Inspiron 14 5000

Service Manual

Regulatory Model: P64G
Regulatory Type: P64G004
September 2020
Rev. A02

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.

© 2016 Dell Inc. All rights reserved. This product is protected by U.S. and international copyright and intellectual property laws. Dell and the Dell logo are trademarks of Dell Inc. in the United States and/or other jurisdictions. All other marks and names mentioned herein may be trademarks of their respective companies.

Contents

Chapter 1: Before working inside your computer 8
Before you begin 8
Safety instructions 8
Recommended tools 9

Chapter 2: After working inside your computer 10

Chapter 3: Removing the battery 11
Procedure 11

Chapter 4: Replacing the battery 12
Procedure 12

Chapter 5: Removing the optical drive 13
Prerequisites 13
Procedure 13

Chapter 6: Replacing the optical drive 15
Procedure 15
Post-requisites 15

Chapter 7: Removing the keyboard 16
Prerequisites 16
Procedure 16

Chapter 8: Replacing the keyboard 18
Procedure 18
Post-requisites 18

Chapter 9: Removing the base cover 19
Prerequisites 19
Procedure 19

Chapter 10: Replacing the base cover 20
Procedure 20
Post-requisites 20

Chapter 11: Removing the coin-cell battery 21
Prerequisites 21
Procedure 21

Chapter 12: Replacing the coin-cell battery 22
Procedure 22

Post-requisites....22

Chapter 13: Removing the hard drive....23
Prerequisites....23
Procedure....23

Chapter 14: Replacing the hard drive....25
Procedure....25
Post-requisites....25

Chapter 15: Removing the memory modules....26
Prerequisites....26
Procedure....26

Chapter 16: Replacing the memory modules....27
Procedure....27
Post-requisites....27

Chapter 17: Removing the wireless card....29
Prerequisites....29
Procedure....29

Chapter 18: Replacing the wireless card....31
Procedure....31
Post-requisites....31

Chapter 19: Removing the computer base....32
Prerequisites....32
Procedure....32

Chapter 20: Replacing the computer base....35
Procedure....35
Post-requisites....35

Chapter 21: Removing the optical-drive interposer....36
Prerequisites....36
Procedure....36

Chapter 22: Replacing the optical-drive interposer....37
Procedure....37
Post-requisites....37

Chapter 23: Removing the heat-sink assembly....38
Prerequisites....38
Procedure....38

Chapter 24: Replacing the heat-sink assembly....40
Procedure....40

Post-requisites....40

Chapter 25: Removing the I/O board....41
Prerequisites....41
Procedure....41

Chapter 26: Replacing the I/O board....43
Procedure....43
Post-requisites....43

Chapter 27: Removing the system board....44
Prerequisites....44
Procedure....44

Chapter 28: Replacing the system board....48
Procedure....48
Post-requisites....48

Chapter 29: Removing the power-adapter port....50
Prerequisites....50
Procedure....50

Chapter 30: Replacing the power-adapter port....52
Procedure....52
Post-requisites....52

Chapter 31: Removing the power-button board....53
Prerequisites....53
Procedure....53

Chapter 32: Replacing the power-button board....55
Procedure....55
Post-requisites....55

Chapter 33: Removing the speakers....56
Prerequisites....56
Procedure....56

Chapter 34: Replacing the speakers....57
Procedure....57
Post-requisites....57

Chapter 35: Removing the display assembly....58
Prerequisites....58
Procedure....58

Chapter 36: Replacing the display assembly....61
Procedure....61

Post-requisites....61

Chapter 37: Removing the palm-rest assembly....62
Prerequisites....62
Procedure....62

Chapter 38: Replacing the palm-rest assembly....64
Procedure....64
Post-requisites....64

Chapter 39: Removing the display bezel....65
Prerequisites....65
Procedure....65

Chapter 40: Replacing the display bezel....67
Procedure....67
Post-requisites....67

Chapter 41: Removing the camera....68
Prerequisites....68
Procedure....68

Chapter 42: Replacing the camera....70
Procedure....70
Post-requisites....70

Chapter 43: Removing the display panel....71
Prerequisites....71
Procedure....71

Chapter 44: Replacing the display panel....73
Procedure....73
Post-requisites....73

Chapter 45: Removing the display hinges....74
Prerequisites....74
Procedure....74

Chapter 46: Replacing the display hinges....76
Procedure....76
Post-requisites....76

Chapter 47: Removing the display cable....77
Prerequisites....77
Procedure....77

Chapter 48: Replacing the display cable....79
Procedure....79

Post-requisites....79

Chapter 49: Removing the display back-cover and antenna assembly....80
Prerequisites....80
Procedure....80

Chapter 50: Replacing the display back-cover and antenna assembly....82
Procedure....82
Post-requisites....82

Chapter 51: Flashing the BIOS....83

Chapter 52: Getting help and contacting Dell....84

1

Before working inside your computer

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

Topics:

- Before you begin
- Safety instructions
- Recommended tools

Before you begin

1. Save and close all open files and exit all open applications.
2. Shut down your computer.
   The shut-down instruction varies depending on the operating system installed on your computer.
   - Windows 10: Click or tap **Start** > **Power** > **Shut down**.
   - 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 and network cables, from your computer.
5. Disconnect all attached devices and peripherals, such as keyboard, mouse, and monitor, 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.

NOTE: 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 www.dell.com/regulatory_compliance.

NOTE: 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 electrical outlet.

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: You should only perform troubleshooting and repairs as authorized or directed by the Dell technical assistance team. Damage due to servicing that is not authorized by Dell is not covered by your warranty. See the safety instructions that shipped with the product or at www.dell.com/regulatory_compliance.

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 ports and connectors are correctly oriented and aligned.

CAUTION: Press and eject any installed card from the media-card reader.

Recommended tools

The procedures in this document may require the following tools:

- Phillips screwdriver
- Plastic scribe

2

After working inside your computer

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

1. Replace all screws and ensure that no stray screws remain inside your computer.
2. Connect any external devices, peripherals, or cables you removed before working on your computer.
3. Replace any media cards, discs, or any other parts 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.

3

Removing the battery

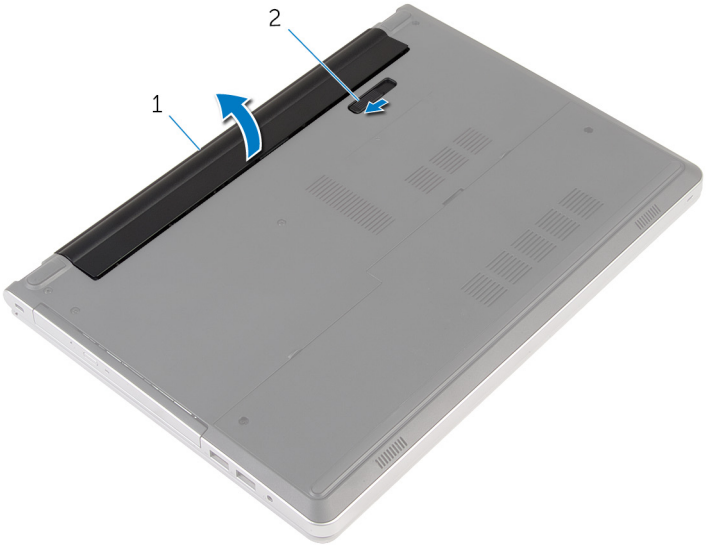
NOTE: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in Before working inside your computer. After working inside your computer, follow the instructions in After working inside your computer. For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.

Topics:

- Procedure

Procedure

1. Close the display and turn the computer over.
2. Slide the battery-release latch to the unlock position.
3. Lift the battery at an angle and remove the battery from the battery bay.



a. battery

b. battery-release latch

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

4

Replacing the battery

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure

Procedure

Slide the tabs on the battery into the slots on the battery bay and snap the battery into place.

NOTE: The battery-release latch returns to the lock position if the battery is installed properly.

5

Removing the optical drive

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

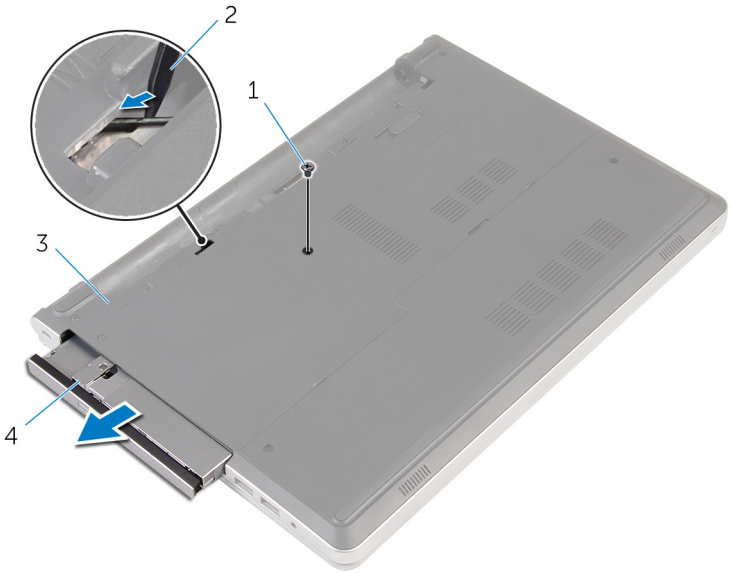
- Prerequisites
- Procedure

Prerequisites

Remove the battery.

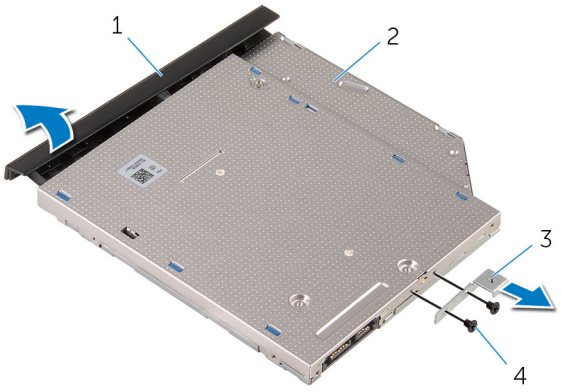
Procedure

1. Remove the screw that secures the optical-drive assembly to the computer base.
2. Using a plastic scribe, slide the optical-drive assembly out of the optical-drive bay.



1. screw
2. plastic scribe
3. computer base
4. optical-drive assembly

3. Carefully pull the optical-drive bezel and remove it from the optical drive.
4. Remove the screws that secure the optical-drive bracket to the optical drive and remove the optical-drive bracket.



1. optical-drive bezel
2. optical drive
3. optical-drive bracket
4. screws (2)

6

Replacing the optical drive

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

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

Post-requisites

Replace the battery.

7

Removing the keyboard

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

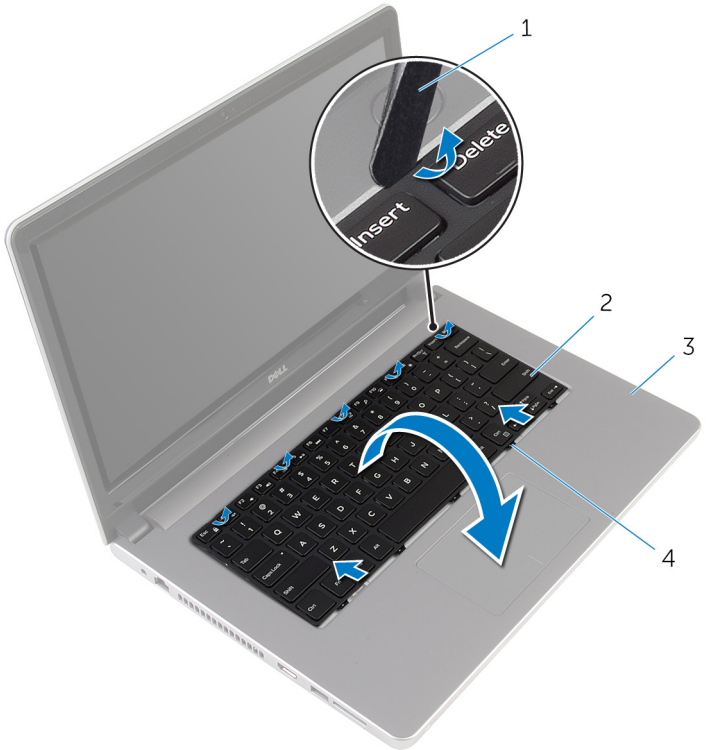
- Prerequisites
- Procedure

Prerequisites

Remove the battery.

Procedure

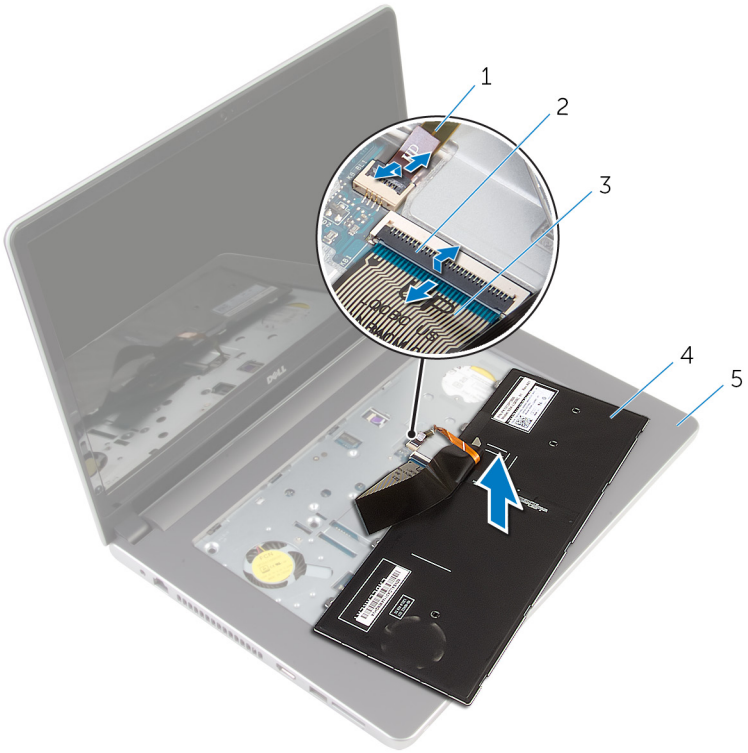
1. Turn the computer over and open the display as far as possible.
2. Using a plastic scribe, gently release the tabs that secure the keyboard to the palm-rest assembly.



1. plastic scribe
2. keyboard
3. palm-rest assembly
4. tabs (5)

3. Carefully turn the keyboard over and place it on the palm-rest assembly.
4. Lift the latches and disconnect the keyboard cable and the keyboard-backlight cable from the system board.

NOTE: The keyboard-backlight cable is present only if the laptop is shipped with a backlit keyboard.



1. keyboard-backlight cable
2. latch
3. keyboard cable
4. keyboard
5. palm-rest assembly

5. Lift the keyboard, along with the cables, off the palm-rest assembly.

8

Replacing the keyboard

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

1. Slide the keyboard cable and the keyboard-backlight cable into their connectors on the system board and press down on the latches to secure the cables.
2. Carefully turn the keyboard over, slide the tabs on the keyboard into the slots on the palm-rest assembly, and snap the keyboard into place.
3. Close the display and turn the computer over.

Post-requisites

Replace the battery.

9

Removing the base cover

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

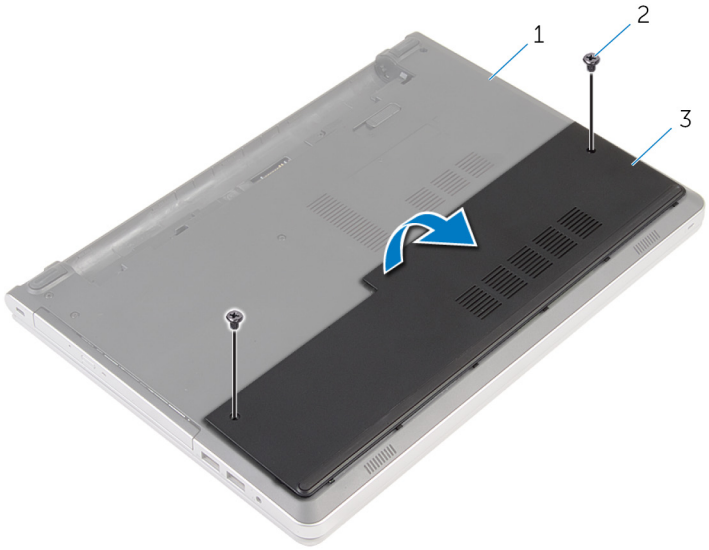
- Prerequisites
- Procedure

Prerequisites

Remove the battery.

Procedure

1. Remove the screws that secure the base cover to the computer base.
2. Using your fingertips, gently pry the base cover off the computer base.



a. computer base

b. screws (2)

c. base cover

10

Replacing the base cover

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

1. Slide the tabs on the base cover into the slots on the computer base and snap the base cover into place.
2. Replace the screws that secure the base cover to the computer base.

Post-requisites

Replace the battery.

11

Removing the coin-cell battery

NOTE: 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 www.dell.com/regulatory_compliance.

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

Topics:

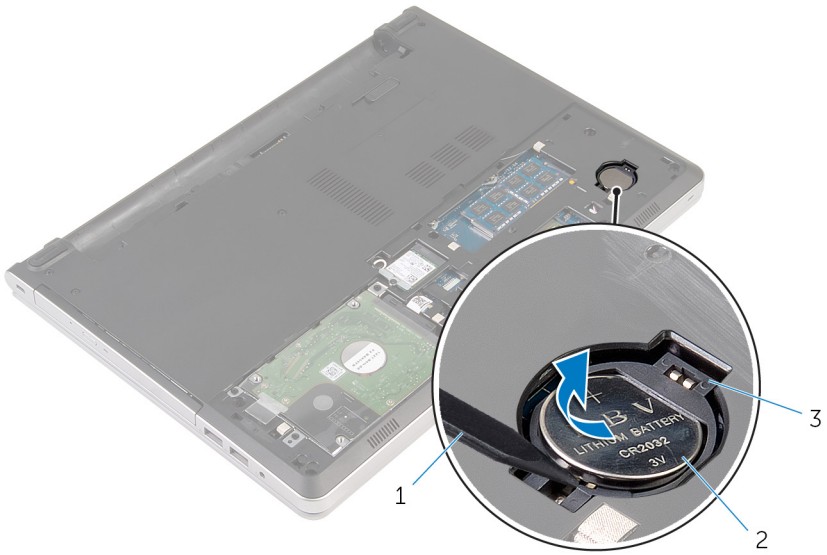
- Prerequisites
- Procedure

Prerequisites

1. Remove the battery.
2. Remove the base cover.

Procedure

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



1. plastic scribe
2. coin-cell battery
3. battery socket

12

Replacing the coin-cell battery

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

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 base cover.
2. Replace the battery.

13

Removing the hard drive

NOTE: 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 www.dell.com/regulatory_compliance.

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.

Topics:

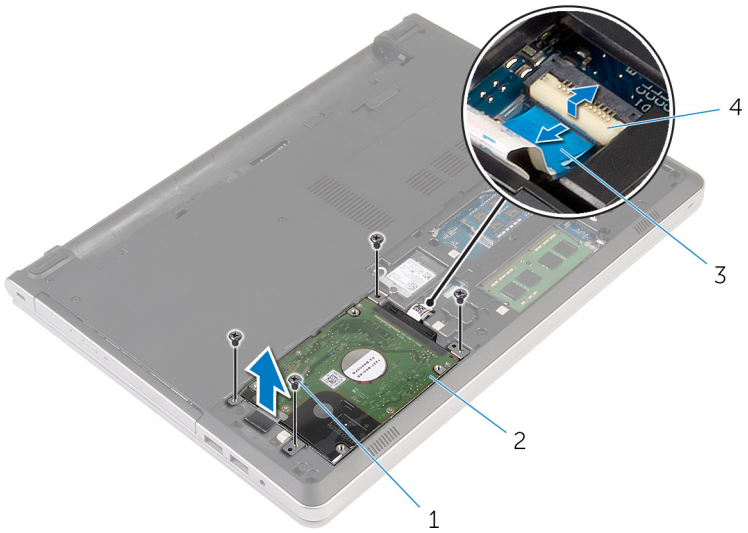
- Prerequisites
- Procedure

Prerequisites

1. Remove the battery.
2. Remove the base cover.

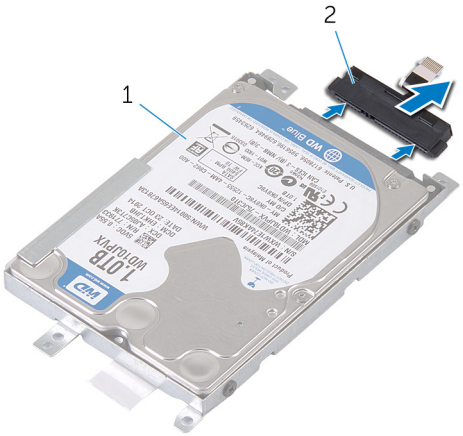
Procedure

1. Lift the latch and disconnect the hard-drive cable from the system board.
2. Remove the screws that secure the hard-drive assembly to the computer base.
3. Lift the hard-drive assembly off the computer base.



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

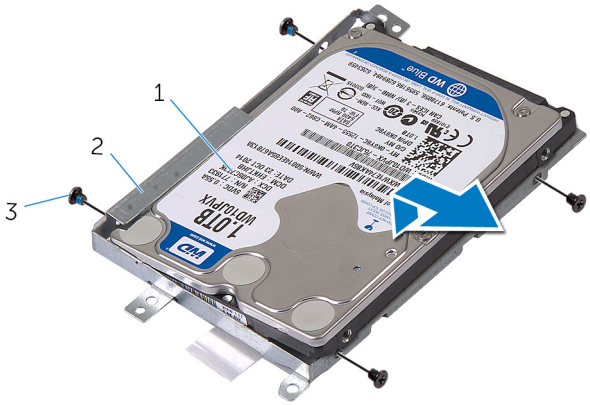
4. Disconnect the hard-drive interposer from the hard-drive assembly.



a. hard-drive assembly

b. hard-drive interposer

5. Remove the screws that secure the hard-drive bracket to the hard drive and lift the hard drive off the hard-drive bracket.



a. hard drive

b. hard-drive bracket

c. screws (4)

14

Replacing the hard drive

NOTE: 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 www.dell.com/regulatory_compliance.

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

Topics:

- Procedure
- Post-requisites

Procedure

1. Place the hard drive over the hard-drive bracket.
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 to the hard-drive bracket.
4. Connect the hard-drive interposer to the hard-drive assembly.
5. Slide the hard-drive assembly in the computer base and 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.

15

Removing the memory modules

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Prerequisites
- Procedure

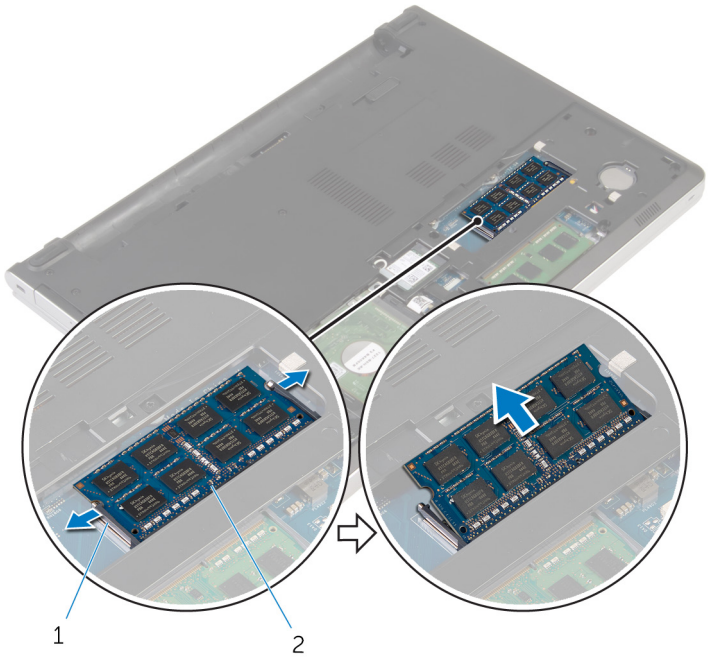
Prerequisites

1. Remove the battery.
2. Remove the base cover.

Procedure

NOTE: The number of the memory-module slots may be different on your computer depending on the configuration ordered.

1. Using your fingertips, 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.



a. securing clips (2)

b. memory module

16

Replacing the memory modules

NOTE: 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 www.dell.com/regulatory_compliance.

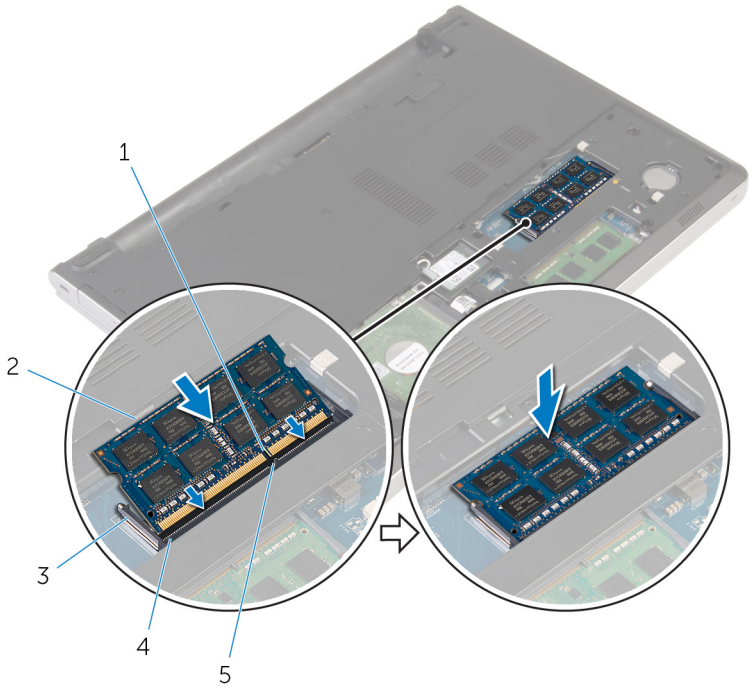
Topics:

- Procedure
- Post-requisites

Procedure

1. Align the notch on the memory module with the tab on the memory-module slot.
2. Slide the memory module firmly into the slot at an angle and gently 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. notch
2. memory module
3. securing clips
4. memory-module slot
5. tab

Post-requisites

1. Replace the base cover.

2. Replace the battery.

17

Removing the wireless card

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

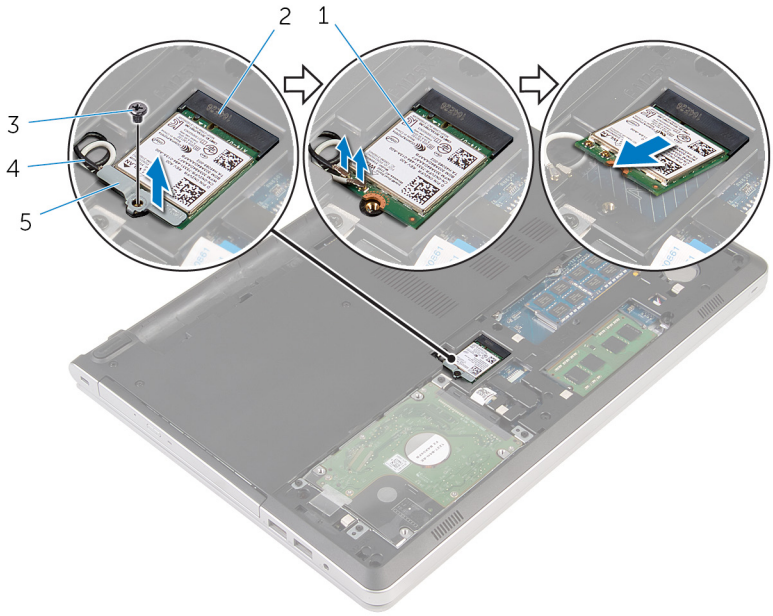
- Prerequisites
- Procedure

Prerequisites

1. Remove the battery.
2. Remove the base cover.

Procedure

1. Remove the screw that secures the wireless-card bracket to the wireless card.
2. Lift the wireless-card bracket off the wireless card.
3. Disconnect the antenna cables from the wireless card.
4. Slide and remove the wireless card out of the wireless-card slot.



1. wireless card
2. wireless-card slot
3. screw
4. antenna cables (2)

5. wireless-card bracket

18

Replacing the wireless card

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

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 and slide the card into the slot.
2. 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

3. Align the screw hole on the wireless-card bracket with the screw-hole on the wireless card and replace the screw that secures the wireless-card bracket to the wireless card.

Post-requisites

1. Replace the base cover.
2. Replace the battery.

19

Removing the computer base

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

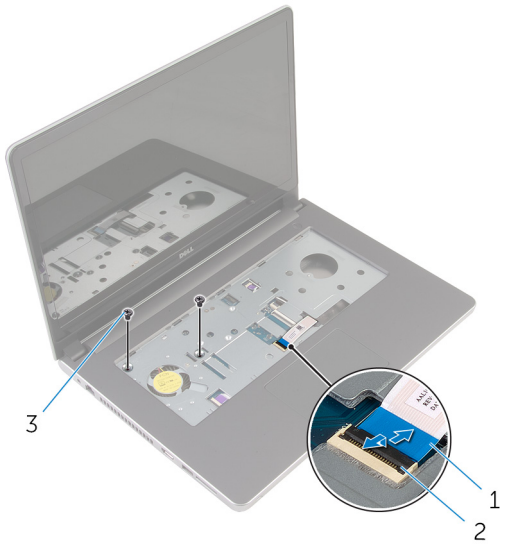
- Prerequisites
- Procedure

Prerequisites

1. Remove the battery.
2. Remove the optical drive.
3. Remove the base cover.
4. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
5. Remove the wireless card.
6. Remove the keyboard.

Procedure

1. Lift the latch and disconnect the optical-drive cable from the system board.
2. Remove the screws that secure the computer base to the palm-rest assembly.



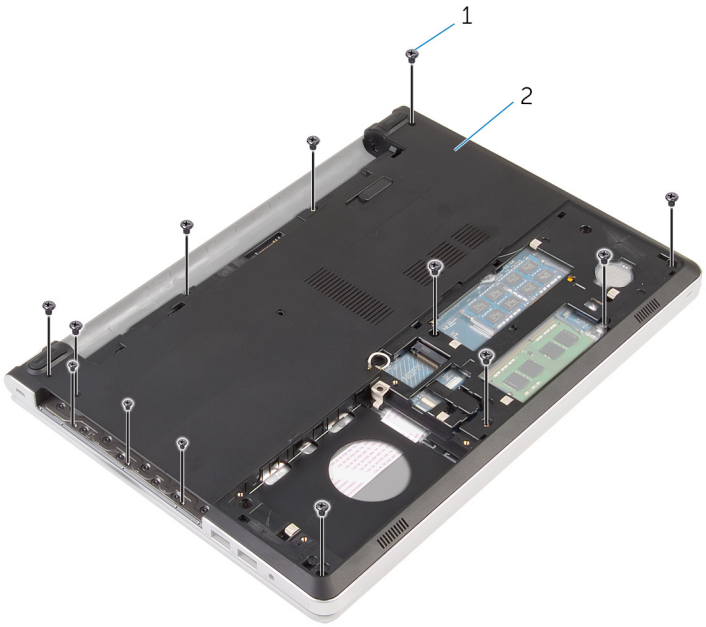
a. optical-drive cable

b. latch

c. screws (2)

3. Close the display and turn the computer over.

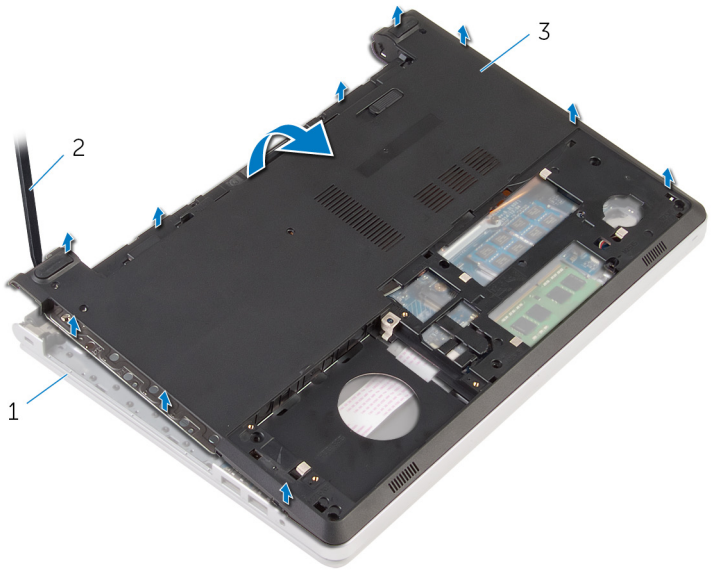
4. Remove the screws that secure the computer base to the palm-rest assembly.



   a. screws (13)

   b. computer base

5. Using a plastic scribe, pry up the computer base from the palm-rest assembly, starting from the area around the display hinges.
6. Lift the computer base off the palm-rest assembly.

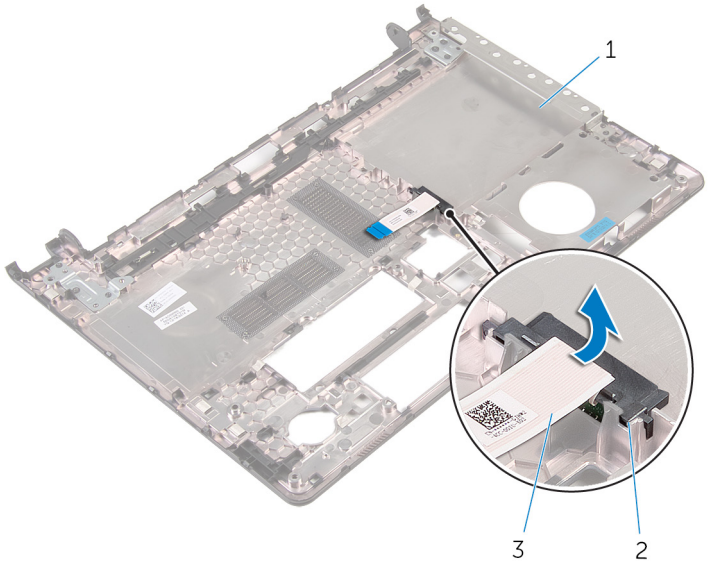


   a. palm-rest assembly

   b. plastic scribe

   c. computer base

7. Lift the optical-drive interposer along with the cable off the computer base.



a. computer base

b. optical-drive interposer

c. optical-drive cable

20

Replacing the computer base

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

1. Align the optical-drive interposer with the slot on the computer base and snap it into place.
2. Turn the computer base over.
3. Align and place the computer base on the palm-rest assembly.
4. Press the computer base down along the edges to snap it into place.
5. Replace the screws that secure the computer base to the palm-rest assembly.
6. Turn the computer over and open the display.
7. Replace the screws that secure the computer base to the palm-rest assembly.
8. Slide the optical-drive cable into the connector on the system board and press down the latch to secure the cable.

Post-requisites

1. Replace the keyboard.
2. Replace the wireless card.
3. Follow the procedure from step 5 to step 7 in “Replacing the hard drive”.
4. Replace the optical drive.
5. Replace the base cover.
6. Replace the battery.

21

Removing the optical-drive interposer

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

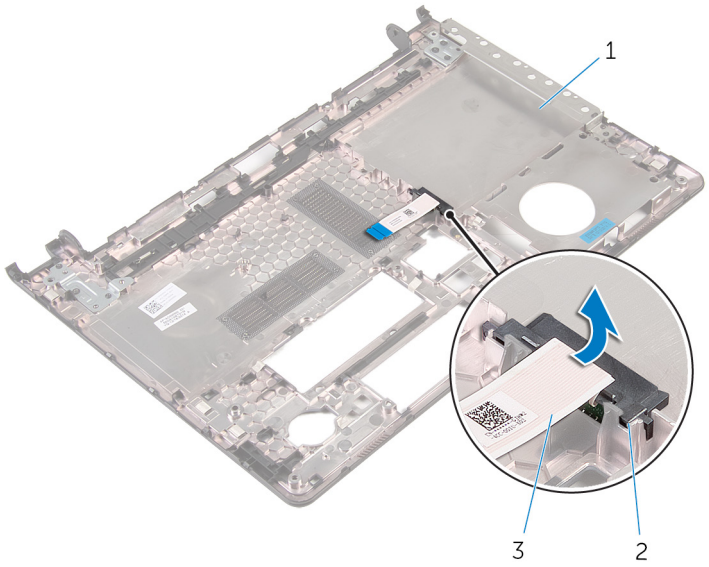
- Prerequisites
- Procedure

Prerequisites

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
5. Remove the wireless card.
6. Remove the keyboard.

Procedure

1. Follow the procedure from step 1 to step 5 in "Removing the computer base".
2. Turn the computer base and place it on a flat surface.
3. Lift the optical-drive interposer along with the cable off the computer base.



a. computer base
b. optical-drive interposer
c. optical-drive cable

22

Replacing the optical-drive interposer

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

1. Align the optical-drive interposer with the slot on the computer base and snap it into place.
2. Follow the procedure from step 1 to step 5 in "Replacing the computer base".

Post-requisites

1. Replace the keyboard.
2. Replace the wireless card.
3. Follow the procedure from step 5 to step 7 in "Replacing the hard drive".
4. Replace the optical drive.
5. Replace the base cover.
6. Replace the battery.

23

Removing the heat-sink assembly

NOTE: 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 www.dell.com/regulatory_compliance.

NOTE: The heat sink may become hot during normal operation. Allow sufficient time for the heat sink to cool before you touch it.

CAUTION: For maximum cooling of 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.

Topics:

- Prerequisites
- Procedure

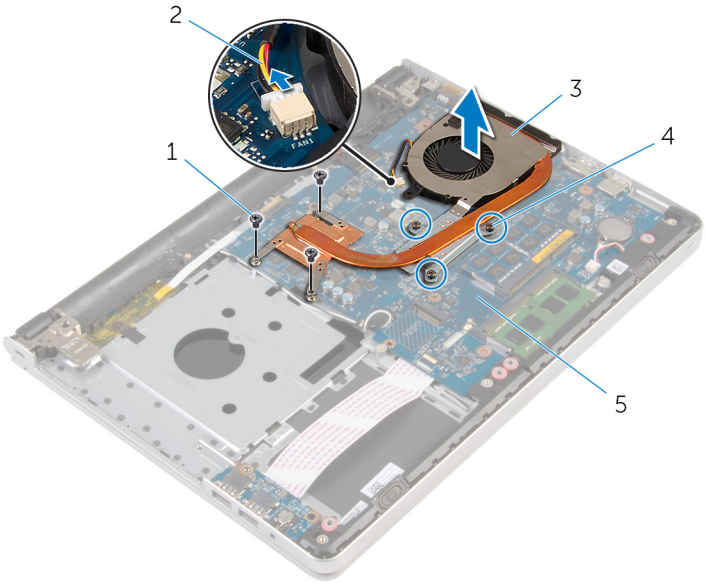
Prerequisites

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
5. Remove the wireless card.
6. Remove the keyboard.
7. Remove the computer base.

Procedure

NOTE: The number of screws and the appearance of the heat-sink assembly may be different on your computer depending on the configuration ordered.

1. Disconnect the fan cable from the system board.
2. In sequential order, as indicated on the heat-sink assembly, loosen the captive screws that secure the heat-sink assembly to the system board.
3. Remove the screws that secure the heat-sink assembly to the system board.
4. Lift the heat-sink assembly off the system board.



1. screws (3)
2. fan cable
3. heat-sink assembly
4. captive screws (3)
5. system board

24

Replacing the heat-sink assembly

NOTE: 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 www.dell.com/regulatory_compliance.

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

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

Topics:

- Procedure
- Post-requisites

Procedure

1. Align the screw holes on the heat-sink assembly with the screw holes on the system board.
2. In sequential order, as indicated on the heat-sink assembly, tighten the captive screws that secure the heat-sink assembly to the system board.
3. Replace the screws that secure the heat-sink assembly to the system board.
4. Connect the fan cable to the system board.

Post-requisites

1. Replace the computer base.
2. Replace the keyboard.
3. Replace the wireless card.
4. Follow the procedure from step 5 to step 7 in "Replacing the hard drive".
5. Replace the memory modules.
6. Replace the optical drive.
7. Replace the base cover.
8. Replace the battery.

25

Removing the I/O board

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

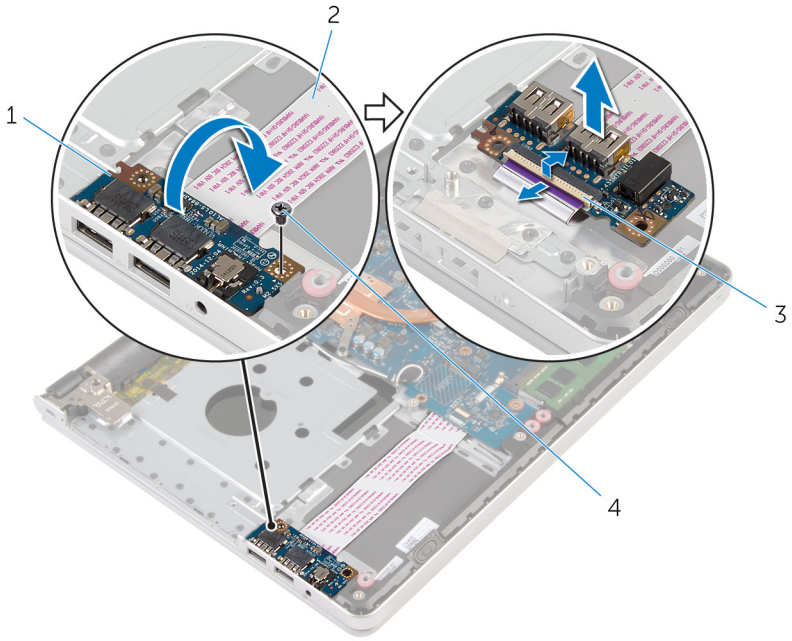
- Prerequisites
- Procedure

Prerequisites

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
5. Remove the wireless card.
6. Remove the keyboard.
7. Remove the computer base.

Procedure

1. Remove the screw that secures the I/O board to the palm-rest assembly.
2. Lift the I/O board and turn it over.
3. Lift the latch and disconnect the I/O-board cable from the I/O board.
4. Lift the I/O board off the palm-rest assembly.



1. I/O board
2. I/O-board cable
3. latch
4. screw

26

Replacing the I/O board

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

1. Slide the I/O-board cable into the connector on the I/O-board and press down on the latch to secure the cable.
2. Turn the I/O board over and align the screw hole on the I/O board with the screw hole on the palm-rest assembly.
3. Replace the screw that secures the I/O board to the palm-rest assembly.

Post-requisites

1. Replace the computer base.
2. Replace the keyboard.
3. Replace the wireless card.
4. Follow the procedure from step 5 to step 7 in “Replacing the hard drive”.
5. Replace the optical drive.
6. Replace the base cover.
7. Replace the battery.

27

Removing the system board

NOTE: 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 www.dell.com/regulatory_compliance.

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 appropriate 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 the cables correctly after you replace the system board.

Topics:

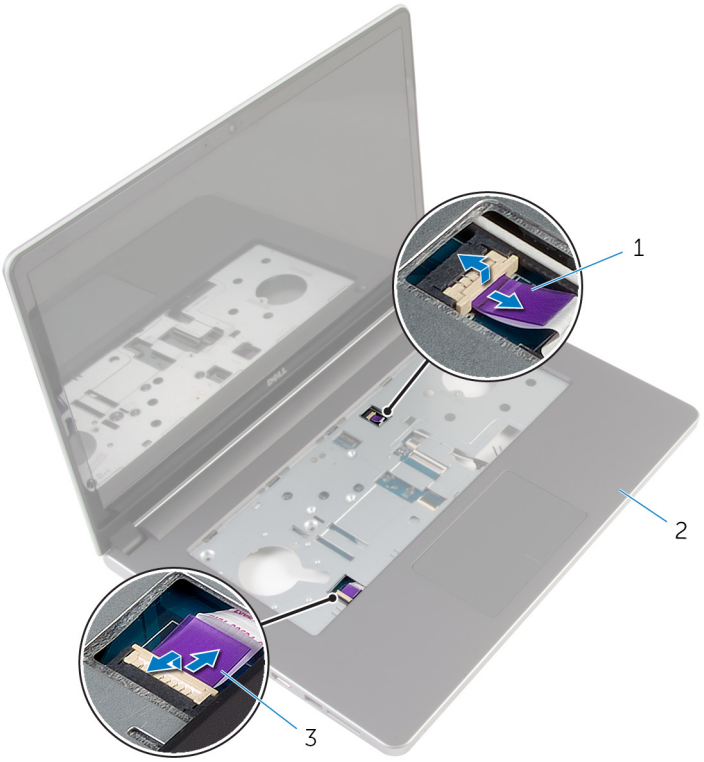
- Prerequisites
- Procedure

Prerequisites

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Remove the memory modules.
5. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
6. Remove the wireless card.
7. Remove the keyboard.
8. Remove the computer base.
9. Remove the heat-sink assembly.
10. Remove the I/O board.

Procedure

1. Turn the computer over and open the display as far as possible.
2. Lift the latches and disconnect the touch-pad cable and the power-button board cable from the system board.

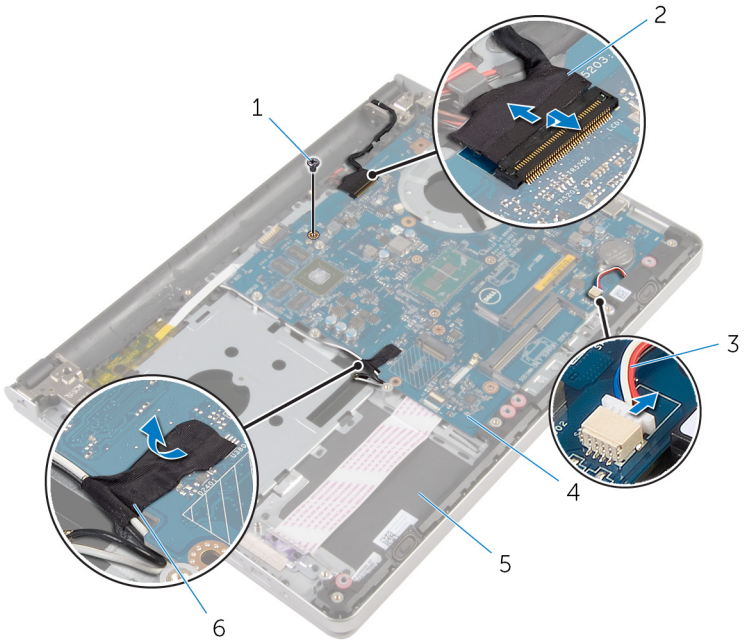


a. power-button board cable

b. palm-rest assembly

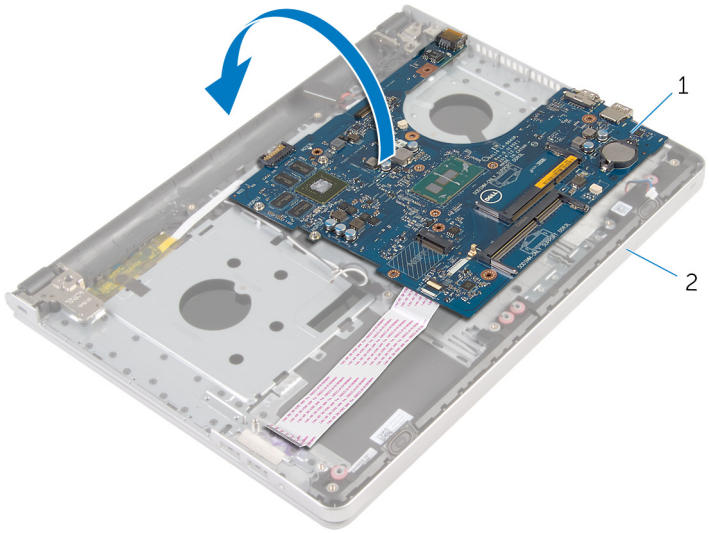
c. touch-pad cable

3. Close the display and turn the computer over.
4. Lift the latch and disconnect the display cable from the system board.
5. Disconnect the speaker cable from the system board.
6. Peel the tape from the antenna cables.
7. Remove the screw that secures the system board to the palm-rest assembly.



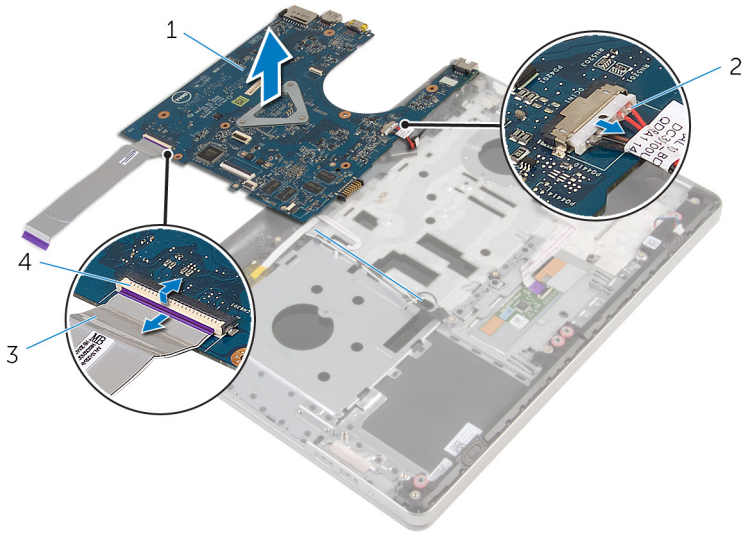
1. screw
2. display cable
3. speaker cable
4. system board
5. palm-rest assembly
6. tape

8. Lift the system board off the palm-rest assembly and carefully turn the system board over.



a. system board
b. palm-rest assembly

9. Disconnect the power-adapter port cable from the system board.
10. Lift the latch and disconnect the I/O-board cable from the system board.
11. Lift the system board off the palm-rest assembly.



1. system board
2. power-adapter port cable
3. I/O-board cable
4. latch

28

Replacing the system board

NOTE: 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 www.dell.com/regulatory_compliance.

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 appropriate changes again after you replace the system board.

Topics:

- Procedure
- Post-requisites

Procedure

1. Connect the power-adapter port cable to the system board.

   CAUTION: To avoid damaging the system board, ensure that no cables are placed under it.

2. Slide the I/O-board cable into its connector on the system board and press down the latch to secure the cable.
3. Connect the power-adapter port cable to the system board
4. Turn the system board over.
5. Slide the ports on the system board into the slots on the palm-rest assembly and place the system board on the palm-rest assembly.
6. Align the screw hole on the system board with the screw hole on the palm-rest assembly.
7. Replace the screw that secures the system board to the palm-rest assembly.
8. Adhere the tape to the antenna cables.
9. Connect the speaker cable to the system board.
10. Slide the display cable into its connector on the system board and press down the latch to secure the cable.
11. Turn the computer over and open the display as far as possible.
12. Slide the touch-pad cable and the power-button board cable into their connectors on the system board and press down the latches to secure the cables.

Post-requisites

1. Replace the I/O board.
2. Replace the heat-sink assembly.
3. Replace the computer base.
4. Replace the keyboard.
5. Replace the wireless card.
6. Follow the procedure from step 5 to step 7 in "Replacing the hard drive".
7. Replace the memory modules.
8. Replace the optical drive.
9. Replace the base cover.

10. Replace the battery.

29

Removing the power-adapter port

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

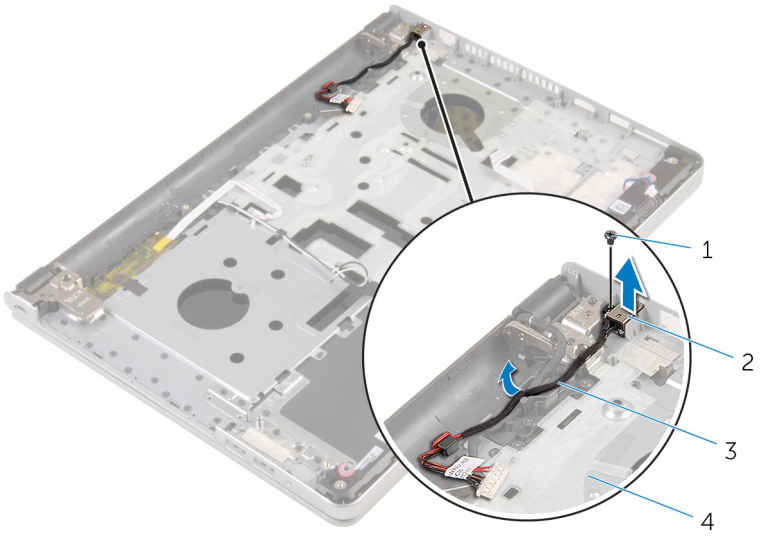
- Prerequisites
- Procedure

Prerequisites

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Remove the memory modules.
5. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
6. Remove the wireless card.
7. Remove the keyboard.
8. Remove the computer base.
9. Remove the heat-sink assembly.
10. Remove the I/O board.
11. Remove the system board.

Procedure

1. Note the power-adapter-port cable routing and remove the cable from its routing guides on the palm-rest assembly.
2. Remove the screw that secures the power-adapter port to the palm-rest assembly.
3. Lift the power-adapter port, along with the power-adapter port cable, off the palm-rest assembly.



1. screw
2. power-adapter port
3. power-adapter port cable
4. palm-rest assembly

30

Replacing the power-adapter port

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

1. Place the power-adapter port into the slot on the palm-rest assembly.
2. Route the power-adapter port cable through its routing guides on the palm-rest assembly.
3. Replace the screw that secures the power-adapter port to the palm-rest assembly.

Post-requisites

1. Replace the system board.
2. Replace the I/O board.
3. Replace the heat-sink assembly.
4. Replace the computer base.
5. Replace the keyboard.
6. Replace the wireless card.
7. Follow the procedure from step 5 to step 7 in “Replacing the hard drive”.
8. Replace the memory modules.
9. Replace the optical drive.
10. Replace the base cover.
11. Replace the battery.

31

Removing the power-button board

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

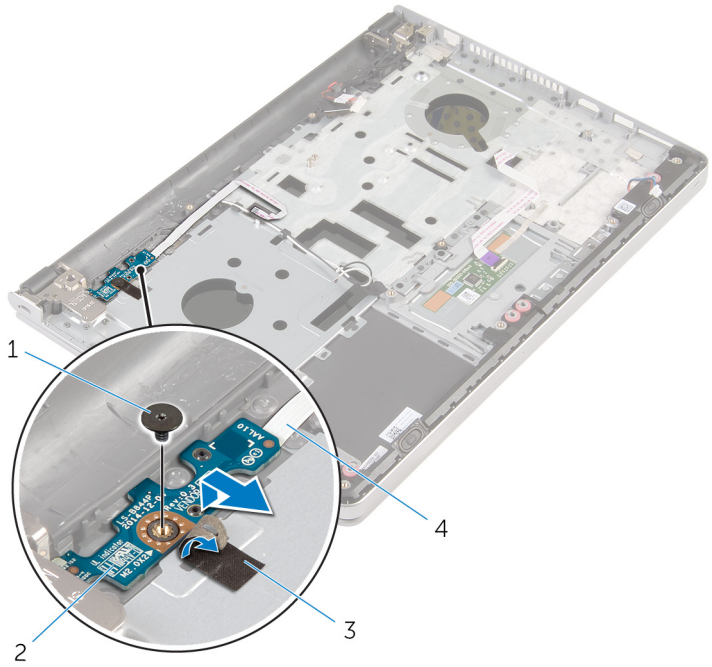
- Prerequisites
- Procedure

Prerequisites

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Remove the memory modules.
5. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
6. Remove the wireless card.
7. Remove the keyboard.
8. Remove the computer base.
9. Remove the heat-sink assembly.
10. Remove the I/O board.
11. Remove the system board.

Procedure

1. Remove the screw that secures the power-button board to the palm-rest assembly.
2. Peel the tape to access the power-button board.
3. Lift the power-button board, along with its cable, off the palm-rest assembly.



1. screw
2. power-button board
3. tape
4. power-button board cable

32

Replacing the power-button board

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

1. Align the screw hole on the power-button board with the screw hole on the palm-rest assembly.
2. Adhere the tape on the power-button board.
3. Replace the screw that secures the power-button board to the palm-rest assembly.

Post-requisites

1. Replace the system board.
2. Replace the I/O board.
3. Replace the heat-sink assembly.
4. Replace the computer base.
5. Replace the keyboard.
6. Replace the wireless card.
7. Follow the procedure from step 5 to step 7 in “Replacing the hard drive”.
8. Replace the memory modules.
9. Replace the optical drive.
10. Replace the base cover.
11. Replace the battery.

33

Removing the speakers

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Prerequisites
- Procedure

Prerequisites

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
5. Remove the wireless card.
6. Remove the keyboard.
7. Remove the computer base.

Procedure

1. Disconnect the speaker cable from the system board.
2. Lift the speakers, along with the speaker cable, off the palm-rest assembly.

a. speaker cable

b. speakers (2)

c. palm-rest assembly

34

Replacing the speakers

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

1. Using the alignment posts, align and place the speakers on the palm-rest assembly.
2. Connect the speaker cable to the system board.

Post-requisites

1. Replace the computer base.
2. Replace the keyboard.
3. Replace the wireless card.
4. Follow the procedure from step 5 to step 7 in "Replacing the hard drive".
5. Replace the optical drive.
6. Replace the base cover.
7. Replace the battery.

35

Removing the display assembly

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

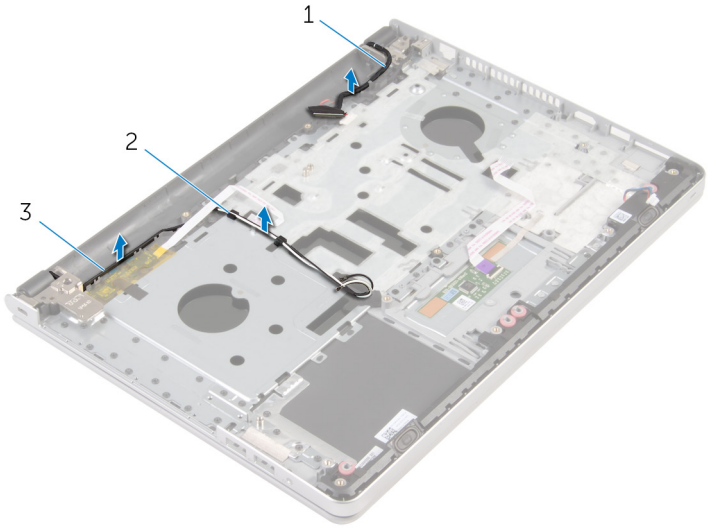
- Prerequisites
- Procedure

Prerequisites

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Remove the memory modules.
5. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
6. Remove the wireless card.
7. Remove the keyboard.
8. Remove the computer base.
9. Remove the heat-sink assembly.
10. Remove the I/O board.
11. Remove the system board.

Procedure

1. Note the antenna-cable routing and remove the antenna cables from its routing guides on the palm-rest assembly.
2. Note the display-cable routing and remove the cable from its routing guides on the palm-rest assembly.

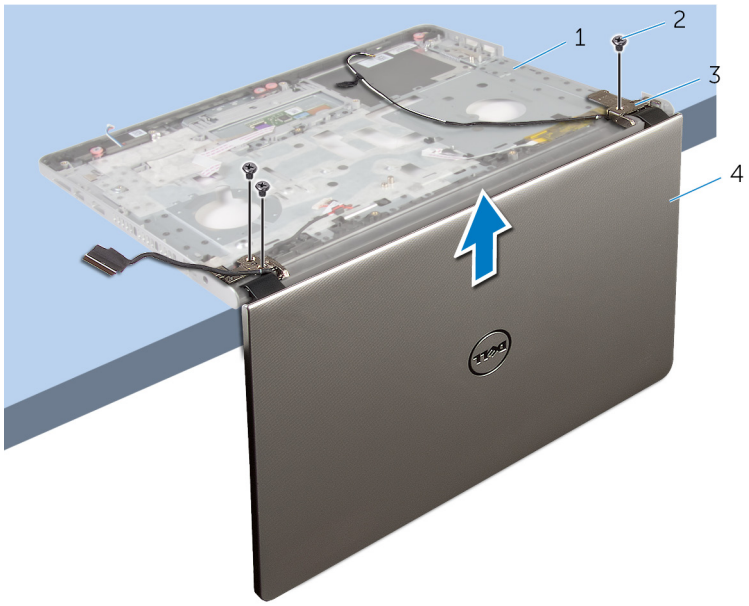


a. display cable

b. routing guides

c. antenna cables (2)

3. Turn the computer over and open the display at an angle of 90 degrees.
4. Turn the computer over and place it on the edge of the table in a position that allows access to the screws on the display hinges.
5. Remove the screws that secure the display hinges to the palm-rest assembly.
6. Carefully lift the display assembly from the palm-rest assembly.



1. computer base
2. screws (3)
3. display hinges (2)
4. display assembly

7. Carefully place the display assembly on a clean, flat surface.

a. display assembly

36

Replacing the display assembly

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

1. Place the palm rest at the edge of the table with the speakers facing away from the edge.
2. Align the screw holes on the palm-rest assembly with the screw holes on the display hinges.
3. Replace the screws that secure the display hinges to the palm-rest assembly.
4. Route the antenna cables through its routing guides on the palm-rest assembly.
5. Route the display cable through its routing guides on the palm-rest assembly.

Post-requisites

1. Replace the system board.
2. Replace the I/O board.
3. Replace the heat-sink assembly.
4. Replace the computer base.
5. Replace the keyboard.
6. Replace the wireless card.
7. Follow the procedure from step 5 to step 7 in “Replacing the hard drive”.
8. Replace the memory modules.
9. Replace the optical drive.
10. Replace the base cover.
11. Replace the battery.

37

Removing the palm-rest assembly

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

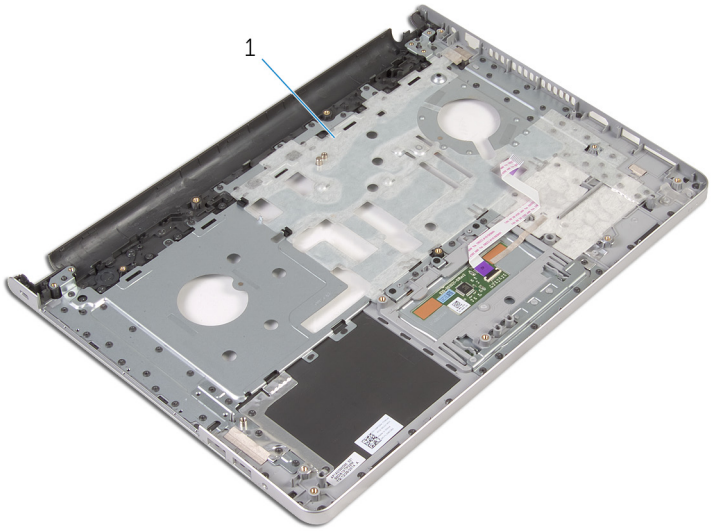
- Prerequisites
- Procedure

Prerequisites

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Remove the memory modules.
5. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
6. Remove the wireless card.
7. Remove the keyboard.
8. Remove the computer base.
9. Remove the speakers.
10. Remove the heat-sink assembly.
11. Remove the I/O board.
12. Remove the system board.
13. Remove the power-adapter port.
14. Remove the power-button board.
15. Remove the display assembly.

Procedure

After performing the steps in the prerequisites we are left with the palm-rest assembly.



1. palm-rest assembly

38

Replacing the palm-rest assembly

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

Place the palm-rest assembly on a clean and flat surface.

Post-requisites

1. Replace the display assembly.
2. Replace the power-button board.
3. Replace the power-adapter port.
4. Replace the system board.
5. Replace the I/O board.
6. Replace the heat-sink assembly.
7. Replace the speakers.
8. Replace the computer base.
9. Replace the keyboard.
10. Replace the wireless card.
11. Follow the procedure from step 5 to step 7 in “Replacing the hard drive”.
12. Replace the memory modules.
13. Replace the optical drive.
14. Replace the base cover.
15. Replace the battery.

39

Removing the display bezel

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Prerequisites
- Procedure

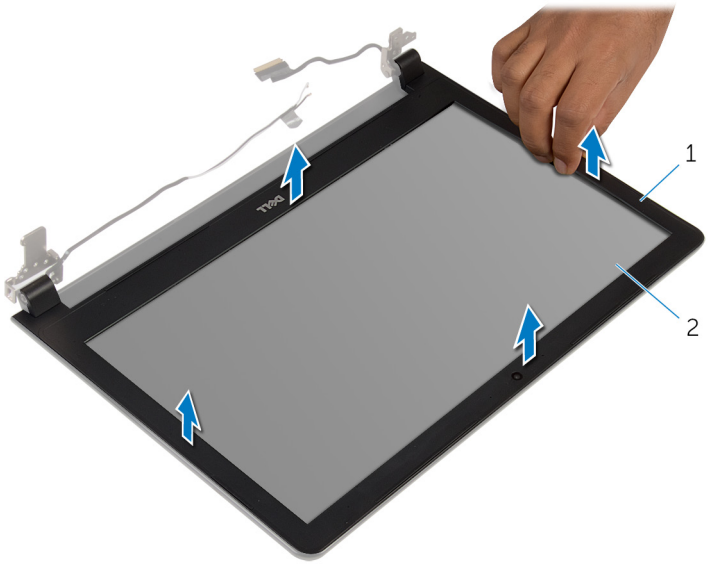
Prerequisites

NOTE: These instructions are applicable only for laptops with a non-touch screen display.

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Remove the memory modules.
5. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
6. Remove the wireless card.
7. Remove the keyboard.
8. Remove the computer base.
9. Remove the heat-sink assembly.
10. Remove the I/O board.
11. Remove the system board.
12. Remove the display assembly.

Procedure

1. Using your fingertips, gently pry up the inner edges of the display bezel.



a. display bezel

b. display panel

2. Lift the display bezel off the display assembly.

40

Replacing the display bezel

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

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 system board.
3. Replace the I/O board.
4. Replace the heat-sink assembly.
5. Replace the computer base.
6. Replace the keyboard.
7. Replace the wireless card.
8. Follow the procedure from step 5 to step 7 in “Replacing the hard drive”.
9. Replace the memory modules.
10. Replace the optical drive.
11. Replace the base cover.
12. Replace the battery.

41

Removing the camera

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Prerequisites
- Procedure

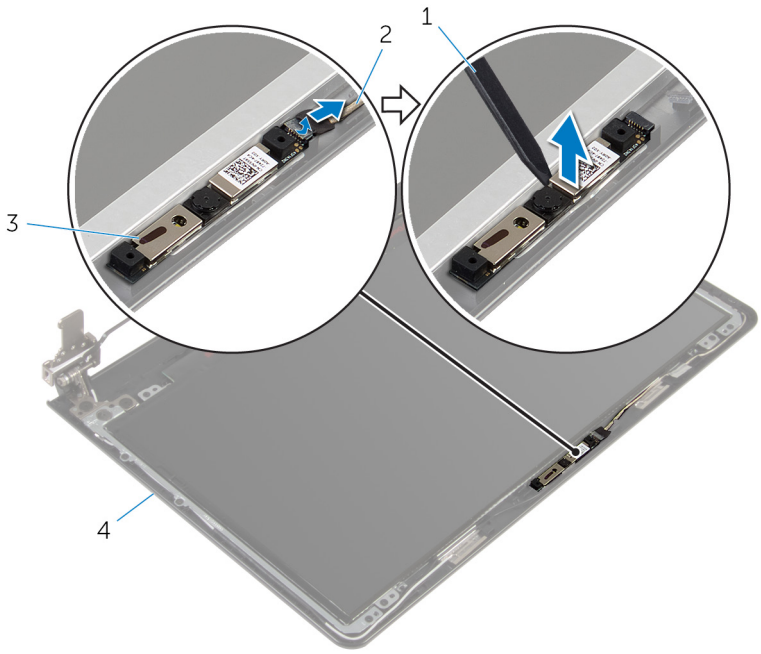
Prerequisites

NOTE: These instructions are applicable only for laptops with a non-touchscreen display.

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Remove the memory modules.
5. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
6. Remove the wireless card.
7. Remove the keyboard.
8. Remove the computer base.
9. Remove the heat-sink assembly.
10. Remove the I/O board.
11. Remove the system board.
12. Remove the display assembly.
13. Remove the display bezel.

Procedure

1. Disconnect the camera cable from the camera.
2. Using a plastic scribe, gently pry the camera off the display back-cover.



1. plastic scribe
2. camera cable
3. camera
4. display back-cover

42

Replacing the camera

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

1. Align the camera to the slot on the display back-cover and adhere the camera in place.
2. Connect the camera cable to the camera.

Post-requisites

1. Replace the display bezel.
2. Replace the display assembly.
3. Replace the system board.
4. Replace the I/O board.
5. Replace the heat-sink assembly.
6. Replace the computer base.
7. Replace the keyboard.
8. Replace the wireless card.
9. Follow the procedure from step 5 to step 7 in “Replacing the hard drive”.
10. Replace the memory modules.
11. Replace the optical drive.
12. Replace the base cover.
13. Replace the battery.

43

Removing the display panel

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Prerequisites
- Procedure

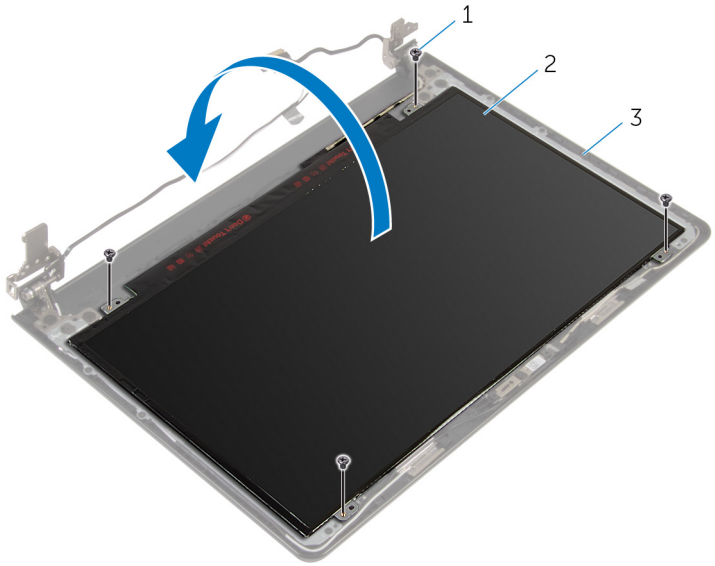
Prerequisites

NOTE: These instructions are applicable only for laptops with a non-touch screen display.

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Remove the memory modules.
5. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
6. Remove the wireless card.
7. Remove the keyboard.
8. Remove the computer base.
9. Remove the heat-sink assembly.
10. Remove the I/O board.
11. Remove the system board.
12. Remove the display assembly.
13. Remove the display bezel.

Procedure

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

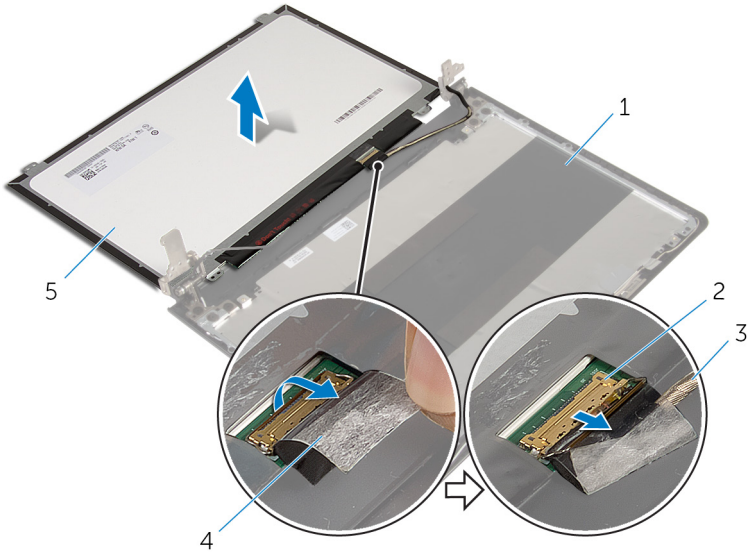


a. screws (4)

b. display panel

c. display-back cover

3. Peel the tape that secures the display cable to the display panel.
4. Lift the latch and disconnect the display cable from the display panel.
5. Lift the display panel off the display back-cover.



1. display back-cover
2. latch
3. display cable
4. tape
5. display panel

44

Replacing the display panel

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

1. Slide the display cable into the connector on the display panel and press down the latch to secure the cable.
2. Adhere the tape that secures the display cable to the display panel.
3. Turn the display panel over and place it on the display back-cover.
4. Align the screw holes on the display panel with the screw holes on the display back-cover.
5. 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 system board.
4. Replace the I/O board.
5. Replace the heat-sink assembly.
6. Replace the computer base.
7. Replace the keyboard.
8. Replace the wireless card.
9. Follow the procedure from step 5 to step 7 in “Replacing the hard drive”.
10. Replace the memory modules.
11. Replace the optical drive.
12. Replace the base cover.
13. Replace the battery.

45

Removing the display hinges

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Prerequisites
- Procedure

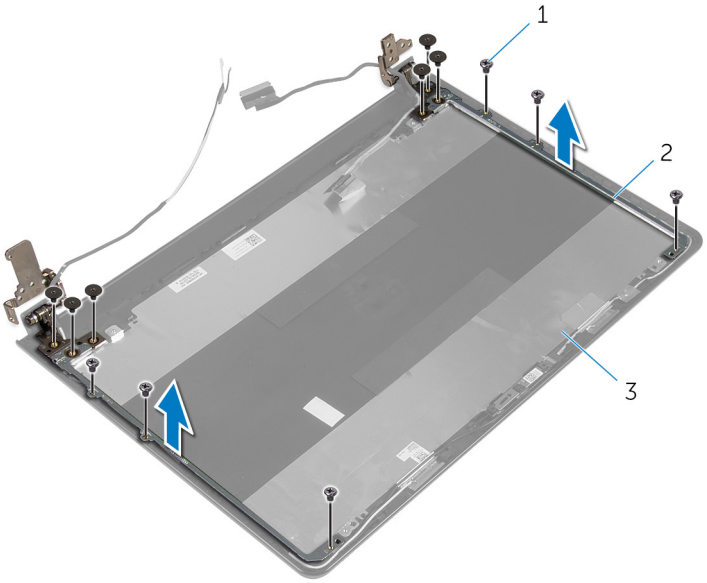
Prerequisites

NOTE: These instructions are applicable only for laptops with a non-touchscreen display.

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Remove the memory modules.
5. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
6. Remove the wireless card.
7. Remove the keyboard.
8. Remove the computer base.
9. Remove the heat-sink assembly.
10. Remove the I/O board.
11. Remove the system board.
12. Remove the display assembly.
13. Remove the display bezel.
14. Remove the display panel.

Procedure

1. Remove the screws that secure the display hinges to the display back-cover.
2. Carefully lift the display hinges off the display back-cover.



a. screws (12)

b. display hinges (2)

c. display back-cover

46

Replacing the display hinges

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

1. Align the screw holes on the display hinges with the screw holes on the display back-cover.
2. Replace the screws that secure the display hinges 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 system board.
5. Replace the I/O board.
6. Replace the heat-sink assembly.
7. Replace the computer base.
8. Replace the keyboard.
9. Replace the wireless card.
10. Follow the procedure from step 5 to step 7 in “Replacing the hard drive”.
11. Replace the memory modules.
12. Replace the optical drive.
13. Replace the base cover.
14. Replace the battery.

47

Removing the display cable

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Prerequisites
- Procedure

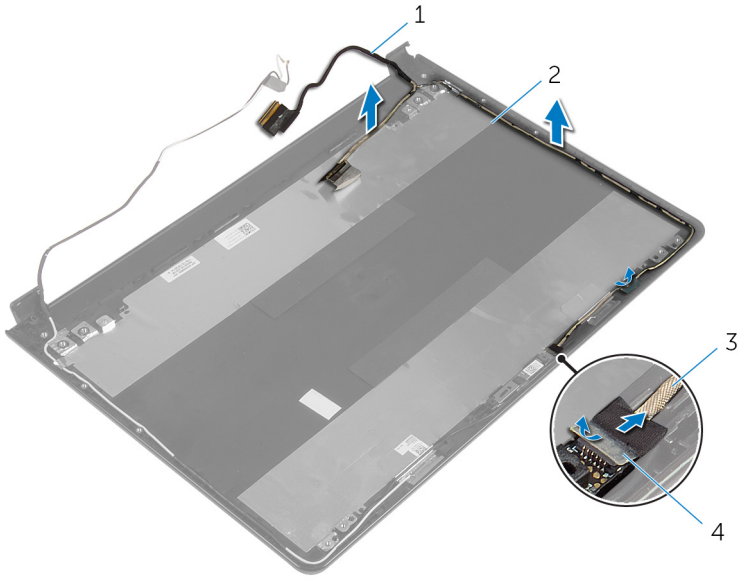
Prerequisites

NOTE: These instructions are applicable only for laptops with a non-touchscreen display.

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Remove the memory modules.
5. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
6. Remove the wireless card.
7. Remove the keyboard.
8. Remove the computer base.
9. Remove the heat-sink assembly.
10. Remove the I/O board.
11. Remove the system board.
12. Remove the display assembly.
13. Remove the display bezel.
14. Remove the display panel.

Procedure

1. Peel off the tape that secures the camera cable to the display back-cover.
2. Disconnect the camera cable from the camera.
3. Note the display cable routing and remove the display cable from the routing guides on the display back-cover.
4. Note the camera cable routing and remove the camera cable from the display back-cover.



1. display cable
2. display back-cover
3. camera cable
4. tape

48

Replacing the display cable

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

1. Route the display cable through the routing guides on the display back-cover.
2. Connect the camera cable to the camera.
3. Adhere the tape that secures the camera cable to the display back-cover.

Post-requisites

1. Replace the display hinges.
2. Replace the display panel.
3. Replace the display bezel.
4. Replace the display assembly.
5. Replace the system board.
6. Replace the I/O board.
7. Replace the heat-sink assembly.
8. Replace the computer base.
9. Replace the keyboard.
10. Replace the wireless card.
11. Follow the procedure from step 5 to step 7 in “Replacing the hard drive”.
12. Replace the memory modules.
13. Replace the optical drive.
14. Replace the base cover.
15. Replace the battery.

49

Removing the display back-cover and antenna assembly

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Prerequisites
- Procedure

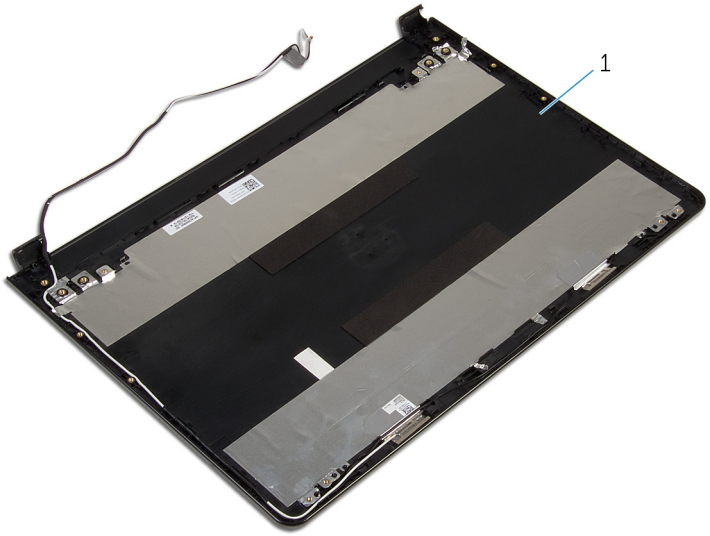
Prerequisites

NOTE: These instructions are applicable only for laptops with a non-touchscreen display.

1. Remove the battery.
2. Remove the base cover.
3. Remove the optical drive.
4. Remove the memory modules.
5. Follow the procedure from step 1 to step 3 in "Removing the hard drive".
6. Remove the wireless card.
7. Remove the keyboard.
8. Remove the computer base.
9. Remove the heat-sink assembly.
10. Remove the I/O board.
11. Remove the system board.
12. Remove the display assembly.
13. Remove the display bezel.
14. Remove the camera.
15. Remove the display panel.
16. Remove the display cable.

Procedure

After performing the steps mentioned in the prerequisites, we are left with the display back-cover and antenna assembly.



1. display back-cover and antenna assembly.

50

Replacing the display back-cover and antenna assembly

NOTE: 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 www.dell.com/regulatory_compliance.

Topics:

- Procedure
- Post-requisites

Procedure

Place the display back-cover and antenna assembly on a clean, flat surface.

Post-requisites

1. Replace the display cable.
2. Replace the display hinges.
3. Replace the display panel.
4. Replace the camera.
5. Replace the display bezel.
6. Replace the display assembly.
7. Replace the system board.
8. Replace the I/O board.
9. Replace the heat-sink assembly.
10. Replace the computer base.
11. Replace the keyboard.
12. Replace the wireless card.
13. Follow the procedure from step 5 to step 7 in “Replacing the hard drive”.
14. Replace the memory modules.
15. Replace the optical drive.
16. Replace the base cover.
17. Replace the battery.

51

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 your computer.
2. Go to www.dell.com/support.
3. Click **Product support**, enter the Service Tag of your computer, and then click **Submit**.

   NOTE: If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.

4. Click **Drivers & downloads** > **Find it myself**.
5. Select the operating system installed on your computer.
6. Scroll down the page and expand **BIOS**.
7. Click **Download** to download the latest version of the BIOS for your computer.
8. After the download is complete, navigate to the folder where you saved the BIOS update file.
9. Double-click the BIOS update file icon and follow the instructions on the screen.

52

Getting help and contacting Dell

Self-help resources

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

Information about Dell products and services	www.dell.com
Windows 8.1 and Windows 10	Dell Help & Support app
Windows 10	Get started app
Windows 8.1	Help + Tips app
Accessing help in Windows 8, Windows 8.1, and Windows 10	In Windows search, type `Help and Support`, and press Enter.
Accessing help in Windows 7	Click **Start** > **Help and Support**.
Online help for operating system	www.dell.com/support/windows www.dell.com/support/linux
Troubleshooting information, user manuals, setup instructions, product specifications, technical help blogs, drivers, software updates, and so on.	www.dell.com/support
Learn about your operating system, setting up and using your computer, data backup, diagnostics, and so on.	See *Me and My Dell* at www.dell.com/support/manuals.

Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see www.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.