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maintenance & service guide

Presario 1800 Series
Models: XL180, XL181, XL182, XL183, XL185,
and XL190, XL191, XL192

Removal and Replacement

This chapter details removing and replacing each component of the Presario 1800XL Notebook Computers.

Electrostatic Discharge

When removing or replacing parts, be careful to discharge static electricity before touching the Notebook's internal components. A sudden discharge of static electricity from a finger or other conductor can destroy static-sensitive devices and microcircuitry. Often the spark is neither felt nor heard, but damage occurs. An electronic device exposed to an electrostatic discharge may not seem affected and work perfectly throughout a normal cycle. However, the discharge degrades internal layers, which reduces the operating life of the device. Networks built into many integrated circuits provide some protection, but in many cases, the discharge contains enough power to alter device parameters or melt silicon junctions.

The table below shows the amount of static electricity generated by common activities associated with servicing computers.

Generated Electrostatic Voltage			
Activity	**Relative Humidity**		
	10%	**40%**	**50%**
Walking across carpet	35,000 V	15,000 V	7,500 V
Walking across vinyl floor	12,000 V	5,000 V	3,000 V
Motions of bench worker	6,000 V	800 V	400 V
Removing DIPS from plastic tubes	2,000 V	700 V	400 V
Removing DIPS from vinyl trays	11,500 V	4,000 V	2,000 V
Removing DIPS from styrofoam	14,500 V	5,000 V	3,500 V
Removing bubble pack from PCBs	26,000 V	20,000 V	7,000 V
Packing PCBs in foam-lined box	21,000 V	11,000 V	5,000 V

△ **CAUTION:** As little as 700 Volts can degrade Notebook components. Be sure to ground yourself before touching the Notebook or its subassemblies.

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Tool and Software Requirements

The following items are required to service the Notebook:

- Torx T-8 screwdriver
- 5mm nut drivers (for screwlocks and standoffs)
- Small standard screwdriver
- Small Phillips screwdriver
- Diagnostics software

Screws

The screws used in the Notebook are **not** interchangeable. If an incorrect screw is used during the reassembly process, it can damage the unit. Compaq strongly recommends that all screws removed during disassembly be kept with the part that was removed, then returned to their proper locations.f

Connectors and Plastic Parts

Plastic parts can be damaged by the use of excessive force during disassembly and reassembly. When handling plastic parts, use care. Apply pressure only at the points designated in the instructions.
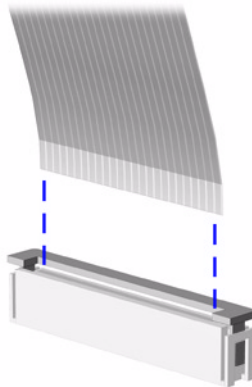
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ZIF Connector

The 1800XL Series Notebooks use zero insertion force (ZIF) connectors on the system board.

⚠ **CAUTION:** A ZIF connector and its attached cable can be easily damaged. Handle only the connector slide when removing or replacing a cable. Never pull or twist on the cable while it is connected.

To remove a cable from a ZIF connector, lift both corners of the ZIF connector and slide the cable out simultaneously with constant light force.

⚠ **CAUTION:** When servicing this Notebook, ensure that cables are placed in their proper location during the reassembly process. Improper cable placement can damage the Notebook.

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Cables

Most cables used throughout the unit are ribbon cables.

Cables must be handled with extreme care to avoid damage. Use the following precautions when handling cables to avoid damage to the cable and Notebook:

• Always handle cables by their connectors.

• In all cases, avoid bending, twisting, pulling, or tearing cables.

• Apply only the minimum force required to seat or unseat cables from their connectors.

• Ensure that cables are routed in such a manner that they cannot be caught or snagged by parts being removed or replaced.

• Handle flex cables with extreme care; they can tear easily.

⚠ **CAUTION:** When servicing these Notebooks, ensure that cables are placed in their proper location during the reassembly process. Improper cable placement can cause severe damage to the unit.

The following illustrations show the proper placement for each cable:

• Hard Drive Ribbon Cable   • Speaker Assembly Cable
• CD/DVD Ribbon Cable   • Keyboard Ribbon Cable
• Diskette Drive Ribbon Cable

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Hard Drive Ribbon Cable

The position for the hard drive ribbon cable is shown below.

⚠ **CAUTION:** When servicing the Notebook, ensure that cables are placed in their proper location during the reassembly process. Improper cable placement can damage the Notebook.
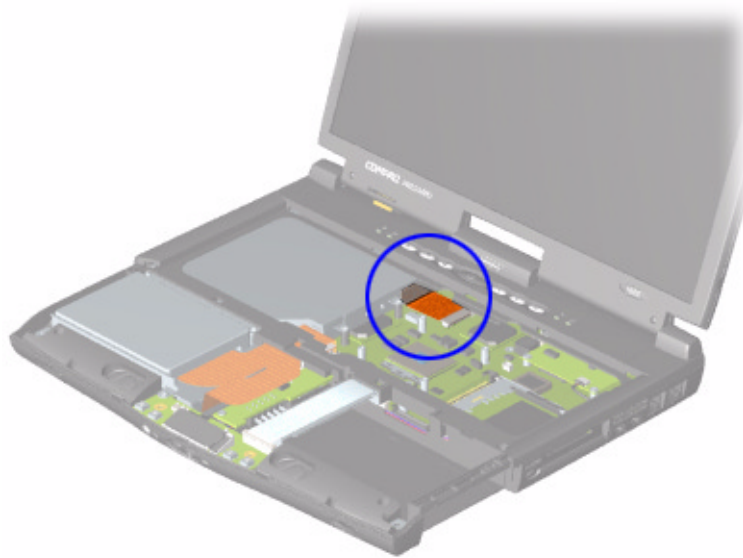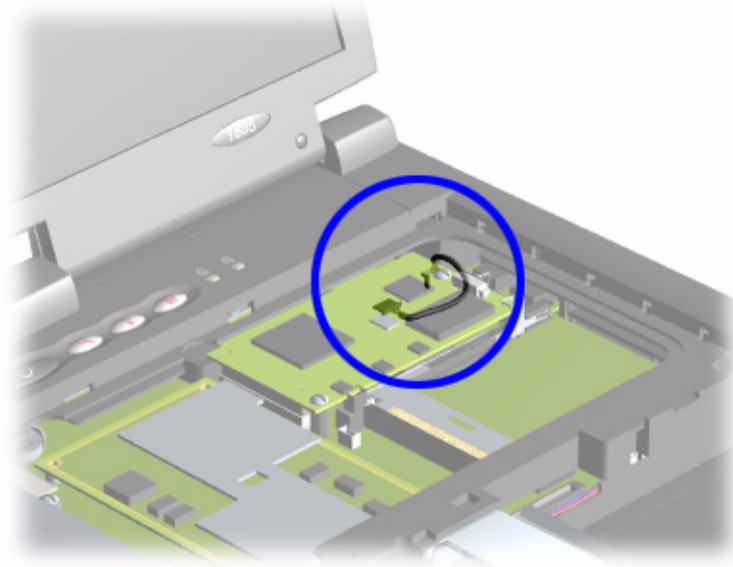
Removing the Hard Drive

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Presario 1800 Series
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CD/DVD Ribbon Cable

The ribbon cable position for the CD or DVD drive is shown below.

⚠ **CAUTION:** When servicing the Notebook, ensure that cables are placed in their proper location during the reassembly process. Improper cable placement can damage the Notebook.

Removing the CD/DVD Drive

Diskette Drive Ribbon Cable

The ribbon cable position for the diskette drive is shown below.

⚠ **CAUTION:** When servicing the Notebook, ensure that cables are placed in their proper location during the reassembly process. Improper cable placement can damage the Notebook.

[Removing the Diskette Drive](#)

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Speaker Assembly Cable

The cable position for the speaker assembly is shown below. The cable is routed under the battery charger (voltage converter) board and under the edge of the system board.

⚠ **CAUTION:** When servicing the Notebook, ensure that cables are placed in their proper location during the reassembly process. Improper cable placement can damage the Notebook.

[Removing the Speaker Assembly](#)

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Modem Cable

The cable position for the modem is shown below.

△ **CAUTION:** When servicing the Notebook, ensure that cables are placed in their proper location during the reassembly process. Improper cable placement can damage the Notebook.

Removing the Modem

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Keyboard Ribbon Cable

The ribbon cable position for the keyboard is shown below.

⚠ **CAUTION:** When servicing this Notebook, ensure that cables are placed in their proper location during the reassembly process. Improper cable placement can damage the Notebook.

[Removing the Keyboard](#)

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Preparing the Notebook for Disassembly

Before beginning the removal or replacement of any Notebook components, complete the following steps:

1. Disconnect the AC power source and any external devices.

2. Remove the QuikDock (pg 12).

3. Remove any PC Cards.

4. Remove the battery pack (pg 13).

> **Important:** The battery pack should be removed before performing any internal maintenance on the Notebook.

> ⚠ **WARNING:** Metal objects can damage the battery pack as well as the battery contacts in the battery compartment. To prevent damage, do not allow metal objects to touch the battery contacts. Place only the battery pack for the Compaq Presario 1800XL Series Portable Notebooks into the battery compartment. Do not force the battery pack into the bay if insertion is difficult.

> ⚠ **CAUTION:** Do not crush, puncture, or incinerate the battery pack. Do not open a battery pack; this action damages the pack, makes it unusable, and exposes potentially harmful battery components. No field-serviceable parts are located inside the battery pack.

> **Note:** Compaq Presario 1800XL Series Portable Notebooks have several screws of various sizes that are **not** interchangeable. Care must be taken during reassembly to ensure that the correct screws are used in their correct location. During removal keep screws with their respective subassembly.

> **Important:** As each component is removed from the Notebook, place the components and its assosiated screws away from the work area to prevent damage.

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Disconnecting the QuikDock

To disconnect the Notebook from the QuikDock, complete the following steps:

1. Lift up the handle ❶ on top of the QuikDock.
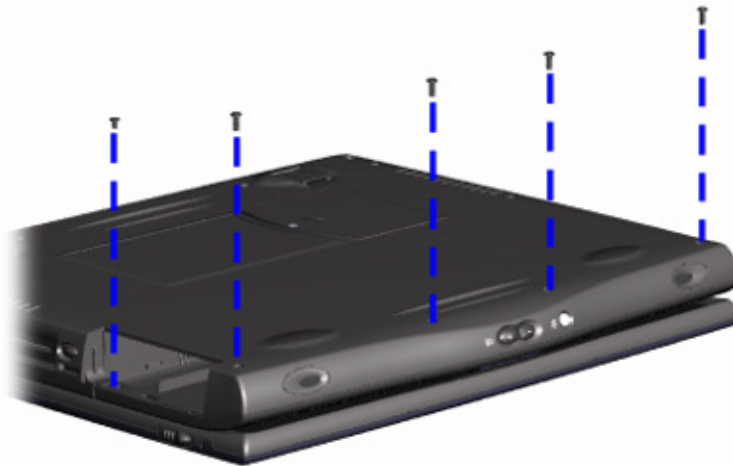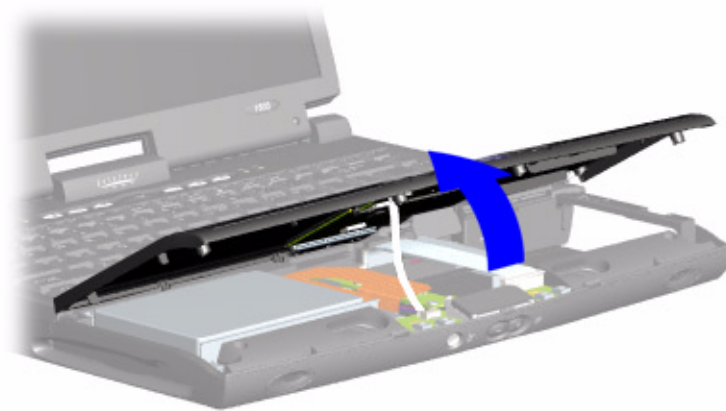2. Lift the Notebook ❷ straight up.
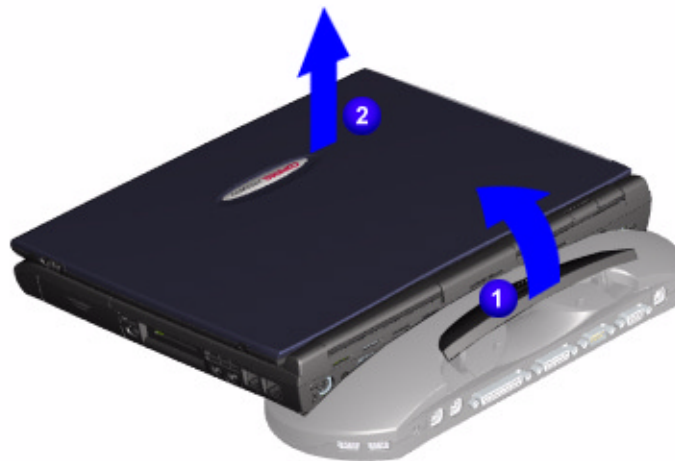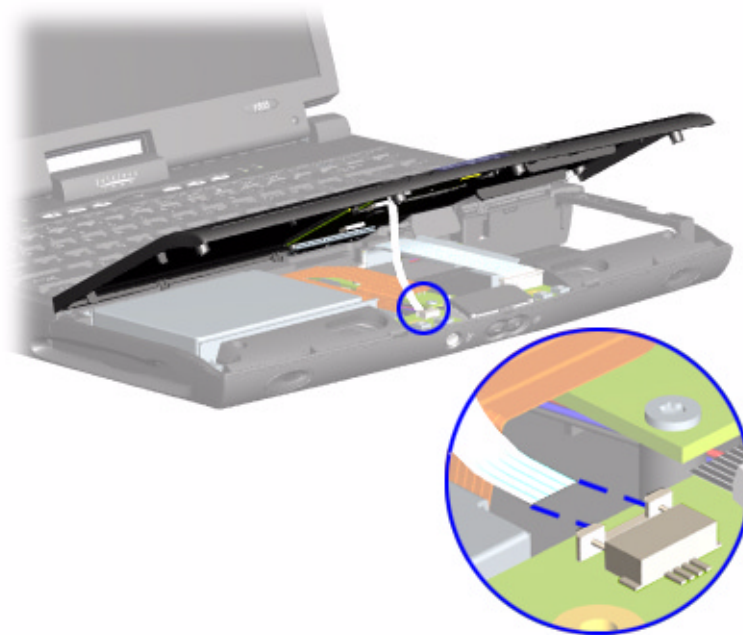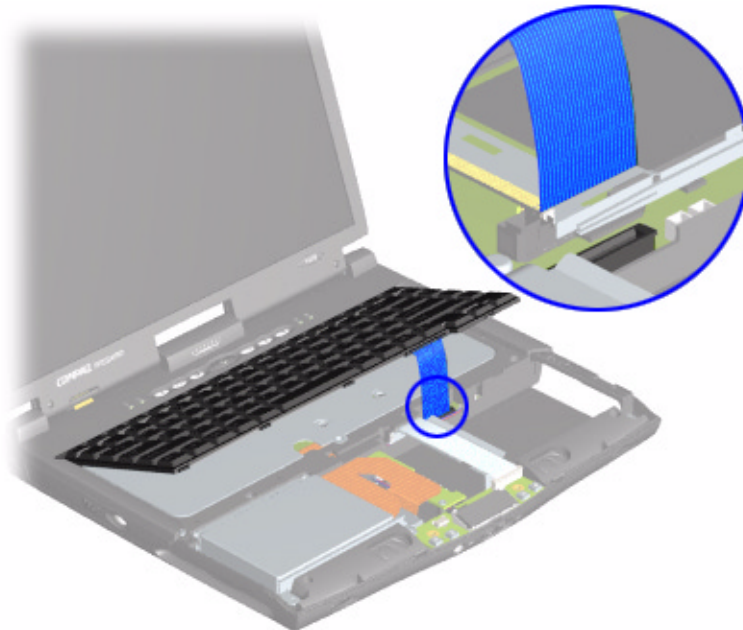
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Presario 1800 Series
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Removing the Battery

To remove the battery pack, complete the following steps:

1. Slide the battery compartment door down ❶ and remove it from the chassis.

2. Pull the battery ❷ from the chassis by the tab located on the end of the battery pack.
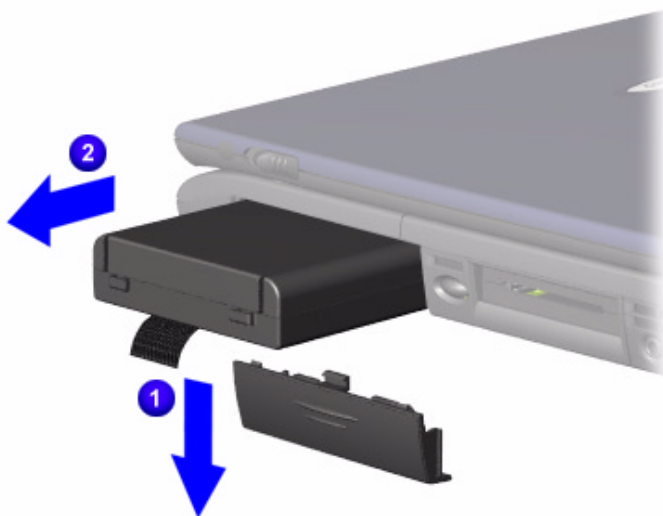
To replace the battery, reverse these procedures.

> **Important:** The battery pack should be removed before performing any internal maintenance on the Notebook.

⚠ **WARNING:** Metal objects can damage the battery pack as well as the battery contacts in the battery compartment. To prevent damage, do not allow metal objects to touch the battery contacts. Place only the battery pack for Compaq Presario 1800XL Series Portable Notebooks in the battery compartment. Do not force the battery pack into the bay if insertion does not occur easily.

⚠ **CAUTION:** Do not crush, puncture, or incinerate the battery pack. Do not open a battery pack; this action damages the pack, makes it unusable, and exposes potentially harmful battery components. No field-serviceable parts are located inside the battery pack.

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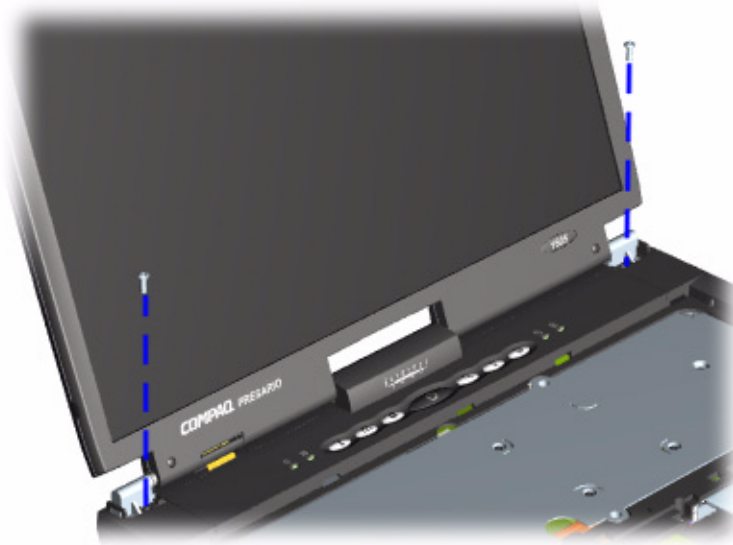**Models: XL180, XL181, XL182, XL183, XL185,**
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Removing the Palmrest Cover with TouchPad

> **Note:** It is not necessary to remove the display panel assembly to access the interior components of the Notebook.

To remove the Palmrest cover with TouchPad, complete the following steps:

1. Prepare the Notebook for disassembly ().

2. Close the display and turn the Notebook upside down.

3. Remove five screws from the underside of the Notebook.

Continued on the next page.

4. Turn the Notebook over (right side up).

5. Pull the display release latches and open the display.

6. Lift up the front end of the Palmrest cover and remove it from the groove in the chassis.

Continued on the next page.

7. Disconnect the flex cable from the ZIF Connector on the DisqPlay module.

To replace the Palmrest cover, reverse these procedures.

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Removing the Keyboard

To remove the keyboard, complete the following steps:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Palmrest cover with TouchPad (pg 14).

3. Gently lift ❶ up the front of the keyboard and disconnect ❷ the flex cable from the ZIF Connector on the system board and remove the keyboard.

To replace the keyboard, reverse these procedures.

> **Note:** When replacing the keyboard, the Keyboard Ribbon Cable should fold behind the ZIF Connector rather than underneath the keyboard.

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Removing the Internet Zone Cover

(Status Panel Assembly)

> **Note:** Illustrations may show parts removed that are not part of this procedure. It is necessary to remove only the parts listed in the written procedure.

To remove the Internet Zone cover, complete the following steps:

1. Prepare the Notebook for disassembly ().

2. Open the display and squeeze the sides of the display hinge covers while sliding them off the hinges.
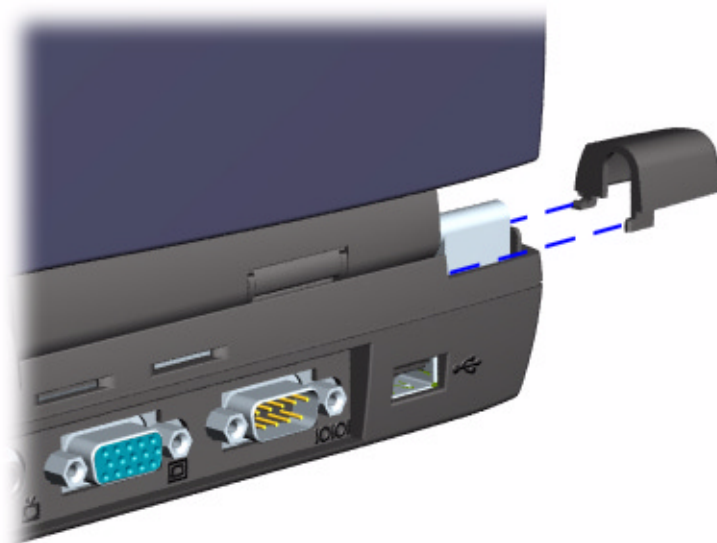
3. Remove two innermost screws from the display hinges that secure the Internet Zone cover to the chassis.

4. Turn the unit upside down and remove the two screws located near the back of the Notebook that secure the Internet Zone cover to the chassis.
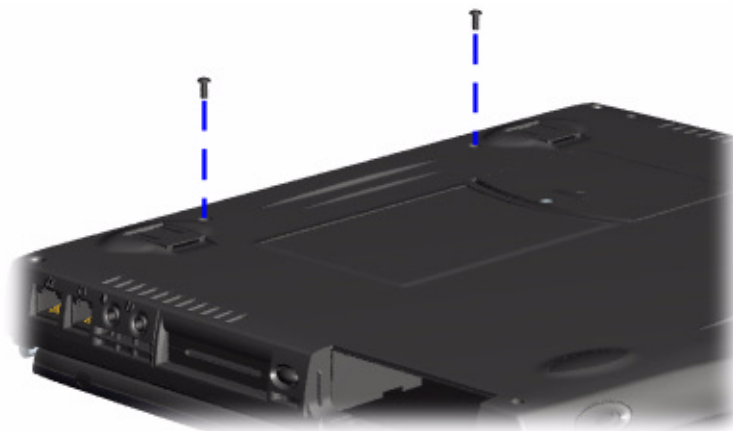
Continued on the next page.

5. Turn the unit over (right side up) and open the display.

6. Lift up one corner of the Internet Zone cover, ❶ push forward from the back (center piece) to release the snaps on the Internet Zone cover, and ❷ remove from the chassis.
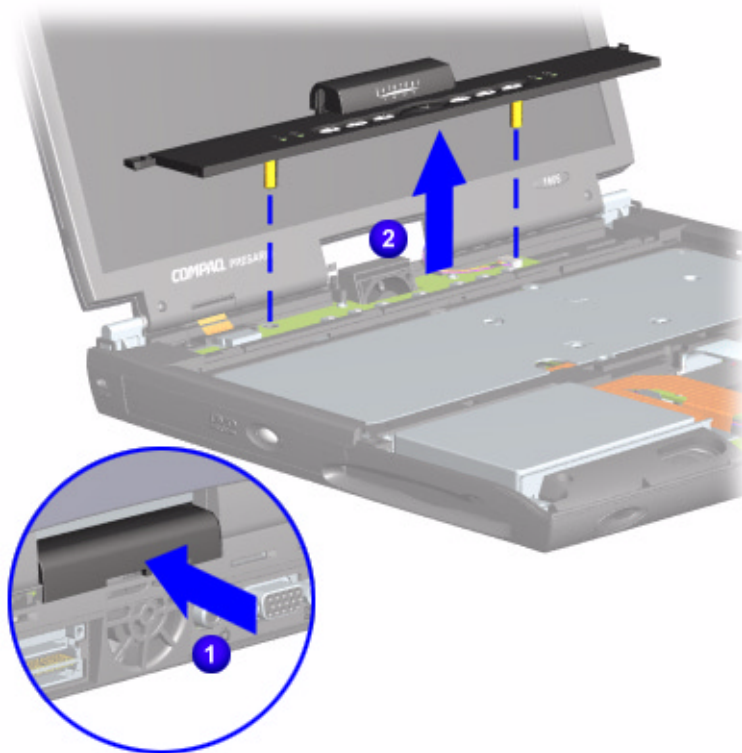
To replace the Internet Zone cover, reverse these procedures.

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Removing the Internet Button Board

> **Note:** Illustrations may show parts removed that are not part of this procedure. It is necessary to remove only the parts listed in the written procedure.

To remove the Internet button board, complete the following steps:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Internet Zone Cover (pg 18).

3. Remove the screw securing the display flex cable bracket and disconnect both the display flex cable and backlight cable from the system board.
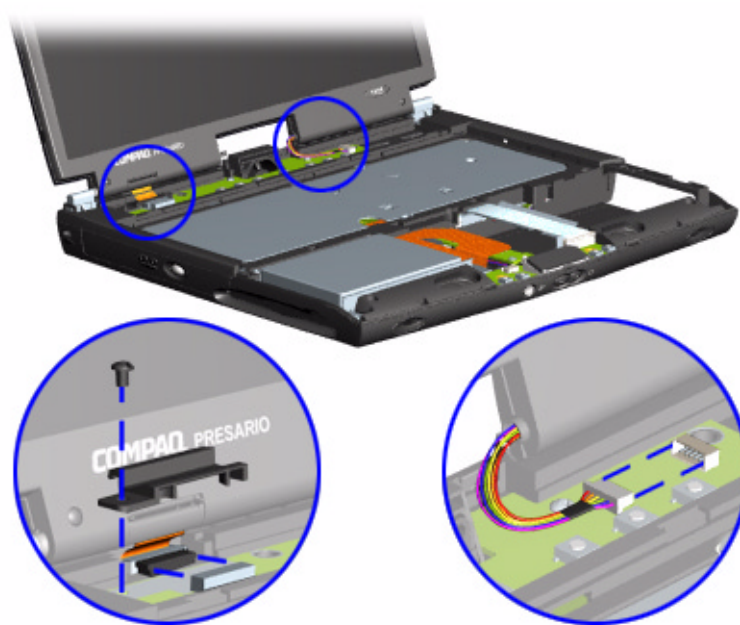
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4. Remove two screws securing the Internet button board and remove from the chassis.
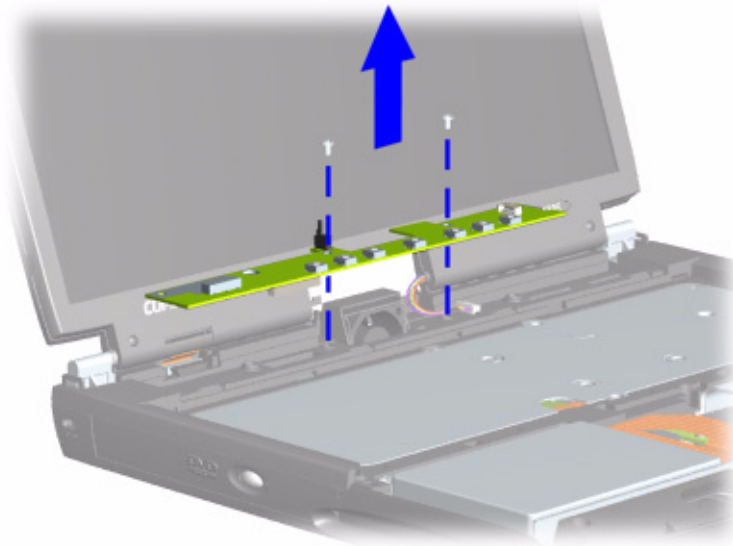
To replace the Internet button board, reverse these procedures.

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Removing the Heatspreader

To remove the Heatspreader, complete the following steps:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Palmrest cover with TouchPad (pg 14).

3. Remove the keyboard (pg 17).

4. Remove six screws from the Heatspreader and lift out of the chassis.
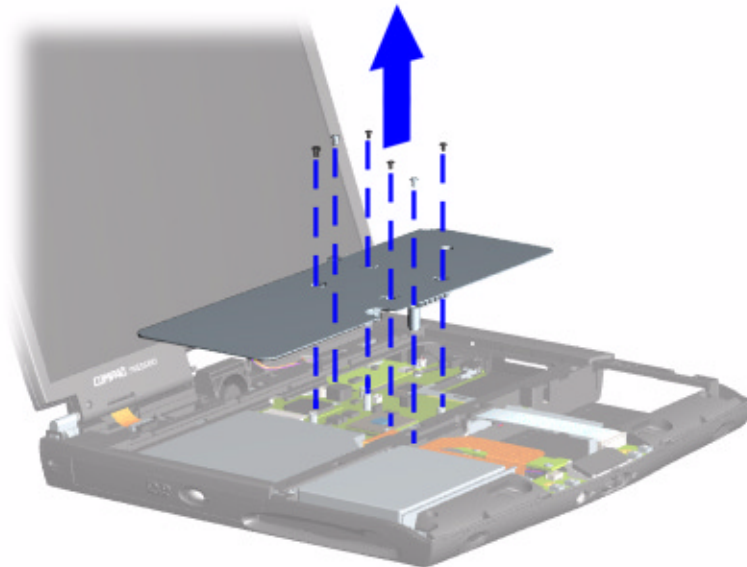
To replace the Heatspreader, reverse these procedures.

> **Note:** If the thermal pads on the Heatspreader are missing or damaged, a new Heatspreader should be installed.

> **Important:** Before installing a new Heatspreader, remove the plastic covering from the thermal pads.

> ⚠ **WARNING:** To prevent damage, do not use excessive force when replacing the screws.

Removing the Modem

To remove the modem, complete the following steps:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Palmrest cover with TouchPad (pg 14).

3. Remove the keyboard (pg 17).

4. Remove the Internet Zone cover (pg 18).

5. Remove the Heatspreader (pg 23).

6. Remove three screws from the modem board and lift the modem off the connector on the system board.

7. Disconnect the cable from the modem board.
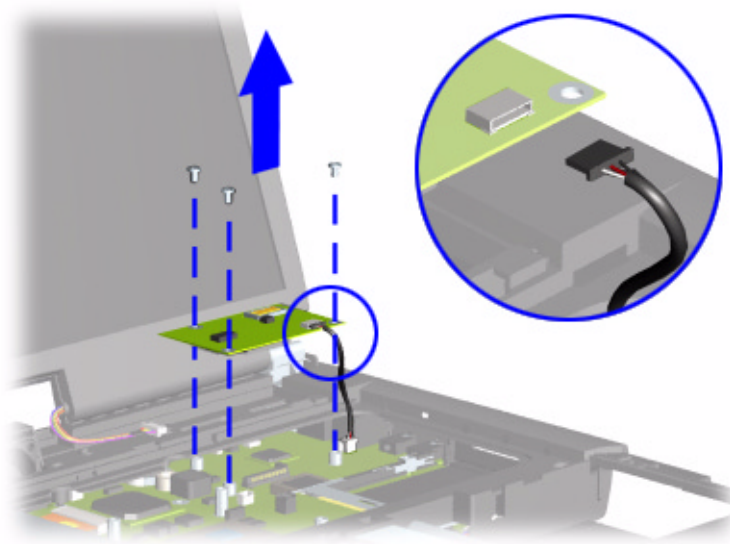
To replace the modem board, reverse these procedures.

⚠ **CAUTION:** When replacing the modem, ensure that the Modem Cable is placed in its proper location during the reassembly process. Improper cable placement can damage the Notebook.

Removing the Hard Drive

Note: Illustrations may show parts removed that are not part of this procedure. It is necessary to remove only the parts listed in the written procedure.

To remove the hard drive, complete the following steps:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Palmrest cover with TouchPad (pg 14).

3. Remove three screws from the hard drive mounting bracket.

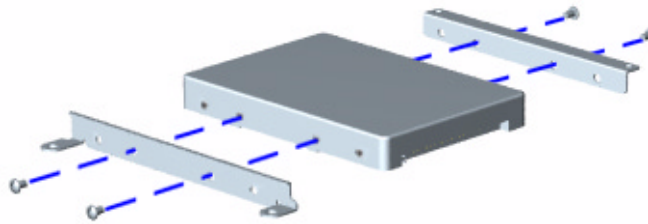4. Disconnect the hard drive data cable and lift out the hard drive.
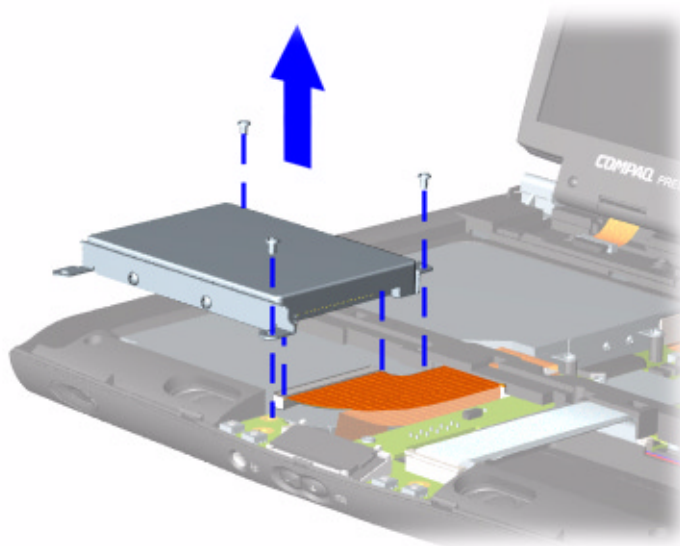
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Removing the Hard Drive Mounting Brackets

To remove the hard drive mounting brackets, remove two screws from each of side of the hard drive.

To replace the hard drive and mounting brackets, reverse these procedures.

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Removing the DisqPlay Module

> **Note:** Illustrations may show parts removed that are not part of this procedure. It is necessary to remove only the parts listed in the written procedure.

To remove the DisqPlay module, complete the following steps:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Palmrest cover with TouchPad (pg 14).

3. Remove the hard drive (pg 25).

4. Lift up the DisqPlay module and disconnect the flex cable from ZIF Connector on the module.

5. Remove the DisqPlay module from the chassis.
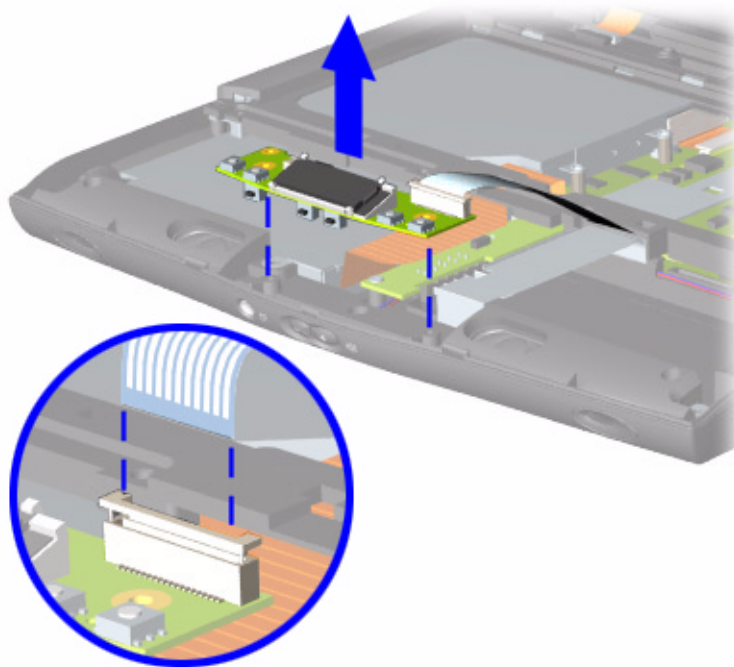
To replace the DisqPlay module, reverse these procedures.

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Removing the Processor

To remove the processor, complete the following steps:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Palmrest cover with TouchPad (pg 14).

3. Remove the keyboard (pg 17).

4. Remove the Heatspreader (pg 23).

5. If the processor matches the one shown below, proceed with step **a** below. If the processor does not match the one shown, skip step **a** and proceed with step **b** on the next page.

   a. Place tip of standard screwdriver in center slot, twist screwdriver toward "Free" until is snaps, and lift processor from the chassis.
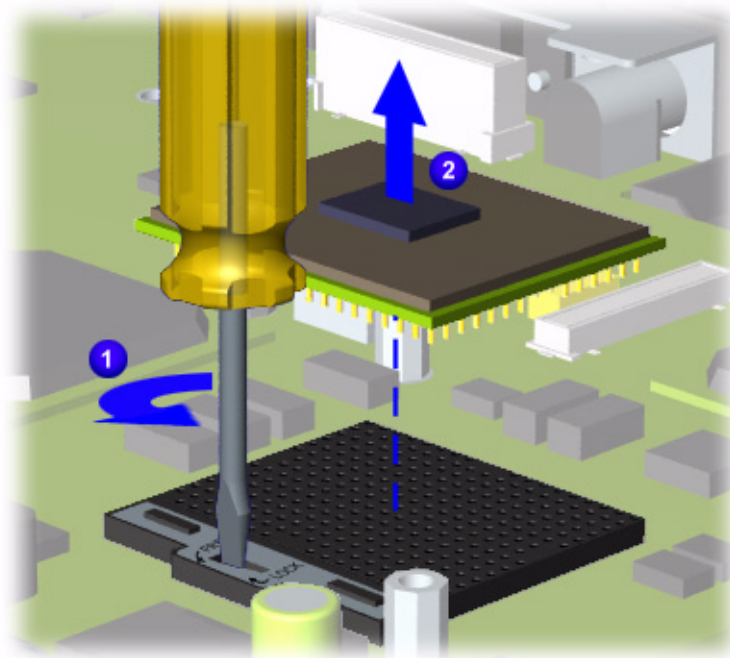
Continued on the next page.

b. With standard screwdriver, turn screw counter-clockwise toward "0" and lift processor from the chassis.
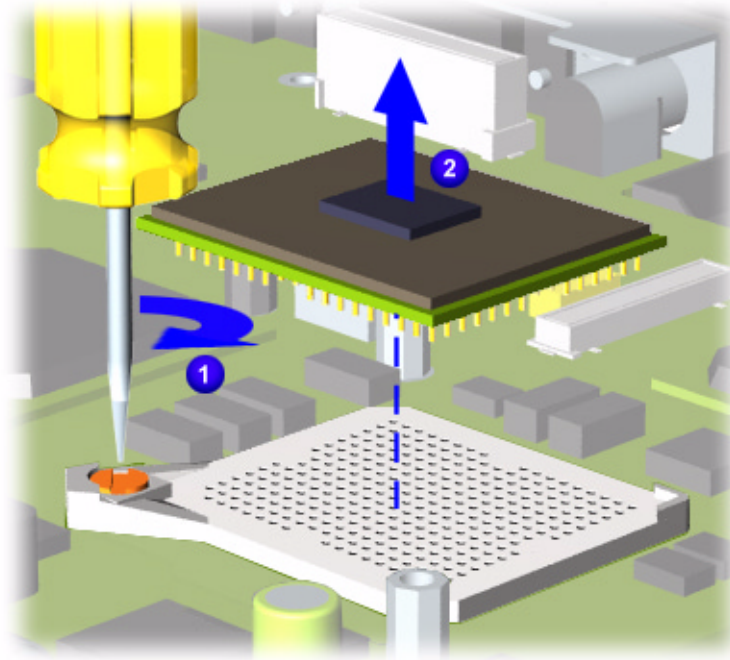
To replace the processor, complete the following:

1. Fully align the processor connector with the system board connector.

2. Press down carefully on the processor directly over the connectors to seat the processor.

3. Reassemble the remaining subassemblies by reversing their removal procedures.

Removing the CD/DVD Drive

To remove the CD/DVD Drive, complete the following steps:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Palmrest cover with TouchPad (pg 14).

3. Remove the keyboard (pg 17).

4. Remove the Heatspreader (pg 23).

5. Turn the Notebook over (upside down) and remove the two screws that secure the CD/DVD drive to the chassis.
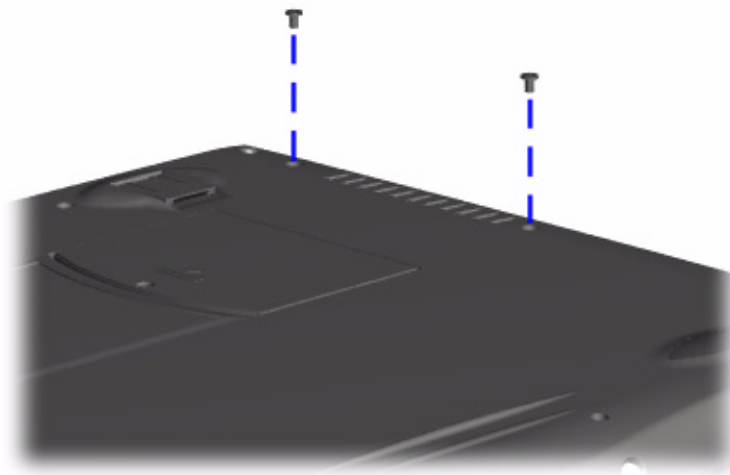
6. Turn the unit over (right side up) and remove the two screws located at the back of the CD/DVD drive.
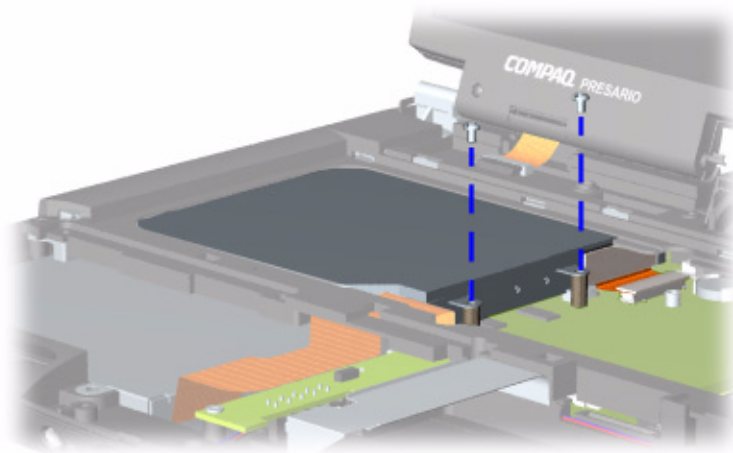
7. Disconnect the CD/DVD drive cable and push forward from the back of the drive to slide the drive out of the chassis.
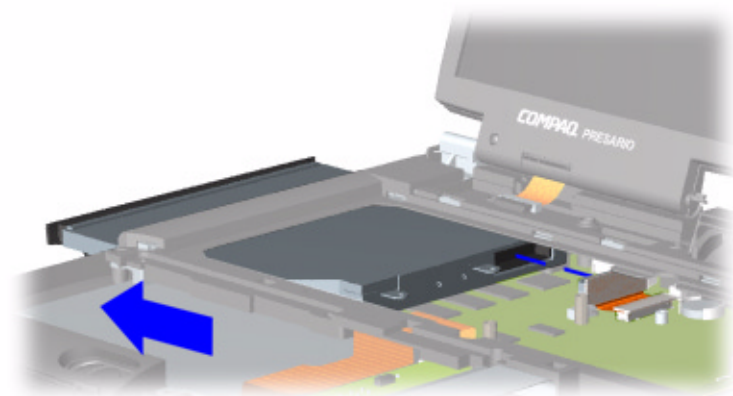
To replace the CD/DVD drive, reverse these procedures.

⚠ **CAUTION:** When replacing the CD/DVD drive, ensure that the CD/DVD Ribbon Cable is placed in its proper location during the reassembly process. Improper cable placement can damage the Notebook.

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Removing the Display Panel Assembly

> **Note:** Illustrations may show parts removed that are not part of this procedure. It is necessary to remove only the parts listed in the written procedure.

To remove the display panel assembly, complete the following steps:

1. Prepare the Notebook for disassembly ().

2. Remove the Internet Zone cover ().

3. Remove the screw securing the display flex cable bracket and disconnect the display flex cable and backlight cable from the Internet button board.
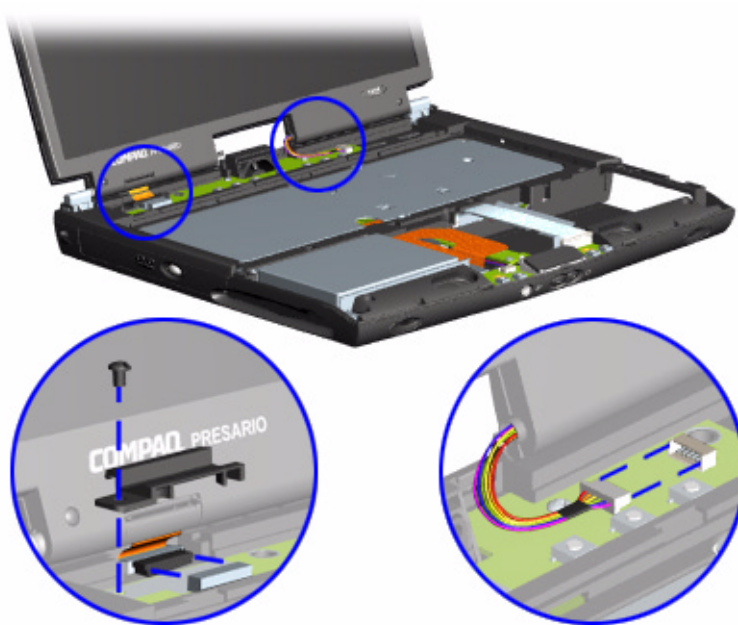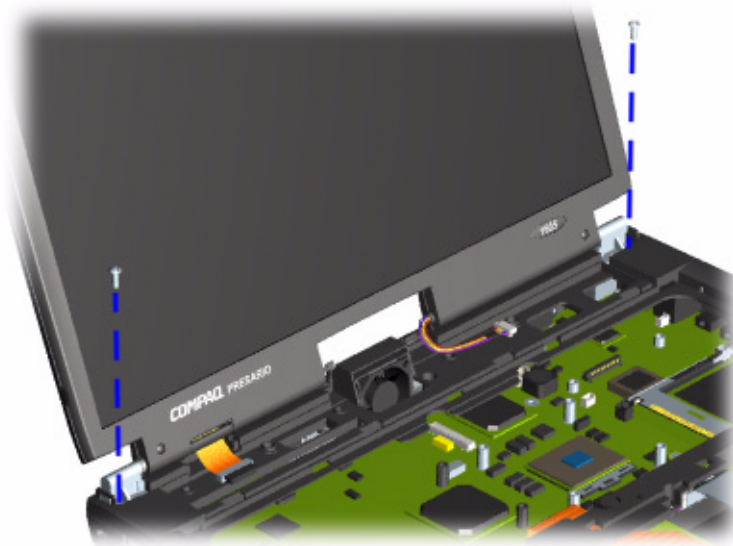
4. Remove the two outermost screws securing the display panel to the chassis.

5. Remove the display assembly from the chassis.

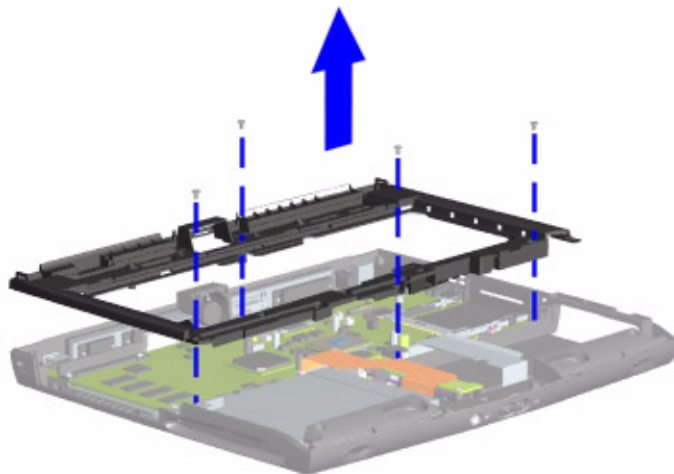To replace the display panel, reverse these procedures.

Removing the Upper CPU Cover

To remove the upper CPU cover, complete the following:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Palmrest cover with TouchPad (pg 14).

3. Remove the keyboard (pg 17).

4. Remove the Heatspreader (pg 23).

5. Remove the Internet Zone cover (pg 18).

6. Remove the Internet button board (pg 21).

7. Remove the hard drive (pg 25).

8. Remove the display panel assembly (pg 32).

9. Remove four screws located on the top of the upper CPU cover and lift the cover off the chassis.

To replace the upper CPU cover, reverse these procedures.

Removing the Fan Assembly

To remove the fan assembly, complete the following:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Palmrest cover with TouchPad (pg 14).

3. Remove the keyboard (pg 17).

4. Remove the Heatspreader (pg 23).

5. Remove the Internet Zone cover (pg 18).

6. Remove the Internet button board (pg 21).

7. Remove the display panel assembly (pg 32).

8. Remove the hard drive (pg 25).

9. Remove the upper CPU cover (pg 34).

10. Disconnect the fan cable from the connector on the system board and lift the fan assembly from the chassis slot.
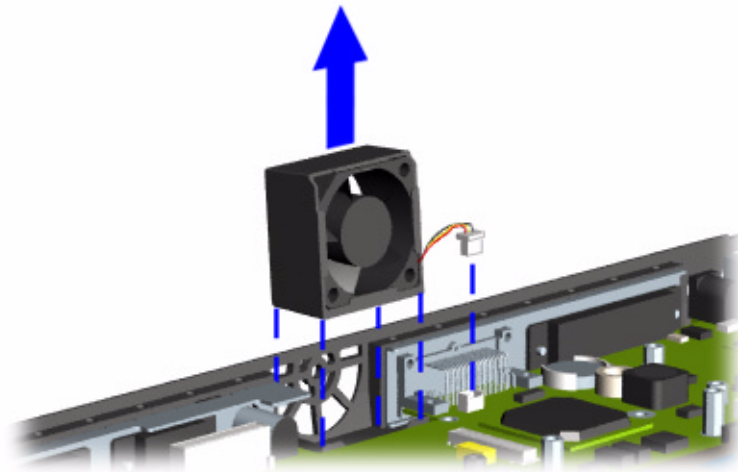
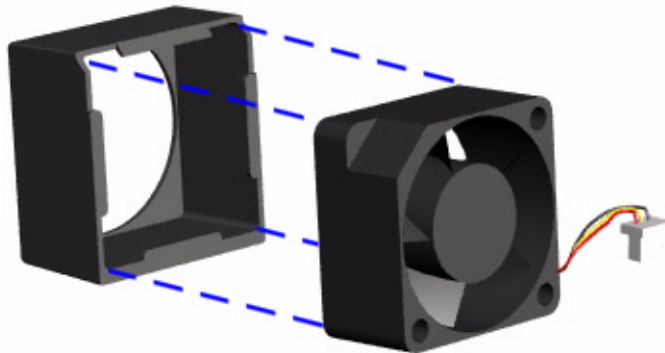**Presario 1800 Series**
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To remove the fan gasket, pull the gasket from the fan.

To replace the fan assembly and gasket, reverse these procedures.

Important: When replacing the fan assembly ensure that the arrow (located on the side of the fan near the connector) is pointing inward.

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Removing the Real Time Clock Battery

⚠ **CAUTION:** Removing the RTC battery clears the power-on password and removes all setup attributes that are programmed in the CMOS.

To remove the RTC battery, complete the following steps:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Palmrest cover with TouchPad (pg 14).

3. Remove the keyboard (pg 17).

4. Remove the Heatspreader (pg 23).

5. Remove the Internet Zone cover (pg 18).

6. Remove the Internet button board (pg 21).

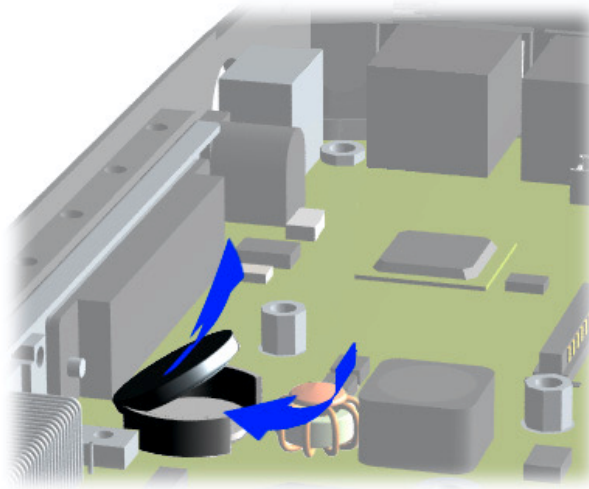7. Remove the hard drive (pg 25).

8. Remove the upper CPU cover (pg 34).

9. Locate the RTC battery on the system board behind the CD/DVD drive near the back of the unit.

10. Using your fingers or a small, non-metallic object, gently pry the RTC battery upward and remove it from the battery socket.

To replace the RTC battery, press the battery firmly into the socket and reassemble the remaining components by reversing their removal procedures.
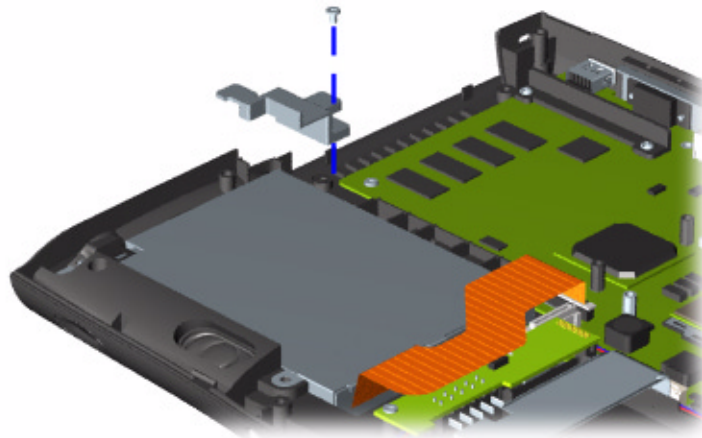
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Presario 1800 Series
Models: XL180, XL181, XL182, XL183, XL185,
and XL190, XL191, XL192

Removing the Diskette Drive

To remove the diskette drive, complete the following steps:

1. Prepare the Notebook for disassembly ().

2. Remove the Palmrest cover with TouchPad ().

3. Remove the keyboard ().

4. Remove the Heatspreader ().

5. Remove the CD/DVD drive ().

6. Remove the Internet Zone cover ().

7. Remove the Internet button board ().

8. Remove the display panel assembly ().

9. Remove the hard drive ().

10. Remove the upper CPU cover ().

11. Remove the screw from the diskette drive retaining bracket.

Continued on the next page.

12. Remove the screw that connects the diskette drive bracket to the chassis.

13. Disconnect the diskette drive data cable from the ZIF Connector on the system board and lift the diskette drive from the chassis.

To replace the diskette drive, reverse these procedures.

⚠️ **CAUTION:** When replacing the diskette drive, ensure that the Diskette Drive Ribbon Cable is placed in its proper location during the reassembly process. Improper cable placement can damage the Notebook.

Presario 1800 Series
Models: XL180, XL181, XL182, XL183, XL185,
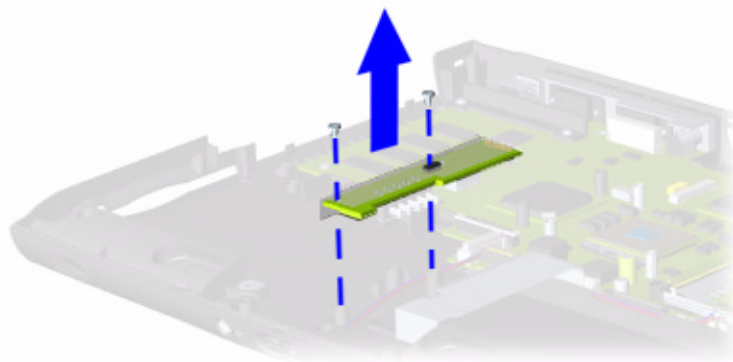**and XL190, XL191, XL192**

Removing the Battery Charger Board

(Voltage Converter Board)

To remove the battery charger board, complete the following:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Palmrest cover with TouchPad (pg 14).

3. Remove the keyboard (pg 17).

4. Remove the Heatspreader (pg 23).

5. Remove the Internet Zone cover (pg 18).

6. Remove the Internet button board (pg 21).

7. Remove the display panel assembly (pg 32).

8. Remove the hard drive (pg 25).

9. Remove the upper CPU cover (pg 34).

10. Remove two screws from the battery charger board and unplug the board from the connector on the system board.

11. Lift the battery charger board out of the chassis.

   Note: Retain plastic insulator for reassembly with replacement battery charger board.

To replace the battery charger board, reverse these procedures.

   Important: When replacing the battery charger board, ensure that the pins are aligned with the connector on the system board.

Removing the Speaker Assembly

To remove the speaker assembly, complete the following:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Palmrest cover with TouchPad (pg 14).

3. Remove the keyboard (pg 17).

4. Remove the Heatspreader (pg 23).

5. Remove the Internet Zone cover (pg 18).

6. Remove the Internet button board (pg 21).

7. Remove the display panel assembly (pg 32).

8. Remove the hard drive (pg 25).

9. Remove the upper CPU cover (pg 34).

10. Remove the battery charger board (pg 41).

11. Disconnect the speaker cables from the system board and lift the speaker assembly from the chassis.
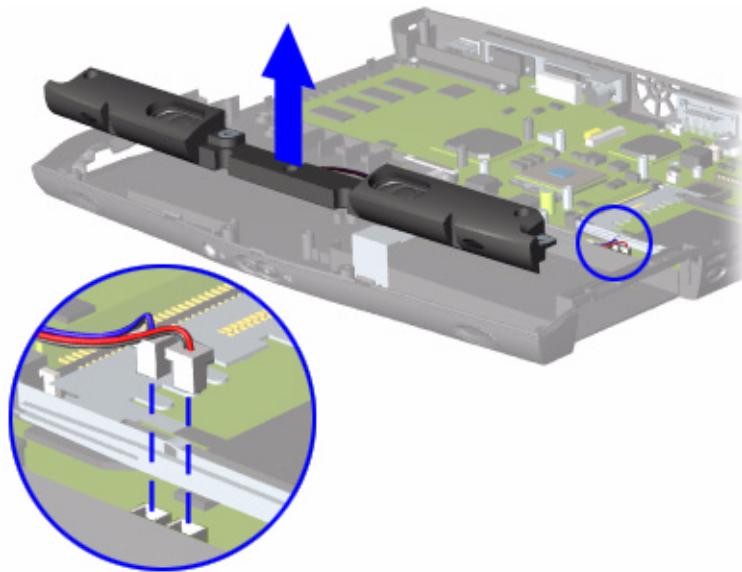
To replace the speaker assembly, reverse these procedures.

> ⚠ **CAUTION:** When replacing the speaker assembly, ensure that the Speaker Assembly Cable is placed in its proper location. Improper cable placement can damage the Notebook.

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Removing the System Board

To remove the system board, complete the following steps:

1. Prepare the Notebook for disassembly (pg 11).

2. Remove the Palmrest cover with TouchPad (pg 14).

3. Remove the keyboard (pg 17).

4. Remove the Heatspreader (pg 23).

5. Remove the Internet Zone cover (pg 18).

6. Remove the Internet button board (pg 21).

7. Remove the display panel assembly (pg 32).

8. Remove the hard drive (pg 25).

9. Remove the upper CPU cover (pg 34).

10. Remove the DisqPlay Module cable from the system board.

11. Remove the modem (pg 24).

12. Remove the CD/DVD drive (pg 30).

13. Remove the fan assembly (pg 35).

14. Remove the diskette drive cable from the system board.

15. Remove the battery charger board (pg 41).

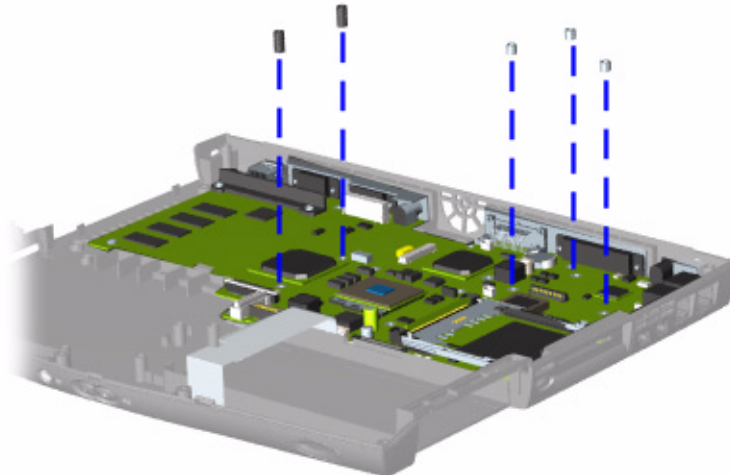16. Disconnect the speaker assembly cables from the system board (pg 43).

17. Remove the five standoffs from the system board.

   Note: The four remaining standoffs located on the system board may be left in place.

18. Remove the two screws from the CD/DVD drive mounting rail and lift the mounting rail from the system board.
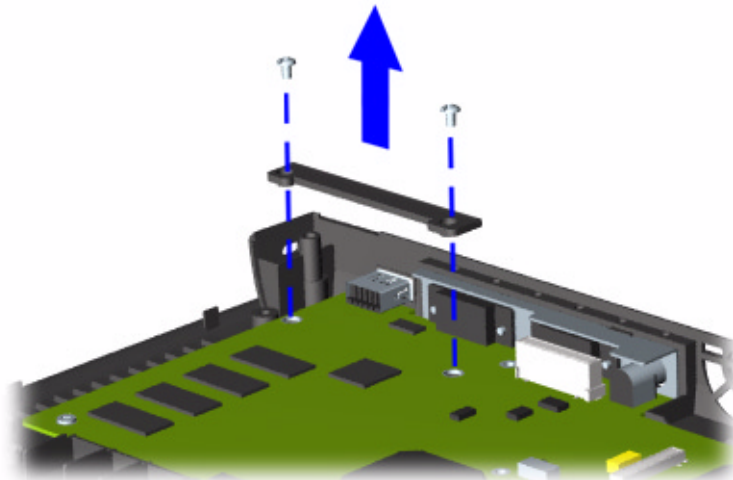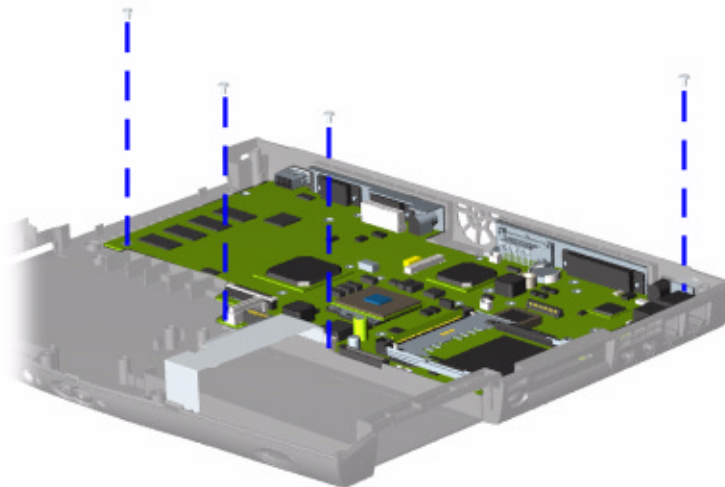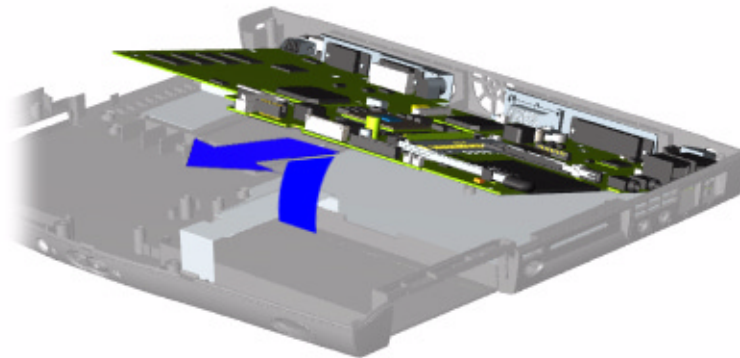
Continued on the next page.

19. Remove four screws from the system board.

20. Lift up the front and pull forward to remove the system board from the chassis.

To replace the system board, reverse these procedures.

> **Important:** Before replacing the system board, remove all remaining cables.
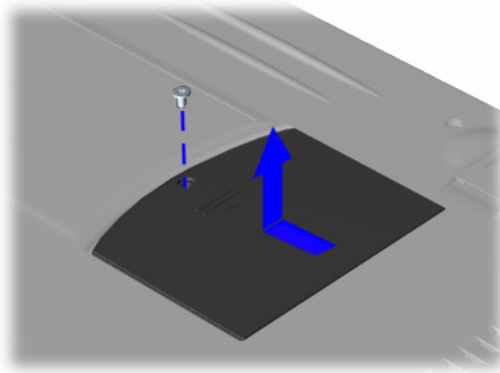
Presario 1800 Series
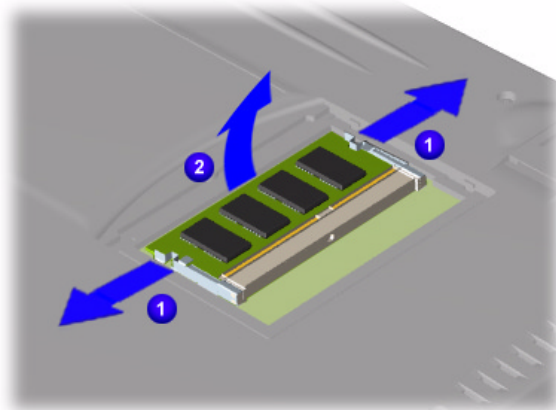**Models: XL180, XL181, XL182, XL183, XL185,**
and XL190, XL191, XL192

Removing the Memory Module

To remove the memory module, complete the following steps:

1. Prepare the Notebook for disassembly (pg 11).

2. Close the display and turn the Notebook over (upside down).

3. Remove the screw from the memory module door.

4. With the front of the Notebook facing you, slide the memory module door to the left and lift.

5. ❶ Pull the side levers to release the module and ❷ unplug the memory module from the system board.

To replace the memory module, reverse these procedures.

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and XL190, XL191, XL192