Dell™ PowerEdge™ 1850 Systems Service-Only Parts Replacement Procedures

Notes, Notices, and Cautions

NOTE: A NOTE indicates important information that helps you make better use of your computer.

NOTICE: A NOTICE indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

CAUTION: A CAUTION indicates a potential for property damage, personal injury, or death.

Abbreviations and Acronyms

For a complete list of abbreviations and acronyms, see your *Installation and Troubleshooting Guide*.

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Before You Begin

⚠ **CAUTION: Many repairs may only be done by a certified service technician. You should only perform troubleshooting and simple repairs as authorized in your product documentation, or as directed by the online or telephone service and support team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. Read and follow the safety instructions that came with the product.**

⚠ **CAUTION: See your** *Product Information Guide* **for complete information about safety precautions, working inside the computer, and protecting against electrostatic discharge.**

The procedures in this document require that you remove the cover and work inside the system. While working inside the system, do not attempt to service the system except as explained in this document and in the *Installation and Troubleshooting Guide* and the *User's Guide* available on **support.dell.com**. Always follow the instructions closely, and ensure that you review all safety precautions in your *Product Information Guide.*

The *Installation and Troubleshooting Guide* contains information on system indicators, messages, and codes; system diagnostics; troubleshooting; parts removal and replacement procedures; and jumpers, switches, and connectors.

The *User's Guide* contains information on the System Setup program.

Recommended Tools

You may need the following items to perform the procedures in this section:

- l   Key to the system keylock
- l   #2 Phillips screwdriver
- l   Wrist grounding strap

SCSI Backplane Board

Removing the SCSI Backplane Board

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1. If applicable, remove the bezel.

2. Turn off the system and attached peripherals, and disconnect the system from the electrical outlet and peripherals.

3. Remove the system from the rack and place it on a work surface.

4. Remove the system cover.

5. If the SCSI data cable is connected to the SCSI controller on the riser card, lift the two plastic rivets that secure the riser card insulator, then remove the riser card insulator.

   See "Removing the Riser Card" in the *Installation and Troubleshooting Guide*.

6. Disconnect the SCSI data cable from the connector on the riser card or RAID controller card.

   If the cable is connected to a SCSI controller in expansion slot PCI1(the expansion slot farthest from the power supply bay), remove the riser card to allow removal of the SCSI cable. See "Removing the Riser Card" in the *Installation and Troubleshooting Guide.*

Figure 1-1. Removing or Installing the SCSI Backplane Board

SCSI backplane board
riser card
riser card insulator
handle
plastic rivets (7)
optical drive data cable connector
control panel cable connector
diskette drive data cable connector
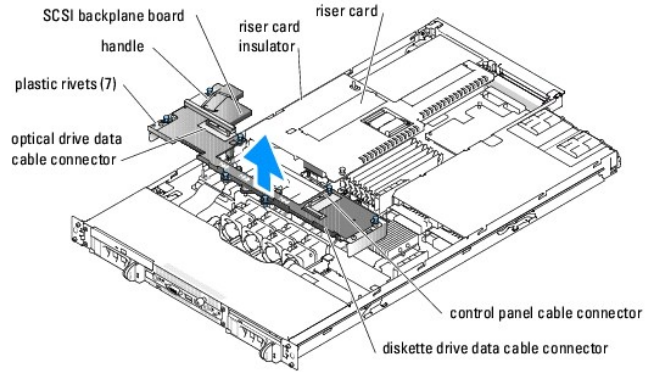
7. If applicable, disconnect the diskette drive cable from the diskette drive connector on the SCSI backplane. See Figure 1-1.

8. If applicable, disconnect the optical drive data cable from the optical drive connector on the SCSI backplane. See Figure 1-1.

9. Disconnect the control panel cable from its connector on the SCSI backplane. See Figure 1-1.

NOTICE: Before removing the backplane, you must remove the SCSI drives from the system to avoid damage to the drives or backplane.

NOTICE: Temporarily label each drive before removing them, so you can replace them in the same locations.

10. Remove the SCSI drive(s) from the system.

11. Remove the SCSI backplane:

    a. Lift up on the seven blue plastic rivets securing the backplane. See Figure 1-1.

    b. To disconnect the SCSI backplane from the system board, grasp the metal handle on the end of the backplane and slowly lift the backplane straight up from the system board. See Figure 1-1.

12. Disconnect the SCSI data cable from the underside of the backplane.

Installing a SCSI Backplane Board

1. Connect the SCSI data cable to the new backplane.

2. Lift up on each of the seven plastic rivets on the new backplane to loosen them, prior to installing the backplane.

3. Align the backplane with the backplane interface connector on the system board.

4. While holding the SCSI data cable between the edge of the chassis and the end of the backplane, press down on the end of the backplane with the handle until the backplane connector is fully seated.

    NOTE: When the backplane is fully seated, the top edge of the backplane circuit board will be below the arrows on the chassis brace next to the back edge of the backplane.

5. Press firmly on the seven plastic rivets to secure the backplane.

6. Connect the control panel cable to the control panel connector on the SCSI backplane. See Figure 1-1.

7. If applicable, connect the diskette drive cable to the diskette drive connector on the SCSI backplane. See Figure 1-1.

8. If applicable, connect the optical drive data cable to the optical drive connector on the SCSI backplane. See Figure 1-1.

9. Reconnect the SCSI data cable to the riser card or RAID controller card.

10. If you removed the riser card or riser card insulator, reinstall them now. See "Installing the Riser Card" in the *Installation and Troubleshooting Guide*.

    When installing the riser card, guide the SCSI cable between the edge of the riser card and the edge of the chassis to avoid interfering with the cover.

11. Reinstall the SCSI hard drives in their original locations.

12. Reinstall the cover.

13. If applicable, reattach the bezel.

Control Panel Assembly

Removing the Control Panel Assembly

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1. If applicable, remove the bezel.

2. Turn off the system and attached peripherals, and disconnect the system from the electrical outlet and peripherals.

3. Remove the system from the rack and place it on a work surface.

4. Remove the system cover.

5. Remove the SCSI backplane board. See "Removing the SCSI Backplane Board."

6. Remove the fans:
   a. Disconnect the fans' power cables from the system board.
   b. While pressing the two release tabs on either side of the fan, lift the fan module straight up out of the fan bracket. See Figure 1-2.
   c. Repeat steps a and b until all the fans are removed.

Figure 1-2. Removing or Installing a Fan Module
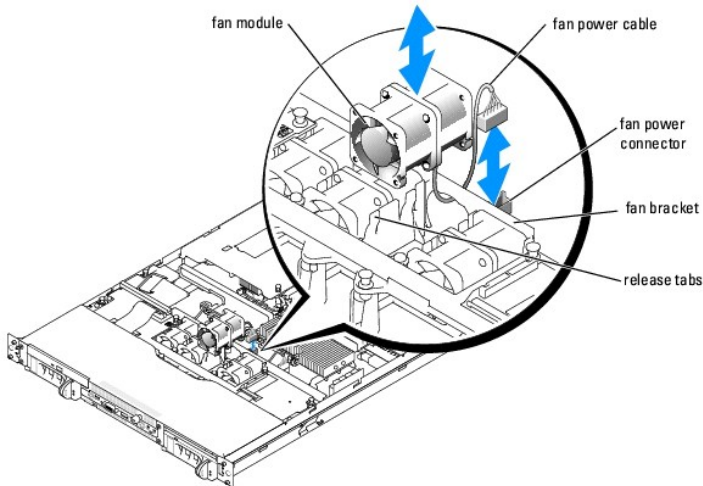
7. To remove the fan bracket, squeeze the two tabs together, then slide the bracket towards the front of the system and lift it out. See Figure 1-3.

Figure 1-3. Removing the Fan Bracket
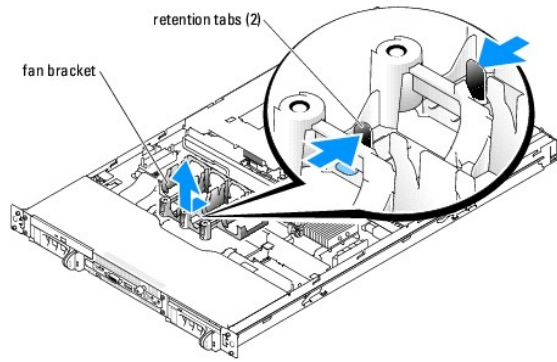
8. To remove the control panel and control panel tray, lift up on the latch at the back of the control panel tray, then slide the tray towards the back of the system. See Figure 1-4.

Figure 1-4. Removing the Control Panel

latch

control panel assembly
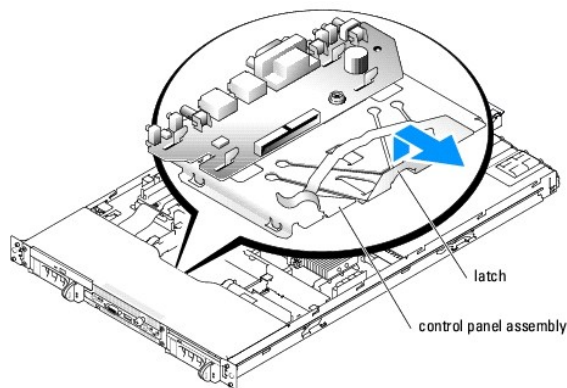
Installing the Control Panel Assembly

1. Slide the new control panel assembly into the system.

   📝 **NOTE:** The left and right edges of the control tray fit underneath guides on the floor of the chassis.

2. Reinstall the fan bracket.

3. Reinstall the fans.

4. With the fan power cable facing towards the back of the system, route the fan power cable through the opening in the fan bracket and insert the fan module into the fan bracket.

   Ensure that each fan power cable is routed through the opening in the fan bracket. See Figure 1-2.

5. Reinstall the SCSI backplane board. See "Installing a SCSI Backplane Board."

6. Reinstall the SCSI hard drives.

7. Reinstall the cover.
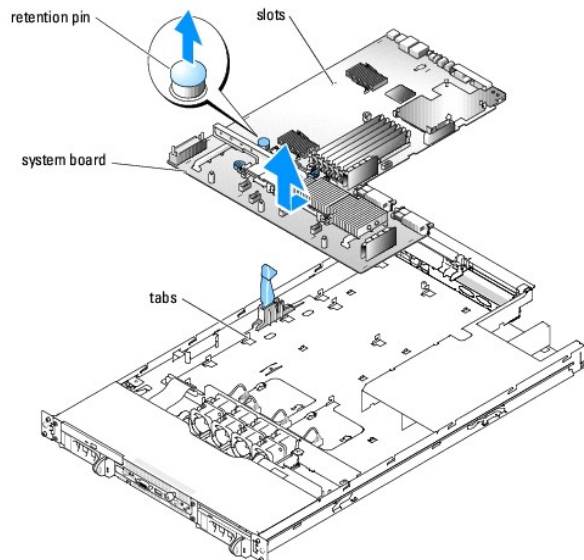
8. If applicable, reattach the bezel.

System Board

Removing the System Board

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1. If applicable, remove the bezel.

2. Turn off the system and attached peripherals, and disconnect the system from the electrical outlet and peripherals.

3. Remove the system from the rack and place it on a work surface.

4. Remove the system cover.

5. Remove the SCSI backplane board. See "Removing the SCSI Backplane Board."

6. Disconnect the fan power cables from the system board. See "Fans" in the *Installation and Troubleshooting Guide*.

7. Squeeze the two tabs on the fan bracket together, then slide the bracket towards the front of the system. See Figure 1-3. You do not need to remove the fans or the fan bracket from the system.

8. Remove the expansion cards and riser card. See "Expansion Cards" and "Riser Card" in the *Installation and Troubleshooting Guide*.

9. Remove the memory modules. See "System Memory" in the *Installation and Troubleshooting Guide*.

10. If applicable, remove the RAC card. See "Installing a RAC Card" in the *Installation and Troubleshooting Guide*.

11. Remove the power supply(s). See "Power Supplies" in the *Installation and Troubleshooting Guide*.

12. Remove the processor(s). See "Processor" in the *Installation and Troubleshooting Guide*.

13. To remove the system board:

    a. Lift up the blue retention pin and slide the system board towards the front of the system to disengage the board from the retention tabs on the chassis. See Figure 1-5.

    b. Raise the back edge of the board slightly to clear the chassis, then lift the system board out of the system.

Figure 1-5. Removing the System Board

Installing the System Board

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1. Unpack the new system board.

2. Carefully lower the system board into the chassis until the tabs on the chassis fit through the corresponding slots in the system board.

3. Slide the system board towards the back of the chassis until the retention pin engages.

4. Slide the fan bracket towards the back of the system until the retention tabs snap into place.

5. Replace the memory modules.

6. Replace the processor(s).

7. If applicable, replace the RAC card.

8. Replace the power supply(s).

9. Replace the riser card, expansion cards, and riser and insulator.

10. Reconnect the fan power cables.

11. Replace the SCSI backplane board. See "Installing a SCSI Backplane Board."

12. Reinstall the SCSI hard drives.

13. Reinstall the cover.

14. If applicable, reattach the bezel.

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