Power Supply Cage Install Guide: Intel® Storage System SSR212MA

A Guide for Technically Qualified Assemblers of Intel® Identified Subassemblies/ Products

Intel Order Number: D23740-001

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Safety Information

Important Safety Instructions

Read all caution and safety statements in this document before performing any of the instructions. See also Intel Server Boards and Server Chassis Safety Information on the *Intel® Server Deployment Toolkit CD* and/or at http://support.intel.com/support/ motherboards/server/sb/cs-010770.htm.

Wichtige Sicherheitshinweise

Lesen Sie zunächst sämtliche Warnund Sicherheitshinweise in diesem Dokument, bevor Sie eine der Anweisungen ausführen. Beachten Sie hierzu auch die Sicherheitshinweise zu Intel-Serverplatinen und Servergehäusen auf der *Intel® Server Deployment Toolkit CD* oder unter http://support.intel.com/support/motherboards/server/sb/cs-010770.htm.

Consignes de sécurité

Lisez attention toutes les consignes de sécurité et les mises en garde indiquées dans ce document avant de suivre toute instruction. Consultez Intel Server Boards and Server Chassis Safety Information sur le *Intel® Server Deployment Toolkit CD* ou bien rendez-vous sur le site http://support.intel.com/support/motherboards/server/sb/cs-010770.htm.

Instrucciones de seguridad importantes

Lea todas las declaraciones de seguridad y precaución de este documento antes de realizar cualquiera de las instrucciones. Vea Intel Server Boards and Server Chassis Safety Information en el *Intel® Server Deployment Toolkit CD* y/o en http://support.intel.com/ support/motherboards/server/sb/cs-010770.htm.

重要安全指导

在执行任何指令之前，请阅读本文档中的所有注意事项及安全声明。 *和/或* *http://support.intel.com/support/motherboards/server/safecert.htm* *上的 Intel Server Boards and Server Chassis Safety Information（《Intel 服务器主板与服务器机箱安全信息》）。*

Warnings

Heed safety instructions: Before working with your server product, whether you are using this guide or any other resource as a reference, pay close attention to the safety instructions. You must adhere to the assembly instructions in this guide to ensure and maintain compliance with existing product certifications and approvals. Use only the described, regulated components specified in this guide. Use of other products / components will void the UL listing and other regulatory approvals of the product and will most likely result in noncompliance with product regulations in the region(s) in which the product is sold.

System power on/off: The power button DOES NOT turn off the system AC power. To remove power from system, you must unplug the AC power cord from the wall outlet. Make sure the AC power cord is unplugged before you open the chassis, add, or remove any components.

Hazardous conditions, devices and cables: Hazardous electrical conditions may be present on power, telephone, and communication cables. Turn off the server and disconnect the power cord, telecommunications systems, networks, and modems attached to the server before opening it. Otherwise, personal injury or equipment damage can result.

Electrostatic discharge (ESD) and ESD protection: ESD can damage disk drives, boards, and other parts. We recommend that you perform all procedures in this chapter only at an ESD workstation. If one is not available, provide some ESD protection by wearing an antistatic wrist strap attached to chassis ground any unpainted metal surface on your server when handling parts.

ESD and handling boards: Always handle boards carefully. They can be extremely sensitive to ESD. Hold boards only by their edges. After removing a board from its protective wrapper or from the server, place the board component side up on a grounded, static free surface. Use a conductive foam pad if available but not the board wrapper. Do not slide board over any surface.

Installing or removing jumpers: A jumper is a small plastic encased conductor that slips over two jumper pins. Some jumpers have a small tab on top that you can grip with your fingertips or with a pair of fine needle nosed pliers. If your jumpers do not have such a tab, take care when using needle nosed pliers to remove or install a jumper; grip the narrow sides of the jumper with the pliers, never the wide sides. Gripping the wide sides can damage the contacts inside the jumper, causing intermittent problems with the function controlled by that jumper. Take care to grip with, but not squeeze, the pliers or other tool you use to remove a jumper, or you may bend or break the pins on the board.

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Power Supply Cage Install Guide

The Intel® Storage System SSR212MA provides for a power supply cage that guides the docking of the power supply modules into the power distribution board, and secures them into the chassis. This install guide describes the replacement of the power supply cage.

Tools Needed

- Flat-head screwdriver

Kit Contents

Power Supply Cage Kit (FXSPSCAGE)

Item	Quantity
Power Supply Cage	1
Power Supply Cage Install Guide	1

Power Supply Cage Installation Instructions

The power supply cage is located within the Intel® Storage System SSR212MA.

Prepare System

1. Read all caution and safety statements listed in this document before performing any of the steps. See the *Intel® Server Boards and Server Chassis Safety Information* document at http://support.intel.com/support/motherboards/server/sb/cs-010770.htm for a complete listing of all caution and safety statements.

2. Remove the power supply cage from its protective packaging.

Caution: *Before performing any maintenance on the system, back up the data. Follow the instructions in the Intel® Storage System SSR212MA Software User Manual for shutting down the system.*

3. Turn off all peripheral devices connected to the storage system. Turn off the storage system.

4. Disconnect the AC power cord(s).

Remove Power Supply Modules

5. For each power supply installed, press in on the inside green latch at the rear of the power supply module to release the latching mechanism (see letter "A" in the following figure). While pressing in on the inside green latch, pull down on the outside green lever (see letter "B" in Figure 2) to eject the power supply module from the chassis.
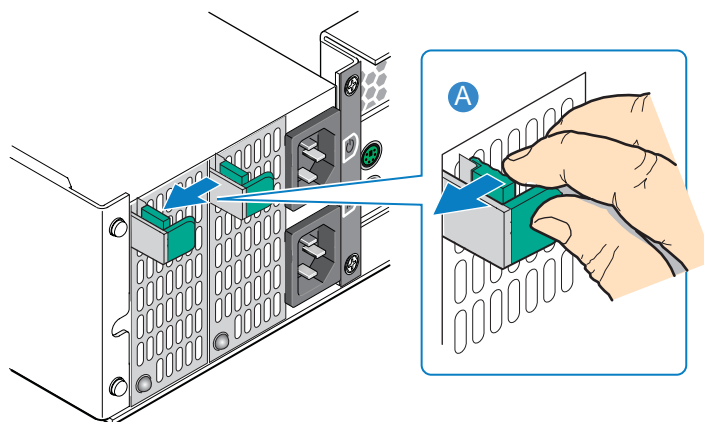
TP01845

Figure 1. Unlatching a Power Supply Module
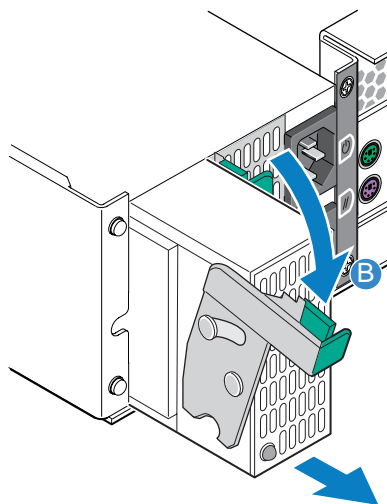
TP01846

Figure 2. Removing a Power Supply Module

Remove Enclosure Cover

6. Release the lock (see letter "A" in the following figure) by turning the screw until the open latch symbol aligns with the notch on the cover. Press in on the palm latch (see letter "B") and slide the enclosure cover back (see letter "C") until it stops (about two inches).
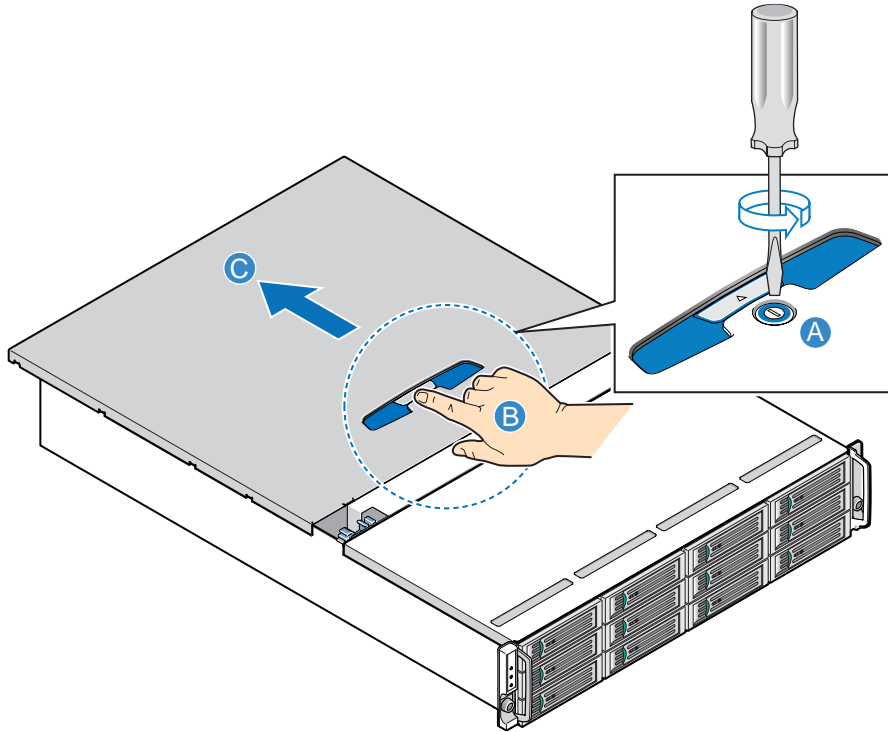
TP01826

Figure 3. Unlatching the Enclosure Cover

7. Next, slide the enclosure cover forward (see letter "A" in the following figure) up to the blue lid removal zone displayed on the top of the cooling module (see letter "B"). Lift the enclosure cover (see letter "C") to completely remove it from the chassis.
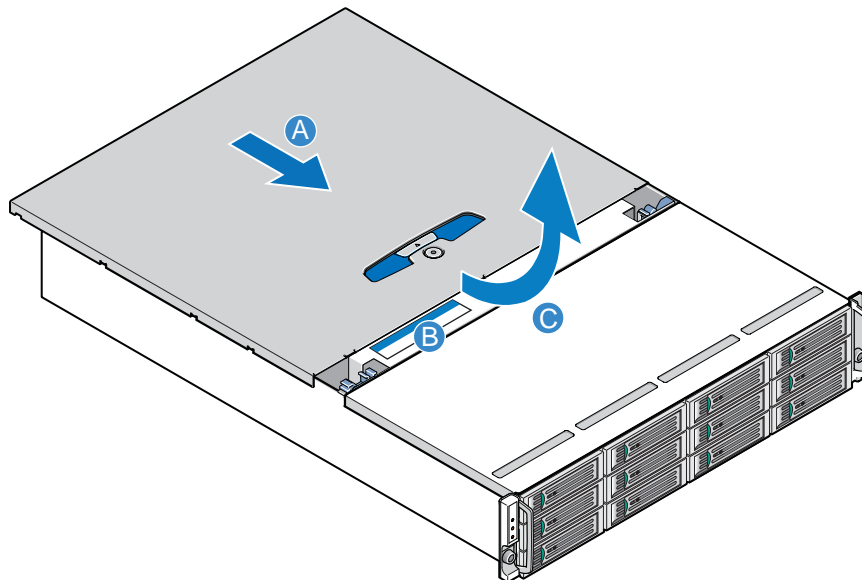
TP01827

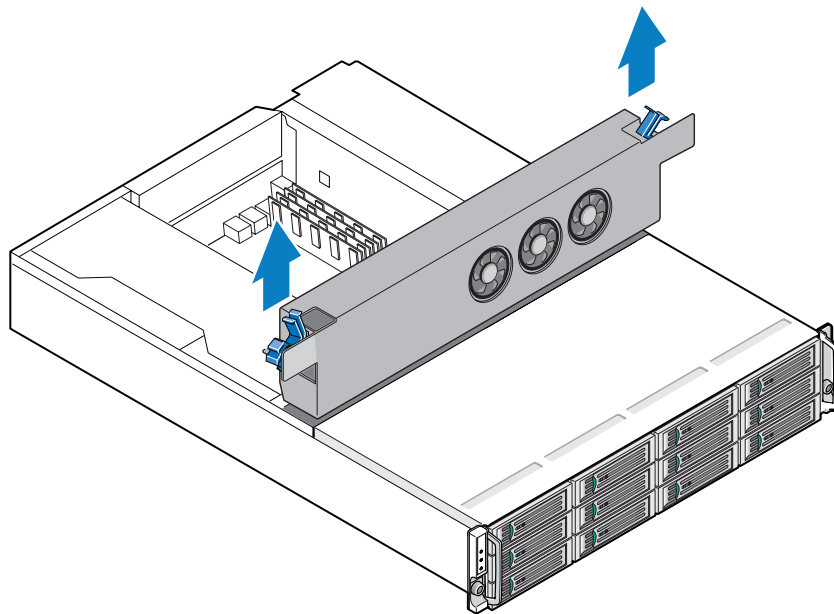**Figure 4. Removing the Enclosure Cover**

Remove Cooling Module

8. Rotate the two latches on the cooling module to the open position.
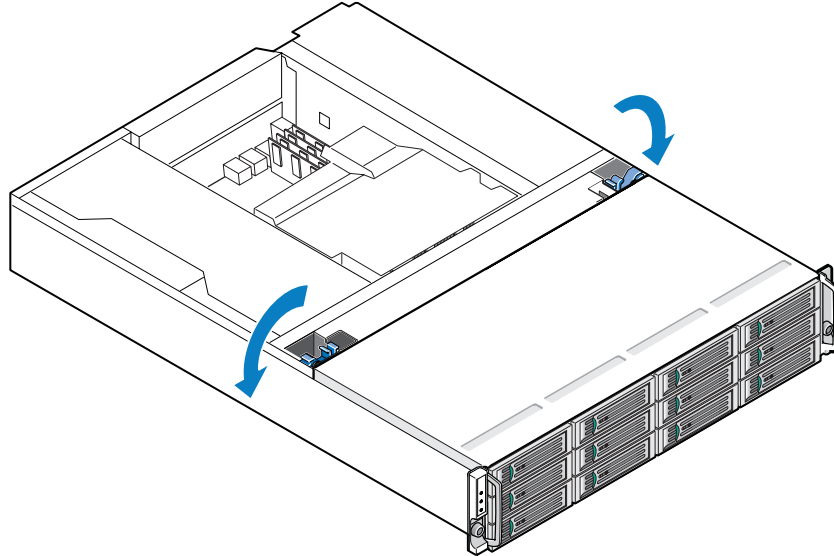
TP02019

Figure 5. Unlatching Cooling Module from Chassis

9. With the two latches in the open position, slide the cooling module out of the storage system.

TP02018

Figure 6. Removing Cooling Module from Chassis

Remove Processor Air Duct

10. Lift the processor air duct from its location over the processor socket(s).
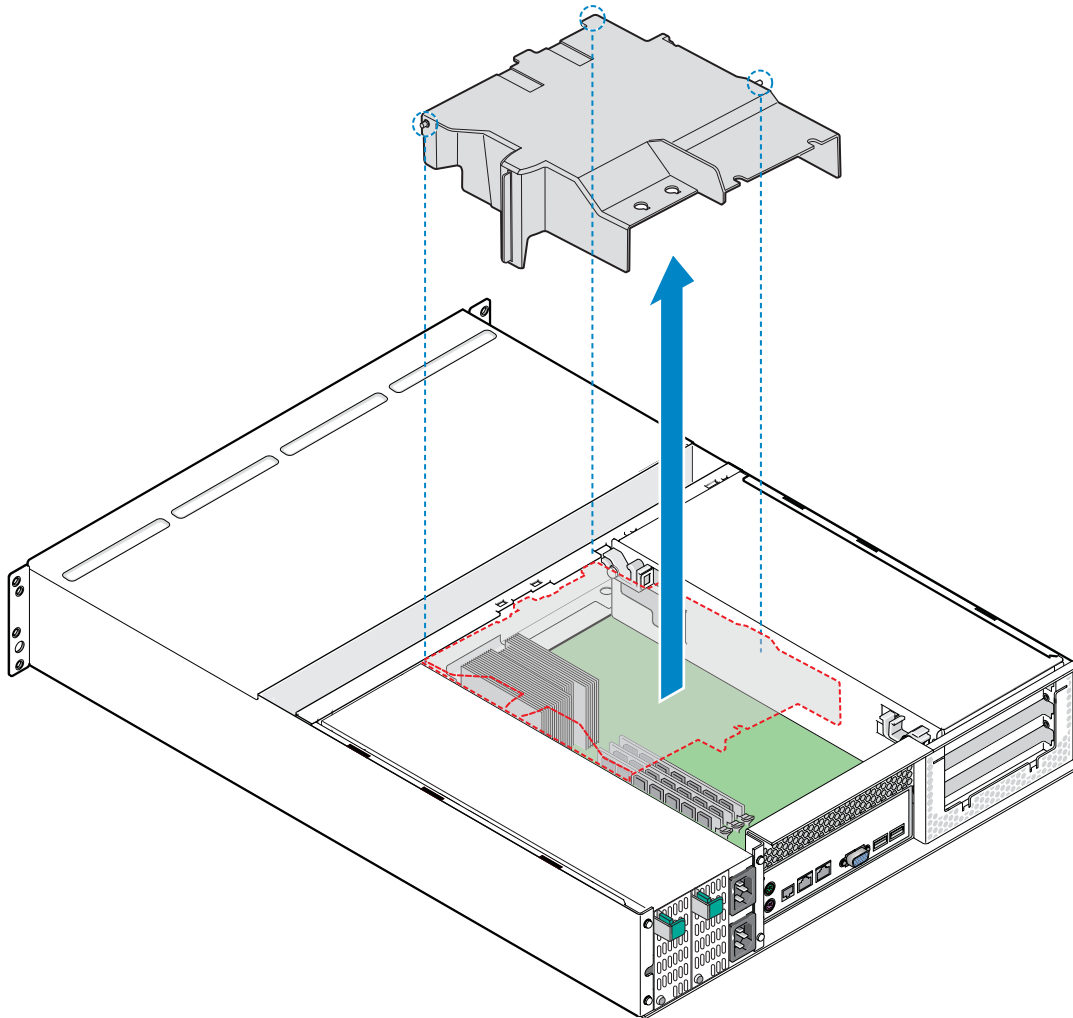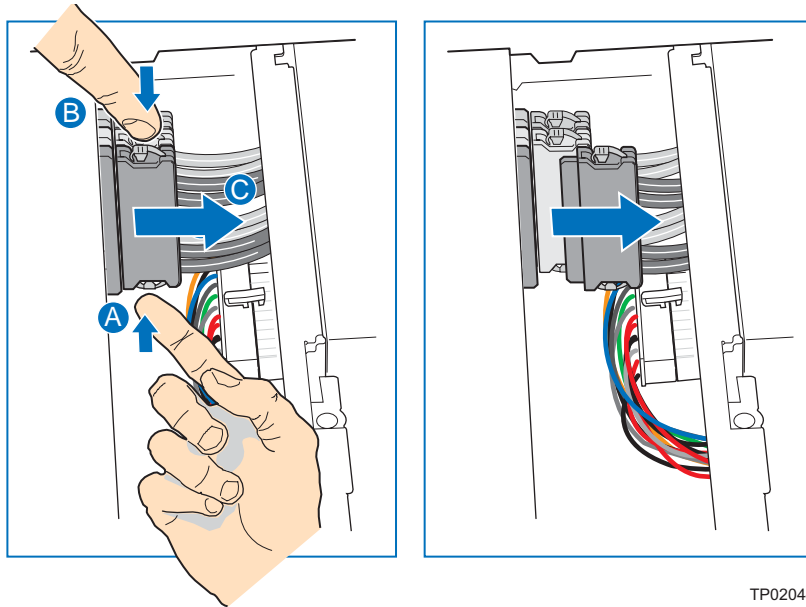

TP02017

Figure 7. Removing Processor Air Duct
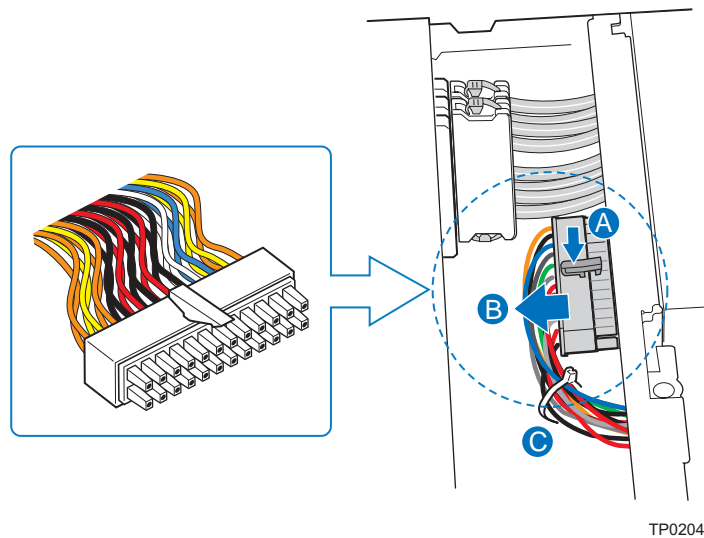
Remove PCI Riser Assembly

11. Disconnect the first SATA cable from the backplane by pressing in on the top and bottom latches of the connector (see letters "A" and "B" in the following figure). Detach cable from connector (see letter "C").
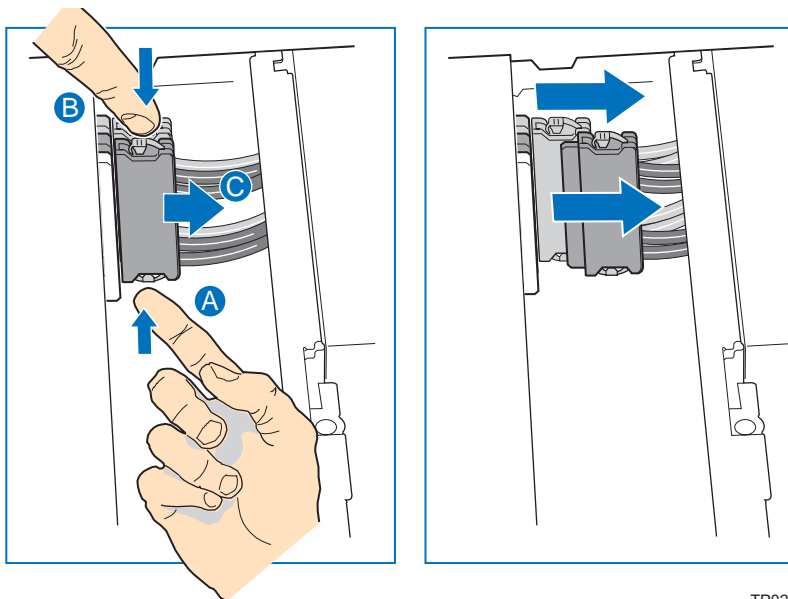

Figure 8. Disconnecting First SATA Cable

12. Lift up on latch (see letter "A" in the following figure) and disconnect the main power (P1) cable from the server board (see letter "B"). Untie the tie wrap holding the main power cable bundle together (see letter "C").

**Figure 9. Disconnecting Main Power (P1) Cable from Server Board**

13. Disconnect the remaining two SATA cables connected to the backplane by pressing in on the top and bottom latches of the connector (see letters "A" and "B" in the following figure). Detach the cables from the connectors (see letter "C").

TP0204

Figure 10. Disconnecting Remaining Two SATA Cables

14. Unlatch the two levers (see letter "A" in the following figure) on the PCI riser assembly and lift the assembly out of the chassis (see letter "B"). Guide the SATA cables so that they clear the opening in the cross bar. Lay the PCI riser assembly on an anti-static surface.
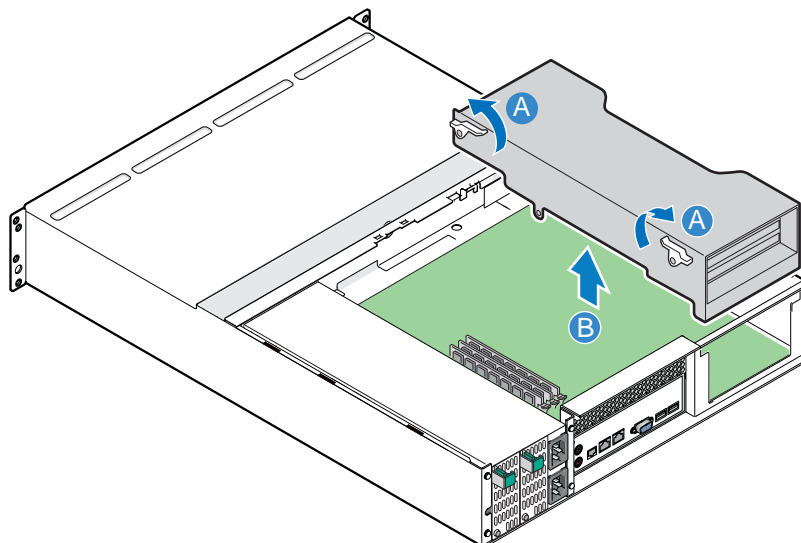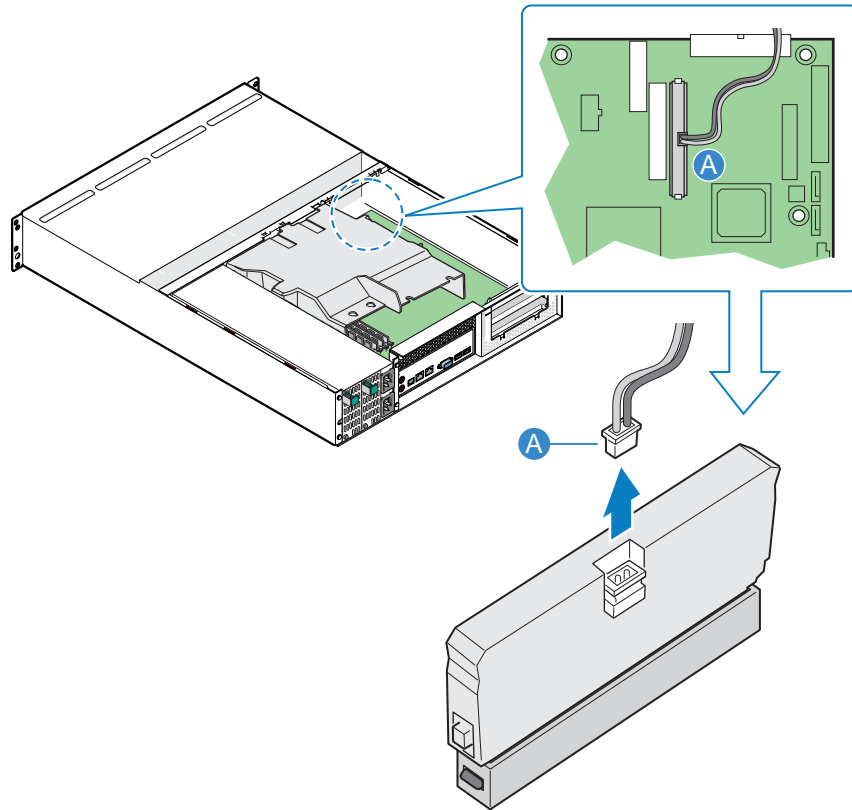

TP02043

Figure 11. Removing PCI Riser Assembly from Chassis

Disconnect Power Cables

15. Disconnect the DOM power cable (see letter "A" in the following figure) from the DOM.

TP02016

Figure 12. Disconnecting DOM Power Cable

16. Detach the P3 power cable from chassis hooks (see letters "A" and "B" in the following figure). Disconnect the P2 and P3 power supply cables from server board.
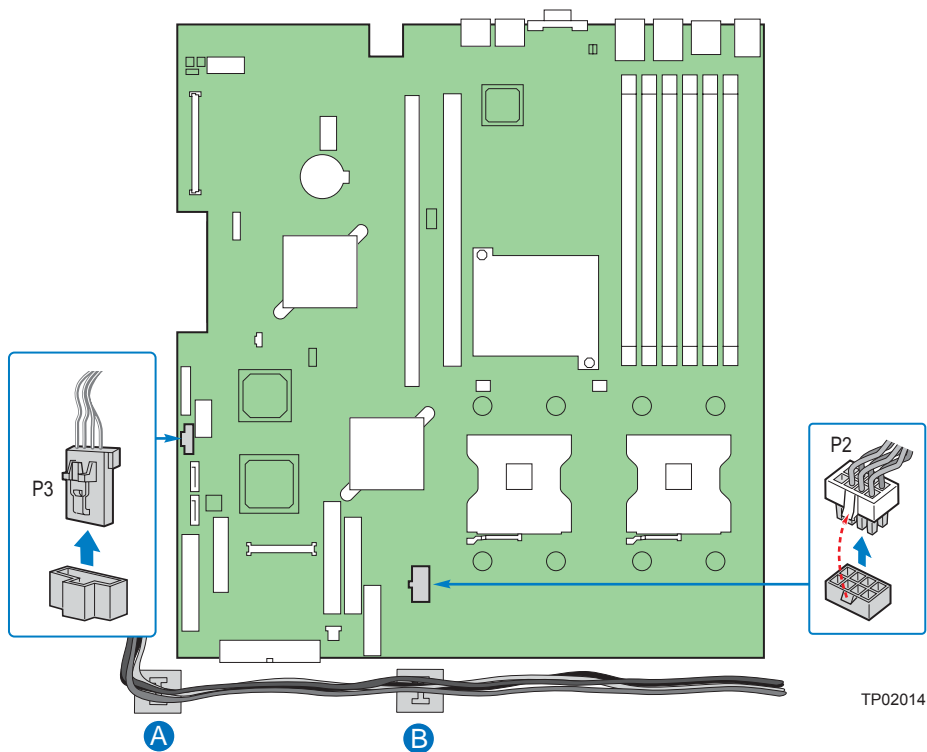

Figure 13. Disconnecting P2 and P3 Power Supply Cables

17. Disconnect the P4 power supply cable from the backplane by pressing in on the latch (see letter "A" in the following figure) with a small flat-headed screwdriver and pulling out on the cable (see letter "B").
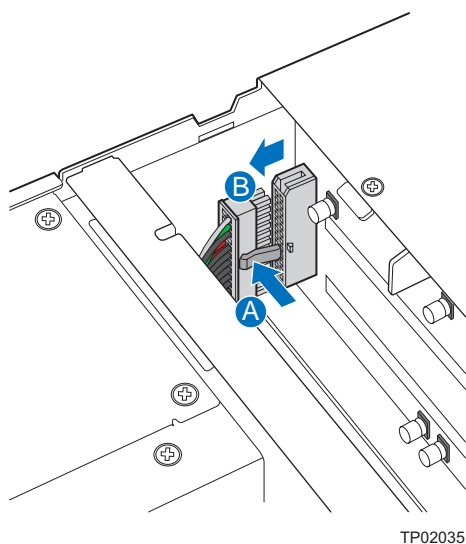

Figure 14. Disconnecting P4 Power Supply Cable from Backplane

Remove Old Power Supply Cage

18. Remove the four screws on the power and reset switch bracket. Remove the black plastic switch cover (see letter "A" in the following figure). If present, remove the blanking plate (see letter "B").
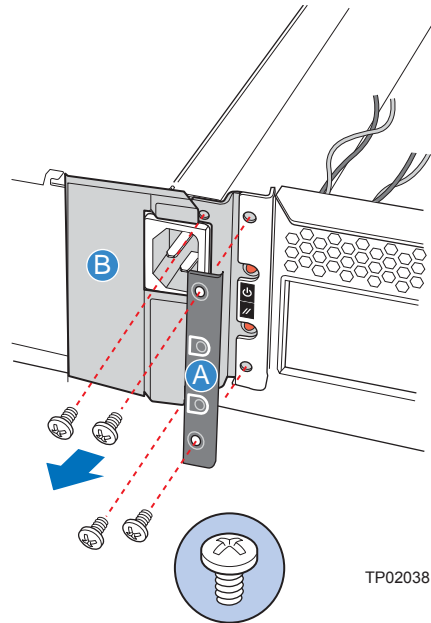

TP02038

Figure 15. Loosening Power and Reset Switch Bracket, Switch Cover and Blanking Plate

19. Angle the power switch bracket at about a 30-degree angle (see letter "A" in the following figure) to clear the AC connectors and then pull up to remove the bracket (see letter "B").
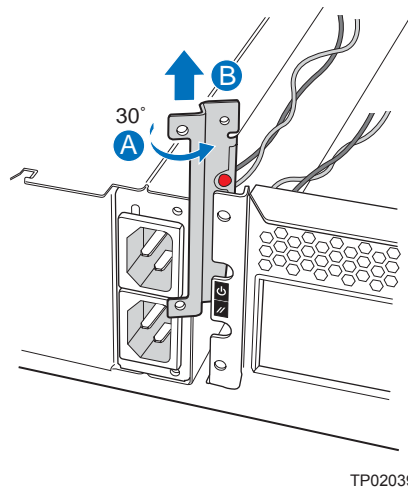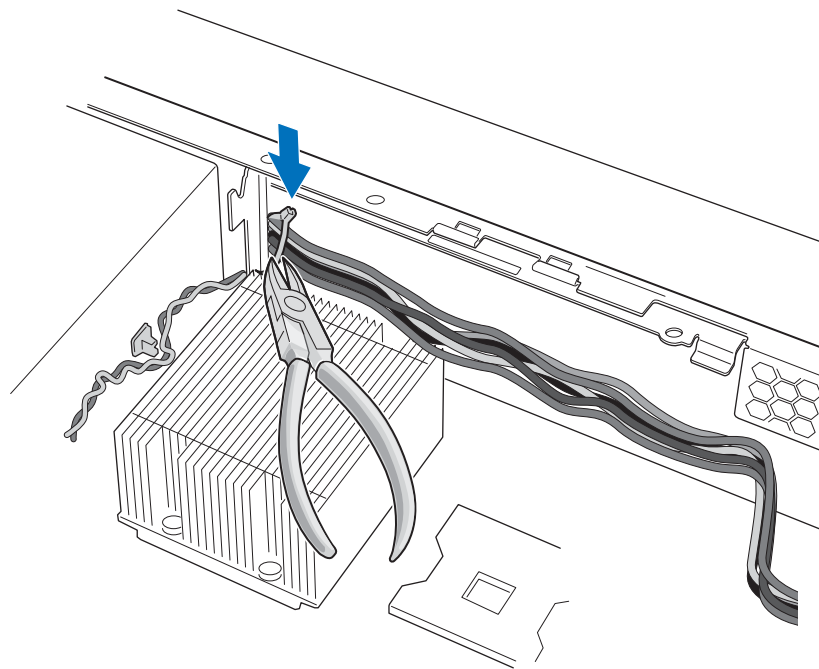

TP02039

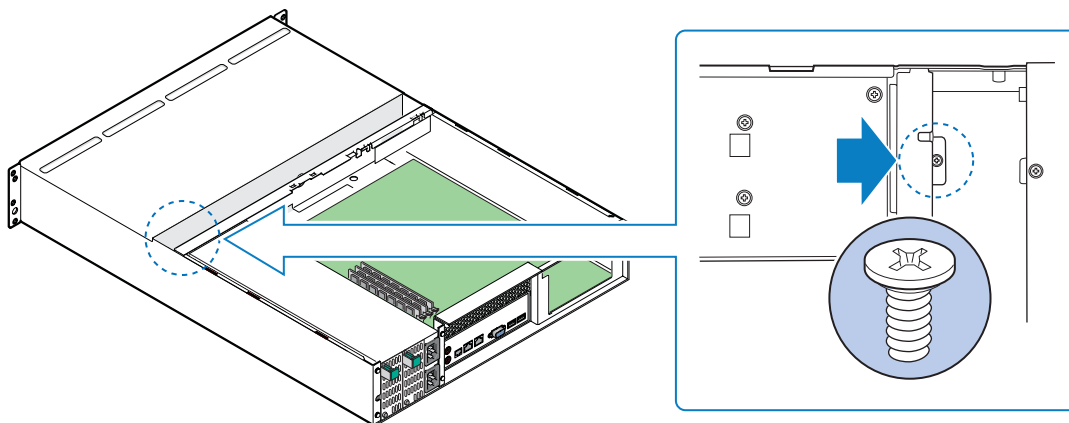**Figure 16. Removing Power and Reset Switch Bracket**

20. Cut the tie wrap that holds the bundled power supply cables to the cross bar.

TP02032
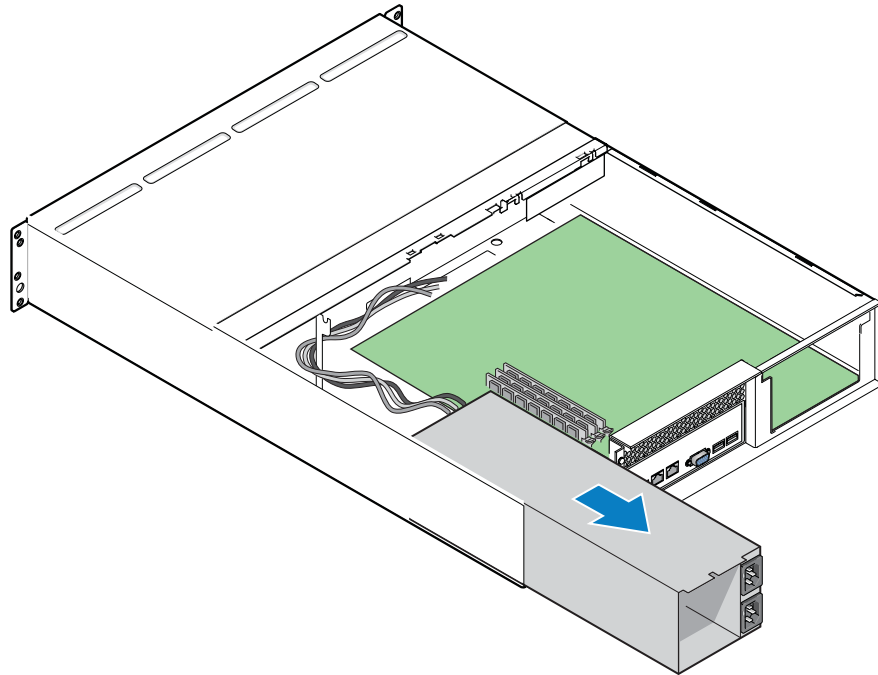
Figure 17. Removing Tie Wrap from Cross Bar

21. Remove the screw securing the power supply cage to the chassis.

TP02040

Figure 18. Removing Screw Securing Power Supply Cage to Chassis

22. While guiding the power cables through the cross bar, slide the power supply cage toward the rear of the chassis. Lift the power supply cage to remove from chassis.
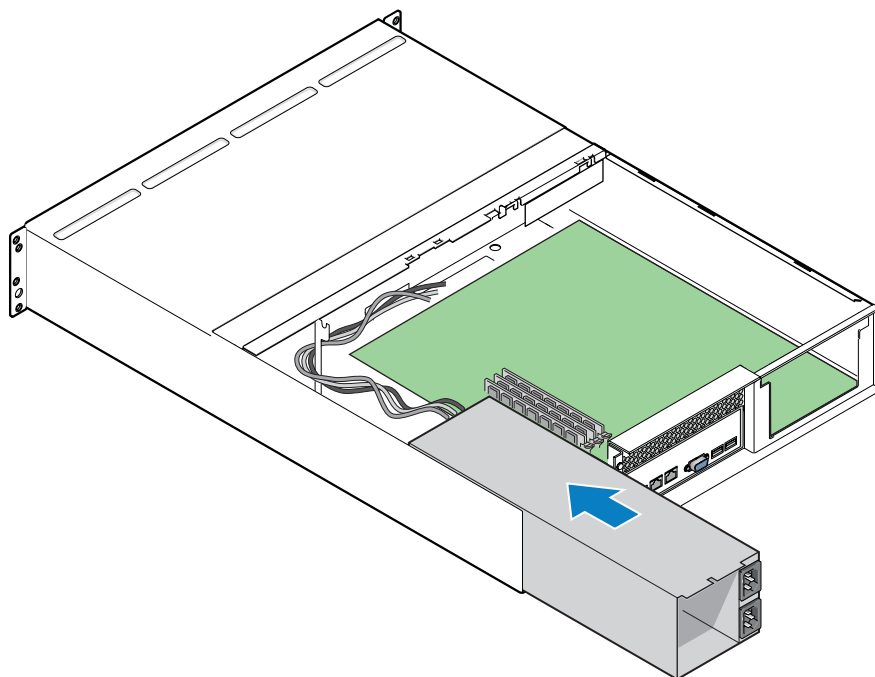
TP02048

Figure 19. Removing Power Supply Cage from Chassis
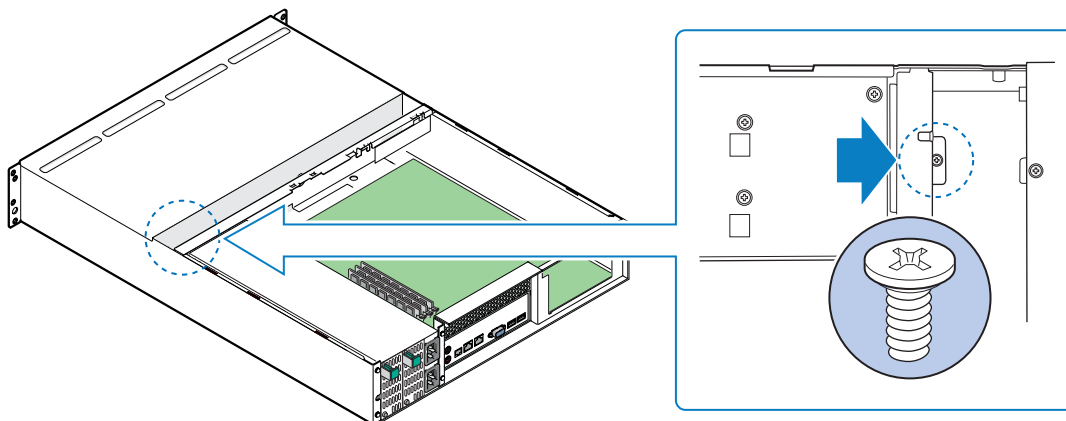
Install New Power Supply Cage

23. Insert the new power supply cage flush against the right side of the chassis. Guide the cables through the opening in the cross bar.

TP02050

**Figure 20. Inserting New Power Supply Cage into Chassis**

24. Align the front screw hole of the new power supply cage over the corresponding stand-off on the chassis. With a Phillips* screwdriver, secure the front of the power supply cage to the chassis with a screw.

TP02040

**Figure 21. Securing New Power Supply Cage to Chassis**

25. Rotate the power switch bracket at a 30-degree angle (see letter "A" in the following figure) and slide the bracket down (see letter "B") until the holes in the bracket align with the screw holes in the chassis.
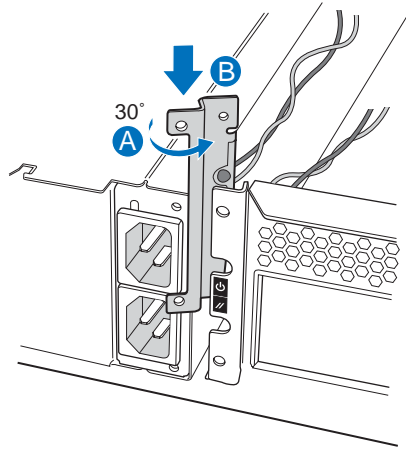
TP02041

Figure 22. Insert Power and Reset Switch Bracket

26. (For a redundant power supply source only) Rotate the power and reset switch bracket to 0 degrees and attach black plastic switch cover. Secure assemblage to the chassis with four screws.
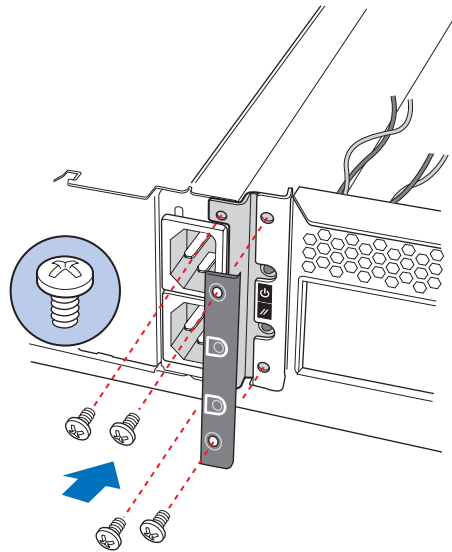
TP02042

Figure 23. Securing Power and Reset Switch Bracket and Switch Cover to Chassis

27. (For a single power source only) Rotate the power and reset switch bracket to 0 degrees. Secure the blanking plate (see letter "A" in the following figure) to the switch bracket and chassis with two screws. Secure the black plastic switch cover (see letter "B") to the chassis and switch bracket with the remaining two screws.
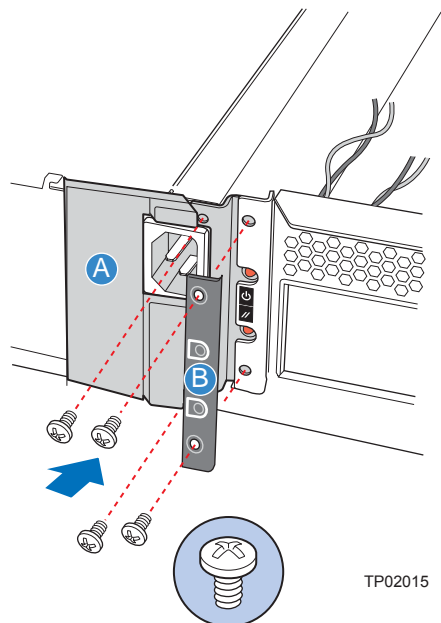

Figure 24. Securing Blanking Plate and Switch Cover to Chassis

Connect Power Cables

28. Connect the P4 power supply cable to the backplane connector.
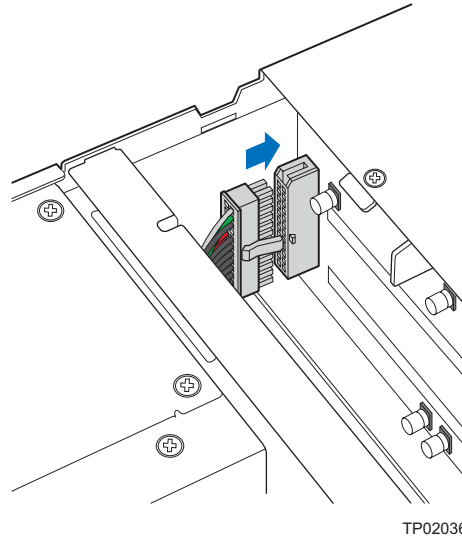

TP02036

Figure 25. Connecting P4 Power Supply Cable to Backplane

29. Route the power cables along the front of the server board. Attach the P3 power cable to chassis hooks (see letters "A" and "B" in the following figure). Connect the P2 and P3 power cables to the server board.

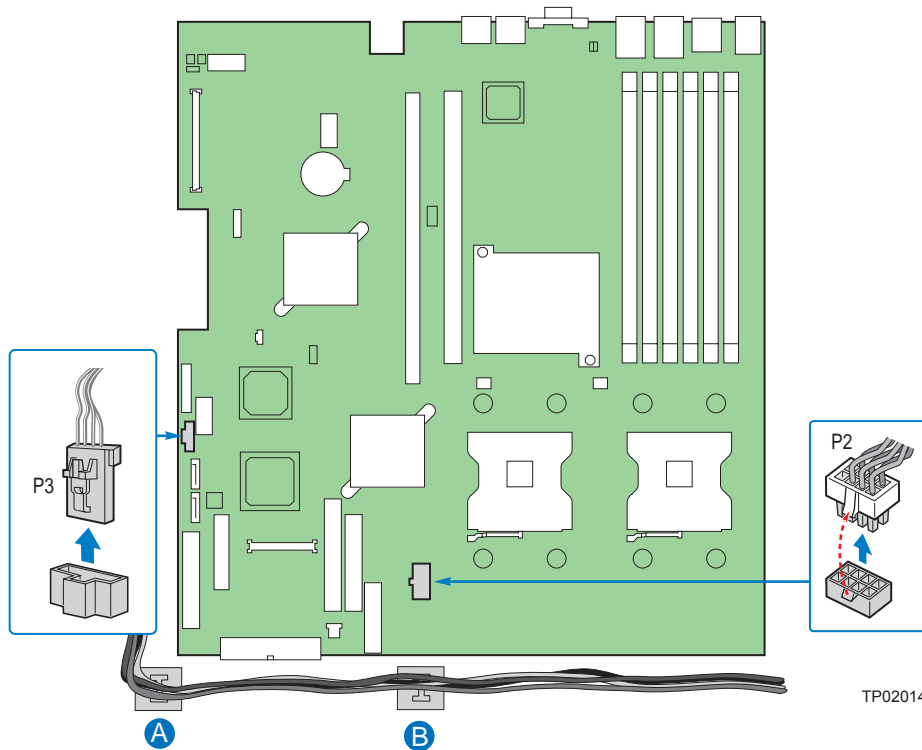P3

P2

TP02014

Ⓐ   Ⓑ

Figure 26. Connecting P2 and P3 Power Supply Cables to Server Board

30. Route the main P1 cable bundle along the front edge of the server board and attach the bundle to the chassis with chassis hook (see letter "A" in the following figure). Ensure the hook closes completely around the cable. Leave enough slack so that you are able (in a latter step) to connect the main P1 power cable to the server board.
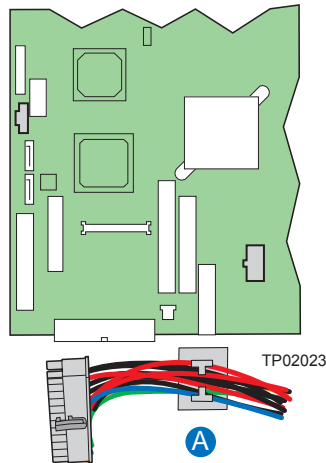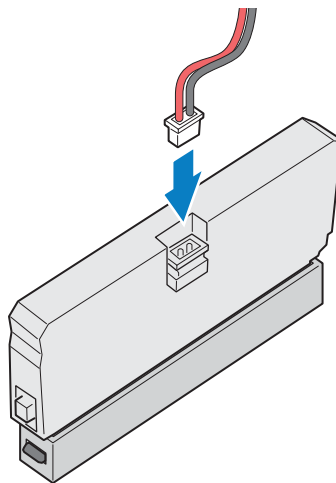

TP02023

Figure 27. Attaching Main P1 Cable Bundle to Chassis Hook

31. Connect the DOM power cable to the DOM.

TP01866

Figure 28. Connecting DOM Power Cable to DOM

Re-install PCI Riser Assembly

32. Match the hooks on the back of the PCI riser assembly with the notches on the cross bar and rear of the chassis. While routing the SATA cables through the opening in the cross bar, guide the PCI riser assembly home by firmly gripping and sliding the assembly downwards until the riser card mates with the connector on the server board. The latches should lock into position once the PCI riser assembly is seated properly.
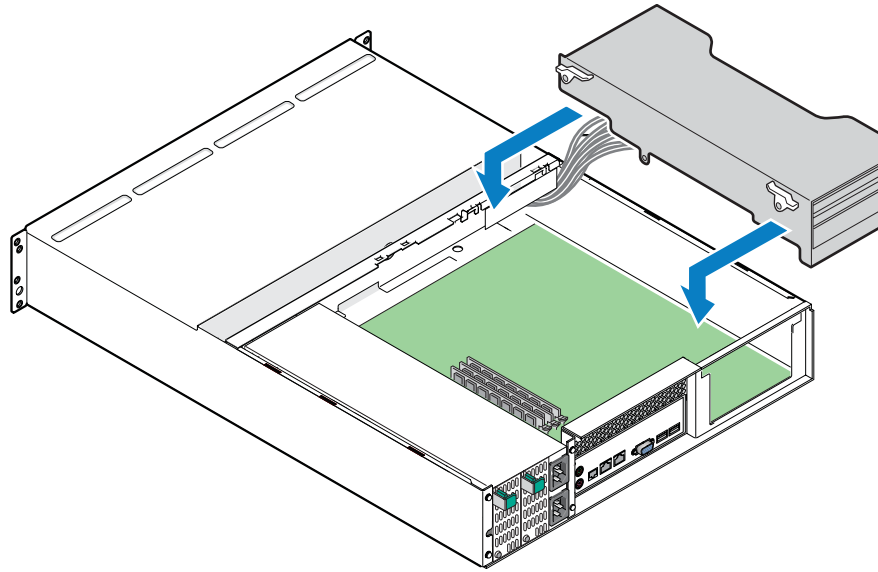
TP02(

**Figure 29. Installing PCI Riser Assembly into Chassis**

33. Connect the two SATA cables nearest the side of the chassis (see letters "A" and "B" in the following figure) to their connectors on the backplane (see letter "C").
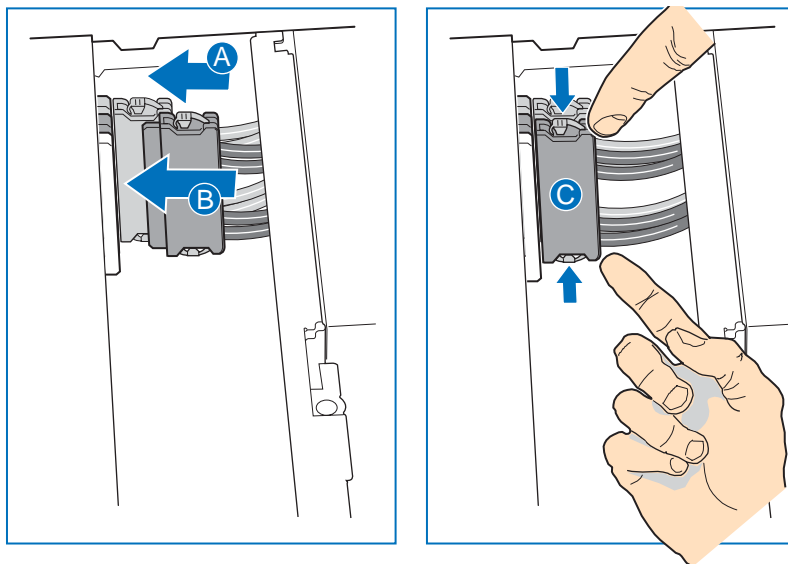
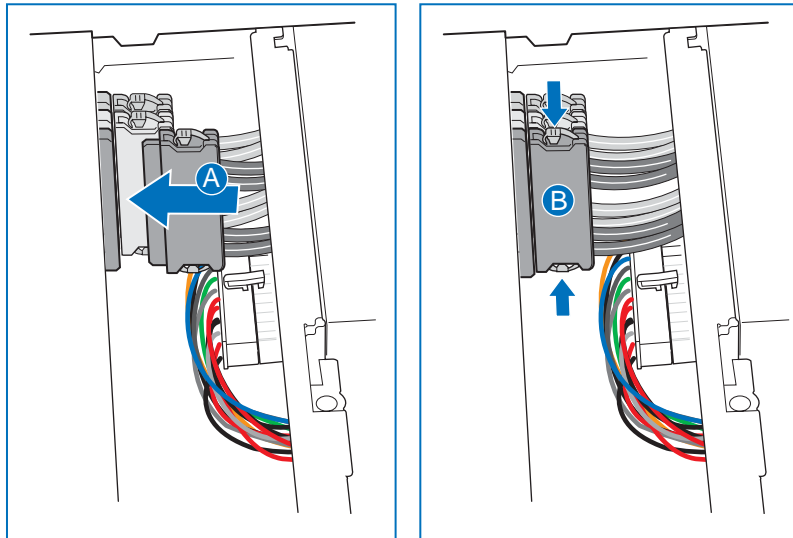
TP020

Figure 30. Connecting First Two SATA Cables

34. Connect the main P1 power cable to its connector on the server board (see letter "A" in the following figure). When properly seated, the latch on the top of the connector (see letter "B") should lock the connector into position. Ensure the P1 power supply cable bundle routes correctly otherwise the cooling module may not seat properly in the chassis.
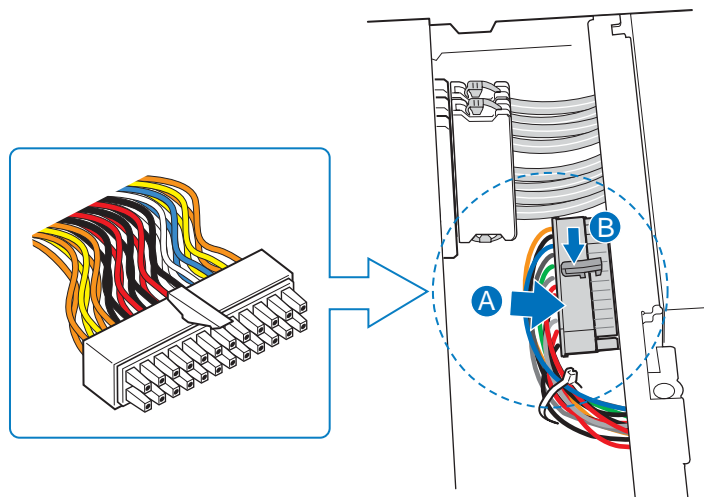
TP02053

Figure 31. Connecting Main Power (P1) Cable to Server Board

35. Connect the remaining SATA cable (see letter "A" in the following figure) to its connector on the backplane (see letter "B").
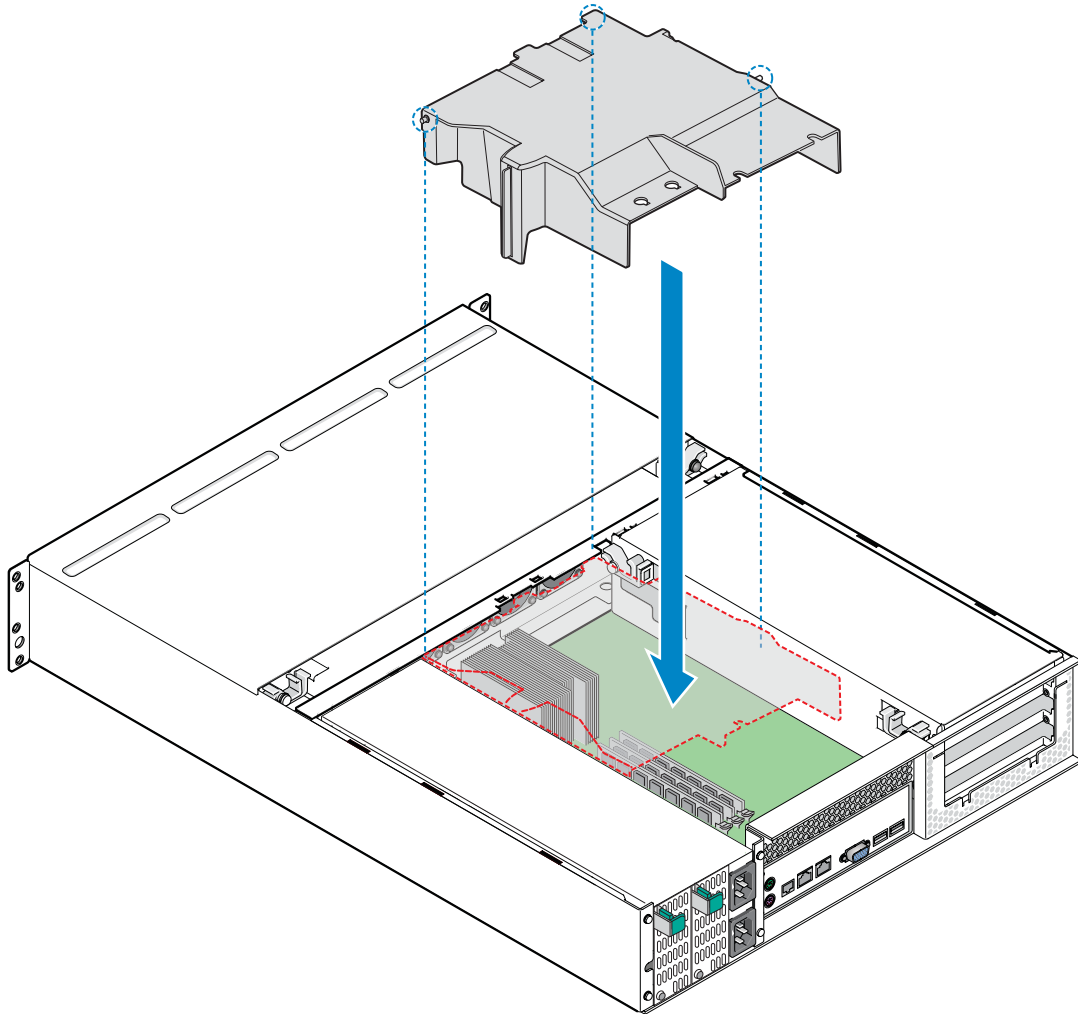

TP0205

Figure 32. Connecting Third SATA Cable to Server Board

Install Processor Air Duct

36. Install the processor air duct over the processor on the server board.

TP01855

Figure 33. Installing Processor Air Duct

Install Cooling Module

37. Position the latches in the open position on the cooling module (see letter "A" in the following figure).
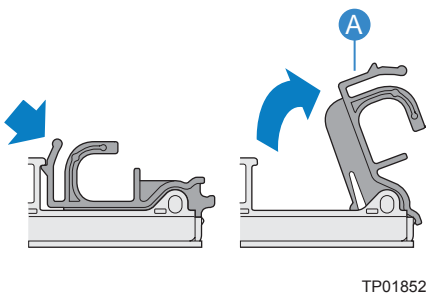

TP01852

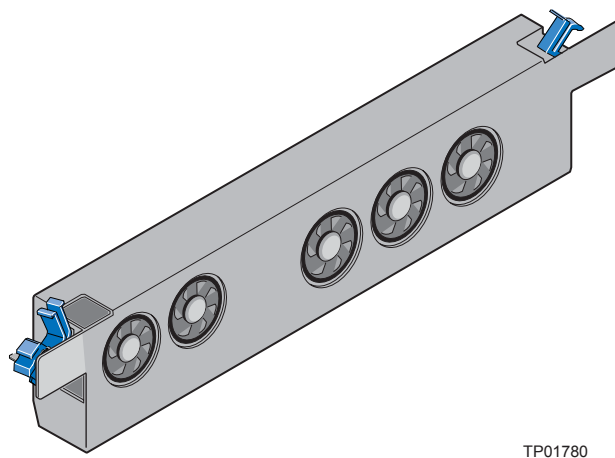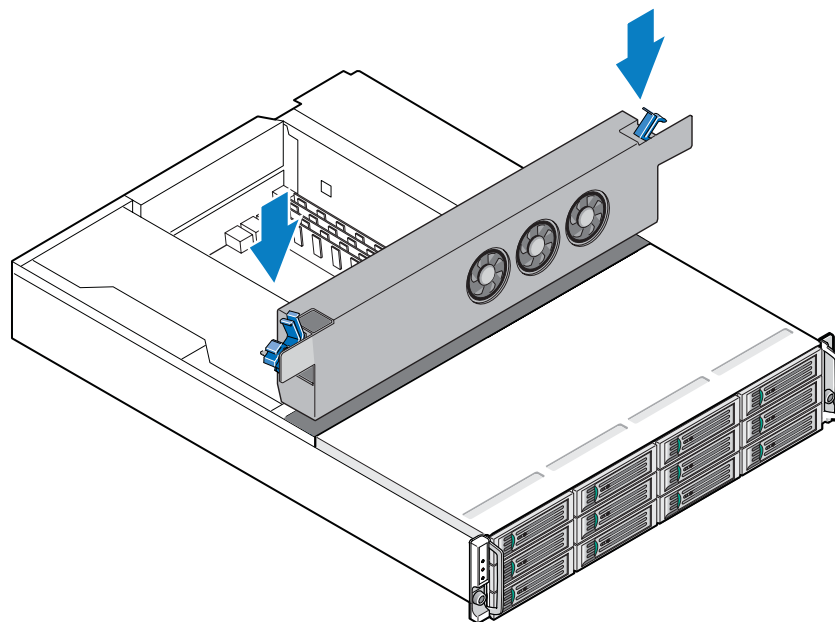**Figure 34. Opening Cooling Module Latches**

TP01780

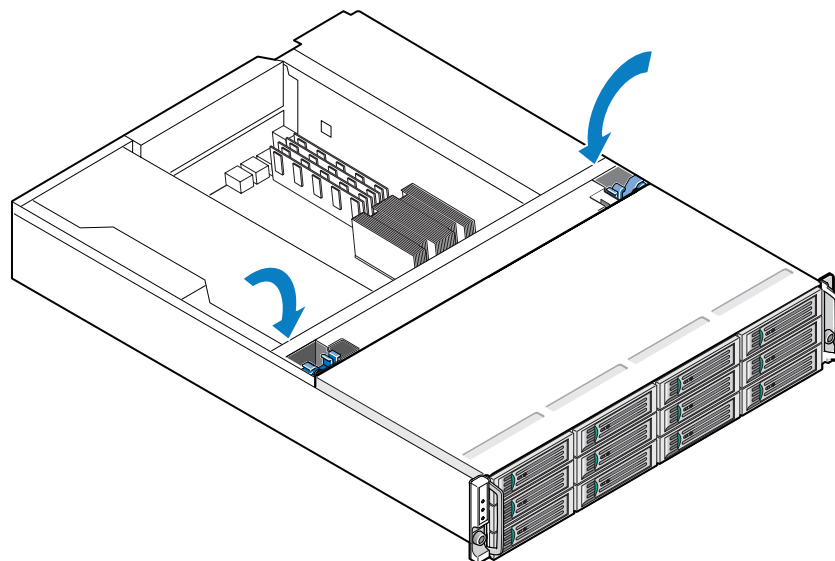**Figure 35. Cooling Module with Latches in Open Position**

38. With the two latches in the open position, slide the cooling module into the storage system until the latches engage automatically.

TP02020

Figure 36. Inserting Cooling Module into Chassis

39. Cam the module home by manually closing the latches. A click should be heard as the latches engage.


TP02021

Figure 37. Closing Latches on Cooling Module

Close Enclosure Cover

40. Align the enclosure cover over the corresponding notches in the chassis (see letter "A" in the following figure). Slide the enclosure cover toward the front of the chassis (see letter "B"). Secure the enclosure cover to the chassis by tightening the lock with a screwdriver until the close latch symbol aligns with the notch on the cover (see letter "C").
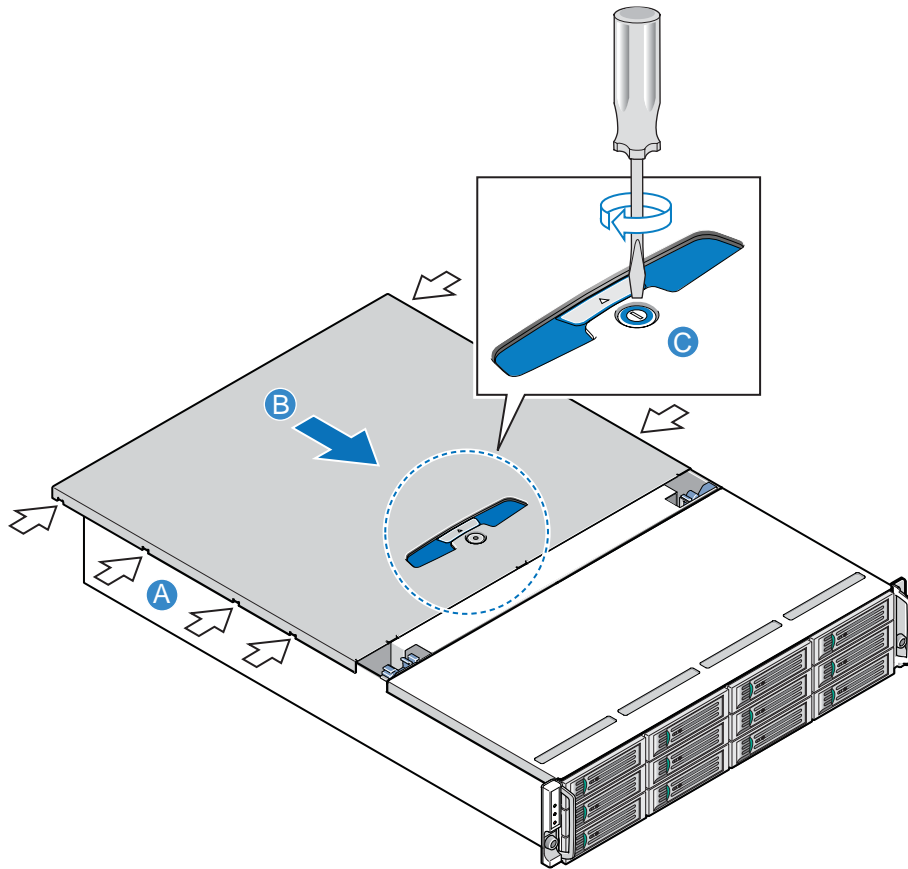
TP01847

Figure 38. Installing the Enclosure Cover

Install Power Supply Module(s)

41. Push the green lever down (see letter "A" in the following figure) and slide the power supply module into the power supply cage (see letter "B") until it clicks into place.

TP01849

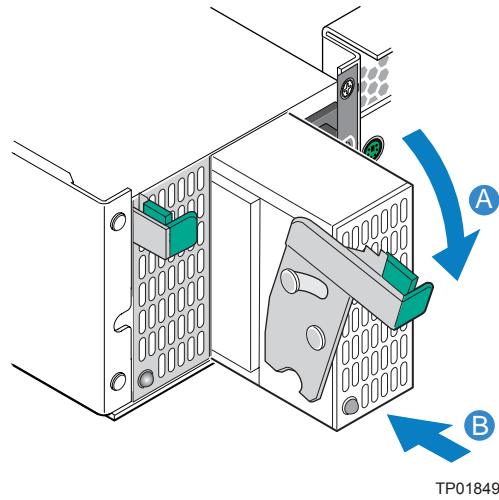**Figure 39. Inserting Power Supply Module**

Complete Setup

42. Re-connect all peripheral devices and the AC power cable(s). Power up the storage system.