

# Inspiron 15

## 5000 Series

# Service Manual

Computer Model: Inspiron 15-5557  
Regulatory Model: P39F  
Regulatory Type: P39F003



# Notes, cautions, and warnings

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**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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# Before working inside your computer

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 **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 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, 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 [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).
-  **WARNING:** Disconnect all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting to the power source.
-  **CAUTION:** To avoid damaging the computer, ensure that the work surface is flat and clean.
-  **CAUTION:** To avoid damaging the components and cards, handle them by their edges and avoid touching pins and contacts.
-  **CAUTION:** 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](http://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

# After working inside your computer

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**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, and cables you removed before working on your computer.
- 3 Replace any media cards, discs, and 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.

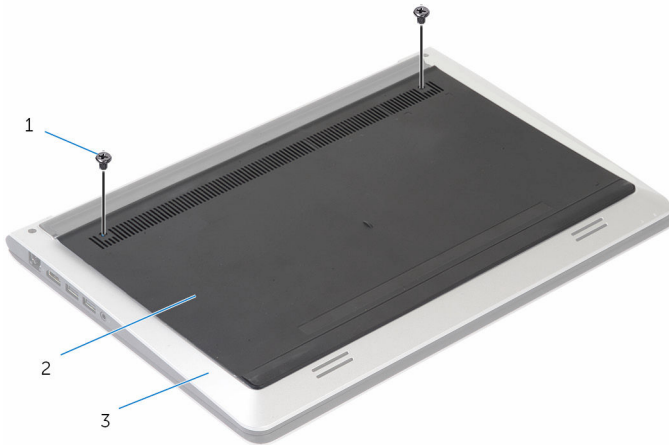
# Removing the base cover

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**⚠ 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 [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

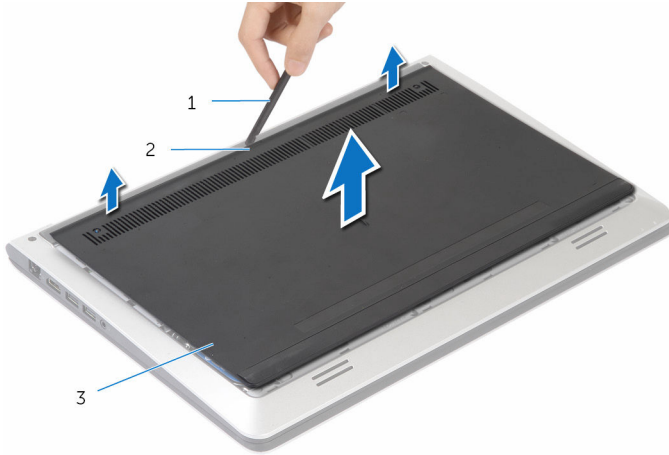
## Procedure

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



- 1 screws (2)
- 2 base cover
- 3 base frame

**3** Using a plastic scribe, pry the base cover off the base frame.



1 plastic scribe

2 notch

3 base cover

# Replacing the base cover

---



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## Procedure

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



# Removing the battery

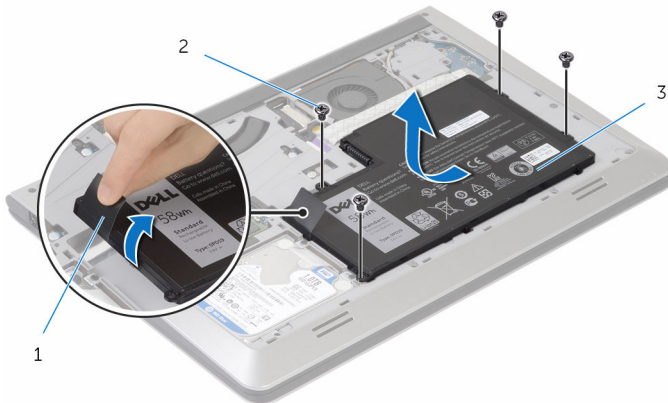
**!** **WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety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

## Prerequisites

Remove the [base cover](#).

## Procedure

- 1 Remove the screws that secure the battery to the base frame.
- 2 Using the pull tab, slide and lift the battery off the base frame.



1 pull tab

2 screws (4)

3 battery

- 3 Turn the computer over, open the display, and press the power button for about 5 seconds to ground the system board.

# Replacing the battery

---



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## Procedure




- 1 Align the screw holes on the battery with the screw holes on the base frame and press-down the battery to connect it to the battery connector.
- 2 Replace the screws that secure the battery to the base frame.

## Post-requisites

Replace the [base cover](#).

# Removing the hard drive

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-  **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 [www.dell.com/regulatory\\_compliance](http://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.

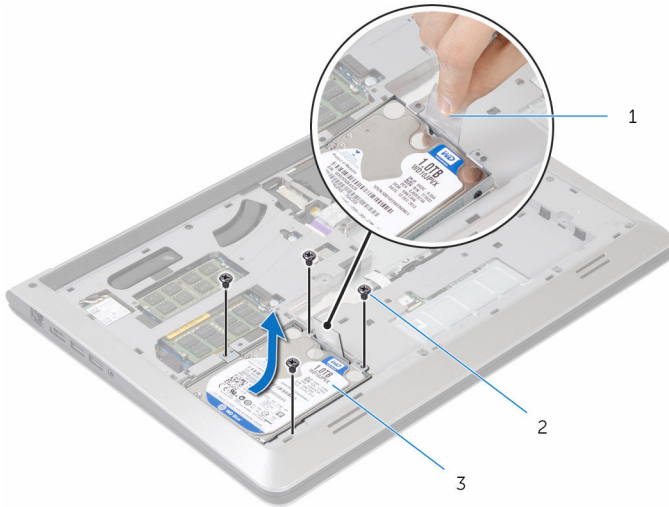
## Prerequisites

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

## Procedure

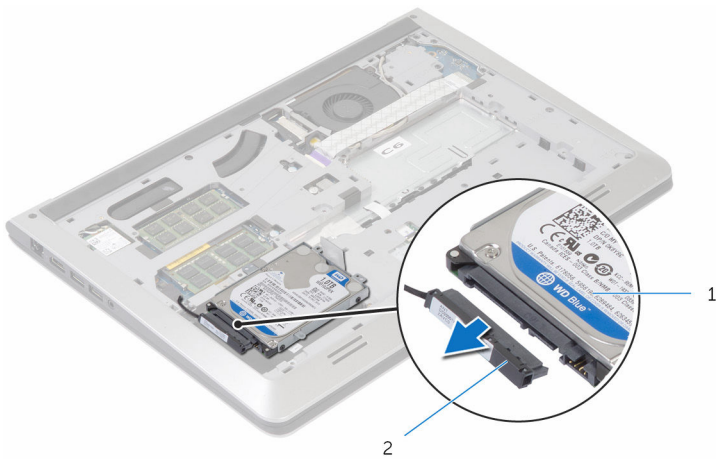
- 1 Remove the screws that secure the hard-drive assembly to the base frame.

- 2 Using the pull tab, slide the hard-drive assembly out of the base frame.



- 1 pull tab  
2 screws (4)  
3 hard-drive assembly

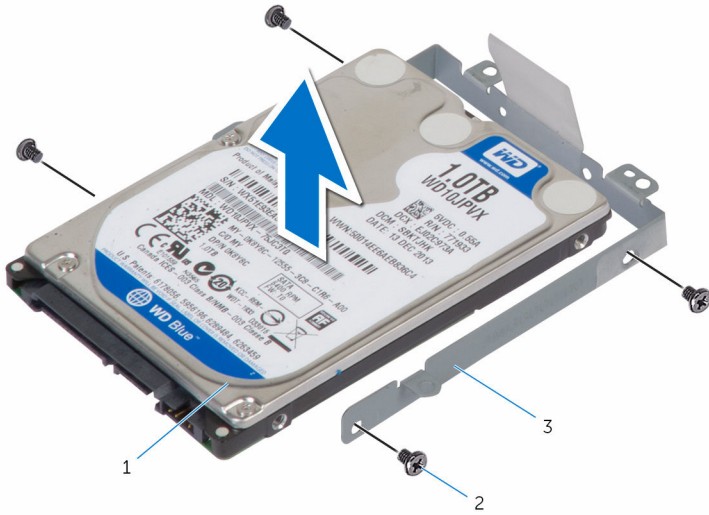
- 3 Disconnect the hard-drive cable from the hard drive.



- 1 hard-drive assembly  
2 hard-drive cable

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

5 Lift the hard drive off the hard-drive bracket.



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

# Replacing the hard drive

---

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

## Procedure


- 1 Place the hard drive in the hard-drive bracket and align the screw holes on the hard-drive bracket with the screw holes on the hard drive.
- 2 Replace the screws that secure the hard-drive bracket to the hard drive.
- 3 Connect the hard-drive cable to the hard drive.
- 4 Slide the hard drive in the base frame and align the screw holes on the hard-drive assembly with the screw holes on the base frame.
- 5 Replace the screws that secure the hard-drive assembly to the base frame.

## Post-requisites

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

# Removing the memory modules

---

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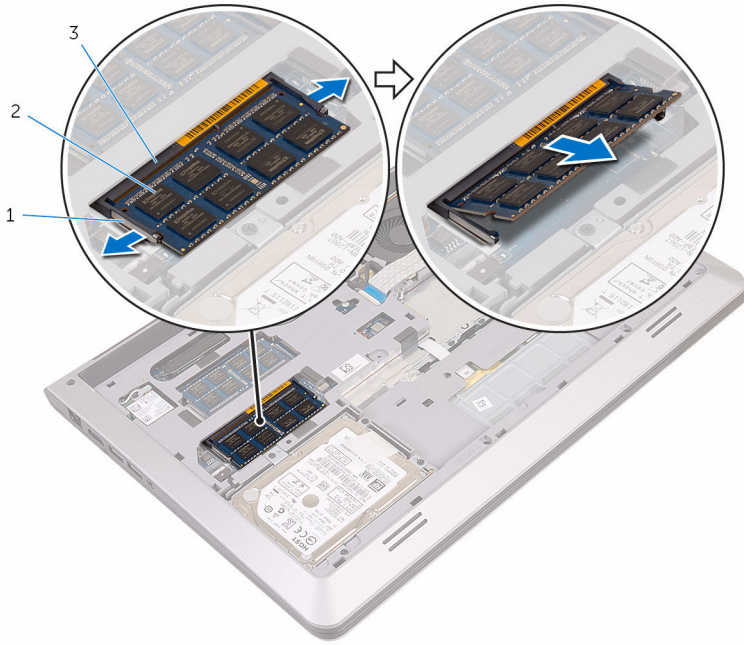
## Prerequisites

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

## Procedure

- 1 Using your fingertips, pry 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 memory module

3 memory-module slot



# Replacing the memory modules


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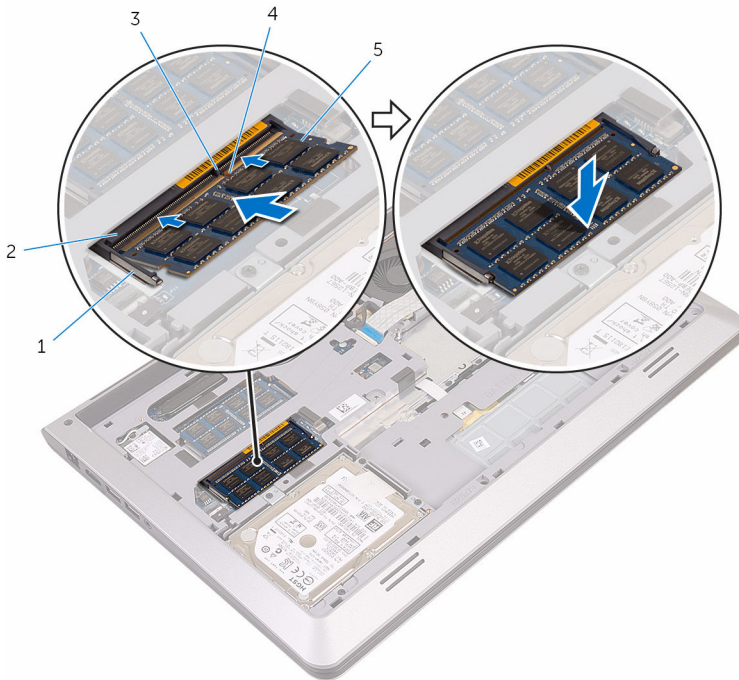
 **WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best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

## 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.



- securing clips (2)
- tab
- memory modules (2)

- memory-module slot
- notch

## Post-requisites

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

# Removing the wireless card

---



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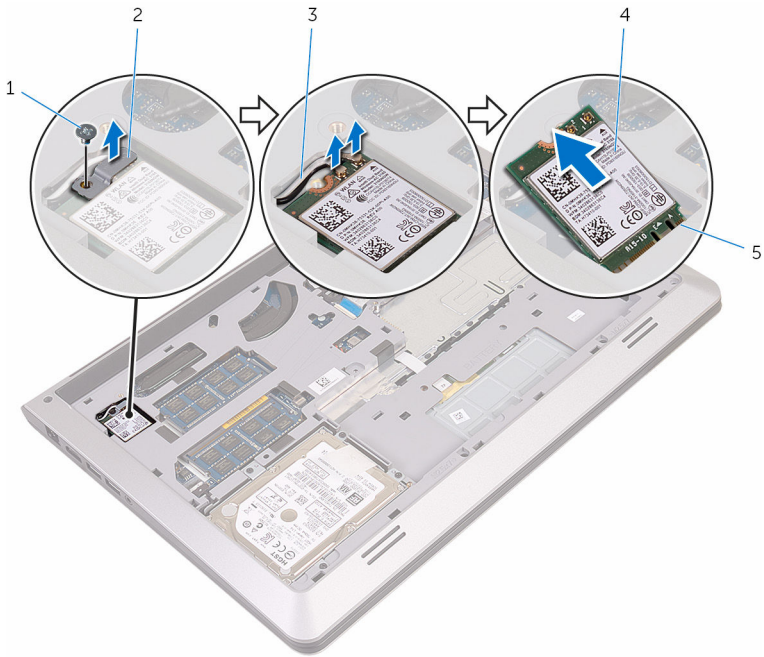
## Prerequisites

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

## Procedure

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

4 Lift and slide the wireless card out of the wireless-card slot.



1 screw

2 wireless-card bracket


3 antenna cables

4 wireless card


5 wireless-card slot

# Replacing the wireless card

---

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## Procedure

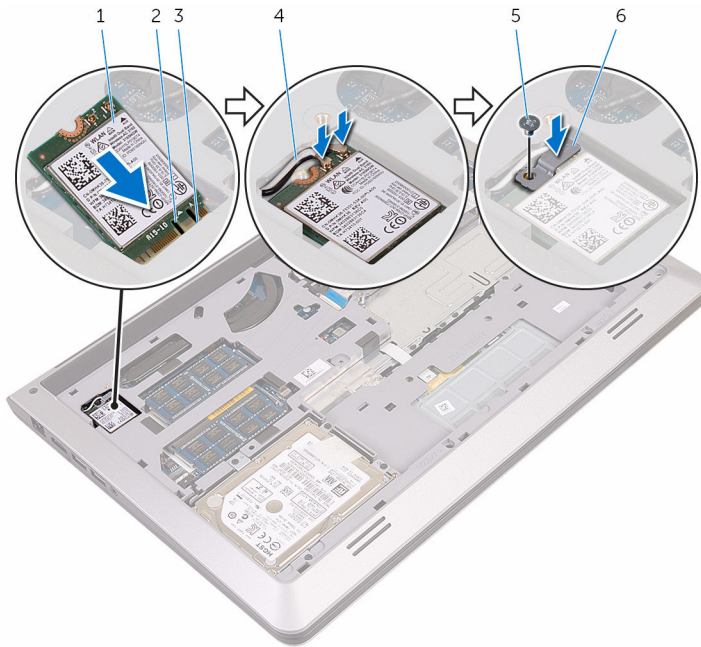
 **CAUTION:** To avoid damaging the wireless card, do not place any cables under it.

- 1 Align the notches on the wireless card with the tabs on the wireless-card slot.
- 2 Slide the wireless-card at an angle into the wireless-card slot.
- 3 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

- 4 Press the other end of the wireless card down and align the screw hole on the wireless-card bracket with the screw hole on the system board.

- 5 Replace the screw that secures the wireless-card bracket to the system board.



- |   |               |   |                       |
|---|---------------|---|-----------------------|
| 1 | wireless card | 2 | notch                 |
| 3 | tab           | 4 | antenna cables        |
| 5 | screw         | 6 | wireless-card bracket |

## Post-requisites

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

# Removing the fan

---



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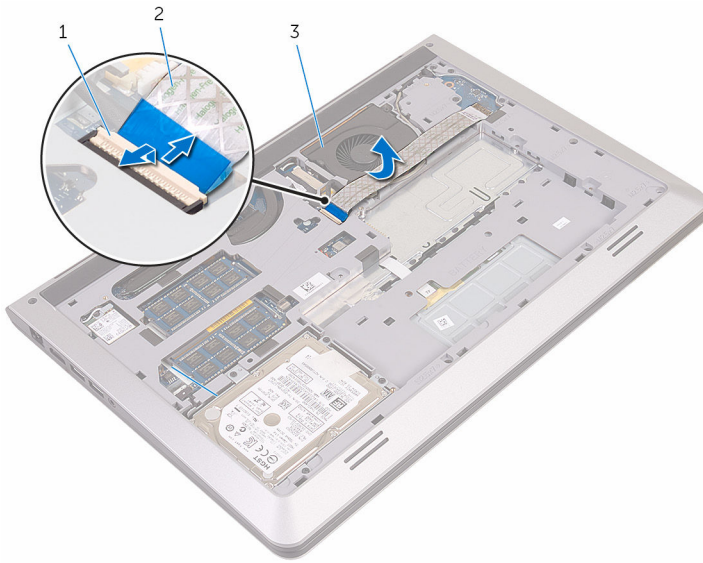
## Prerequisites

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

## Procedure

- 1 Lift the latch and disconnect the I/O-board cable from the system board.

**2** Peel the I/O-board cable off the fan.



1 latch

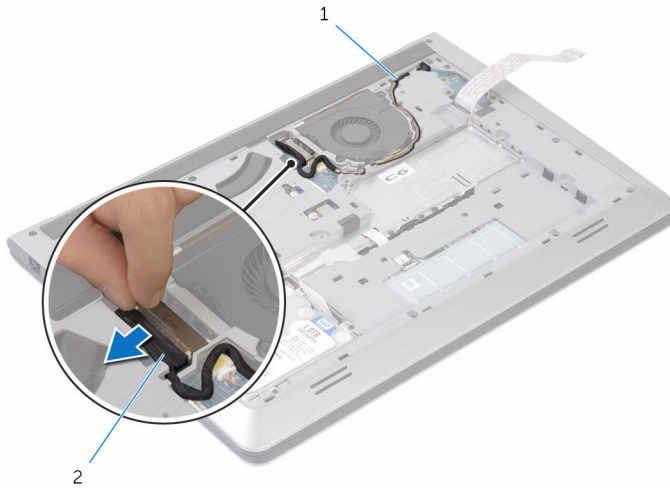
2 I/O-board cable

3 fan

**3** Disconnect the display-cable from the system board.



- 4 Note the display-cable routing and remove the cable from the routing guides.

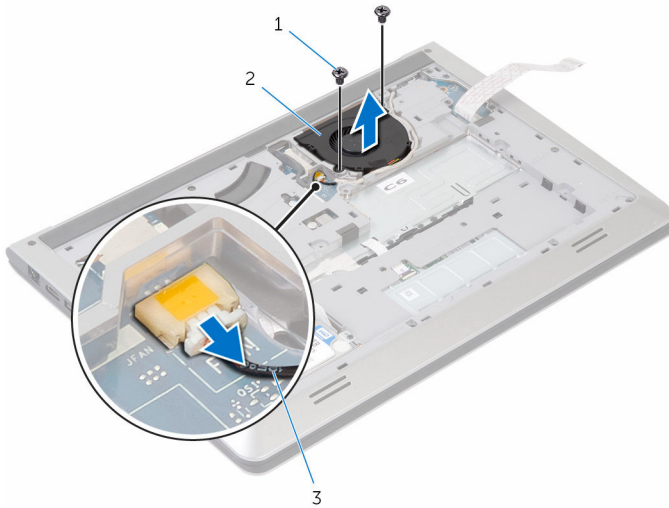


1 routing guide

2 display cable

- 5 Disconnect the fan cable from the system board.
- 6 Note the fan-cable routing and remove the cable from the routing guides.
- 7 Remove the screws that secure the fan to the base frame.

**8** Lift the fan off the base frame.



1 screws (2)

2 fan

3 fan cable

# Replacing the fan

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## Procedure

- 1 Align the screw holes on the fan with the screw holes on the base frame.
- 2 Replace the screws that secure the fan to the base frame.
- 3 Route the fan cable through the routing guides on the base frame.
- 4 Connect the fan cable to the system board.
- 5 Route the display cable through the routing guides on the base frame.
- 6 Connect the display cable to the system board.
- 7 Adhere the I/O-board cable to the fan.
- 8 Slide the I/O-board cable into the I/O-board cable connector and press down the latch to secure the cable.

## Post-requisites

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

# Removing the keyboard

---



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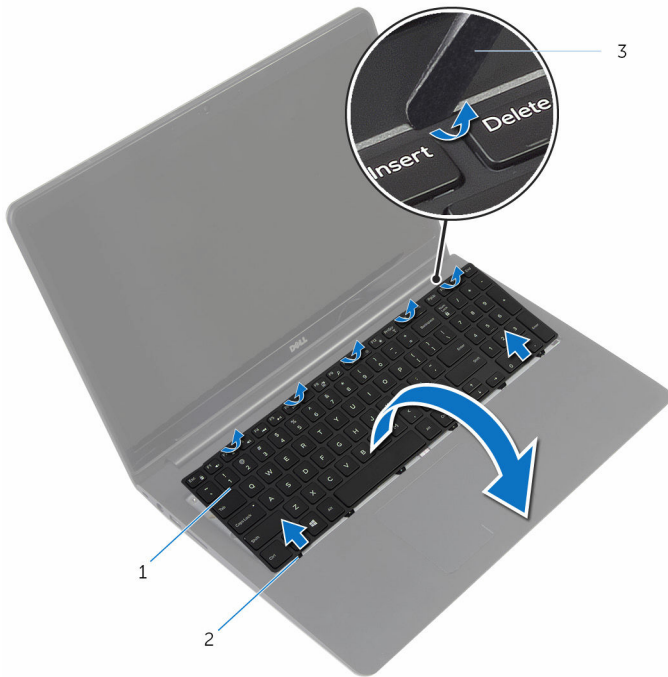
## Prerequisites

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

2 tabs (6)

3 plastic scribe

- 3** Carefully turn the keyboard over and place it on the palm-rest assembly.

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

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




- |   |                          |   |       |
|---|--------------------------|---|-------|
| 1 | keyboard cable           | 2 | latch |
| 3 | keyboard-backlight cable |   |       |


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

# 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 and keyboard-backlight cables into the respective connectors and press down the latches to secure the cables.
- 2 Turn the keyboard over, slide the tabs on the keyboard into the slots on the palm-rest assembly, and snap the keyboard into place.

## Folding the keyboard cables

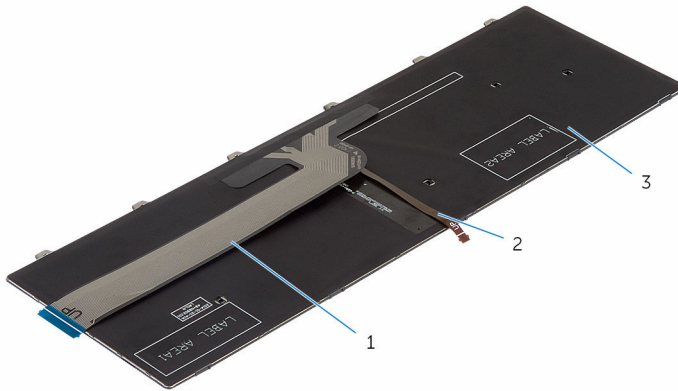
 **CAUTION:** Do not apply excess pressure while folding the cables.

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

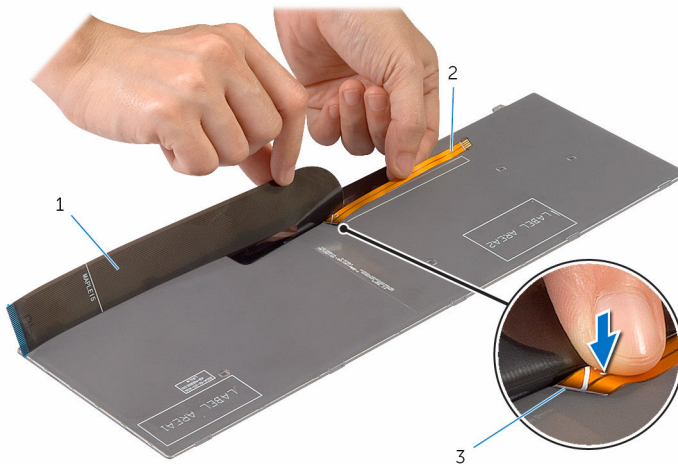
2 keyboard-backlight cable

3 keyboard



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

- 2 Lift the keyboard cable and gently fold the keyboard-backlight cable at the fold line.



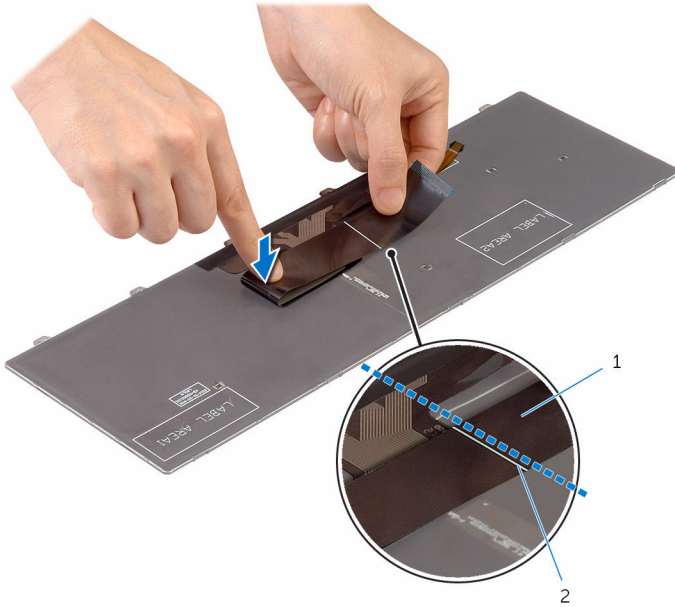
1 keyboard cable

2 keyboard-backlight cable

3 fold line



- 3 Using the alignment line, gently fold the keyboard cable.



1 keyboard cable

2 alignment line



## Post-requisites

- 1 Replace the [battery](#).

2 Replace the [base cover](#).

# Removing the base frame

---



**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 [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).

# Procedure

- 1 Lift the latch and disconnect the touch-pad cable from the system board.

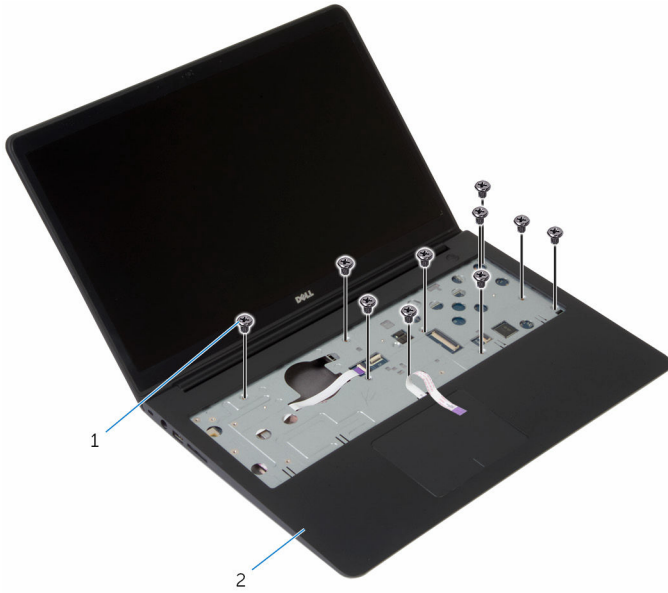


1 latch

2 touch-pad cable

3 palm-rest assembly

- 2 Remove the screws that secure the base frame to the palm-rest assembly.

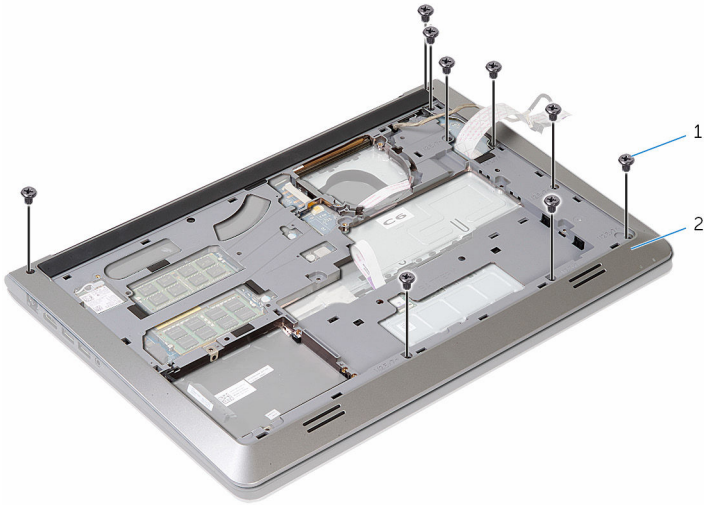


1 screws (10)

2 palm-rest assembly

- 3 Close the display and turn the computer over.


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

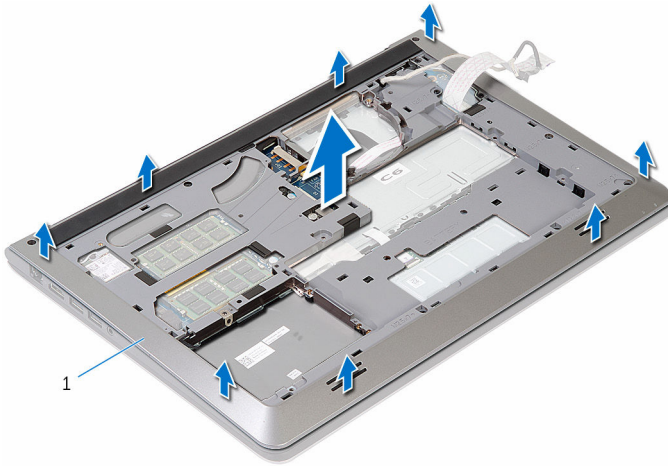


1 screws (9)

2 base frame

- 5 Using your fingertips, starting from the rear, pry the base frame off the palm-rest assembly.

 **NOTE:** Make sure the display cable is completely removed from the routing guides on the base frame.



1 base frame

# Replacing the base frame

---



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## Procedure

- 1 Align the tabs on the base frame with the slots on the palm-rest assembly and snap the base frame into place.
- 2 Replace the screws that secure the base frame to the palm-rest assembly.
- 3 Turn the computer over and open the display.
- 4 Replace the screws that secure the base frame to the palm-rest assembly.
- 5 Slide the touch-pad cable into the connector on the system board and close the latch to secure the cable.



## Post-requisites

- 1 Replace the [keyboard](#).
- 2 Replace the [fan](#).
- 3 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 4 Replace the [battery](#).
- 5 Replace the [base cover](#).



# Removing the coin-cell battery

---

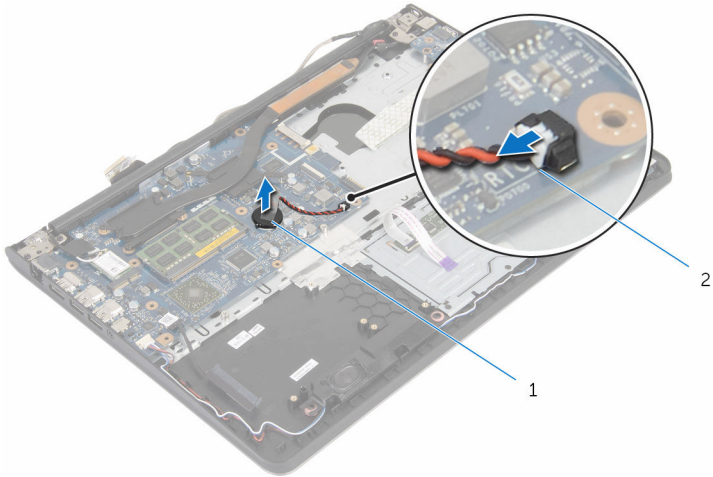
-  **WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices, see the Regulatory Compliance home page at [www.dell.com/regulatory\\_compliance](http://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.

## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).
- 6 Remove the [base frame](#).

# Procedure

- 1 Disconnect the coin-cell battery cable from the system board.



1 coin-cell battery

2 coin-cell battery cable

- 2 Peel off the coin-cell battery from the system board.
- 3 Lift the coin-cell battery, along with its cable, off the system board.

# Replacing the coin-cell battery

---



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## Procedure


- 1 Adhere the coin-cell battery to the system board.
- 2 Connect the coin-cell battery cable to the system board.


## Post-requisites


- 1 Replace the [base frame](#).
- 2 Replace the [keyboard](#).
- 3 Replace the [fan](#).
- 4 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 5 Replace the [battery](#).
- 6 Replace the [base cover](#).

# 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 [www.dell.com/regulatory\\_compliance](http://www.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:** 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.

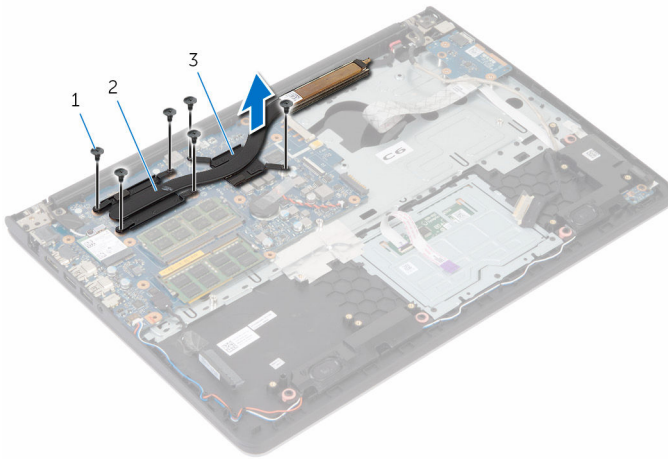
## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).
- 6 Remove the [base frame](#).

## Procedure

- 1 In sequential order (as indicated on the heat sink), remove the screws that secure the heat sink to the system board.

2 Lift the heat sink off the system board.



1 screws (6)

2 processor heat-sink


3 graphics card heat-sink





**NOTE:** The image shows a heat sink on a laptop shipped with discrete graphics card. The heat sink shipped on a laptop with integrated graphics card has only 4 screws.

# Replacing the heat sink


---

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 **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 heat sink are reinstalled together. If either the system board or the heat sink is replaced, use the thermal pad provided in the kit to ensure that thermal conductivity is achieved.

## Procedure

 **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 make sure that thermal conductivity is achieved.

- 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), replace the screws that secure the heat sink to the system board.

## Post-requisites

- 1 Replace the [base frame](#).
- 2 Replace the [keyboard](#).
- 3 Replace the [fan](#).
- 4 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 5 Replace the [battery](#).
- 6 Replace the [base cover](#).

# Removing the I/O board

---



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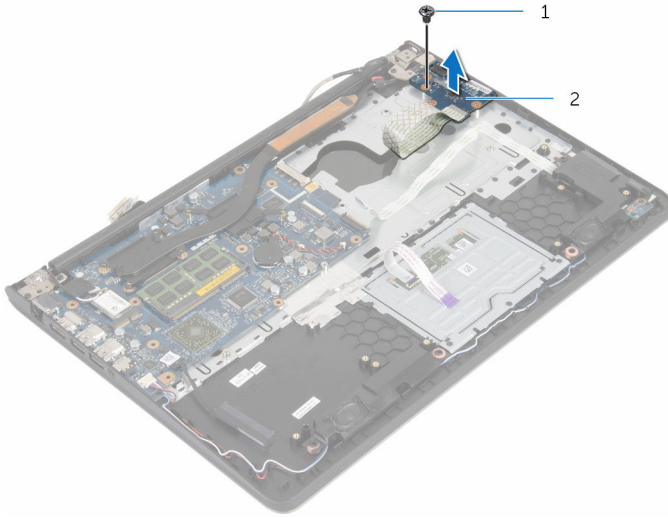
## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).
- 6 Remove the [base frame](#).

## Procedure

- 1 Remove the screw that secures the I/O board to the palm-rest assembly.

2 Lift the I/O board off the palm-rest assembly.



1 screw

2 I/O board



# Replacing the I/O board

---



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## Procedure

- 1 Align the screw hole on the I/O board with the screw hole on the palm-rest assembly.
- 2 Replace the screw that secures the I/O board to the palm-rest assembly.

## Post-requisites

- 1 Replace the [base frame](#).
- 2 Replace the [keyboard](#).
- 3 Replace the [fan](#).
- 4 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 5 Replace the [battery](#).
- 6 Replace the [base cover](#).

# Removing the speakers

---



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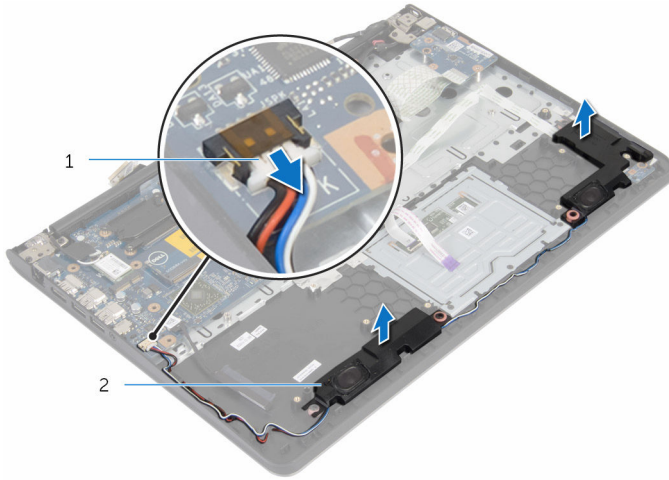
## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).
- 6 Remove the [base frame](#).

## Procedure

- 1 Disconnect the speaker cable from the system board.
- 2 Note the speaker-cable routing and remove the cable from the routing guides on the palm-rest assembly.

- 3** Lift the speakers, along with the speaker cable, off the palm-rest assembly.



1 speaker cable

2 speakers (2)

# Replacing the speakers

---



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## Procedure

- 1 Align the speakers to the alignment posts on the palm rest.
- 2 Route the speaker cable through the routing guides on the palm-rest assembly.
- 3 Connect the speaker cable to the system board.

## Post-requisites

- 1 Replace the [base frame](#).
- 2 Replace the [keyboard](#).
- 3 Replace the [fan](#).
- 4 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 5 Replace the [battery](#).
- 6 Replace the [base cover](#).

# Removing the status-light board

---



**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 [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

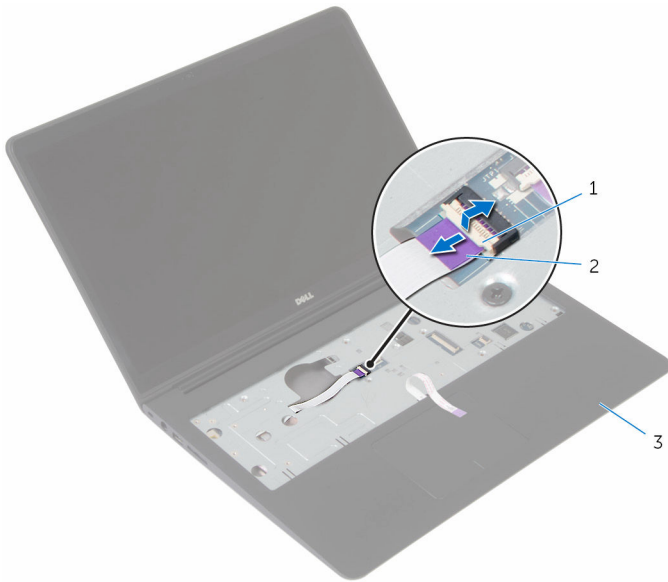
## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).
- 6 Remove the [base frame](#).

## Procedure

- 1 Turn over the computer and open the display.

- 2 Lift the latch and disconnect the status-light cable from the system board.



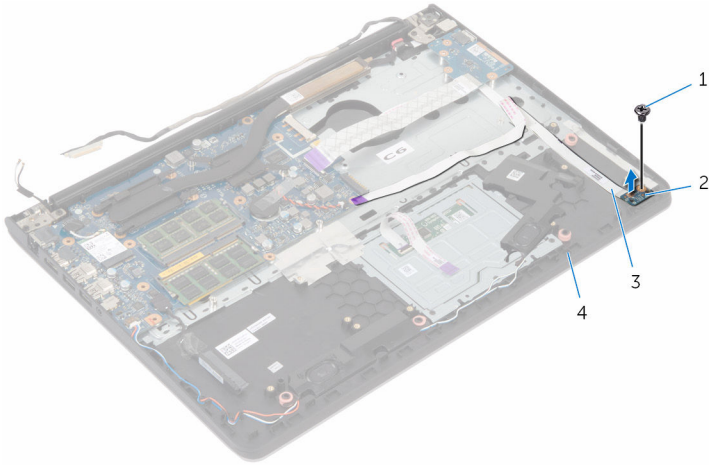
1 latch

2 status-light board cable

3 palm rest assembly

- 3 Close the display and turn the computer over.
- 4 Remove the screw that secures the status-light board to the palm rest.
- 5 Peel off the status-light board cable from the palm rest.

**6** Lift the status-light board, along with the cable, off the palm rest.



1 screw


2 status-light board

3 status-light board cable

4 palm rest

# Replacing the status-light board

---

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## Procedure

- 1 Align the screw hole on the status-light board with the screw hole on the palm rest.
- 2 Replace the screw that secures the status-light board to the palm rest.
- 3 Adhere the status-light board cable to the palm rest.
- 4 Slide the status-light board cable through the slot on the palm rest.
- 5 Turn the computer over and open the display.
- 6 Connect the status-light board cable to the system board.

## Post-requisites

- 1 Replace the [base frame](#).
- 2 Replace the [keyboard](#).
- 3 Replace the [fan](#).
- 4 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 5 Replace the [battery](#).
- 6 Replace the [base cover](#).



# Removing the display assembly

---



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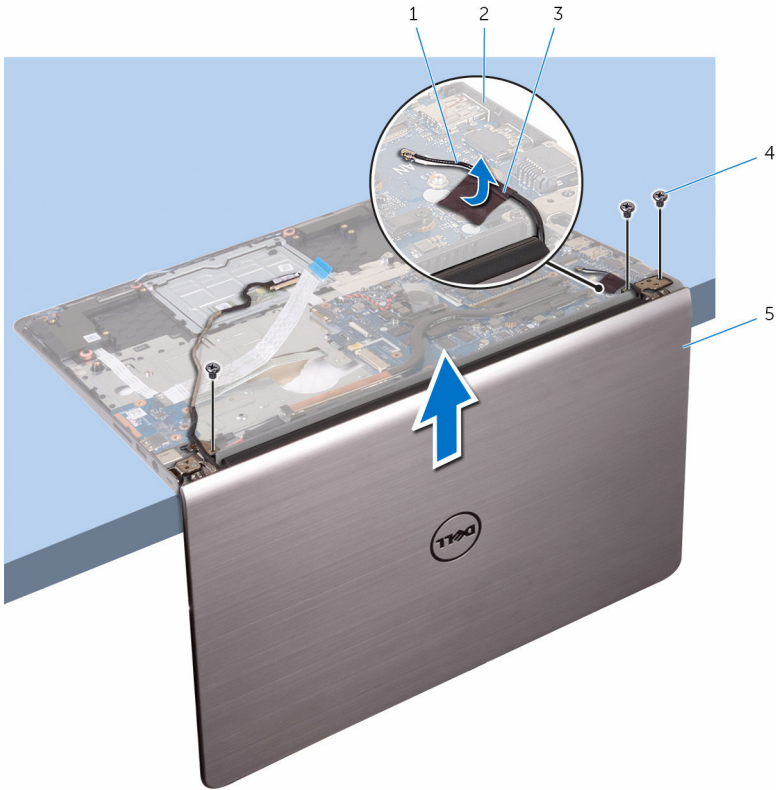
## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [wireless card](#).
- 5 Remove the [fan](#).
- 6 Remove the [keyboard](#).
- 7 Remove the [base frame](#).

## Procedure

- 1 Place the computer on a flat table and open the display at a right angle as shown.
- 2 Peel off the tape that secures the antenna cables to the system board.
- 3 Remove the screws that secure the display hinges to the palm-rest assembly.

4 Lift the display assembly off the palm-rest assembly.



1 antenna cables

2 system board


3 tape

4 screws (3)

5 display assembly

# Replacing the display assembly

---

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## Procedure


- 1 Place the computer on a flat table and align the screw holes on the palm-rest assembly with the screw holes on the display hinges.
- 2 Press down the display hinges and replace the screws that secure the display hinges to the palm-rest assembly.
- 3 Adhere the antenna cables to the system board.

## Post-requisites

- 1 Replace the [base frame](#).
- 2 Replace the [keyboard](#).
- 3 Replace the [fan](#).
- 4 Replace the [wireless card](#).
- 5 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 6 Replace the [battery](#).
- 7 Replace the [base cover](#).

# Removing the power-adapter port

---

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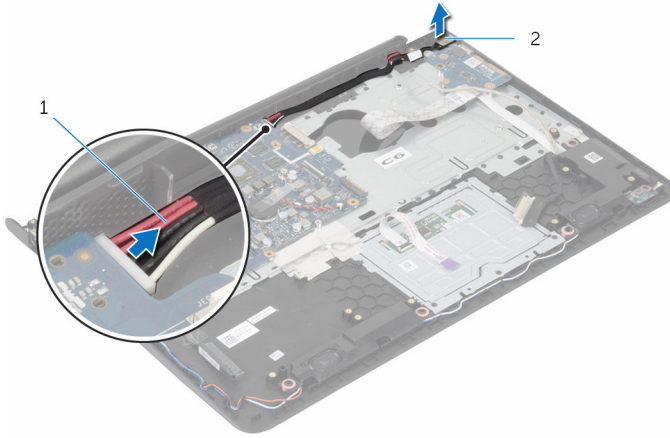
## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).
- 6 Remove the [base frame](#).
- 7 Remove the [heat sink](#).
- 8 Remove the [display assembly](#).

## Procedure

- 1 Peel off the power-adapter port cable from the palm-rest assembly.
- 2 Disconnect the power-adapter port cable from the system board.

**3** Pry the power-adapter port out of the slot on the palm rest.




1 power-adapter port cable

2 power-adapter port

# Replacing the power-adapter port

---

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## Procedure

- 1 Slide the power-adapter port into the slot in the palm-rest assembly.
- 2 Connect the power-adapter port cable to the system board.
- 3 Adhere the power-adapter port cable to the palm-rest assembly.

## Post-requisites

- 1 Replace the [display assembly](#).
- 2 Replace the [heat sink](#).
- 3 Replace the [base frame](#).
- 4 Replace the [keyboard](#).
- 5 Replace the [fan](#).
- 6 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 7 Replace the [battery](#).
- 8 Replace the [base cover](#).

# 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 the cables correctly after you replace the system board.

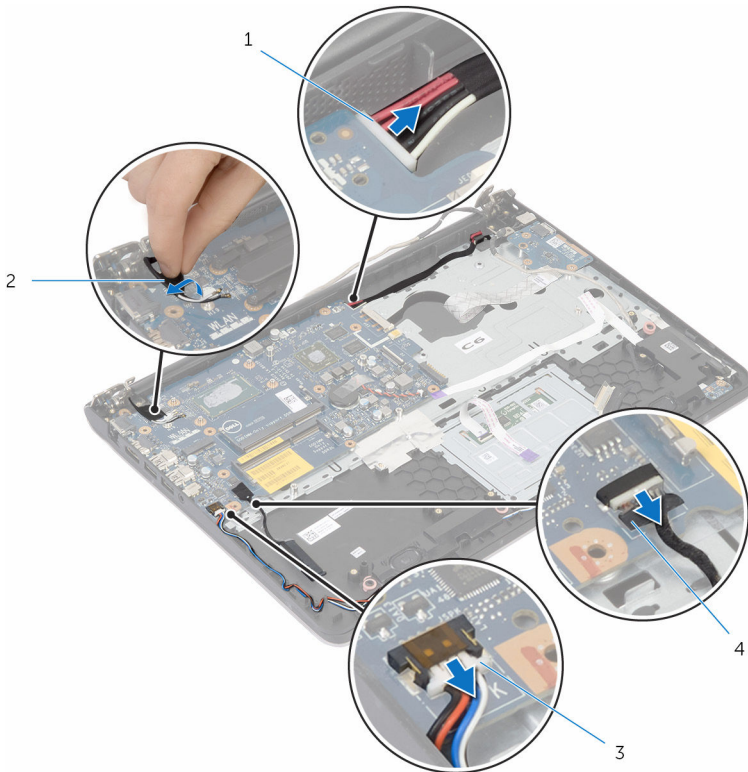
## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [memory modules](#).
- 5 Remove the [wireless card](#).
- 6 Remove the [fan](#).
- 7 Remove the [keyboard](#).
- 8 Remove the [base frame](#).
- 9 Remove the [display assembly](#).
- 10 Remove the [heat sink](#).

## Procedure

- 1 Disconnect the hard-drive cable, speaker cable, and power-adapter port cable from the system board.

**2** Peel off the antenna cable from the system board.



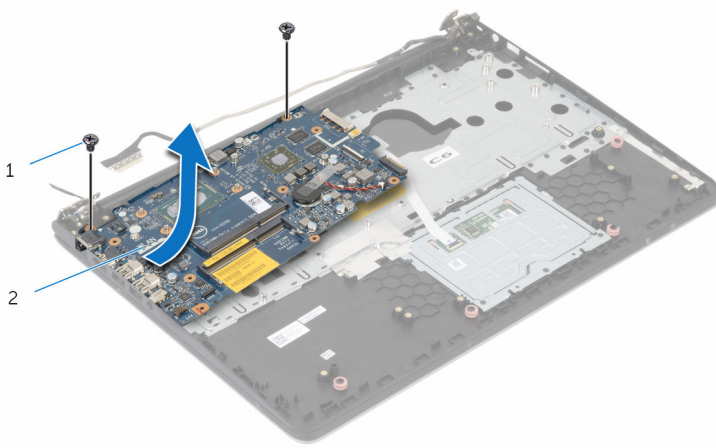
- |   |                          |   |                  |
|---|--------------------------|---|------------------|
| 1 | power-adaptor port cable | 2 | antenna cable    |
| 3 | speaker cable            | 4 | hard-drive cable |

**3** Remove the screws that secure the system board to the palm-rest assembly.

**4** Starting from the inner edge, gently lift the system board and release the ports from the slots on the palm-rest assembly.



5 Lift the system board off the palm-rest assembly.



1 screws (2)

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.



**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.

## Procedure

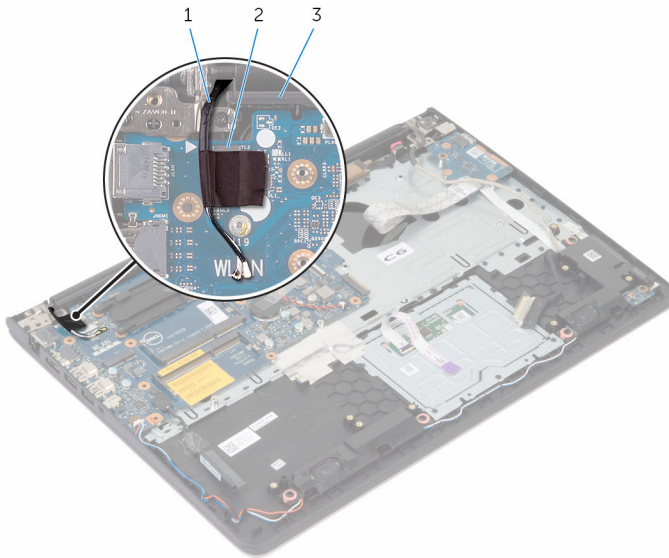


**CAUTION:** Make sure that no cables are placed under the system board.

- 1 Slide the ports into the slots on the palm-rest assembly and align the screw holes on the system board with the screw holes on the palm-rest assembly.
- 2 Replace the screws that secure the system board to the palm-rest assembly.

- 3 Route the antenna cable, avoiding the edge of the palm rest and the chip, and adhere it to the system board.

**⚠ CAUTION: To avoid damaging your computer, route the antenna cable away from the edge of the palm rest and the chip.**



- |   |               |   |      |
|---|---------------|---|------|
| 1 | antenna cable | 2 | chip |
| 3 | palm rest     |   |      |

- 4 Connect the hard-drive cable, speaker cable, and power-adapter port to the system board.

## Post-requisites

- 1 Replace the [heat sink](#).
- 2 Replace the [display assembly](#).
- 3 Replace the [base frame](#).
- 4 Replace the [keyboard](#).
- 5 Replace the [fan](#).
- 6 Replace the [wireless card](#).
- 7 Replace the [memory modules](#).
- 8 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 9 Replace the [battery](#).

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

## Entering the Service Tag in the BIOS setup program

- 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 palm rest

---



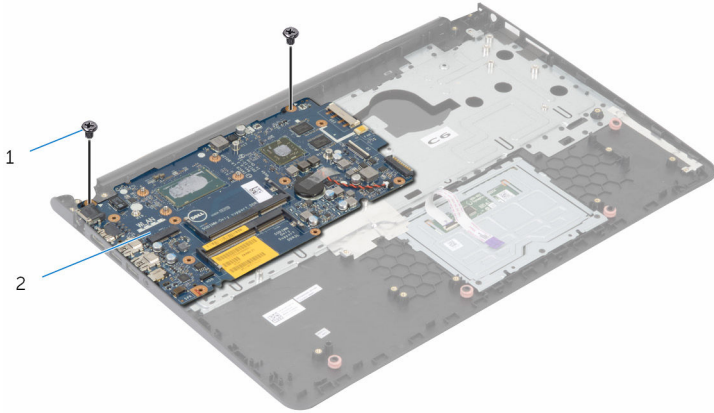
**WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best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

## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).
- 6 Remove the [base frame](#).
- 7 Remove the [heat sink](#).
- 8 Remove the [I/O board](#).
- 9 Remove the [speakers](#).
- 10 Remove the [display assembly](#).
- 11 Remove the [power-adaptor port](#).
- 12 Remove the [status-light board](#).

# Procedure

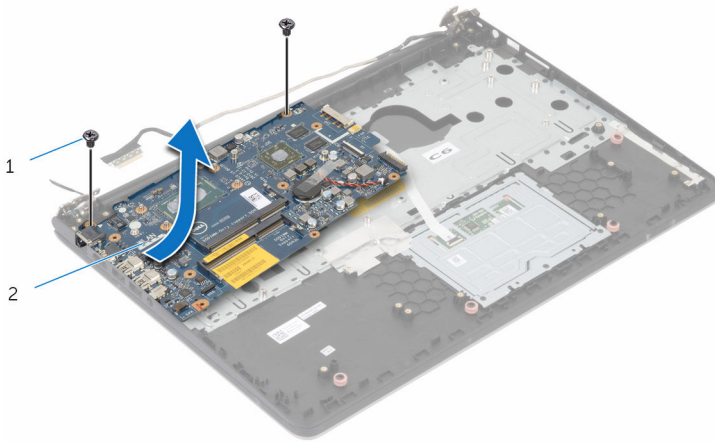
- 1 Remove the screws that secure the system board to the palm rest.



1 screws (2)

2 system board

- 2 Lift the system board from the inner edge and release the ports from the slots on the palm rest.



1 screws (2)

2 system board



1 palm rest

# Replacing the palm rest

---



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## Procedure

- 1 Slide the headset port into the slot on the palm rest and align the screw holes on the system board with the screw holes on the palm-rest assembly.
- 2 Replace the screws that secure the system board to the palm-rest assembly.

## Post-requisites

- 1 Replace the [status-light board](#).
- 2 Replace the [power-adapter port](#).
- 3 Replace the [display assembly](#).
- 4 Replace the [speakers](#).
- 5 Replace the [I/O board](#).
- 6 Replace the [heat sink](#).
- 7 Replace the [base frame](#).
- 8 Replace the [keyboard](#).
- 9 Replace the [fan](#).
- 10 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 11 Replace the [battery](#).
- 12 Replace the [base cover](#).



# Removing the display bezel

---



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## Prerequisites



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

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).
- 6 Remove the [base frame](#).
- 7 Remove the [display assembly](#).

## Procedure

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

2 Lift the display bezel off the display assembly.



1 display bezel

# Replacing the display bezel

---



**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 [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

## 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 [keyboard](#).
- 3 Replace the [base frame](#).
- 4 Replace the [fan](#).
- 5 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 6 Replace the [battery](#).
- 7 Replace the [base cover](#).

# Removing the display panel

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## Prerequisites



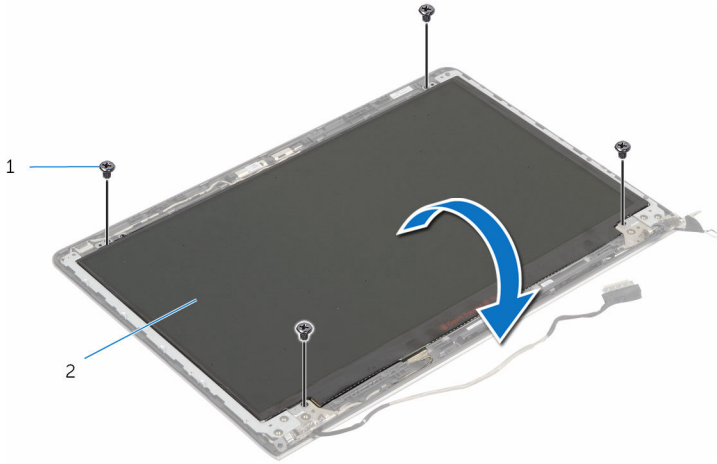
**NOTE:** These instructions are applicable only for laptops with a non-touchscreen display.

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).
- 6 Remove the [base frame](#).
- 7 Remove the [display assembly](#).
- 8 Remove the [display bezel](#).

## Procedure

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

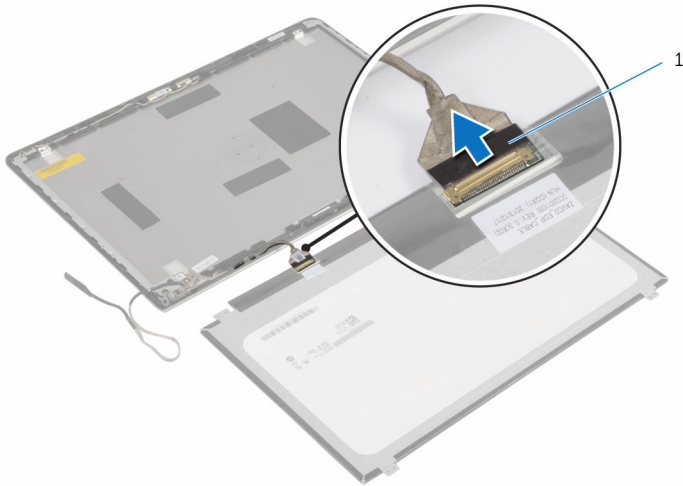
- 2** Lift the display panel slightly off the display back-cover, rotate it, and place it face down on a clean surface.



1 screws (4)

2 display panel

- 3** Disconnect the display cable from the display panel.



1 display cable

# Replacing the display panel

---



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## Procedure


- 1 Connect the display cable to the display panel.
- 2 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.
- 3 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 [base frame](#).
- 4 Replace the [keyboard](#).
- 5 Replace the [fan](#).
- 6 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 7 Replace the [battery](#).
- 8 Replace the [base cover](#).

# Removing the display brackets

---

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## Prerequisites

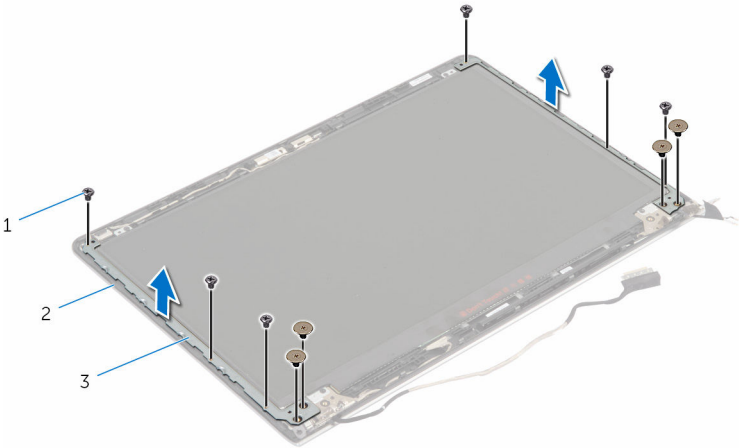
 **NOTE:** These instructions are applicable only for laptops with a non-touchscreen display.

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).
- 6 Remove the [base frame](#).
- 7 Remove the [display assembly](#).
- 8 Remove the [display bezel](#).

## Procedure

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

2 Lift the display brackets off the display back-cover.



1 screws (10)

2 display back-cover

3 display brackets (2)



# Replacing the display brackets

---



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## Procedure

- 1 Slide the brackets under the tabs on the display back-cover.
- 2 Align the screw holes on the display brackets with the screw holes on the display back-cover.
- 3 Replace the screws that secure the display brackets to the display back-cover.

## Post-requisites


- 1 Replace the [display bezel](#).
- 2 Replace the [display assembly](#).
- 3 Replace the [base frame](#).
- 4 Replace the [keyboard](#).
- 5 Replace the [fan](#).
- 6 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 7 Replace the [battery](#).
- 8 Replace the [base cover](#).

# Removing the display hinges

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 **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 [www.dell.com/regulatory\\_compliance](http://www.dell.com/regulatory_compliance).

## Prerequisites

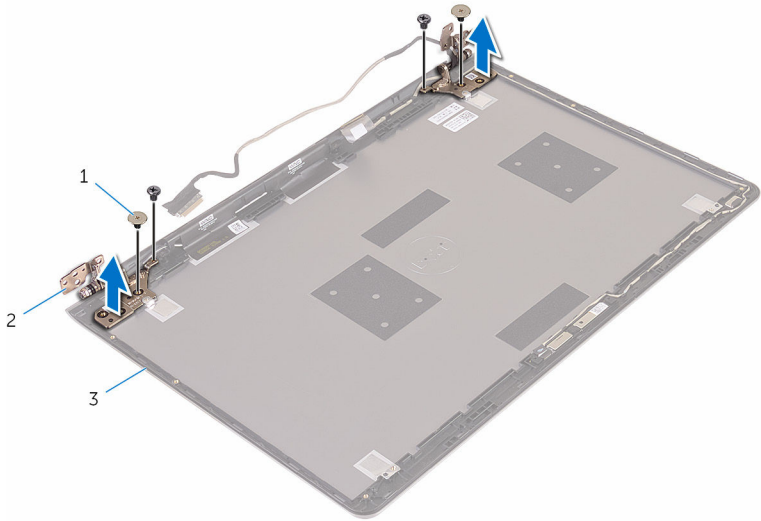
 **NOTE:** These instructions are applicable only for laptops with a non-touchscreen display.

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).
- 6 Remove the [base frame](#).
- 7 Remove the [display assembly](#).
- 8 Remove the [display bezel](#).
- 9 Remove the [display panel](#).
- 10 Remove the [display brackets](#).

## Procedure

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

2 Lift the display hinges off the display back-cover.



1 screws (4)

2 display hinges (2)

3 display back-cover

# Replacing the display hinges

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## 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 brackets](#).
- 2 Replace the [display panel](#).
- 3 Replace the [display bezel](#).
- 4 Replace the [display assembly](#).
- 5 Replace the [base frame](#).
- 6 Replace the [keyboard](#).
- 7 Replace the [fan](#).
- 8 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 9 Replace the [battery](#).
- 10 Replace the [base cover](#).

# Removing the camera

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## Prerequisites



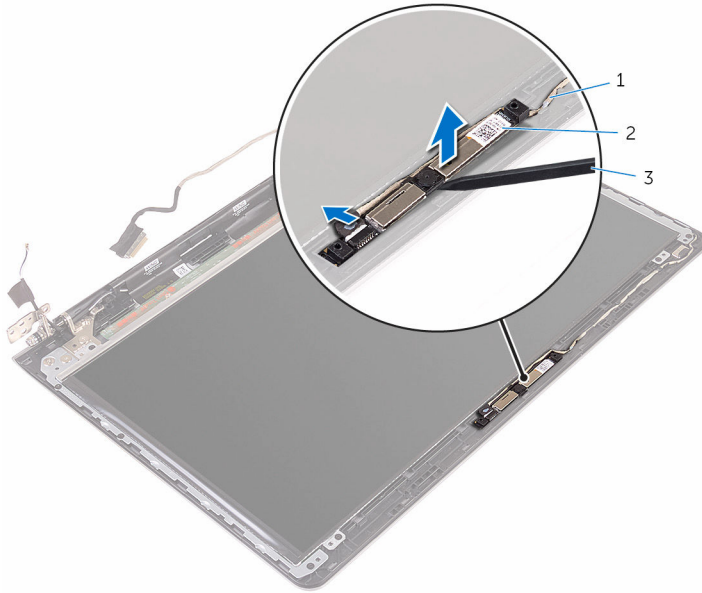
**NOTE:** These instructions are applicable only for laptops with a non-touchscreen display.

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).
- 6 Remove the [base frame](#).
- 7 Remove the [display assembly](#).
- 8 Remove the [display bezel](#).

## Procedure

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

2 Disconnect the camera cable from the camera.



1 camera cable

2 camera

3 plastic scribe

# Replacing the camera

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## Procedure

- 1 Connect the camera cable to the camera.
- 2 Adhere the camera to the display back-cover.

## Post-requisites


- 1 Replace the [display bezel](#).
- 2 Replace the [display assembly](#).
- 3 Replace the [base frame](#).
- 4 Replace the [keyboard](#).
- 5 Replace the [fan](#).
- 6 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 7 Replace the [battery](#).
- 8 Replace the [base cover](#).

# Removing the display back-cover and antenna assembly

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## Prerequisites

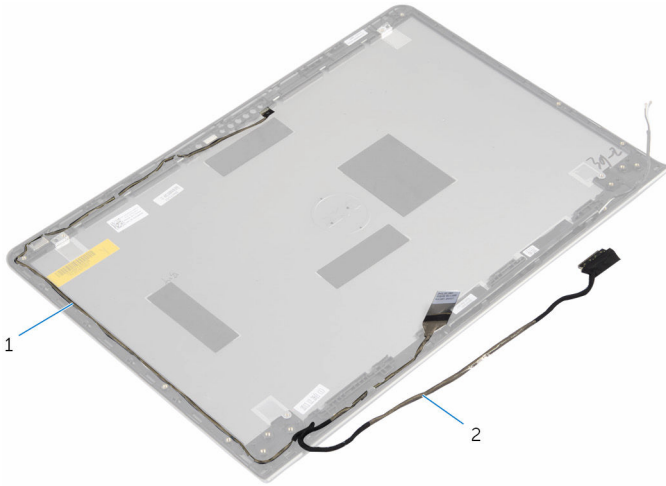
 **NOTE:** These instruction are applicable only to laptops with a non-touchscreen display.

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 3 in removing the [hard drive](#).
- 4 Remove the [fan](#).
- 5 Remove the [keyboard](#).
- 6 Remove the [base frame](#).
- 7 Remove the [display assembly](#).
- 8 Remove the [display bezel](#).
- 9 Remove the [display panel](#).
- 10 Remove the [display brackets](#).
- 11 Remove the [display hinges](#).
- 12 Remove the [camera](#).

## Procedure

Remove the display cable and camera cable from the routing guides on the display back-cover.






1 camera cable

2 display cable

# Replacing the display back-cover and antenna assembly

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## Procedure

Route the display cable and camera cable through the routing guides on the display back-cover.


## Post-requisites

- 1 Replace the [camera](#).
- 2 Replace the [display hinges](#).
- 3 Replace the [display brackets](#).
- 4 Replace the [display panel](#).
- 5 Replace the [display bezel](#).
- 6 Replace the [display assembly](#).
- 7 Replace the [base frame](#).
- 8 Replace the [keyboard](#).
- 9 Replace the [fan](#).
- 10 Follow the procedure from step 3 to step 5 in replacing the [hard drive](#).
- 11 Replace the [battery](#).
- 12 Replace the [base cover](#).

# Flashing the BIOS

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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 **[www.dell.com/support](http://www.dell.com/support)**.
- 3 Click **Product Support**, enter the Service Tag of your computer and 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**.
- 5 Select the operating system installed on your computer.
- 6 Scroll down the page and expand **BIOS**.
- 7 Click **Download File** to download the latest version of the BIOS for your computer.
- 8 Save the file and, once 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.

# Getting help and contacting Dell

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## 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](http://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](http://www.dell.com/support/windows)  
[www.dell.com/support/linux](http://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](http://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](http://www.dell.com/support/manuals).

# Contacting Dell

To contact Dell for sales, technical support, or customer service issues, see [www.dell.com/contactdell](http://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.