

Dell Inspiron 13z

Owner's Manual

Computer model: Inspiron 5323
Regulatory model: P31G
Regulatory type: P31G001



Notes, Cautions, and Warnings



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



CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.



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

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1

Before You Begin

Turn Off Your Computer and Connected Devices



CAUTION: To avoid losing data, save and close all open files and exit all open programs before you turn off your computer.

- 1 Save and close all open files and exit all open programs.
- 2 Click **Start**  and click **Shut down**.

Microsoft Windows shuts down and then the computer turns off.



NOTE: If you are using a different operating system, see the documentation of your operating system for shut-down instructions.

- 3 Disconnect your computer and all attached devices from their electrical outlets.
- 4 Disconnect all telephone cables, network cables, and attached devices from your computer.
- 5 Press and hold the power button for about 5 seconds, after the computer is unplugged, to ground the system board.

Safety Instructions

Use the following safety guidelines to protect your computer from potential damage and ensure your personal safety.



WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.



WARNING: Disconnect all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting to the power source.



CAUTION: To avoid damaging the computer, ensure that the work surface is flat and clean.



CAUTION: To avoid damaging the components and cards, handle them by their edges and avoid touching pins and contacts.



CAUTION: Only a certified service technician is authorized to remove the computer cover and access any of the components inside the computer. See the safety instructions for complete information about safety precautions, working inside your computer, and protecting against electrostatic discharge.



CAUTION: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.

- △ **CAUTION:** When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs or thumb-screws that you must disengage before disconnecting the cable. When disconnecting cables, keep them evenly aligned to avoid bending any connector pins. When connecting cables, ensure that the connectors and ports are correctly oriented and aligned.
- △ **CAUTION:** To disconnect a network cable, first unplug the cable from your computer and then unplug the cable from the network device.
- △ **CAUTION:** Press and eject any installed card from the 8-in-1 Media Card Reader.

Recommended Tools

The procedures in this document may require the following tools:

- Phillips screwdriver
- Plastic scribe

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After Working Inside Your Computer

After you complete replacement procedures, ensure the following:

- Replace all screws and ensure that no stray screws remain inside your computer
- Connect any external devices, cables, cards, and any other part(s) you removed before working on your computer
- Connect your computer and all attached devices to their electrical outlets



CAUTION: Before turning on your computer, replace all screws and ensure that no stray screws remain inside the computer. Failure to do so may damage your computer.

3

Removing the Switch



WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 9. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

- 1 Slide the switch release latch to the side.
The switch pops up.
- 2 Lift the switch off the computer.



1 display cover

2 switch

3 switch release latch

4

Replacing the Switch



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Procedure

- 1 Align the tabs at the bottom of the switch with the slots on the display cover and snap the switch into place.



NOTE: Ensure that the tabs on the switch are secured in the slots on the display cover.



1	switch	2	tabs
3	slots		

- 2 Follow the instructions in "After Working Inside Your Computer" on page 11.

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Removing the Base Cover



WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 9. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

- 1 Close the display, if it is open, and turn the computer over.
- 2 Loosen the captive screw that secures the base cover to the computer base.
- 3 Using your fingertips, pry the base cover from the computer base.
- 4 Lift the base cover off the computer base.



- | | | | |
|---|---------------|---|------------|
| 1 | tabs | 2 | base cover |
| 3 | captive screw | | |

6

Replacing the Base Cover



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Procedure

- 1 Slide the tabs on the base cover into the slots on the computer base and snap the base cover into place.
- 2 Tighten the captive screw that secures the base cover to the computer base.

Postrequisites

Follow the instructions in "After Working Inside Your Computer" on page 11.

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Removing the Keyboard



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Procedure



CAUTION: The keycaps on the keyboard are fragile, easily dislodged, and time-consuming to replace. Be careful when removing and handling the keyboard.

- 1 Close the display, if it is open, and turn the computer over.
- 2 Remove the screw that secures the keyboard to the computer base.



- 3 Turn the computer over and open the display as far as possible.
- 4 Using a plastic scribe, release the keyboard from the tabs on the palm rest and ease the keyboard up until it clears off the palm rest.
- 5 Carefully turn the keyboard over and place it on the palm rest.

CAUTION: Be extremely careful when removing and handling the keyboard. Failure to do so could result in scratching the display panel.



1 tabs (3)	2 plastic scribe
3 keyboard	4 palm rest

- 6 Lift the connector latch and disconnect the keyboard cable from the system-board connector.
- 7 Lift the keyboard away from the computer.



1 connector latch	2 keyboard cable
3 tabs (4)	

8

Replacing the Keyboard



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Procedure

- 1 Slide the keyboard cable into the system-board connector and press down on the connector latch to secure the keyboard cable.
- 2 Slide the tabs at the bottom of the keyboard into the slots on the palm rest and place the keyboard on the palm rest.
- 3 Gently press around the edges of the keyboard to secure the keyboard under the tabs on the palm rest.
- 4 Close the display and turn the computer over.
- 5 Replace the screw that secures the keyboard to the computer base.

Postrequisites

Follow the instructions in "After Working Inside Your Computer" on page 11.

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Removing the Palm Rest



WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 9. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.

Procedure

- 1 Close the display and turn the computer over.
- 2 Remove the screws that secure the palm rest to the computer base.



- 3 Turn the computer over and open the display as far as possible.
 - 4 Remove the screws that secure the palm rest to the computer base.
 - 5 Lift the connector latches and pull the pull-tabs to disconnect the hot-key board cable, power-button board cable, and touchpad cable from the system-board connectors.
- CAUTION:** Carefully separate the palm rest from the display assembly to avoid damage to the display assembly.
- 6 Using a plastic scribe, carefully pry out the palm rest and then ease the palm rest from the computer base.



1 power-button board cable	2 touchpad cable
3 pull-tab	4 connector latch
5 hot-key board cable	6 screws (4)
7 palm rest	8 plastic scribe



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Procedure

- 1 Align the palm rest with the computer base and gently snap the palm rest into place.
- 2 Slide the hot-key board cable, power-button board cable, and touchpad cable into the system-board connectors and press down on the connector latches to secure the cables.
- 3 Replace the screws that secure the palm rest to the computer base.
- 4 Close the display and turn the computer over.
- 5 Replace the screws that secure the palm rest to the computer base.

Postrequisites

- 1 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 2 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 3 Follow the instructions in "After Working Inside Your Computer" on page 11.



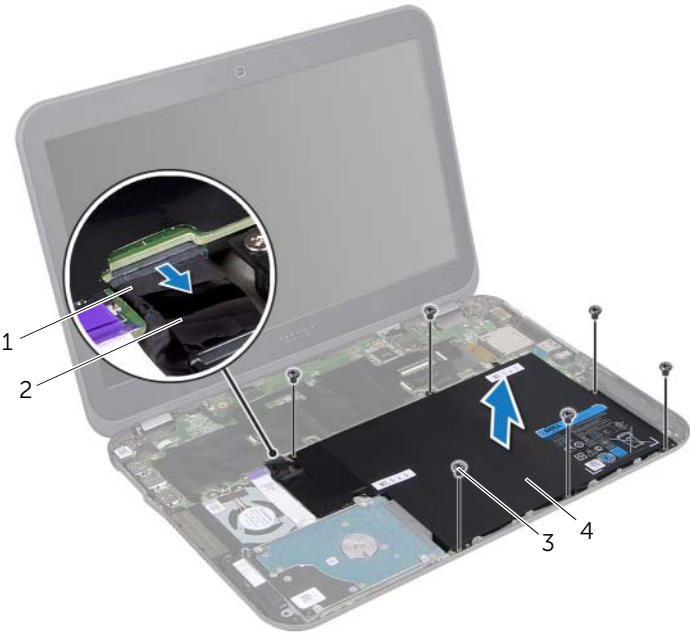
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Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.

Procedure

- 1 Pull the pull-tab on the battery cable to disconnect the battery cable from the system-board connector.
- 2 Remove the screws that secure the battery to the computer base.
- 3 Lift the battery off the computer base.



1 battery cable	2 pull-tab
3 screws (6)	4 battery



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Procedure

- 1 Align the screw holes on the battery with the screw holes on the computer base.
- 2 Replace the screws that secure the battery to the computer base.
- 3 Connect the battery cable to the system-board connector.

Postrequisites

- 1 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 2 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 3 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 4 Follow the instructions in "After Working Inside Your Computer" on page 11.



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Prerequisites

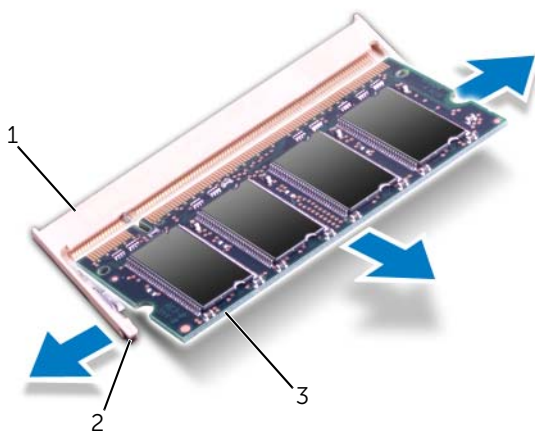
- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.

Procedure



CAUTION: To prevent damage to the memory-module connector, do not use tools to spread the memory-module securing clips.

- 1 Close the display and turn the computer over.
- 2 Use your fingertips to carefully spread apart the securing clips on each end of the memory-module connector until the memory module pops up.
- 3 Remove the memory module from the memory-module connector.



1	memory-module connector	2	securing clips (2)
3	memory module		



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Procedure

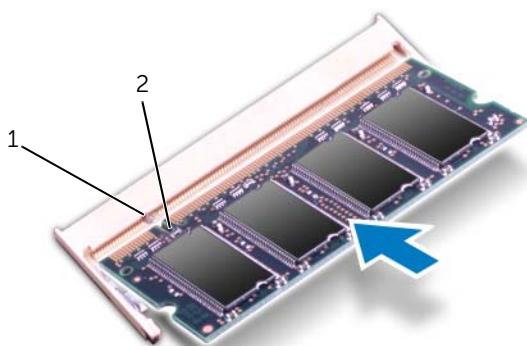


CAUTION: If you need to install memory modules in two connectors, install a memory module in the connector labeled "DIMM A" before you install a memory module in the connector labeled "DIMM B."

- 1 Align the notch on the memory module with the tab on the memory-module connector.
- 2 Slide the memory module firmly into the connector at a 45-degree angle, and press the memory module down until it clicks into place. If you do not hear the click, remove the memory module and reinstall it.



NOTE: If the memory module is not installed properly, the computer may not boot.



1	tab	2	notch
---	-----	---	-------


- 3 Turn the computer over and open the display as far as possible.

Postrequisites

- 1 Replace the battery. See "Replacing the Battery" on page 33.
- 2 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 3 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 4 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 5 Follow the instructions in "After Working Inside Your Computer" on page 11.
- 6 Turn on your computer.

As the computer boots, it detects the memory module(s) and automatically updates the system configuration information.

To confirm the amount of memory installed on your computer:

Click **Start**  → **Control Panel** → **System and Security** → **System**.



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NOTE: Dell does not guarantee compatibility or provide support for Mini-Cards from sources other than Dell.

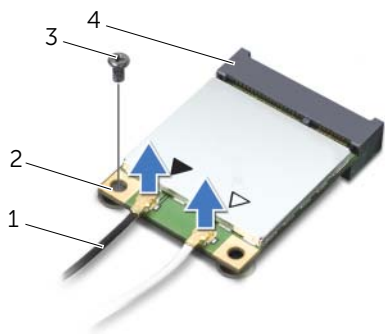
If you ordered a wireless Mini-Card with your computer, the card is already installed.

Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.

Procedure

- 1 Close the display, if it is open, and turn the computer over.
- 2 Disconnect the antenna cables from the connectors on the Mini-Card(s).
- 3 Remove the screw that secures the Mini-Card(s) to the connector on the system board.



1	antenna cables (2)	2	Mini-Card
3	screw	4	system-board connector

- 4 Lift the Mini-Card(s) out of the system-board connector.



CAUTION: When the Mini-Card is not in the computer, store it in protective antistatic packaging. For more information, see "Protecting Against Electrostatic Discharge" in the safety information that shipped with your computer.



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NOTE: Dell does not guarantee compatibility or provide support for Mini-Cards from sources other than Dell.

Your computer supports connectors for the following Mini-Cards:

- One half Mini-Card — Wireless Local Area Network (WLAN) + Bluetooth combo card, Wi-Fi, and Worldwide Interoperability for Microwave Access (WiMax)
- One full Mini-Card — WWAN or mSATA card

Procedure

- 1 Remove the new Mini-Card(s) from its packaging.
- 2 Align the notch on the Mini-Card(s) with the tab on the system-board connector.



CAUTION: Use firm and even pressure to slide the Mini-Card into place. If you use excessive force, you may damage the connector.



CAUTION: The connectors are keyed to ensure correct insertion. If you feel resistance, check the connectors on the Mini-Card and on the system board, and realign the Mini-Card.



CAUTION: To avoid damage to the Mini-Card, never place cables under the Mini-Card.

- 3 Insert the Mini-Card(s) connector at a 45-degree angle into the system-board connector.
- 4 Press the other end of the Mini-Card(s) down into the slot on the system board and replace the screw that secures the Mini-Card(s) to the system-board connector.

- 5 Connect the antenna cables to the connectors on the Mini-Card(s).
The following table provides the antenna cable color scheme for the Mini-Cards supported by your computer.

Connectors on the Mini-Card	Antenna Cable Color Scheme
WLAN + Bluetooth (2 antenna cables)	
Main WLAN + Bluetooth (white triangle)	white
Auxiliary WLAN + Bluetooth (black triangle)	black
WWAN (2 antenna cables)	
Main WWAN (white triangle)	white with gray stripe
Auxiliary WWAN (black triangle)	black with gray stripe

- 6 Turn the computer over and open the display as far as possible.

Postrequisites

- 1 Replace the battery. See "Replacing the Battery" on page 33.
- 2 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 3 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 4 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 5 Follow the instructions in "After Working Inside Your Computer" on page 11.



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WARNING: The battery may explode if installed incorrectly. Replace the battery only with the same or equivalent type. Discard used batteries according to the manufacturer's instructions.



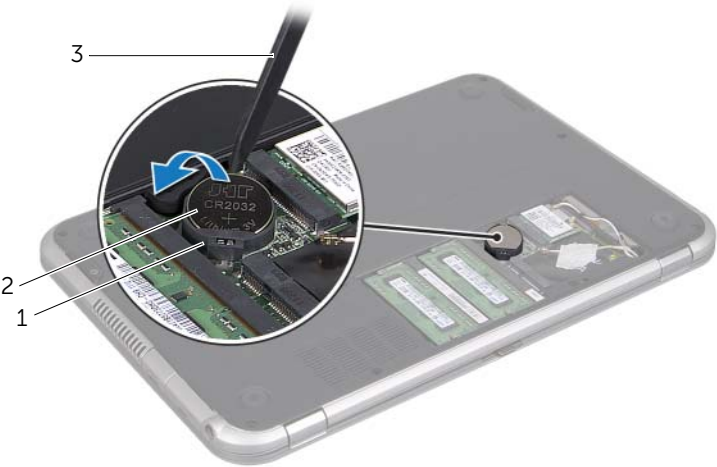
CAUTION: Removing the coin-cell battery resets the BIOS settings to default. It is recommended that you note the BIOS settings before removing the coin-cell battery.

Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.

Procedure

- 1 Close the display and turn the computer over.
- 2 Using a plastic scribe, gently pry the coin-cell battery out of the battery socket on the system board.



1	battery socket	2	coin-cell battery
3	plastic scribe		



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WARNING: The battery may explode if installed incorrectly. Replace the battery only with the same or equivalent type. Discard used batteries according to the manufacturer's instructions.

Procedure

- 1 With the positive-side facing up, snap the coin-cell battery into the battery socket on the system board.
- 2 Turn the computer over and open the display as far as possible.

Postrequisites

- 1 Replace the battery. See "Replacing the Battery" on page 33.
- 2 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 3 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 4 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 5 Follow the instructions in "After Working Inside Your Computer" on page 11.



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Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.

Procedure

- 1 Remove the screw that secures the power-adaptor port to the computer base.
- 2 Disconnect the power-adaptor port cable from the system-board connector.
- 3 Lift the power-adaptor port along with its cable away from the computer base.



1	power-adaptor port	2	screw
3	power-adaptor port cable		



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Procedure

- 1 Connect the power-adapter port cable to the system-board connector.
- 2 Align the screw hole on the power-adapter port with the screw hole on the computer base.
- 3 Replace the screw that secures the power-adapter port to the computer base.

Postrequisites

- 1 Replace the battery. See "Replacing the Battery" on page 33.
- 2 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 3 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 4 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 5 Follow the instructions in "After Working Inside Your Computer" on page 11.



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CAUTION: To avoid data loss, do not remove the hard drive while the computer is On or in Sleep state.



CAUTION: Hard drives are extremely fragile. Exercise care when handling the hard drive.

Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.

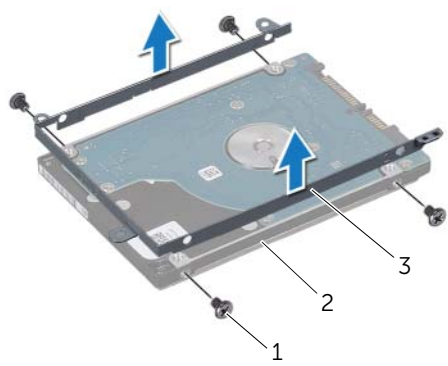
Procedure

- 1 Remove the screws that secure the hard-drive assembly to the computer base.
- 2 Disconnect the hard-drive cable connector from the hard-drive assembly.
- 3 Lift the hard-drive assembly away from the computer base.



1	screws (4)	2	hard-drive assembly
3	hard-drive cable connector		

- 4 Remove the screws that secure the hard-drive bracket to the hard drive.
- 5 Lift the hard-drive bracket off the hard drive.



1	screws (4)	2	hard drive
3	hard-drive bracket		



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CAUTION: Hard drives are extremely fragile. Exercise care when handling the hard drive.

Procedure

- 1 Remove the new hard drive from its packaging.
Save the original packaging for storing or shipping the hard drive.
- 2 Align the screw holes on the hard drive-bracket with the screw holes on the hard drive.
- 3 Replace the screws that secure the hard-drive bracket to the hard drive.
- 4 Connect the hard-drive cable connector to the hard-drive assembly.
- 5 Align the screw holes on the hard-drive assembly with the screw holes on the computer base.
- 6 Replace the screws that secure the hard-drive assembly to the computer base.

Postrequisites

- 1 Replace the battery. See "Replacing the Battery" on page 33.
- 2 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 3 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 4 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 5 Follow the instructions in "After Working Inside Your Computer" on page 11.



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Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.

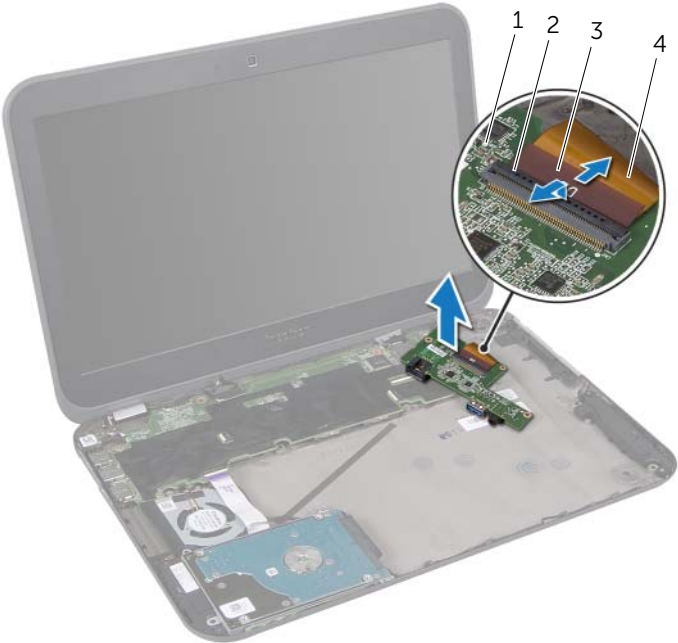
Procedure

- 1 Disconnect the speakers cable from the I/O-board connector.
- 2 Remove the screws that secure the I/O board to the computer base.
- 3 Carefully turn the I/O board over to the left and place it on the system-board assembly.



1 I/O board	2 speakers cable
3 screws (3)	

- 4 Lift the connector latch and pull the pull-tab to disconnect the ribbon cable from the I/O-board connector.
- 5 Lift the I/O board away from the computer base.



1 I/O board	2 connector latch
3 pull-tab	4 ribbon cable



WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 9. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

- 1 Slide the ribbon cable into the I/O-board connector and press down on the connector latch to secure the cable.
- 2 Carefully turn the I/O board over and align the screw holes on the I/O board with the screw holes on the computer base.
- 3 Replace the screws that secure the I/O board to the computer base.
- 4 Connect the speakers cable to the I/O-board connector.

Postrequisites

- 1 Replace the battery. See "Replacing the Battery" on page 33.
- 2 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 3 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 4 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 5 Follow the instructions in "After Working Inside Your Computer" on page 11.



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Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.
- 5 Follow the instructions from step 1 to step 3 in "Removing the Hard Drive" on page 51.

Procedure

- 1 Remove the screw that secures the fan to the computer base.
- 2 Lift the connector latch and pull the pull-tab to disconnect the LED-board cable from the system-board connector.
- 3 Peel the LED-board cable from the fan.
- 4 Disconnect the fan cable from the system-board connector.
- 5 Lift the fan along with its cable away from the computer base.



1 fan cable	2 screw
3 fan	4 LED-board cable
5 pull-tab	6 connector latch



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Procedure

- 1 Connect the fan cable to the system-board connector.
- 2 Align the screw holes on the fan with the screw holes on the computer base.
- 3 Replace the screw that secures the fan to computer base.
- 4 Adhere the LED-board cable over the fan.
- 5 Slide the LED-board cable into the system-board connector and press down on the connector latch to secure the cable.

Postrequisites

- 1 Follow the instructions from step 4 to step 6 in "Replacing the Hard Drive" on page 55.
- 2 Replace the battery. See "Replacing the Battery" on page 33.
- 3 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 4 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 5 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 6 Follow the instructions in "After Working Inside Your Computer" on page 11.



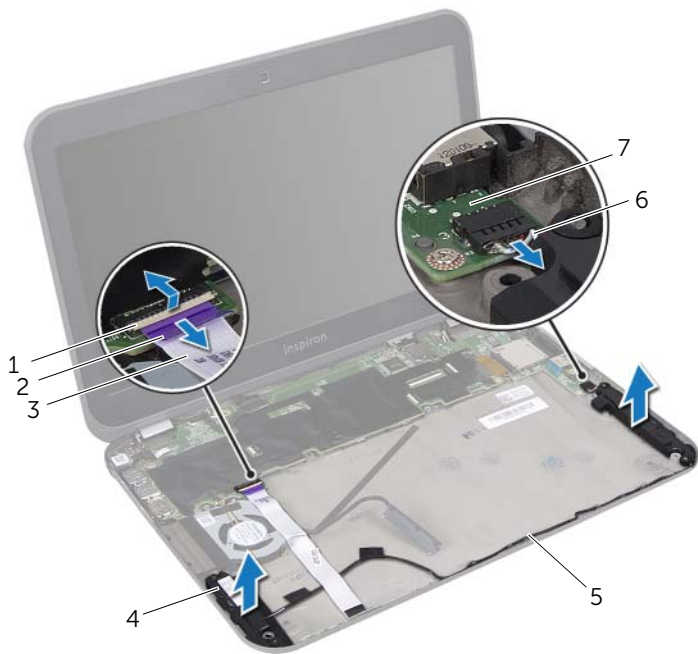
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 9. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.
- 5 Follow the instructions from step 1 to step 3 in "Removing the Hard Drive" on page 51.

Procedure

- 1 Disconnect the speakers cable from the I/O-board connector.
- 2 Lift the connector latch and pull the pull-tab to disconnect the LED-board cable from the system-board connector.
- 3 Make a note of the LED-board cable routing and peel it from the fan and computer base.
- 4 Remove the speakers from the alignment posts on the computer base.
- 5 Make a note of the speakers cable routing and remove it from the routing guides on the computer base.
- 6 Lift the speakers along with its cable away from the computer base.



1 connector latch	2 pull-tab
3 LED-board cable	4 speakers (2)
5 speakers cable routing	6 speakers cable
7 I/O board	



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Procedure

- 1 Route the speakers cable through the routing guides on the computer base.
- 2 Use the alignment posts on the computer base to place the speakers in position.
- 3 Adhere the LED-board cable on the computer base and fan.
- 4 Slide the LED-board cable into the system-board connector and press down on the connector latch to secure the cable.
- 5 Connect the speakers cable to the I/O-board connector.

Postrequisites

- 1 Follow the instructions from step 4 to step 6 in "Replacing the Hard Drive" on page 55.
- 2 Replace the battery. See "Replacing the Battery" on page 33.
- 3 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 4 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 5 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 6 Follow the instructions in "After Working Inside Your Computer" on page 11.



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Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.
- 5 Follow the instructions from step 1 to step 3 in "Removing the Hard Drive" on page 51.

Procedure

- 1 Lift the connector latch and pull the pull-tab to disconnect the LED-board cable from the system-board connector.
- 2 Make a note of the LED-board cable routing and peel it from the fan and computer base.
- 3 Lift the LED board along with its cable away from the computer base.



1 connector latch	2 pull-tab
3 LED-board cable	4 LED board



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Procedure

- 1 Slide the LED board into the tabs on the computer base.
- 2 Adhere the LED-board cable on the computer base and fan.
- 3 Slide the LED-board cable into the system-board connector and press down on the connector latch to secure the cable.

Postrequisites

- 1 Follow the instructions from step 4 to step 6 in "Replacing the Hard Drive" on page 55.
- 2 Replace the battery. See "Replacing the Battery" on page 33.
- 3 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 4 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 5 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 6 Follow the instructions in "After Working Inside Your Computer" on page 11.





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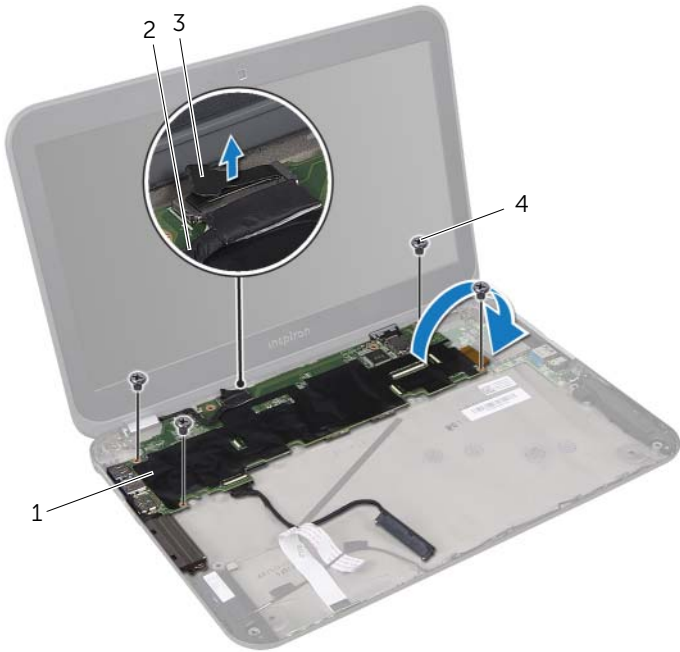
Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.
- 5 Remove the memory module(s). See "Removing the Memory Module(s)" on page 35.
- 6 Remove the wireless Mini-Card(s). See "Removing the Wireless Mini-Card(s)" on page 39.
- 7 Follow the instructions from step 1 to step 3 in "Removing the Hard Drive" on page 51.
- 8 Remove the fan. See "Removing the Fan" on page 63.
- 9 Remove the power-adaptor port. See "Removing the Power-Adapter Port" on page 47.

Procedure

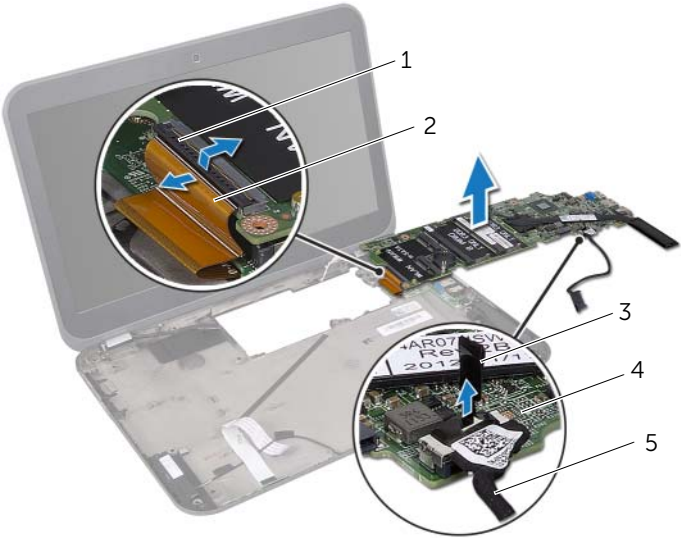
- **NOTE:** Your computer's Service Tag is stored in the system board. You must enter the Service Tag in the BIOS after you replace the system-board assembly.
- **NOTE:** Before disconnecting the cables from the system-board assembly, note the location of the connectors so that you can reconnect them correctly after you replace the system-board assembly.

- 1 Pull the pull-tab to disconnect the display cable from the system-board connector.
- 2 Remove the screws that secure the system-board assembly to the computer base.
- 3 Turn the system-board assembly over along with the hard-drive cable.



1	system-board assembly	2	display cable
3	pull-tab	4	screws (4)

- 4 Pull the pull-tab to disconnect the hard-drive cable from the system-board connector.
- 5 Lift the connector latch and pull the pull-tab to disconnect the ribbon cable from the system-board connector.



1 connector latch	2 ribbon cable
3 pull-tab	4 system-board assembly
5 hard-drive cable	

- 6 Remove the processor heat-sink. See "Removing the Processor Heat-Sink" on page 81.



WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 9. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

- 1 Replace the processor heat-sink. See "Replacing the Processor Heat-Sink" on page 83.
- 2 Slide the ribbon cable into the system-board connector and press down on the connector latch to secure the cable.
- 3 Connect the hard-drive cable to the system-board connector.
- 4 Turn the system-board assembly over along with the hard-drive cable.
- 5 Align the screw holes on the system-board assembly with the screw holes on the computer base.
- 6 Replace the screws that secure the system-board assembly to the computer base.
- 7 Connect the display cable to the system-board connector.

Postrequisites

- 1 Replace the power-adapter port. See "Replacing the Power-Adapter Port" on page 49.
- 2 Replace the fan. See "Replacing the Fan" on page 65
- 3 Follow the instructions from step 4 to step 6 in "Replacing the Hard Drive" on page 55.
- 4 Replace the wireless Mini-Card(s). See "Replacing the Wireless Mini-Card(s)" on page 41.
- 5 Replace the memory module(s). See "Replacing the Memory Module(s)" on page 37.
- 6 Replace the battery. See "Replacing the Battery" on page 33.
- 7 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 8 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 9 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 10 Follow the instructions in "After Working Inside Your Computer" on page 11.

Entering the Service Tag in the BIOS

- 1 Turn on the computer.
- 2 Press <F2> during POST to enter the system setup program.
- 3 Navigate to the **Security** tab and enter the Service Tag in the **Set Service Tag** field.



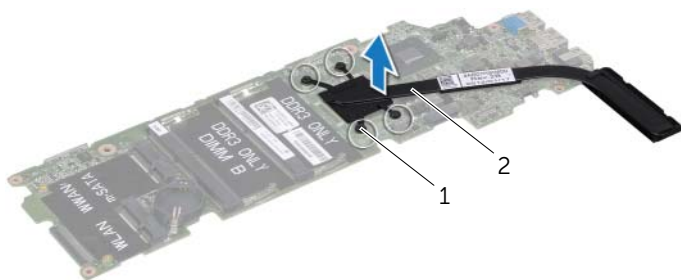
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 9. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.
- 5 Remove the memory module(s). See "Removing the Memory Module(s)" on page 35.
- 6 Remove the wireless Mini-Card(s). See "Removing the Wireless Mini-Card(s)" on page 39.
- 7 Follow the instructions from step 1 to step 3 in "Removing the Hard Drive" on page 51.
- 8 Remove the fan. See "Removing the Fan" on page 63.
- 9 Follow the instructions from step 1 to step 3 in "Removing the System Board" on page 75.

Procedure

- 1 In sequential order (indicated on the heat sink), loosen the captive screws that secure the processor heat-sink to the system board.
- 2 Lift the processor heat-sink off the system board.



- | | |
|----------------------|-----------------------|
| 1 captive screws (4) | 2 processor heat-sink |
|----------------------|-----------------------|



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Procedure



NOTE: The original thermal grease can be reused, if the original system board and heat sink are reinstalled together. If either the system board or the heat sink is replaced, use the thermal pad provided in the kit to ensure that thermal conductivity is achieved.

- 1 Clean the thermal grease from the bottom of the processor heat-sink and reapply it.
- 2 Align the screw holes on the processor heat-sink with the screw holes on the system board.
- 3 In sequential order (indicated on the heat sink), tighten the captive screws that secure the processor heat-sink to the system board.

Postrequisites

- 1 Follow the instructions from step 4 to step 7 in "Replacing the System Board" on page 79.
- 2 Replace the fan. See "Replacing the Fan" on page 65
- 3 Follow the instructions from step 4 to step 6 in "Replacing the Hard Drive" on page 55.
- 4 Replace the wireless Mini-Card(s). See "Replacing the Wireless Mini-Card(s)" on page 41.
- 5 Replace the memory module(s). See "Replacing the Memory Module(s)" on page 37.
- 6 Replace the battery. See "Replacing the Battery" on page 33.
- 7 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 8 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 9 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 10 Follow the instructions in "After Working Inside Your Computer" on page 11.



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Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.

Procedure

- 1 Disconnect the antenna cables from the connectors on the wireless Mini-Card(s). See "Removing the Wireless Mini-Card(s)" on page 39.
- 2 Make a note of the antenna cables routing and remove the cables from the routing guides.
- 3 Turn the computer over and open the display as far as possible.
- 4 Pull the antenna cables up through the slot on the computer base.
- 5 Pull the pull-tab to disconnect the display cable from the system-board connector.
- 6 Remove the screws that secure the display assembly to the computer base.
- 7 Lift the display assembly off the computer base.



1 display assembly	2 screws (4)
3 display cable	4 pull-tab



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Procedure

- 1 Place the display assembly in position and replace the screws that secure the display assembly to the computer base.
- 2 Connect the display cable to the system-board connector.
- 3 Route the antenna cables through the routing guides and slide the cables through the slot on the computer base.
- 4 Close the display and turn the computer over.
- 5 Route the antenna cables through the routing guides at the bottom of the computer.
- 6 Connect the antenna cables to the connectors on the wireless Mini-Card(s). See "Replacing the Wireless Mini-Card(s)" on page 41.

Postrequisites

- 1 Replace the battery. See "Replacing the Battery" on page 33.
- 2 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 3 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 4 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 5 Follow the instructions in "After Working Inside Your Computer" on page 11.



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Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.
- 5 Remove the display assembly. See "Removing the Display Assembly" on page 85.

Procedure



CAUTION: The display bezel is extremely fragile. Be careful when removing it to prevent damaging the display bezel.

- 1 Using your fingertips, carefully pry up the inside edge of the display bezel.
- 2 Lift the display bezel off the display assembly.



1 display bezel



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Procedure

Align the display bezel with the display cover and gently snap it into place.

Postrequisites

- 1 Replace the display assembly. See "Replacing the Display Assembly" on page 87.
- 2 Replace the battery. See "Replacing the Battery" on page 33.
- 3 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 4 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 5 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 6 Follow the instructions in "After Working Inside Your Computer" on page 11.



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Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.
- 5 Remove the display assembly. See "Removing the Display Assembly" on page 85.
- 6 Remove the display bezel. See "Removing the Display Bezel" on page 89.
- 7 Remove the camera module. See "Removing the Camera Module" on page 101.

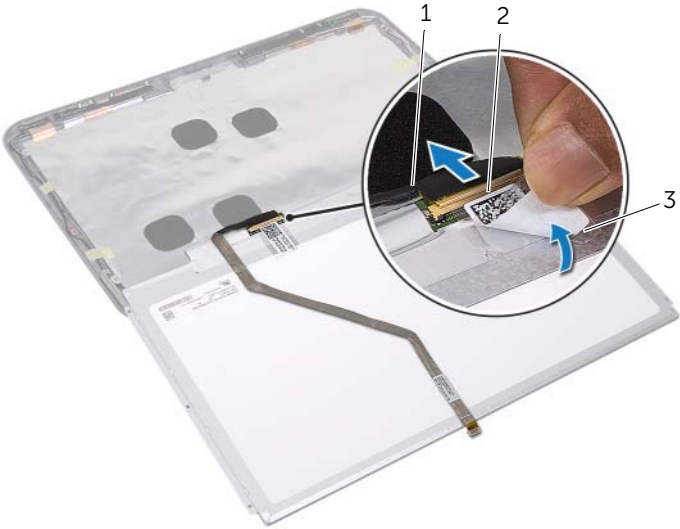
Procedure

- 1 Remove the screws that secure the display panel to the display cover.
- 2 Carefully lift the display panel and turn it over.



- | | |
|-----------------|-----------------|
| 1 screws (4) | 2 display panel |
| 3 display cover | |

- 3 Peel and lift the tape that secures the display cable to the display-board connector and then disconnect the display cable.
- 4 Peel the display cable from the back of the display panel.



1 display cable	2 display-board connector
3 tape	



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Procedure

- 1 Adhere the display cable to the back of the display panel.
- 2 Connect the display cable to the display-board connector and secure it with the tape.
- 3 Align the screw holes on the display panel with the screw holes on the display cover and replace the screws that secure the display panel to the display cover.

Postrequisites

- 1 Replace the camera module. See "Replacing the Camera Module" on page 103.
- 2 Replace the display bezel. See "Replacing the Display Bezel" on page 91.
- 3 Replace the display assembly. See "Replacing the Display Assembly" on page 87.
- 4 Replace the battery. See "Replacing the Battery" on page 33.
- 5 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 6 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 7 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 8 Follow the instructions in "After Working Inside Your Computer" on page 11.



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Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.
- 5 Remove the display assembly. See "Removing the Display Assembly" on page 85.
- 6 Remove the display bezel. See "Removing the Display Bezel" on page 89.
- 7 Remove the camera module. See "Removing the Camera Module" on page 101.
- 8 Remove the display panel. See "Removing the Display Panel" on page 93.

Procedure

- 1 Remove the screws that secure the display hinges to the display cover.
- 2 Lift the display hinges off the display cover.



1 display cover	2 screws (6)
3 display hinges (2)	



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Procedure

- 1 Align the screw holes on the display hinges with the screw holes on the display cover.
- 2 Replace the screws that secure the display hinges to the display cover. Ensure that the display cable and antenna cables are routed through the slot on the display hinges.

Postrequisites

- 1 Replace the display panel. See "Replacing the Display Panel" on page 95.
- 2 Replace the camera module. See "Replacing the Camera Module" on page 103.
- 3 Replace the display bezel. See "Replacing the Display Bezel" on page 91.
- 4 Replace the display assembly. See "Replacing the Display Assembly" on page 87.
- 5 Replace the battery. See "Replacing the Battery" on page 33.
- 6 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 7 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 8 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 9 Follow the instructions in "After Working Inside Your Computer" on page 11.



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Prerequisites

- 1 Remove the base cover. See "Removing the Base Cover" on page 17.
- 2 Remove the keyboard. See "Removing the Keyboard" on page 21.
- 3 Remove the palm rest. See "Removing the Palm Rest" on page 27.
- 4 Remove the battery. See "Removing the Battery" on page 31.
- 5 Remove the display assembly. See "Removing the Display Assembly" on page 85.
- 6 Remove the display bezel. See "Removing the Display Bezel" on page 89.

Procedure

- 1 Peel the camera module from the display cover.
- 2 Disconnect the camera cable from the connector on the camera module.
- 3 Lift the camera module off the display cover.



- | | |
|-----------------|-----------------|
| 1 camera cable | 2 camera module |
| 3 display cover | |



WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before You Begin" on page 9. For additional safety best practices information, see the Regulatory Compliance Homepage at dell.com/regulatory_compliance.

Procedure

- 1 Connect the camera cable to the connector on the camera module.
- 2 Use the alignment posts on the display cover to place the camera module in position and adhere the camera module to the display cover.

Postrequisites

- 1 Replace the display bezel. See "Replacing the Display Bezel" on page 91.
- 2 Replace the display assembly. See "Replacing the Display Assembly" on page 87.
- 3 Replace the battery. See "Replacing the Battery" on page 33.
- 4 Replace the palm rest. See "Replacing the Palm Rest" on page 29.
- 5 Replace the keyboard. See "Replacing the Keyboard" on page 25.
- 6 Replace the base cover. See "Replacing the Base Cover" on page 19.
- 7 Follow the instructions in "After Working Inside Your Computer" on page 11.

The BIOS may require flashing when an update is available or when replacing the system board. To flash the BIOS:

- 1 Turn on the computer.
- 2 Go to **support.dell.com/support/downloads**.
- 3 Locate the BIOS update file for your computer:



NOTE: The Service Tag for your computer is located on a label at the back of your computer. For more information, see the *Quick Start Guide* that shipped with your computer.

If you have your computer's Service Tag or Express Service Code:

- a Enter your computer's Service Tag or Express Service Code in the **Service Tag or Express Service Code** field.
- b Click **Submit** and proceed to step 4.

If you do not have your computer's Service Tag or Express Service Code:

- a Select one of the following options:
 - **Automatically detect my Service Tag for me**
 - **Choose from My Products and Services List**
 - **Choose from a list of all Dell products**
- b Click **Continue** and follow the instructions on the screen.
- 4 A list of results appears on the screen. Click **BIOS**.
- 5 Click **Download File** to download the latest BIOS file.
- 6 In the **Please select your download method below** window, click **Download Now**.
- 7 In the **Save As** window, select an appropriate location to download the file on your computer.
- 8 If the **Download Complete** window appears, click **Close**.
- 9 Navigate to the folder where you downloaded the BIOS update file. The file icon appears in the folder and is titled the same as the downloaded BIOS update file.
- 10 Double-click the BIOS update file icon and follow the instructions that appear on the screen.

