Inspiron 11 3000
Service Manual

Computer Model: Inspiron 3180
Regulatory Model: P24T
Regulatory Type: P24T003

Notes, cautions, and warnings

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

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

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. Click **Start** → **Power** → **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 attached network devices and peripherals, such as keyboard, mouse, and monitor from your computer.
5. 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.

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 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:

- Philips screwdriver
- Flat-head screwdriver
- Plastic scribe

Screw list

Table 1. Screw list

Component	Secured to	Screw type	Quantity	Screw image
Base-cover assembly	palm-rest and keyboard assembly	M2.5x6	9	
Battery	palm-rest and keyboard assembly	M2x3	3	
I/O board	Base cover	M2x3	1	
Hard-drive assembly	palm-rest and keyboard assembly	M2x3	3	
Hard-drive bracket	Hard drive	M3x3	4	
Power-adapter port	palm-rest and keyboard assembly	M2x3	1	
Wireless card	palm-rest and keyboard assembly	M2x3	1	
Display-cable bracket	System board	M2x3	1	
Display assembly	palm-rest and keyboard assembly	M2.5x6	2	
System board	palm-rest and keyboard assembly	M2x2	1	
Display hinges	Display back-cover and antenna assembly	M2.5x2.5	4	

Component	Secured to	Screw type	Quantity	Screw image
Display panel	Display back-cover and antenna assembly	M1.2x2	4	

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.

Removing the base cover

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

Procedure

1. Close the display and turn the computer over.
2. Using a plastic scribe, remove the screw cap from the base-cover assembly.

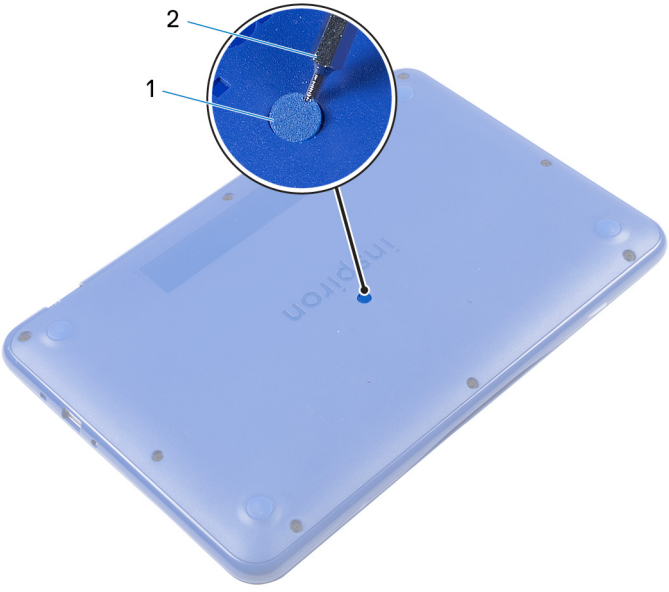

Figure 1. Removing the screw cap

1	screw cap	2	plastic scribe

3 Remove the nine screws (M2.5x6) that secure the base-cover assembly to the palm-rest and keyboard assembly.

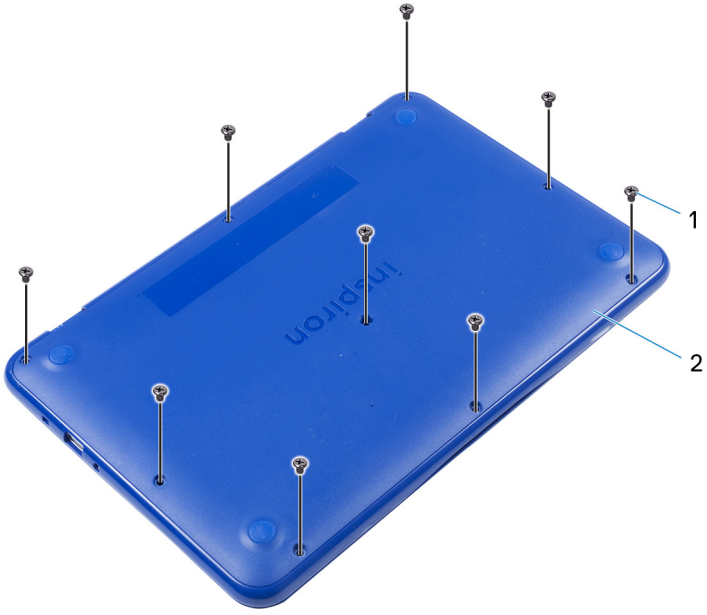

Figure 2. Removing the screws

1	M2.5x6 screws (9)	2	base-cover assembly

4 Using your thumb, apply pressure on the base-cover assembly.

5 From the top right corner, pry the base-cover assembly from the palm-rest and keyboard assembly.

Figure 3. Removing the base cover

1	palm-rest and keyboard assembly	2	base-cover assembly

6 Pry loose the base-cover assembly from one end of the palm-rest and keyboard assembly.

Figure 4. Removing the base cover

1	palm-rest and keyboard assembly	2	base-cover assembly

7 Lift the base-cover assembly, at an angle, from the palm-rest and keyboard assembly and release it from the HDMI port.

Figure 5. Removing the base cover

1	HDMI port	2	base-cover assembly
3	palm-rest and keyboard assembly		

8 Carefully turn over the base-cover assembly.

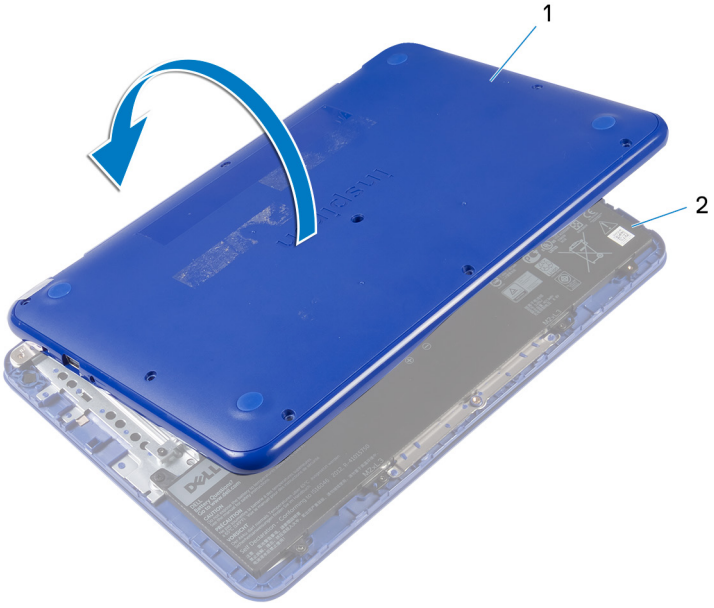

Figure 6. Removing the base cover

1	base-cover assembly	2	palm-rest and keyboard assembly

9 Remove the I/O board.

Replacing the base cover

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Procedure

1 Replace the I/O board.

CAUTION: To avoid damage to the computer, ensure that the USB and HDMI port cut-outs on the base-cover assembly is correctly aligned with the USB and HDMI ports on the palm-rest and keyboard assembly.

2 Open the display.

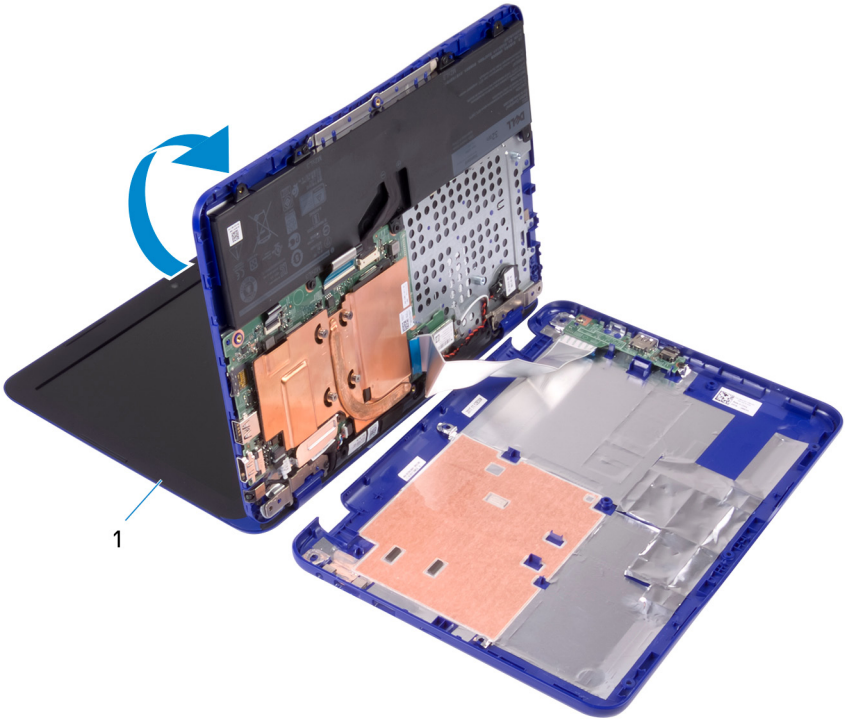

Figure 7. Replacing the base cover

1 display

3 Align the HDMI slot on the base-cover assembly with the HDMI port on the palm-rest and keyboard assembly.

4 Place the palm-rest assembly on the base-cover assembly.

Figure 8. Replacing the base cover

1	base-cover assembly	2	palm-rest and keyboard assembly
3	HDMI port		

5 Slide the tabs on the palm-rest and keyboard assembly into the slots on the base-cover assembly and snap the base-cover assembly into place.

6 Replace the nine screws (M2.5x6) that secure the base-cover assembly to the palm-rest and keyboard assembly .

7 Replace the screw cap on the base-cover assembly.

Removing the battery

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Prerequisites

Follow the procedure from step 1 to step 6 in "Removing the base cover".

Procedure

1 Disconnect the battery cable from the system board.

2 Remove the three screws (M2x3) that secure the battery to the palm-rest and keyboard assembly.

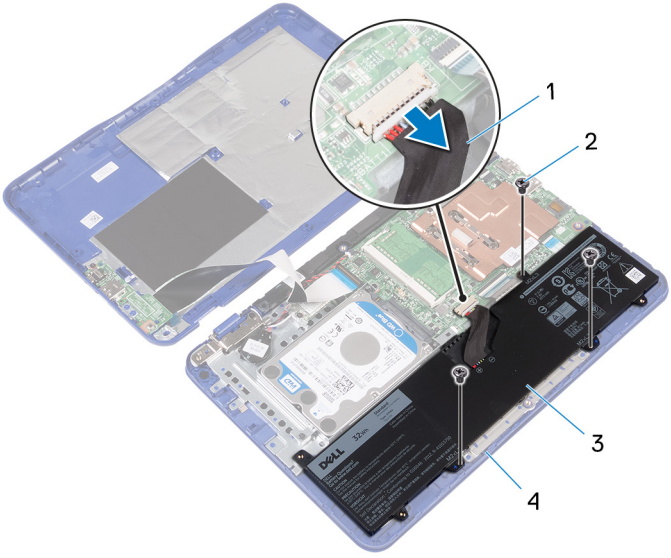

Figure 9. Disconnecting the battery

1	battery cable	2	M2x3 screws (3)
3	battery	4	palm-rest and keyboard assembly

3 Tilt the battery (applicable for configuration with hard drive only) to release the tab on the battery from the hard-drive bracket.

4 Lift the battery off the palm-rest and keyboard assembly.

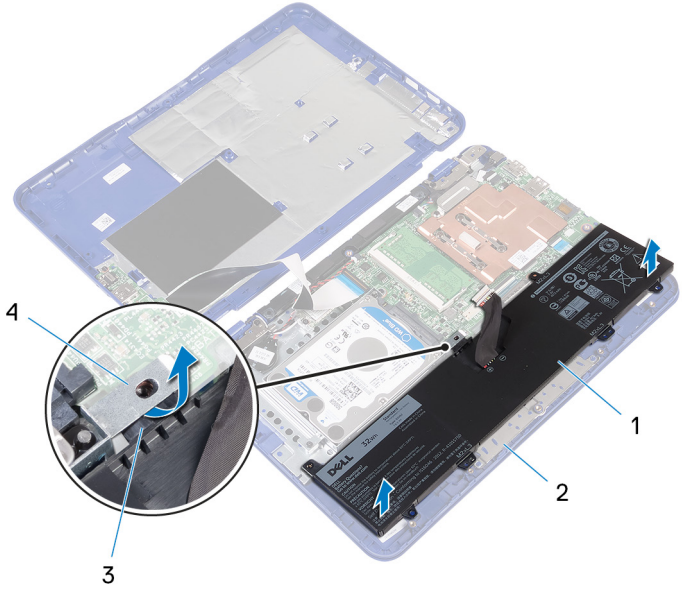

Figure 10. Removing the battery

1	battery	2	palm-rest and keyboard assembly
3	tab	4	hard-drive bracket

5 Follow the step 1 procedure in "Removing the I/O board".

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

Figure 11. Removing the battery

1	display	2	power button

Replacing the battery

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Procedure

1. Follow the step 4 procedure in "Replacing the I/O board".
2. Slide the tab on the battery (applicable for configuration with hard drive only) under the hard-drive bracket and place the battery on the palm-rest and keyboard assembly.
3. Align the screw holes on the battery with the screw holes on the palm-rest and keyboard assembly.
4. Replace the three screws (M2x3) that secure the battery to the palm-rest and keyboard assembly.
5. Connect the battery cable to the system board.

Post-requisites

Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Removing the I/O 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.

Prerequisites

1. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.

Procedure

1. Open the latch and disconnect the I/O-board cable from system board.
2. Remove the screw (M2x3) that secures the I/O board to the base cover.
3. Push the securing tab to release the I/O board from the base cover.

4 Slide and lift the I/O board off the base cover.

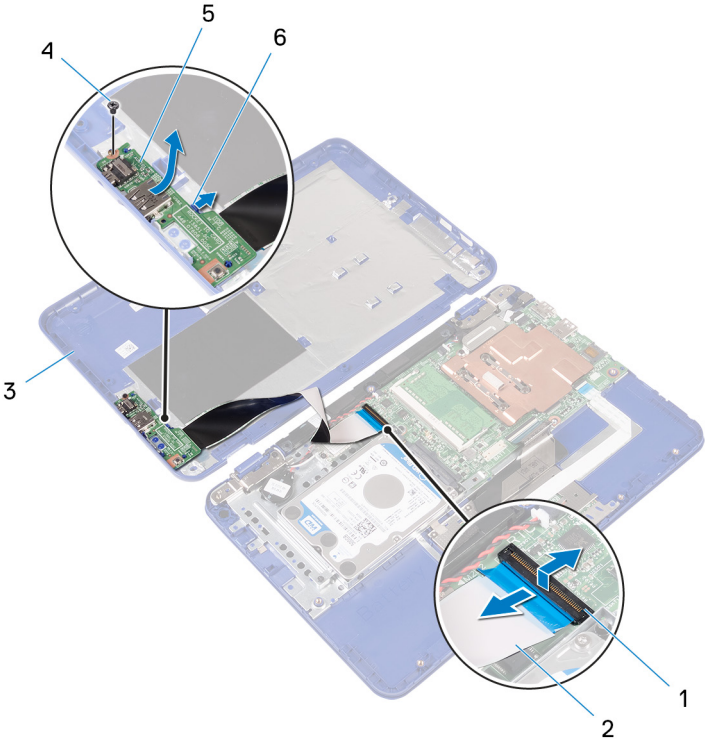

Figure 12. Removing the I/O board

1	latch	2	I/O-board cable
3	base cover	4	M2x3 screw
5	I/O board	6	securing tab

5 Open the latch and disconnect the I/O-board cable from the I/O board.

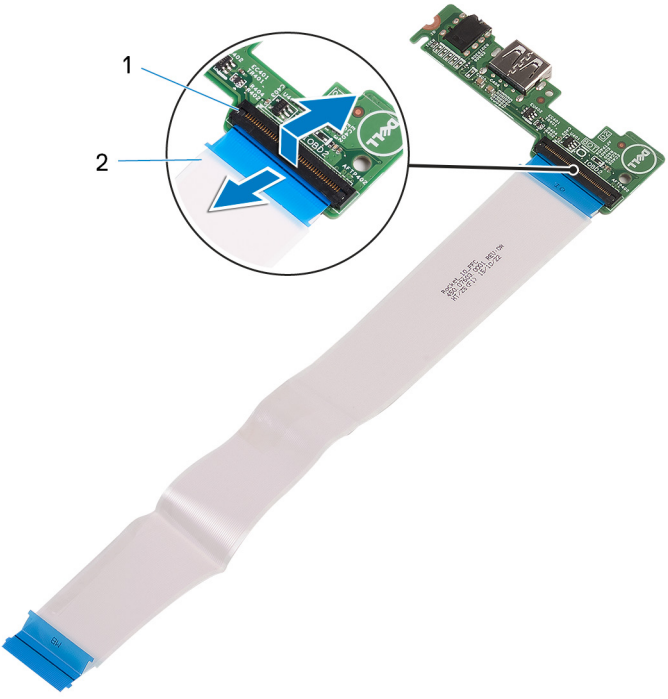

Figure 13. Removing the I/O board

1	latch	2	I/O-board cable

Replacing the I/O board

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Procedure

1. Slide the I/O-board cable into the connector on the I/O board and close the latch to secure the cable.
2. Slide the ports on the I/O board into the slots on the base cover and snap the I/O board into place.
3. Align the screw hole on the I/O board with the screw hole on the base cover.
4. Replace the screw (M2x3) that secures the I/O board to the base cover.
5. Slide the I/O-board cable into the connector on the system board and close the latch to secure the cable.

Post-requisites

1. Replace the battery.
2. Follow the procedure from step 2 to step 5 in "Replacing 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.

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. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.

Procedure

1. In reverse sequence, as indicated on the heat sink, loosen the captive screws that secure the heat sink to the system board.

2 Lift the heat sink off the system board

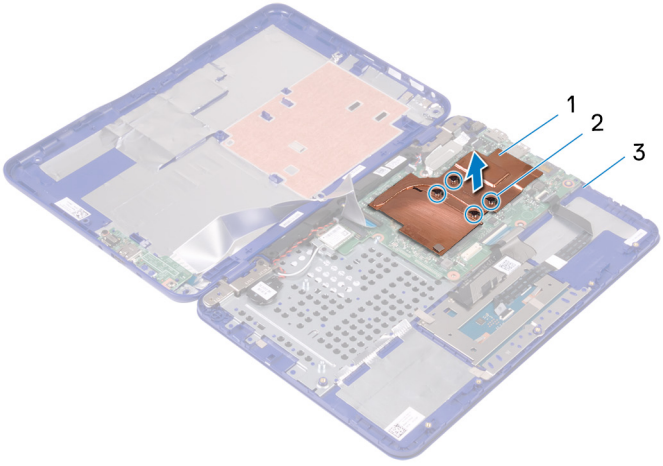

Figure 14. Removing the heat sink

1	heat sink	2	captive screws (4)
3	system board		

Replacing 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.

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

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

Post-requisites

1. Replace the battery.
2. Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Removing the memory module

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.

Prerequisites

1. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.
3. Remove the heat sink.

Procedure

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

3 Remove the memory module from the memory-module slot.

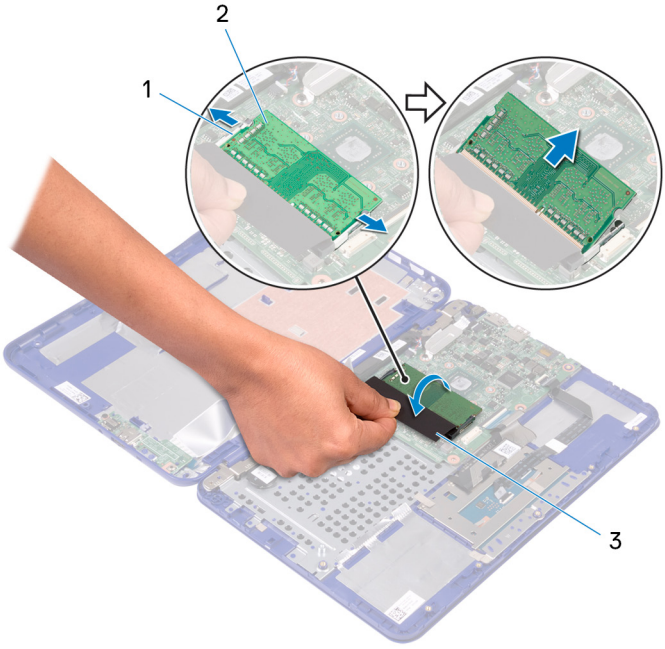

Figure 15. Removing the memory module

1	securing clips (2)	2	memory module
3	flap		

Replacing the memory module

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Procedure

1. Use your fingertips and lift the flap to access the memory-module slot.
2. Align the notch on the memory module with the tab on the memory-module slot.
3. Slide the memory module firmly into the memory-module slot at an angle and press it down until it clicks into place.

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

4 Close the flap.

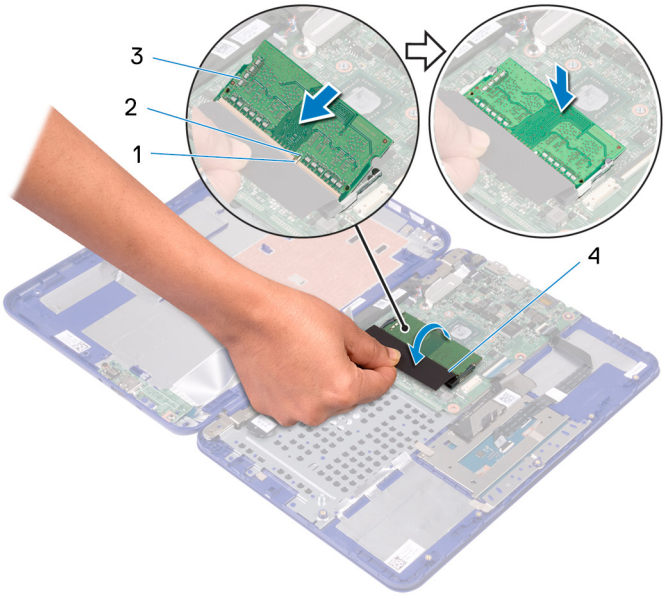

Figure 16. Replacing the memory module

1	tab	2	notch
3	memory module	4	flap

Post-requisites

1 Replace the heat sink.
2 Replace the battery.
3 Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Removing the hard drive

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.

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

NOTE: The computer is shipped with either hard-drive assembly or eMMC-card assembly depending on the configuration ordered.

1 Follow the procedure from step 1 to step 6 in "Removing the base cover".

2 Remove the battery.

Procedure

NOTE: Applicable only for computers shipped with hard drive.

1 Remove the three screws (M2x3) that secure the hard-drive assembly to the palm-rest and keyboard assembly.

2 Slide and lift the hard-drive assembly off the palm-rest and keyboard assembly.

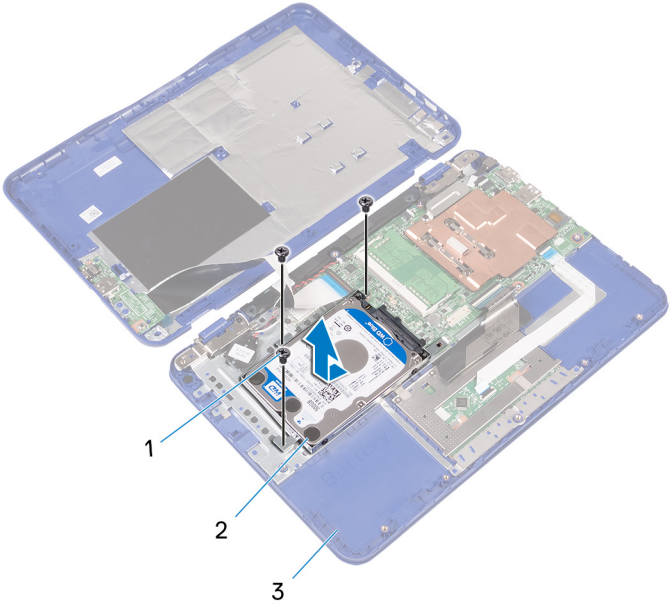

Figure 17. Removing the hard disc drive module

1	M2x3 screws (3)	2	hard-drive assembly
3	palm-rest and keyboard assembly		

3 Remove the four screws (M3x3) that secure the hard-drive bracket to the hard drive.

4 Lift the hard drive from the hard-drive bracket.

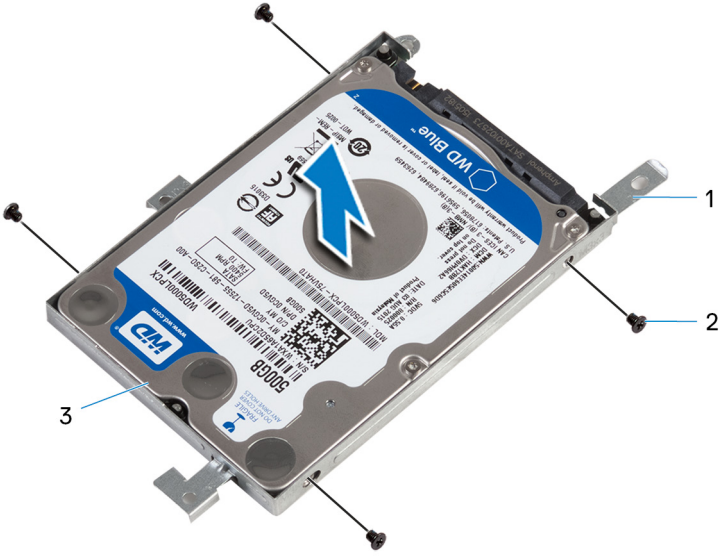

Figure 18. Removing the hard drive

1	hard-drive bracket	2	M3x3 screws (4)
3	hard drive		

Replacing the hard drive

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

Procedure

1. Align the screw holes on the hard drive with the screw holes on the hard-drive bracket.
2. Replace the four screws (M3x3) that secure the hard-drive bracket to the hard drive.
3. Slide and connect the hard-drive assembly to the connector on the system board.
4. Align the screw holes on the hard-drive assembly with the screw holes on the palm-rest and keyboard assembly.
5. Replace the three screws (M2x3) that secure the hard-drive assembly to the palm-rest and keyboard assembly.

Post-requisites

1. Replace the battery.
2. Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Removing the power-adapter port

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Prerequisites

1. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.

Procedure

1. Disconnect the power-adapter port cable from the system board.
2. Remove the screw (M2x3) that secures the power-adapter port to the palm-rest and keyboard assembly.

3 Lift the power-adapter port with its cable, off the palm-rest and keyboard assembly.

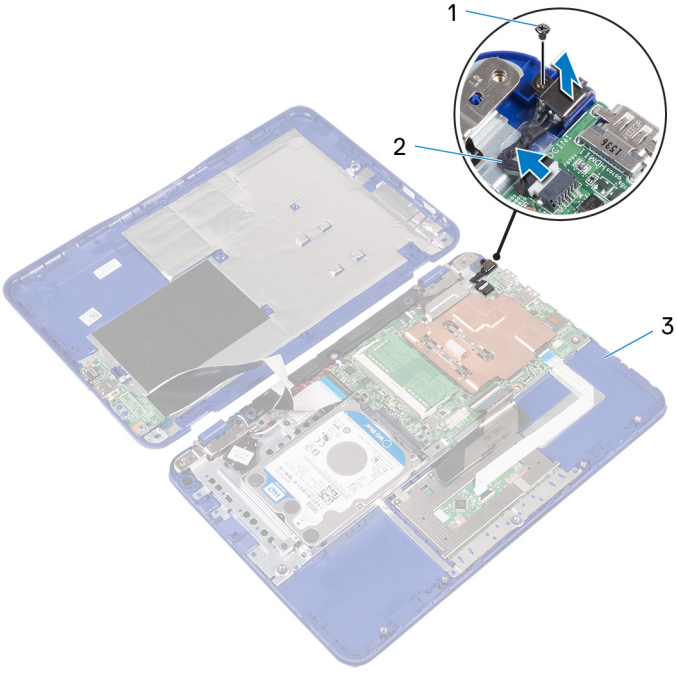

Figure 19. Removing the power-adapter port

1	M2x3 screw	2	power-adapter port cable
3	palm-rest and keyboard assembly		

Replacing the power-adapter port

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Procedure

1. Place the power-adapter port into the slot on the palm-rest and keyboard assembly.
2. Align the screw hole on the power-adapter port with the screw hole on the palm-rest and keyboard assembly.
3. Replace the screw (M2x3) that secures the power-adapter port to the palm-rest and keyboard assembly.
4. Connect the power-adapter port cable to the system board.

Post-requisites

1. Replace the battery.
2. Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Removing the wireless card

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.

Prerequisites

1. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.
3. Follow the step 1 procedure in "Removing the I/O board".

Procedure

1. Remove the screw (M2x3) that secures the wireless card to the palm-rest and keyboard assembly.
2. Lift the wireless-card bracket from the wireless card.
3. Disconnect the antenna cables from the wireless card.

4 Slide the wireless card from the wireless-card slot on the system board.

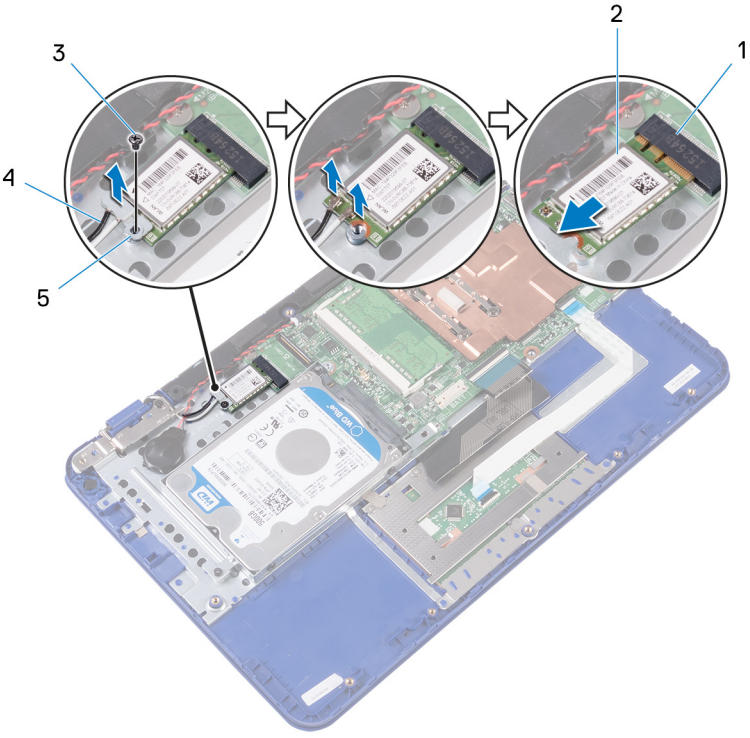

Figure 20. Removing the wireless card

1	wireless-card slot	2	wireless card
3	M2x3 screw	4	antenna cables (2)
5	wireless-card bracket		

Replacing the wireless card

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.

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 on the system board.
2. Slide the wireless card into the wireless-card slot on the system board.
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.

   Table 2. Antenna-cable color scheme

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

4. Align the screw hole on the wireless card and the wireless-card bracket with the screw hole on the palm-rest and keyboard assembly.

5 Replace the (M2x3) screw that secures the wireless card to the palm-rest and keyboard assembly.

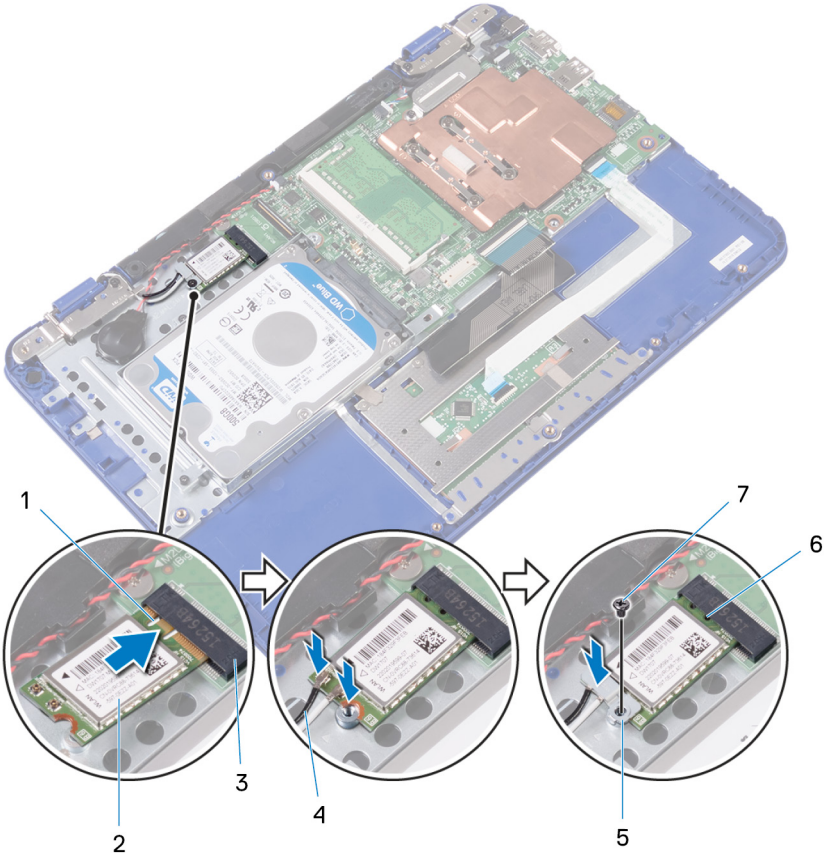

Figure 21. Replacing the wireless card

1	notch	2	wireless card
3	wireless-card slot	4	antenna cables (2)
5	wireless-card bracket	6	tab
7	M2x3 screw		

Post-requisites

1. Replace the battery.
2. Follow the procedure from step 2 to step 5 in "Replacing the base cover".
3. Follow the step 4 procedure in "Replacing the I/O board".

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.

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. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.
3. Follow the step 1 procedure in "Removing the I/O board".
4. Remove the wireless card.

Procedure

1. Disconnect the coin-cell battery cable from the system board.
2. Remove the coin-cell battery cable from the routing guide on the speaker.

3 Carefully peel off and lift the coin-cell battery from the palm-rest and keyboard assembly.

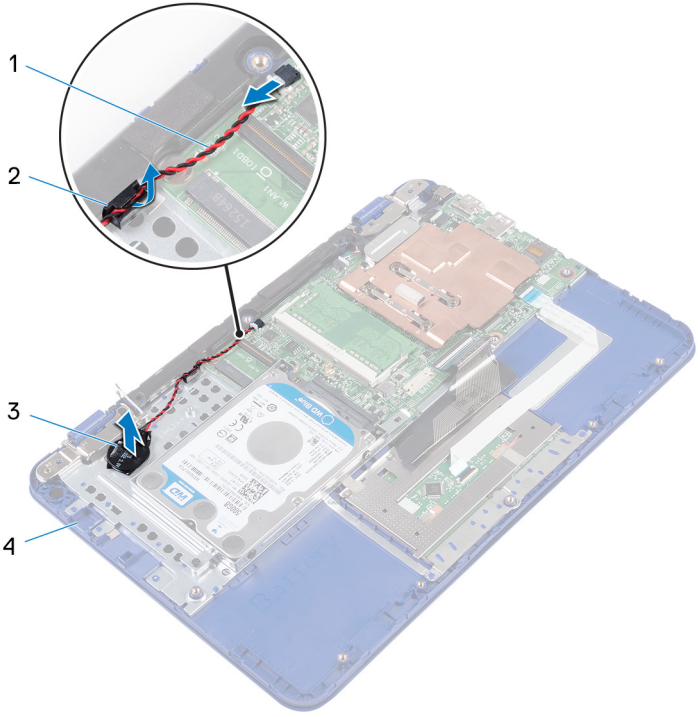

Figure 22. Removing coin-cell battery

1	coin-cell battery cable	2	routing guide
3	coin-cell battery	4	palm-rest and keyboard assembly

Replacing 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.

Procedure

1. Adhere the coin-cell battery to the palm-rest and keyboard assembly.
2. Route the coin-cell battery cable through the routing guide on the speaker.
3. Connect the coin-cell battery cable to the system board.

Post-requisites

1. Replace the wireless card.
2. Follow the step 4 procedure in "Replacing the I/O board".
3. Replace the battery.
4. Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Removing the speaker

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.

Prerequisites

1. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.
3. Follow the step 1 procedure in "Removing the I/O board".

Procedure

1. Disconnect the speaker cable from the system board.
2. Remove the coin-cell battery cable from the routing guide on the speaker.

3 Release the rubber stubs on the speaker and lift the speaker from the palm-rest and keyboard assembly.

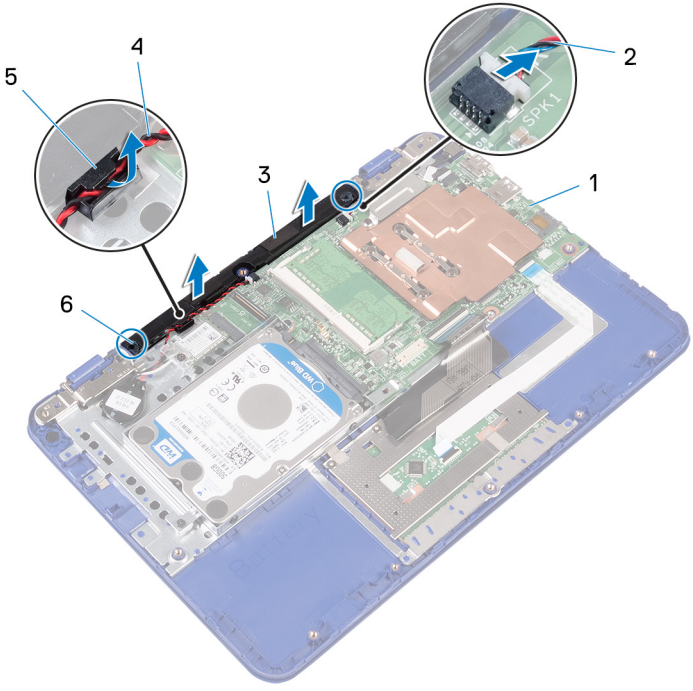

Figure 23. Removing the speaker

1	system board	2	speaker cable
3	speaker	4	coin-cell battery cable
5	routing guide	6	rubber stubs (2)

Replacing the speaker

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.

Procedure

1. Insert the rubber stubs on the speaker into the slots on the palm-rest and keyboard assembly and snap the speaker into place.
2. Route the coin-cell battery cable through the routing guide on the speaker.
3. Connect the speaker cable to the system board.

Post-requisites

1. Follow the step 4 procedure in "Replacing the I/O board".
2. Replace the battery.
3. Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Removing the display assembly

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.

Prerequisites

1. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.
3. Follow the step 1 procedure in "Removing the I/O board".
4. Remove the wireless card.

Procedure

1. Remove the screw (M2x3) that secures the display-cable bracket to the system board.
2. Slide and lift the display-cable bracket off the system board.

3 Open the latch and disconnect the display cable from the system board.

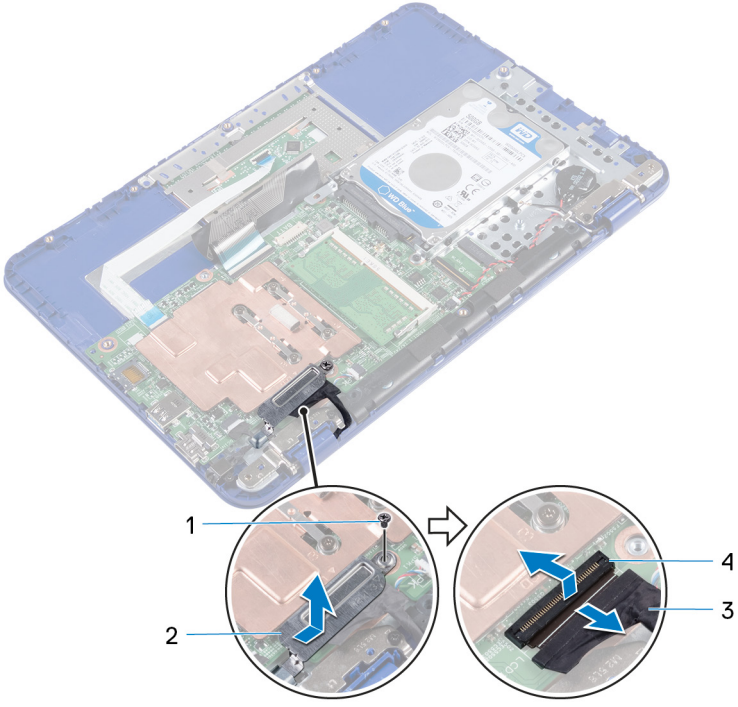

Figure 24. Removing the display cable

1	M2x3 screw	2	display-cable bracket
3	display cable	4	latch

4 Open the palm-rest and keyboard assembly at an angle.

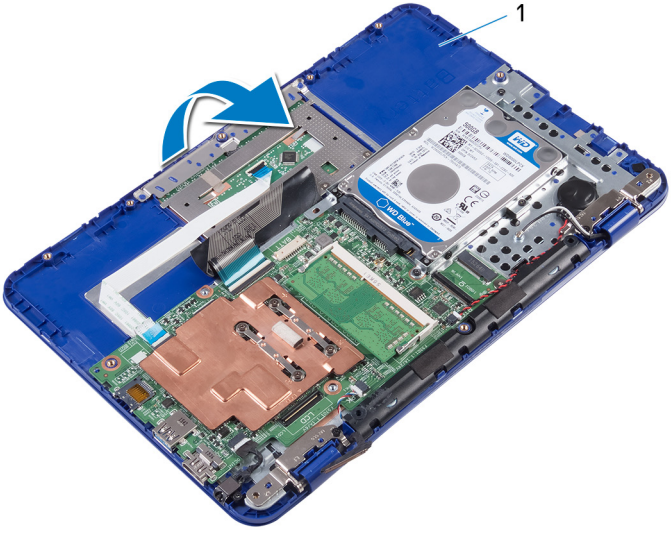

Figure 25. Removing the display

1 palm-rest and keyboard assembly

5 Remove the two screws (M2.5x6) that secure the display assembly to the palm-rest and keyboard assembly.

6 Slide and lift the palm-rest and keyboard assembly off the display assembly.

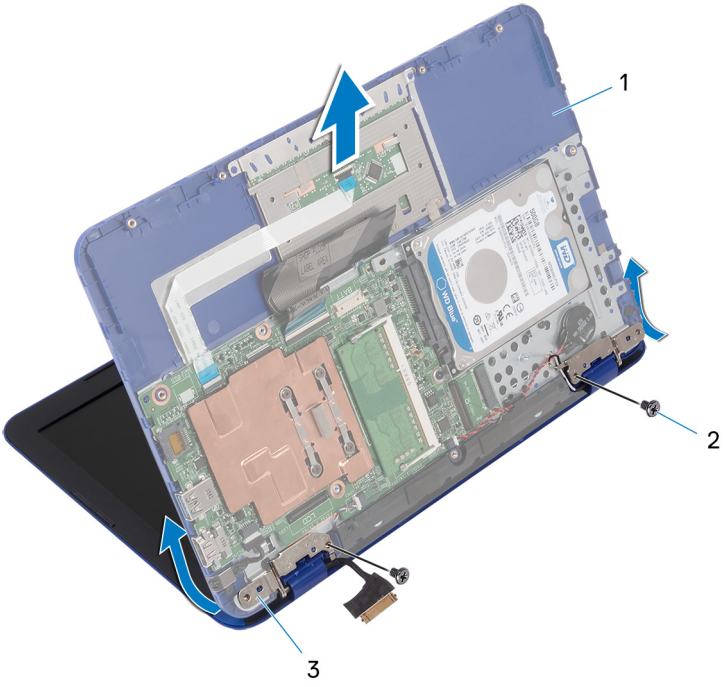

Figure 26. Removing the display

1	palm-rest and keyboard assembly	2	M2.5x6 screws (2)
3	display hinges (2)		

After performing all the steps, we are left with display assembly.

Figure 27. Display assembly

1 display assembly

Replacing the display assembly

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.

Procedure

CAUTION: Place the computer on a soft and clean surface to avoid scratching the display back-cover and antenna assembly.

1. Place the display assembly on a flat and clean surface.
2. Align the screw holes on the display hinges with the screw holes on the palm-rest and keyboard assembly.
3. Replace the two screws (M2.5x6) that secure the display assembly to the palm-rest and keyboard assembly.
4. Slide the display cable into the connector on the system board and close the latch to secure the cable.
5. Slide the display-cable bracket into the slot on the palm-rest and keyboard assembly.
6. Align the screw hole on the display-cable bracket with the screw hole on the system board.
7. Replace the screw (M2x3) that secures the display-cable bracket to the system board.

Post-requisites

1. Replace the wireless card.
2. Follow the step 4 procedure in "Replacing the I/O board".
3. Replace the battery.
4. Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Removing the system 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.

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.

Prerequisites

1. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Follow the step 1 procedure in "Removing the I/O board".
3. Remove the battery.
4. Remove the heat sink.
5. Remove the memory module.
6. Remove the wireless card.
7. Remove the hard drive.

Procedure

1. Remove the screw (M2x3) that secures the display-cable bracket to the system board and lift the display-cable bracket off the system board.
2. Open the latch and disconnect the display cable from the system board.
3. Disconnect the speaker cable from the system board.

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

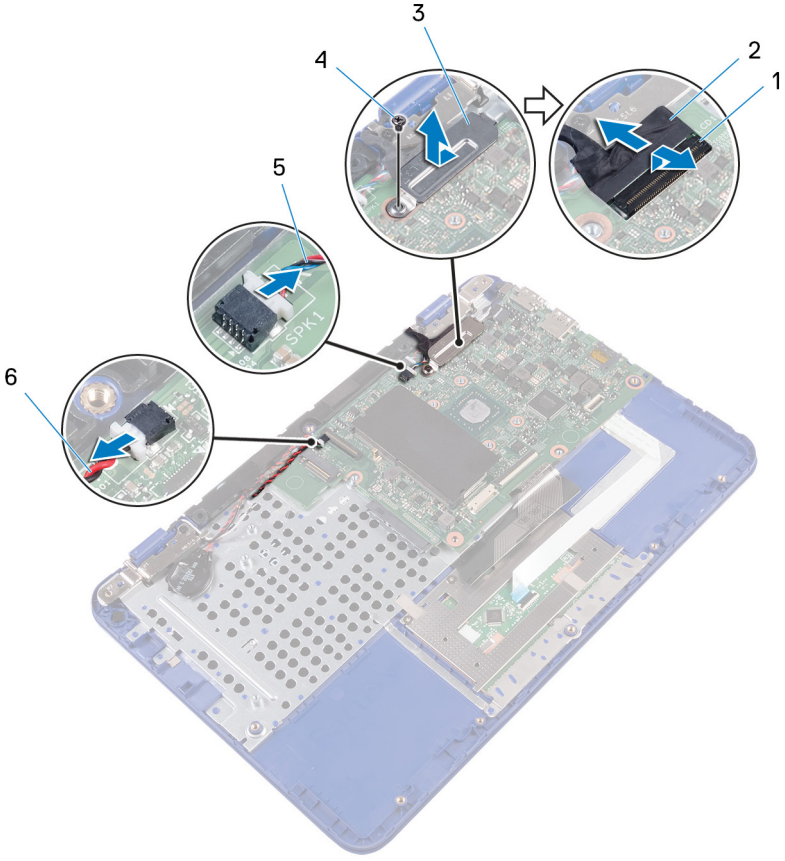

Figure 28. Removing the system board components

1	latch	2	display cable
3	display-cable bracket	4	M2x3 screw
5	speaker cable	6	coin-cell battery cable

5 Disconnect the power-adapter port cable from the system board.

6 Open the latches and disconnect the touchpad cable and keyboard cable from the system board.

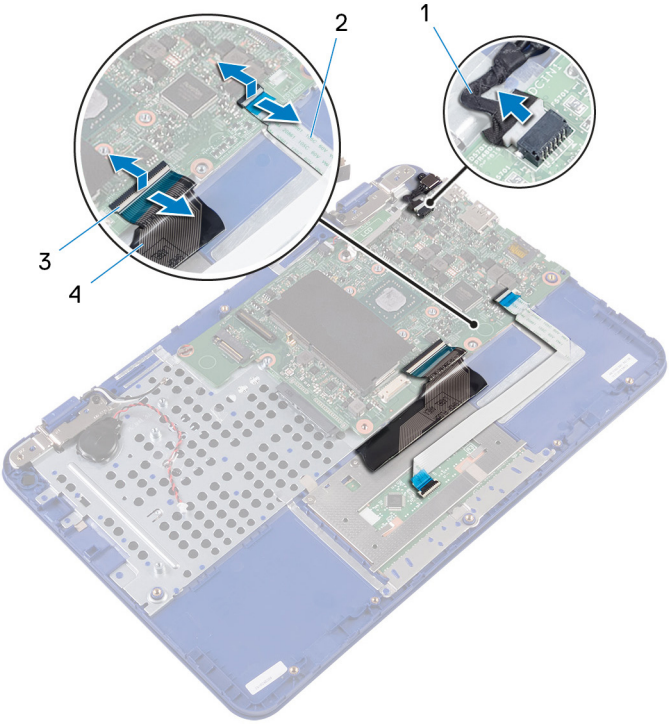

Figure 29. Removing the system board components

1	power-adapter port cable	2	touchpad cable
3	latches (2)	4	keyboard cable

7 Remove the screw (M2x2) that secures the system board to the palm-rest and keyboard assembly.

8 Lift the system board off the palm-rest and keyboard assembly.

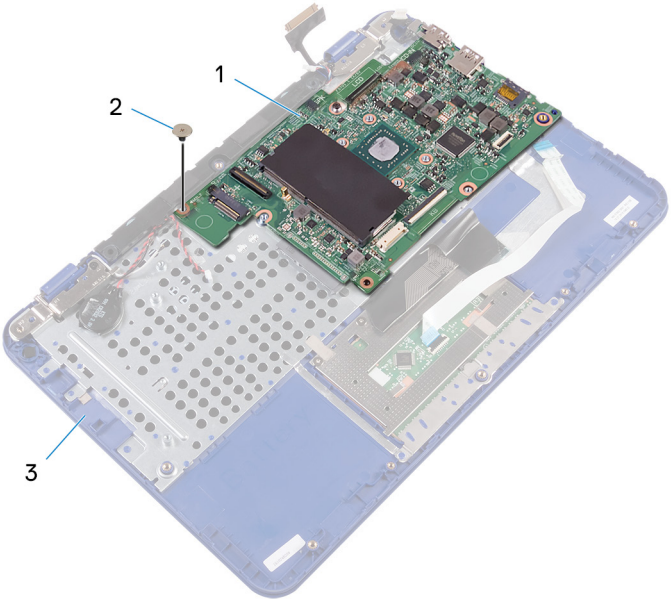

Figure 30. Removing the system board

1	system board	2	M2x2 screw
3	palm-rest and keyboard assembly		

Replacing the system 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.

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.

Procedure

1. Align the screw holes on the system board with the screw holes on the palm-rest and keyboard assembly.
2. Replace the screw (M2x2) that secures the system board to the palm-rest and keyboard assembly.
3. Slide the touchpad cable and keyboard cable into their connectors and close the latches to secure the cables.
4. Connect the power-adapter port cable, speaker cable, and coin-cell battery cable to their connectors on the system board.
5. Slide the display cable into the connector on the system board and close the latch to secure the cable.
6. Slide the display-cable bracket into the slot on the palm-rest and keyboard assembly.
7. Align the screw hole on the display-cable bracket with the screw hole on the system board.
8. Replace the screw (M2x3) that secures the display-cable bracket to the system board.

Post-requisites

1. Replace the hard drive.
2. Replace the wireless card.
3. Replace the memory module.
4. Replace the heat sink.
5. Replace the battery.
6. Follow step 4 in "Replacing the I/O board".
7. Follow step 2 to step 5 in "Replacing the base cover".

Removing the palm-rest and keyboard assembly

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.

Prerequisites

1. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.
3. Remove the heat sink.
4. Remove the memory module.
5. Follow the procedure from step 1 to step 2 in "Removing the hard drive".
6. Remove the power-adapter port.
7. Remove the wireless card.
8. Remove the coin-cell battery.
9. Remove the speaker.
10. Remove the display assembly.
11. Remove the system board.

Procedure

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

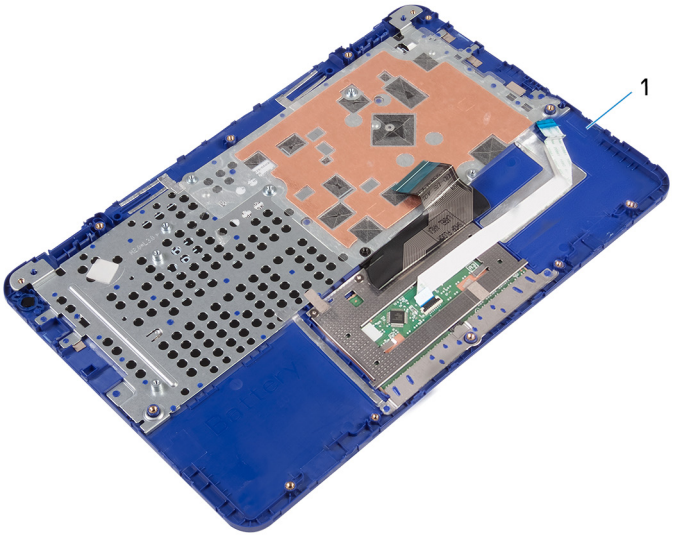

Figure 31. Palm-rest and keyboard assembly

1 palm-rest and keyboard assembly

Replacing the palm-rest and keyboard assembly

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.

Procedure

Place the palm-rest and keyboard assembly on a flat surface with the keyboard facing down.

Post-requisites

1. Replace the system board.
2. Replace the display assembly.
3. Replace the speaker.
4. Replace the coin-cell battery.
5. Replace the wireless card.
6. Replace the power-adapter port.
7. Follow the procedure from step 3 to step 5 in "Replacing the hard drive".
8. Replace the memory module.
9. Replace the heat sink .
10. Replace the battery.
11. Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Removing 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.

Prerequisites

1. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.
3. Remove the wireless card.
4. Remove the display assembly.

Procedure

1. Press the hinge caps to release them from the display hinges.

2 Lift the hinge caps from the display hinges.

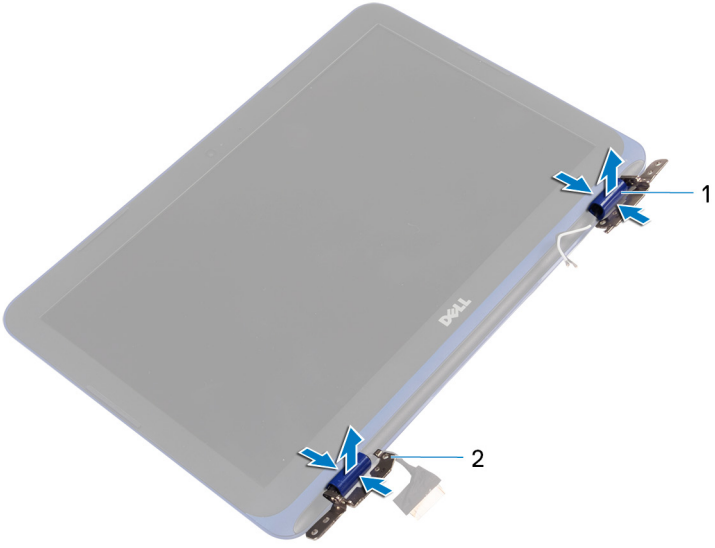

Figure 32. Removing hinge caps

1	hinge caps (2)	2	display hinges (2)

3 Using your finger tips gently pry and lift the display bezel off the display back-cover and antenna assembly.

Figure 33. Removing display bezel

1	display bezel	2	display back-cover and antenna assembly

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.

Procedure

1. Align the display bezel with the display back-cover and antenna assembly, and gently snap the display bezel into place.
2. Replace hinge caps on the display hinges and snap them into place.

Post-requisites

1. Replace the display assembly.
2. Replace the wireless card.
3. Replace the battery.
4. Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Removing the display hinges

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Prerequisites

1. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.
3. Remove the wireless card.
4. Remove the display assembly.
5. Remove the display bezel.

Procedure

1. Remove the four screws (M2.5x2.5) that secure the display hinges to the display back-cover and antenna assembly.

2 Lift the display hinges off the display back-cover and antenna assembly.

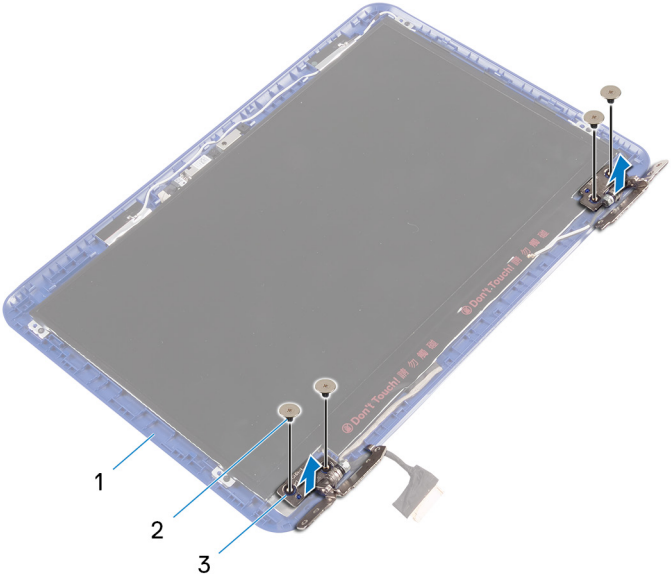

Figure 34. Removing the hinges

1	back-cover and antenna assembly	2	M2.5x2.5 screws (4)
3	display hinges (2)		

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 and antenna assembly.
2. Replace the screws that secure the display hinges to the display back-cover and antenna assembly.

Post-requisites

1. Replace the display bezel.
2. Replace the display assembly.
3. Replace the wireless card.
4. Replace the battery.
5. Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Removing the display panel

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

Prerequisites

1. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.
3. Remove the wireless card.
4. Remove the display assembly.
5. Remove the display bezel.

Procedure

1. Remove the four screws (M1.2x2) that secure the display panel to the display back-cover and antenna assembly.

2 Carefully turn the display panel over.

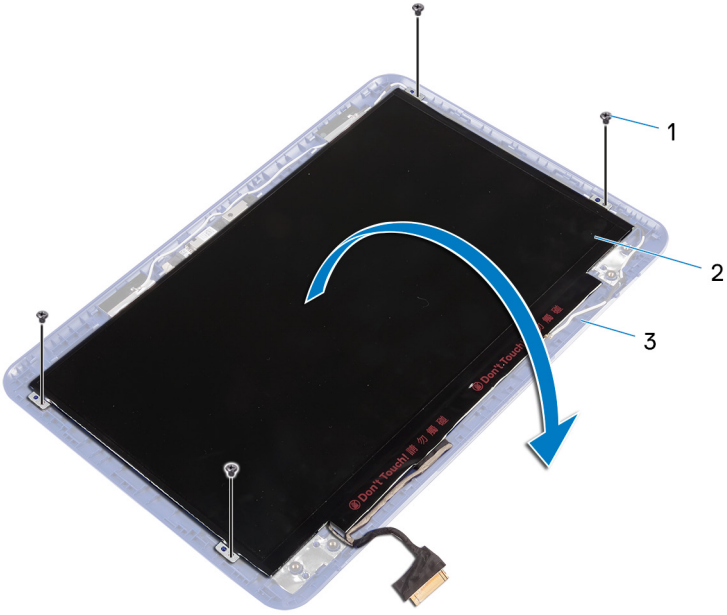


Figure 35. Removing the display cable

1	M1.2x2 screws (4)	2	display panel
3	display back-cover and antenna assembly		

3 Peel off the adhesive tape from the display cable.

4 Open the latch and disconnect the display cable.

5 Lift the display panel off the display back-cover and antenna assembly.

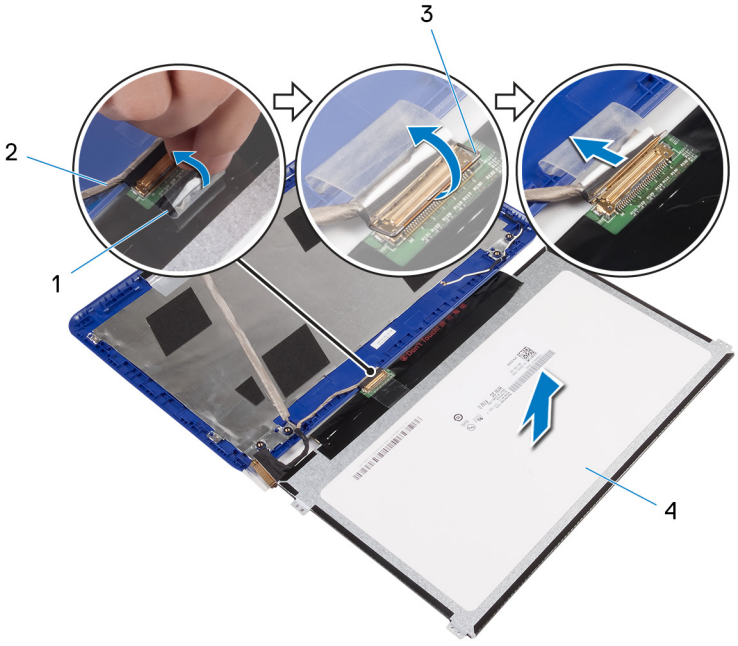


Figure 36. Removing the display cable

1	adhesive tape	2	display cable
3	latch	4	display panel

Replacing the display panel

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

Procedure

1. Slide the display cable into the connector on the display panel and close the latch to secure the cable.
2. Adhere the adhesive tape to the display cable.
3. Align the screw holes on the display panel with the screw holes on the display back-cover and antenna assembly.
4. Replace the four screws (M1.2x2) that secure the display panel to the display back-cover and antenna assembly.

Post-requisites

1. Replace the display bezel.
2. Replace the display assembly.
3. Replace the wireless card.
4. Replace the battery.
5. Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Removing the camera

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.

Prerequisites

1. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.
3. Remove the wireless card.
4. Remove the display hinges.
5. Remove the display bezel.
6. Remove the display panel.

Procedure

CAUTION: Place the display-panel assembly on a soft and clean surface to avoid scratching the display.

1. Using a plastic scribe, gently pry the camera from the display back-cover and antenna assembly.

2 Disconnect the camera cable from the camera.

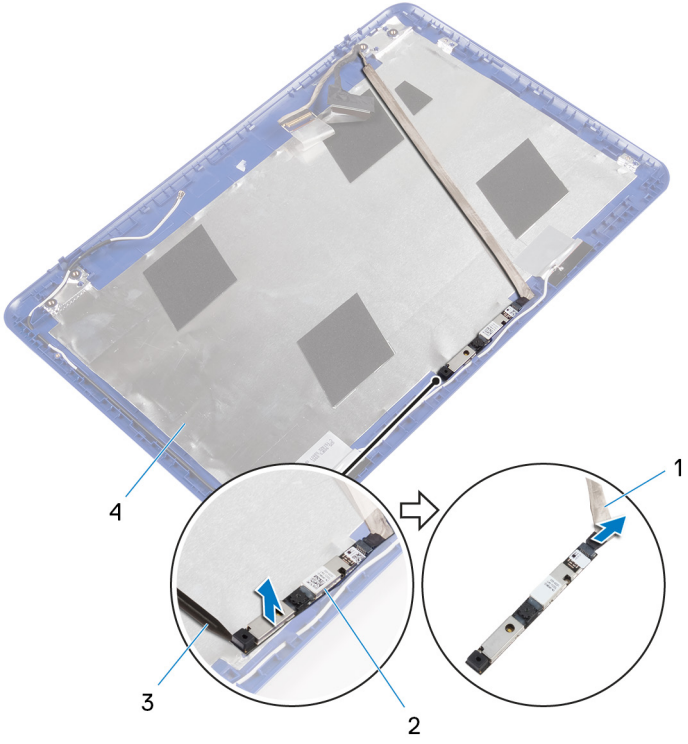


Figure 37. Removing the camera

1	camera cable	2	camera
3	plastic scribe	4	display back-cover and antenna assembly

3 Peel the display cable from the display back-cover and antenna assembly.

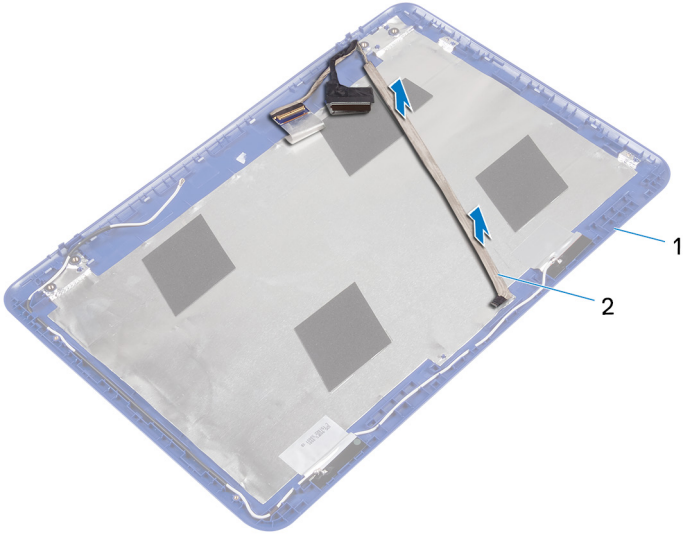


Figure 38. Removing the display cable

1	display back-cover and antenna assembly	2	display cable

Replacing the camera

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.

Procedure

1. Adhere the display cable to the display back-cover and antenna assembly.
2. Connect the camera cable to the camera.
3. Using the alignment post place the camera module on the display back-cover and antenna assembly.
4. Adhere the camera to the display back-cover and antenna assembly and snap the camera into place.

Post-requisites

1. Replace the display panel.
2. Replace the display bezel.
3. Replace the display hinges.
4. Replace the wireless card.
5. Replace the battery.
6. Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Removing the display back-cover and antenna assembly

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.

Prerequisites

1. Follow the procedure from step 1 to step 6 in "Removing the base cover".
2. Remove the battery.
3. Remove the wireless card.
4. Remove the display hinges.
5. Remove the display bezel.
6. Remove the display panel.
7. Remove the camera.

Procedure

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

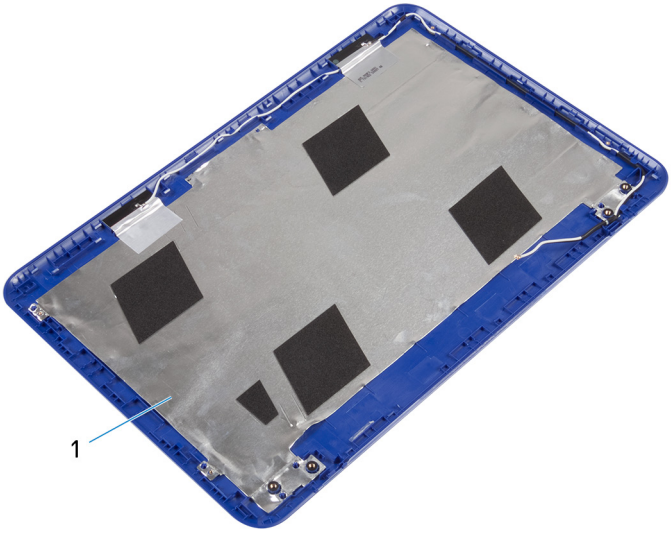


Figure 39. Removing display back-cover and antenna assembly

1 display back-cover and antenna assembly

Replacing the display back-cover and antenna assembly

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.

Procedure

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

Post-requisites

1. Replace the camera.
2. Replace the display panel.
3. Replace the display bezel.
4. Replace the display hinges.
5. Replace the wireless card.
6. Replace the battery.
7. Follow the procedure from step 2 to step 5 in "Replacing the base cover".

Downloading drivers

Downloading the audio driver

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. Scroll down the page, and expand **Audio**.
6. Click **Download** to download the audio driver for your computer.
7. After the download is complete, navigate to the folder where you saved the audio driver file.
8. Double-click the audio driver file icon and follow the instructions on the screen to install the driver.

Table 3. Audio controller in device manager

Before driver installation	After driver installation
Audio inputs and outputs Speakers / Headphones (Realtek Audio)	Audio inputs and outputs Microphone (Realtek Audio) Speakers / Headphones (Realtek Audio)

Downloading the graphics driver

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**.

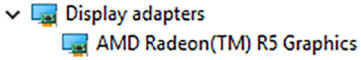
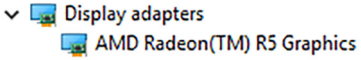
5 Scroll down the page, and expand **Video**.

6 Click **Download** to download the graphics driver for your computer.

7 After the download is complete, navigate to the folder where you saved the graphics driver file.

8 Double-click the graphics driver file icon, and follow the instructions on the screen.

Table 4. Display adapter in device manager

Before driver installation	After driver installation
	

Downloading the USB 3.0 driver

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**.

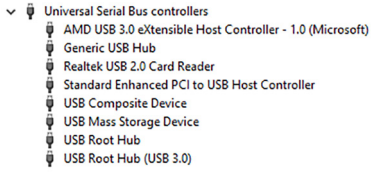
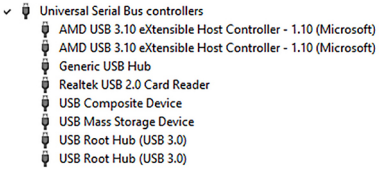
5 Scroll down the page and expand **Chipset**.

6 Click **Download** to download the USB 3.0 driver for your computer.

7 After the download is complete, navigate to the folder where you saved the USB 3.0 driver file.

8 Double-click the driver file icon and follow the instructions on screen.

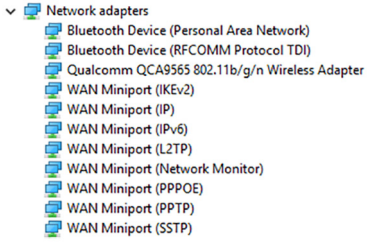
Table 5. Identifying USB driver in device manager

Before driver installation	After driver installation
	

Downloading the Wi-Fi driver

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. Scroll down the page, and expand **Network**.
6. Click **Download** to download the Wi-Fi driver for your computer.
7. After the download is complete, navigate to the folder where you saved the Wi-Fi driver file.
8. Double-click the driver file icon and follow the on-screen instructions to install the driver.



Downloading the media-card reader driver

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**.

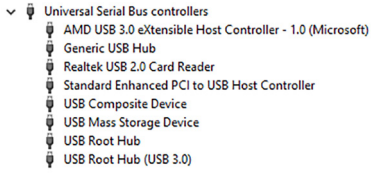
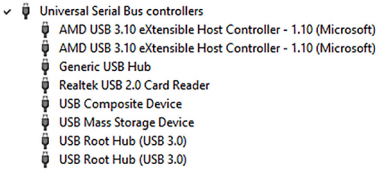
   NOTE: If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.
4. Click **Drivers & downloads → Find it myself**.
5. Scroll down the page, and expand **Chipset**.

6 Click **Download** to download the media-card reader driver for your computer.

7 After the download is complete, navigate to the folder where you saved the card reader driver file.

8 Double-click the card reader driver file icon, and follow the instructions on the screen.

Table 6. Identifying media-card reader driver in device manager

Before driver installation	After driver installation
	

Downloading the chipset driver

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 Scroll down the page and expand **Chipset**.

6 Click **Download** to download the chipset driver for your computer.

7 After the download is complete, navigate to the folder where you saved the chipset driver file.

8 Double-click the chipset driver file icon and follow the instructions on the screen.

System setup

NOTE: Depending on the computer and its installed devices, the items listed in this section may or may not be displayed.

Boot Sequence

Boot Sequence allows you to bypass the System Setup–defined boot device order and boot directly to a specific device (for example: optical drive or hard drive). During the Power-on Self Test (POST), when the Dell logo appears, you can:

- Access System Setup by pressing F2 key
- Bring up the one-time boot menu by pressing F12 key

The one-time boot menu displays the devices that you can boot from including the diagnostic option. The boot menu options are:

- Removable Drive (if available)
- STXXXX Drive

  NOTE: XXX denotes the SATA drive number.
- Optical Drive (if available)
- SATA Hard Drive (if available)
- Diagnostics

  NOTE: Choosing Diagnostics, will display the ePSA diagnostics screen.

The boot sequence screen also displays the option to access the System Setup screen.

Navigation keys

NOTE: For most of the System Setup options, changes that you make are recorded but do not take effect until you restart the system.

Keys	Navigation
Up arrow	Moves to the previous field.
Down arrow	Moves to the next field.
Enter	Selects a value in the selected field (if applicable) or follow the link in the field.
Spacebar	Expands or collapses a drop-down list, if applicable.
Tab	Moves to the next focus area. **NOTE: For the standard graphics browser only.**
Esc	Moves to the previous page until you view the main screen. Pressing Esc in the main screen displays a message that prompts you to save any unsaved changes and restarts the system.

BIOS overview

CAUTION: Unless you are an expert computer user, do not change the settings in the BIOS Setup program. Certain changes can make your computer work incorrectly.

NOTE: Before you change BIOS Setup program, it is recommended that you write down the BIOS Setup program screen information for future reference.

Use the BIOS Setup program for the following purposes:

- Get information about the hardware installed in your computer, such as the amount of RAM and the size of the hard drive.
- Change the system configuration information.
- Set or change a user-selectable option, such as the user password, type of hard drive installed, and enabling or disabling base devices.

Entering BIOS setup program

1 Turn on (or restart) your computer.

2 During POST, when the DELL logo is displayed, watch for the F2 prompt to appear, and then press F2 immediately.

NOTE: The F2 prompt indicates that the keyboard is initialized. This prompt can appear very quickly, so you must watch for it, and then press F2. If you press F2 before the F2 prompt, this keystroke is lost. If you wait too long and the operating system logo appears, continue to wait until you see the desktop. Then, turn off your computer and try again.

Identifying the hard drive in BIOS setup program

1 Turn on or restart your computer.

2 Press F2 when the Dell logo is displayed on the screen to enter the BIOS setup program.

A list of hard drives is displayed under the **Main tab**.

Checking the system memory in BIOS setup program

1 Turn on or restart your computer.

2 Press F2 when the Dell logo is displayed on the screen to enter the BIOS setup program.

3 On the **Main**tab, see **System memory**.

The memory information is displayed on the right pane.

System Setup Options

NOTE: Depending on your computer and its installed devices, the items listed in this section may or may not appear.

Table 7. System setup options

Main	
System Time	Displays the current time in hh:mm:ss format.
System Date	Displays the current date in mm/dd/yyyy format.
BIOS Version	Displays the BIOS version.

Main	
Product Name	Displays the model number of your computer.
Service Tag	Displays the service tag of your computer.
Asset Tag	Displays the asset tag of your computer.
CPU Type	Displays the processor type.
CPU Speed	Displays the processor speed.
CPU ID	Displays the processor identification code.
CPU L1 Cache	Displays the processor L1 cache size.
CPU L2 Cache	Displays the processor L2 cache size.
First HDD	Displays the type of hard drive installed.
Internal eMMC	Displays the type of eMMC card installed.
AC adapter type	Displays the type of AC adapter installed.
System Memory	Displays the memory information of your computer.
Memory Speed	Displays the memory speed.

Table 8. System setup options

Advanced	
PowerNow! Enable	Enables or disables the Intel(R) SpeedStep(tm) mode of the processor. Default: Enabled
Virtualization	Allows you to enable or disable the Intel Virtualization technology. Default: Enabled
USB Emulation	Allows you to enable or disable the USB emulation feature. This feature defines how the BIOS, in the absence of a USB-aware operating system, handles USB

Advanced	
	devices. USB emulation is always enabled during POST. **NOTE: You cannot boot any type of USB device (floppy, hard drive, or memory key) when this option is off.** Default: Enabled
USB Wake Support	Allows you to enable USB devices to wake the computer from standby or to disable the USB wake support feature. **NOTE: If USB PowerShare is enabled, a device connected to the USB PowerShare connector may not wake the computer.** Default: Disabled
SATA Operation	Allows you to configure the operating mode of the integrated SATA hard drive controller. Default: AHCI
Adapter Warnings	Allows you to choose if the computer should display warning messages when you use AC adapters that are not supported by your computer. Default: Enabled
Function Key Behavior	Allows you to set function key or multimedia key as the default function key behavior. Default: Function key
Battery Health	Displays the battery health.
Miscellaneous Devices	Displays the miscellaneous devices installed in your computer.
BIOS Recovery from Hard Drive	Enable the user to recover from certain corrupted BIOS conditions from a recovery file on the user primary hard drive Default: Enabled

Advanced	
BIOS Auto-Recovery	Enable the user to recover from certain corrupted BIOS conditions. Default: Disabled
Always Perform Integrity Check	Enable the user to perform integrity check
Battery Charge Configuration	Set the battery charge settings with a preselected custom charge start and stop. Default: Adaptive
Advanced Battery Charge Mode	Enable Advance Battery Charge Configuration from the beginning of the day to a specified work period. Default: Disabled
SupportAssist System Resolution	
Auto OS Recovery Threshold	Control the automatic boot flow for SupportAssist System Resolution Console and for Dell OS Recovery tool.
SupportAssist OS Recovery	Enable or disable the boot flow for the SupportAssist OS Recovery tool in the even of certain system errors. Default: Disabled

Table 9. System setup options

Security	
Admin Password Status	Displays if the administrator password is clear or set. Default: Not set
System password Status	Displays if the system password is clear or set. Default: Not set
HDD1 password Status	Displays if the HDD password is clear or set. Default: Not set
Admin Password	Allows you to set the administrator password. The administrator password controls access to the system setup utility.

Security	
System Password	Allows you to set the system password. The system password controls access to the computer at boot.
HDD1 password	Allows you to set, change or delete the hard-disk drive password.
Password Change	Allows you to permit or deny system password or HDD password changes. Default: Permitted
Computrace	Enable or disable the BIOS module interface of the optional Computrace Service from Absolute Software.
Firmware TPM	
PPI Bypass for Clear Command	Enable or disable the PPI Bypass for Clear Command. Default: Disabled.
UEFI Capsule Firmware Updates	Enable or disable BIOS updates through UEFI capsule update packages.

Table 10. System setup options

Boot	
Fast Boot	
Secure Boot	Enable or disable the secure boot feature.
Legacy Option ROMs	Enable or disable the Legacy Option ROMs.
Boot List Option	Displays the available boot options.
File Browser Add Boot Option	Allows to add the boot options.
File Browser Del Boot Option	Allows to delete the boot options
Boot Option Priorities	Displays the boot sequence.

Table 11. System setup options—Exit menu

Exit	
Exit Saving Changes	Allows you to exit system setup saving your changes.
Save Changes Without Exit	Allows you to save your changes without exiting system setup.
Exit Discarding Changes	Allows you to exit system setup without saving your changes.
Load Optimal Defaults	Allows you to restore default values for all system setup options.
Discard Changes	Allows you to load previous values for all system setup options.

System and setup password

You can create a system password and a setup password to secure your computer.

Password type	Description
System password	Password that you must enter to log on to your system.
Setup password	Password that you must enter to access and make changes to the BIOS settings of your computer.

CAUTION: The password features provide a basic level of security for the data on your computer.

CAUTION: Anyone can access the data stored on your computer if it is not locked and left unattended.

NOTE: System and setup password feature is disabled.

Assigning a system password and setup password

You can assign a new **System Password** only when the status is in **Not Set**.
To enter the system setup, press F2 immediately after a power-on or re-boot.

1. In the **System BIOS** or **System Setup** screen, select **Security** and press Enter.
   The **Security** screen is displayed.
2. Select **System Password** and create a password in the **Enter the new password** field.
   Use the following guidelines to assign the system password:
   - A password can have up to 32 characters.
   - The password can contain the numbers 0 through 9.
   - Only lower case letters are valid, upper case letters are not allowed.
   - Only the following special characters are allowed: space, (”), (+), (,), (-), (.), (/), (;), ([), (\), (]), (`).
3. Type the system password that you entered earlier in the **Confirm new password** field and click **OK**.

4 Press Esc and a message prompts you to save the changes.

5 Press Y to save the changes.

The computer reboots.

Deleting or changing an existing system and or setup password

Ensure that the **Password Status** is Unlocked (in the System Setup) before attempting to delete or change the existing System and/or Setup password. You cannot delete or change an existing System or Setup password, if the **Password Status** is Locked.
To enter the System Setup, press F2 immediately after a power-on or reboot.

1 In the **System BIOS** or **System Setup** screen, select **System Security** and press Enter.

The **System Security** screen is displayed.

2 In the **System Security** screen, verify that **Password Status** is **Unlocked**.

3 Select **System Password**, alter or delete the existing system password and press Enter or Tab.

4 Select **Setup Password**, alter or delete the existing setup password and press Enter or Tab.

NOTE: If you change the System and/or Setup password, re-enter the new password when promoted. If you delete the System and/or Setup password, confirm the deletion when promoted.

5 Press Esc and a message prompts you to save the changes.

6 Press Y to save the changes and exit from System Setup.

The computer reboots.

Clearing forgotten passwords

Contact Dell technical support to clear the forgotten passwords, see www.dell.com/contactdell.

Clearing CMOS settings

CAUTION: Clearing CMOS settings will reset the BIOS settings on your computer.

1. Remove the base cover.
2. Remove the battery.
3. Disconnect the coin-cell battery.
4. Wait for one minute.
5. Connect the coin-cell battery.
6. Replace the battery.
7. Replace the base cover.

Troubleshooting

Flashing the BIOS

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

Follow these steps 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.

Flea power release

Flea power is the residual static electricity that remains on the computer even after it has been powered off and the battery has been removed. The following procedure provides the instructions on how to conduct flea power release:

1. Turn off your computer.
2. Remove the base cover.
3. Press and hold the power button for 15 seconds to drain the flea power.
4. Replace the base cover.
5. Turn on your computer.

Flashing BIOS (USB key)

1. Follow the procedure from step 1 to step 7 in "Flashing the BIOS" to download the latest BIOS setup program file.
2. Create a bootable USB drive. For more information see the knowledge base article SLN143196 at www.dell.com/support.
3. Copy the BIOS setup program file to the bootable USB drive.
4. Connect the bootable USB drive to the computer that needs the BIOS update.
5. Restart the computer and press **F12** when the Dell logo is displayed on the screen.
6. Boot to the USB drive from the **One Time Boot Menu**.
7. Type the BIOS setup program filename and press **Enter**.
8. The **BIOS Update Utility** appears. Follow the instructions on the screen to complete the BIOS update.

Enhanced Pre-Boot System Assessment (ePSA) diagnostics

CAUTION: Use the ePSA diagnostics to test only your computer. Using this program with other computers may cause invalid results or error messages.

The ePSA diagnostics (also known as system diagnostics) performs a complete check of your hardware. The ePSA is embedded with the BIOS and is launched by the BIOS internally. The embedded system diagnostics provides a set of options for particular devices or device groups allowing you to:

- Run tests automatically or in an interactive mode
- Repeat tests
- Display or save test results
- Run thorough tests to introduce additional test options to provide extra information about the failed device(s)
- View status messages that inform you if tests are completed successfully
- View error messages that inform you of problems encountered during testing

NOTE: Some tests for specific devices require user interaction. Always ensure that you are present at the computer terminal when the diagnostic tests are performed.

For more information, see Dell EPSA Diagnostic 3.0.

Running the ePSA diagnostics

1. Turn on your computer.
2. As the computer boots, press the F12 key as the Dell logo appears.
3. On the boot menu screen, select the **Diagnostics** option.
4. Click the arrow at the bottom left corner.

   Diagnostics front page is displayed.
5. Click the arrow in the lower-right corner to go to the page listing.

   The items detected are listed.
6. To run a diagnostic test on a specific device, press Esc and click **Yes** to stop the diagnostic test.
7. Select the device from the left pane and click **Run Tests**.
8. If there are any issues, error codes are displayed.

   Note the error code and validation number and contact Dell.

Wi-Fi power cycle

If your computer is unable to access the internet due to Wi-Fi connectivity issues a Wi-Fi power cycle procedure may be performed. The following procedure provides the instructions on how to conduct a Wi-Fi power cycle:

NOTE: Some ISPs (Internet Service Providers) provide a modem/router combo device.

1. Turn off your computer.
2. Turn off the modem.
3. Turn off the wireless router.
4. Wait for 30 seconds.
5. Turn on the wireless router.
6. Turn on the modem.
7. Turn on your computer.

Getting help and contacting Dell

Self-help resources

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

Table 12. Self-help resources

Information about Dell products and services	www.dell.com
Dell Help & Support app	
Tips	
Contact Support	In Windows search, type `Contact Support`, and press Enter.
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
Dell knowledge base articles for a variety of computer concerns.	1 Go to www.dell.com/support. 2 Type the subject or keyword in the **Search** box. 3 Click **Search** to retrieve the related articles.
Learn and know the following information about your product: • Product specifications • Operating system	See *Me and My Dell* at www.dell.com/support/manuals.

- Setting up and using your product
- Data backup
- Troubleshooting and diagnostics
- Factory and system restore
- BIOS information

To locate the *Me and My Dell* relevant to your product, identify your product through one of the following:

- Select **Detect Product**.
- Locate your product through the drop-down menu under **View Products**.
- Enter the **Service Tag number** or **Product ID** in the search bar.

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.