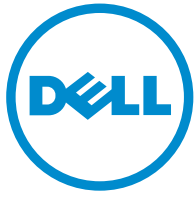
Inspiron 22 3000
Service Manual

Computer Model: Inspiron 22–3264
Regulatory Model: W17B
Regulatory Type: W17B003



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.

   The shut-down instruction varies depending on the operating system installed on your computer.

   - Windows 10: Click **Start** → **Power** → **Shut down**.
   - Windows 8.1: On the **Start** screen, click the power icon → **Shut down**.
   - Windows 7: Click **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.
7. After the computer is unplugged, press and hold the power button for 5 seconds to ground the system board.

   CAUTION: Place the computer on a flat, soft, and clean surface to avoid scratches on the display.
8. Place the computer face down.

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:

- Phillips screwdriver
- Plastic scribe

Screw list

Component	Secured to	Screw type	Quantity
Easel Stand	Back cover	M4X8	2
Pedestal Stand	Back cover	M4X8	4
Optical-drive bracket	Display-assembly base	M3X5	1
Optical-drive bracket	Optical drive	M2X2.5	2
Hard-drive assembly	Display-assembly base	M3X5	1
Hard-drive bracket	Hard drive	M3X5	3
System-board shield	Display-assembly base	M3X5	4
Wireless-card bracket	System board	M2X2.5	1
Fan	Display-assembly base	M3X5	2
Heat sink	Display-assembly base	M3X5	1
Speaker tape	Display-assembly base	M2X2.5	1
System board	Display-assembly base	M3X5	4
VESA-mount bracket	Display-assembly base	M4X8	4
Display-assembly base	Display assembly	M3X5	19
Rubber feet	Display bezel	M3X5	4

After working inside your computer

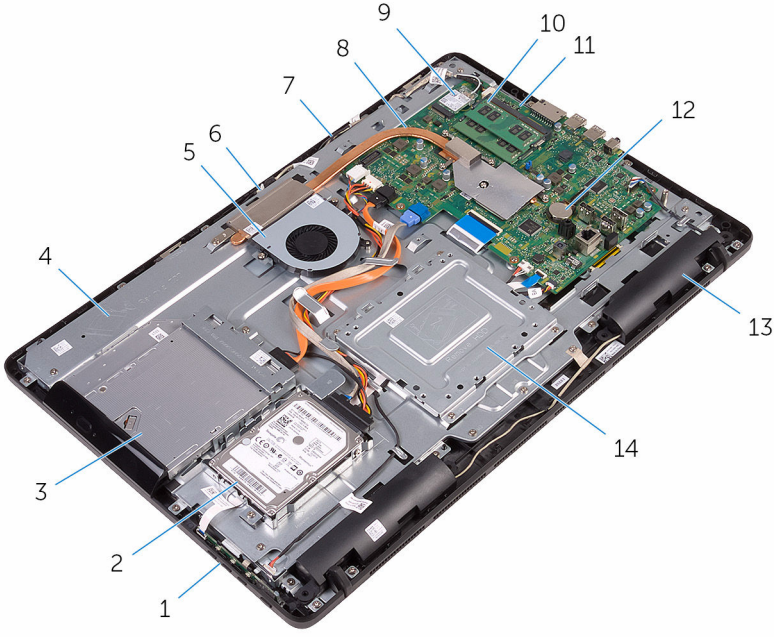
CAUTION: Leaving stray or loose screws inside your computer may severely damage your computer.

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.

Technical overview

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.

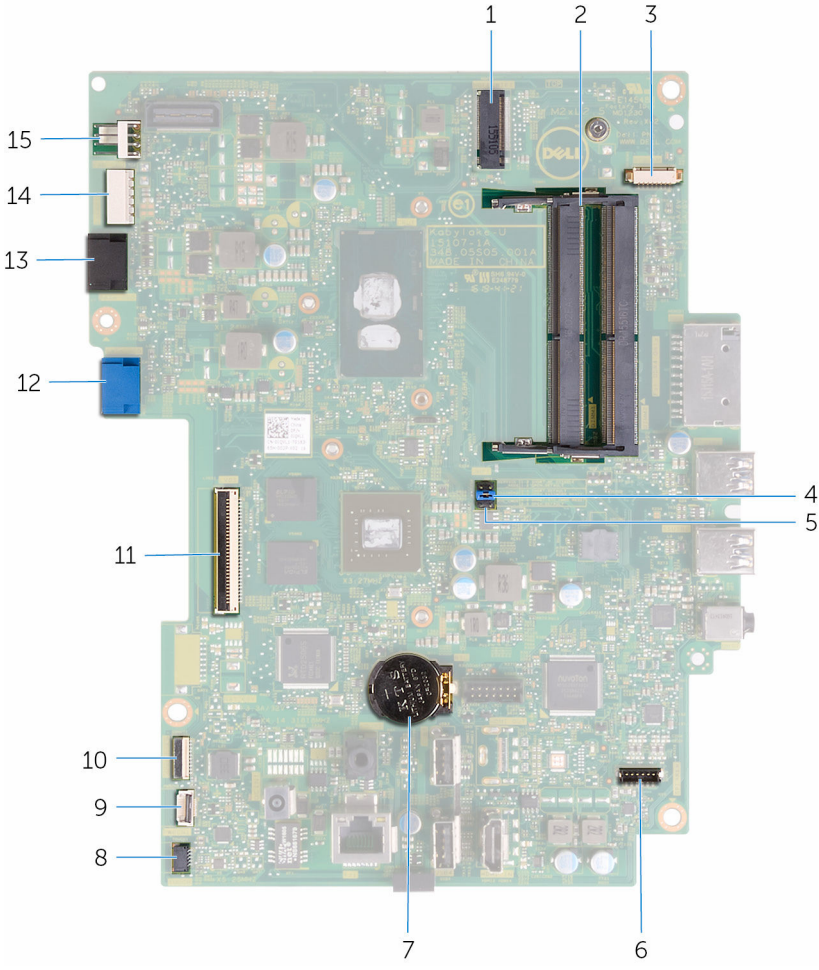
Inside view of your computer



1	control-buttons board	2	hard-drive assembly
3	optical-drive assembly	4	display-assembly base
5	fan	6	camera module
7	microphone board	8	heat sink
9	wireless card	10	memory module

11	system board	12	coin-cell battery
13	speakers (2)	14	VESA-mount bracket

System-board components



1	wireless-card slot (NGFF_WI-FI)	2	memory-module slots (2)
3	camera-cable connector (WEBCAM)	4	CMOS clear jumper (RTCRST)

5	Password clear jumper (PSWD)	6	speaker-cable connector (SPEAKER)
7	coin-cell battery	8	touch-screen board cable connector (TOUCH)
9	control-buttons board cable connector	10	display-panel power cable connector (PWRCN1)
11	display-cable connector	12	hard-drive data cable connector (SATA HDD)
13	optical-drive cable connector (SATA ODD)	14	hard-drive and optical-drive power cable connector (SATAP1)
15	fan-cable connector (FAN_CPU)		

Removing the stand

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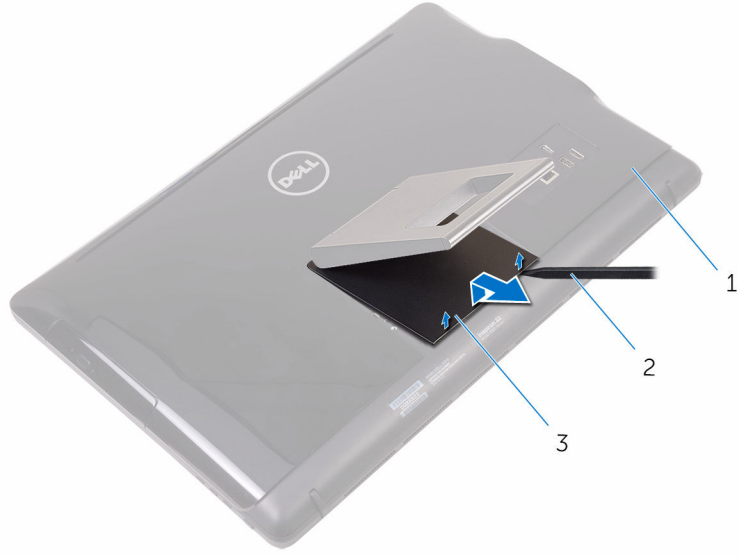
Easel stand

1 Using a plastic scribe, pry the stand cover off the back cover.

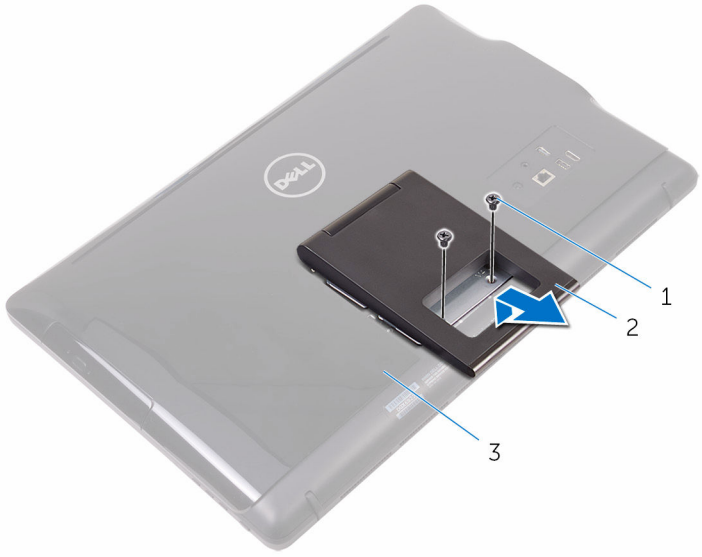
2 Slide and remove the stand cover from the back cover.



1	back cover	2	plastic scribe
3	stand cover		

3 Close the stand and remove the screws that secure the stand to the back cover.

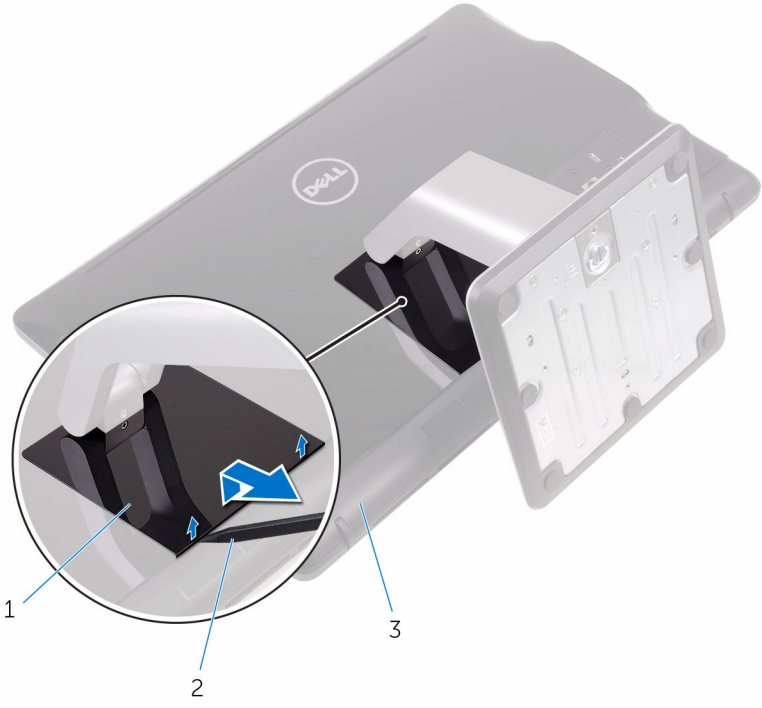
4 Slide and remove the stand from the back cover.



1 screws (2)
2 easel stand
3 back cover

Pedestal stand

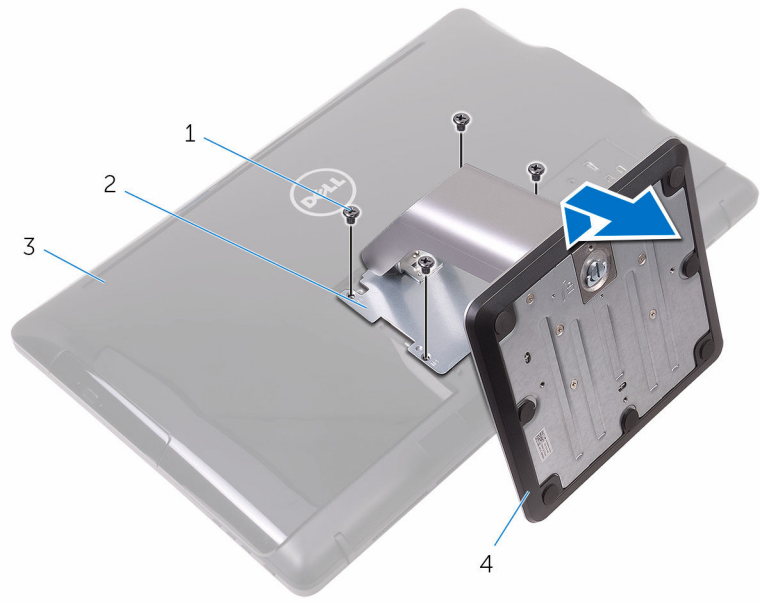
1 Using a plastic scribe, pry the stand cover off the back cover.



1 stand cover
2 plastic scribe
3 back cover

2 Remove the screws that secure the stand bracket to the back cover.

3 Lift the handle and slide it out from the back cover.

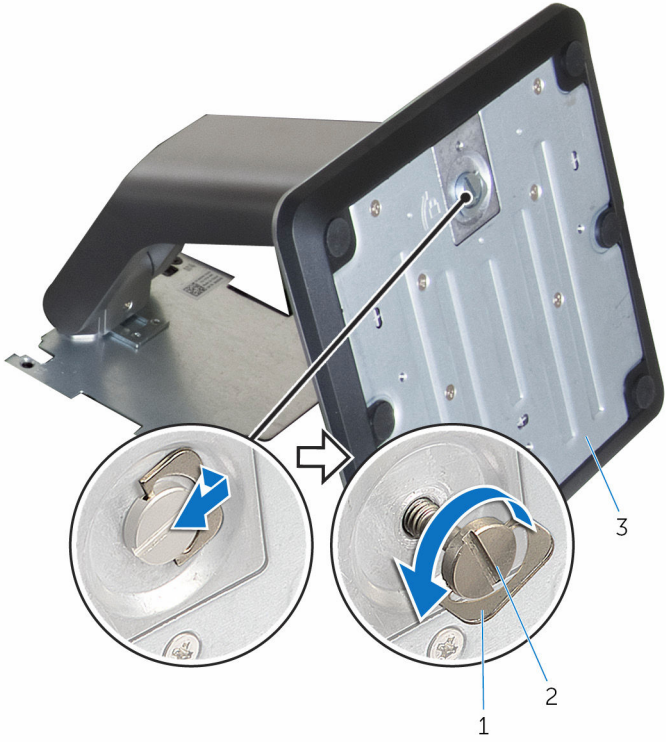


1	screws (4)	2	stand bracket
3	back cover	4	pedestal stand

Procedure to remove stand riser from stand base

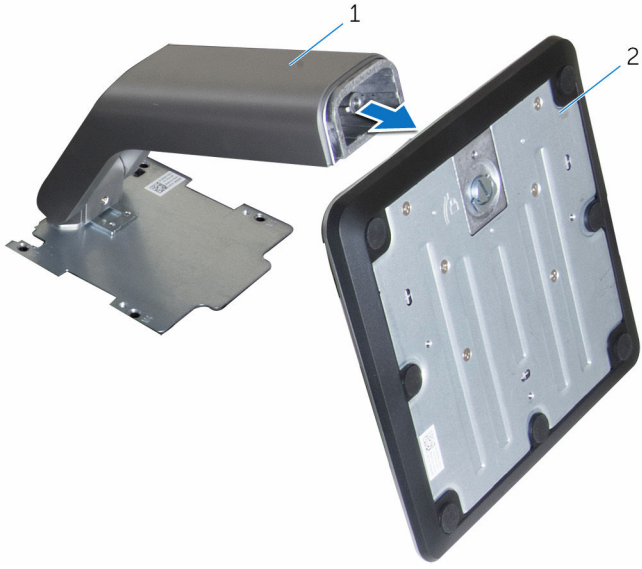
1 Lift the screw handle on the stand base.

2 Using the screw handle, loosen the captive thumbscrew that secures the stand base to the stand riser.



1 screw handle
2 captive thumbscrew
3 stand base

3 Slide the stand base off the stand riser.



1 stand riser

2 stand base

Replacing the stand

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Easel stand

1. Insert the tabs on the stand bracket into the slots on the back cover.
2. Align the screw holes on the stand with the screw holes on the back cover.
3. Replace the screws that secure the stand to the back cover.
4. Replace the stand cover.

Pedestal stand

1. Insert the tabs on the stand bracket into the slots on the back cover.
2. Align the screw holes on the stand with the screw holes on the back cover.
3. Replace the screws that secure the stand bracket to the back cover.
4. Replace the stand cover.

Procedure to replace stand riser to stand base

1. Slide the stand base into the slot on the stand riser.
2. Tighten the captive thumbscrew and fold the screw handle on the stand base.

Removing the back cover

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Prerequisites

Remove the stand.

Procedure

CAUTION: Do not remove the computer cover unless you need to install or replace internal components on your computer.

1 Using your thumb, press the slot on the back cover.
2 Using your fingertips, pry and release the tabs from the back cover.

3 Lift the back cover off the display-assembly base.

1 back cover

Replacing the back cover

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Procedure

Align the tabs on the back cover with the slots on the display-assembly base and snap the back cover into place.

NOTE: Make sure that no cables are caught between the back cover and the display-assembly base.

Post-requisites

Replace the stand.

Replacing the optical drive

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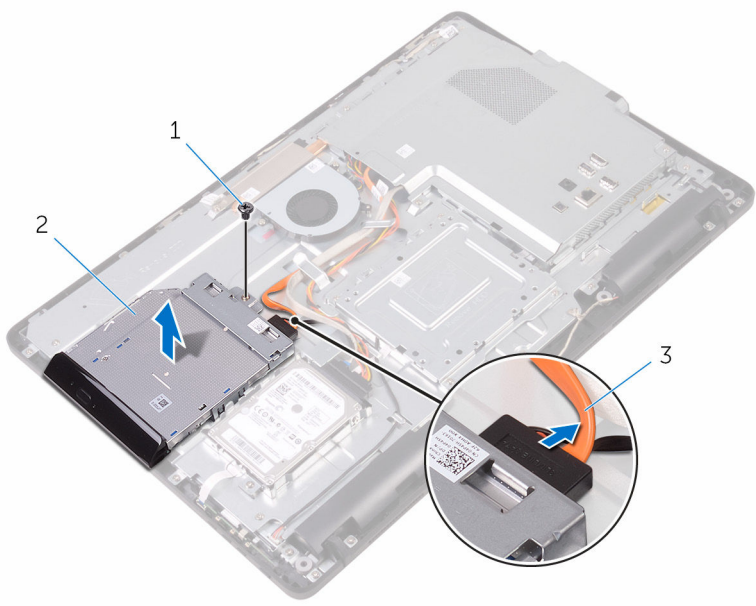
Prerequisites

1. Remove the stand.
2. Remove the back cover.

Procedure

1. Disconnect the optical-drive cable from the optical drive.
2. Remove the screw that secures the optical-drive bracket to the display-assembly base.

3 Lift the optical-drive bracket from the display-assembly base.



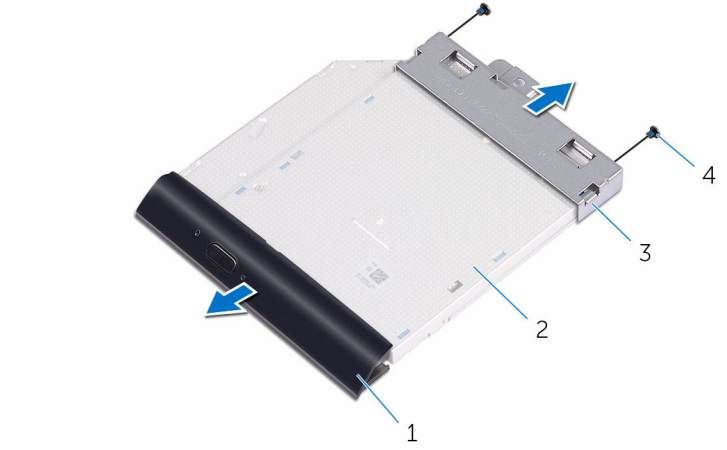
1 screw
2 optical drive
3 optical-drive cable

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

5 Remove the screws that secure the optical-drive bracket to the optical drive.

6 Remove the optical-drive bracket from the optical drive.

NOTE: Note the orientation of the optical-drive bracket so that you can replace it correctly.



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

Removing the optical drive

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Procedure

1. Align the screw holes on the optical-drive bracket with the screw holes on the optical drive.

   NOTE: You must correctly align the optical-drive bracket to ensure that the optical drive can be properly secured to the computer. For correct orientation, see step 6 in "Removing the optical drive".
2. Replace the screws that secure the optical-drive bracket to the optical drive.
3. Carefully push the optical-drive bezel into the optical drive.
4. Place the optical-drive bracket on the display-assembly base.
5. Replace the screw that secures the optical-drive bracket to the display-assembly base.
6. Connect the optical-drive cable to the optical drive.

Post-requisites

1. Replace the back cover.
2. Replace the stand.

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.

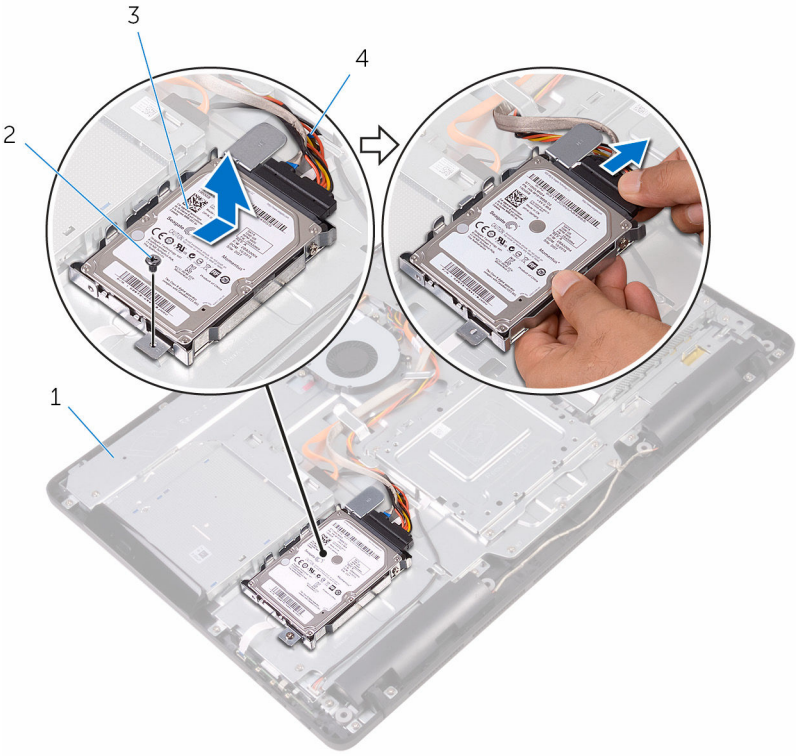
Prerequisites

1. Remove the stand.
2. Remove the back cover.

Procedure

1. Disconnect the hard-drive cable from the hard drive.
2. Remove the screw that secures the hard-drive assembly to the display-assembly base.
3. Slide the hard-drive assembly until the securing tabs are released from the slots on the display-assembly base.

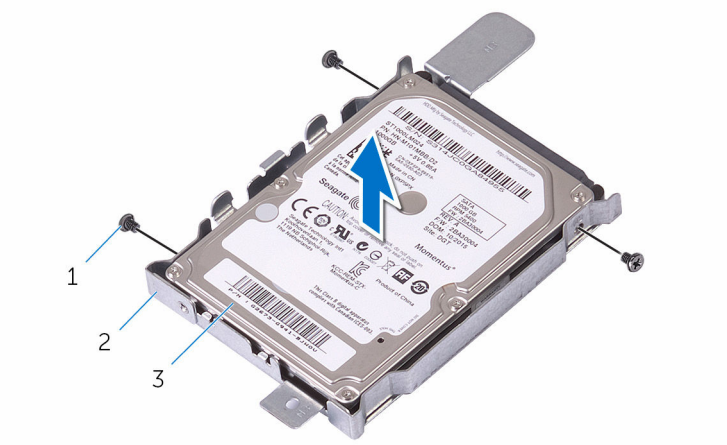
4 Lift the hard-drive assembly off the display-assembly base.



1	display-assembly base	2	screw
3	hard-drive assembly	4	hard-drive cable

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

6 Remove the hard drive from the hard-drive bracket.



1 screws (3)
2 hard-drive bracket
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 screws that secure the hard-drive bracket to the hard drive.
3. Align the tabs on the hard-drive assembly with the slots on the display-assembly base.
4. Slide the securing tabs on the hard-drive assembly into the slots on the display-assembly base.
5. Replace the screw that secures the hard-drive assembly to the display-assembly base.
6. Connect the hard-drive cable to the hard drive.

Post-requisites

1. Replace the back cover.
2. Replace the stand.

Removing the system-board shield

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.

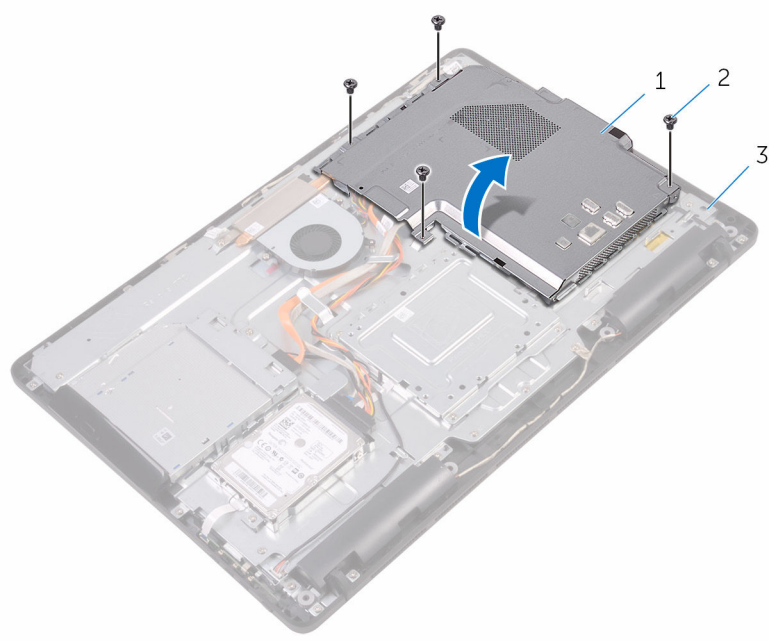
Prerequisites

1. Remove the stand.
2. Remove the back cover.

Procedure

1. Remove the screws that secure the system-board shield to the display-assembly base.

2 Lift the system-board shield off the display-assembly base.



1 system-board shield
2 screws (4)
3 display-assembly base

Replacing the system-board shield

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Procedure

1. Align the slots on the system-board shield with the ports on the system board and place the system-board shield on the display-assembly base.
2. Align the screw holes on the system-board shield with the screw holes on the display-assembly base.
3. Replace the screws that secure the system-board shield to the display-assembly base.

Post-requisites

1. Replace the back cover.
2. Replace the stand.

Removing the memory module

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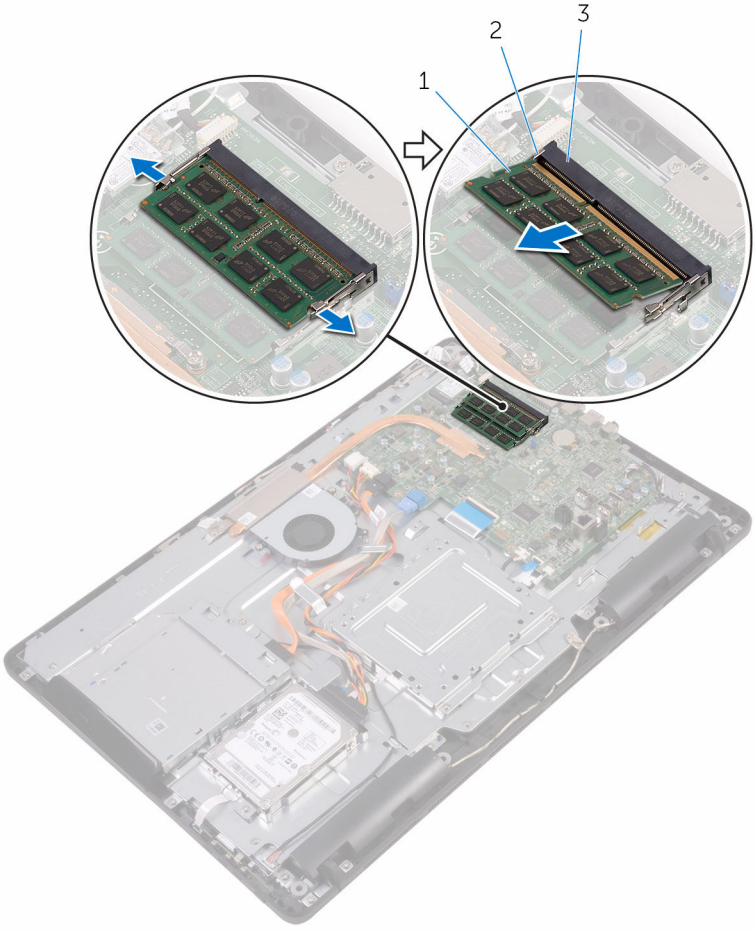
Prerequisites

1. Remove the stand.
2. Remove the back cover.
3. Remove the system-board shield.

Procedure

1. Using your fingertips, spread apart the securing clips at 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 memory module
2 securing clips (2)
3 memory-module slot

Replacing the memory module

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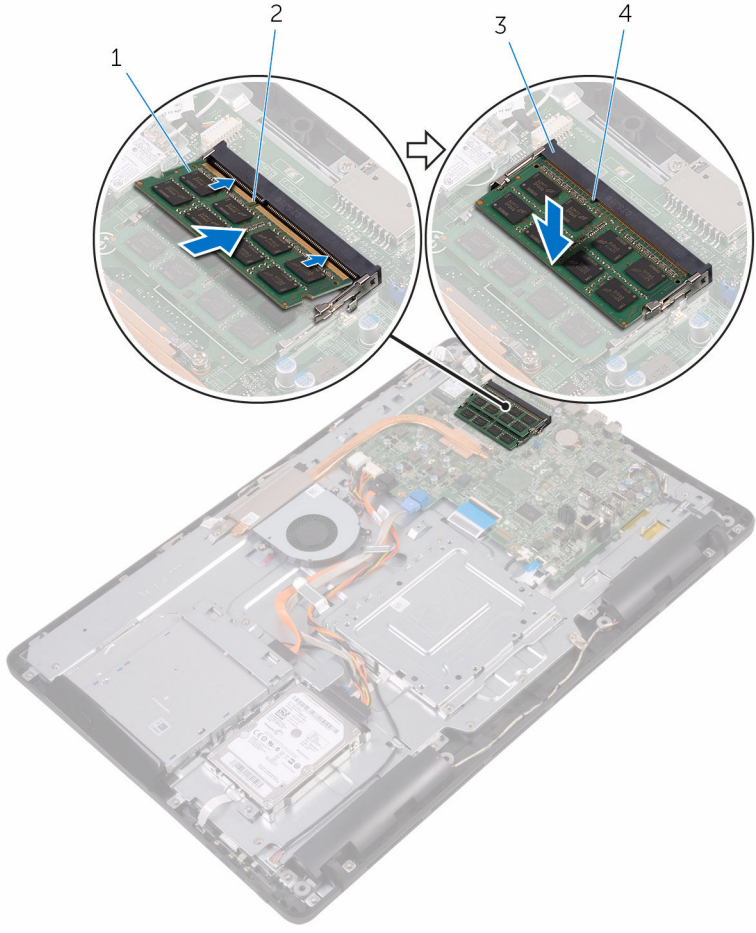
Procedure

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

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

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



1	memory module	2	notch
3	memory-module slot	4	tab

Post-requisites

1 Replace the system-board shield.

2 Replace the back cover.

3 Replace the stand.

Removing the wireless card

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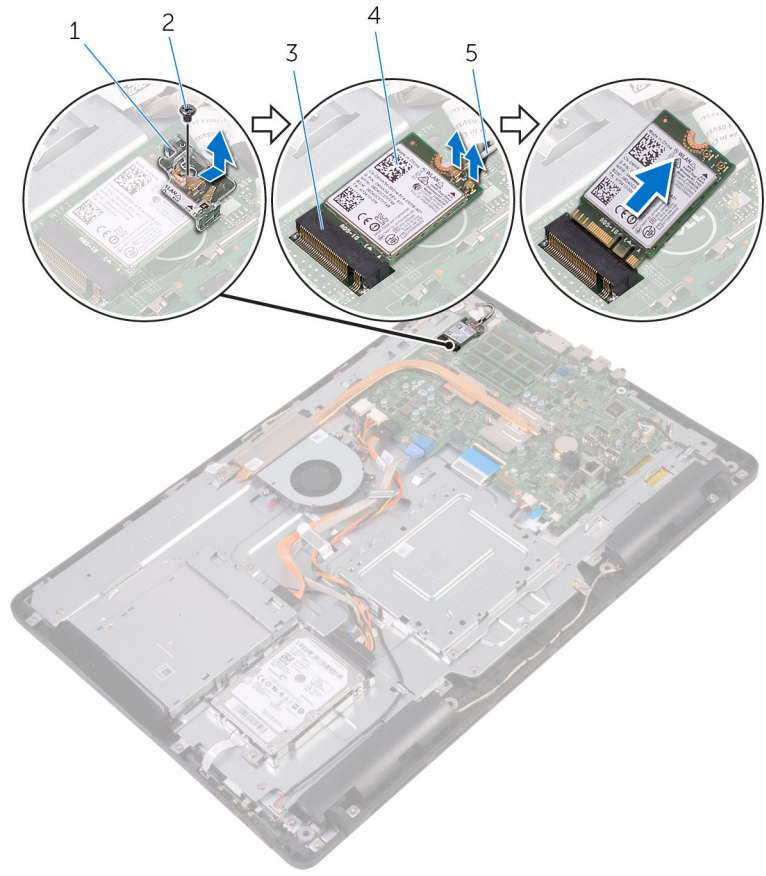
Prerequisites

1. Remove the stand.
2. Remove the back cover.
3. Remove the system-board shield.

Procedure

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

4 Slide the wireless card out of the wireless-card slot.



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

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

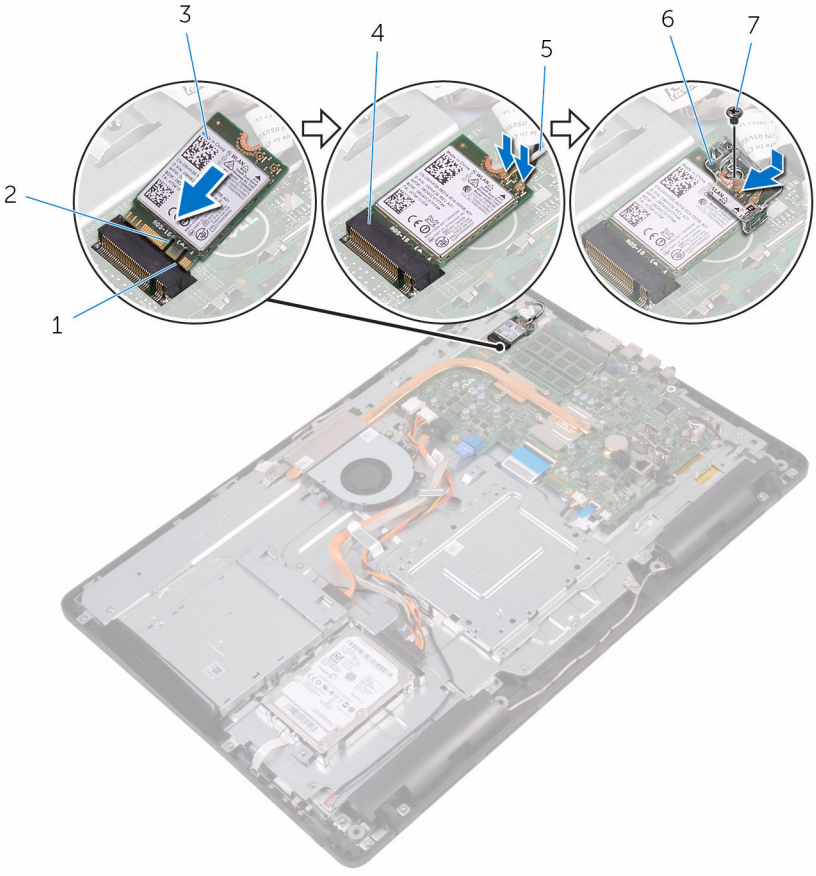
1. Align the notch on the wireless card with the tab on the wireless-card slot.
2. Insert the wireless card into the wireless-card slot.
3. Connect the antenna cables to the wireless card.

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

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



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

Post-requisites

1 Replace the system-board shield.
2 Replace the back cover.

3 Replace the stand.

Removing the control-buttons 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

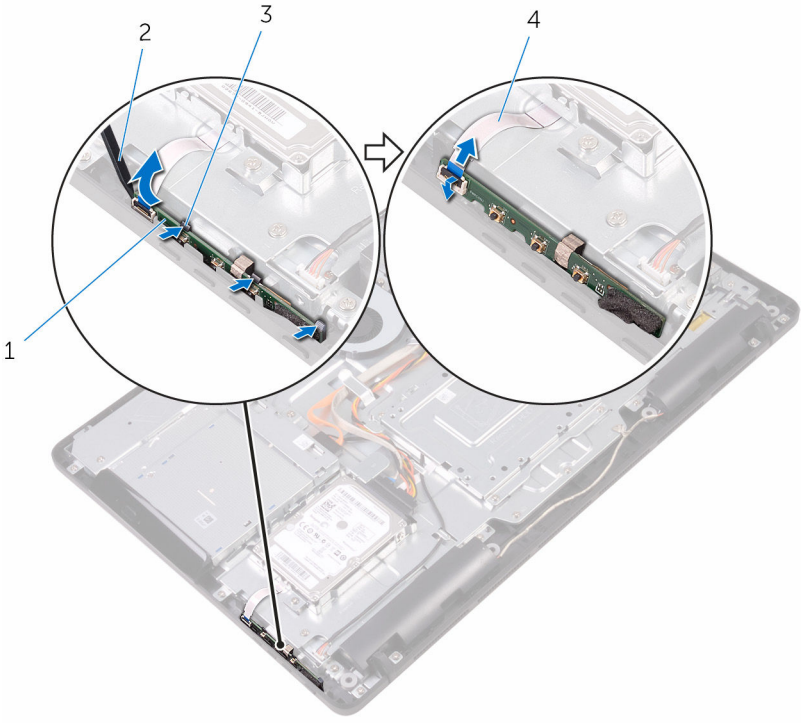
1. Remove the stand.
2. Remove the back cover.

Procedure

1. Using a plastic scribe, push the securing clips on the control-buttons board slot.

   NOTE: Note the orientation of the control-buttons board so that you can replace it correctly.
2. Press the securing clips and lift the control-buttons board off the display-assembly base.

3 Open the latch and disconnect the control-buttons board cable from the control-buttons board.



1	control-buttons board	2	plastic scribe
3	securing clips (3)	4	control-buttons board cable

Replacing the control-buttons board

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Procedure

1 Slide the control-buttons board cable into the connector on the control-buttons board and close the latch to secure the cable.

NOTE: You must correctly align the control-buttons board to ensure that it is properly secured to the display-assembly base. For correct orientation, see step 1 in "Removing the control-buttons board".

2 Slide the control-buttons board into the slot on the display-assembly base until the securing clips lock in place.

Post-requisites

1 Replace the back cover.

2 Replace the stand.

Removing the microphone

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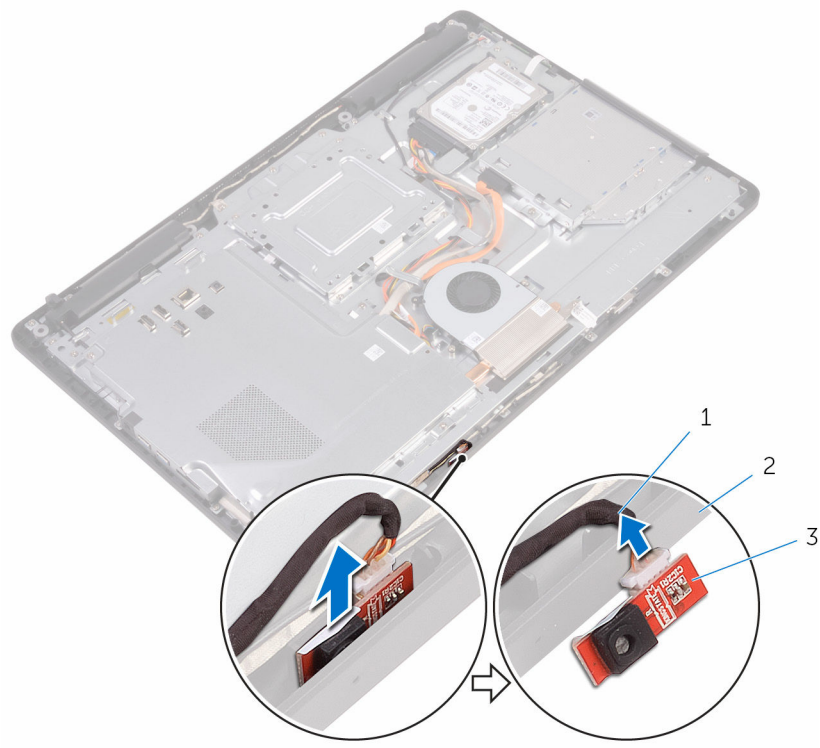
Prerequisites

1. Remove the stand.
2. Remove the back cover.

Procedure

1. Lift the microphone module off the display-assembly base.

2 Disconnect the microphone cable from the microphone module.



1 microphone cable
2 display-assembly base
3 microphone module

Replacing the microphone

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Procedure

1. Connect the microphone cable to the microphone module.
2. Slide the microphone module into the slot on the display-assembly base.

Post-requisites

1. Replace the back cover.
2. Replace the stand.

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

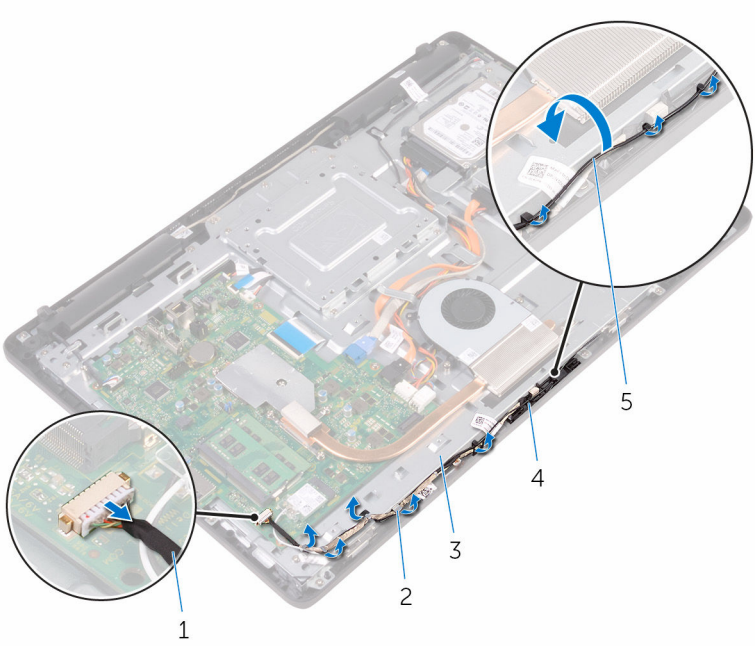
NOTE: This chapter is applicable only for systems with a touch screen display. For systems with a non-touch screen display, the microphones will be integrated on the camera assembly.

1 Remove the stand.
2 Remove the back cover.

Procedure

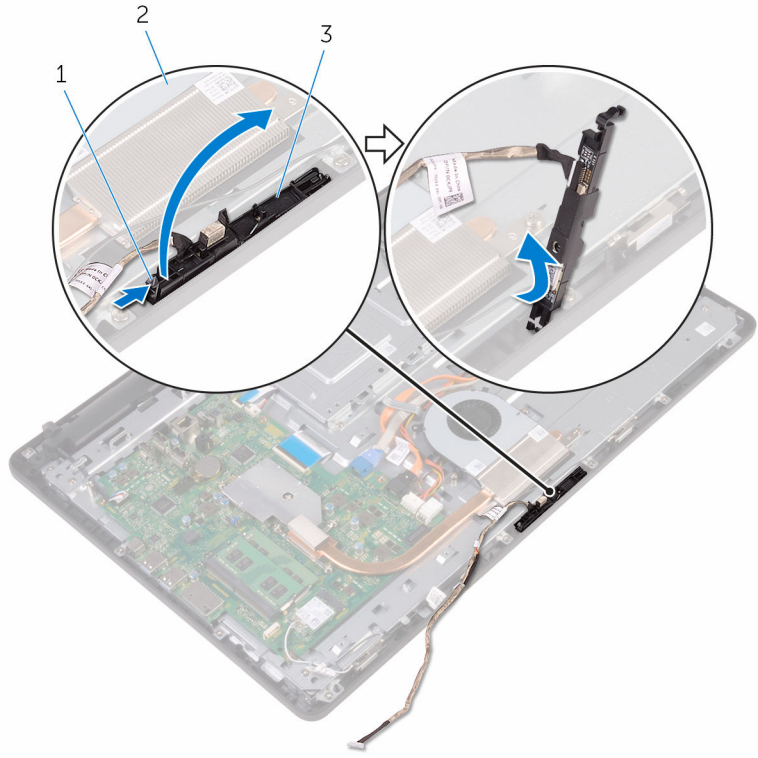
1 Disconnect the camera cable and antenna cable from the system board.

2 Note the routing of the camera cable and antenna cable and remove it from the routing guides.



1	camera cable	2	routing guides
3	display-assembly base	4	camera frame
5	antenna cable		

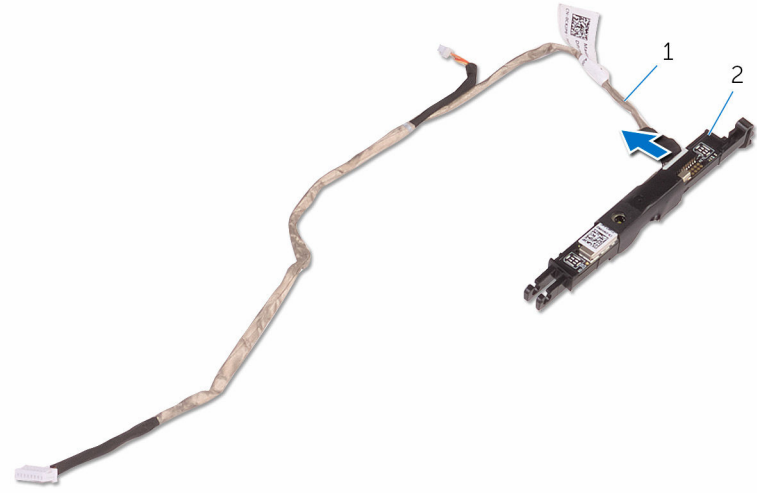
3 Press the securing clip to release the camera frame from the tab on the display-assembly base and lift it off.



1 securing clip
2 display-assembly base
3 camera frame

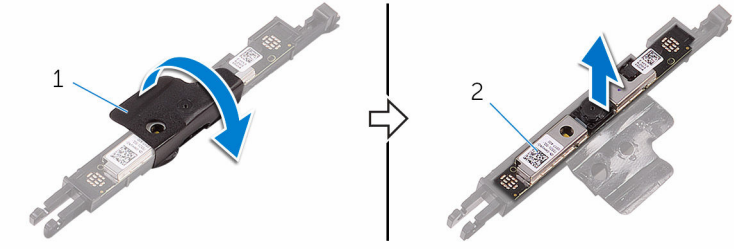
4 Turn the camera over.

5 Remove the camera cable from the tab on the back of the camera frame.



1 camera cable 2 camera frame

6 Peel off the camera from the camera frame and lift up the camera from the frame.



1 camera frame 2 camera

Replacing the camera

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Procedure

1. Place the camera on the camera frame and secure the camera.
2. Connect the camera cable to the camera module.
3. Press the camera frame down into the slot on the display-assembly base until it snaps into place.
4. Route the camera cable and antenna cable through the routing guides on the display-assembly base.
5. Connect the camera cable and antenna cable to the system board.

Post-requisites

1. Replace the back cover.
2. Replace the stand.

Removing the coin-cell battery

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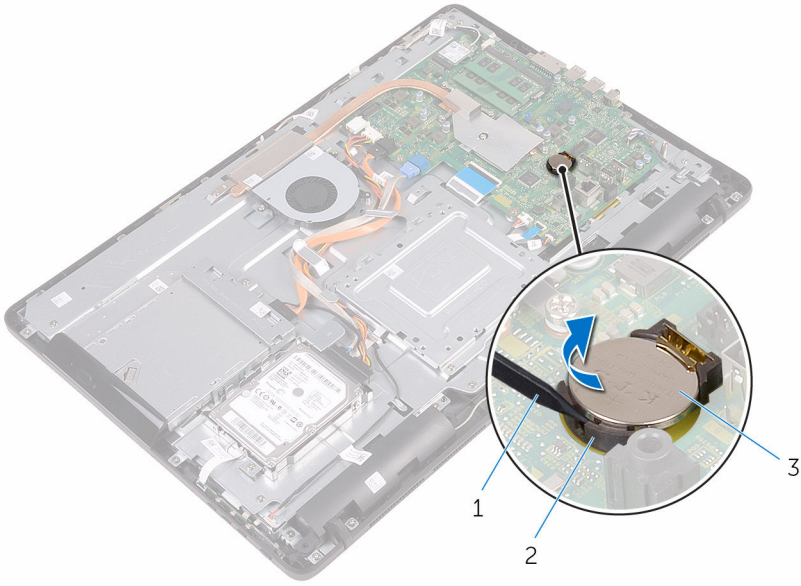
CAUTION: Removing the coin-cell battery resets the BIOS setup program's settings to default. It is recommended that you note the BIOS setup program's settings before removing the coin-cell battery.

Prerequisites

1. Remove the stand.
2. Remove the back cover.
3. Remove the system-board shield.

Procedure

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



1	plastic scribe	2	battery socket
3	coin-cell battery		

Replacing the coin-cell battery

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Procedure

With the positive-side facing up, insert the coin-cell battery into the battery socket and press down the battery into place.

Post-requisites

1. Replace the system-board shield.
2. Replace the back cover.
3. Replace the stand.

Removing the fan

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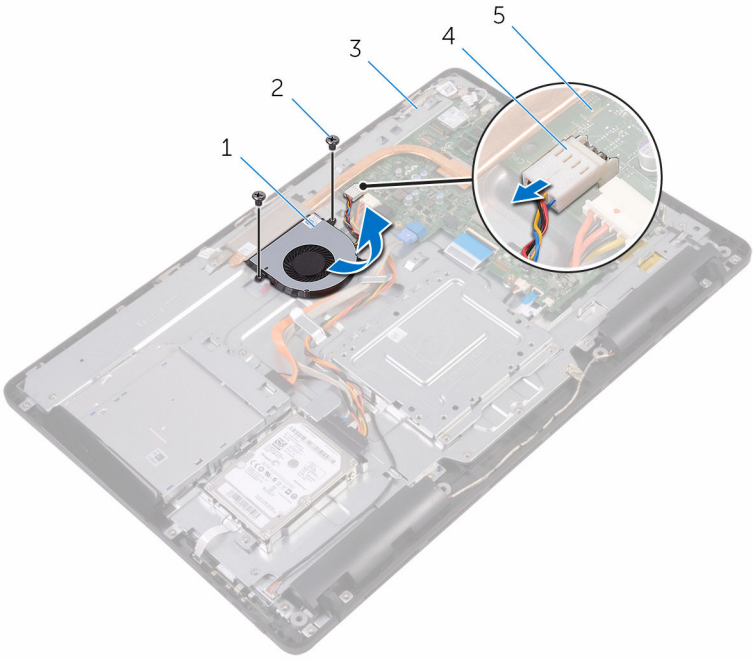
Prerequisites

1. Remove the stand.
2. Remove the back cover.
3. Remove the system-board shield.

Procedure

1. Disconnect the fan cable from the system board.
2. Remove the screws that secure the fan to the display-assembly base.

3 Lift and slide the fan from under the heat sink.



1	fan	2	screws (2)
3	display-assembly base	4	fan cable
5	system board		

Replacing the fan

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Procedure

1. Slide the fan under the heat sink and place it on the display-assembly base.
2. Align the screw holes on the fan with the screw holes on the display-assembly base.
3. Replace the screws that secure the fan to the display-assembly base.
4. Connect the fan cable to the system board.

Post-requisites

1. Replace the system-board shield.
2. Replace the back cover.
3. Replace the stand.

Removing the heat sink

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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.

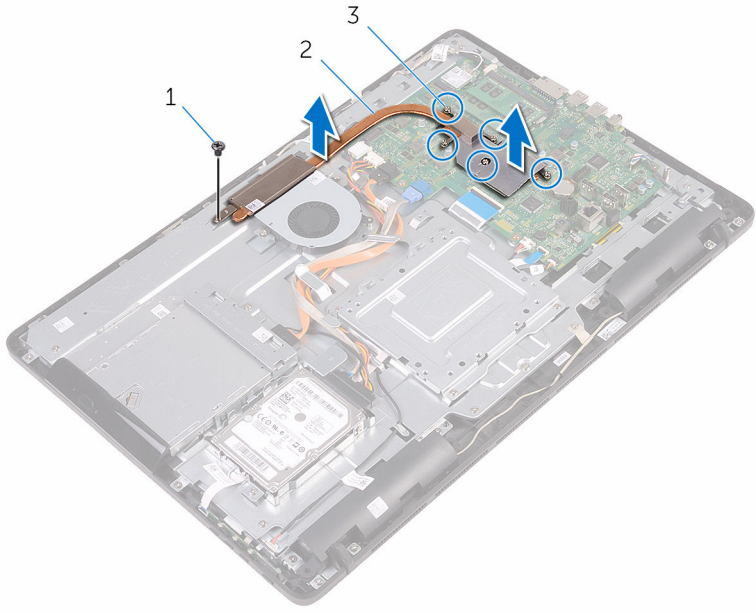
Prerequisites

1. Remove the stand.
2. Remove the back cover.
3. Remove the system-board shield.

Procedure

1. Remove the screw that secures the heat sink to the display-assembly base.
2. In sequential order (as indicated on the heat sink), loosen the captive screws that secure the heat sink to the system board.

3 Lift the heat sink off the system board.



1 screw
2 heat sink
3 captive screws (5)

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

1. Align the captive screws 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.
3. Replace the screw that secures the heat sink to the display-assembly base.

Post-requisites

1. Replace the system-board shield.
2. Replace the back cover.
3. Replace the stand.

Removing the speakers

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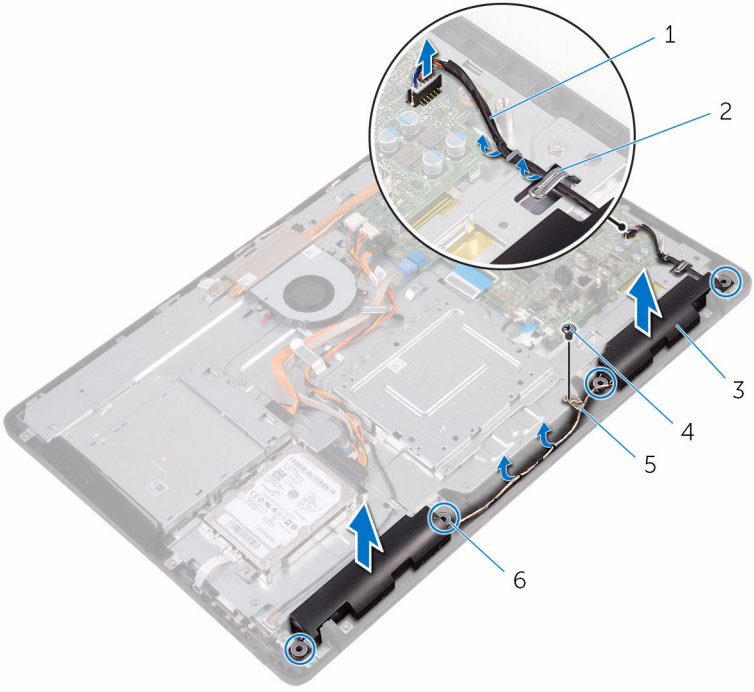
Prerequisites

1. Remove the stand.
2. Remove the back cover.
3. Remove the system-board shield.

Procedure

1. Disconnect the speaker cable from the system board.
2. Note the routing of the speaker cable and the position of the rubber grommets on the computer bezel.
3. Remove the speaker cable from the routing guides.
4. Remove the screw that secures the tape to the display-assembly base.
5. Peel off the tape that secures the speaker cable to the display-assembly base.

6 Lift the speakers, along with the speaker cable, off the display assembly.



1	speaker cable	2	routing guides
3	speakers (2)	4	screw
5	tape	6	rubber grommets (4)

Replacing the speakers

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Procedure

1. Using the alignment posts and rubber grommets on the display-assembly base, place the speakers on the display-assembly base.
2. Route the speaker cable through the routing guides on the display-assembly base.
3. Adhere the tape that secures the speaker cable to the display-assembly base.
4. Replace the screw that secures the tape to the display-assembly base.
5. Connect the speaker cable to the system board.

Post-requisites

1. Replace the system-board shield.
2. Replace the back cover.
3. Replace the stand.

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 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.

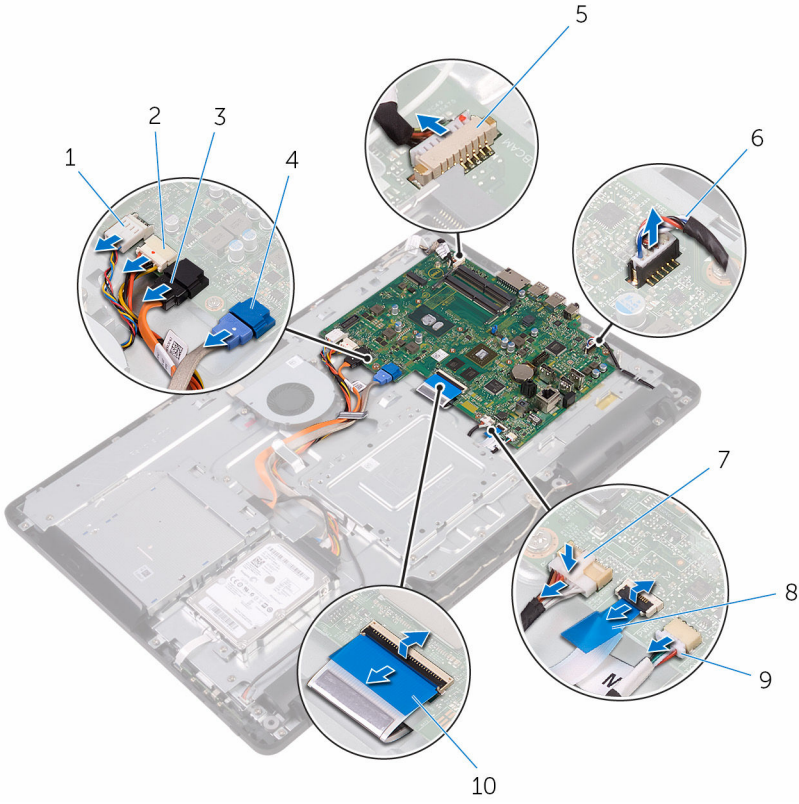
Prerequisites

1. Remove the stand.
2. Remove the back cover.
3. Remove the system-board shield.
4. Remove the heat sink.
5. Remove the memory module.
6. Remove the wireless card.

Procedure

1. Disconnect the fan cable, hard-drive and optical-drive power cable, optical-drive data cable, hard-drive data cable, microphone and camera cable, speaker cable, display-panel power cable, and touch-board cable from the system board.

2 Open the latches and disconnect the control-buttons board cable and display cable from the system board.

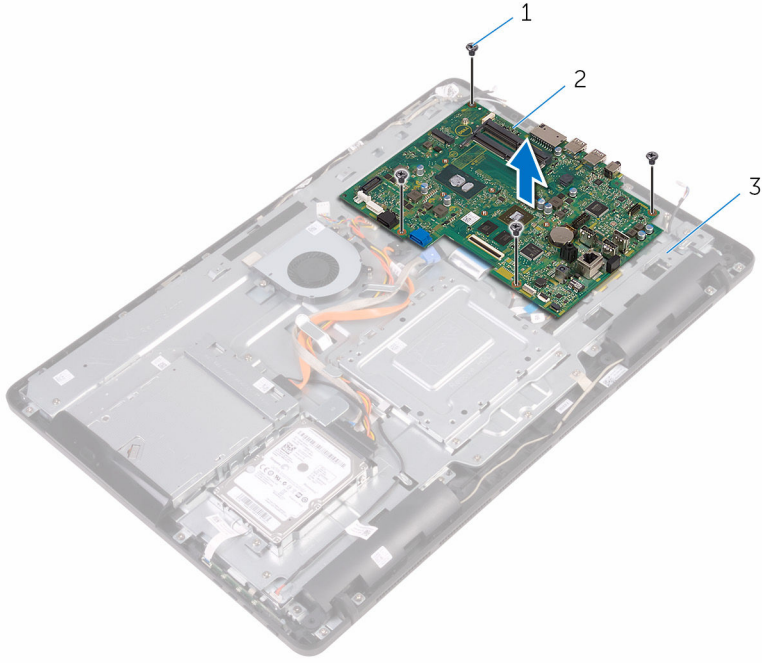


1	fan cable	2	hard-drive and optical-drive power cable
3	optical-drive data cable	4	hard-drive data cable
5	microphone and camera cable	6	speaker cable
7	display-panel power cable	8	control-buttons board cable
9	touch-board cable	10	display cable

NOTE: The touch-board cable is not available on the non-touch systems.

3 Remove the screws that secure the system board to the display-assembly base.

4 Lift the system board off the display-assembly base.



1 screws (4)
2 system board
3 display-assembly base

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 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 display-assembly base.
2. Replace the screws that secure the system board to the display-assembly base.
3. Slide the control-buttons board cable and the display cable into their respective connectors on the system board and close the latches to secure the cables.
4. Connect the touch-board cable, display-panel power cable, speaker cable, microphone and camera cable, hard-drive data cable, optical-drive data cable, hard-drive and optical-drive power cable, and fan cable to the system board.

Post-requisites

1. Replace the wireless card.
2. Replace the memory module.
3. Replace the heat sink.
4. Replace the system-board shield.
5. Replace the back cover.
6. Replace the stand.

Removing the display assembly

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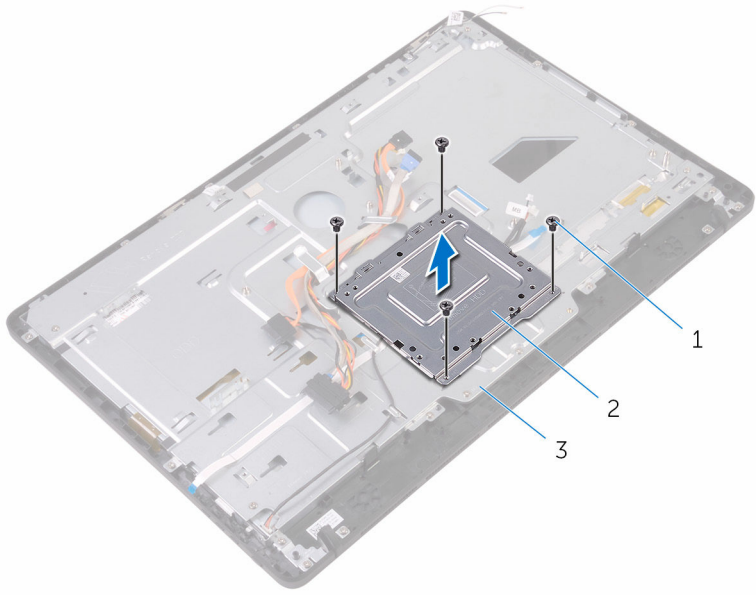
Prerequisites

1. Remove the stand.
2. Remove the back cover.
3. Remove the optical drive.
4. Follow the procedure from step 1 to step 4 in "Removing the hard drive".
5. Remove the system-board shield.
6. Remove the memory module.
7. Remove the wireless card.
8. Remove the control-buttons board.
9. Remove the microphone.
10. Remove the camera.
11. Remove the fan.
12. Remove the heat sink.
13. Remove the speakers.
14. Remove the system board.

Procedure

1. Remove the screws that secure the VESA-mount bracket to the display-assembly base.

2 Lift the VESA-mount bracket off the display-assembly base.

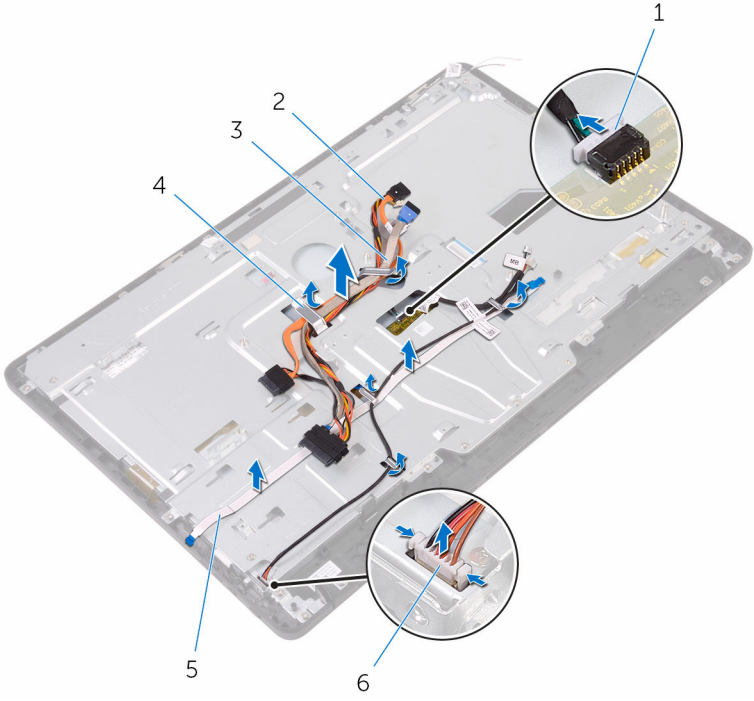


1 screws (4) 2 VESA-mount bracket

3 display-assembly base

3 Disconnect the touch-screen board cable and display-panel power cable from their connectors on the display-assembly base.

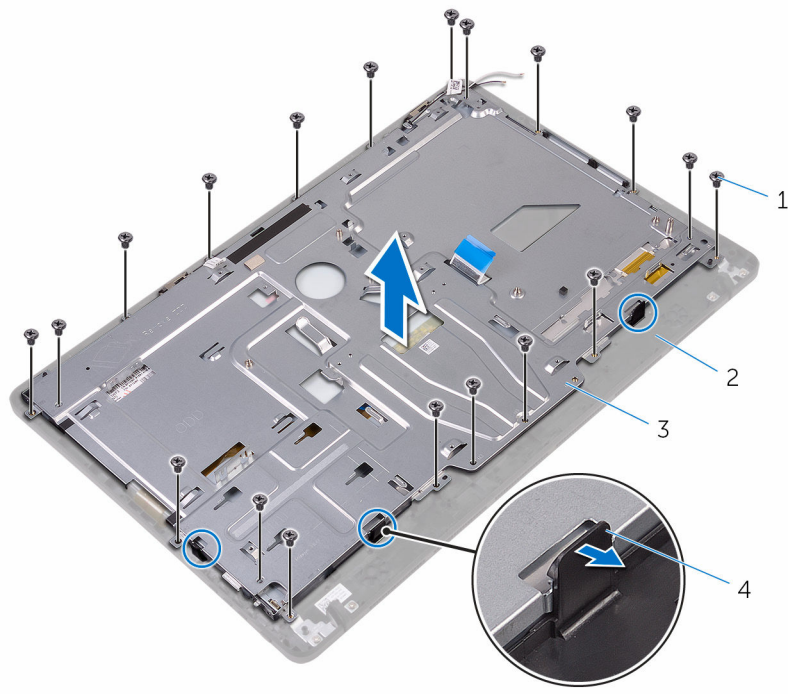
4 Note the routing of the optical-drive data, touch-board, display backlight, hard drive, and control-buttons board cables and remove the cables from the routing guides on the display-assembly base.



1	touch-screen board cable	2	optical-drive data cable
3	hard-drive cable	4	routing guide
5	control-buttons board cable	6	display-panel power cable

5 Remove the screws that secure the display-assembly base to the display assembly.

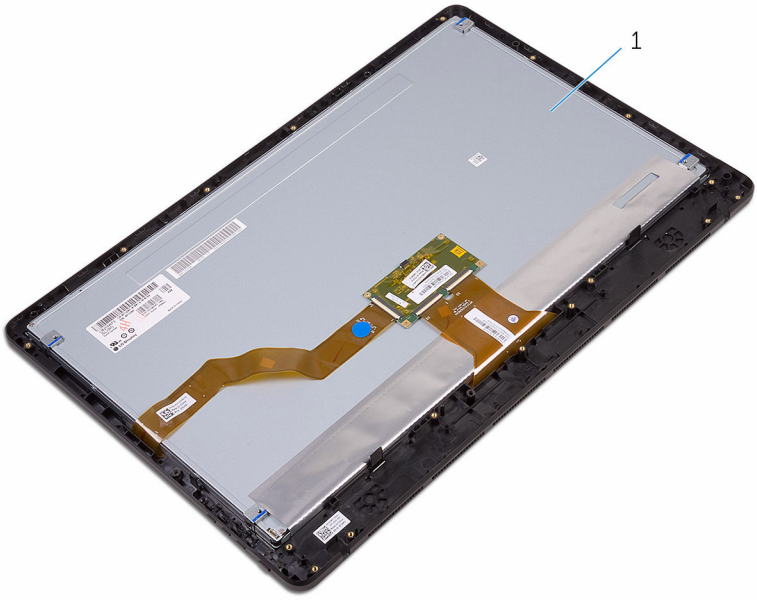
6 Release the display-assembly base from the tabs on the display assembly.



1	screws (19)	2	display assembly
3	display-assembly base	4	tabs (3)

7 Lift the display-assembly base off the display assembly.

8 Remove the rubber feet.



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

1. Replace the rubber feet.
2. Slide the tabs on the display assembly into the slots on the display-assembly base.
3. Replace the display-assembly base on the display assembly.
4. Replace the screws that secure the display-assembly base to the display assembly.
5. Route the optical-drive data cable, touch-board cable, display-backlight cable, hard-drive cables and control-buttons board cable through the routing guides on the display-assembly base.
6. Connect the touch-screen board cable and display-panel power cable to their connectors on the display-assembly base.
7. Align the screw holes on the VESA-mount bracket with the screw holes on the display-assembly base.
8. Replace the screws that secure the VESA-mount bracket to the display-assembly base.

Post-requisites

1. Replace the system board.
2. Replace the speakers.
3. Replace the heat sink.
4. Replace the fan.
5. Replace the camera.
6. Replace the microphone.
7. Replace the control-buttons board.
8. Replace the wireless card.

9 Replace the memory module.
10 Replace the system-board shield.
11 Follow the procedure in step 3 to step 6 in "Replacing the hard drive".
12 Replace the optical drive.
13 Replace the back cover.
14 Replace the stand.

Removing the display cable

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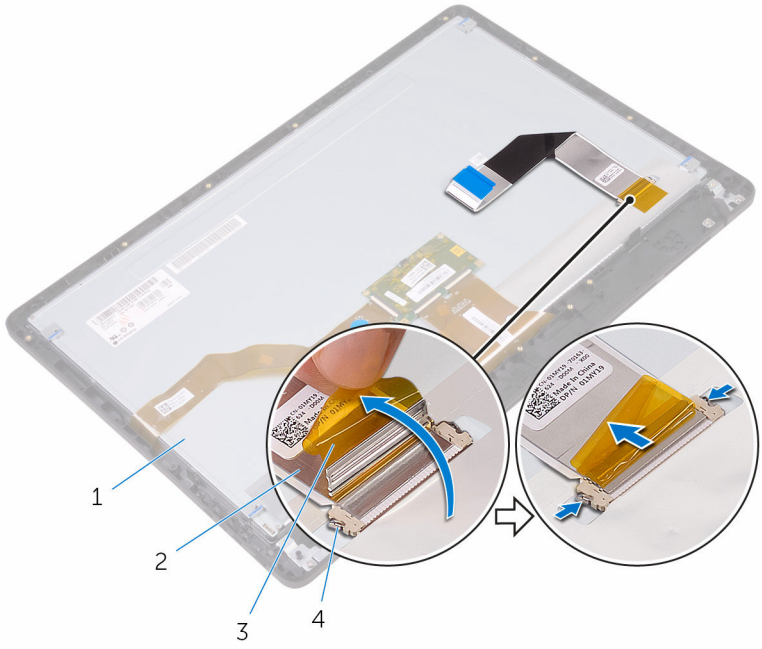
Prerequisites

1. Remove the stand.
2. Remove the back cover.
3. Remove the optical drive.
4. Follow the procedure from step 1 to step 4 in "Removing the hard drive".
5. Remove the system-board shield.
6. Remove the memory module.
7. Remove the wireless card.
8. Remove the control-buttons board.
9. Remove the microphone.
10. Remove the fan.
11. Remove the heat sink.
12. Remove the speakers.
13. Remove the system board.
14. Remove the display assembly.

Procedure

1. Peel off the tape that secures the display cable to the display assembly.
2. Press the clips and disconnect the display cable from the display assembly.

3 Lift the display cable off the display assembly.



1	display assembly	2	display cable
3	tape	4	clips (2)

Replacing the display cable

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. Connect the display cable to the display assembly and close the latch to secure the cable.
2. Adhere the tape that secures the display cable to the display assembly.

Post-requisites

1. Replace the display assembly.
2. Replace the system board.
3. Replace the speakers.
4. Replace the heat sink.
5. Replace the fan.
6. Replace the microphone.
7. Replace the control-buttons board.
8. Replace the wireless card.
9. Replace the memory module.
10. Replace the system-board shield.
11. Follow the procedure in step 3 to step 6 in "Replacing the hard drive".
12. Replace the optical drive.
13. Replace the back cover.
14. Replace the stand.

Removing the rubber feet

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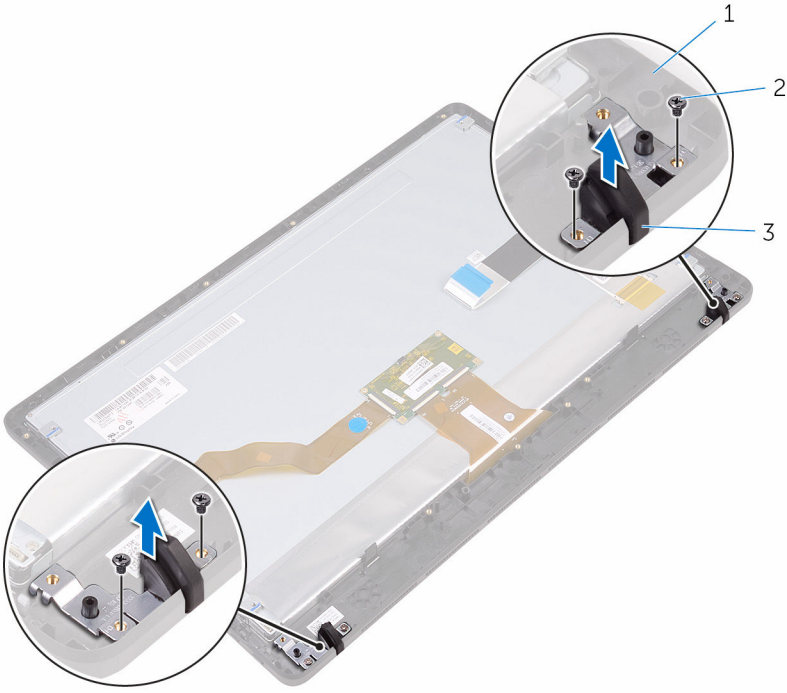
Prerequisites

1. Remove the stand.
2. Remove the back cover.
3. Remove the optical drive.
4. Follow the procedure from step 1 to step 4 in "Removing the hard drive".
5. Remove the system-board shield.
6. Remove the memory module.
7. Remove the wireless card.
8. Remove the control-buttons board.
9. Remove the fan.
10. Remove the heat sink.
11. Remove the speakers.
12. Remove the system board.
13. Follow the procedure from step 1 to step 7 in Removing the display assembly.

Procedure

1. Remove the screws that secure the rubber feet to the display bezel.

2 Lift the rubber feet off the display bezel.



1 display bezel
2 screws (4)
3 rubber feet (2)

Replacing the rubber feet

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Procedure

1. Align the screw holes on the rubber feet with the screw holes on the display bezel.
2. Replace the screws that secure the rubber feet to the display bezel.

Post-requisites

1. Follow the procedure in step 2 to step 8 in "Replacing the display assembly".
2. Replace the system board.
3. Replace the speakers.
4. Replace the heat sink.
5. Replace the fan.
6. Replace the control-buttons board.
7. Replace the wireless card.
8. Replace the memory module.
9. Replace the system-board shield.
10. Follow the procedure in step 3 to step 6 in "Replacing the hard drive".
11. Replace the optical drive.
12. Replace the back cover.
13. Replace the stand.

BIOS setup program

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 BIOS setup program to:

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

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.

Clearing forgotten passwords

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Prerequisites

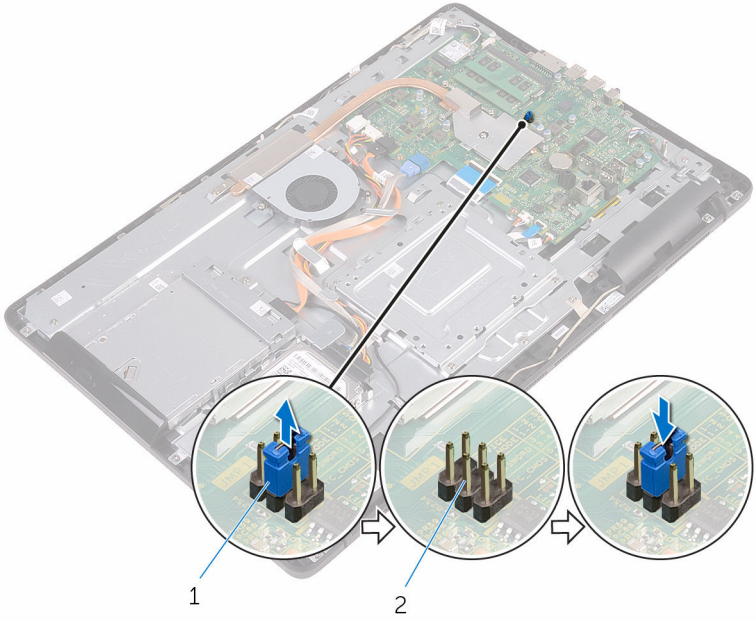
1 Remove the stand.
2 Remove the back cover.
3 Remove the system-board shield.

Procedure

1 Locate the password reset jumper (PSWD) on the system board.

NOTE: For more information on the location of the jumper, see "System-board components".

2 Remove the jumper plug from the password jumper-pins.
3 Wait for 5 seconds and then replace the jumper plug in its original location.



1 jumper plug 2 password jumper-pins

Post-requisites

1 Replace the system-board shield.

2 Replace the back cover.
3 Replace the stand.

Clearing CMOS Settings

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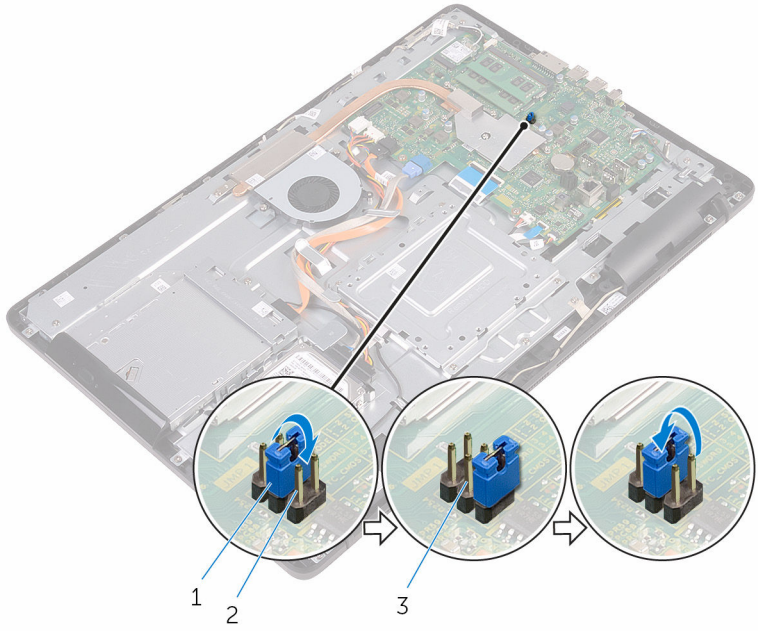
Prerequisites

1 Remove the stand.
2 Remove the back cover.
3 Remove the system-board shield.

Procedure

1 Locate the CMOS reset jumper (RTCRST) on the system board.
2 Remove the jumper plug from the password jumper-pins and connect it to the CMOS jumper-pins.

3 Wait for 5 seconds and then replace the jumper plug to its original location.



1 jumper plug
2 CMOS jumper-pins
3 password jumper pins

Post-requisites

1 Replace the system-board shield.
2 Replace the back cover.
3 Replace the stand.

Flashing the BIOS

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

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

   NOTE: If you do not have the Service Tag, use the auto-detect feature or manually browse for your computer model.
4. Click **Drivers & downloads** → **Find it myself**.
5. Select the operating system installed on your computer.
6. Scroll down the page and expand **BIOS**.
7. Click **Download** to download the latest version of the BIOS for your computer.
8. After the download is complete, navigate to the folder where you saved the BIOS update file.
9. Double-click the BIOS update file icon and follow the instructions on the screen.

System diagnostic lights

Power status light: Indicates the power status.

Solid Amber – The computer is unable to boot to the operating system. This indicates that the power supply or another device in the computer is failing.

Blinking Amber – The computer is unable to boot to the operating system. This indicates that the power supply is normal but another device in the computer is failing or not installed properly.

NOTE: See the light patterns to determine the device that is failing.

Off – Computer is in hibernation or turned off.

The power status light blinks amber along with beep codes indicating failures.

For example, the power status light blinks amber two times followed by a pause, and then blinks white three times followed by a pause. This 3,3 pattern continues until the computer is turned off indicating the Recovery image is not found.

The following table shows different light patterns and what they indicate:

Light pattern	Problem description
1	System board: BIOS and ROM failure
2	No memory or RAM detected
3	System board or chipset error
3,3	Recovery image not found
3,4	Recovery image found but invalid
4	Memory or RAM failure
5	CMOS battery failure
6	Video card or chip failure
7	CPU failure
8	LCD failure

The computer may emit a series of beeps during start-up if the errors or problems cannot be displayed. The repetitive beep codes help the user troubleshoot problems with the computer.

Camera status light: Indicates whether the camera is in use.

- Solid white – Camera is in use.
- Off – Camera is not in use.

Getting help and contacting Dell

Self-help resources

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

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

Contacting Dell

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

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

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