

Inspiron 14

7000 Series

Service Manual

Computer Model: Inspiron 7447
Regulatory Model: P55G
Regulatory Type: P55G001



Notes, Cautions, and Warnings



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



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



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

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2014 - 07

Rev. A00

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Before Working Inside Your Computer

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

 **NOTE:** The images in this document may differ from your computer depending on the configuration you ordered.

Before You Begin

- 1 Save and close all open files and exit all open applications.
 - 2 Shut down your computer.
 - Windows 8.1: On the **Start** screen, click or tap the power icon  → **Shut down**.
 - Windows 7: Click or tap **Start** → **Shut down** .
-  **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 cables such as telephone cables, network cables and so on, from your computer.
 - 5 Disconnect all attached devices and peripherals, such as keyboard, mouse, monitor, and so on, from your computer.
 - 6 Remove any media card and optical disc from your computer, if applicable.

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 more safety best practices, see the Regulatory Compliance home page 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, make sure 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, make sure that the ports and connectors 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 media-card reader.

Recommended Tools

The procedures in this document may require the following tools:

- Philips screwdriver
- Plastic scribe

After Working Inside Your Computer



CAUTION: Leaving stray or loose screws inside your computer may severely damage your computer.

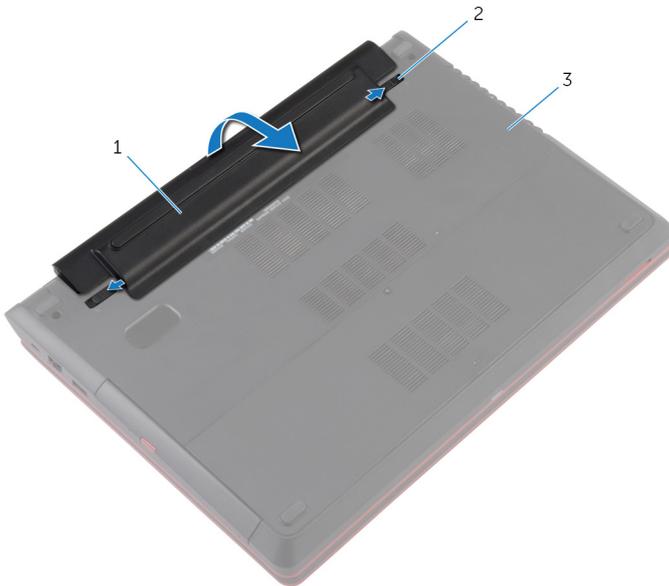
- 1 Replace all screws and make sure that no stray screws remain inside your computer.
- 2 Connect any external devices, peripherals, and cables you removed before working on your computer.
- 3 Replace any media cards, discs, and any other part(s) that you removed before working on your computer.
- 4 Connect your computer and all attached devices to their electrical outlets.
- 5 Turn on your computer.

Removing the Battery

⚠ WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before Working Inside Your Computer](#). After working inside your computer, follow the instructions in [After Working Inside Your Computer](#). For more safety best practices, see the Regulatory Compliance home page at dell.com/regulatory_compliance.

Procedure

- 1 Close the display and turn the computer over.
- 2 Slide the battery-release latches to the unlock position.
- 3 Using your fingertips, lift the battery at an angle and remove the battery off the computer base.



- | | | | |
|---|---------------|---|-----------------------------|
| 1 | battery | 2 | battery-release latches (2) |
| 3 | computer base | | |

- 4 Turn the computer over, open the display, and press the power button for five seconds to ground the system board.

Replacing the Battery

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Procedure

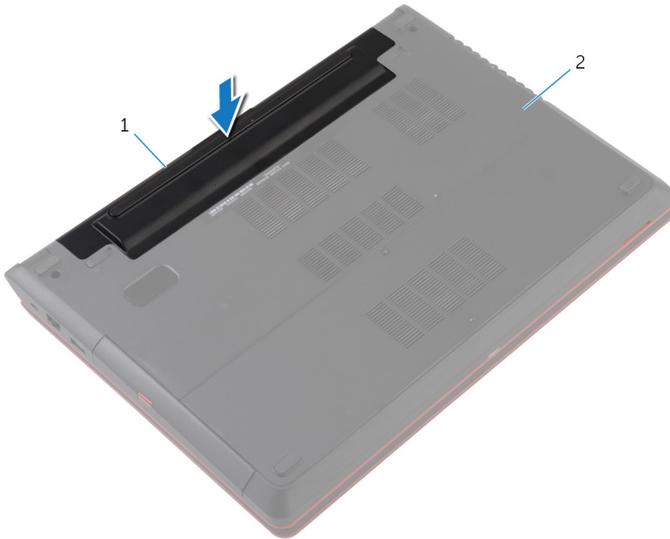
- 1 Insert the battery at an angle into the battery bay and align the tabs on the battery with the slots on the battery bay.



1 battery

2 computer base

- 2 Press the battery down until it snaps into place.



1 battery

2 computer base

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

Removing the Base Cover

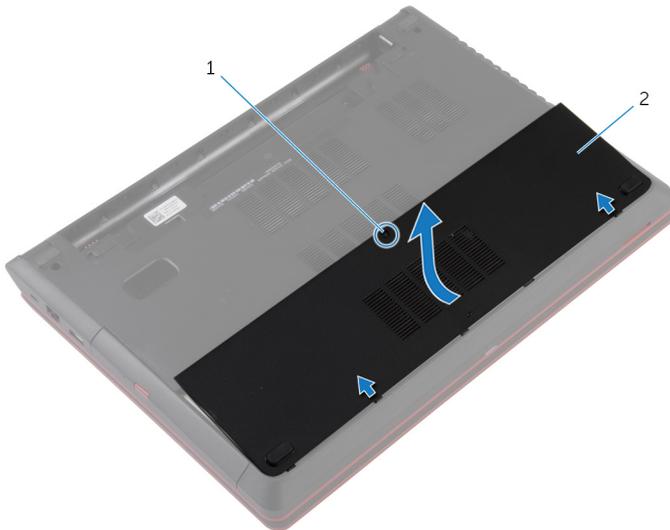
 **WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before Working Inside Your Computer](#). After working inside your computer, follow the instructions in [After Working Inside Your Computer](#). For more safety best practices, see the Regulatory Compliance home page at dell.com/regulatory_compliance.

Prerequisites

Remove the [battery](#).

Procedure

- 1 Loosen the captive screw that secures the base cover to the computer base.
- 2 Pry and lift the base cover off the computer base.



1 captive screw

2 base cover

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.

Post-requisites

Replace the [battery](#).

Removing the Optical Drive



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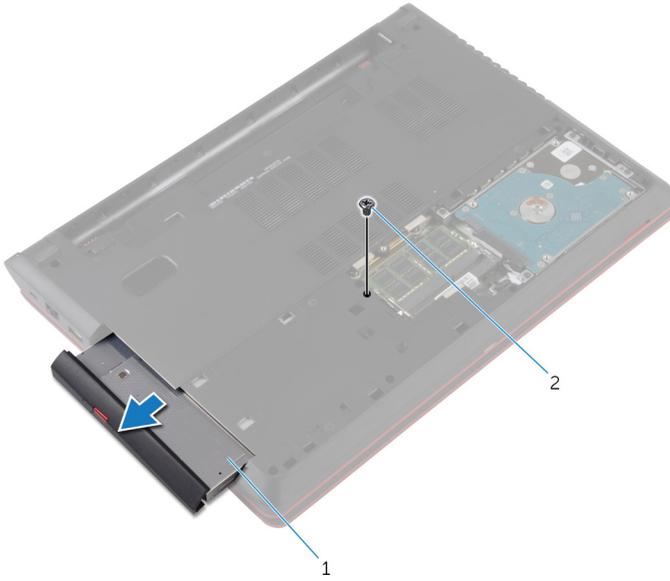
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).

Procedure

- 1 Remove the screw that secures the optical-drive assembly to the computer base.

- 2 Using your fingertips, slide the optical-drive assembly out of the optical-drive bay.



1 optical-drive assembly

2 screw

- 3 Carefully pull the optical-drive bezel and remove it from the optical drive.

- 4 Remove the screw that secures the optical-drive bracket to the optical-drive assembly and remove the optical-drive bracket.



- | | | | |
|---|-----------------------|---|---------------|
| 1 | optical-drive bezel | 2 | optical drive |
| 3 | optical-drive bracket | 4 | screw |

Replacing the Optical Drive



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Procedure

- 1 Align the tabs on the optical-drive bezel with the slots on the optical drive and snap the optical-drive bezel into place.
- 2 Align the screw hole on the optical-drive bracket with the screw hole on the optical-drive assembly.
- 3 Replace the screw that secures the optical-drive bracket to the optical-drive assembly.
- 4 Slide the optical-drive assembly into the optical-drive bay and align the screw hole on the optical-drive assembly with the screw hole on the computer base.
- 5 Replace the screw that secures the optical-drive assembly to the computer base.

Post-requisites

- 1 Replace the [base cover](#).
- 2 Replace the [battery](#).

Removing the Memory Module(s)

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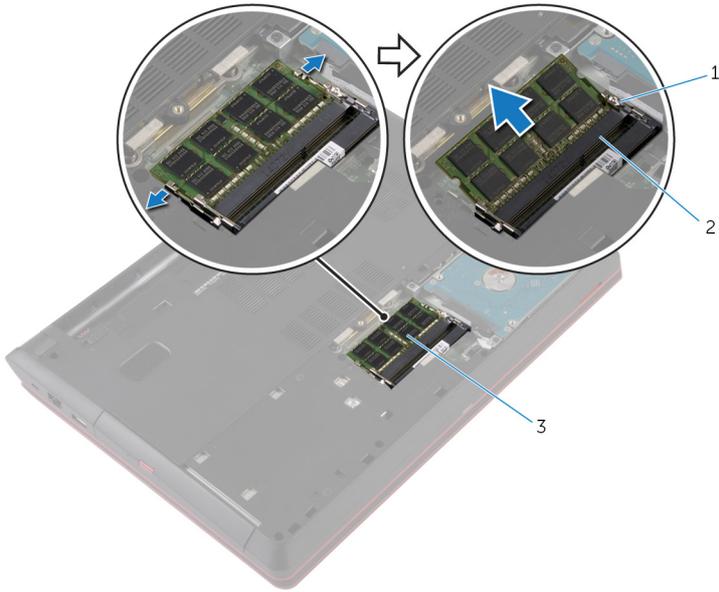
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).

Procedure

- 1 Use your fingertips to carefully spread apart the securing-clips on each end of the memory-module slot until the memory module pops up.

2 Slide and remove the memory module from the memory-module slot.



1 securing clips (2)

2 memory-module slot

3 memory module

Replacing the Memory Module(s)

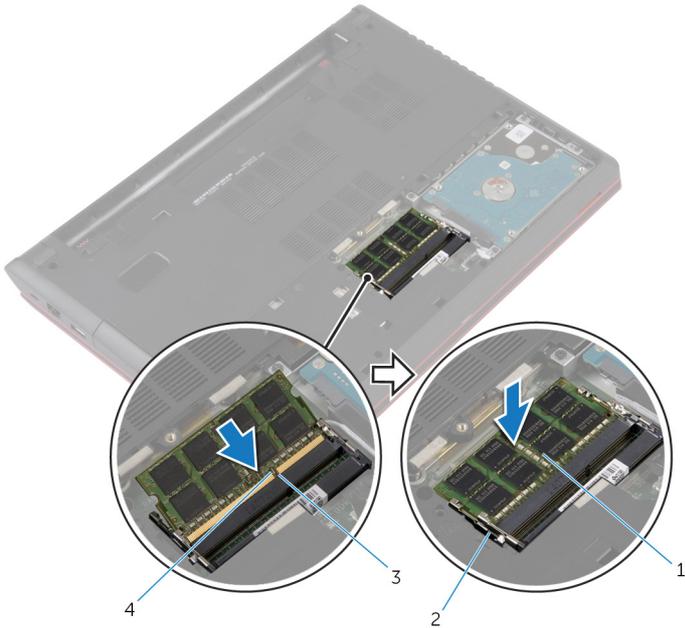
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Procedure

- 1 Align the notch on the memory module with the tab on the memory-module slot.

- Slide the memory module firmly into the slot at an angle and press the memory module down until it clicks into place.

 **NOTE:** If you do not hear the click, remove the memory module and reinstall it.



1 memory module

3 tab

2 securing clips (2)

4 notch

Post-requisites

- Replace the [base cover](#).
- Replace the [battery](#).

Removing the Hard Drive

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

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

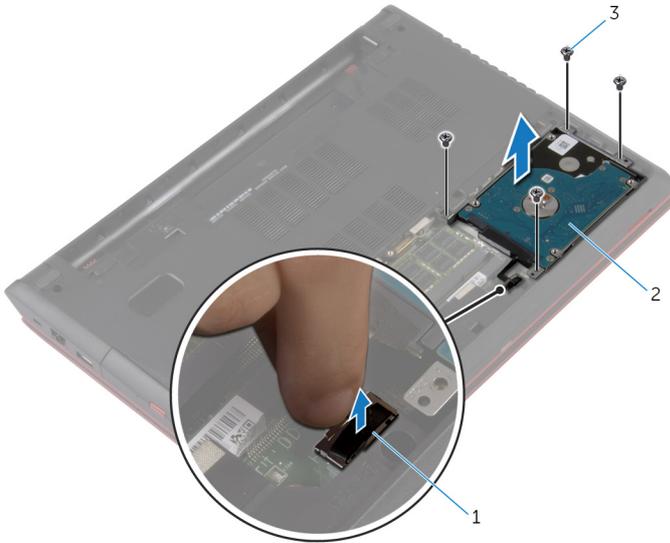
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).

Procedure

- 1 Using the pull-tab, disconnect the hard-drive cable from the system board.
- 2 Remove the screws that secure the hard-drive assembly to the computer base.

- 3 Gently lift the hard-drive assembly out of the computer base.



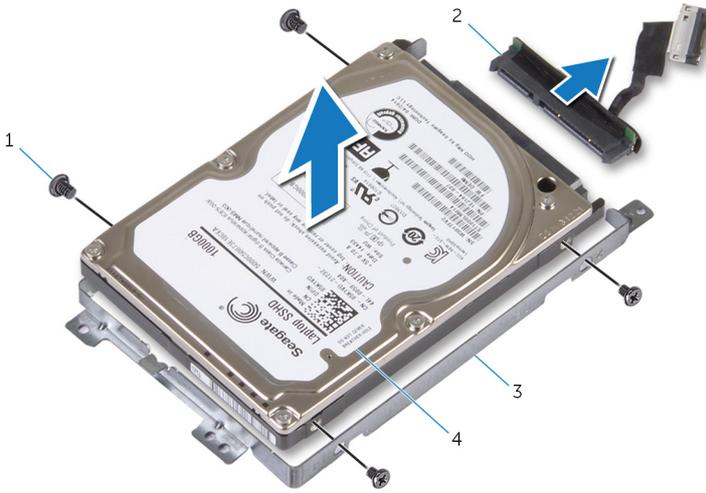
1 pull-tab

2 hard-drive assembly

3 screws (4)

- 4 Disconnect the interposer from the hard drive.
- 5 Remove the screws that secure the hard-drive bracket to the hard drive.

6 Lift the hard drive out of the hard-drive bracket.



1 screws (4)

2 interposer

3 hard-drive bracket

4 hard drive

Replacing the Hard Drive

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

Procedure

- 1 Connect the interposer to 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 Place the hard-drive assembly into the hard-drive bay.
- 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.
- 7 Connect the hard-drive cable to the system board.

Post-requisites

- 1 Replace the [base cover](#).
- 2 Replace the [battery](#).

Removing the Keyboard



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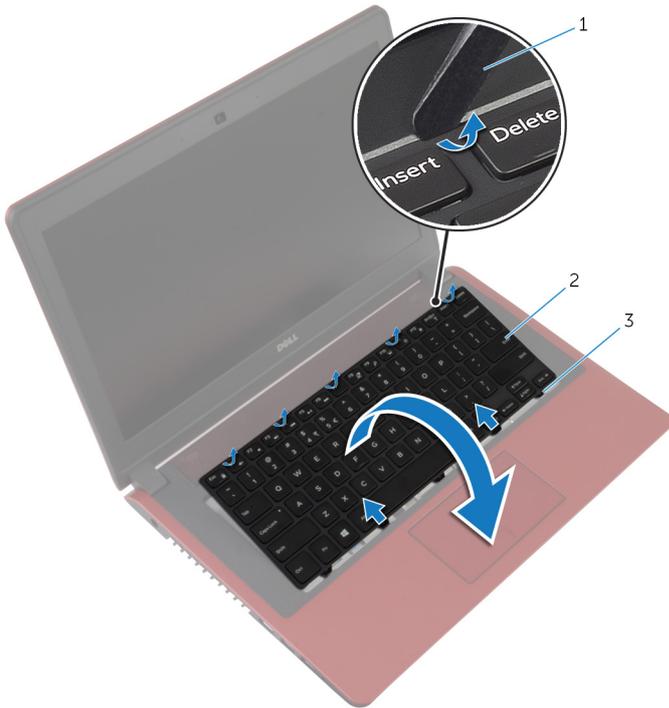
Prerequisites

Remove the [battery](#).

Procedure

- 1 Using a plastic scribe, pry the keyboard out.
- 2 Carefully slide the keyboard up to release the tabs on the keyboard from the slots on the palm rest.

- 3 Turn the keyboard over and place it on the palm rest.

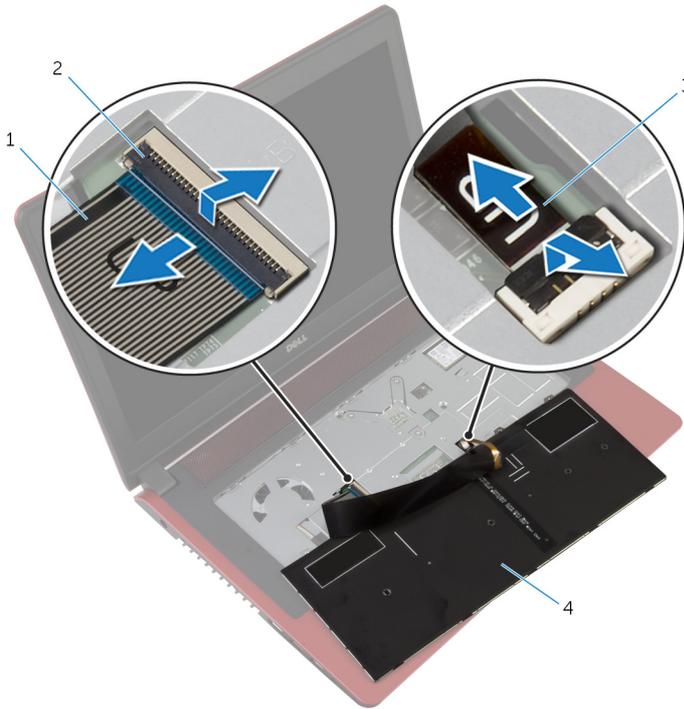


1 plastic scribe

2 keyboard

3 tabs (5)

- 4 Lift the latches and disconnect the keyboard cable and the keyboard-backlight cable from the system board.



1 keyboard cable

2 latches (2)

3 keyboard-backlight cable

4 keyboard

- 5 Lift the keyboard off the palm rest.

Replacing the Keyboard

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Procedure

 **NOTE:** If you are installing a new keyboard, fold the cables the same way they are folded on the old keyboard. For more information, see "[Folding the Keyboard Cables](#)".

- 1 Slide the keyboard cable and the keyboard-backlight cable into the connectors on the system board and press down on the latches to secure the cables.
- 2 Turn the keyboard over.
- 3 Slide the tabs on the keyboard into the slots on the palm rest and snap the keyboard into place.

Post-requisites

Replace the [battery](#).

Folding the Keyboard Cables

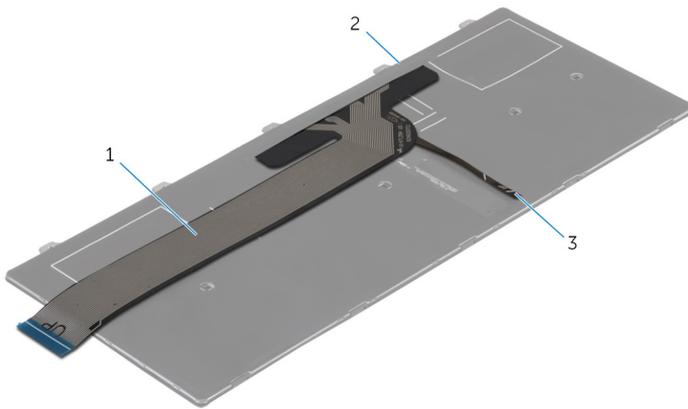
 **CAUTION:** Do not apply excess pressure while folding the cables.

The cables on the keyboard are not folded when you receive a replacement keyboard. Follow these instructions to fold the cables on the replacement keyboard the same way they are folded on the old keyboard.



NOTE: Keyboard-backlight cable is present only on a backlit-keyboard.

- 1 Place the keyboard on a flat and clean surface.

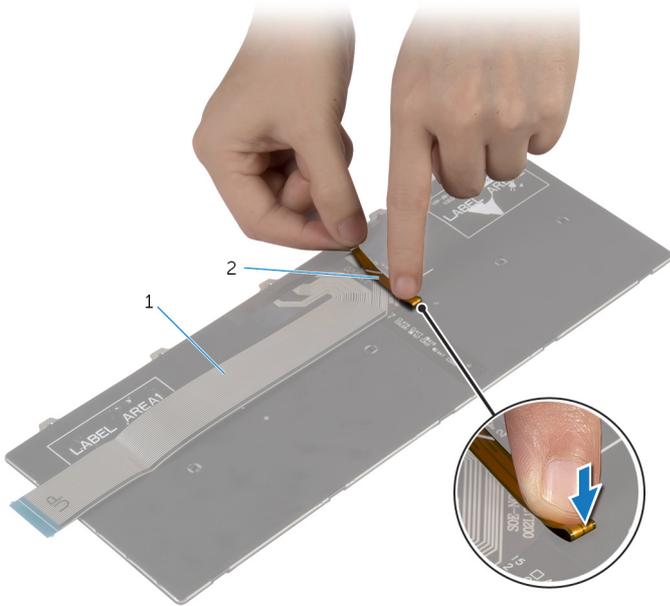


1 keyboard cable

2 keyboard

3 keyboard-backlight cable

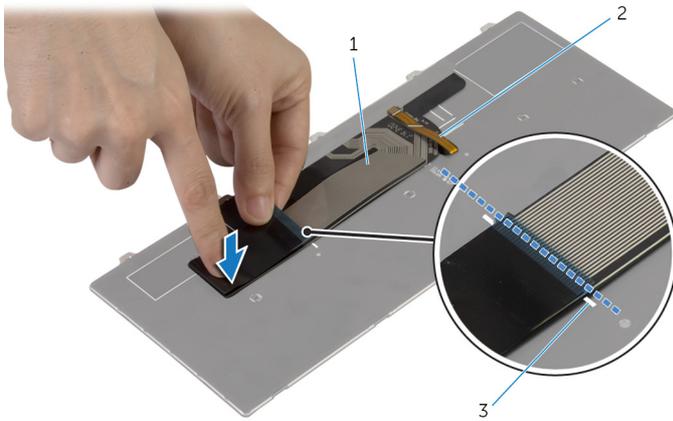
- 2 Gently fold the keyboard-backlight cable till the edge of the keyboard cable as shown in the image.



1 keyboard cable

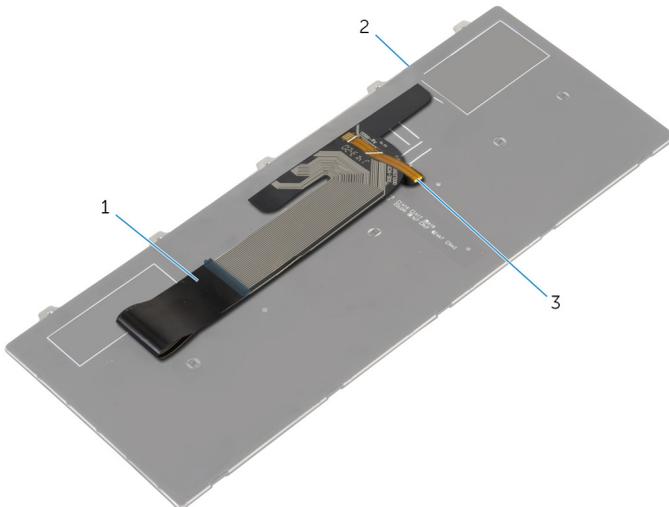
2 keyboard-backlight cable

- 3** Gently fold the keyboard cable with the end aligned at the fold line as shown in the image.



- 1 keyboard cable
3 fold line

- 2 keyboard-backlight cable



- 1 keyboard cable
3 keyboard-backlight cable

- 2 keyboard

Removing the Wireless Card



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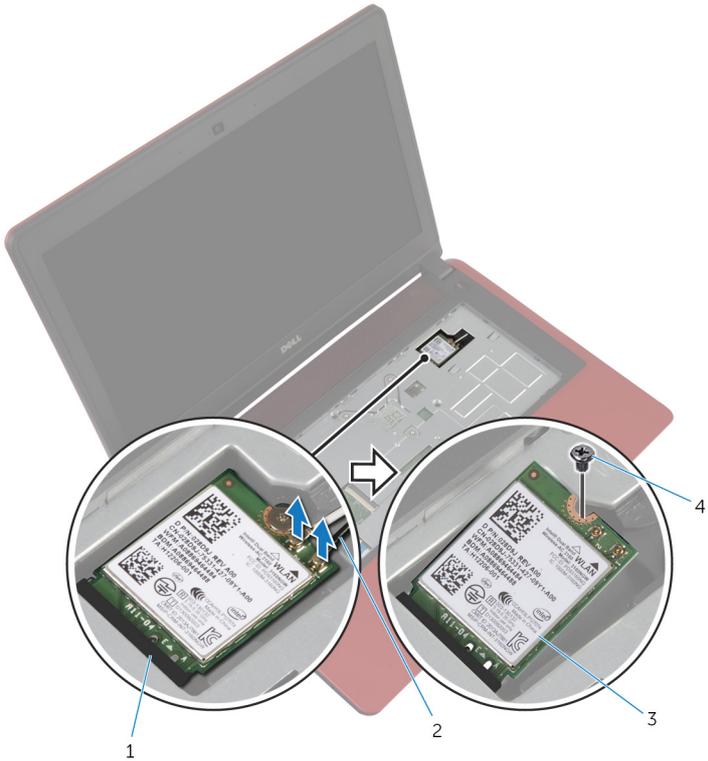
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [keyboard](#).

Procedure

- 1 Disconnect the antenna cables from the wireless card.
- 2 Remove the screw that secures the wireless card to the system board.

3 Slide and remove the wireless card out of the wireless-card slot.



1 wireless-card slot

2 antenna cables (2)

3 wireless card

4 screw

Replacing the Wireless Card

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Procedure

 **CAUTION:** To avoid damage to the wireless card, do not place any cables under it.

- 1 Align the notch on the wireless card with the tab on the wireless-card slot.
- 2 Insert the wireless card into the wireless-card slot.
- 3 Replace the screw that secures the wireless card to the system board.
- 4 Connect the antenna cables to the wireless card.

The following table provides the antenna-cable color scheme for the wireless card supported by your computer.

Connectors on the wireless card	Antenna-cable color
Main (white triangle)	white
Auxiliary (black triangle)	black

Post-requisites

- 1 Replace the [keyboard](#).
- 2 Replace the [battery](#).

Removing the Palm Rest



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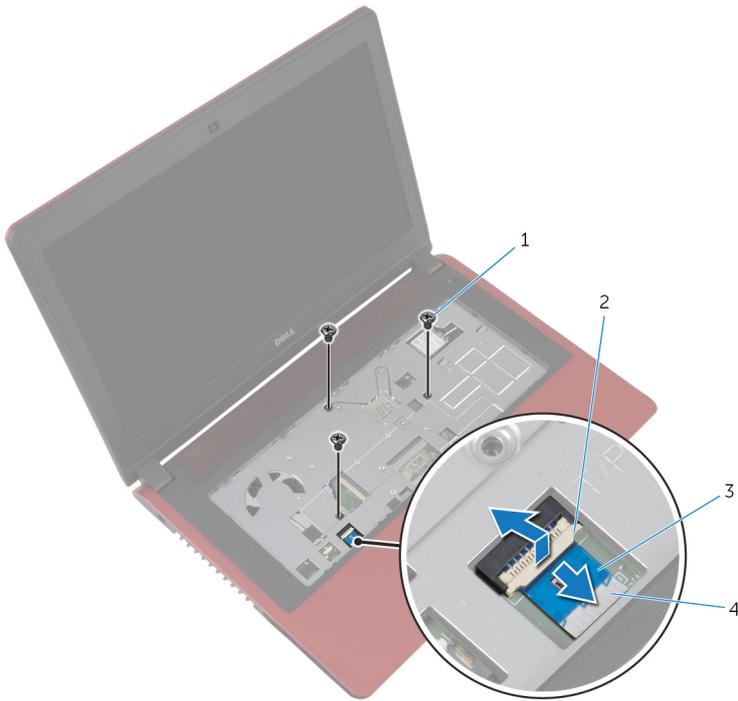
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).
- 3 Remove the [optical drive](#).
- 4 Remove the [keyboard](#).

Procedure

- 1 Remove the screws that secure the palm rest to the computer base.

- 2 Lift the latch, and using the pull-tab, disconnect the touchpad cable from the system board.



1 screws (3)

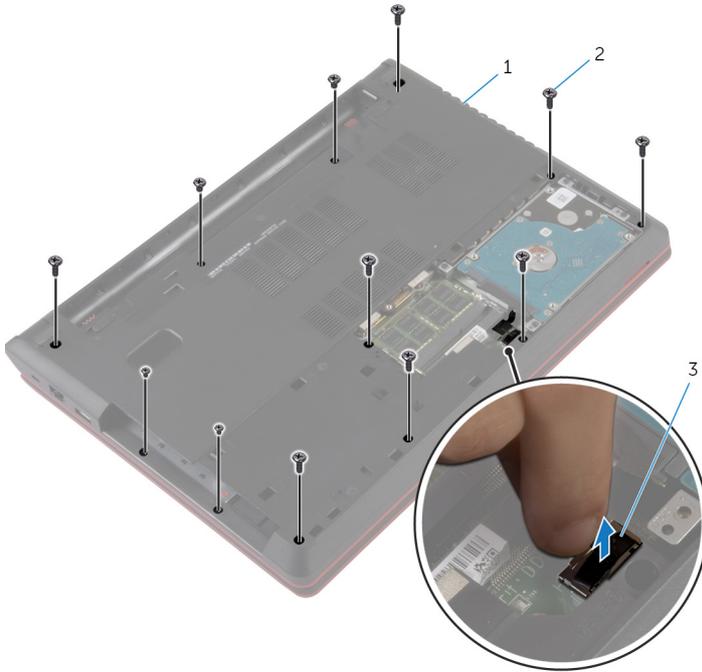
2 latch

3 pull-tab

4 touchpad cable

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

5 Disconnect the hard-drive cable from the system board.

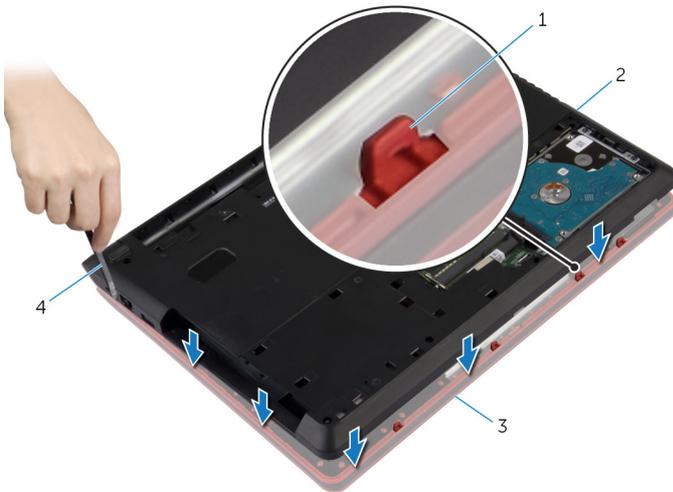


1 computer base

2 screws (12)

3 hard-drive cable

- 6** Using a plastic scribe, release the tabs on the palm rest from the slots on the computer base.



1 tabs (8)

2 computer base

3 palm rest

4 plastic scribe

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

- 8** Lift the palm rest at an angle and remove it from the computer base.



1 palm rest

2 computer base

Replacing the Palm Rest



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Procedure

- 1 Align and place the palm rest on the computer base.
- 2 Press down on the edges of the palm rest to snap it into place.
- 3 Replace the screws that secure the palm rest to the computer base.
- 4 Slide the touchpad cable into the connector on the system board and press down on the latch to secure the cable.
- 5 Close the display and turn the computer over.
- 6 Connect the hard-drive cable to the system board.
- 7 Replace the screws that secure the palm rest to the computer base.

Post-requisites

- 1 Replace the [keyboard](#).
- 2 Replace the [optical drive](#).
- 3 Replace the [base cover](#).
- 4 Replace the [battery](#).

Removing the Coin-Cell Battery

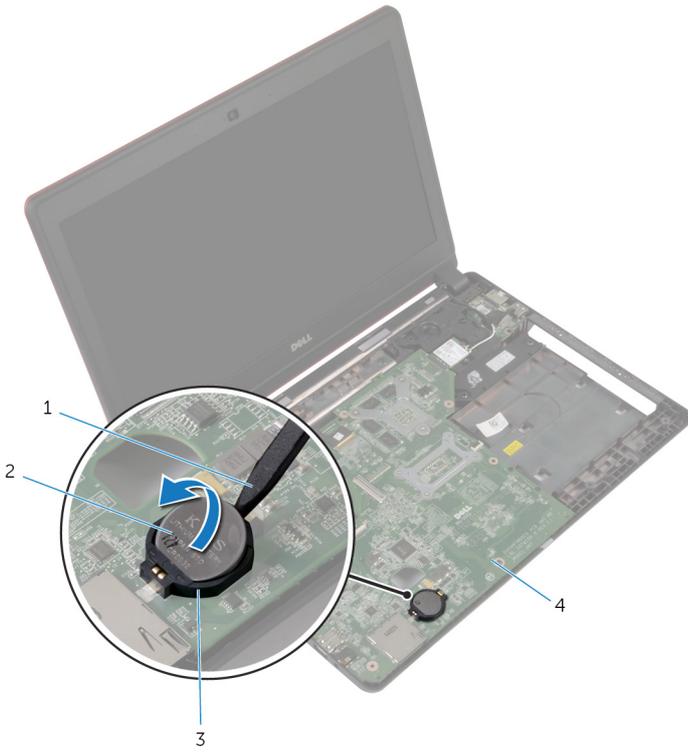
-  **WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before Working Inside Your Computer](#). After working inside your computer, follow the instructions in [After Working Inside Your Computer](#). For more safety best practices, see the Regulatory Compliance home page at dell.com/regulatory_compliance.
-  **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 [battery](#).
- 2 Remove the [base cover](#).
- 3 Remove the [optical drive](#).
- 4 Remove the [keyboard](#).
- 5 Remove the [palm rest](#).

Procedure

Using a plastic scribe, gently pry out the coin-cell battery out of the battery socket on the system board.



1 plastic scribe
3 battery socket

2 coin-cell battery
4 system board

Replacing the Coin-Cell Battery



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Procedure

With the positive-side facing up, snap the coin-cell battery into the battery socket on the system board.

Post-requisites

- 1 Replace the [palm rest](#).
- 2 Replace the [keyboard](#).
- 3 Replace the [optical drive](#).
- 4 Replace the [base cover](#).
- 5 Replace the [battery](#).

Removing the I/O Board



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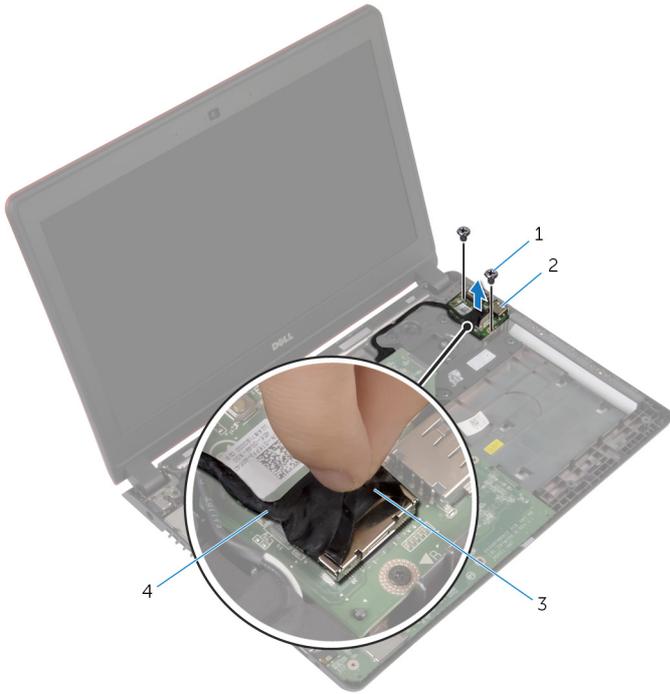
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).
- 3 Remove the [optical drive](#).
- 4 Remove the [keyboard](#).
- 5 Remove the [palm rest](#).

Procedure

- 1 Using the pull-tab, disconnect the I/O-board cable from the I/O board.
- 2 Remove the screws that secure the I/O board to the computer base.

3 Lift the I/O board off the computer base.



1 screws (2)

2 I/O board

3 pull-tab

4 I/O-board cable

Replacing the I/O Board



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Procedure

- 1 Align the screw holes on the I/O board with the screw holes on the computer base.
- 2 Replace the screws that secure the I/O board to the computer base.
- 3 Connect the I/O-board cable to the I/O board.

Post-requisites

- 1 Replace the [palm rest](#).
- 2 Replace the [keyboard](#).
- 3 Replace the [optical drive](#).
- 4 Replace the [base cover](#).
- 5 Replace the [battery](#).

Removing the Fan



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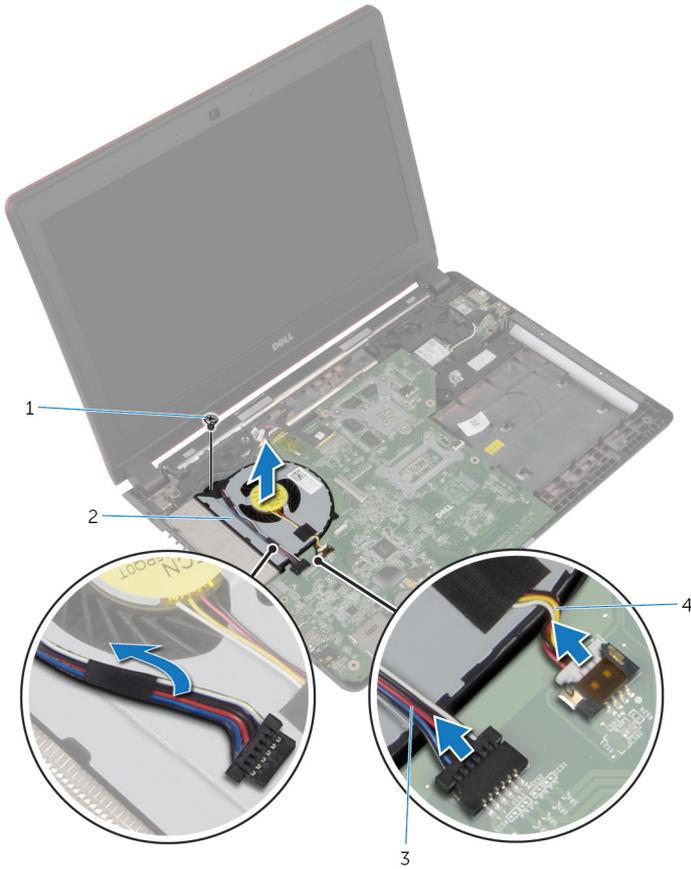
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).
- 3 Remove the [optical drive](#).
- 4 Remove the [keyboard](#).
- 5 Remove the [palm rest](#).

Procedure

- 1 Remove the screw that secures the fan to the computer base.
- 2 Disconnect the speaker cable from the system board.
- 3 Peel off the speaker cable from the fan.
- 4 Disconnect the fan cable from the system board.

5 Lift the fan off the computer base.



1 screw

3 speaker cable

2 fan

4 fan cable

Replacing the Fan



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Procedure

- 1 Place the fan on the computer base and align the screw hole on the fan with the screw hole on the computer base.
- 2 Replace the screw that secures the fan to the computer base.
- 3 Adhere the speaker cable on the fan.
- 4 Connect the speaker cable to the system board.
- 5 Connect the fan cable to the system board.

Post-requisites

- 1 Replace the [palm rest](#).
- 2 Replace the [keyboard](#).
- 3 Replace the [optical drive](#).
- 4 Replace the [base cover](#).
- 5 Replace the [battery](#).

Removing the System Board



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NOTE: Your computer's Service Tag is stored in the system board. You must enter the Service Tag in the BIOS setup program after you replace the system board.



NOTE: Replacing the system board removes any changes you have made to the BIOS using the BIOS setup program. You must make the desired changes again after you replace the system board.



NOTE: Before disconnecting the cables from the system board, note the location of the connectors so that you can reconnect them correctly after you replace the system board.

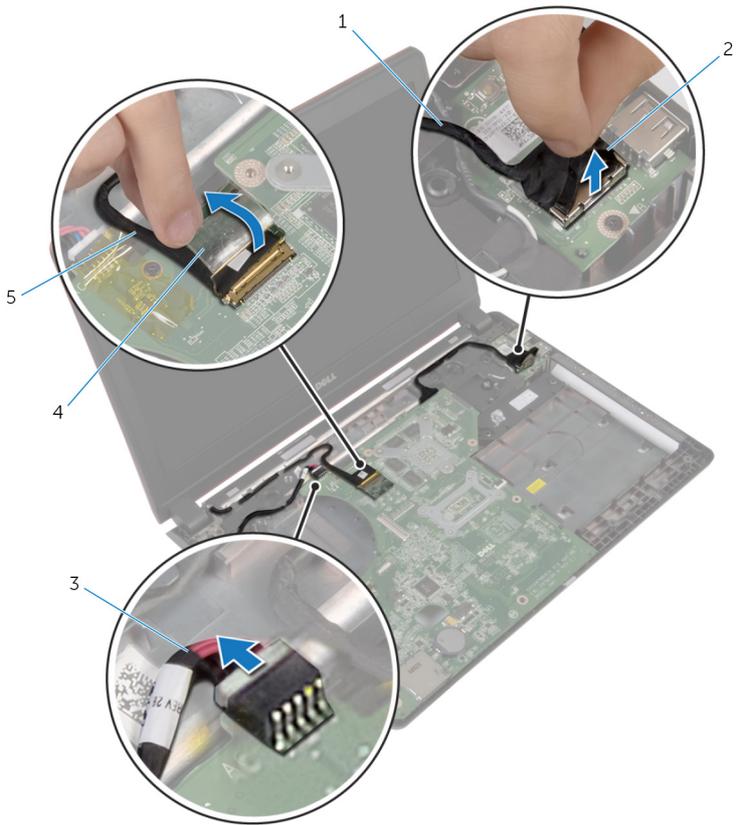
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).
- 3 Remove the [optical drive](#).
- 4 Remove the [keyboard](#).
- 5 Remove the [palm rest](#).
- 6 Remove the [fan](#).
- 7 Remove the [wireless card](#).

Procedure

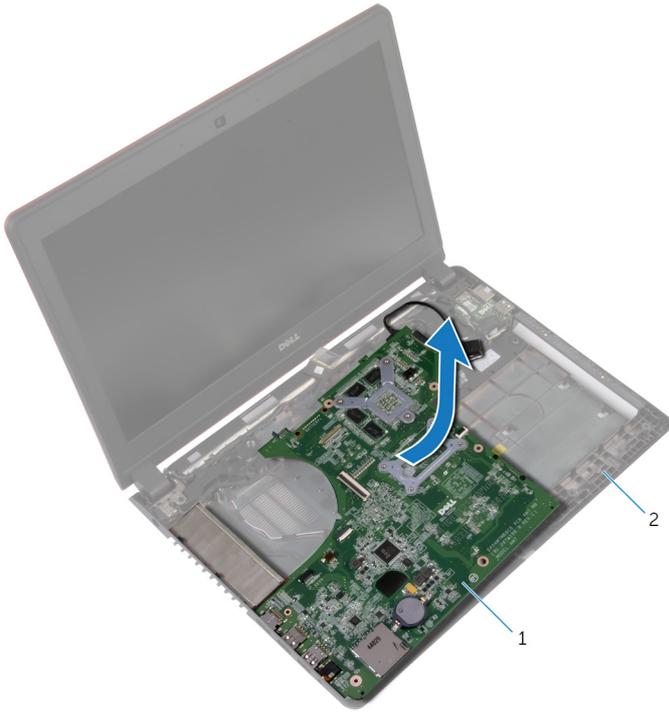
- 1 Using the pull-tab, disconnect the I/O-board cable from the connector on the I/O board.
- 2 Note the I/O-board cable routing and remove it from the routing guides.
- 3 Peel off the tape and disconnect the display cable from the connector on the system board.

- 4 Disconnect the power-adaptor port cable from the connector on the system board.



- | | | | |
|---|--------------------------|---|----------|
| 1 | I/O-board cable | 2 | pull-tab |
| 3 | power-adaptor port cable | 4 | tape |
| 5 | display cable | | |

- 5 Lift the system board at an angle and release the ports from the slots on the computer base.

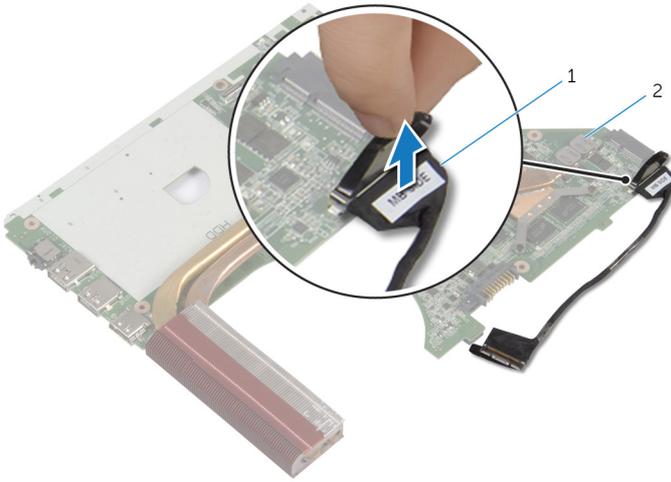


1 system board

2 computer base

- 6 Turn the system board over.

7 Disconnect the I/O-board cable from the system board.



1 I/O-board cable

2 system board

Replacing the System Board



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NOTE: Your computer's Service Tag is stored in the system board. You must enter the Service Tag in the BIOS setup program after you replace the system board.

Procedure

- 1 Connect the I/O-board cable to the system board.
- 2 Turn the system board over.
- 3 Slide the ports on the system board into the slots on the computer base and place the system board on the computer base.
- 4 Connect the display cable to its connector on the system board and adhere the tape.
- 5 Connect the power-adaptor port cable to its connector on the system board.
- 6 Route the I/O-board cable through the routing guides on the computer base.
- 7 Connect the I/O-board cable to the connector on the I/O board.

Post-requisites

- 1 Replace the [wireless card](#).
- 2 Replace the [fan](#).
- 3 Replace the [palm rest](#).
- 4 Replace the [keyboard](#).
- 5 Replace the [optical drive](#).
- 6 Replace the [base cover](#).
- 7 Replace the [battery](#).

Entering the Service Tag in the BIOS

- 1 Turn on the computer.
- 2 Press **F2** when the DELL logo is displayed to enter the BIOS setup program.
- 3 Navigate to the **Main** tab and enter the Service Tag in the **Service Tag Input** field.

Removing the Heat Sink

-  **WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before Working Inside Your Computer](#). After working inside your computer, follow the instructions in [After Working Inside Your Computer](#). For more safety best practices, see the Regulatory Compliance home page at dell.com/regulatory_compliance.
-  **WARNING:** The heat sink may become hot during normal operation. Allow sufficient time for the heat sink to cool before you touch it.
-  **CAUTION:** To ensure maximum cooling for the processor, do not touch the heat transfer areas on the heat sink. The oils in your skin can reduce the heat transfer capability of the thermal grease.

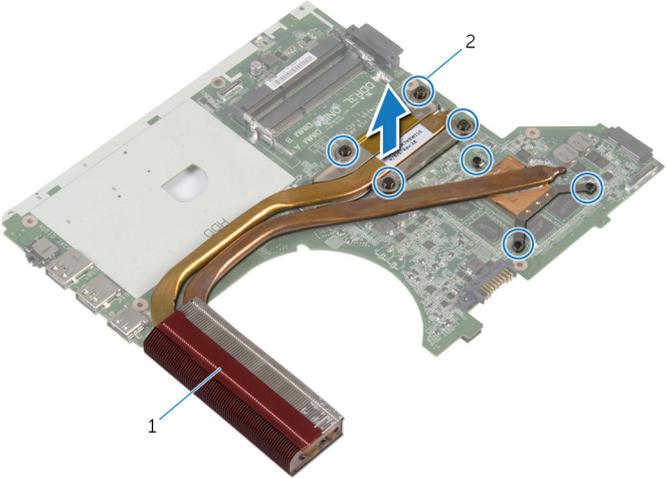
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).
- 3 Remove the [optical drive](#).
- 4 Remove the [keyboard](#).
- 5 Remove the [palm rest](#).
- 6 Remove the [fan](#).
- 7 Remove the [system board](#).

Procedure

-  **NOTE:** The appearance of the heat sink on your computer may differ from the image shown in this chapter.
- 1 Turn the system board over and place it on a flat surface.
 - 2 In sequential order (indicated on the heat-sink), loosen the captive screws that secure the heat sink to the system board.

3 Lift the heat sink off the system board.



1 heat-sink

2 captive screws (7)

Replacing the Heat Sink

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 **CAUTION:** Incorrect alignment of the heat sink can cause damage to the system board and processor.

 **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 make sure that thermal conductivity is achieved.

Procedure

- 1 Align the screw holes on the heat sink with the screw holes on the system board.
- 2 In sequential order (indicated on the heat-sink), tighten the captive screws that secure the heat sink to the system board.

Post-requisites

- 1 Replace the [system board](#).
- 2 Replace the [fan](#).
- 3 Replace the [palm rest](#).
- 4 Replace the [keyboard](#).
- 5 Replace the [optical drive](#).
- 6 Replace the [base cover](#).
- 7 Replace the [battery](#).

Removing the Power-Adapter Port



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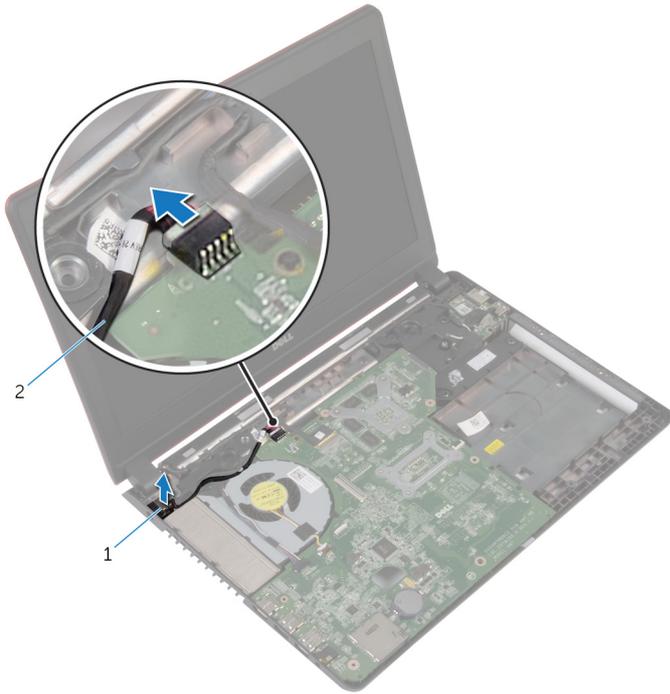
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).
- 3 Remove the [optical drive](#).
- 4 Remove the [keyboard](#).
- 5 Remove the [palm rest](#).

Procedure

- 1 Disconnect the power-adapter port cable from the system board.
- 2 Note the power-adapter port cable routing and remove it from the routing guides on the computer base.

3 Lift the power-adapter port along with its cable off the computer base.



1 power-adapter port

2 power-adapter port cable

Replacing the Power-Adapter Port



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Procedure

- 1 Insert the power-adapter port into the slot on the computer base.
- 2 Route the power-adapter port cable through the routing guides on the speaker.
- 3 Connect the power-adapter port cable to the system board.

Post-requisites

- 1 Replace the [palm rest](#).
- 2 Replace the [keyboard](#).
- 3 Replace the [optical drive](#).
- 4 Replace the [base cover](#).
- 5 Replace the [battery](#).

Removing the Display Assembly



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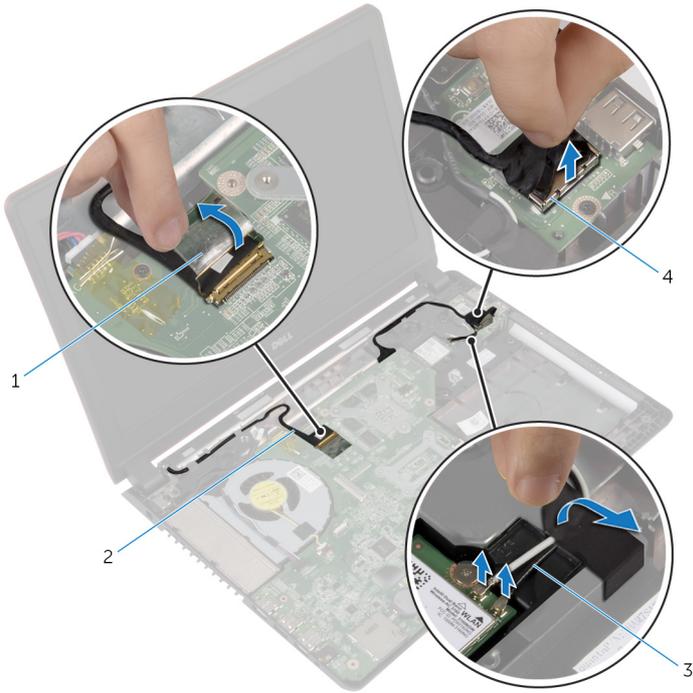
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).
- 3 Remove the [optical drive](#).
- 4 Remove the [keyboard](#).
- 5 Remove the [palm rest](#).

Procedure

- 1 Peel off the tape and disconnect the display cable from the system board.
- 2 Note the display cable routing and remove the cable from its routing guide.
- 3 Disconnect the antenna cables from the wireless card.
- 4 Peel off the tape that secures the antenna cables to the speaker.
- 5 Note the antenna cable routing and remove the cables from their routing guide.
- 6 Using the pull-tab, disconnect the I/O-board cable from the I/O board.

- 7 Note the I/O-board cable routing and remove the cable from its routing guide.



1 tapes (2)

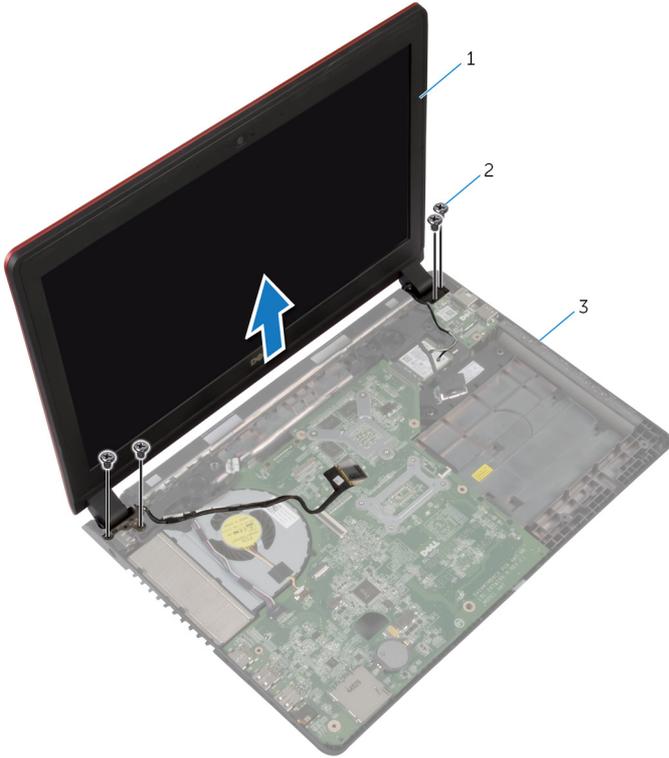
2 display cable

3 antenna cables (2)

4 I/O-board cable

- 8 Remove the screws that secure the display assembly to the computer base.

9 Lift the display assembly off the computer base.



1 display assembly
3 computer base

2 screws (4)

Replacing the Display Assembly

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Procedure

- 1 Place the display assembly on the computer base and align the screw holes on the display assembly with the screw holes on the computer base.
- 2 Replace the screws that secure the display assembly to the computer base.
- 3 Route the I/O-board cable through the routing guides on the computer base.
- 4 Connect the I/O-board cable to the I/O board.
- 5 Route the antenna cables through the routing guides on the computer base.
- 6 Adhere the tape securing the antenna cables to the speaker.
- 7 Connect the antenna cables to the wireless card.
- 8 Route the display cable through the routing guides on the computer base.
- 9 Connect the display cable to the system board and adhere the tape.

Post-requisites

- 1 Replace the [palm rest](#).
- 2 Replace the [keyboard](#).
- 3 Replace the [optical drive](#).
- 4 Replace the [base cover](#).
- 5 Replace the [battery](#).

Removing the Display Bezel



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Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).
- 3 Remove the [optical drive](#).
- 4 Remove the [keyboard](#).
- 5 Remove the [palm rest](#).
- 6 Remove the [display assembly](#).

Procedure

- 1 Using your fingertips, carefully pry up the inside edges of the display bezel.

2 Remove the display bezel off the display back-cover.



1 display bezel

2 display back-cover

Replacing the Display Bezel



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Procedure

Align the display bezel with the display back-cover, and gently snap the display bezel into place.

Post-requisites

- 1 Replace the [display assembly](#).
- 2 Replace the [palm rest](#).
- 3 Replace the [keyboard](#).
- 4 Replace the [optical drive](#).
- 5 Replace the [base cover](#).
- 6 Replace the [battery](#).

Removing the Display Panel



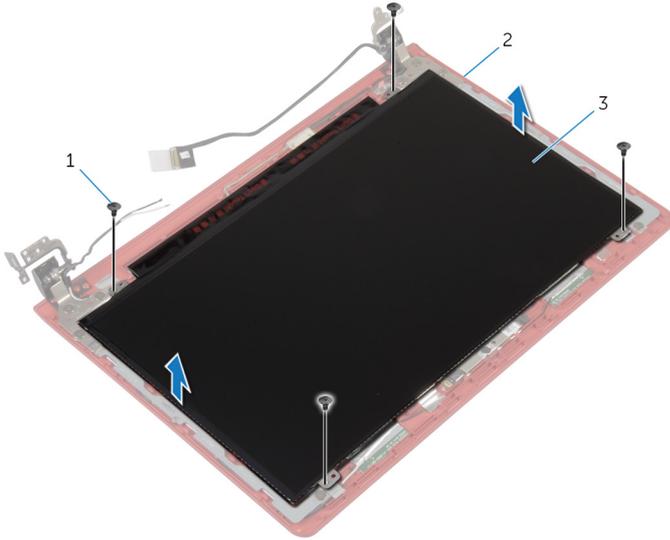
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before Working Inside Your Computer](#). After working inside your computer, follow the instructions in [After Working Inside Your Computer](#). For more safety best practices, see the Regulatory Compliance home page at dell.com/regulatory_compliance.

Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).
- 3 Remove the [optical drive](#).
- 4 Remove the [keyboard](#).
- 5 Remove the [palm rest](#).
- 6 Remove the [display assembly](#).
- 7 Remove the [display bezel](#).

Procedure

- 1 Remove the screws that secure the display panel to the display back-cover.

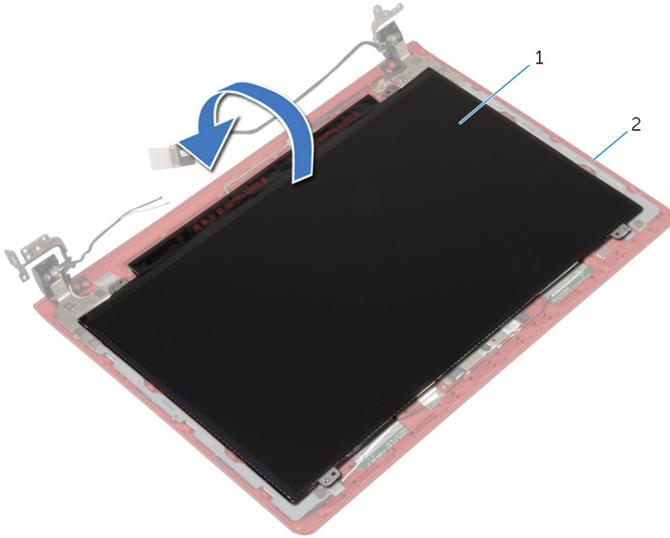


1 screws (4)

2 display back-cover

3 display panel

2 Gently lift the display panel and turn it over.



1 display panel

2 display back-cover

3 Peel off the tape and disconnect the display cable from the display panel.



1 display panel

2 tape

3 display cable

4 display back-cover

- 4 Lift the display panel away from the display back-cover.

Replacing the Display Panel



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Procedure

- 1 Connect the display cable to the display panel.
- 2 Adhere the tape that secures the display cable to the display panel.
- 3 Gently place the display panel on the display back-cover and align the screw holes on the display panel with the screw holes on the display back-cover.
- 4 Replace the screws that secure the display panel to the display back-cover.

Post-requisites

- 1 Replace the [display bezel](#).
- 2 Replace the [display assembly](#).
- 3 Replace the [palm rest](#).
- 4 Replace the [keyboard](#).
- 5 Replace the [optical drive](#).
- 6 Replace the [base cover](#).
- 7 Replace the [battery](#).

Removing the Display Hinge and Bracket Assembly



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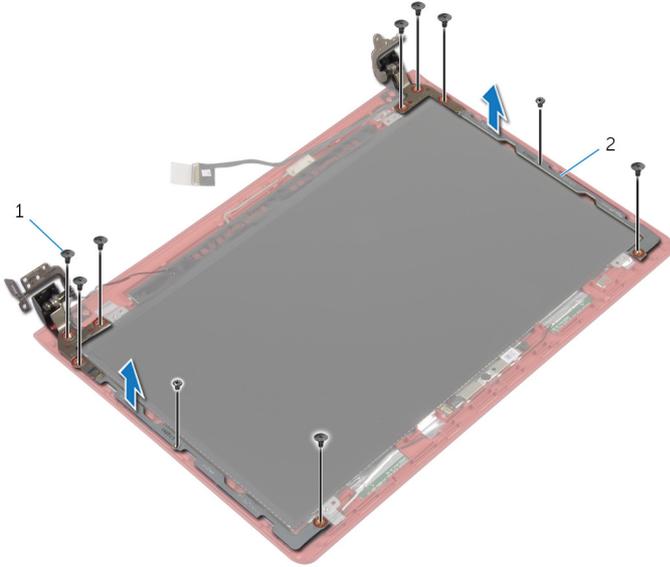
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).
- 3 Remove the [optical drive](#).
- 4 Remove the [keyboard](#).
- 5 Remove the [palm rest](#).
- 6 Remove the [display assembly](#).
- 7 Remove the [display bezel](#).

Procedure

- 1 Remove the screws that secure the display hinge and bracket assembly to the display back-cover.

2 Lift the display hinge and bracket assembly off the display back-cover.



1 screws (10)

2 display hinge and bracket assembly (2)

Replacing the Display Hinge and Bracket Assembly



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Procedure

- 1 Align the screw holes on the display hinge and bracket assembly with the screw holes on the display back-cover.
- 2 Replace the screws that secure the display hinge and bracket assembly to the display back-cover.

Post-requisites

- 1 Replace the [display bezel](#).
- 2 Replace the [display assembly](#).
- 3 Replace the [palm rest](#).
- 4 Replace the [keyboard](#).
- 5 Replace the [optical drive](#).
- 6 Replace the [base cover](#).
- 7 Replace the [battery](#).

Removing the Camera



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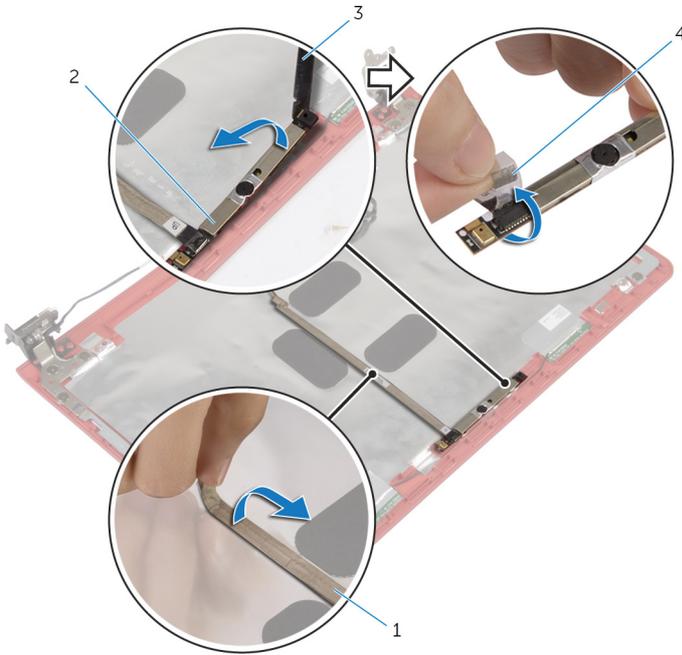
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).
- 3 Remove the [optical drive](#).
- 4 Remove the [keyboard](#).
- 5 Remove the [palm rest](#).
- 6 Remove the [display assembly](#).
- 7 Remove the [display bezel](#).
- 8 Remove the [display panel](#).

Procedure

- 1 Peel off the camera cable from the display back-cover.
- 2 Using a plastic scribe, gently pry the camera from the display back-cover and turn it over.
- 3 Peel off the tape that secures the camera cable to the camera.

4 Disconnect the camera cable from the camera.



1 camera cable

2 camera

3 plastic scribe

4 tape

Replacing the Camera



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Procedure

- 1 Connect the camera cable to the camera.
- 2 Adhere the tape that secures the camera cable to the camera.
- 3 Turn the camera over and using the alignment post, place the camera on the display back-cover.
- 4 Adhere the camera cable to the display back-cover.

Post-requisites

- 1 Replace the [display panel](#).
- 2 Replace the [display bezel](#).
- 3 Replace the [display assembly](#).
- 4 Replace the [palm rest](#).
- 5 Replace the [keyboard](#).
- 6 Replace the [optical drive](#).
- 7 Replace the [base cover](#).
- 8 Replace the [battery](#).

Removing the Speakers



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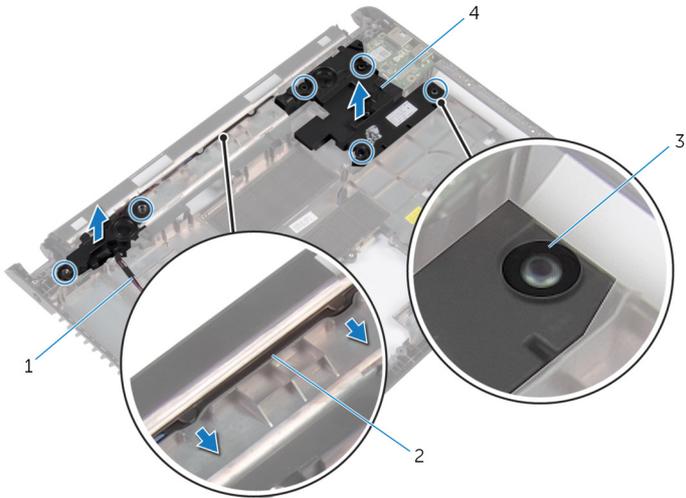
Prerequisites

- 1 Remove the [battery](#).
- 2 Remove the [base cover](#).
- 3 Remove the [optical drive](#).
- 4 Remove the [keyboard](#).
- 5 Remove the [palm rest](#).
- 6 Remove the [fan](#).
- 7 Remove the [wireless card](#).
- 8 Remove the [system board](#).
- 9 Remove the [power-adaptor port](#).
- 10 Remove the [display assembly](#).

Procedure

- 1 Note the speaker-cable routing and remove the speaker cable from its routing guides on the computer base.
- 2 Note the position of the rubber grommets before lifting the speaker cable.

3 Lift the speakers, along with the speaker cable, off the computer base.



1 speaker cable

2 speaker-cable routing

3 rubber grommets (6)

4 speakers (2)

Replacing the Speakers



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Procedure



NOTE: The rubber grommets may get pushed out while replacing the speakers. Ensure that the rubber grommets are in their position after placing the speakers on the computer base.

- 1 Using the alignment posts on the computer base, place the speakers on the computer base.
- 2 Replace the rubber grommets if they are pushed up while replacing the speakers.
- 3 Route the speaker cable through the routing guides on the computer base.

Post-requisites

- 1 Replace the [display assembly](#).
- 2 Replace the [power-adapter port](#).
- 3 Replace the [system board](#).
- 4 Replace the [wireless card](#).
- 5 Replace the [fan](#).
- 6 Replace the [palm rest](#).
- 7 Replace the [keyboard](#).
- 8 Replace the [optical drive](#).
- 9 Replace the [base cover](#).
- 10 Replace the [battery](#).

Flashing the BIOS

You may need to flash (update) the BIOS when an update is available or when you replace the system board. To flash the BIOS:

- 1 Turn on the computer.
- 2 Go to **dell.com/support**.
- 3 If you have your computer's Service Tag, type your computer's Service Tag and click **Submit**.
If you do not have your computer's Service Tag, click **Detect My Product** to allow automatic detection of the Service Tag.
 **NOTE:** If the Service Tag cannot be detected automatically, select your product under the product categories.
- 4 Click **Get Drivers and Downloads**.
- 5 Click **View All Drivers**.
- 6 In the **Operating System** drop-down, select the operating system installed on your computer.
- 7 Click **BIOS**.
- 8 Click **Download File** to download the latest version of the BIOS for your computer.
- 9 On the next page, select **Single-file download** and click **Continue**.
- 10 Save the file and once the download is complete, navigate to the folder where you saved the BIOS update file.
- 11 Double-click the BIOS update file icon and follow the instructions on the screen.

Getting Help and Contacting Dell

Self-Help Resources

You can get information and help on Dell products and services using these online self-help resources:

Self-Help Information	Self-Help Options
Accessing Windows Help	Windows 8.1 — Open the Search charm, type Help and Support in the search box and press Enter . Windows 7 — Click Start → Help and Support .
Information about Dell products and services	See dell.com .
Troubleshooting information, user manuals, setup instructions, product specifications, technical help blogs, drivers, software updates, and so on	See dell.com/support .
Information about Microsoft Windows 8.1	See dell.com/windows8 .
Information about Microsoft Windows 7	Click Start → All Programs → Dell Help Documentation .
Learn about your operating system, setting up and using your computer, data backup, diagnostics, and so on.	See <i>Me and My Dell</i> at dell.com/support/manuals .

Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see **dell.com/contactdell**.

 **NOTE:** Availability varies by country and product, and some services may not be available in your country.



NOTE: If you do not have an active internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.