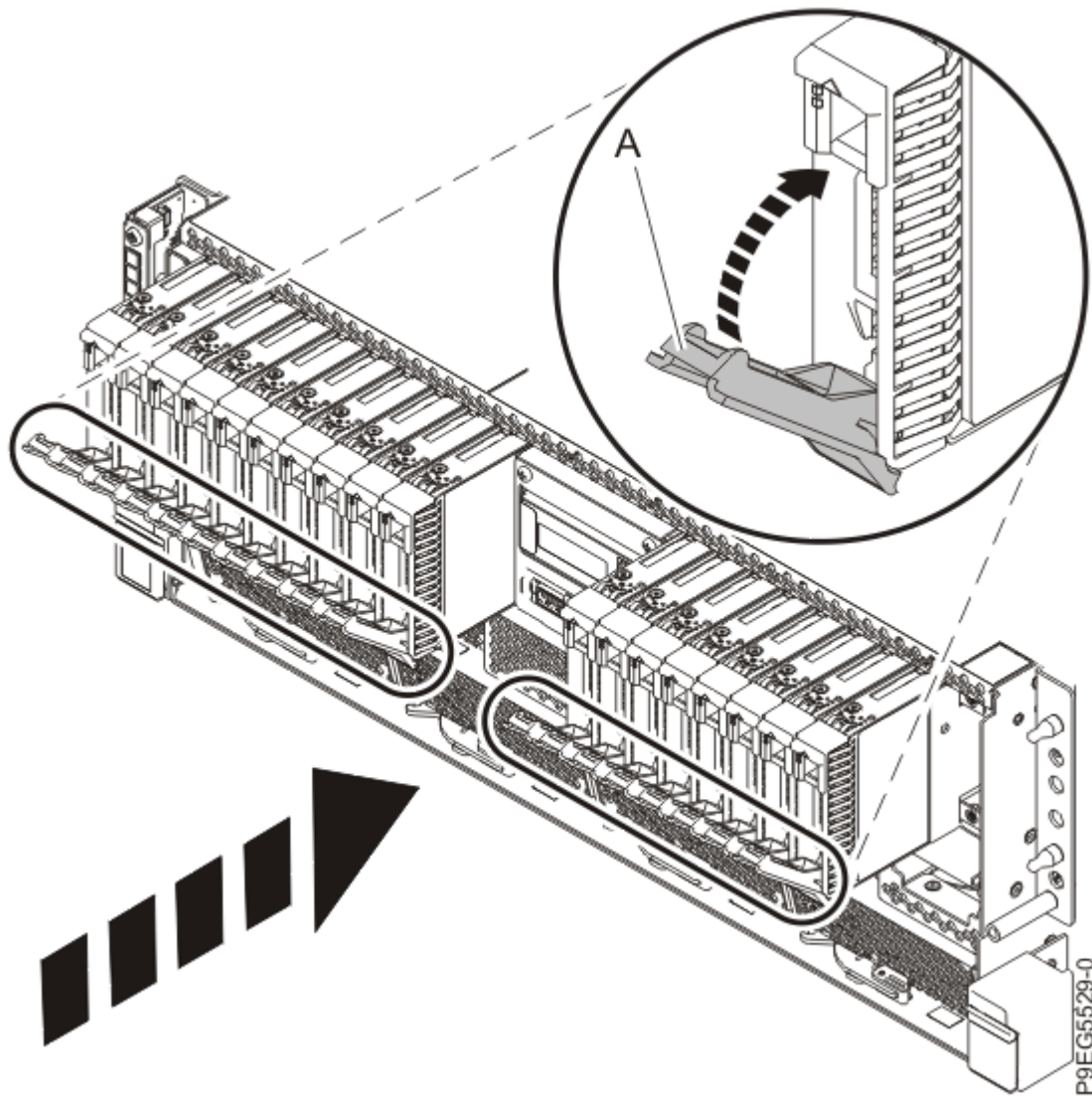


Figure 80. Replacing the front drives and fillers

7. Replace the air baffle. For instructions, see [Replacing the air baffle](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbafflereplace.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbafflereplace.htm).

Preparing the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system for operation after removing and replacing the 18-drive expanded function disk drive backplane

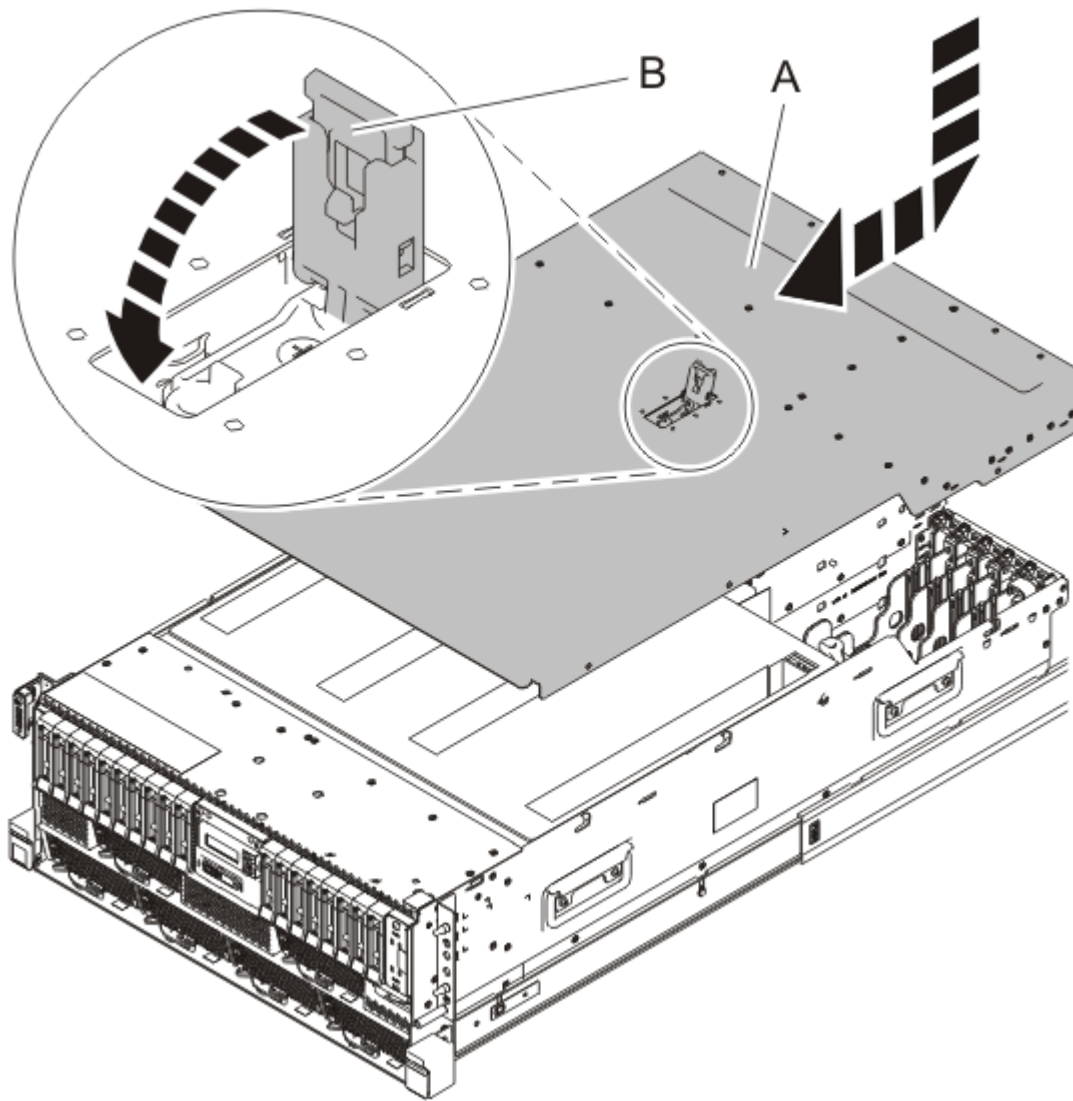
To prepare the system for operation after removing and replacing the 18-drive expanded function disk drive backplane, complete the steps in this procedure.

Procedure

1. Replace the service access cover.

For a rack-mounted system, complete the following steps. Refer to [Figure 81](#) on page 90.

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

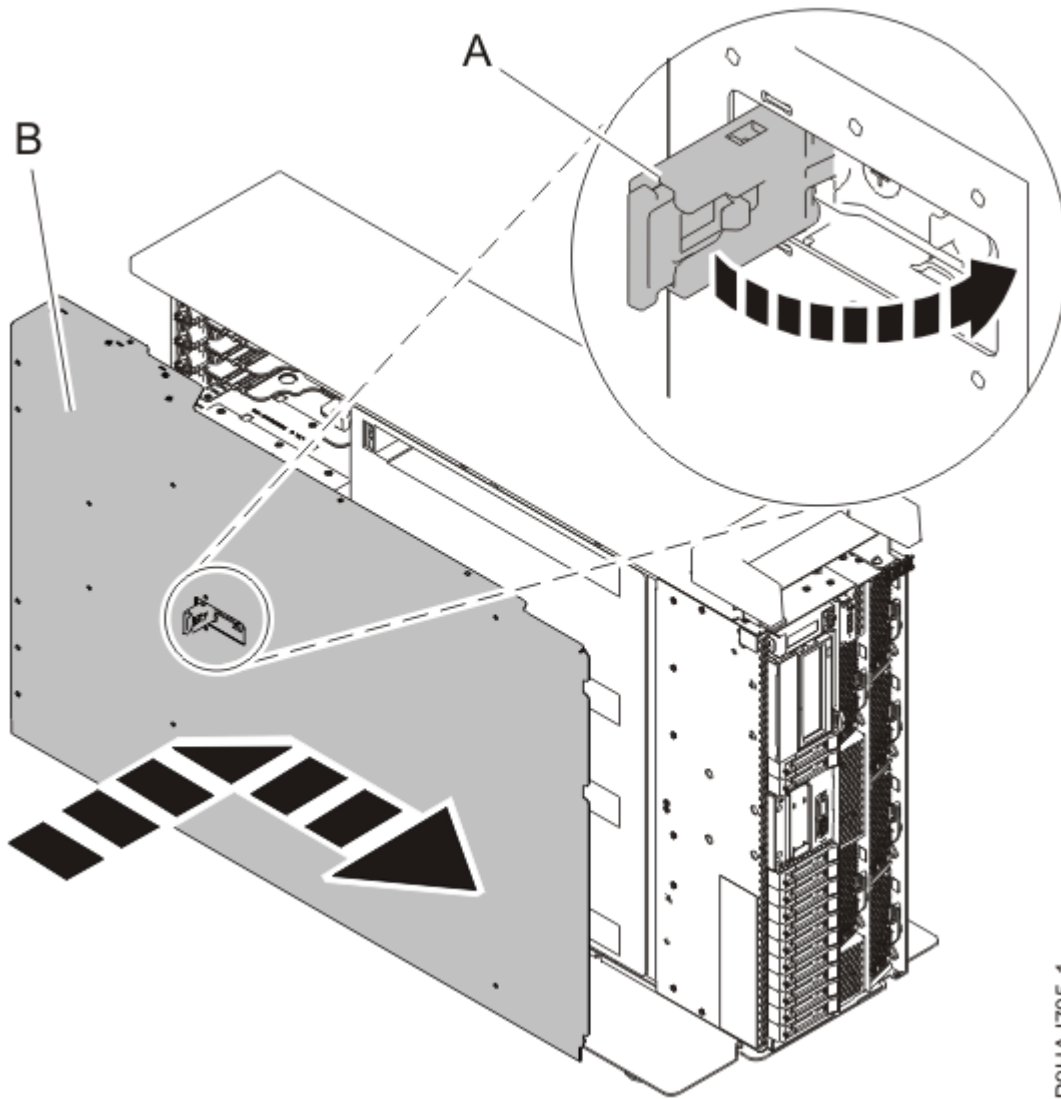


P9HAJ606-2

Figure 81. Installing the service access cover

For a stand-alone system, complete the following steps. Refer to [Figure 82 on page 91](#).

- 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.



P9HAJ705-1

Figure 82. Installing the service access cover

2. For a rack-mounted system, unlock the blue rail safety latches **(A)** as shown in [Figure 83](#) on page 92 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.

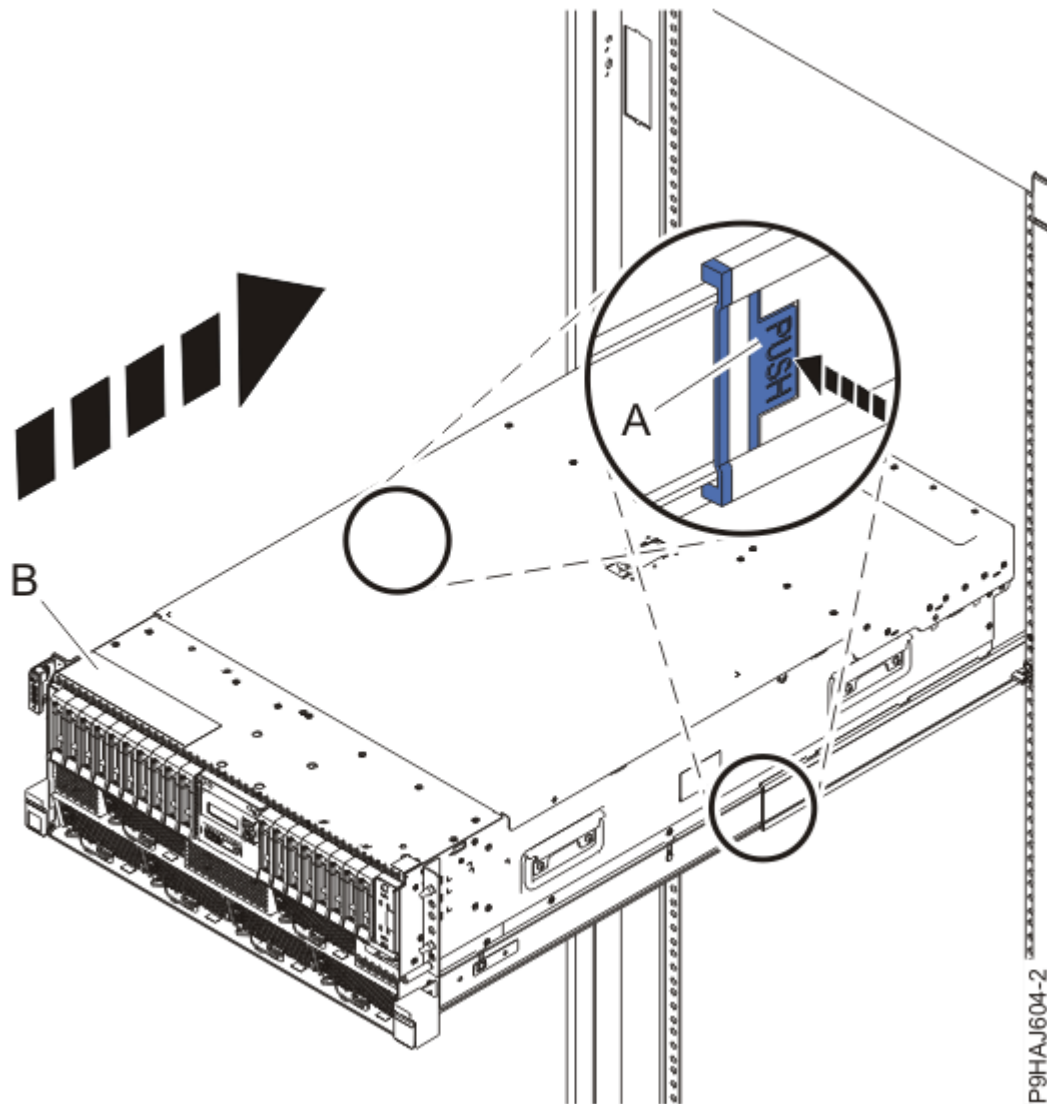


Figure 83. Placing the system into the operating position

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.

4. 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 84](#) on page 93 or [Figure 85](#) on page 94.

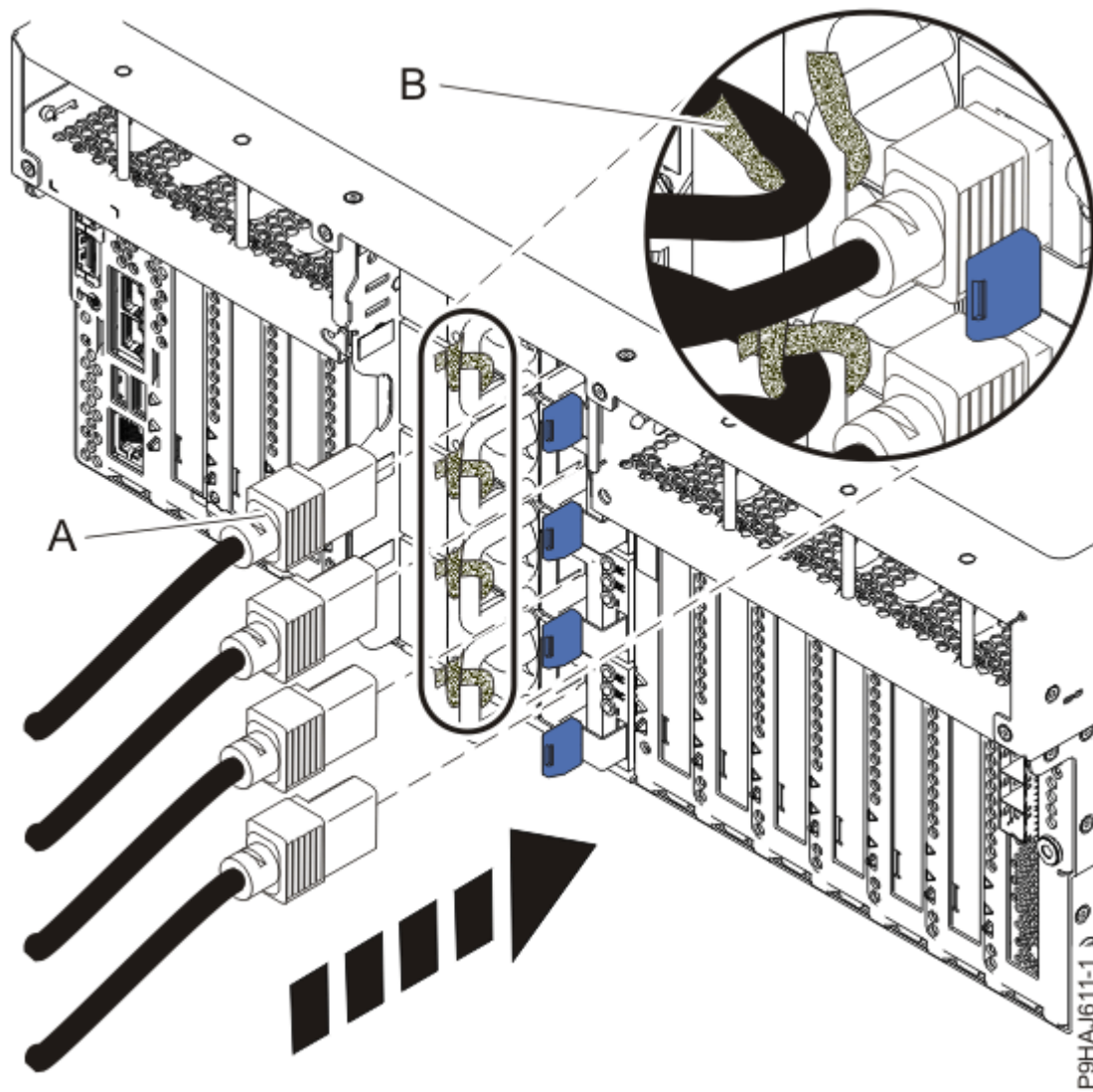


Figure 84. Connecting the power cords to a rack-mounted system

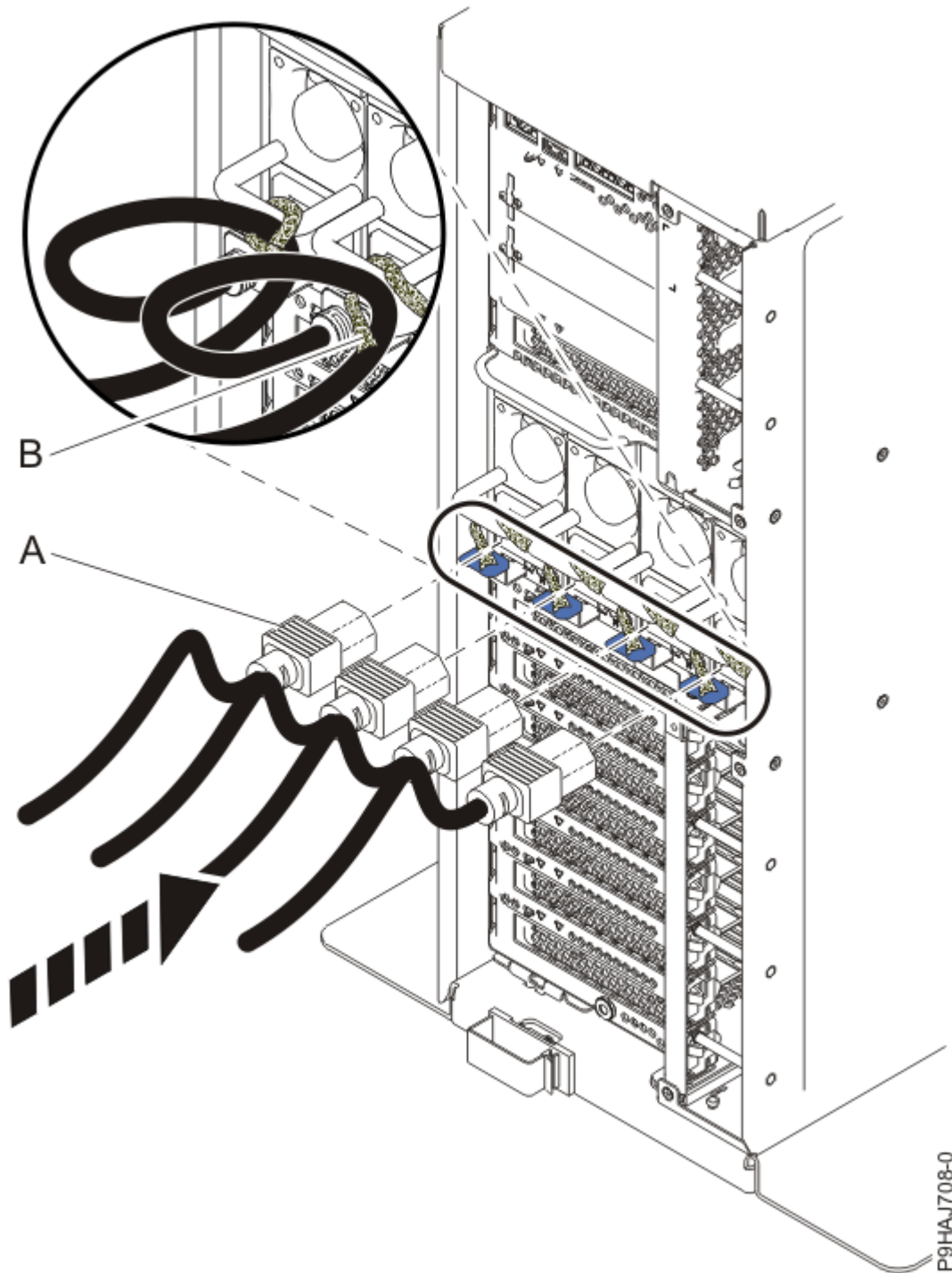


Figure 85. Connecting the power cords to a stand-alone system

5. Start the system. For instructions, see [Starting a system](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustartsys.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustartsys.htm).
6. Turn off the identify LED. For instructions, see [Deactivating an identify LED](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_turn_off_identify_led.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_turn_off_identify_led.htm).
7. Verify the installed part.
 - If you replaced the part because of a service action, verify the installed part. For instructions, see [Verifying a repair](http://www.ibm.com/support/knowledgecenter/POWER9/p9ect/pxect_verifyrepair.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9ect/pxect_verifyrepair.htm).
 - If you installed the part for any other reason, verify the installed part. For instructions, see [Verifying the installed part](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/pxhaj_hsmverify.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/pxhaj_hsmverify.htm).

Removing and replacing the NVMe drive backplane in the 9009-41G, 9009-42G, or 9223-42S

Find information about removing and replacing the NVMe drive backplane in the IBM Power System S914 (9009-41G), IBM Power System S924 (9009-42G), or IBM Power System H924S (9223-42S) server.

About this task

If your system is managed by the Hardware Management Console (HMC), use the HMC to repair a part in the system. For instructions, see [Repairing a part by using the HMC](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_hmc_repair.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_hmc_repair.htm).

If your server is not managed by an HMC, complete the steps in the following procedures to remove and replace the NVMe drive backplane.

Preparing the 9009-41G, 9009-42G, or 9223-42S system to remove and replace the NVMe drive backplane

To prepare the system to remove and replace the NVMe drive backplane, complete the steps in this procedure.

Procedure

1. Identify the part and the system that you are working on. For instructions, see [Identifying a part](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/sal.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/sal.htm).

Use the blue identify LED on the enclosure to locate the system. Ensure that the serial number of the system matches the serial number to be serviced.

2. Stop the system. For instructions, see [Stopping a system](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustopsys.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustopsys.htm).
3. Label and disconnect the power cords from the system unit.

See [Figure 86 on page 96](#) or [Figure 87 on page 97](#).

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.

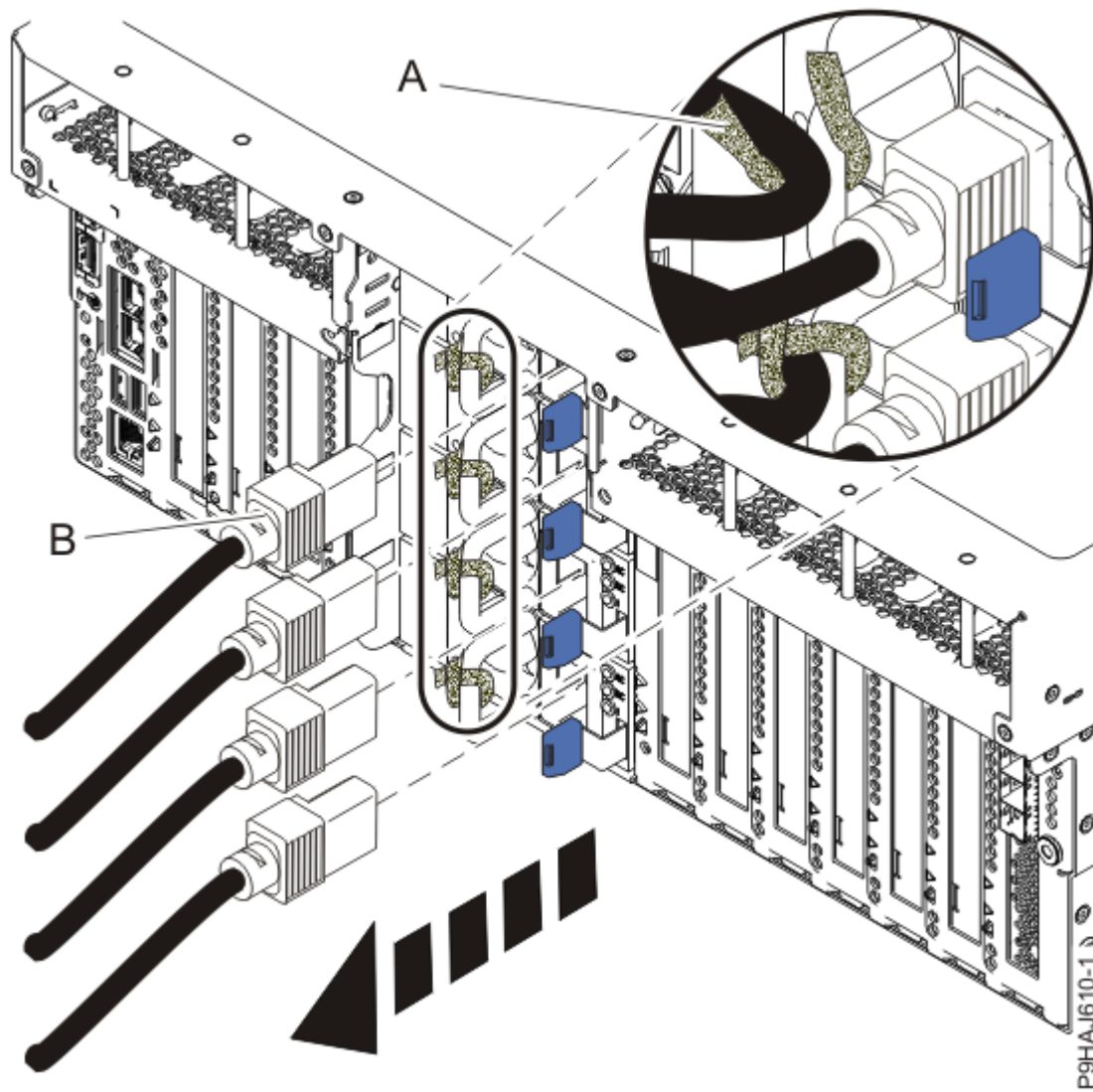


Figure 86. Removing the power cords from a rack-mounted server

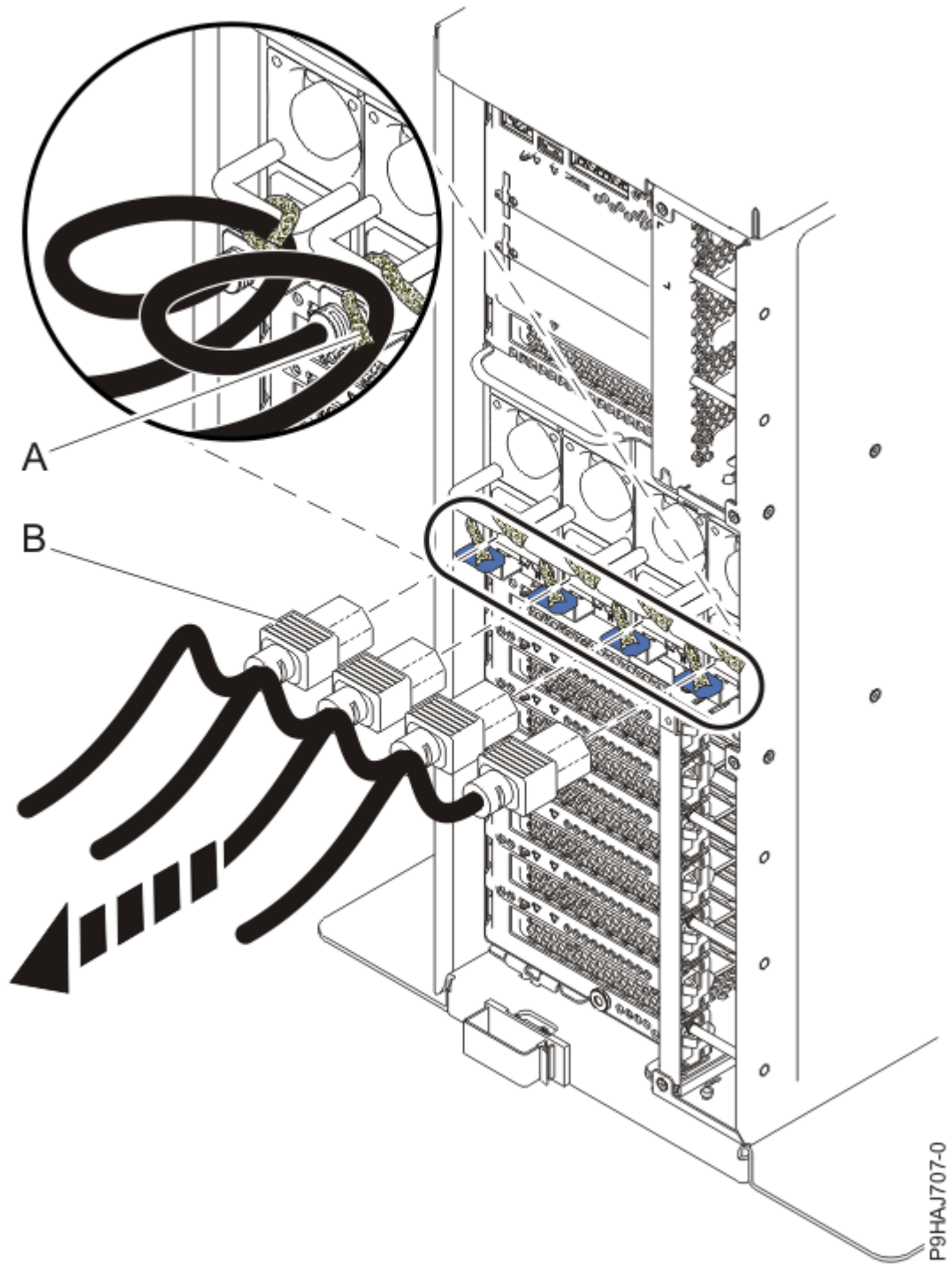
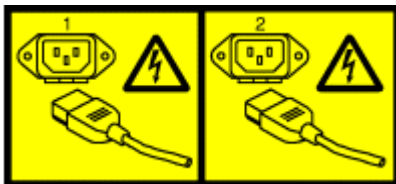


Figure 87. Removing the power cords from a stand-alone server

(L003)



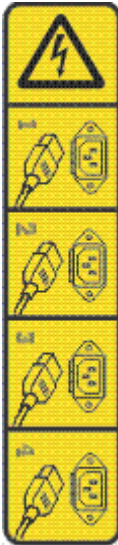
or



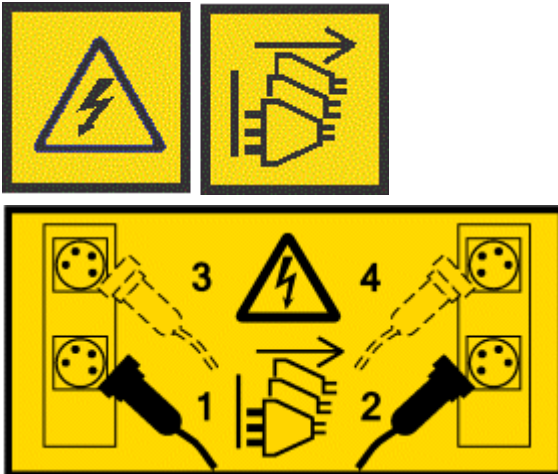
or

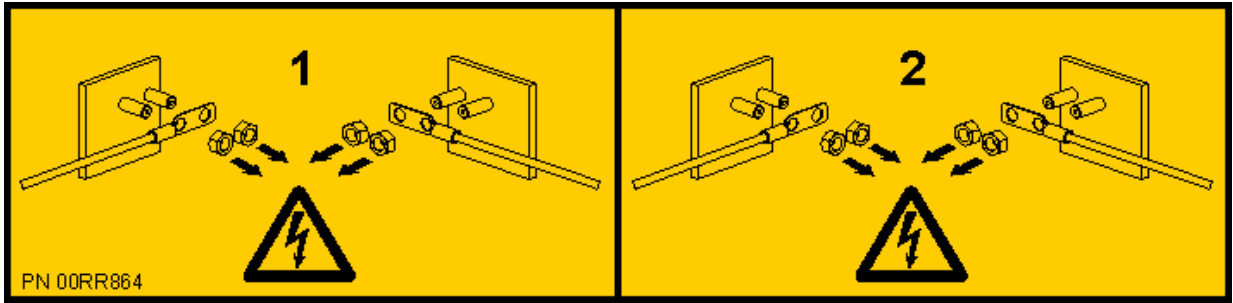


or



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)

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.



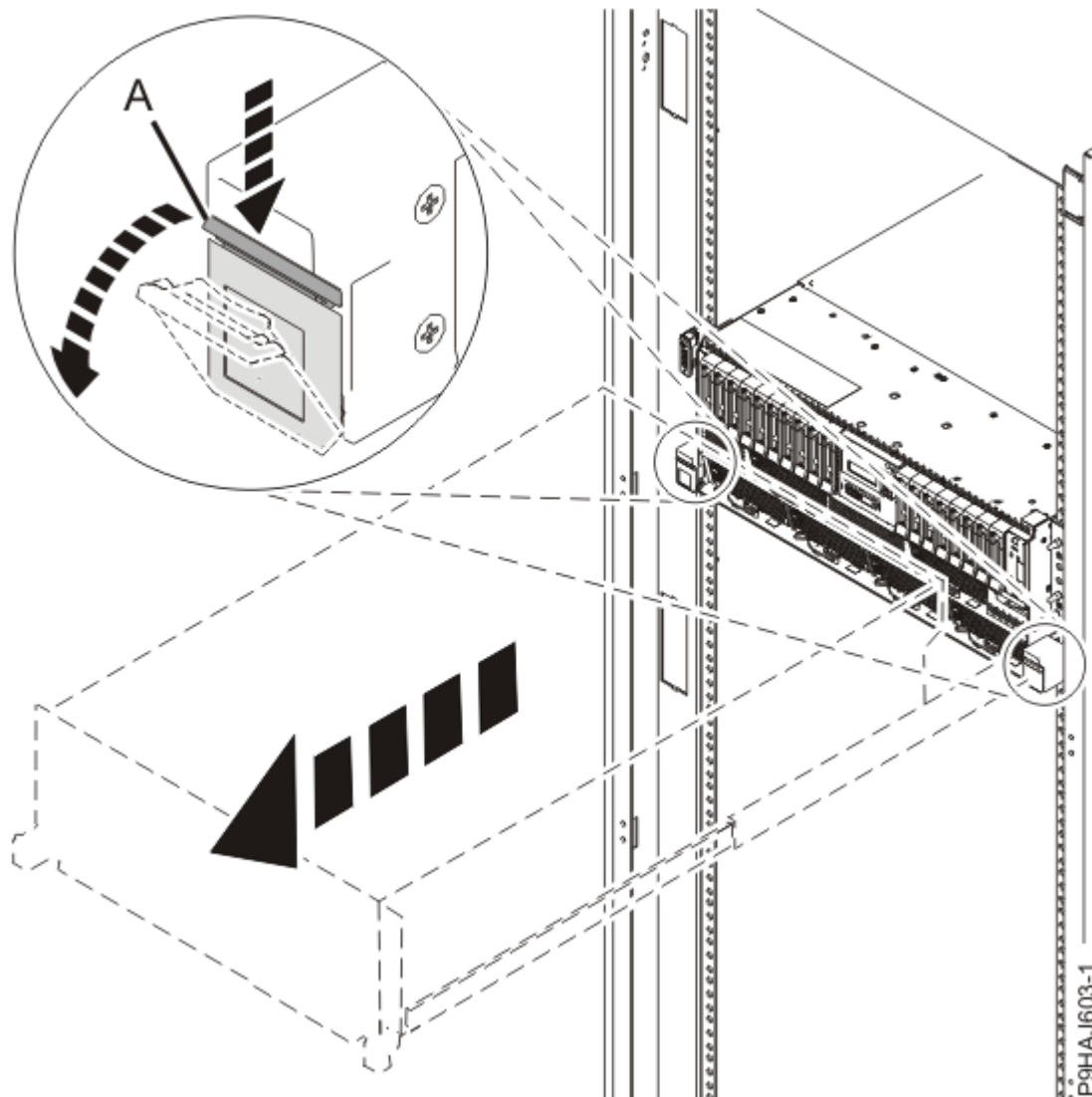


Figure 88. Releasing the side latches

5. Attach the electrostatic discharge (ESD) wrist strap. Your system has ESD jacks on the front and on the rear of the system as shown in the following figure. Plug the ESD wrist strap into the ESD jack.

 **Attention:**

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

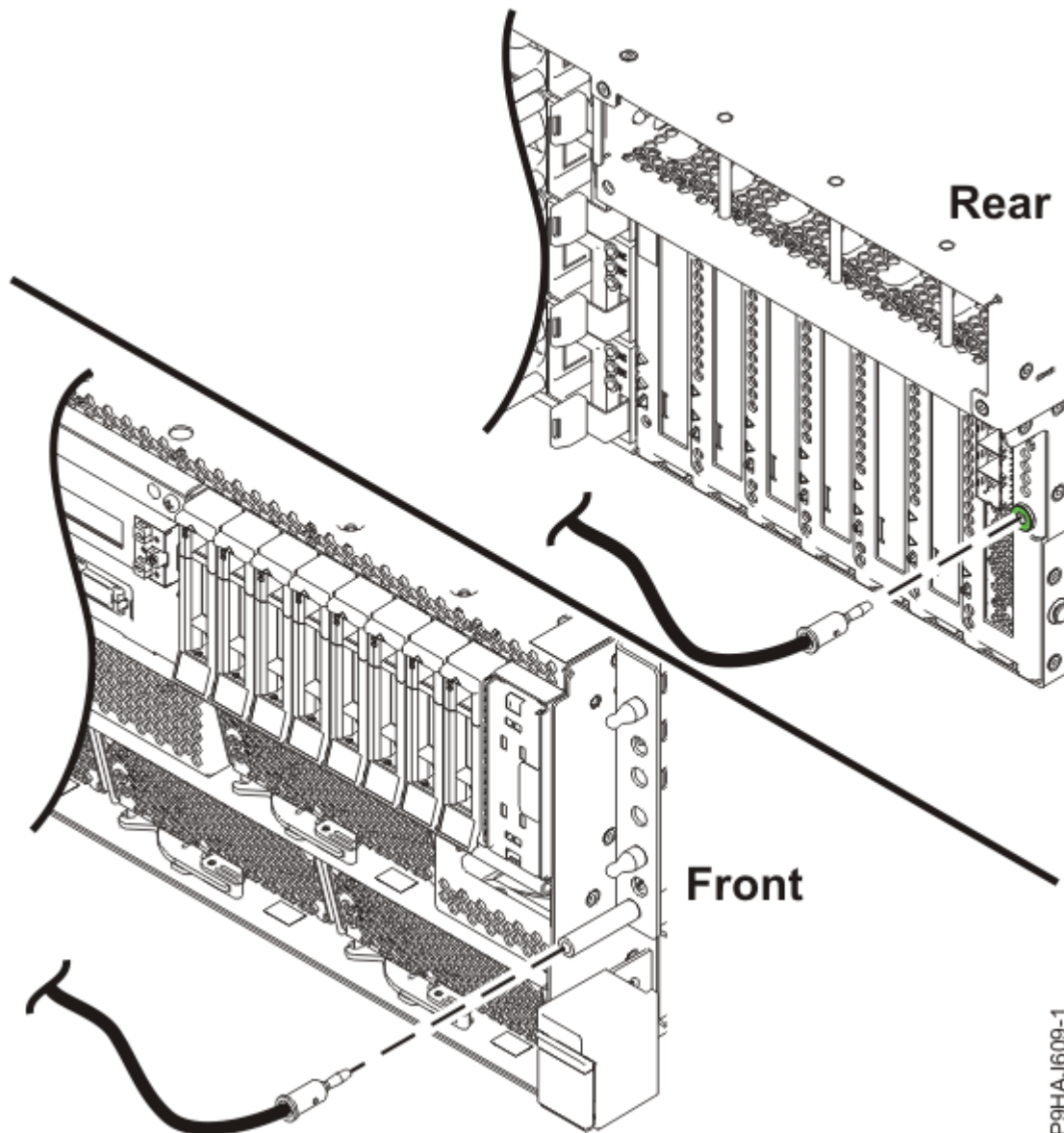


Figure 89. Location of ESD plugs

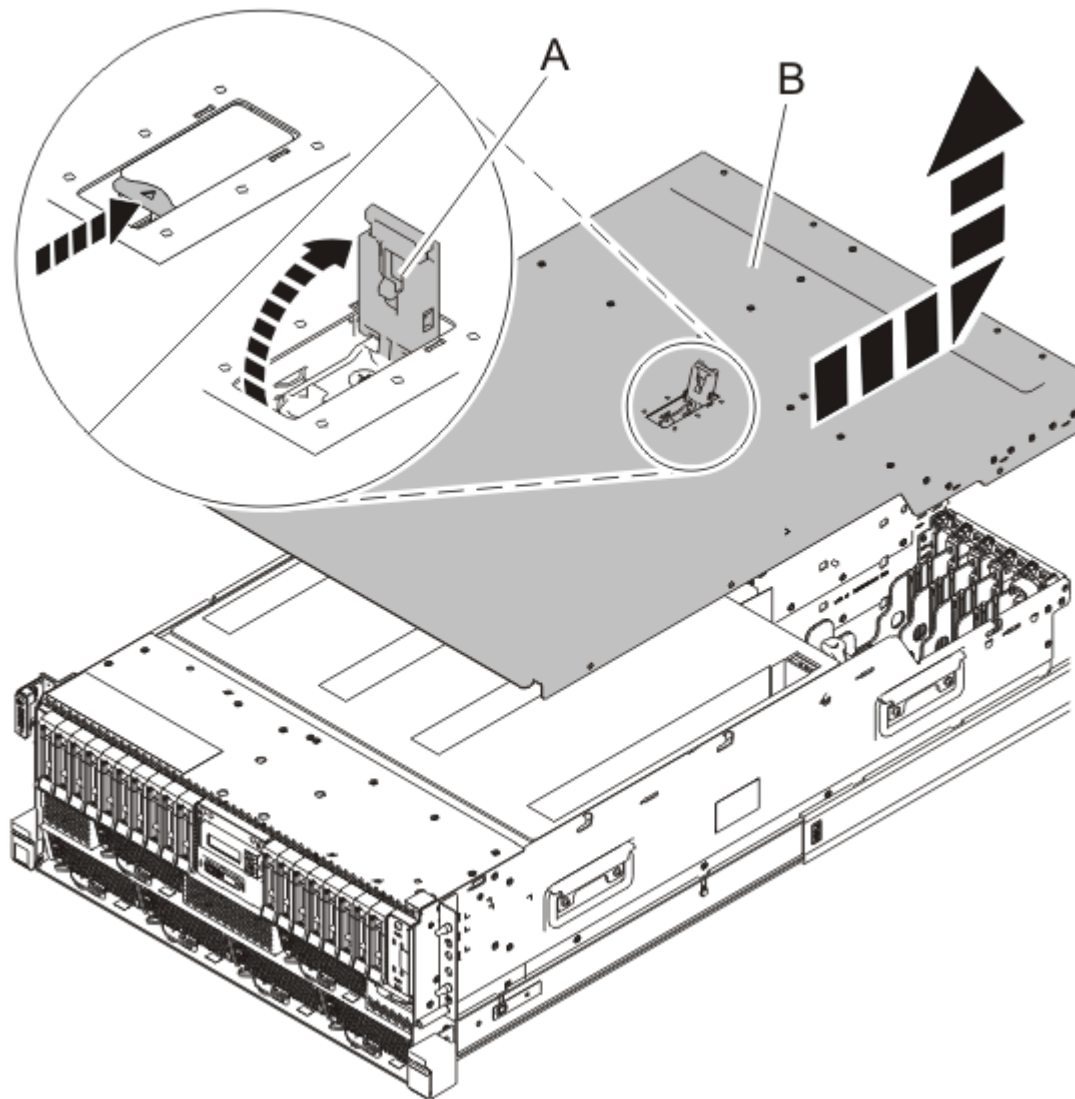
6. Remove the service access cover.

For a rack-mounted system, complete the following steps. Refer to [Figure 90](#) on page 102.



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

For a stand-alone system, complete the following steps. Refer to [Figure 91](#) on [page 103](#).



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.

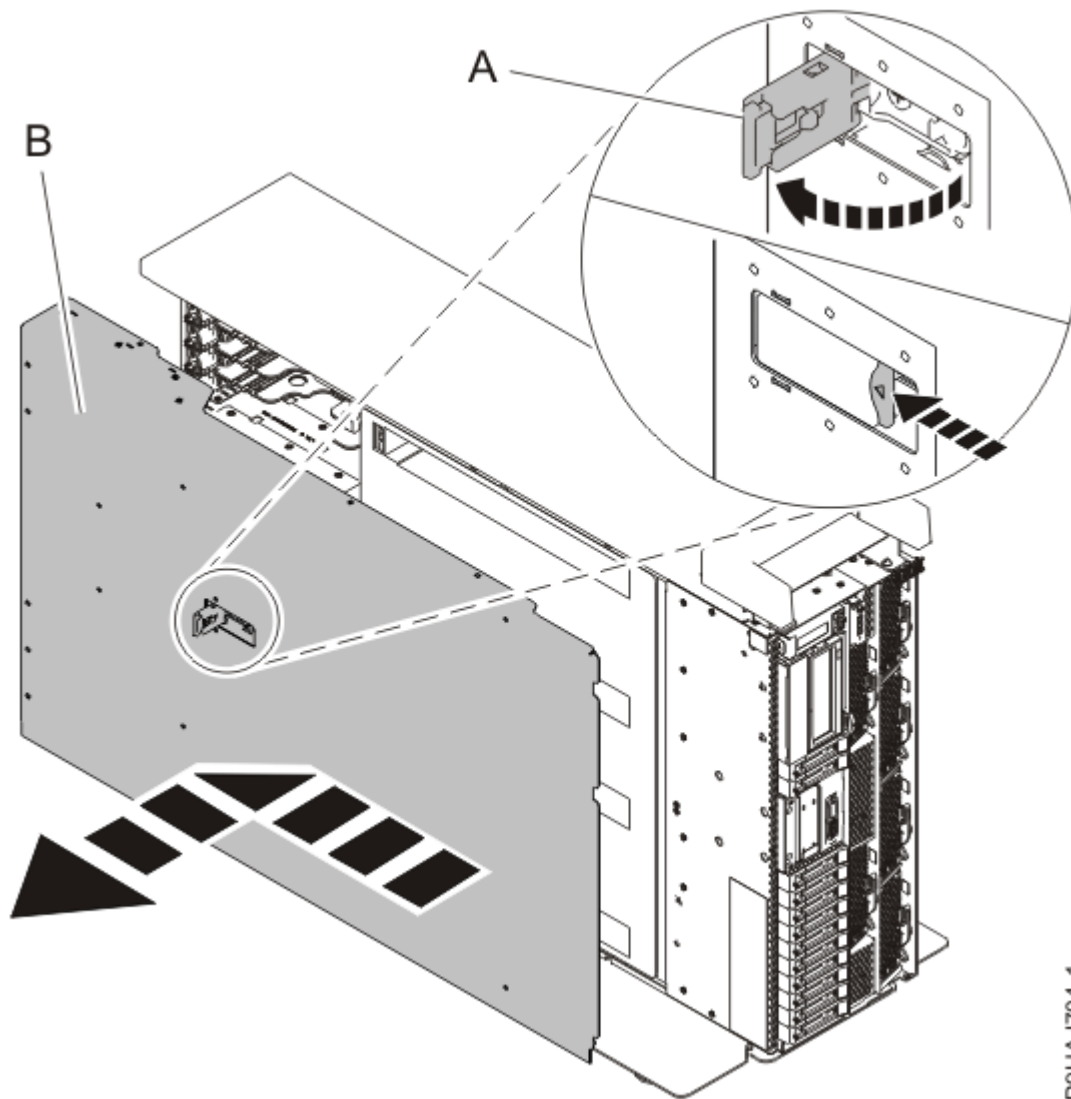


Figure 91. Removing the service access cover

P9HAJ704-1

Removing the NVMe drive backplane from the 9009-41G, 9009-42G, or 9223-42S system

To remove the NVMe drive backplane from the system, complete the steps in this procedure.

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 air baffle. For instructions, see [Removing the air baffle](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbafflerremove.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbafflerremove.htm).
3. If the system has an RDX drive, complete the following steps to partially remove the RDX docking station:
 - a) For a stand-alone system, open the front door.
Insert the front door key into the lock as shown in the following figure. Twist the key to the left (counterclockwise) to unlock the door. Horizontal is locked; vertical is unlocked. Open the front door.

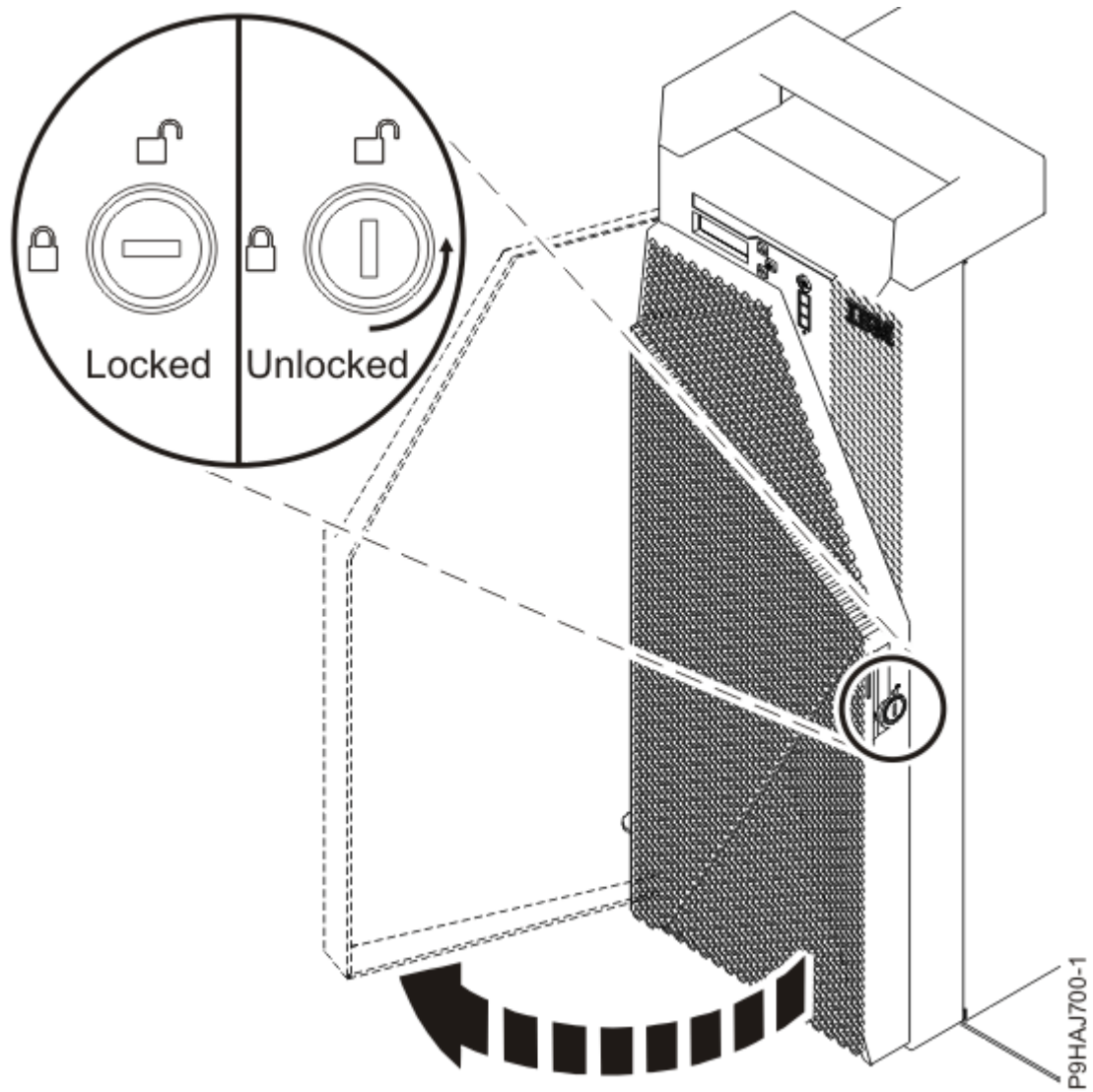


Figure 92. Unlocking the front door

b) Unplug the RDX power cable **(A)** from the NVMe drive backplane as shown in the following figure.

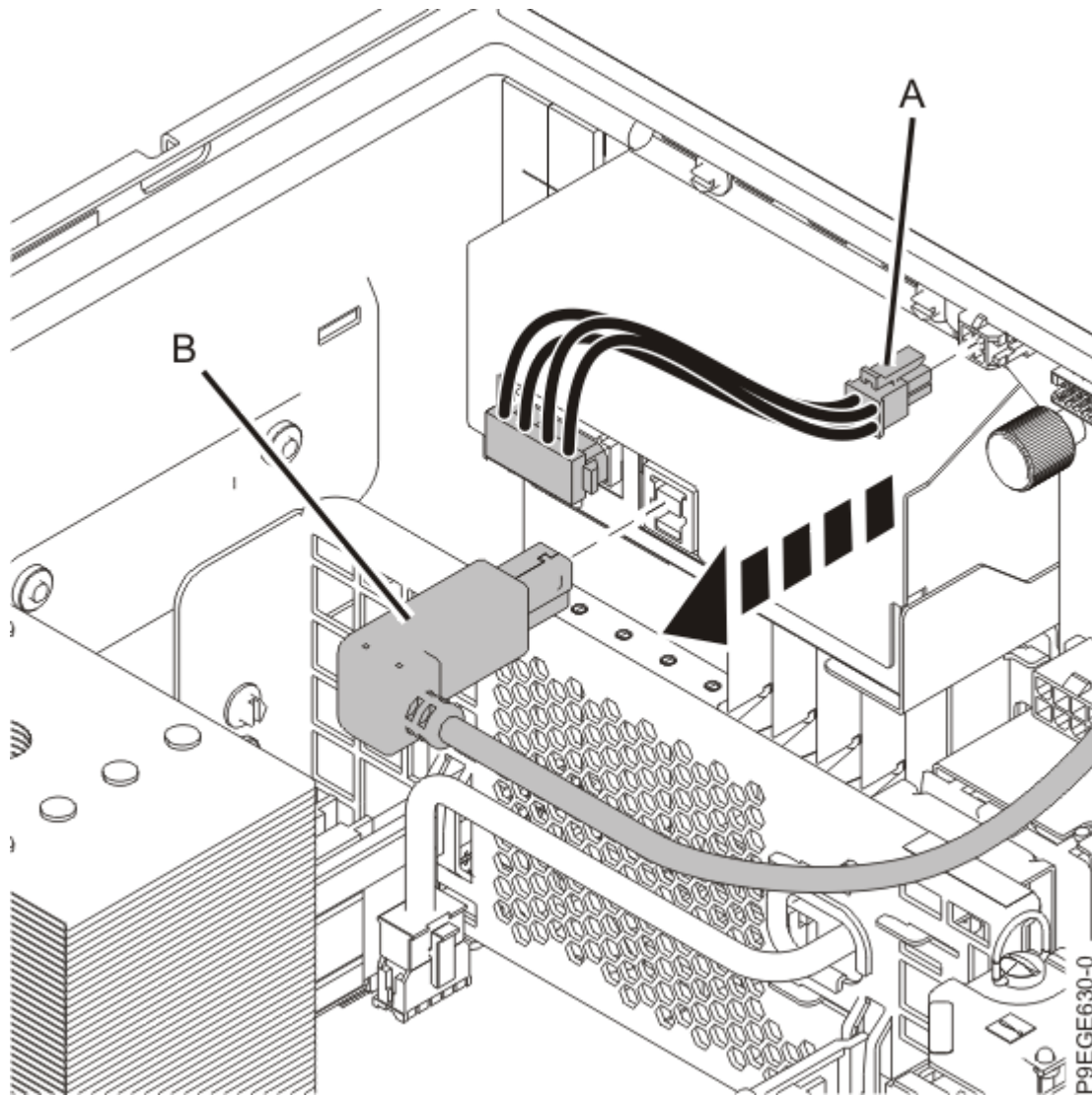


Figure 93. Disconnecting the RDX power cable and USB cable

- c) Disconnect the USB cable (**B**) from the rear of the RDX docking station as shown in the previous figure.
- d) Partially remove the RDX docking station. Push the RDX docking station latch upwards as shown in the following figure.

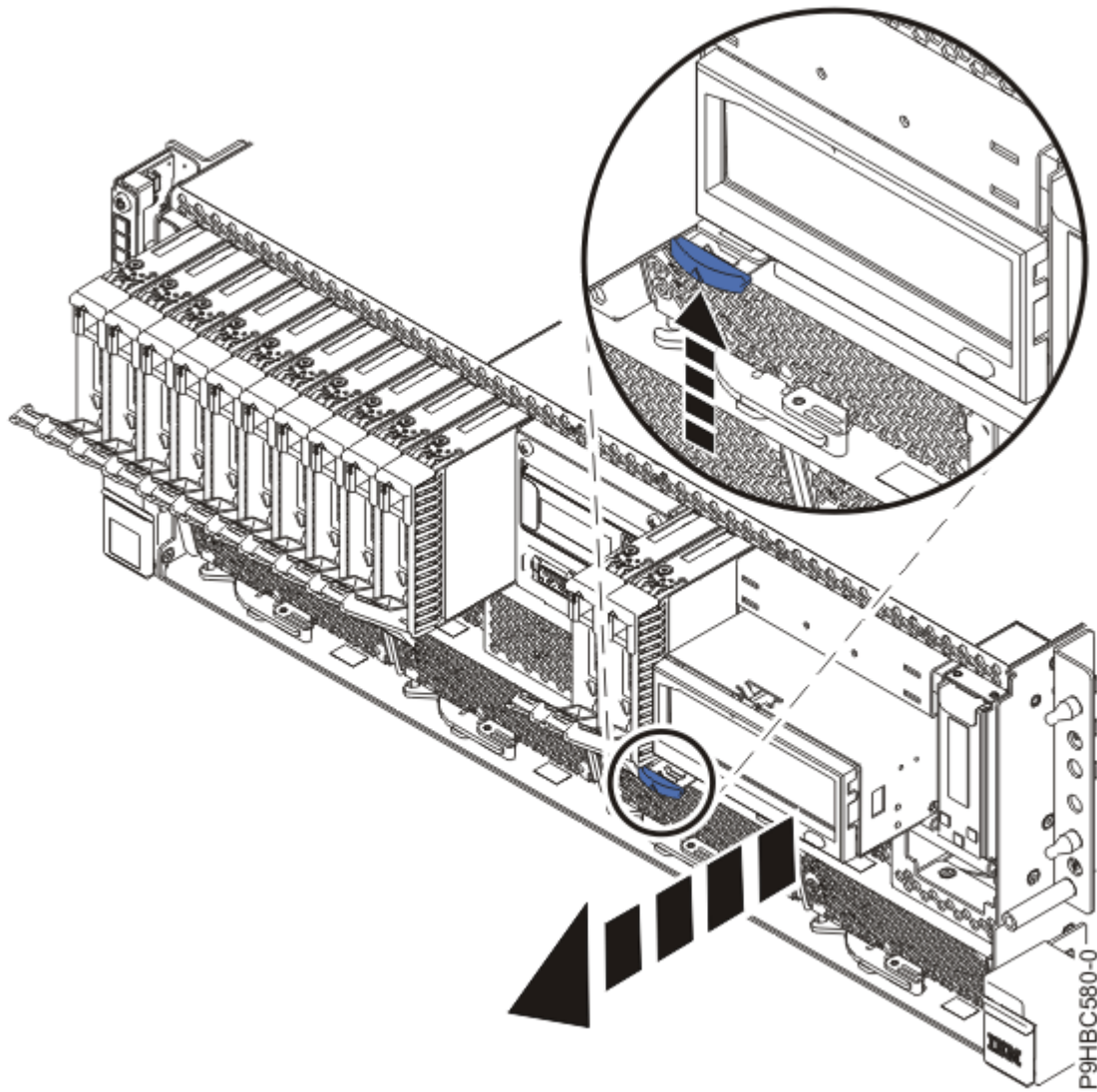


Figure 94. Removing the RDX docking station

- e) Slide the RDX docking station about 5 cm (2 in) from the system.
- 4. If the server has a filler for the RDX drive, complete the following steps:
 - a) Push down on the clips (**A**) to unlock the filler from the chassis as shown in the following figure.

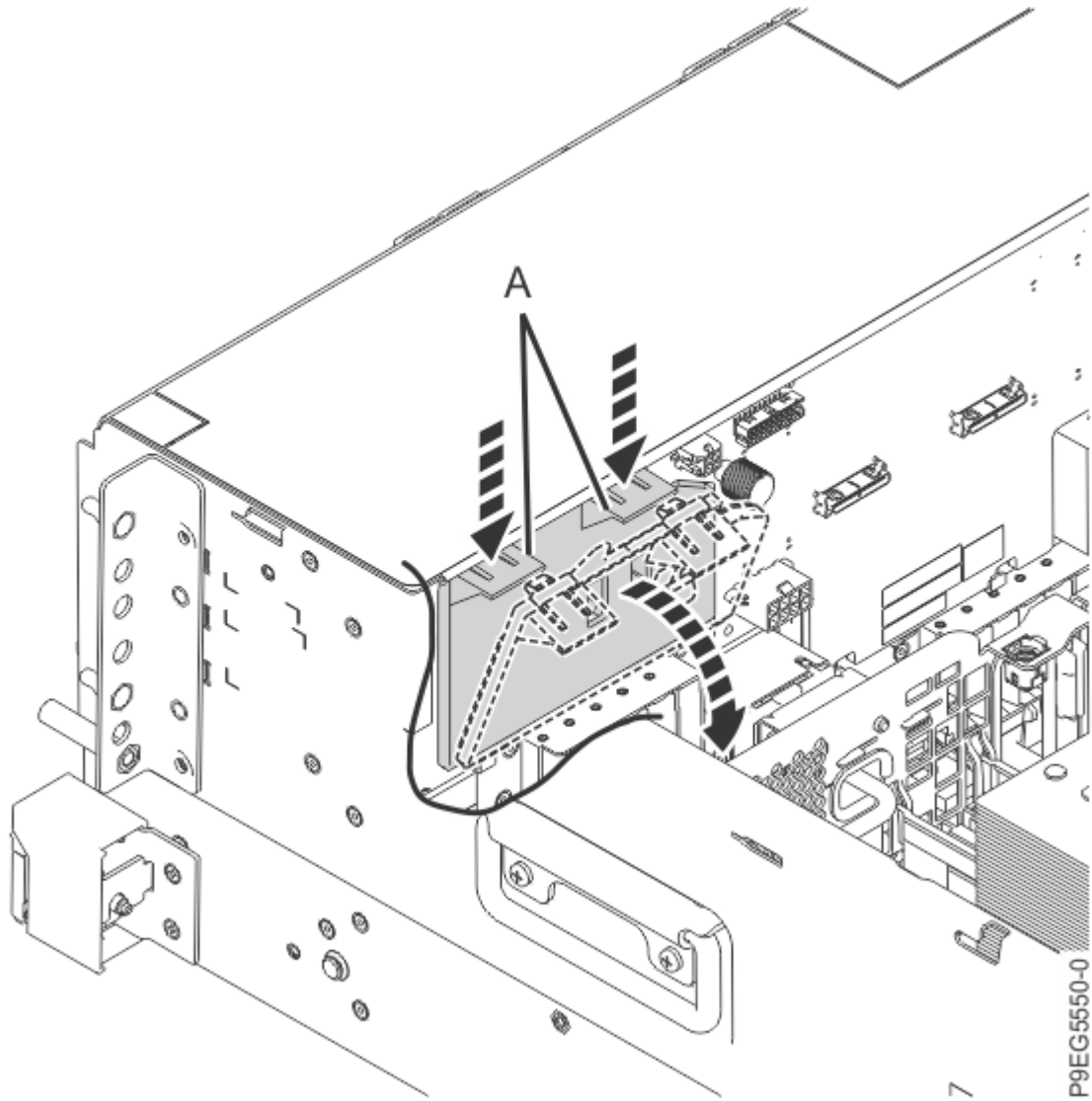


Figure 95. Removing the RDX drive filler

- b) Holding the clips, pivot the filler away from the NVMe drive backplane.
 - c) Lift the filler out of the system.
5. Unplug but do not remove the front drives and front fillers if present from their slots. Pull out the drives and fillers far enough to prevent them from interfering with the removal of the NVMe drive backplane as shown in the following figure.

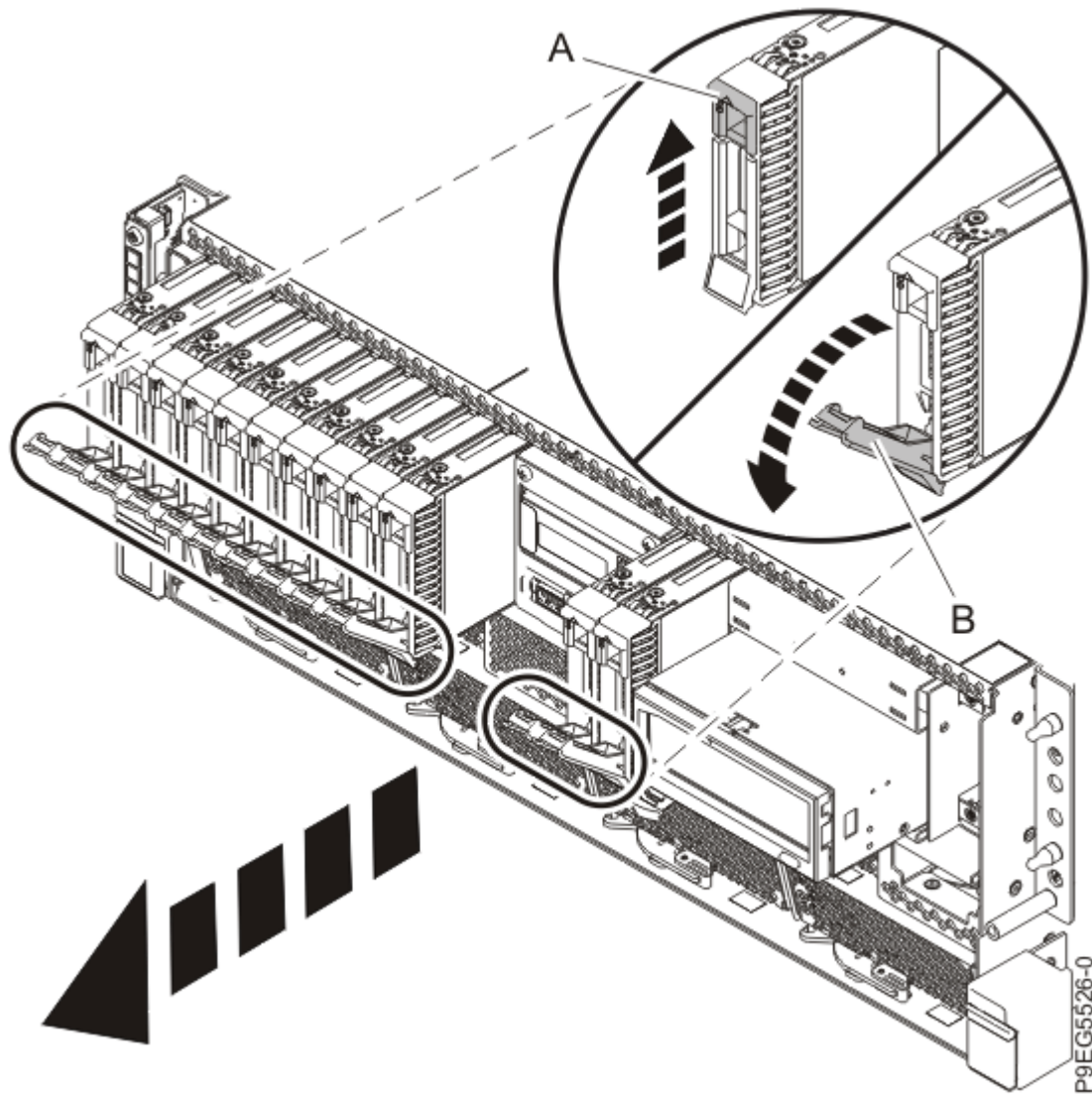


Figure 96. Partially removing the front drives and fillers

- a) Push the drive tab **(A)** to release the drive lever **(B)**.
 - b) Using the drive lever, pull the drive and filler about 2.5 cm (1 in) from the system.
 - c) Repeat steps [“5.a” on page 108](#)- [“5.b” on page 108](#) for the other drives and fillers.
6. Label and disconnect the signal cable **(A)** and the power cable **(B)** from the NVMe drive backplane as shown in the following figure.
- Unlatch the clips that secure the connectors to the NVMe drive backplane.

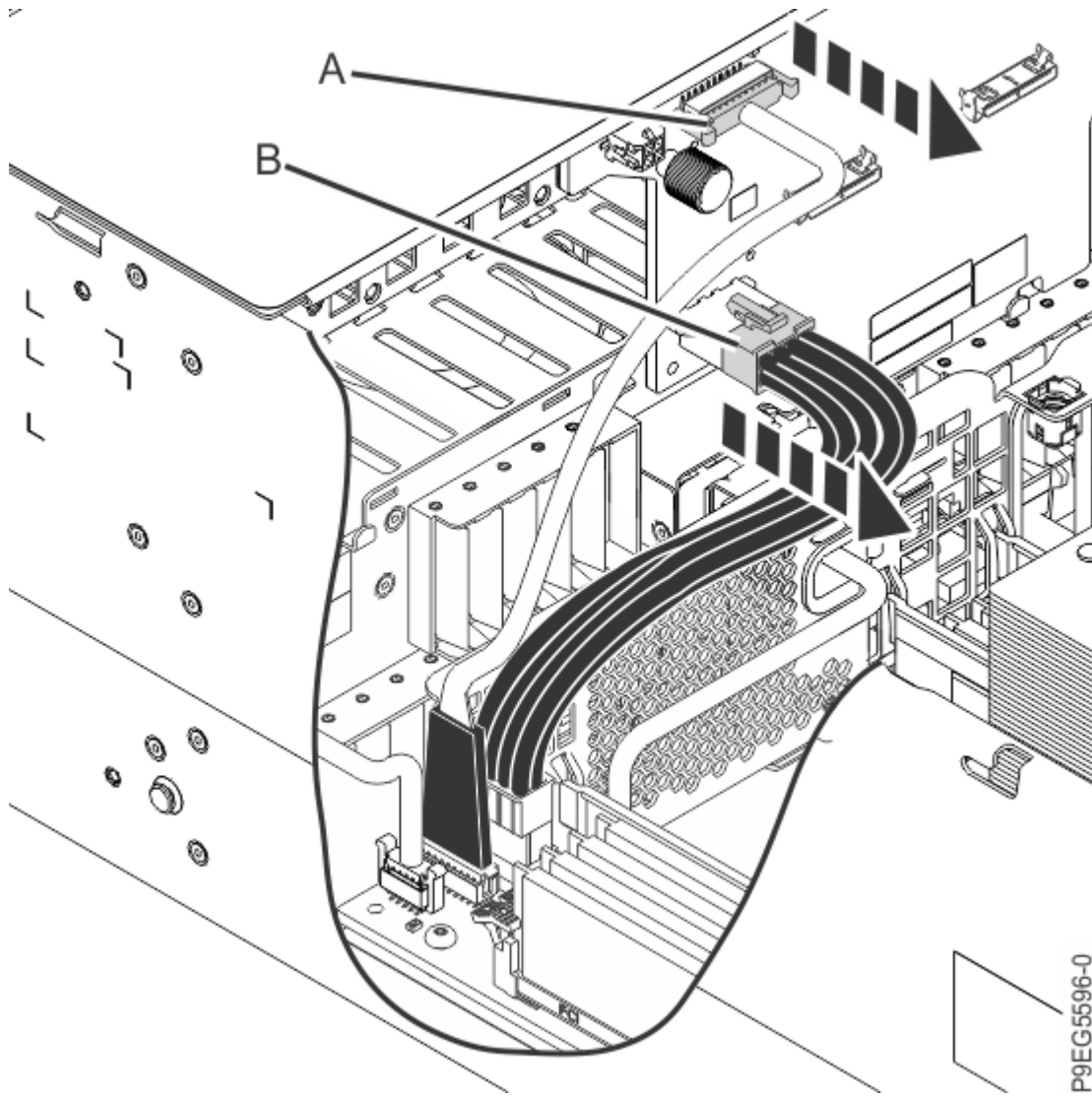


Figure 97. Disconnecting the signal cable and power cable

7. If a SAS cable is present, label the front SAS cable. Press the cable connector latch and disconnect the front SAS cable (**J1**) from the NVMe drive backplane as shown in the following figure.

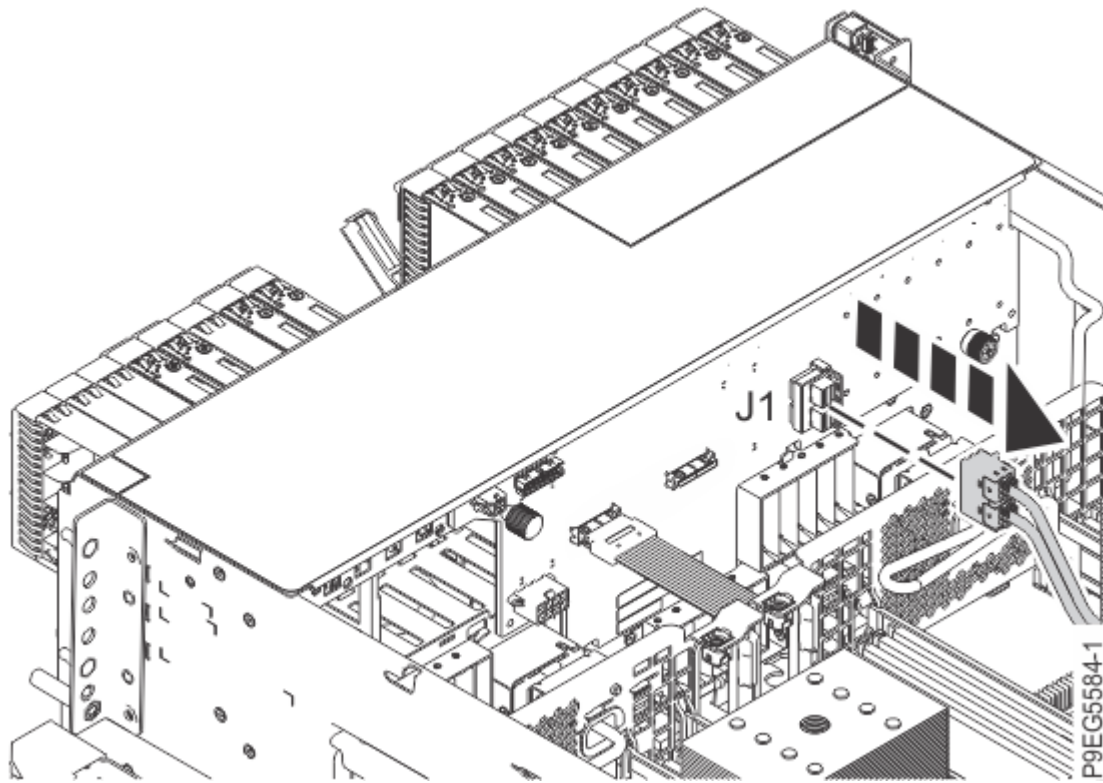


Figure 98. Disconnecting the front SAS cable

8. Label the NVMe cables that are connected to the NVMe drive backplane connectors (**J2**) and (**J3**), depending on your configuration. Disconnect the NVMe cables from the NVMe drive backplane as shown in the following figure.

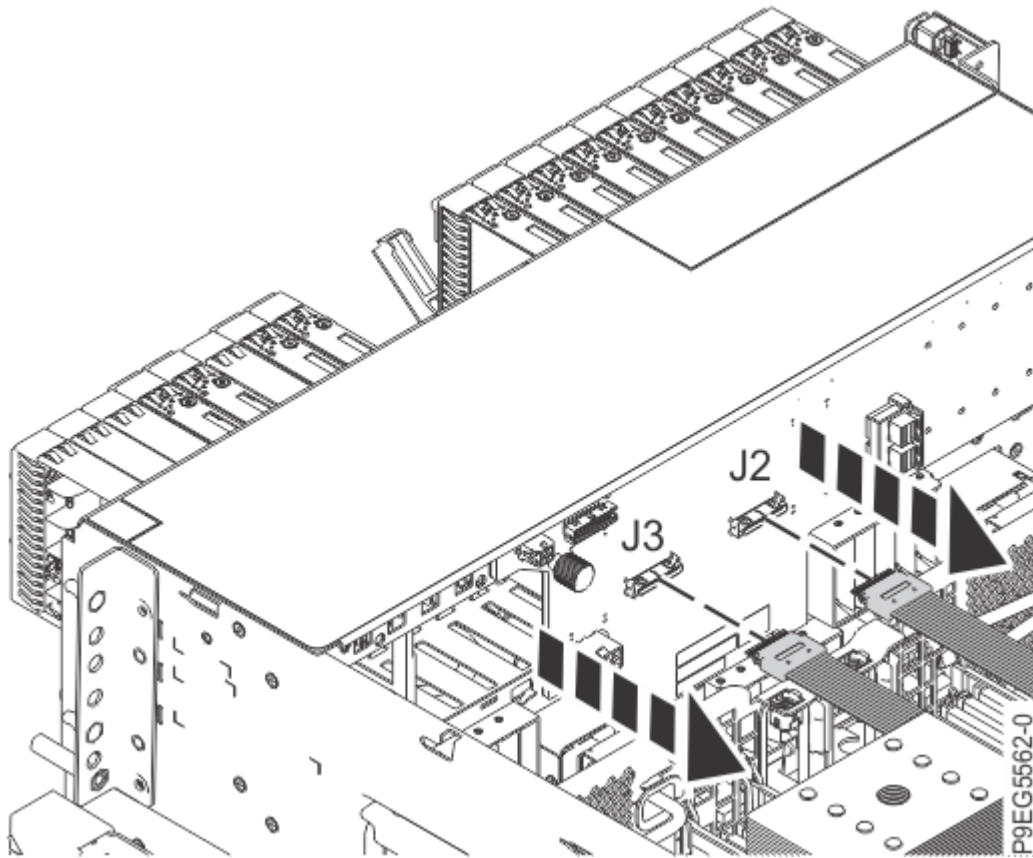


Figure 99. Disconnecting the NVMe cables

9. Ensure that all cables are carefully positioned out of the way, such that the NVMe drive backplane can be easily lifted and removed.
 10. Carefully unscrew the captive thumbscrew **(A)** of the NVMe drive backplane until fully loose as shown in [Figure 100](#) on page 112.
- If needed, use a Phillips screwdriver to loosen the screws.

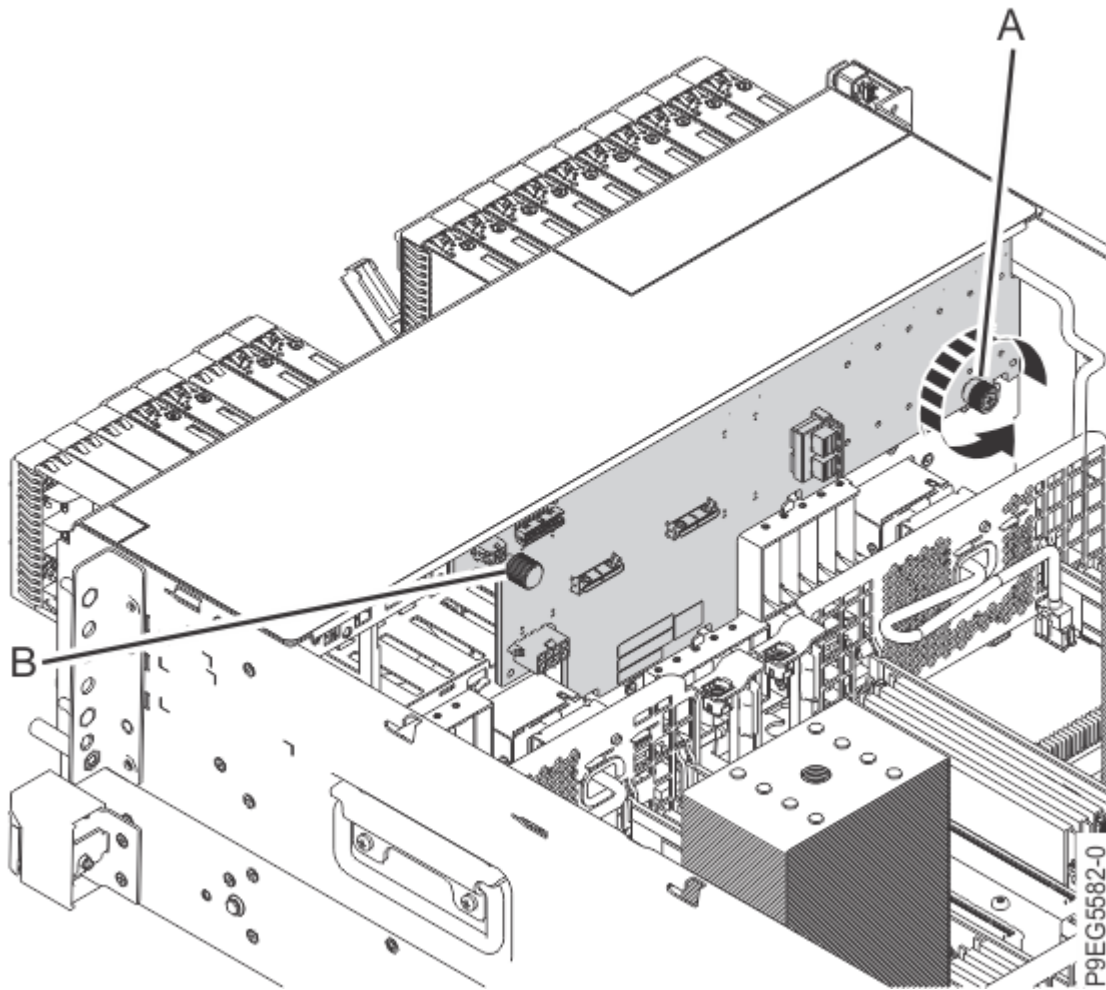


Figure 100. Loosening the NVMe drive backplane screw

11. Using the thumbscrew **(A)** and the NVMe drive backplane holder **(B)**, slide the NVMe drive backplane to the side in the direction that is shown in the following figure. Ensure that the NVMe drive backplane cutouts clear the tabs in the chassis.

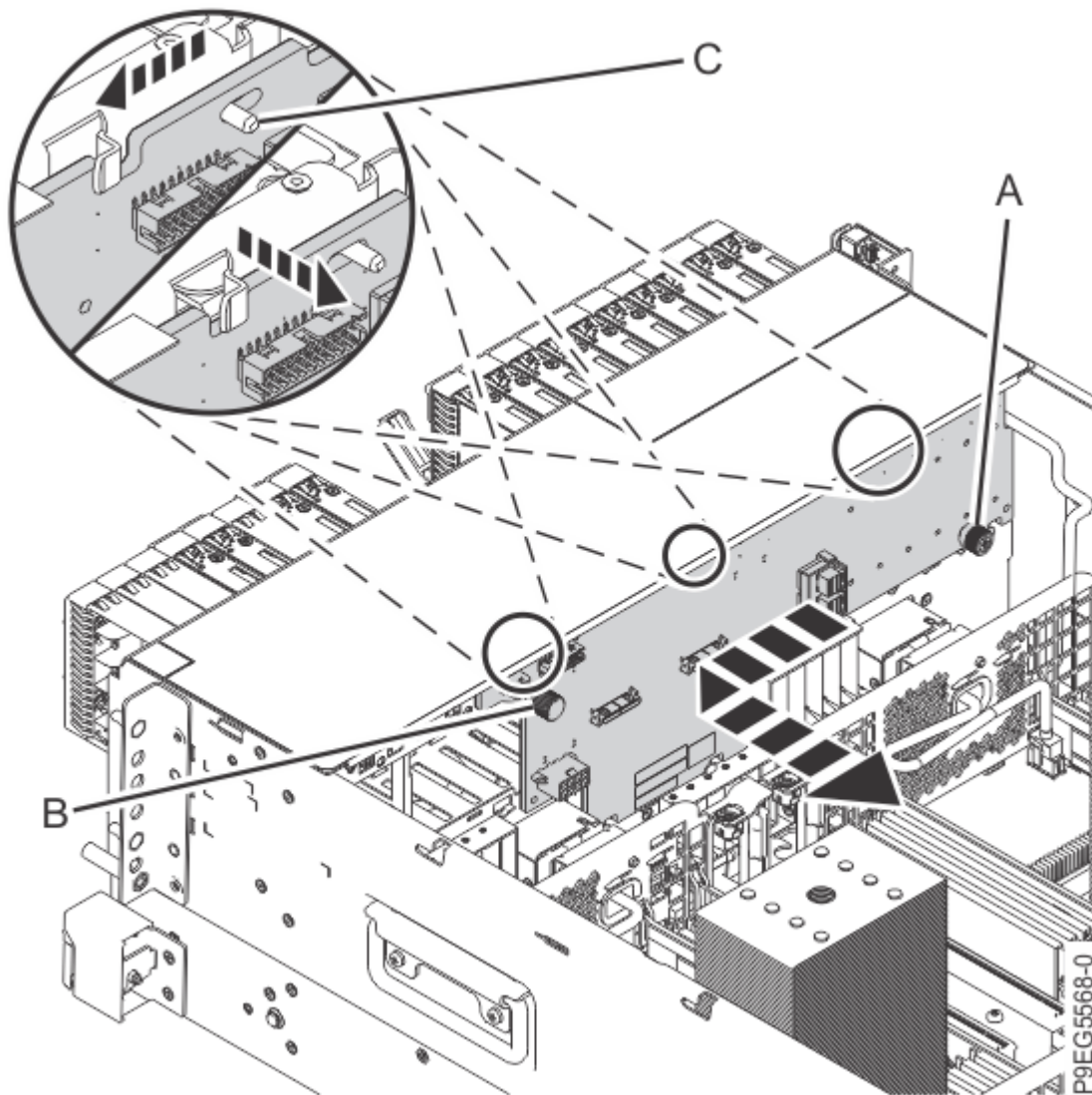


Figure 101. Removing the NVMe drive backplane

12. Lift the NVMe drive backplane out of the chassis.
13. If the removed part is used again, place the part on an electrostatic discharge (ESD) mat.

Replacing the NVMe drive backplane in the 9009-41G, 9009-42G, or 9223-42S system

To replace the NVMe drive backplane in the system, complete the steps in this procedure.

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. The chassis has two alignment pins and several brackets **(A)** to secure the NVMe drive backplane. Using the NVMe drive backplane touchpoint **(B)**, thumbscrew **(C)** and alignment pins **(A)**, insert the NVMe drive backplane as shown in the following figure. Ensure that the alignment pins fit through the holes in the NVMe drive backplane.

Slide the NVMe drive backplane to the side in the direction that is shown so that the NVMe drive backplane slides under tabs in the chassis.

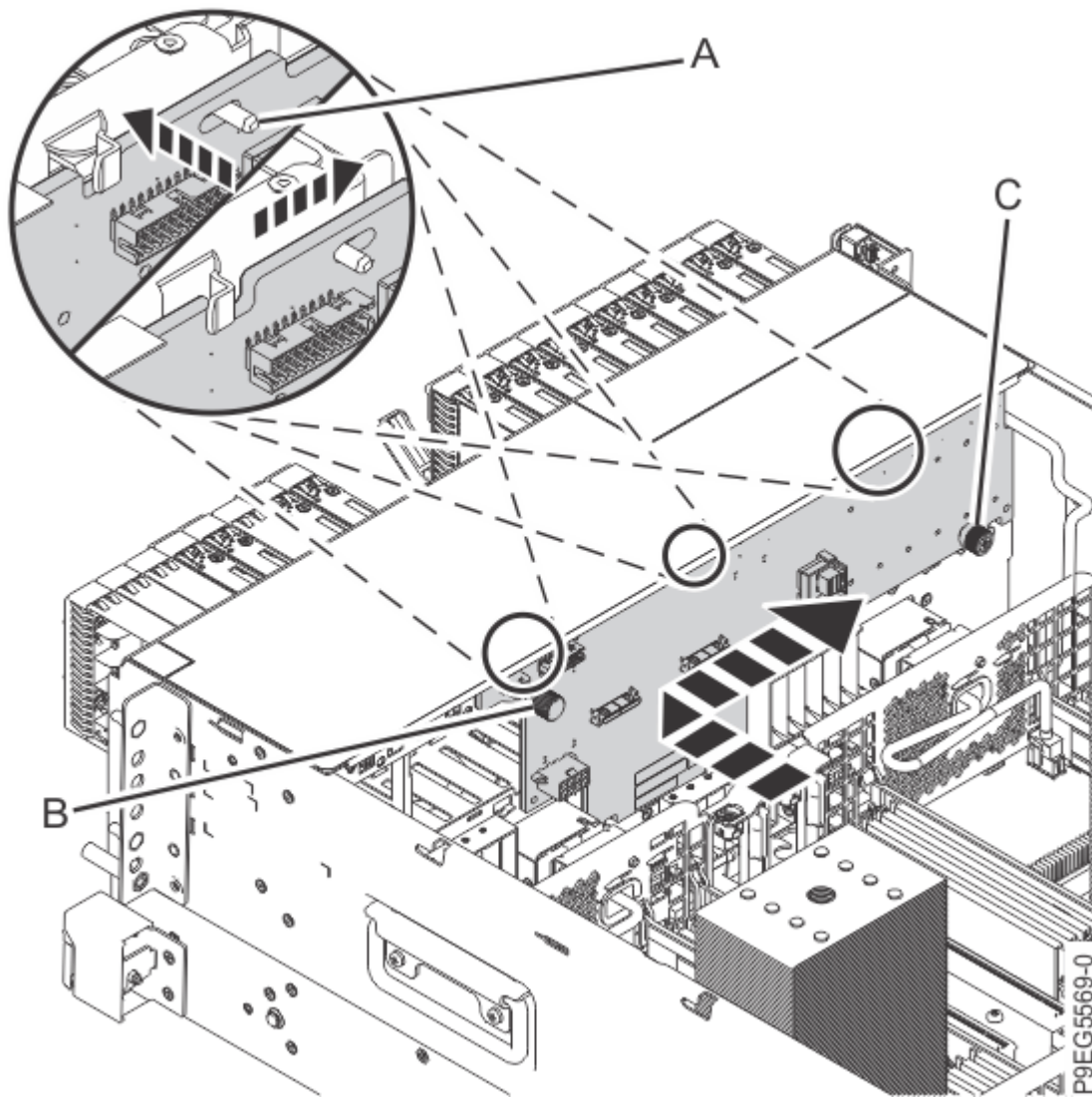


Figure 102. Replacing the NVMe drive backplane by using alignment pins

3. Carefully tighten the captive thumbscrew **(C)** to secure the NVMe drive backplane to the system chassis as shown in the following figure.

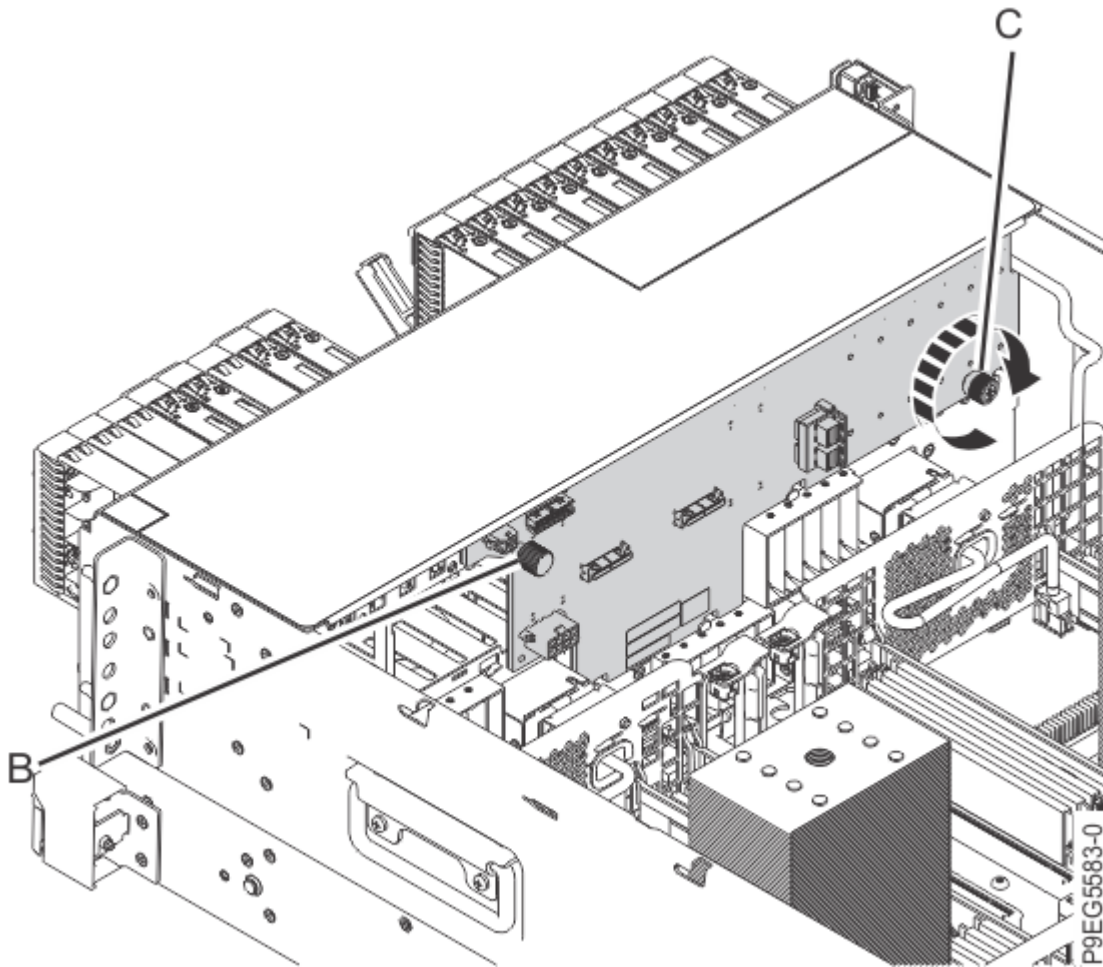


Figure 103. Replacing the NVMe drive backplane

4. Reconnect the signal cable **(A)** and the power cable **(B)** to the NVMe drive backplane as shown in the following figure.

Push the connectors in until the latches click.

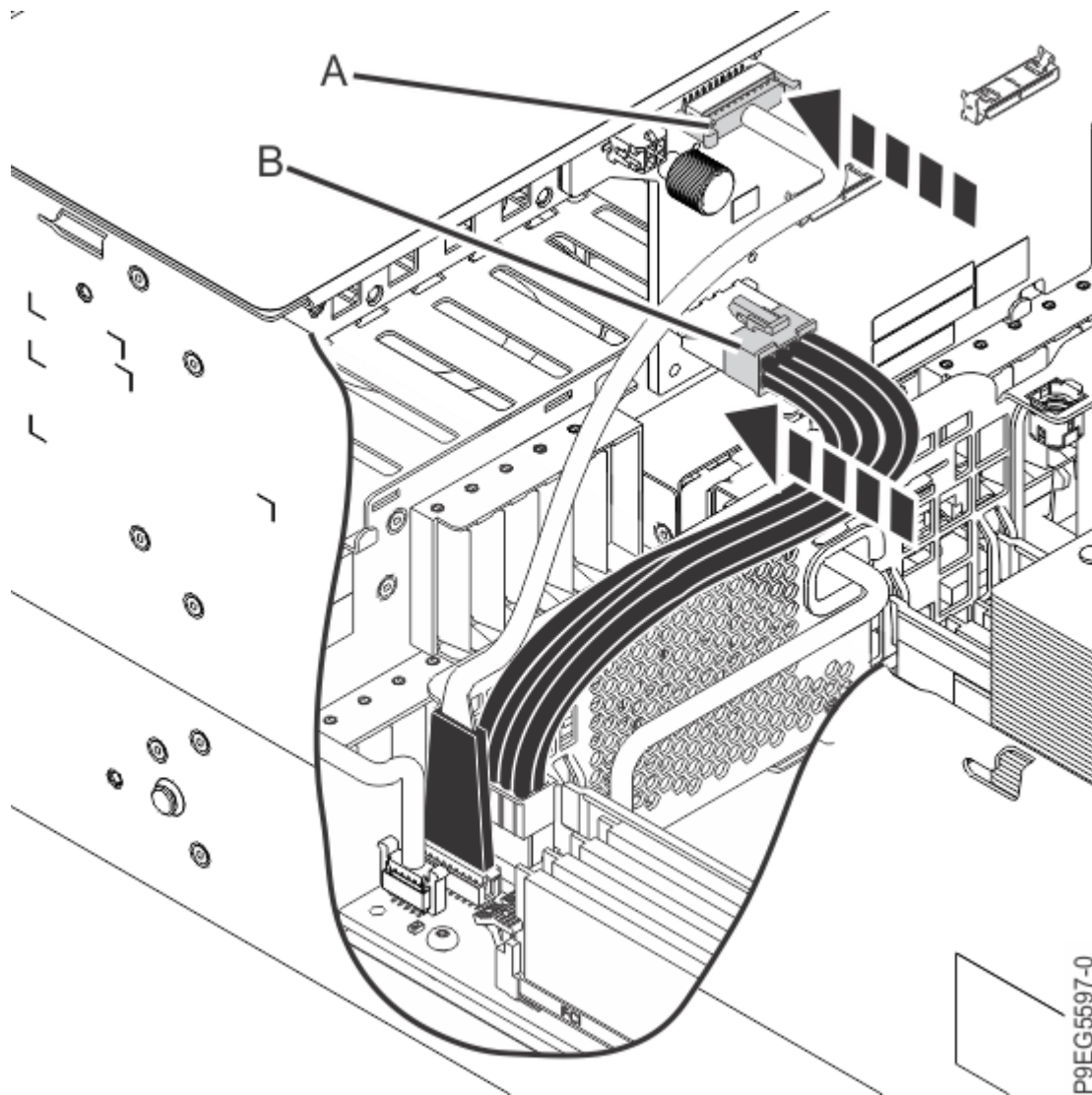


Figure 104. Reconnecting the power cable and signal cable to the NVMe drive backplane

5. Using your labels, reconnect the NVMe cables to one or more NVMe drive backplane connectors (**J2**) and (**J3**), depending on your configuration, as is shown in the following figure.

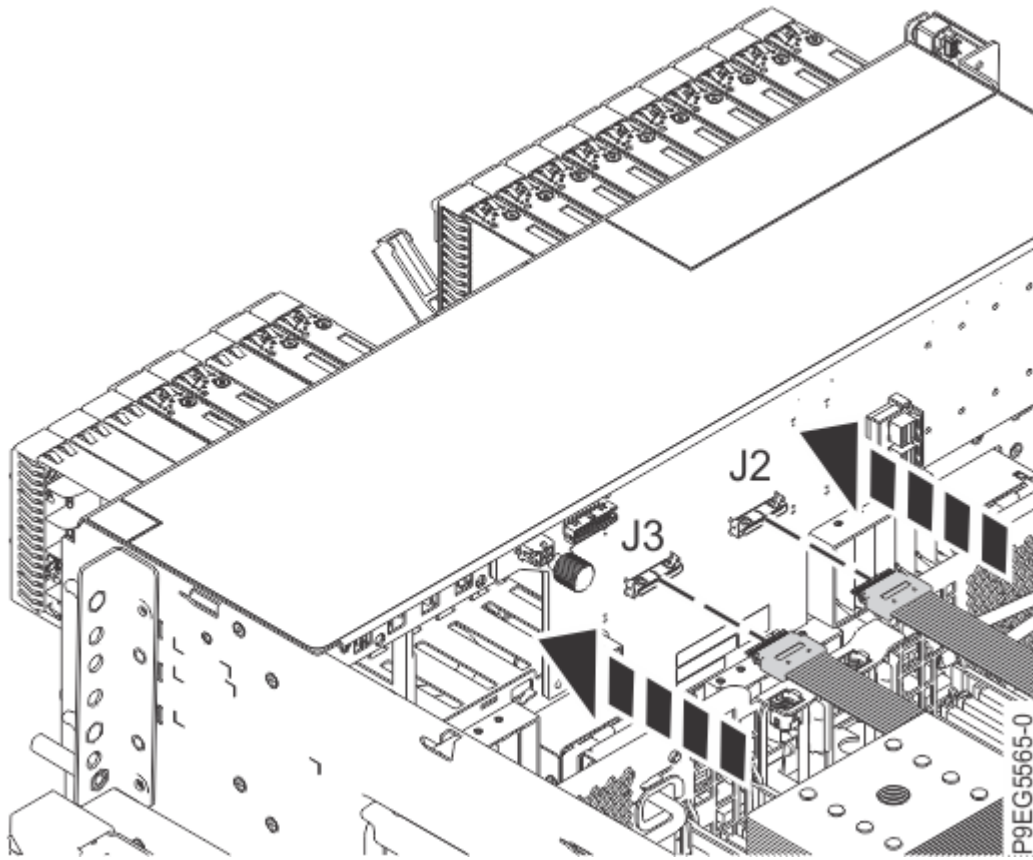


Figure 105. Reconnecting the NVMe cables

6. If a SAS cable is present, using your labels, reconnect the front SAS cable to the NVMe drive backplane connector (**J1**).

Push the connectors in until the latches click. Also ensure that the front SAS cables are fully seated into the SAS controller card.

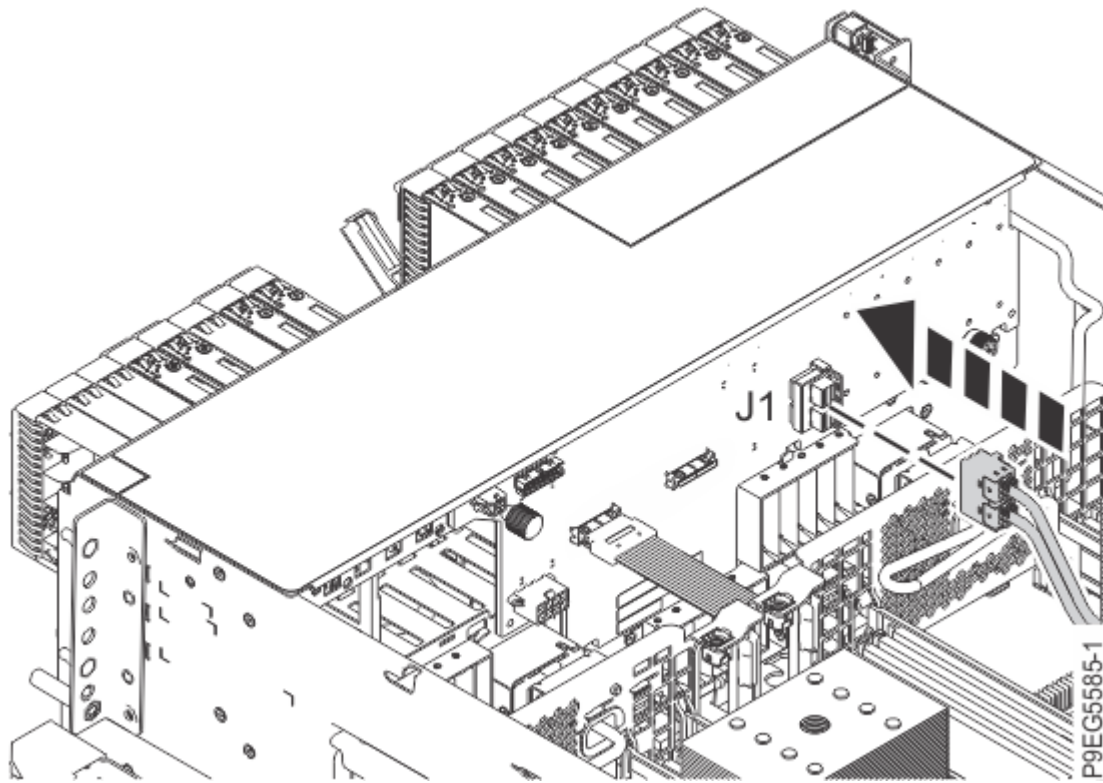


Figure 106. Reconnecting the front SAS cable

7. Fully seat all the front drives and front fillers if present into their slots as shown in the following figure.

Push drive lever **(A)** until the front drive and filler is seated and the lever snaps closed.

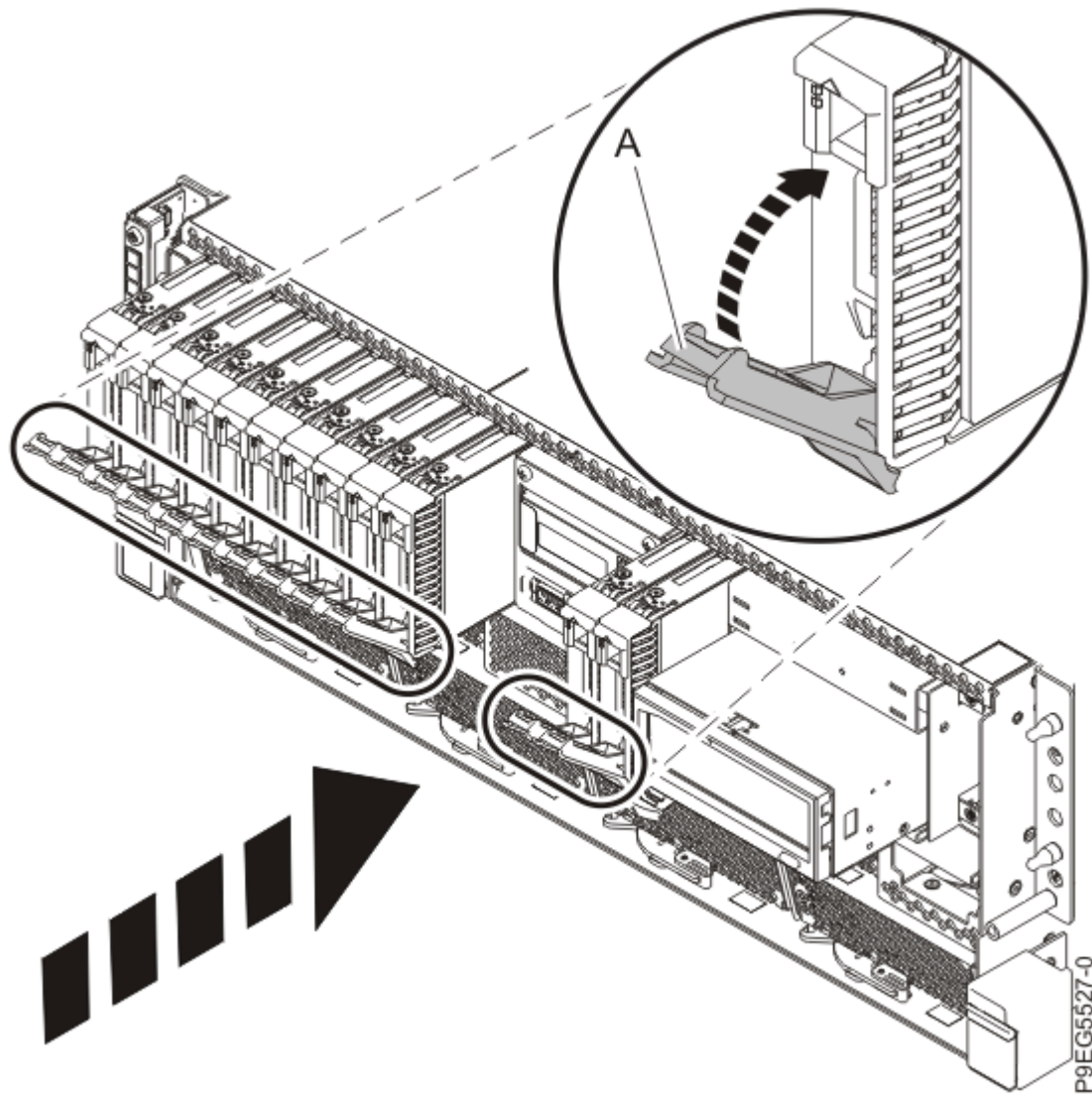


Figure 107. Replacing the front drives and fillers

8. If you slid out the RDX docking station, complete the following steps:
 - a) Push the RDX docking station into the system until the latch clicks into place as shown in the following figure.

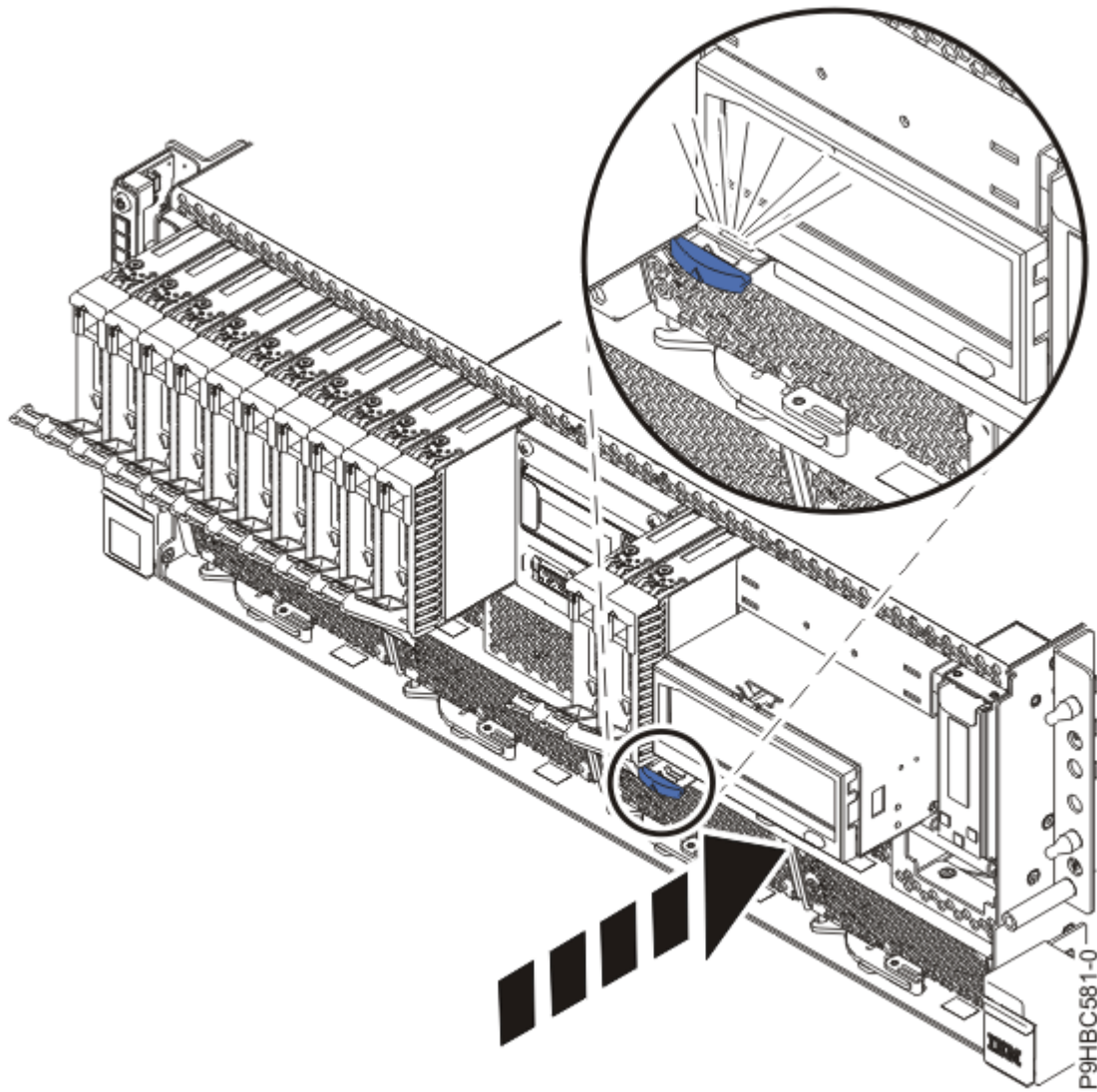


Figure 108. Replacing the RDX docking station

- b) Connect the RDX power cable **(A)** into the disk drive backplane as shown in the following figure. Ensure that the latch **(B)** on the RDX power cable is oriented upwards for a rack-mounted system; and to the outside for a stand-alone system.

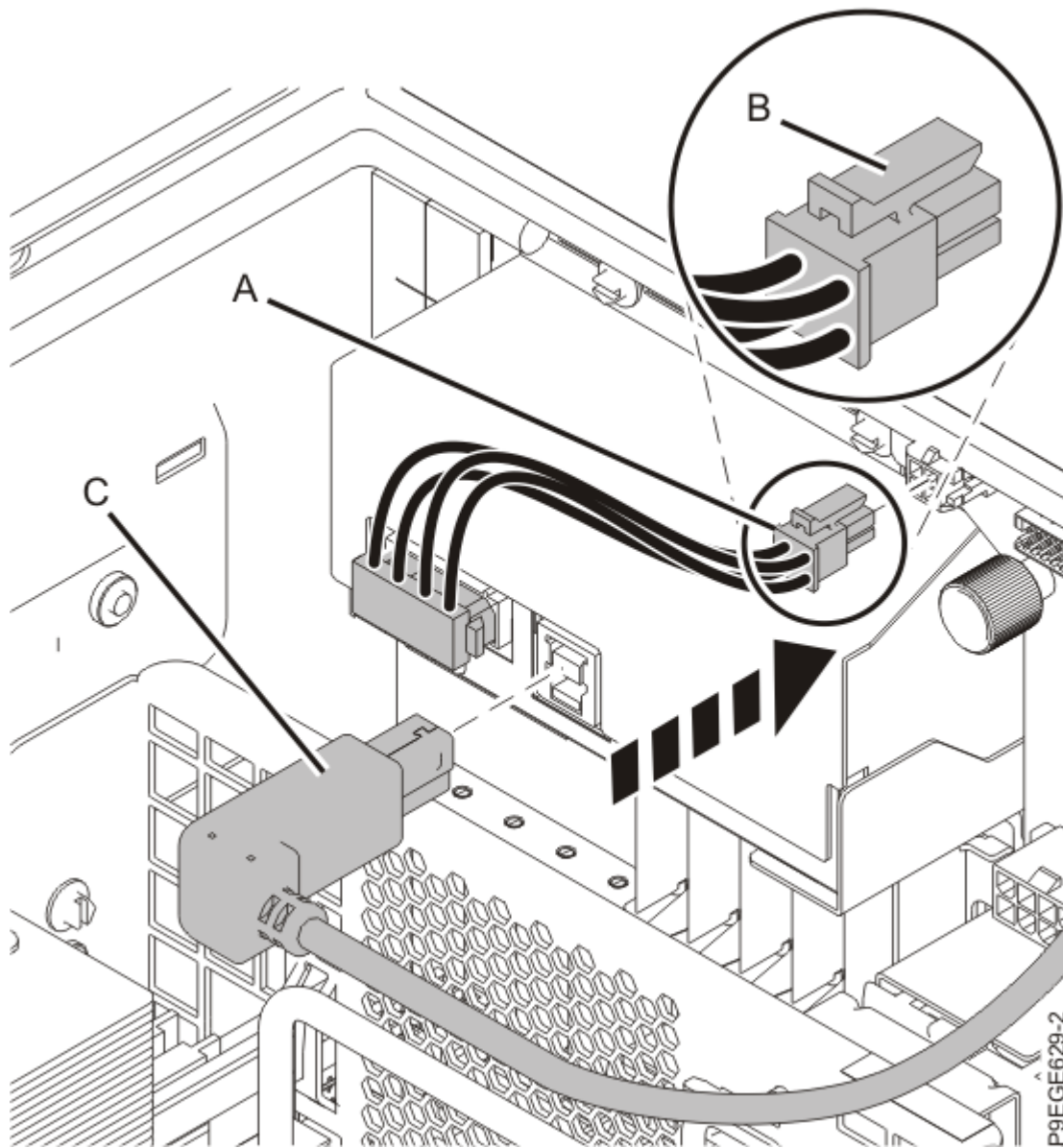


Figure 109. Reconnecting the RDX power cable and USB cable

c) Connect the USB cable (C) into the rear of the RDX docking station as shown in the previous figure.

d) For a stand-alone system, close the front door.

Insert the front door key into the lock as shown in the following figure. Twist the key to the right (clockwise) to lock the door. Horizontal is locked; vertical is unlocked.

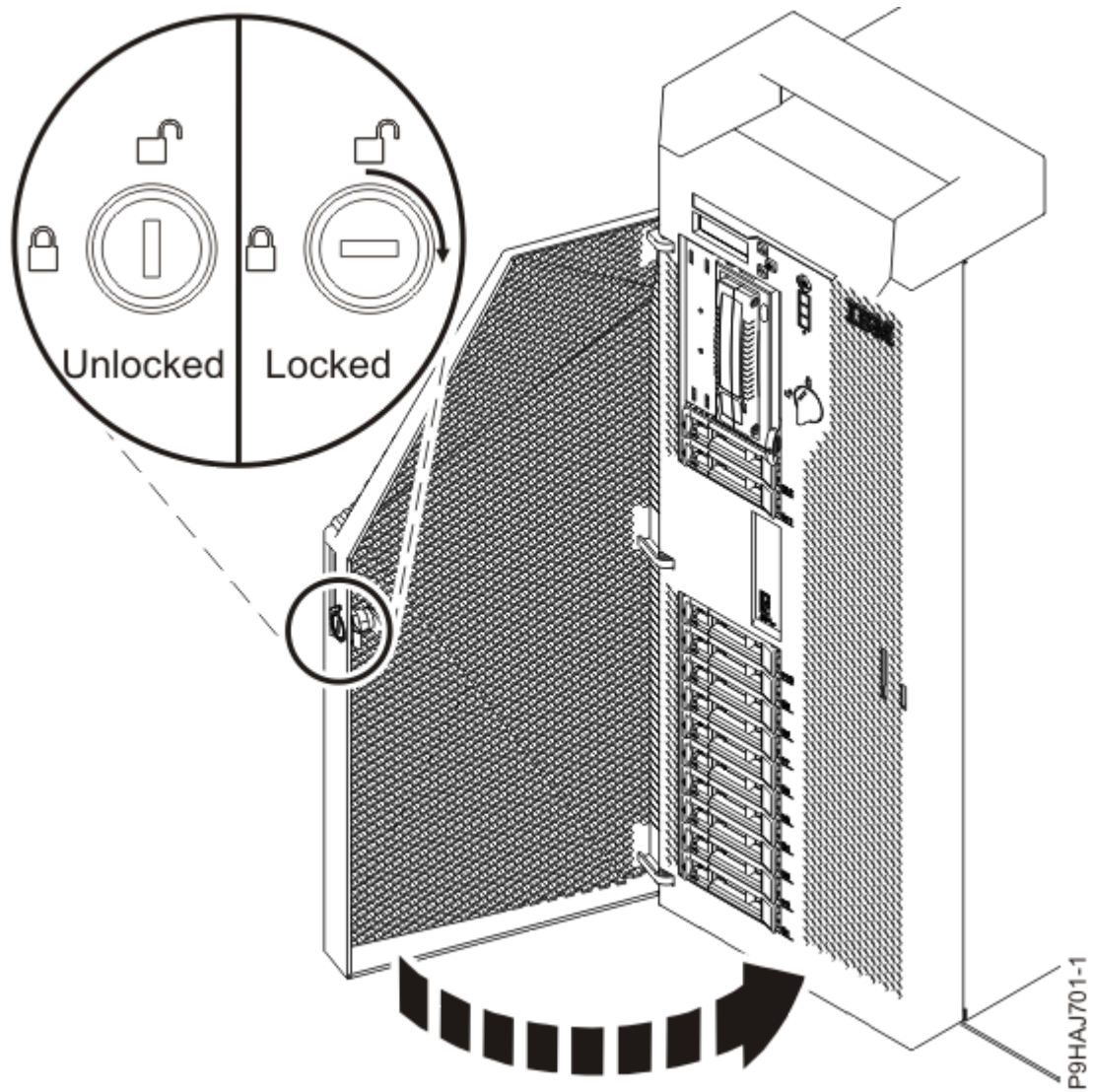


Figure 110. Locking the front door

9. If you removed the filler for the RDX drive, complete the following steps:

- a) Place the filler into the system as shown in the following figure, ensure that the filler is in the tab at **(A)**.

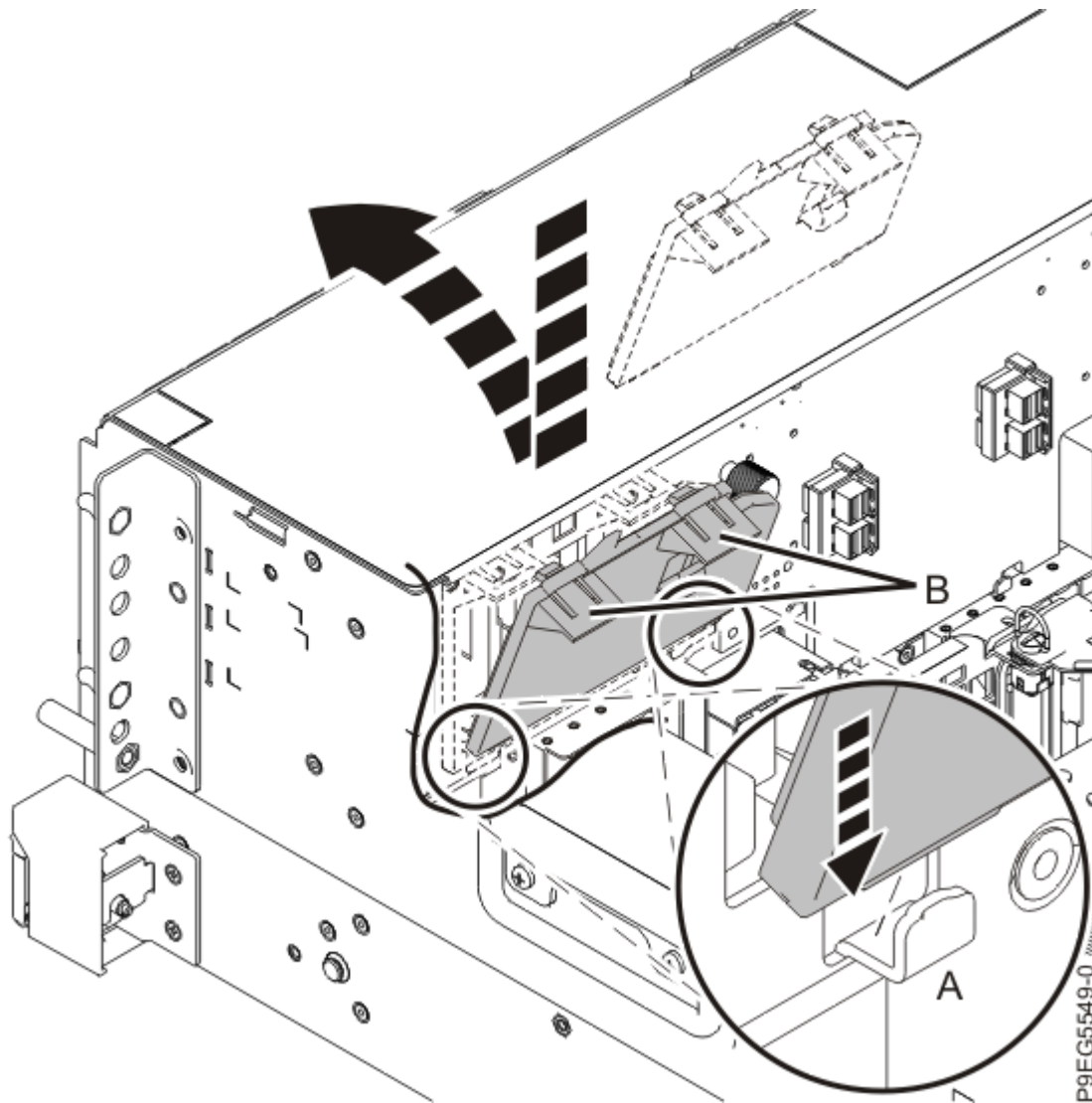


Figure 111. Replacing the RDX drive filler

b) Push in the clips **(B)** to snap the filler into the chassis.

10. Replace the air baffle. For instructions, see [Replacing the air baffle \(www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbafflereplace.htm\)](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_914_924_airbafflereplace.htm).

Preparing the 9009-41G, 9009-42G, or 9223-42S system for operation after removing and replacing the NVMe drive backplane

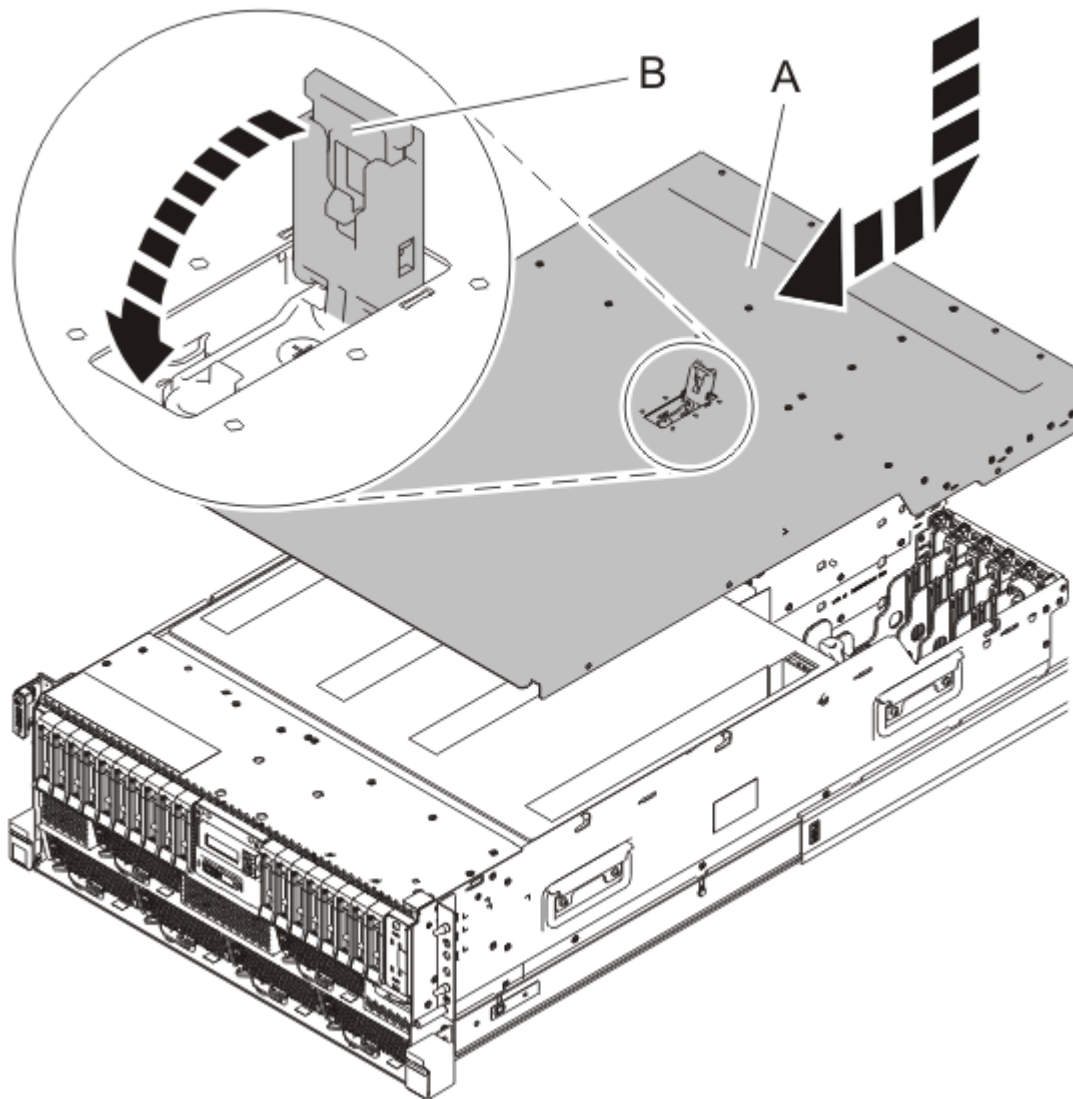
To prepare the system for operation after removing and replacing the NVMe drive backplane, complete the steps in this procedure.

Procedure

1. Replace the service access cover.

For a rack-mounted system, complete the following steps. Refer to [Figure 112 on page 124](#).

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

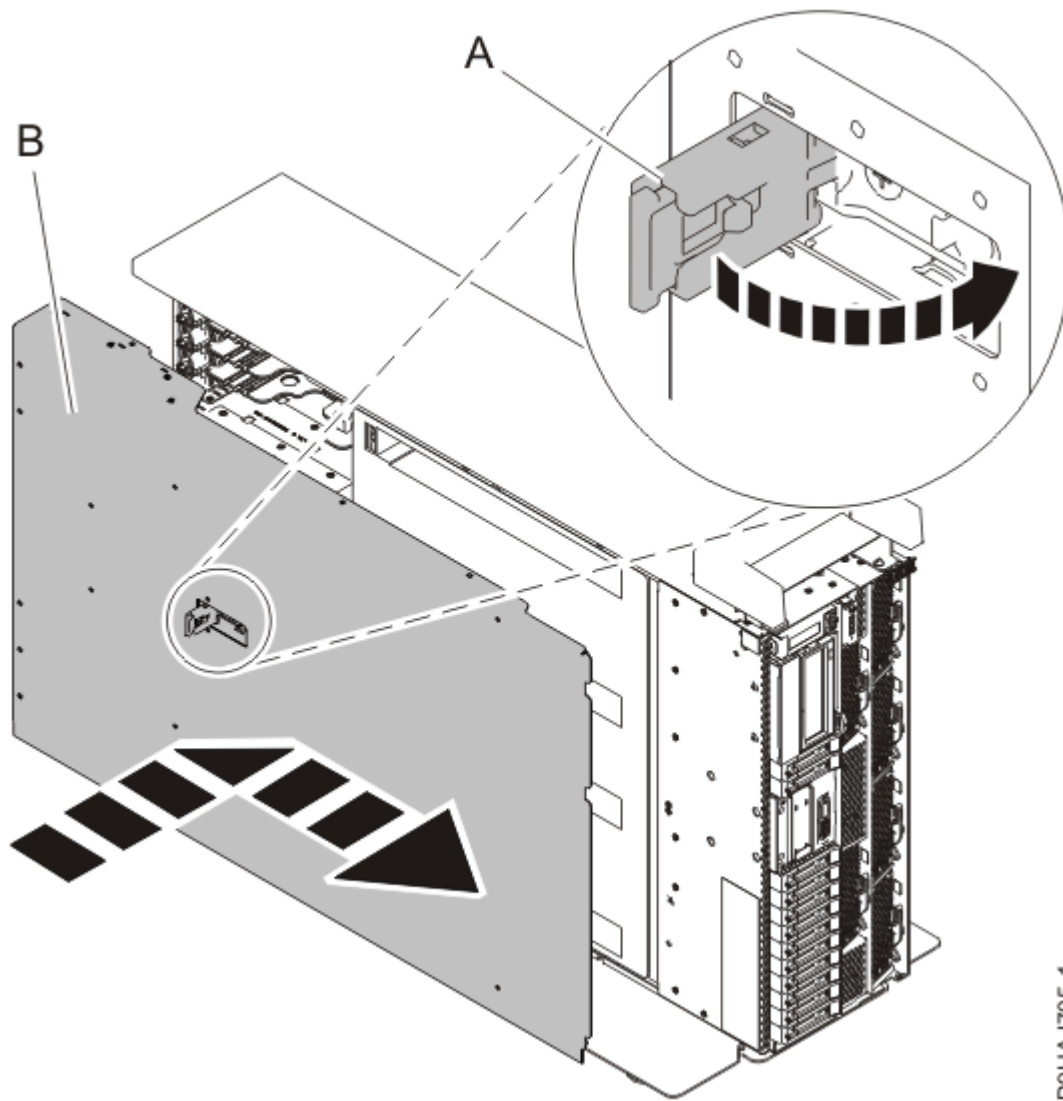


P9HAJ606-2

Figure 112. Installing the service access cover

For a stand-alone system, complete the following steps. Refer to [Figure 113 on page 125](#).

- 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.



P9HAJ705-1

Figure 113. Installing the service access cover

2. For a rack-mounted system, unlock the blue rail safety latches **(A)** as shown in [Figure 114](#) on page 126 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.

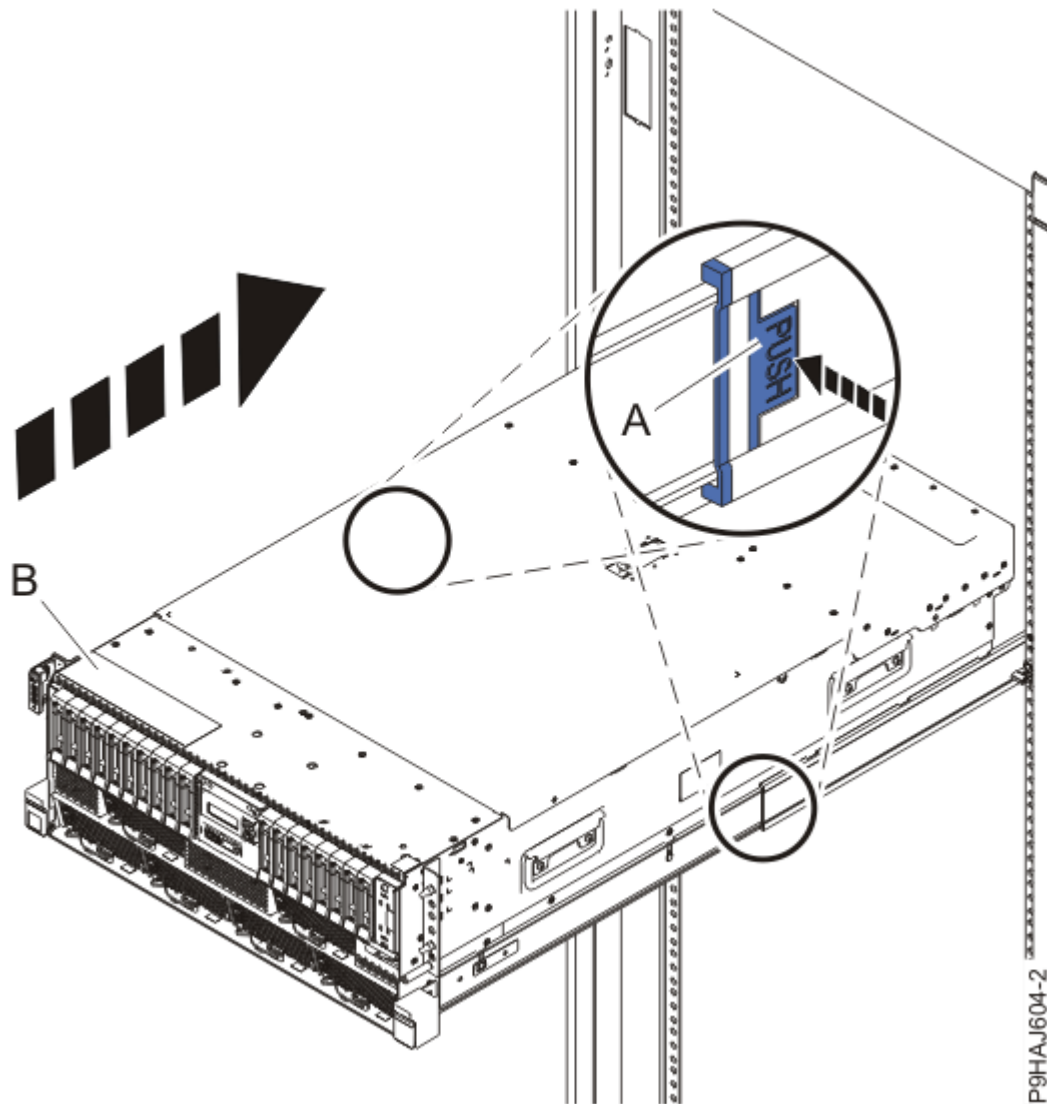


Figure 114. Placing the system into the operating position

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.
4. 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 115 on page 127](#) or [Figure 116 on page 128](#).

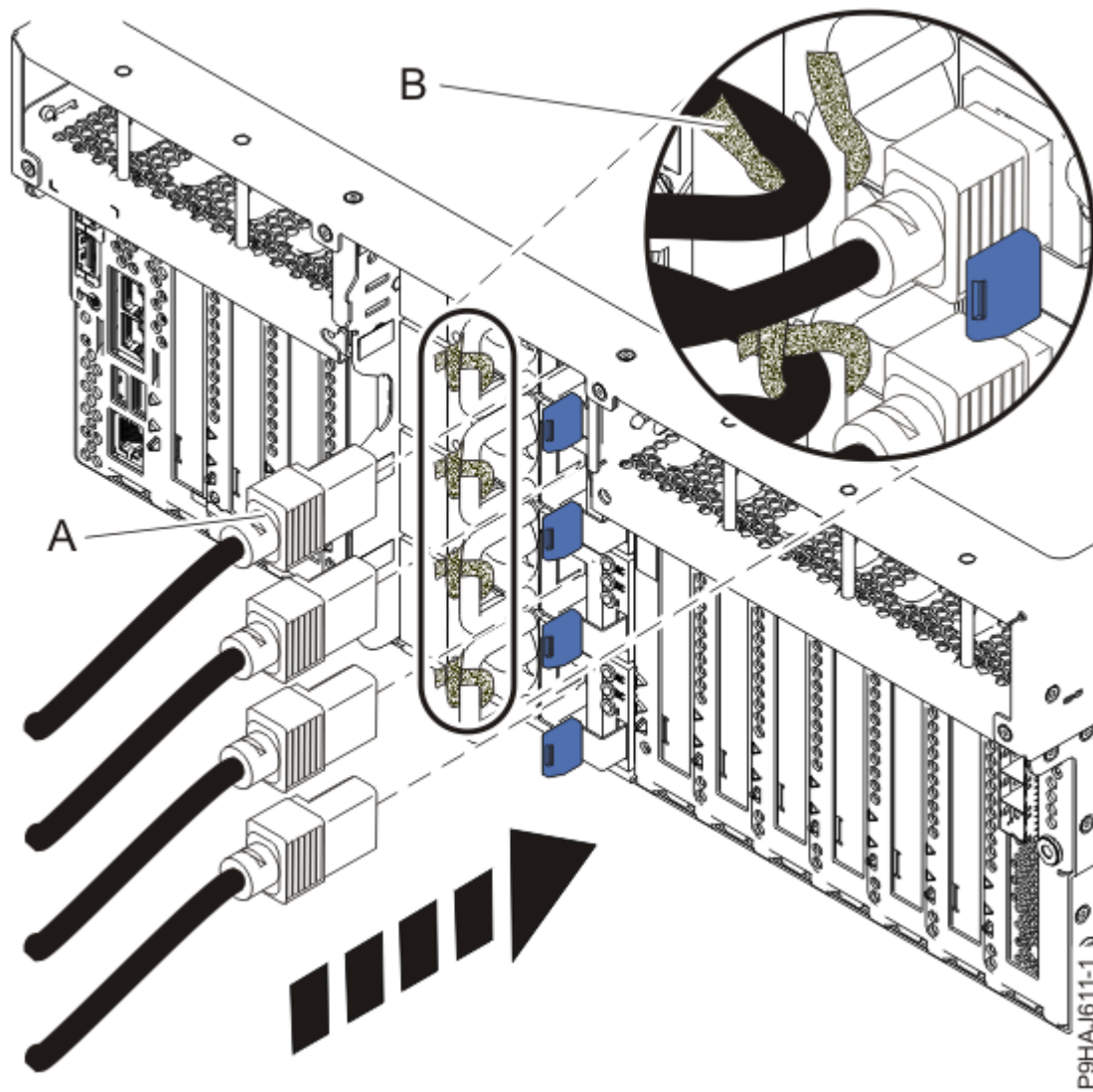


Figure 115. Connecting the power cords to a rack-mounted system

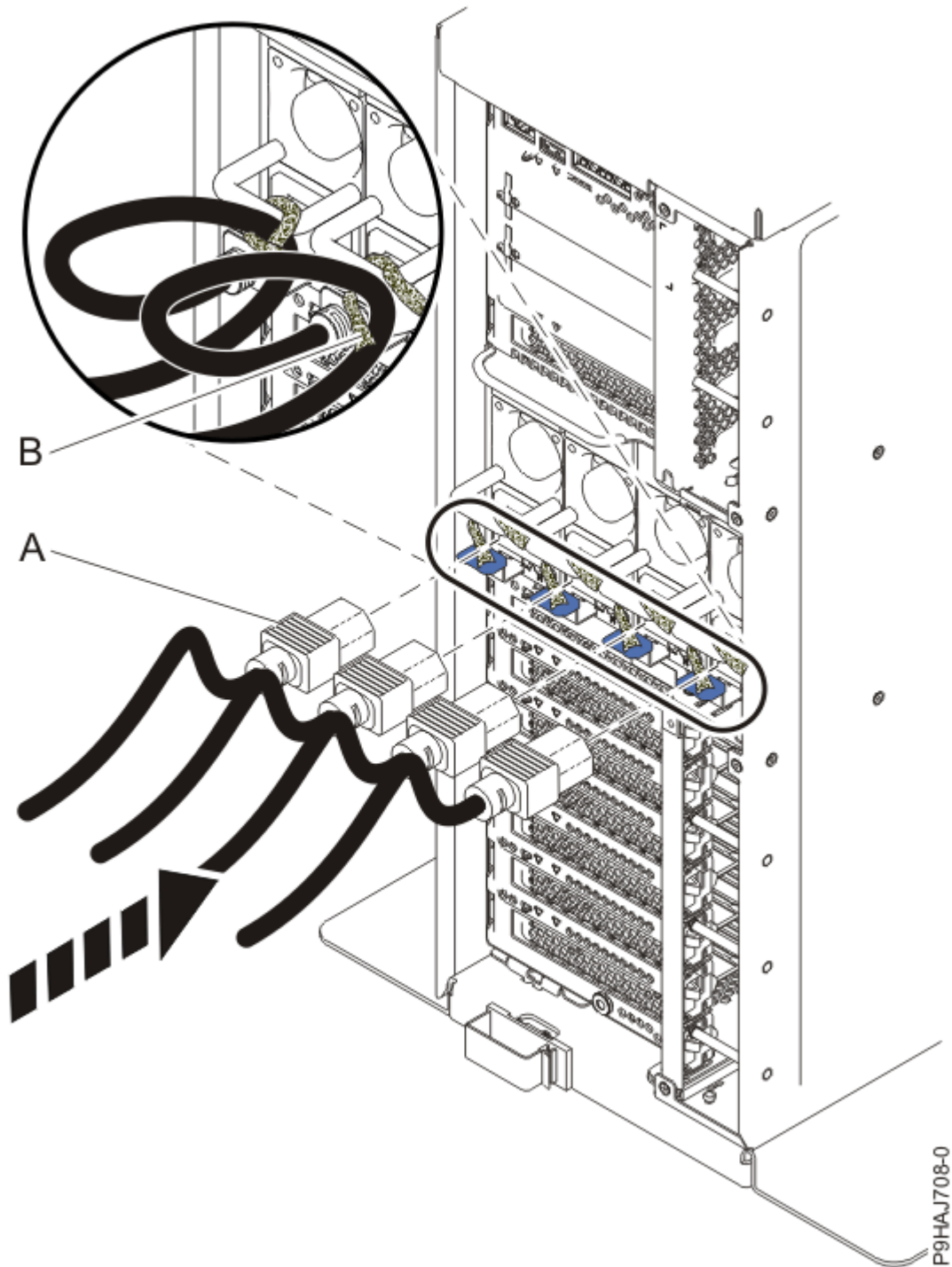


Figure 116. Connecting the power cords to a stand-alone system

5. Start the system. For instructions, see [Starting a system](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustartsys.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustartsys.htm).
6. Turn off the identify LED. For instructions, see [Deactivating an identify LED](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_turn_off_identify_led.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_turn_off_identify_led.htm).
7. Verify the installed part.
 - If you replaced the part because of a service action, verify the installed part. For instructions, see [Verifying a repair](http://www.ibm.com/support/knowledgecenter/POWER9/p9ect/pxect_verifyrepair.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9ect/pxect_verifyrepair.htm).
 - If you installed the part for any other reason, verify the installed part. For instructions, see [Verifying the installed part](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/pxhaj_hsmverify.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/pxhaj_hsmverify.htm).

Drive backplane cables in the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S

Learn how to remove and replace the drive backplane cables in 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.

Removing and replacing the drive backplane power cable in the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S

Find information about removing and replacing a drive backplane power cable in 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.

About this task

Note: Removing or replacing this feature is a customer task. You can complete this task yourself, or contact a service provider to complete the task for you. You might be charged a fee by the service provider for this service.

If your system is managed by the Hardware Management Console (HMC), use the HMC to repair a part in the system. For instructions, see [Repairing a part by using the HMC](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_hmc_repair.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_hmc_repair.htm).

If your server is not managed by an HMC, complete the steps in the following procedures to remove and replace a drive backplane power cable.

Preparing the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system to remove and replace a drive backplane power cable

To prepare the system to remove and replace the drive backplane power cable, complete the steps in this procedure.

Procedure

1. Stop the system. For instructions, see [Stopping a system](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustopsys.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustopsys.htm).
2. Identify the part and the system that you are working on. For instructions, see [Identifying a part](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/sal.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/sal.htm).
Use the blue identify LED on the enclosure to locate the system. Ensure that the serial number of the system matches the serial number to be serviced.
3. Use the blue LED to identify the server.
Ensure that the serial number of the system matches the serial number to be serviced.
4. Label and disconnect the power cords from the system unit.
See [Figure 117 on page 130](#) or [Figure 118 on page 131](#).

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.

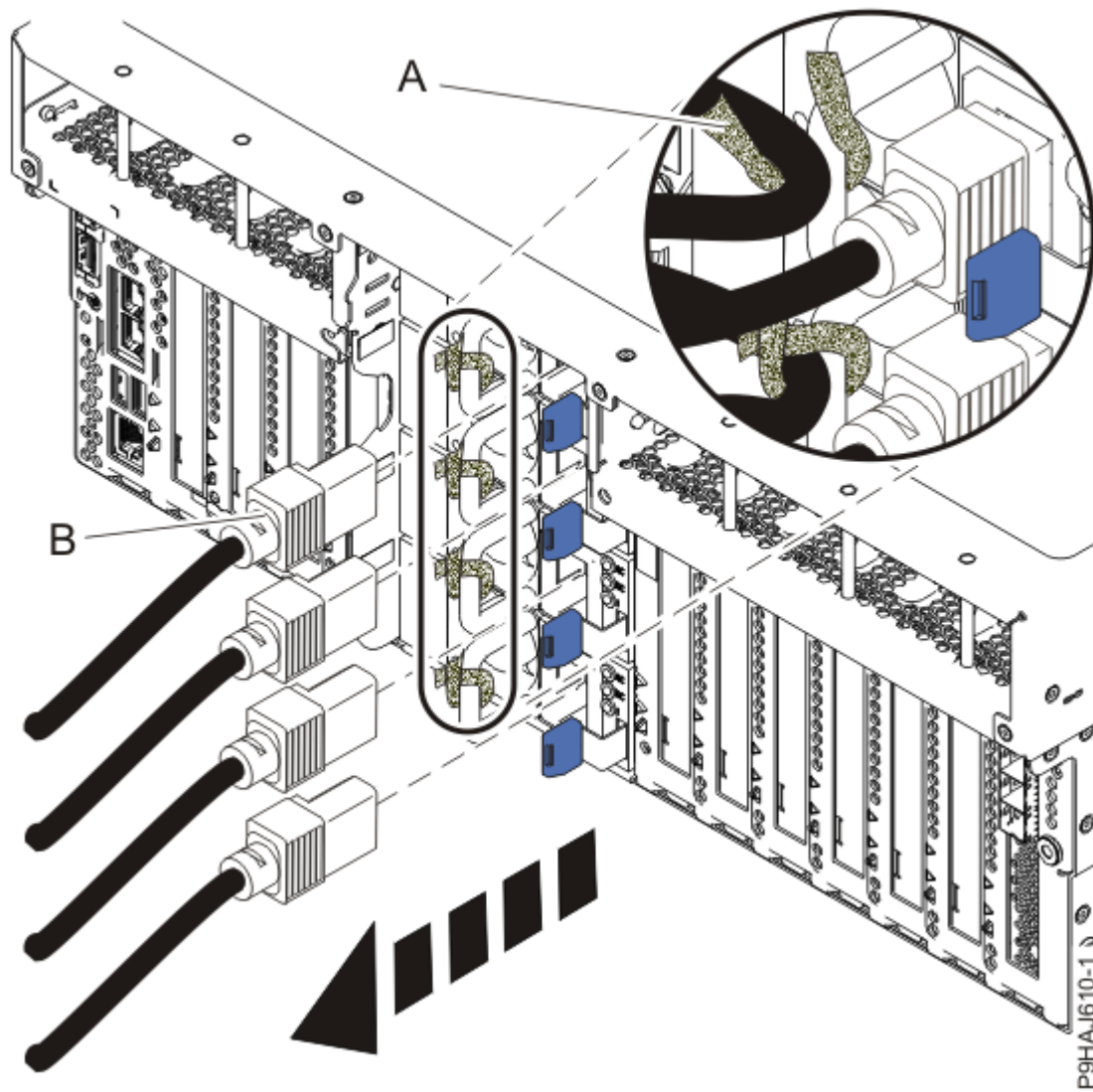


Figure 117. Removing the power cords from a rack-mounted server

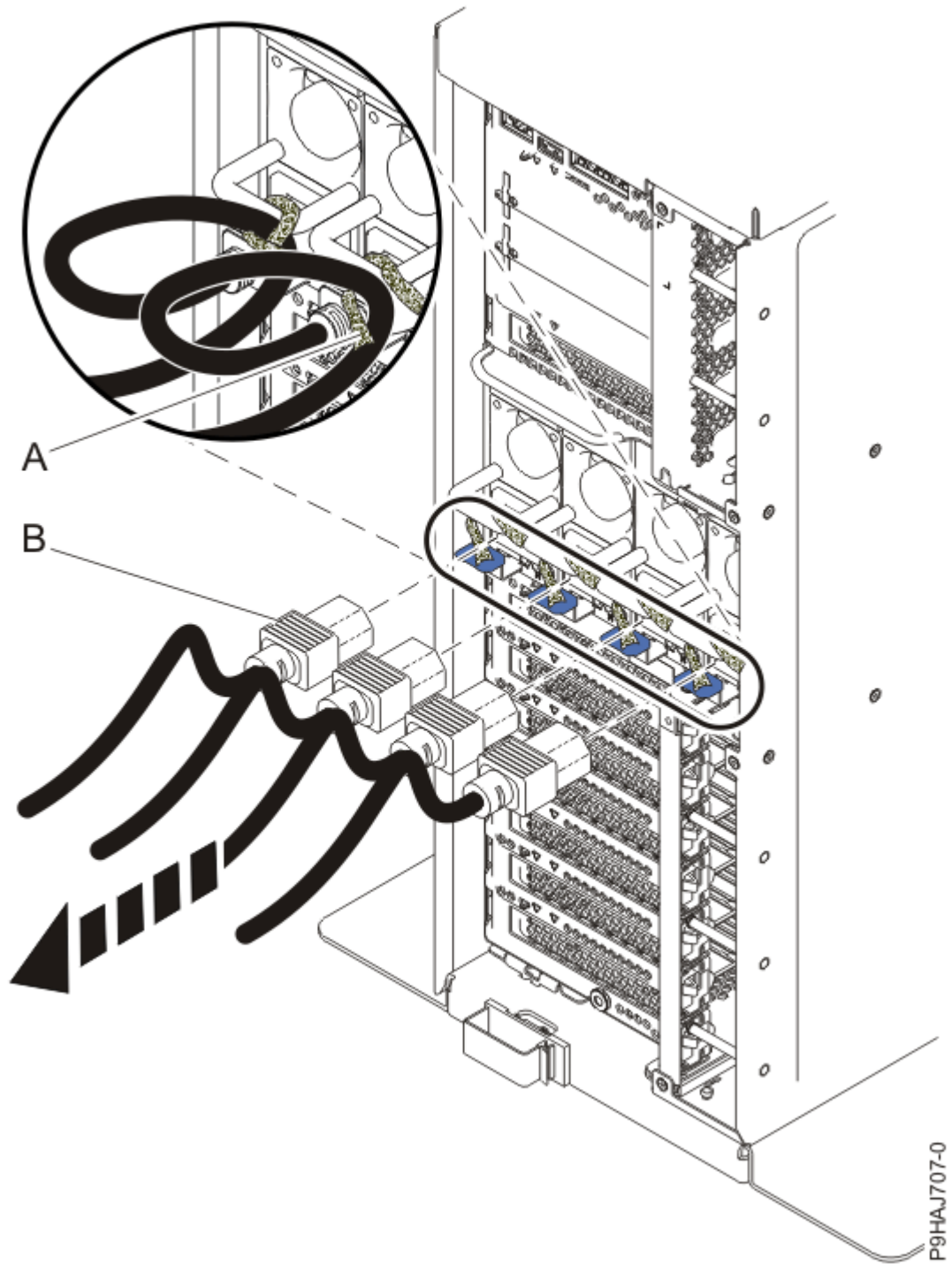
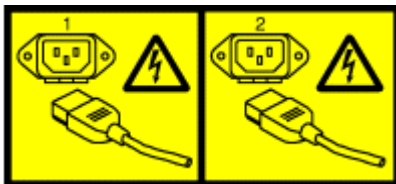


Figure 118. Removing the power cords from a stand-alone server

(L003)



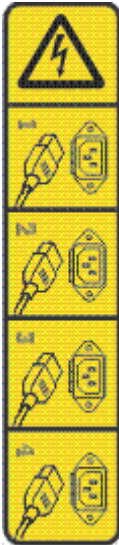
or



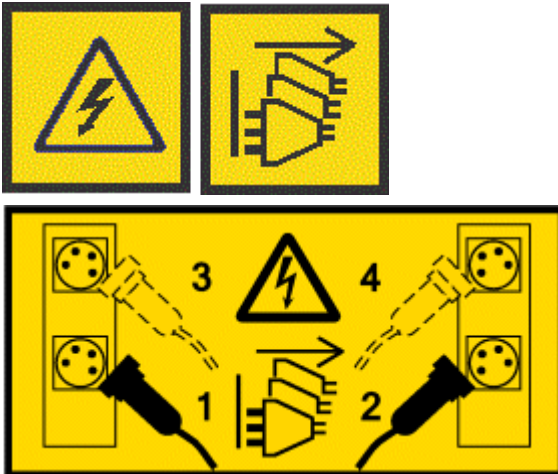
or

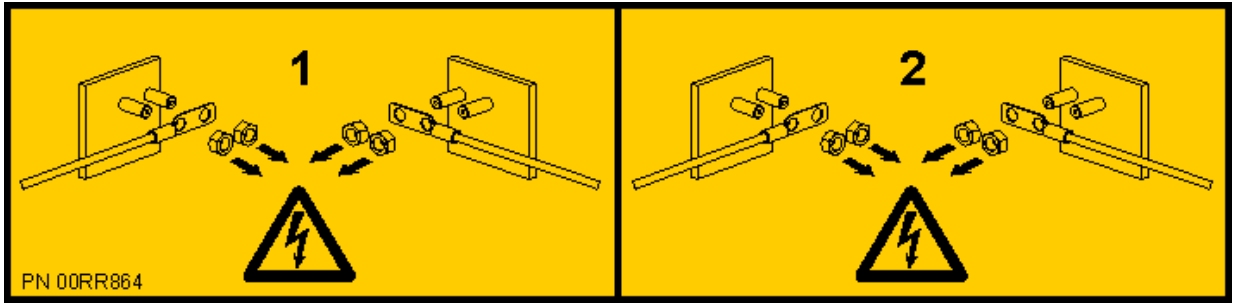


or



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)

5. 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.



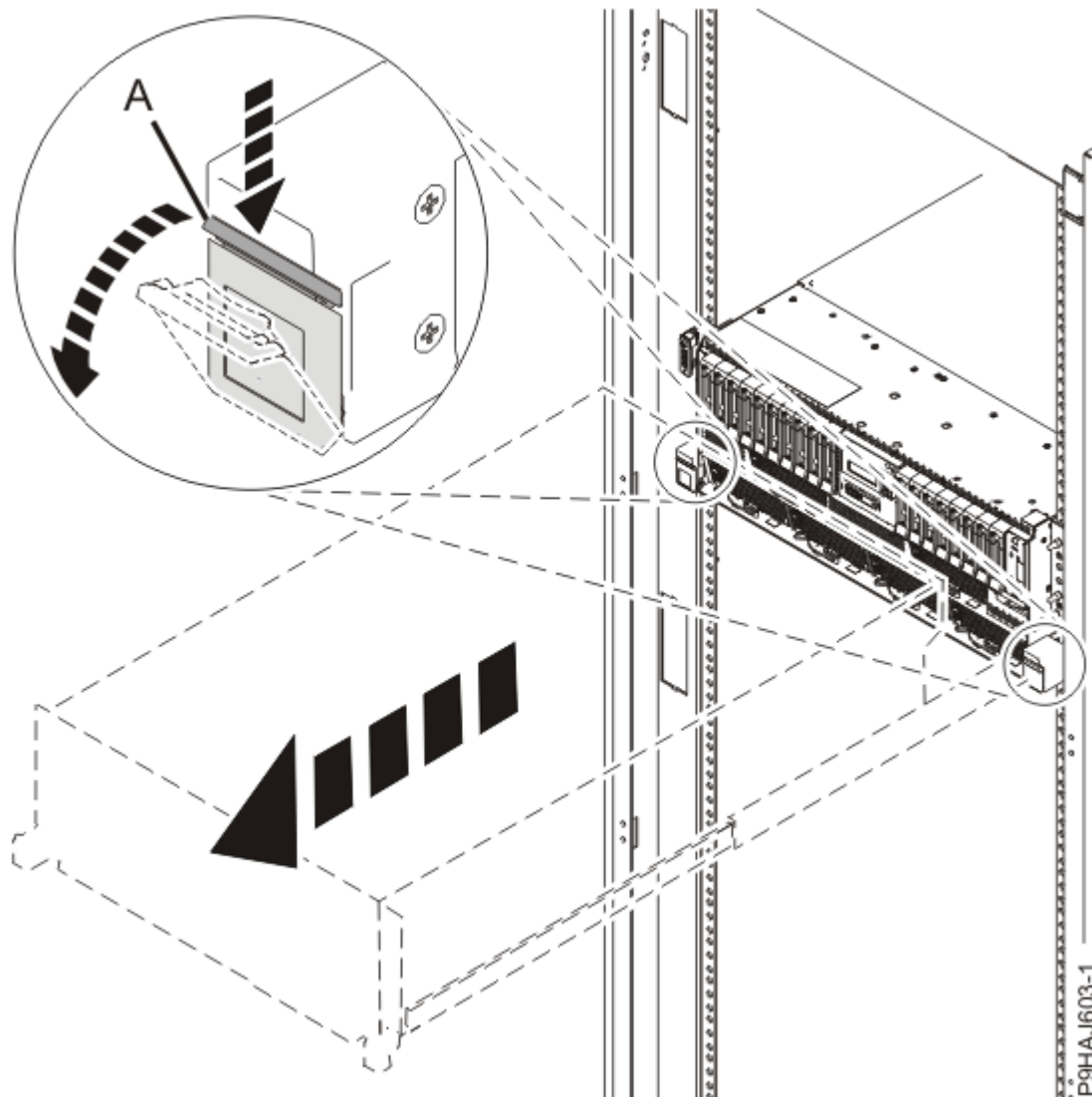


Figure 119. Releasing the side latches

6. Attach the electrostatic discharge (ESD) wrist strap. Your system has ESD jacks on the front and on the rear of the system as shown in the following figure. Plug the ESD wrist strap into the ESD jack.



Attention:

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

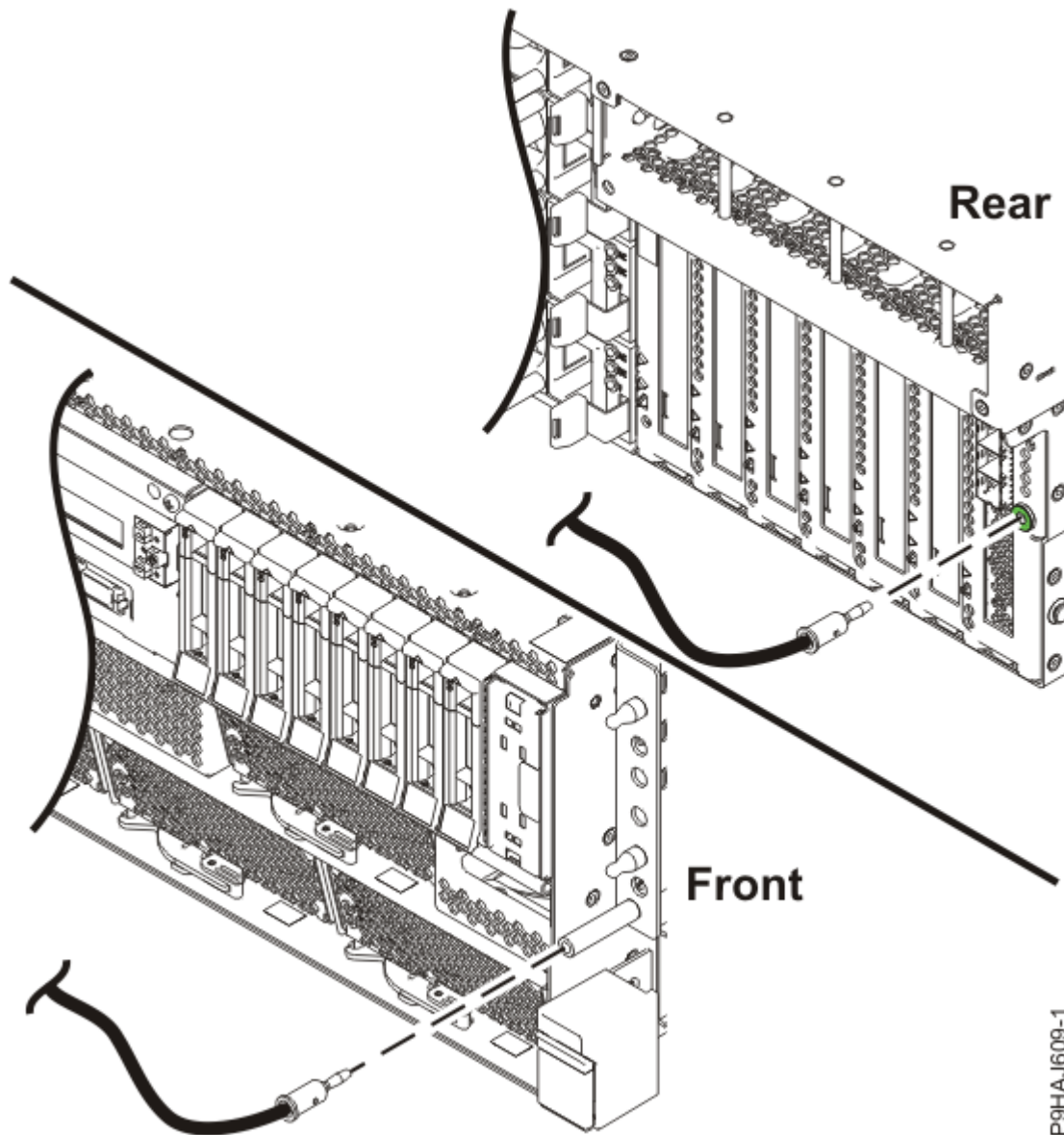


Figure 120. Location of ESD plugs

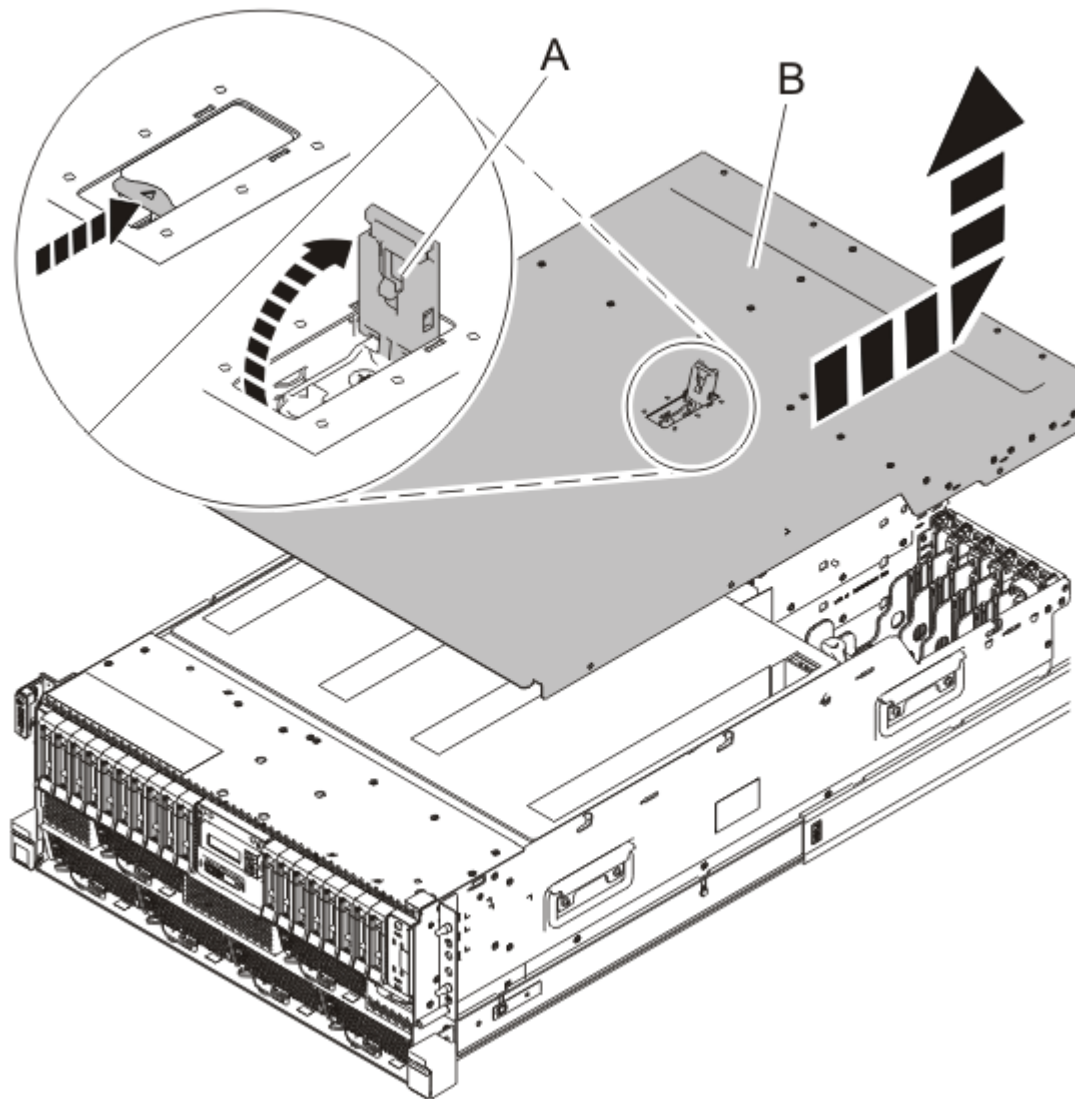
7. Remove the service access cover.

For a rack-mounted system, complete the following steps. Refer to [Figure 121](#) on page 136.



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

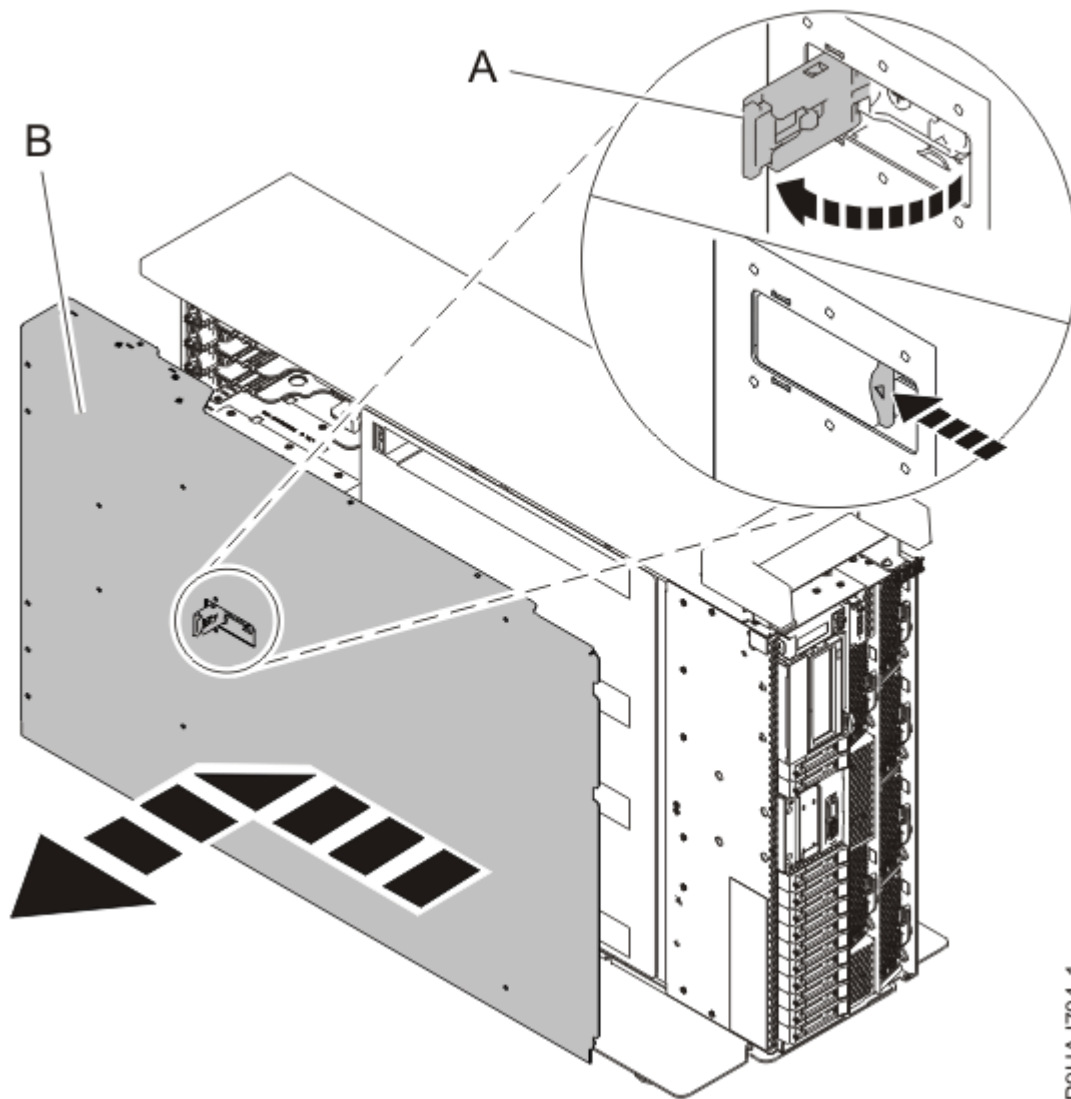
Figure 121. Removing the service access cover from a rack-mounted system

For a stand-alone system, complete the following steps. Refer to [Figure 122 on page 137](#).



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

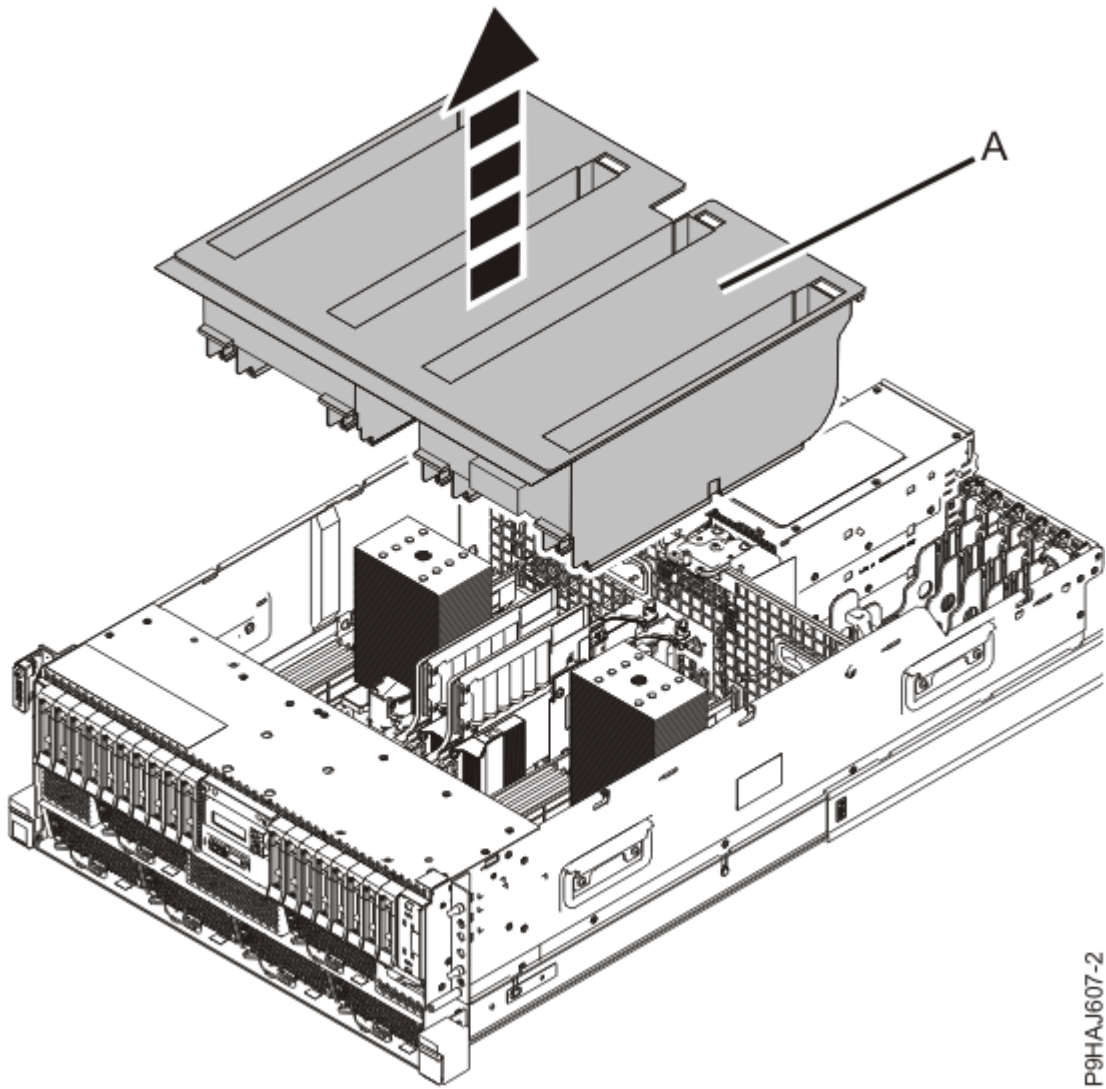
Figure 122. Removing the service access cover

Removing the drive backplane power cable from the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

To remove the drive backplane power cable from the system, complete the steps in this procedure.

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 123 on page 138](#).
For a stand-alone system, remove the air baffle (A) straight out as shown in [Figure 124 on page 139](#).
Place the air baffle upside down on a clean area.



P9HAJ607-2

Figure 123. Removing the air baffle from a rack-mounted system

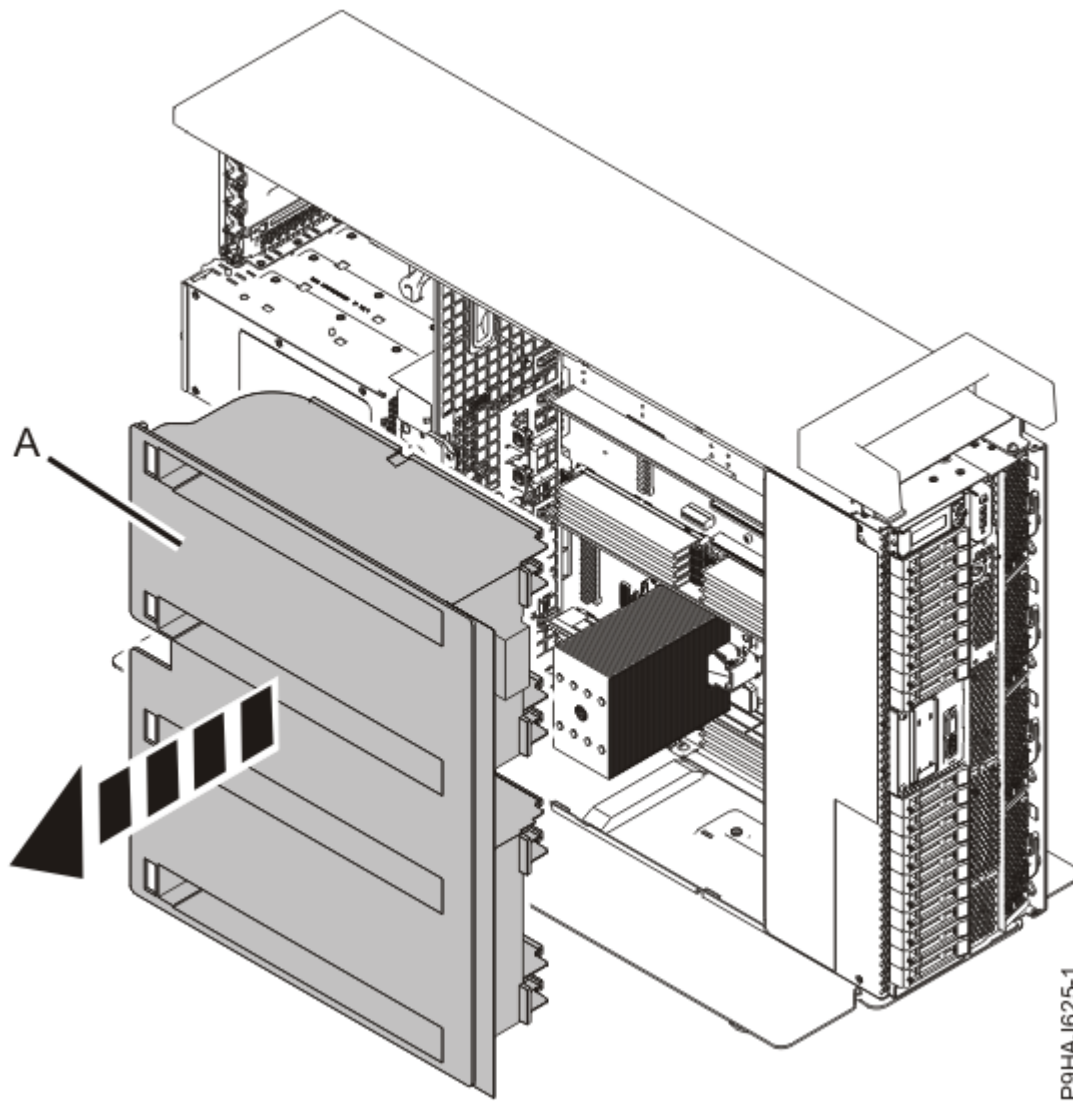


Figure 124. Removing the air baffle from a stand-alone system

3. Label and disconnect the power cable (**B**) from the drive backplane as shown in [Figure 125](#) on page [140](#).

Unlatch the clips that secure the connectors to the drive backplane.

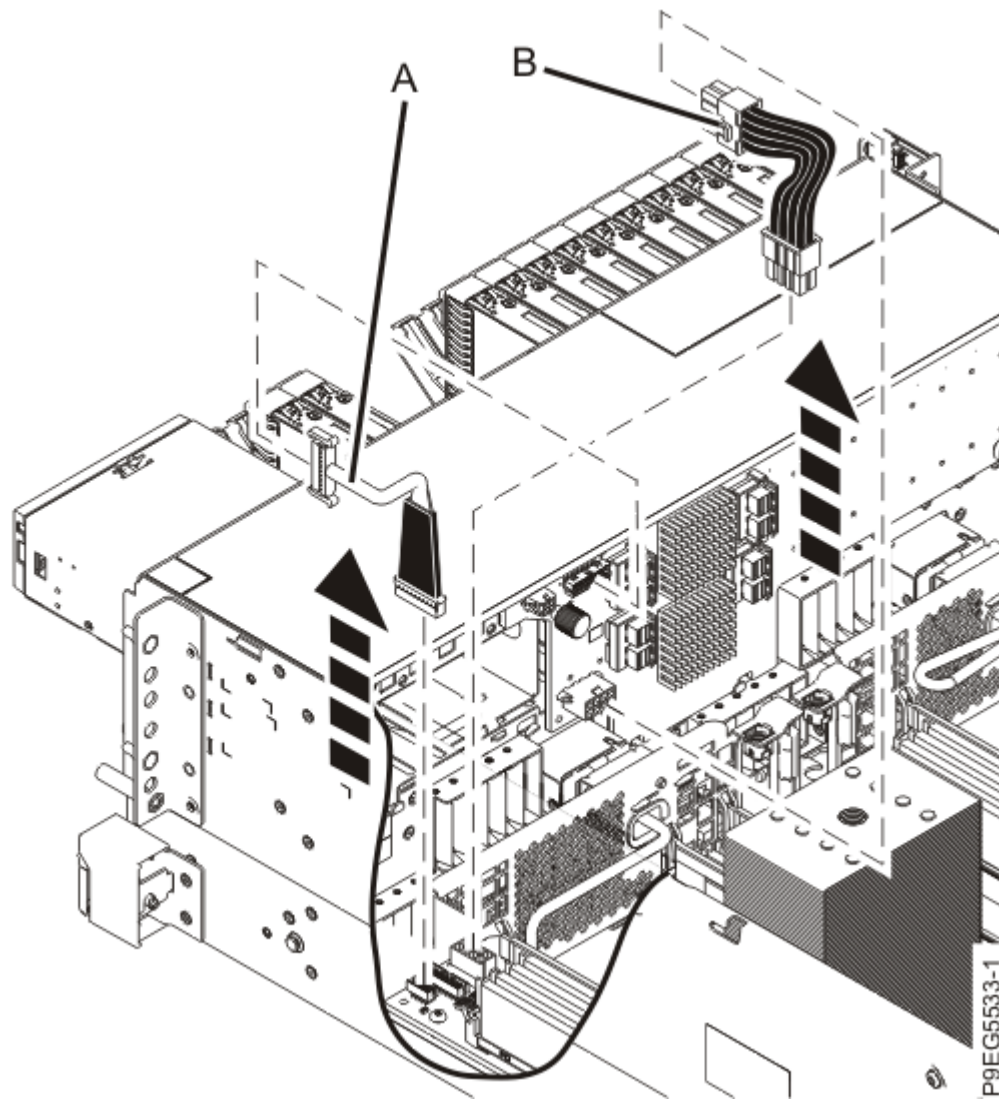


Figure 125. Disconnecting the signal cable and power cable

Replacing the drive backplane power cable in the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

To replace the drive backplane power cable in the system, complete the steps in this procedure.

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. Reconnect the power cable (**B**), to the drive backplane as shown in [Figure 126 on page 141](#). Push the connectors in until the latches click.

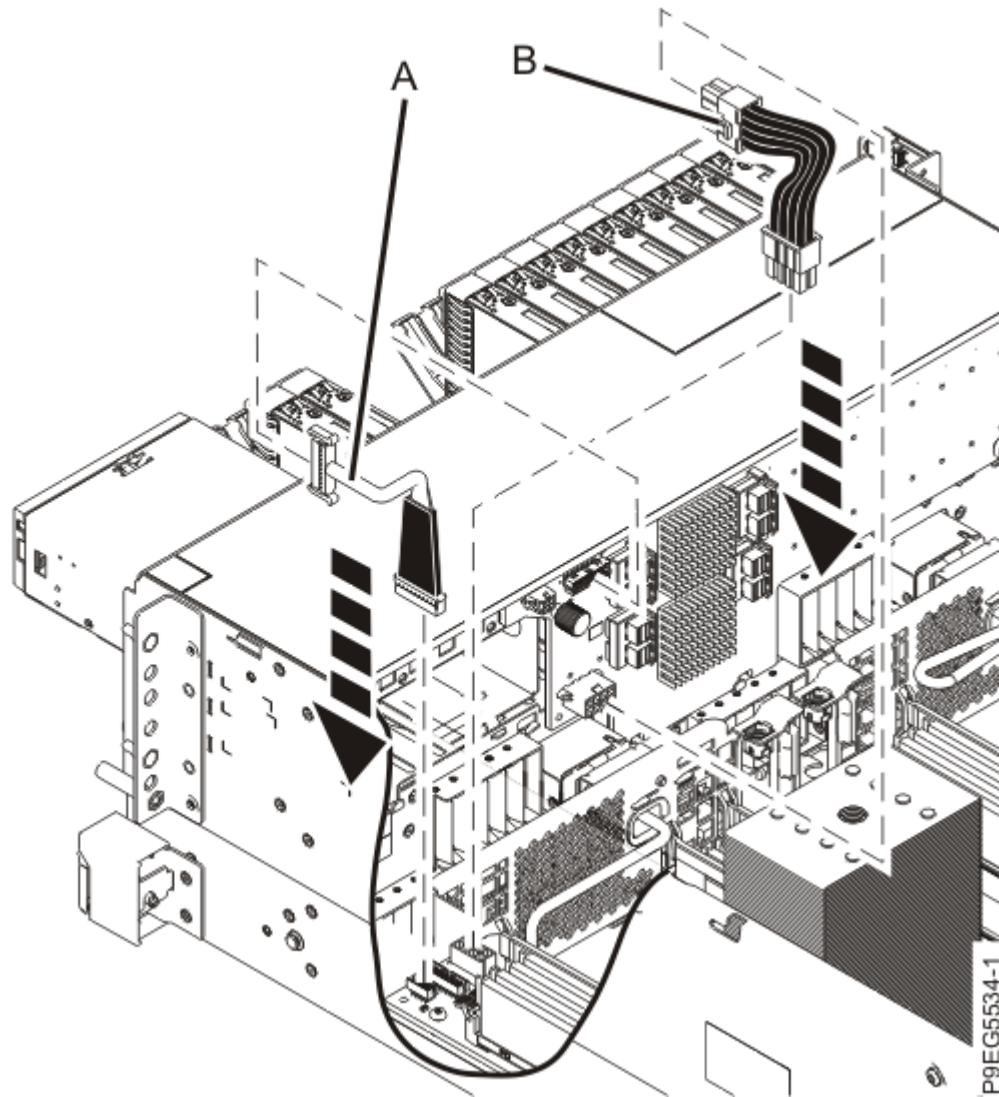
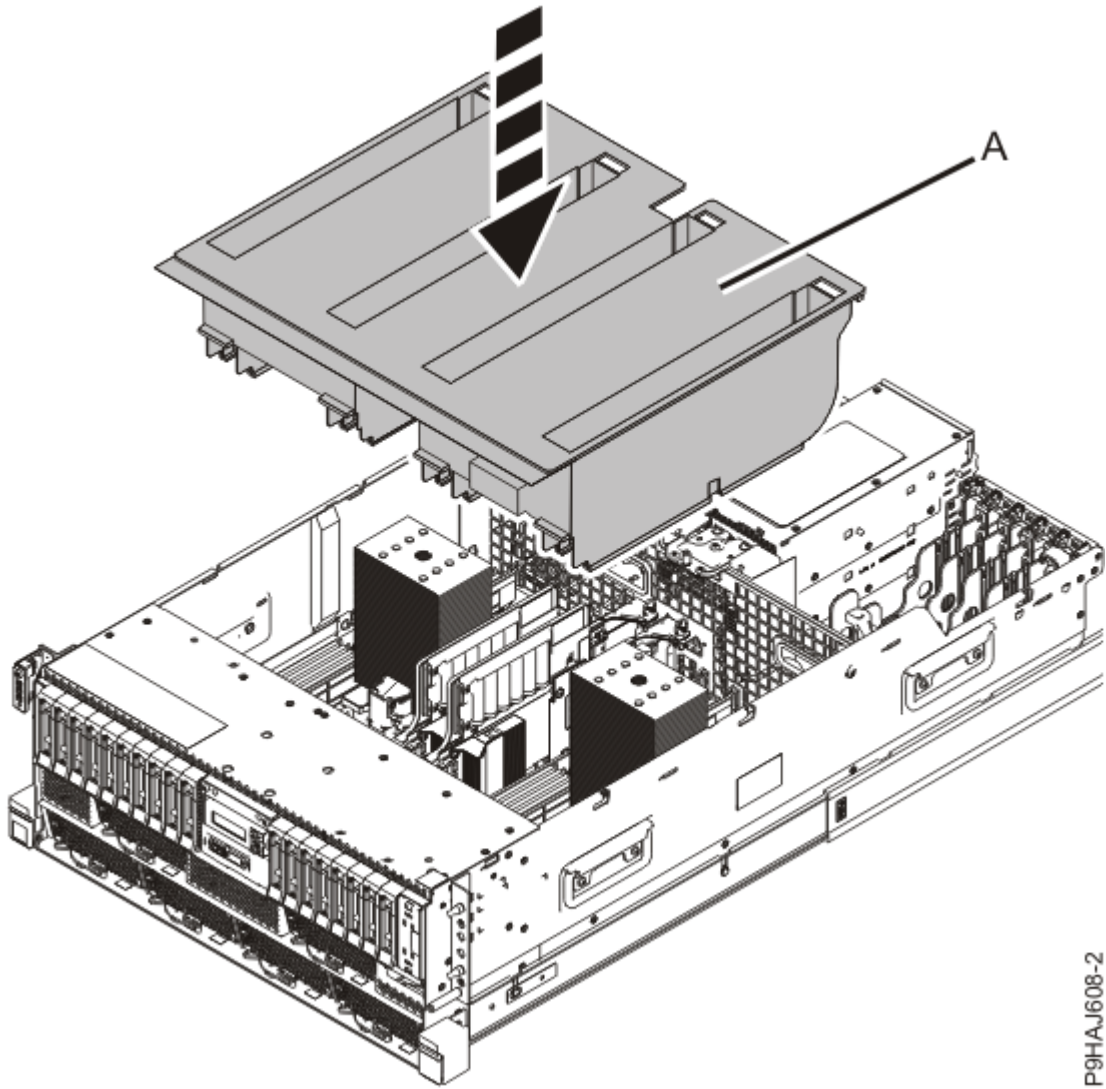


Figure 126. Reconnecting the power cable and signal cable to the drive backplane

3. For a rack-mounted system, replace the air baffle **(A)** straight down into the chassis as shown in [Figure 127](#) on page 142.

For a stand-alone system, replace the air baffle **(A)** straight into the side of the chassis as shown in [Figure 128](#) on page 143.

Ensure that the front flap tucks under the front chassis.



P9HAJ608-2

Figure 127. Replacing the air baffle in a rack-mounted system

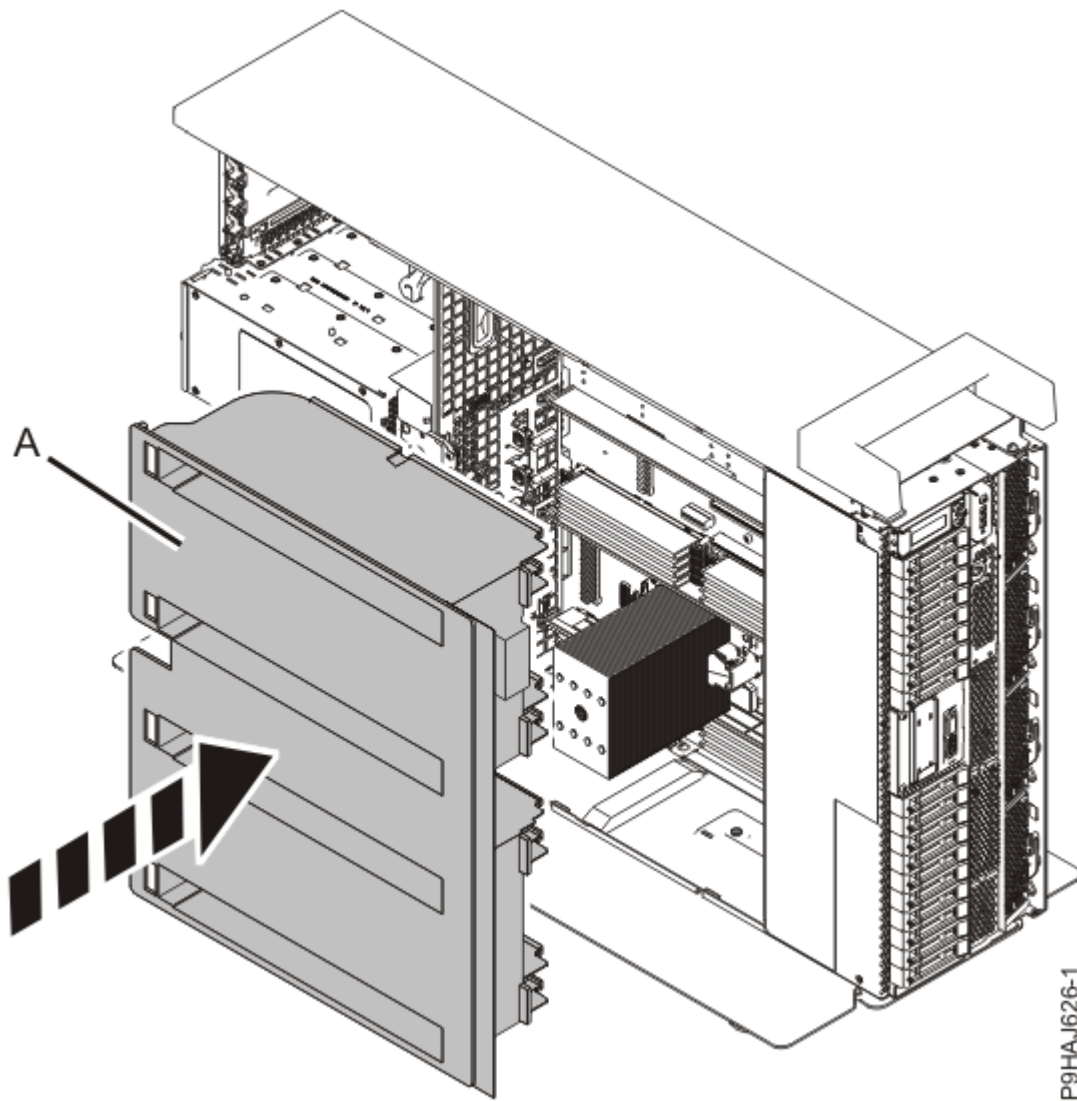


Figure 128. Replacing the air baffle in a stand-alone system

Preparing the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system for operation after removing and replacing a drive backplane power cable

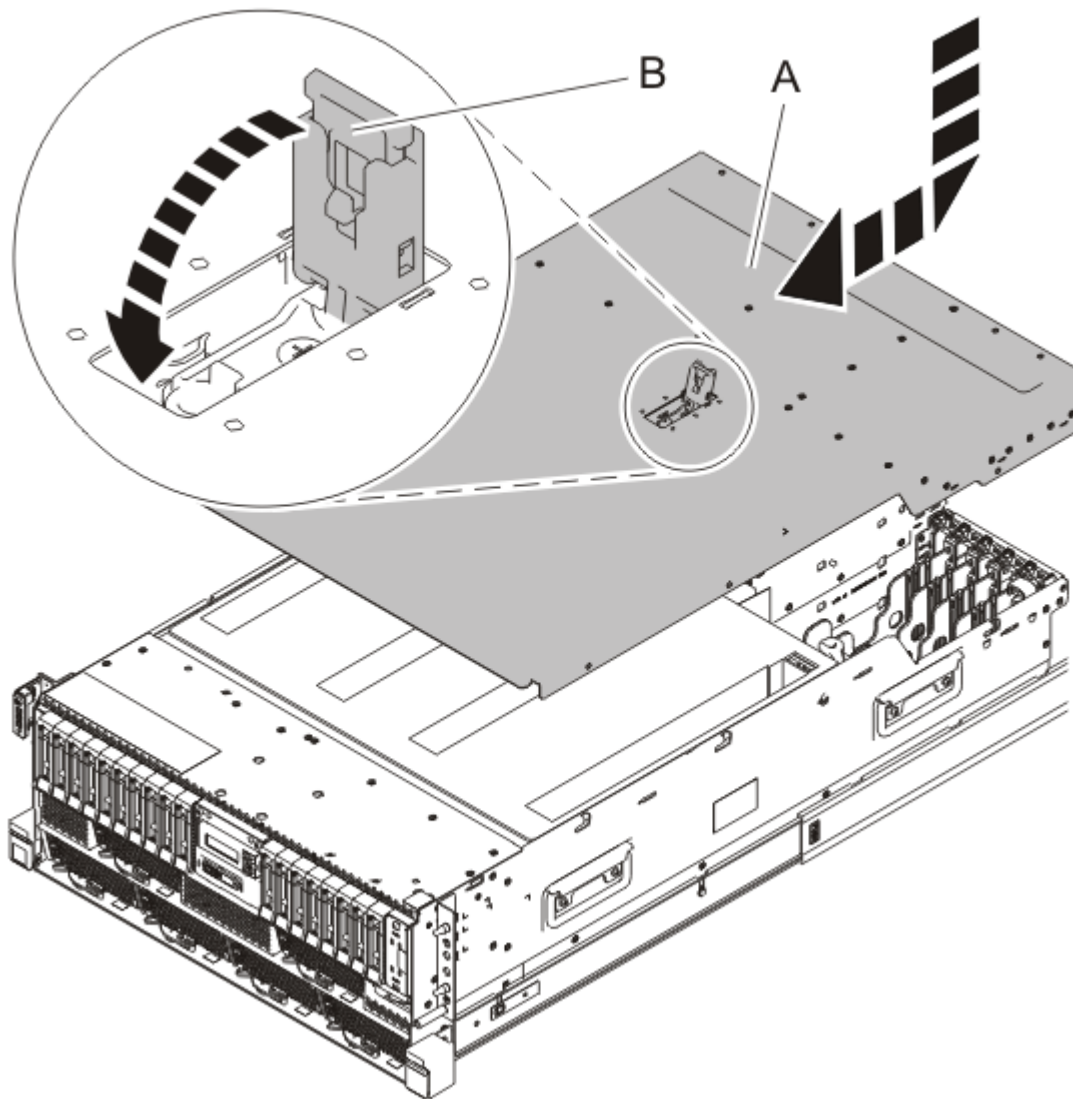
To prepare the system for operation after removing and replacing a drive backplane power cable, complete the steps in this procedure.

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 129](#) on page 144.

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

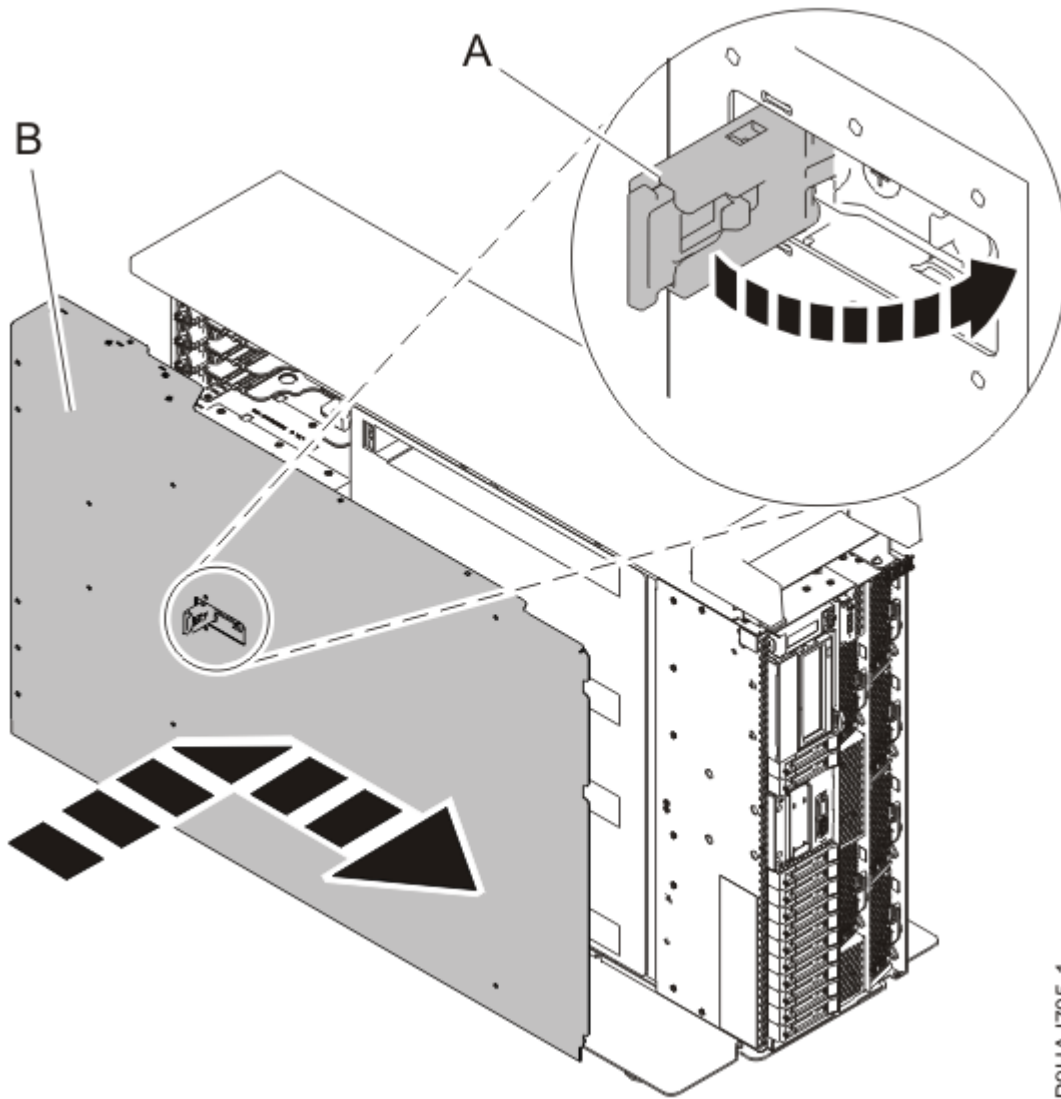


P9HAJ606-2

Figure 129. Installing the service access cover

For a stand-alone system, complete the following steps. Refer to [Figure 130 on page 145](#).

- 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.



P9HAJ705-1

Figure 130. Installing the service access cover

3. For a rack-mounted system, unlock the blue rail safety latches **(A)** as shown in [Figure 131 on page 146](#) 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.

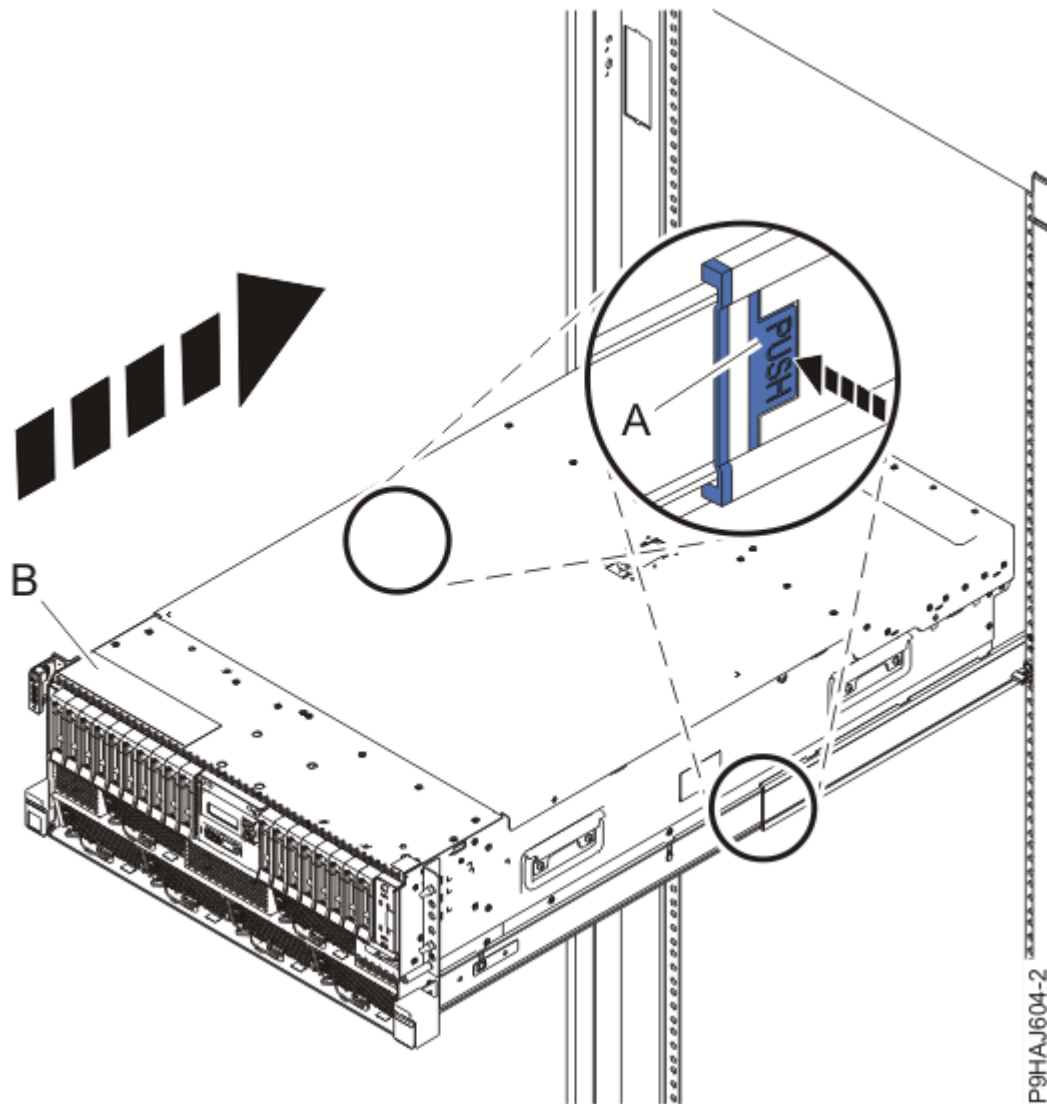


Figure 131. Placing the system into the operating position

4. 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.
5. 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 132](#) on page 147 or [Figure 133](#) on page 148.

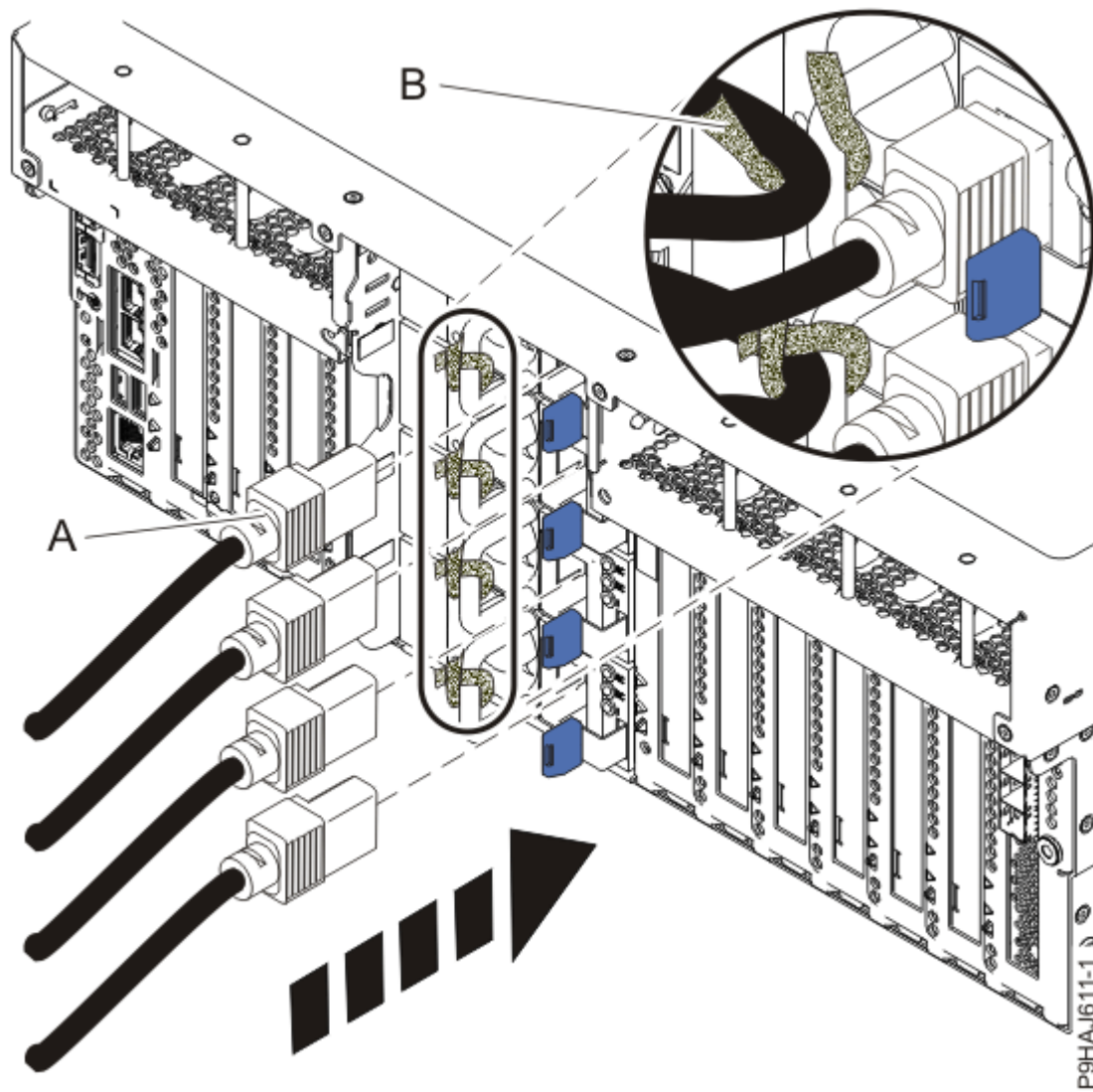


Figure 132. Connecting the power cords to a rack-mounted system

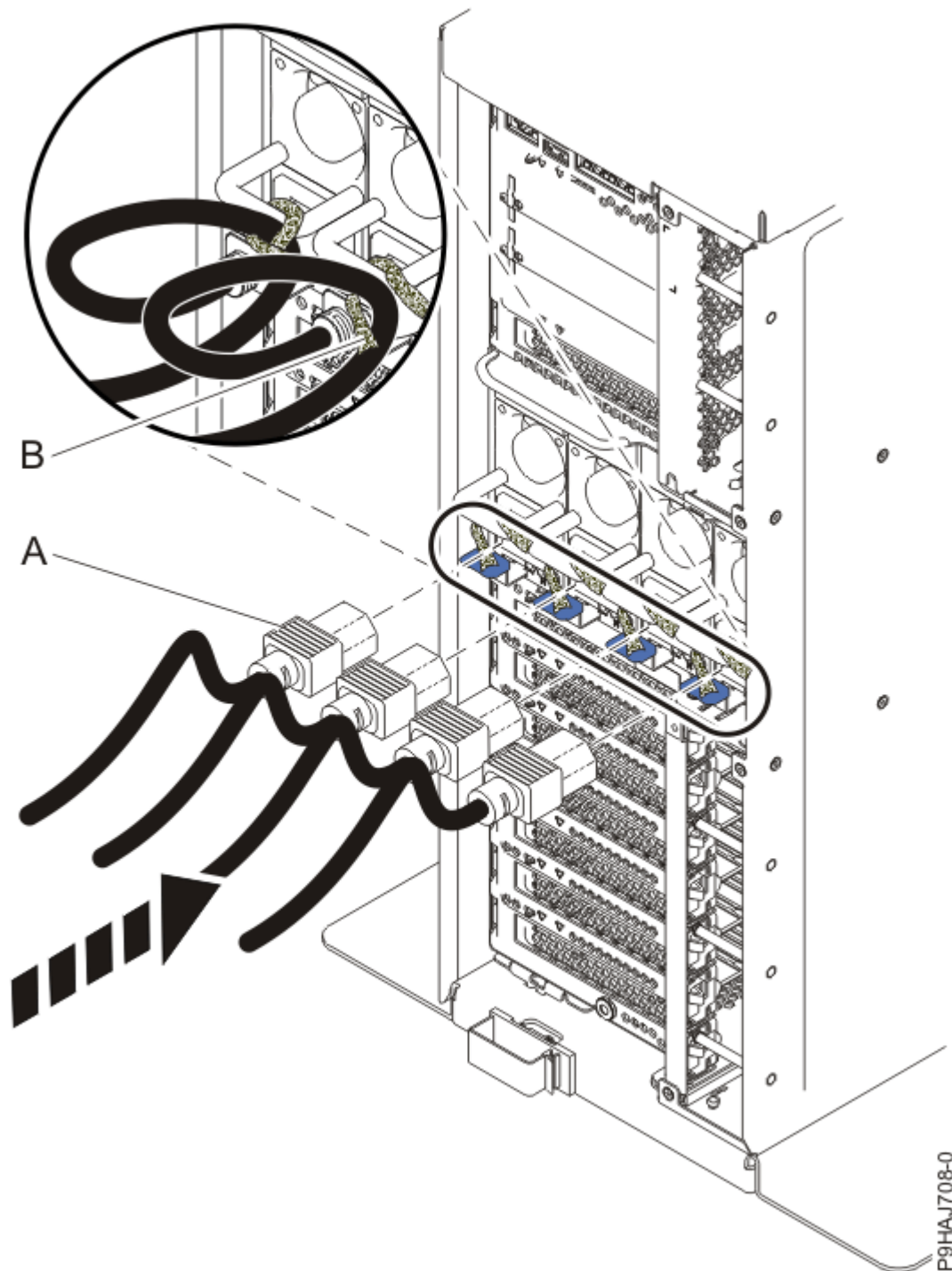


Figure 133. Connecting the power cords to a stand-alone system

6. Start the system. For instructions, see [Starting a system](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustartsys.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustartsys.htm).
7. Turn off the identify LED. For instructions, see [Deactivating an identify LED](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_turn_off_identify_led.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_turn_off_identify_led.htm).
8. Verify the installed part.
 - If you replaced the part because of a service action, verify the installed part. For instructions, see [Verifying a repair](http://www.ibm.com/support/knowledgecenter/POWER9/p9ect/pxect_verifyrepair.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9ect/pxect_verifyrepair.htm).
 - If you installed the part for any other reason, verify the installed part. For instructions, see [Verifying the installed part](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/pxhaj_hsmverify.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/pxhaj_hsmverify.htm).

Removing and replacing the drive backplane signal cable in the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S

Find information about removing and replacing a drive backplane signal cable in 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.

About this task

Note: Removing or replacing this feature is a customer task. You can complete this task yourself, or contact a service provider to complete the task for you. You might be charged a fee by the service provider for this service.

If your system is managed by the Hardware Management Console (HMC), use the HMC to repair a part in the system. For instructions, see [Repairing a part by using the HMC](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_hmc_repair.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_hmc_repair.htm).

If your server is not managed by an HMC, complete the steps in the following procedures to remove and replace a drive backplane signal cable.

Preparing the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system to remove and replace a drive backplane signal cable

To prepare the system to remove and replace the drive backplane signal cable, complete the steps in this procedure.

Procedure

1. Stop the system. For instructions, see [Stopping a system](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustopsys.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustopsys.htm).
2. Identify the part and the system that you are working on. For instructions, see [Identifying a part](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/sal.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/sal.htm).
Use the blue identify LED on the enclosure to locate the system. Ensure that the serial number of the system matches the serial number to be serviced.
3. Use the blue LED to identify the server.
Ensure that the serial number of the system matches the serial number to be serviced.
4. Label and disconnect the power cords from the system unit.
See [Figure 134 on page 150](#) or [Figure 135 on page 151](#).

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.

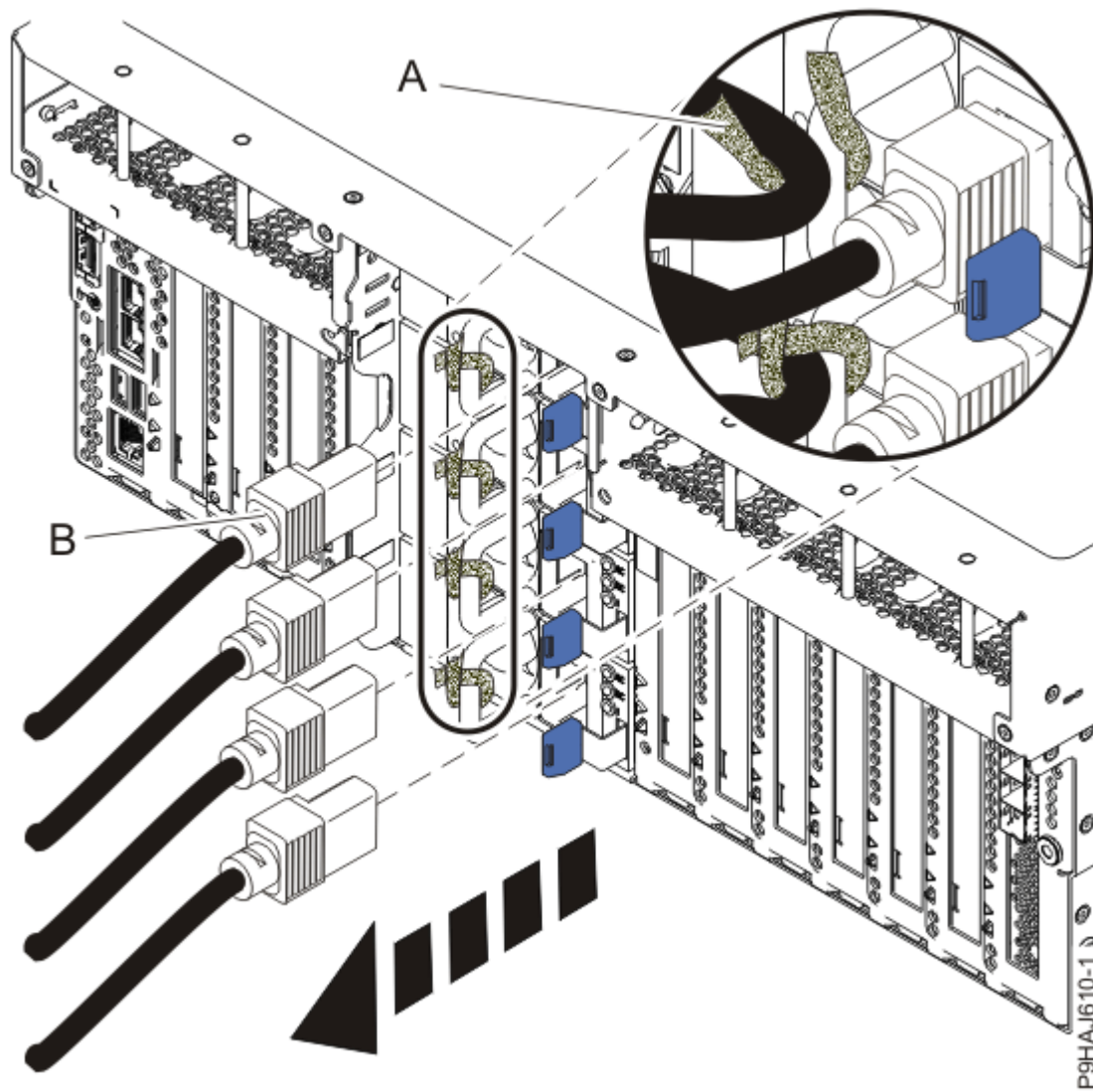


Figure 134. Removing the power cords from a rack-mounted server

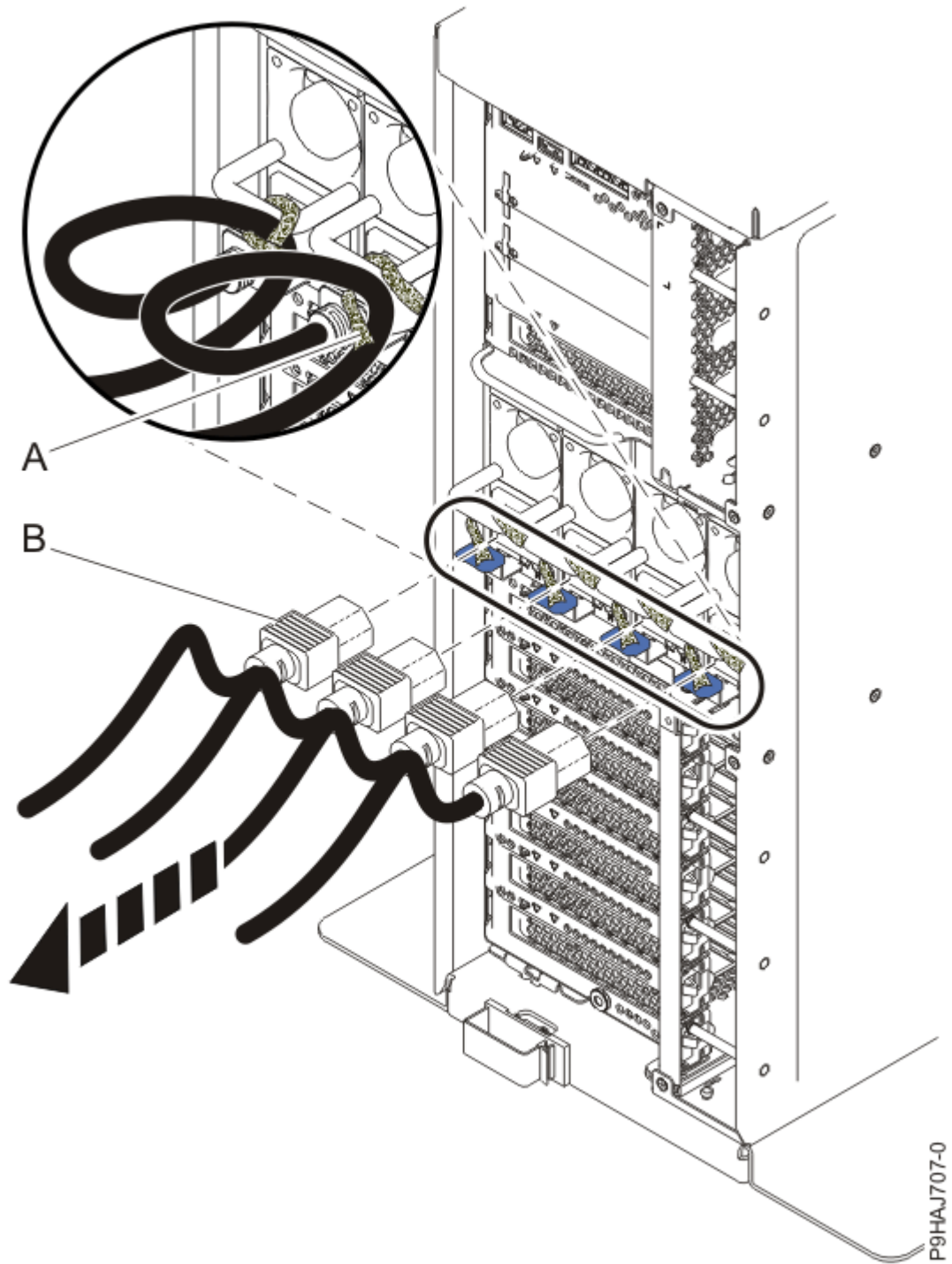
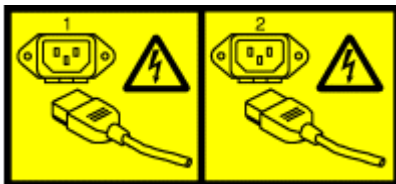


Figure 135. Removing the power cords from a stand-alone server

(L003)



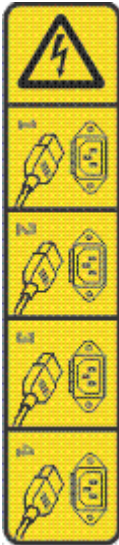
or



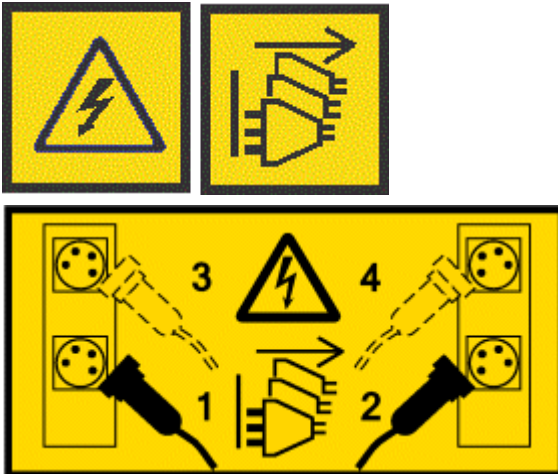
or

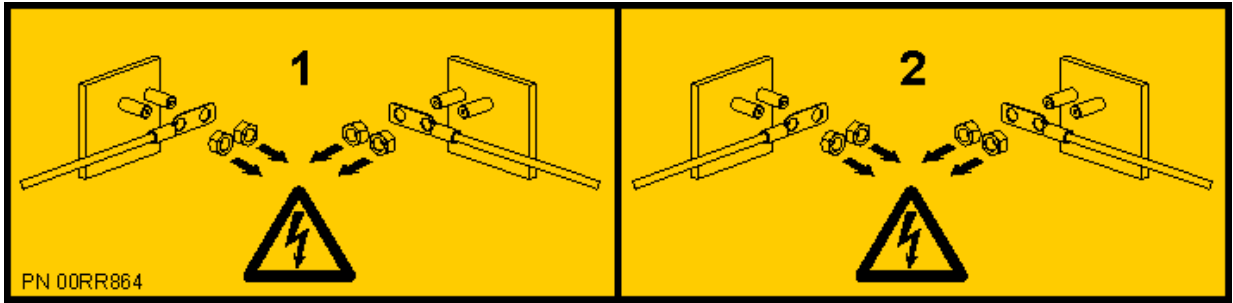


or



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)

5. 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.



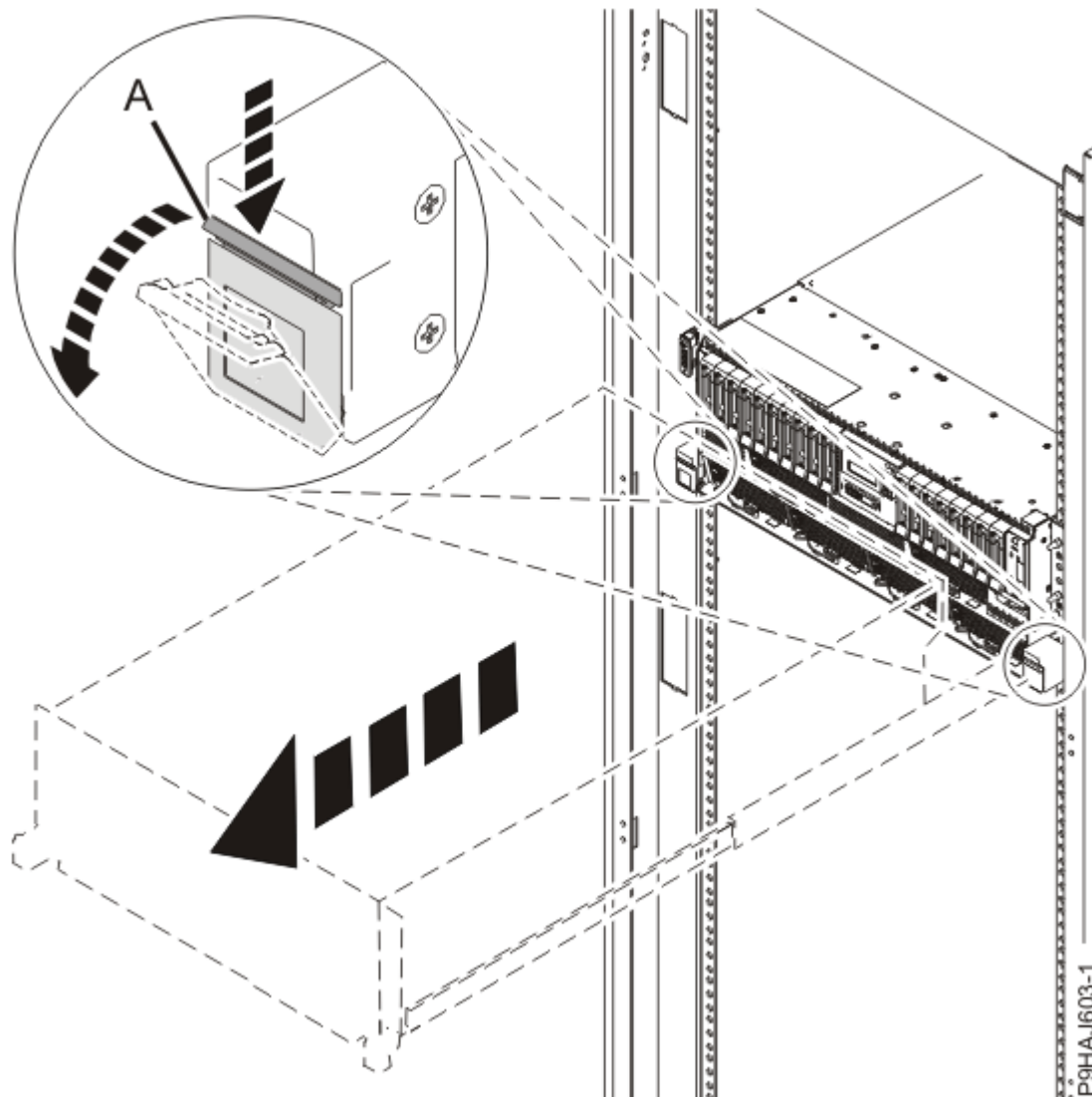


Figure 136. Releasing the side latches

6. Attach the electrostatic discharge (ESD) wrist strap. Your system has ESD jacks on the front and on the rear of the system as shown in the following figure. Plug the ESD wrist strap into the ESD jack.

 **Attention:**

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

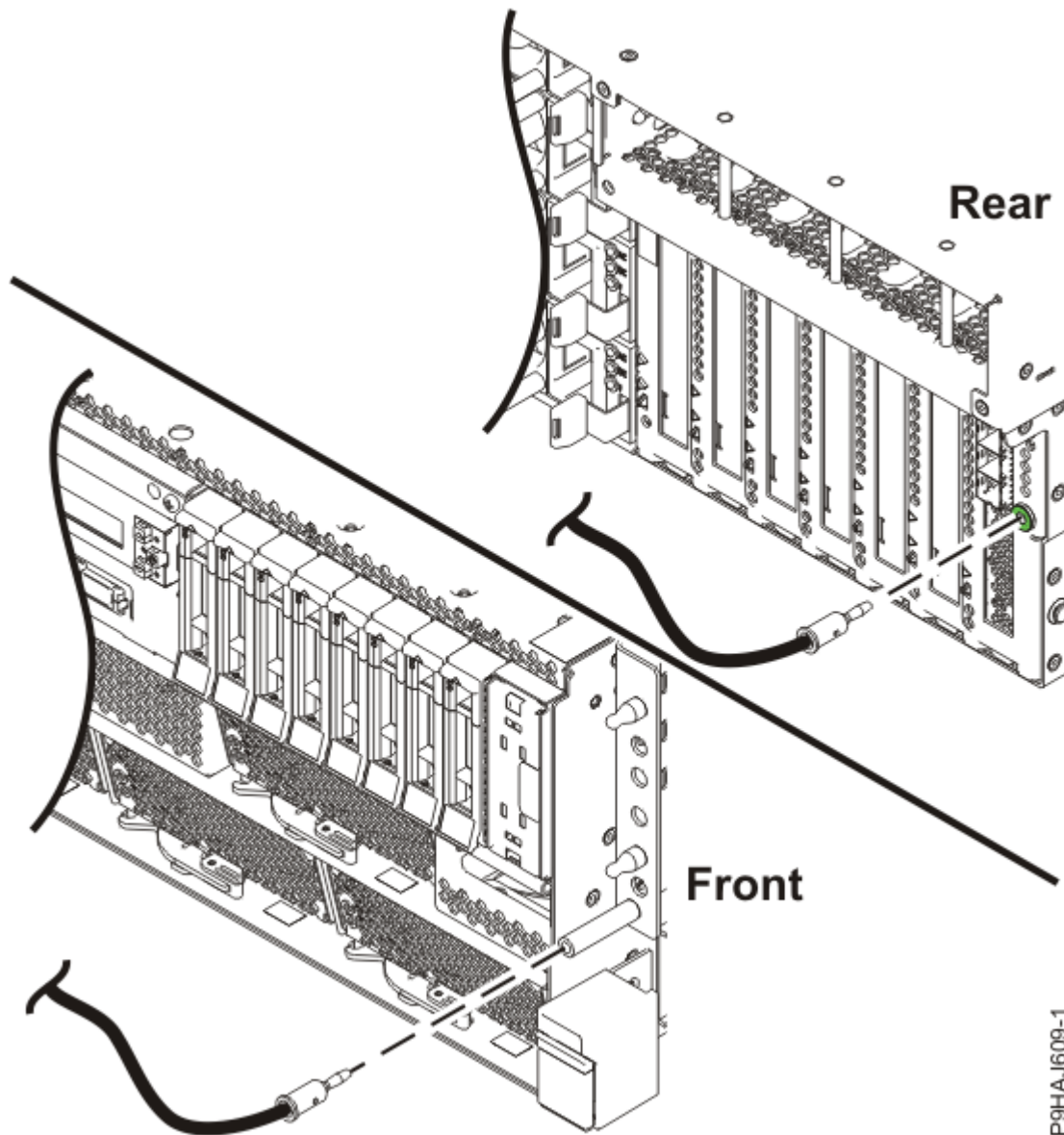


Figure 137. Location of ESD plugs

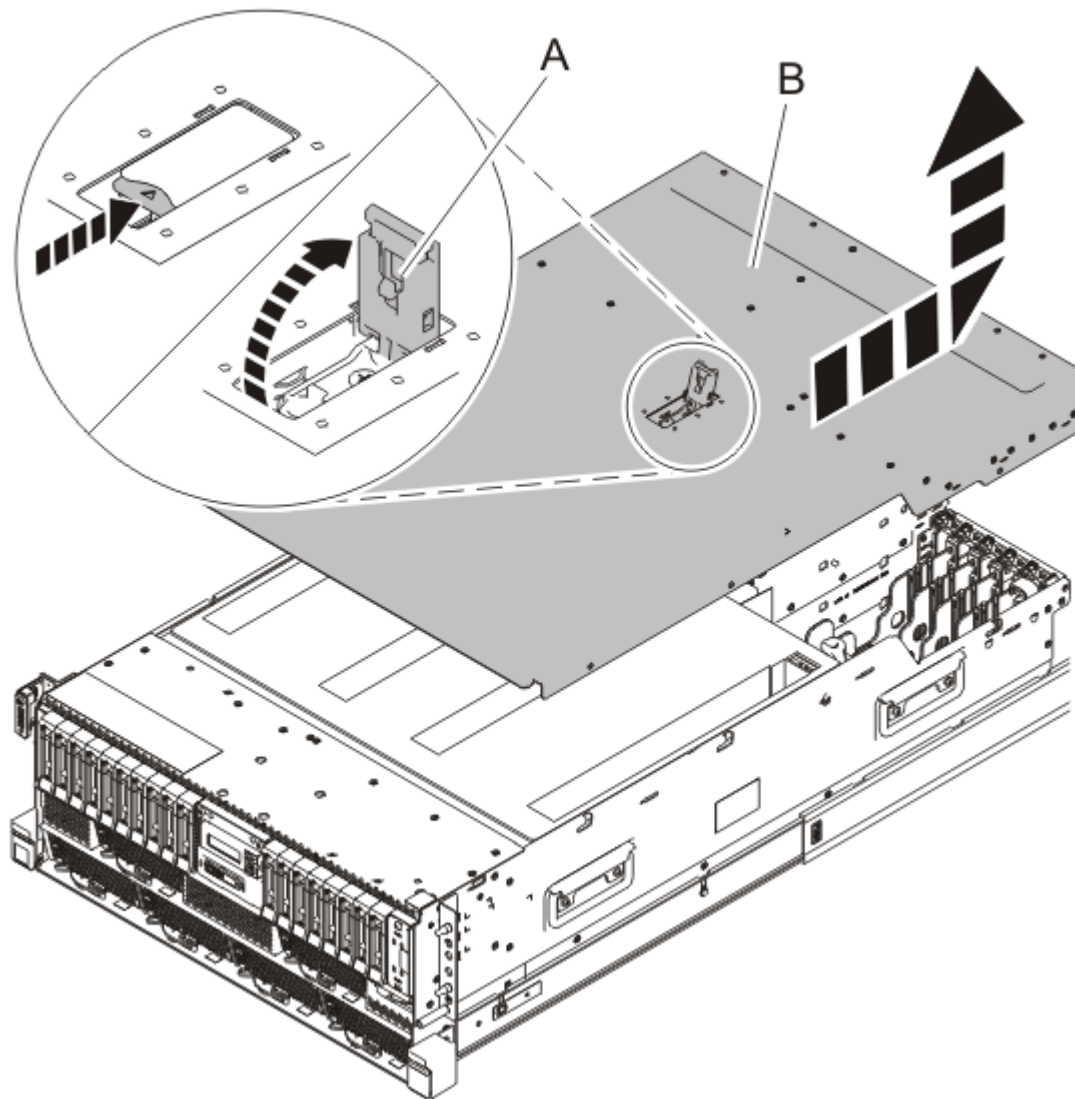
7. Remove the service access cover.

For a rack-mounted system, complete the following steps. Refer to [Figure 138](#) on page 156.



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

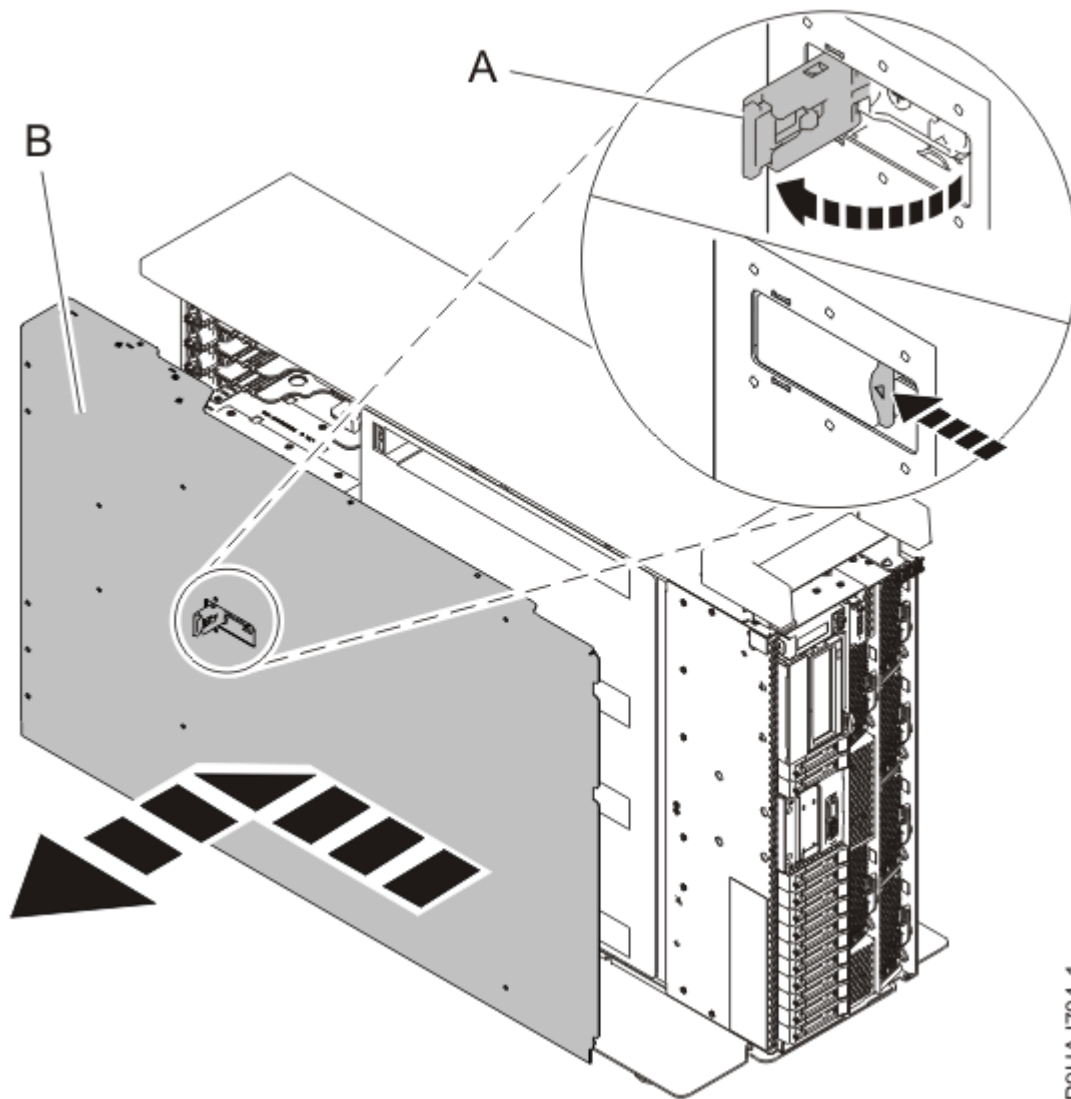
Figure 138. Removing the service access cover from a rack-mounted system

For a stand-alone system, complete the following steps. Refer to [Figure 139](#) on page 157.



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

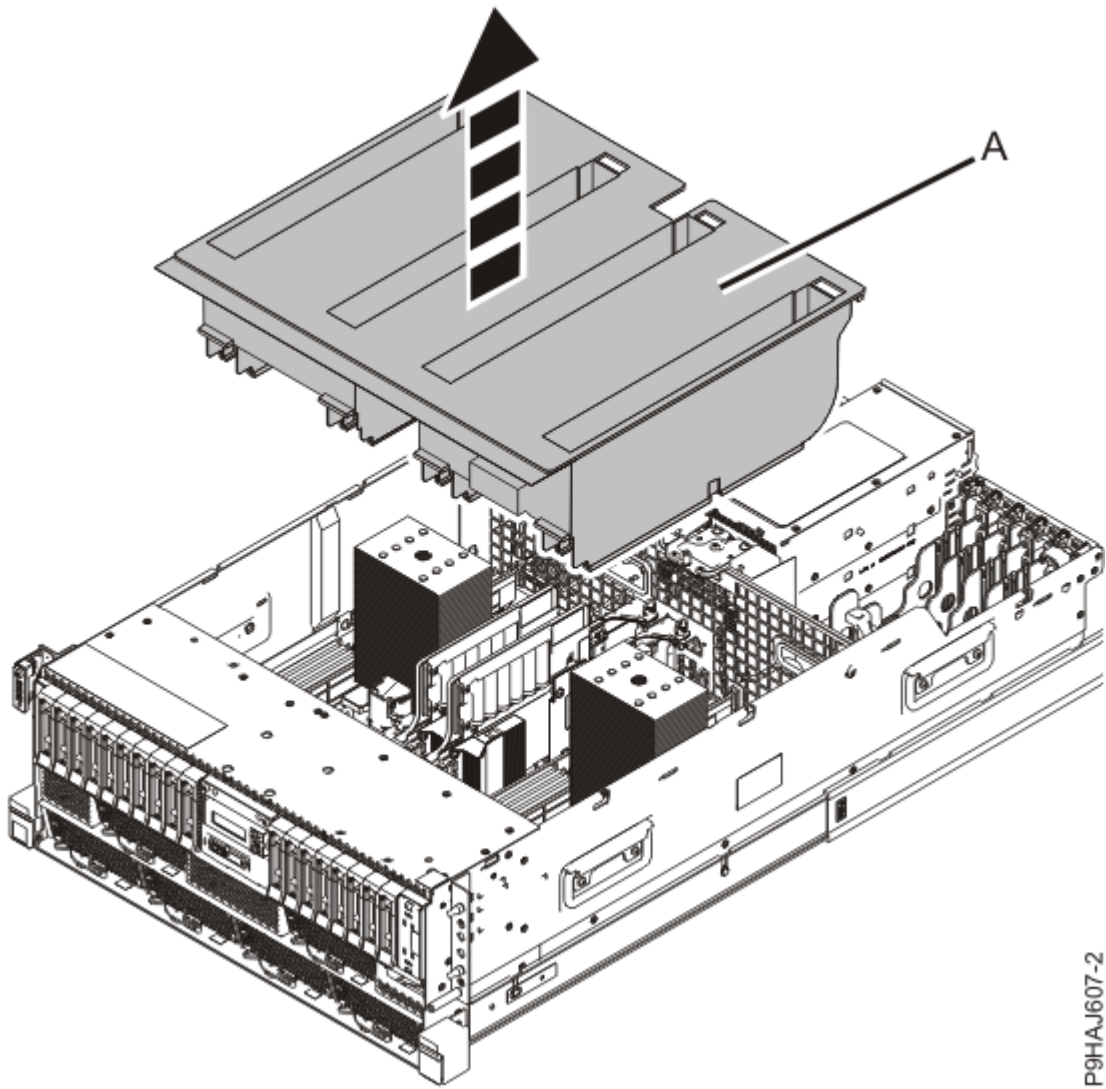
Figure 139. Removing the service access cover

Removing the drive backplane signal cable from the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

To remove the drive backplane signal cable from the system, complete the steps in this procedure.

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 140 on page 158](#).
For a stand-alone system, remove the air baffle **(A)** straight out as shown in [Figure 141 on page 159](#).
Place the air baffle upside down on a clean area.



P9HAJ607-2

Figure 140. Removing the air baffle from a rack-mounted system

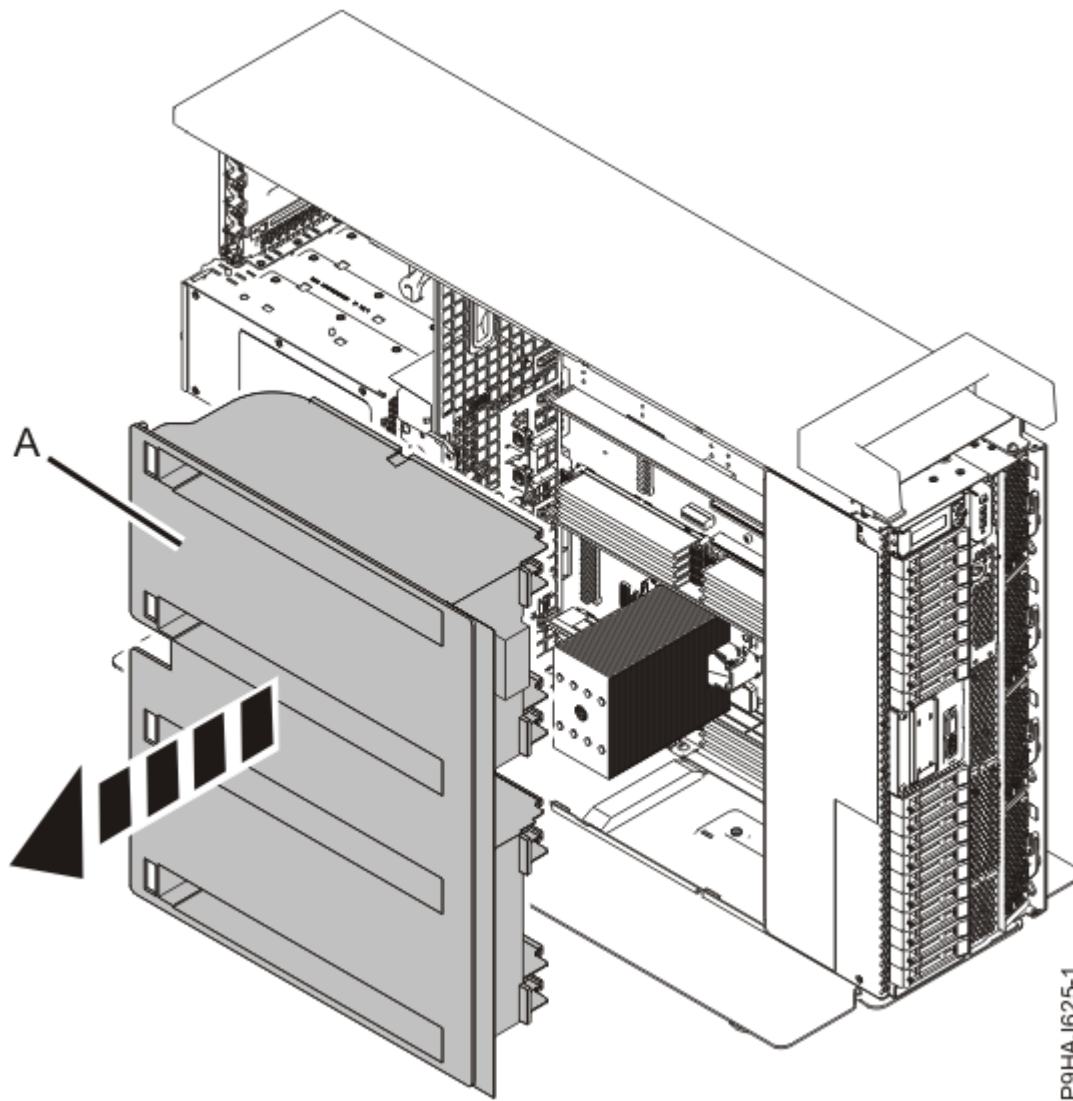


Figure 141. Removing the air baffle from a stand-alone system

3. Label and disconnect the signal cable **(A)** from the drive backplane as shown in [Figure 142](#) on page [160](#).

Unlatch the clips that secure the connectors to the drive backplane.

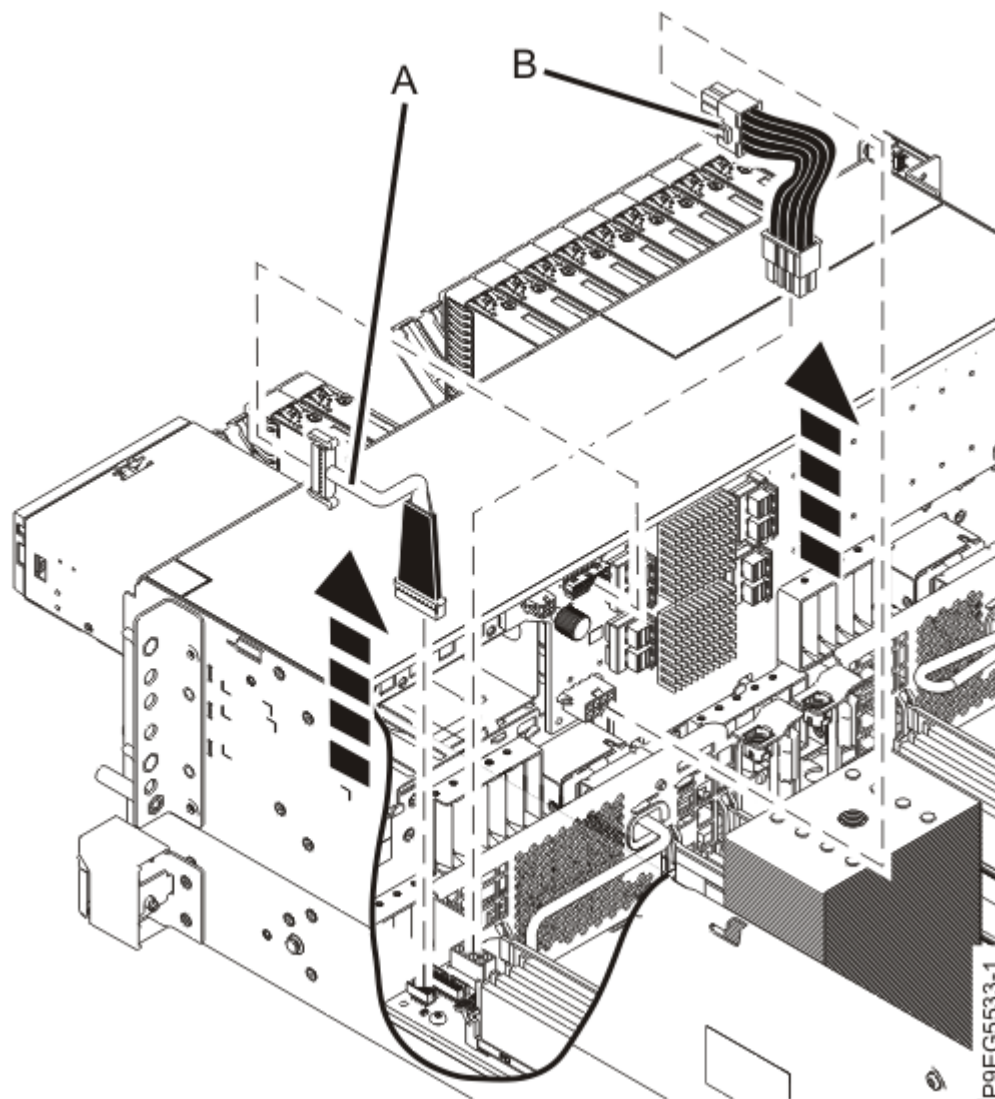


Figure 142. Disconnecting the signal and power cables

Replacing the drive backplane signal cable in the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system

To replace the drive backplane signal cable in the system, complete the steps in this procedure.

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. Reconnect the signal cable **(A)**, to the drive backplane as shown in [Figure 143](#) on page 161.
Push the connectors in until the latches click.

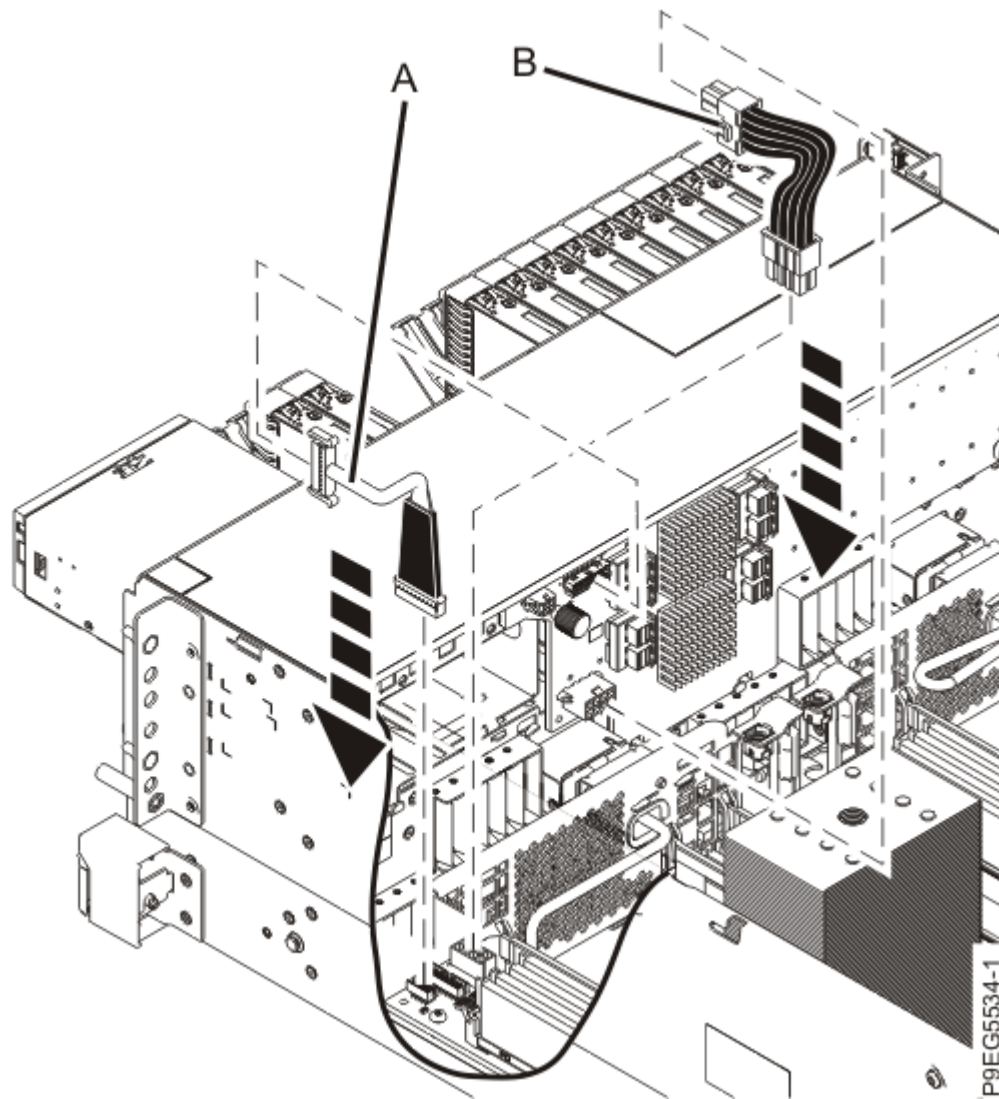
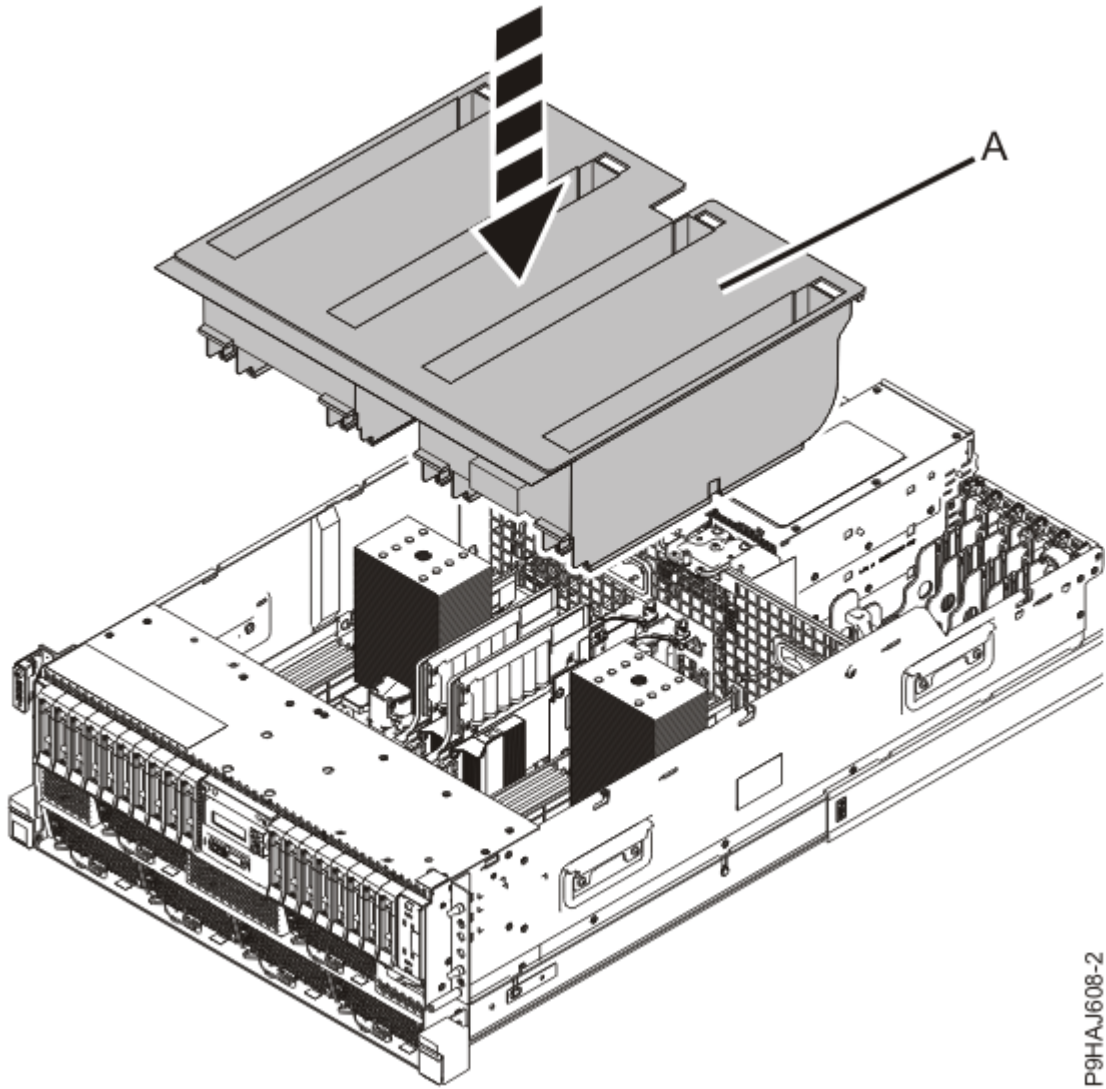


Figure 143. Reconnecting the power cable and signal cable to the drive backplane

3. For a rack-mounted system, replace the air baffle **(A)** straight down into the chassis as shown in [Figure 144](#) on page 162.

For a stand-alone system, replace the air baffle **(A)** straight into the side of the chassis as shown in [Figure 145](#) on page 163.

Ensure that the front flap tucks under the front chassis.



P9HAJ608-2

Figure 144. Replacing the air baffle in a rack-mounted system

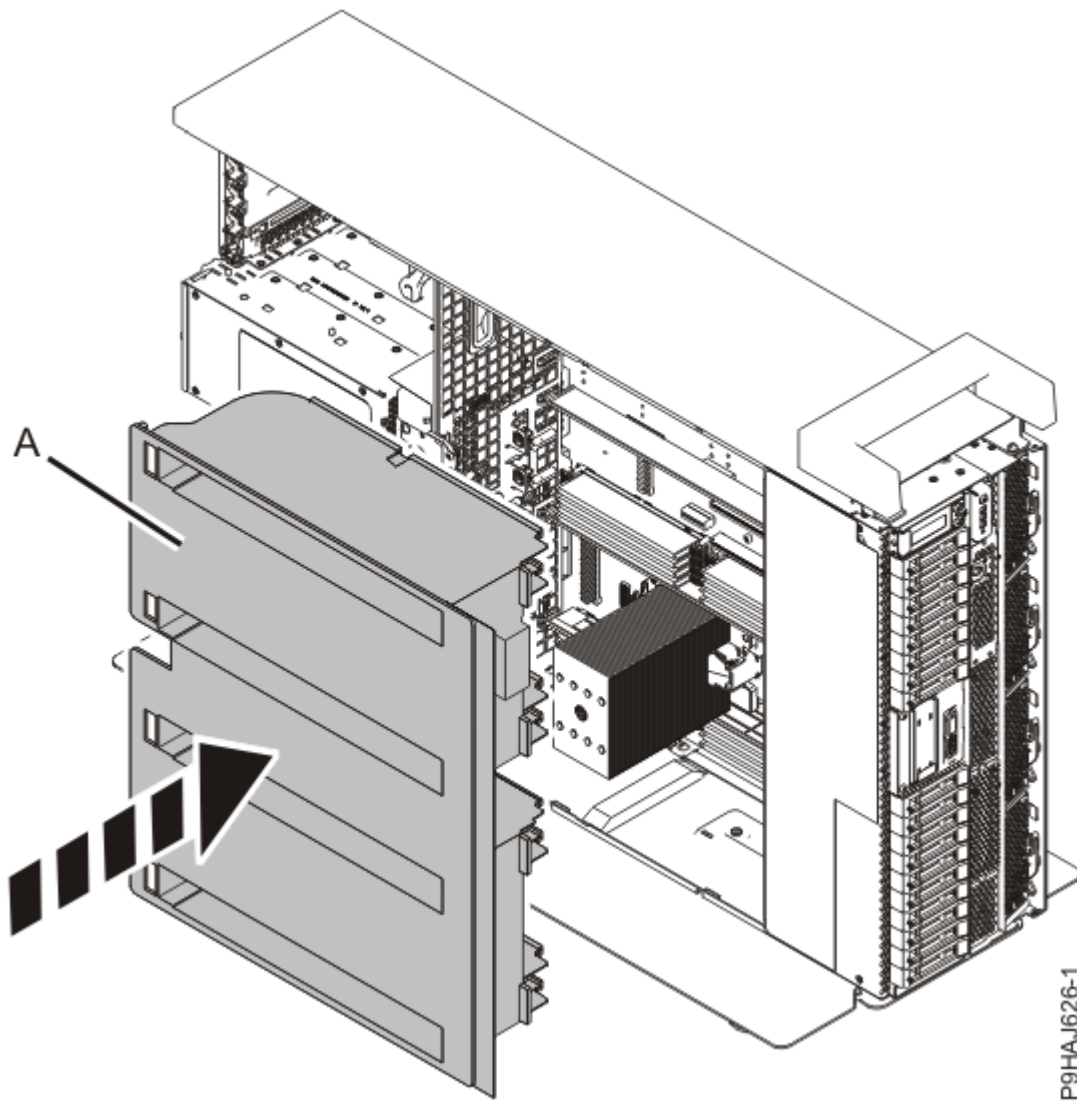


Figure 145. Replacing the air baffle in a stand-alone system

Preparing the 9009-41A, 9009-41G, 9009-42A, 9009-42G, 9223-42H, or 9223-42S system for operation after removing and replacing a drive backplane signal cable

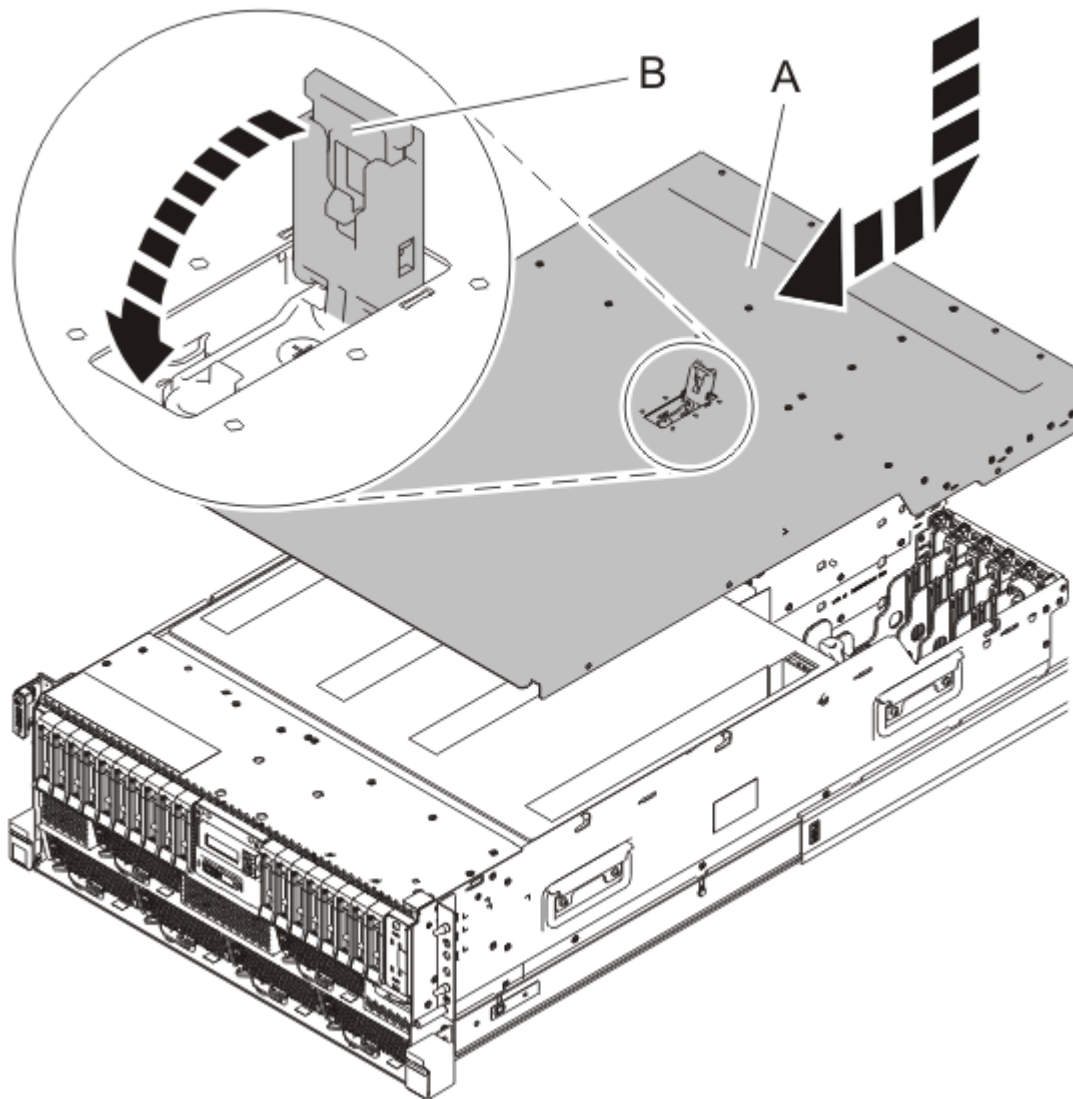
To prepare the system for operation after removing and replacing a drive backplane signal cable, complete the steps in this procedure.

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 146](#) on page 164.

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

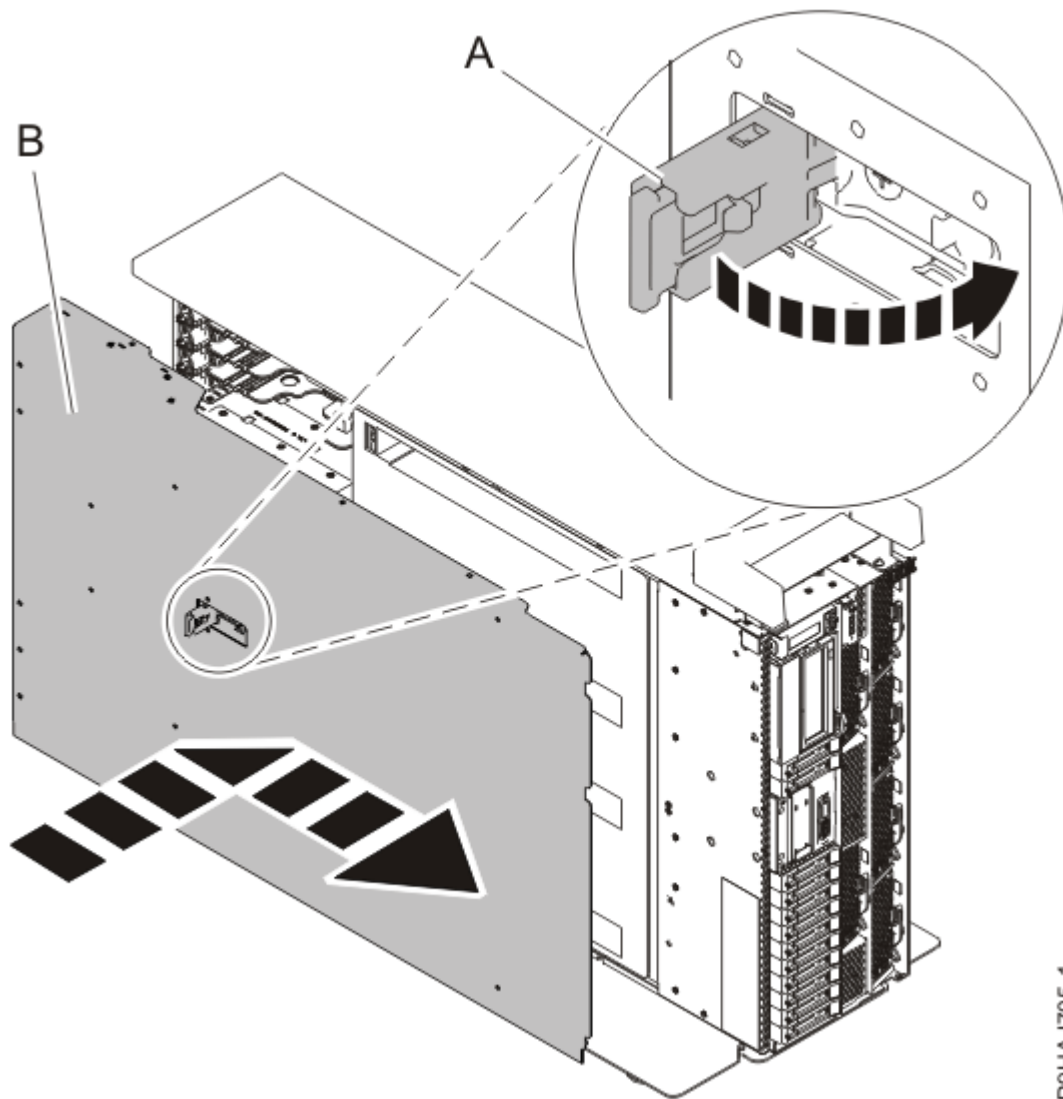


P9HAJ606-2

Figure 146. Installing the service access cover

For a stand-alone system, complete the following steps. Refer to [Figure 147 on page 165](#).

- 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.



P9HAJ705-1

Figure 147. Installing the service access cover

3. For a rack-mounted system, unlock the blue rail safety latches **(A)** as shown in [Figure 148 on page 166](#) 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.

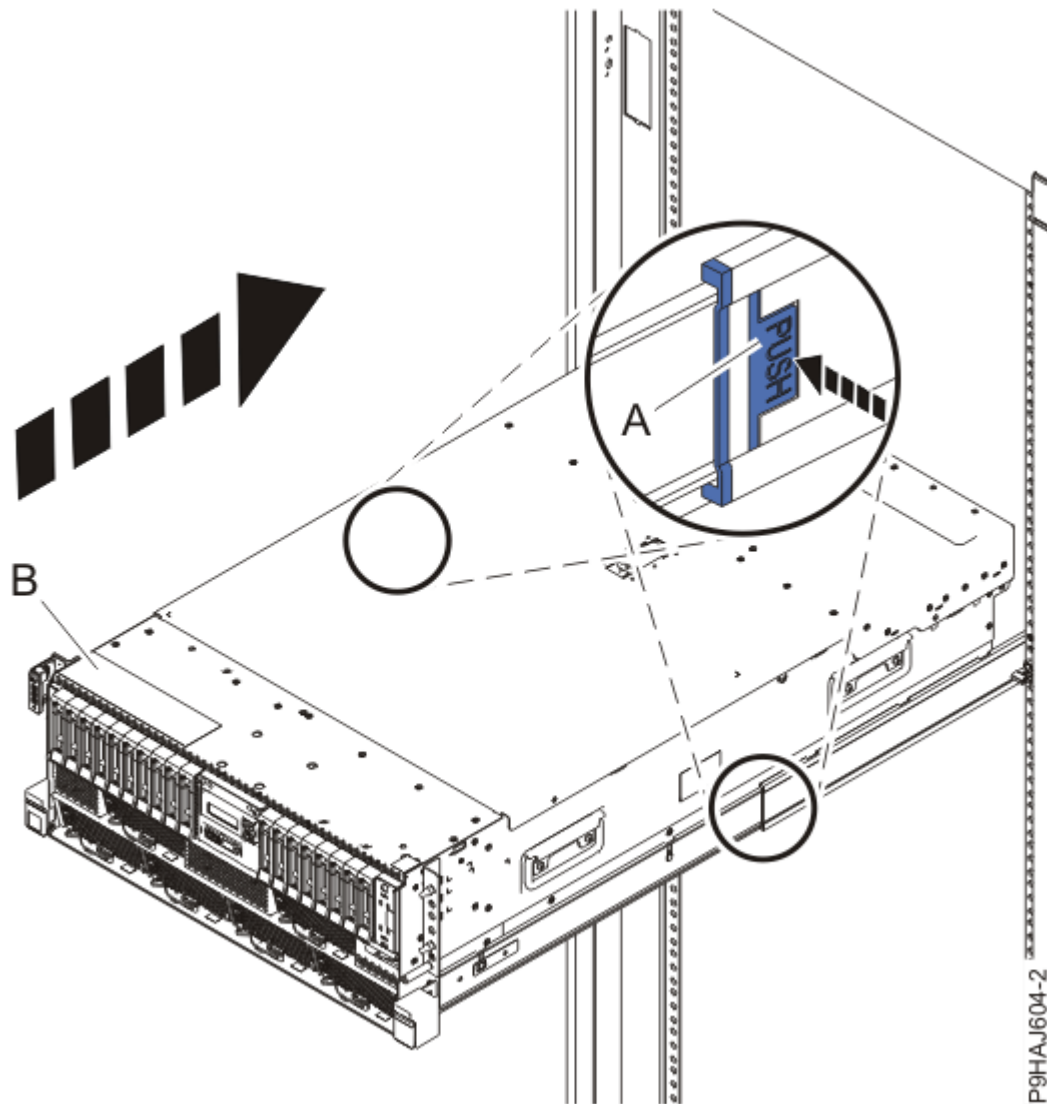


Figure 148. Placing the system into the operating position

4. 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.
5. 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 149](#) on page 167 or [Figure 150](#) on page 168.

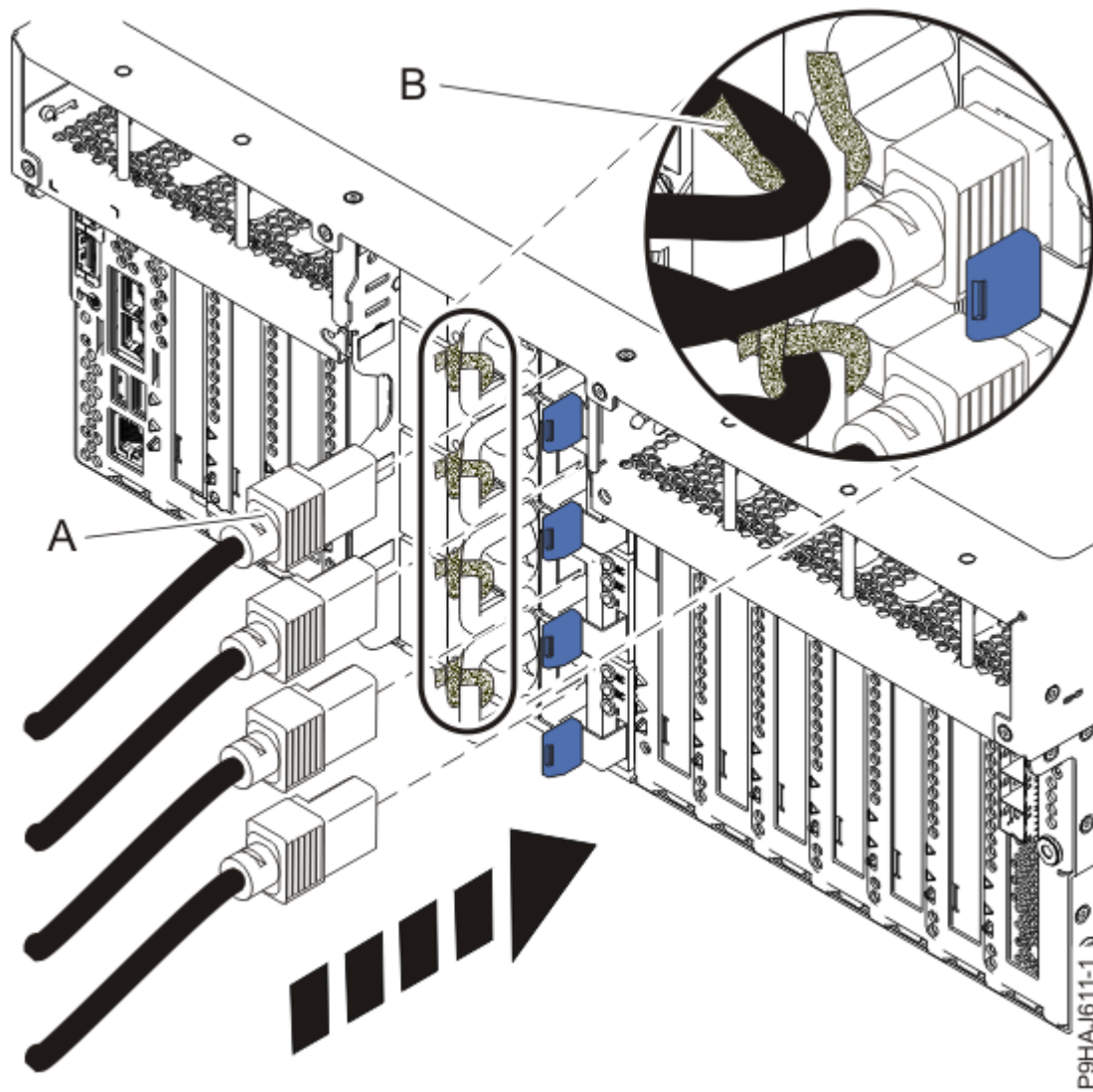


Figure 149. Connecting the power cords to a rack-mounted system

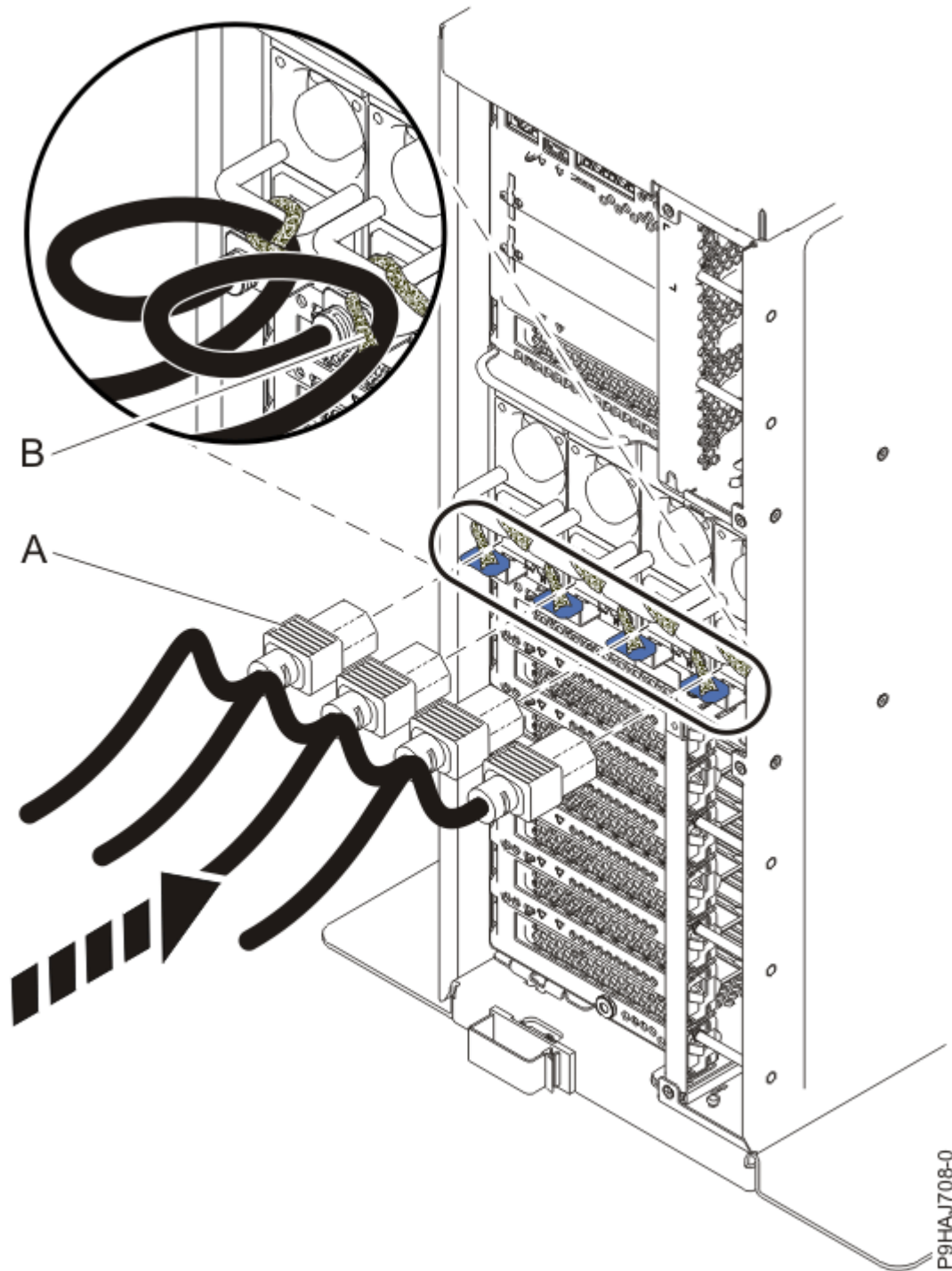


Figure 150. Connecting the power cords to a stand-alone system

6. Start the system. For instructions, see [Starting a system](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustartsys.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/crustartsys.htm).
7. Turn off the identify LED. For instructions, see [Deactivating an identify LED](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_turn_off_identify_led.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/p9haj_turn_off_identify_led.htm).
8. Verify the installed part.
 - If you replaced the part because of a service action, verify the installed part. For instructions, see [Verifying a repair](http://www.ibm.com/support/knowledgecenter/POWER9/p9ect/pxect_verifyrepair.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9ect/pxect_verifyrepair.htm).
 - If you installed the part for any other reason, verify the installed part. For instructions, see [Verifying the installed part](http://www.ibm.com/support/knowledgecenter/POWER9/p9haj/pxhaj_hsmverify.htm) (www.ibm.com/support/knowledgecenter/POWER9/p9haj/pxhaj_hsmverify.htm).

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

Overview

The IBM Power Systems servers include the following major accessibility features:

- Keyboard-only operation
- Operations that use a screen reader

The IBM Power Systems servers use the latest W3C Standard, [WAI-ARIA 1.0 \(www.w3.org/TR/wai-aria/\)](http://www.w3.org/TR/wai-aria/), to ensure compliance with [US Section 508 \(www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards/section-508-standards\)](http://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards/section-508-standards) and [Web Content Accessibility Guidelines \(WCAG\) 2.0 \(www.w3.org/TR/WCAG20/\)](http://www.w3.org/TR/WCAG20/). To take advantage of accessibility features, use the latest release of your screen reader and the latest web browser that is supported by the IBM Power Systems servers.

The IBM Power Systems servers online product documentation in IBM Knowledge Center is enabled for accessibility. The accessibility features of IBM Knowledge Center are described in the [Accessibility section of the IBM Knowledge Center help \(www.ibm.com/support/knowledgecenter/doc/kc_help.html#accessibility\)](http://www.ibm.com/support/knowledgecenter/doc/kc_help.html#accessibility).

Keyboard navigation

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電話：0800-016-888

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Responsible Party:
International Business Machines Corporation
New Orchard Road
Armonk, NY 10504
Contact for FCC compliance information only: fccinfo@us.ibm.com

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CAN ICES-3 (B)/NMB-3(B)

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German Notice

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

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Verantwortlich für die Einhaltung der EMV Vorschriften ist der Hersteller:
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Generelle Informationen:

Das Gerät erfüllt die Schutzanforderungen nach EN 55024 und EN 55032 Klasse B

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Responsible Party:

International Business Machines Corporation
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