

Inspiron 24 5000

Service Manual

Computer Model: Inspiron 24-5475
Regulatory Model: W15C
Regulatory Type: W15C001



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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2017 - 05

Rev. A00

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Identifier	GUID-5D3B1051-9384-409A-8D5B-9B53BD496DE8
Status	Released

Before working inside your computer

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

Identifier	GUID-0CBCCCC8-AEDC-4C92-992B-45062AB0B176
Status	Released

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.
- 6 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.

- 7 Place the computer face down.

Identifier	GUID-71128823-CE64-4E17-9439-DEE95AF668C4
Status	Released

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.**

Identifier	GUID-DEA55279-6FE6-4A1F-A152-21F8A5572B33
Status	Released

Recommended tools

The procedures in this document may require the following tools:

- Phillips screwdriver
- Plastic scribe

Identifier	GUID-6F1B5AF8-6CE3-4E68-B99D-25343479BAFF
Status	Released

Screw list

Table 1. Screw list

Component	Secured to	Screw type	Quantity	Screw image
Camera	Middle frame	M3x5	2	
Chassis fan	Middle frame	M3x5	3	
Front bezel	Middle frame	Step-type M3x5.6	4	
I/O board	Middle frame	M3x5	4	
Hard-drive bracket	Middle frame	M3x5	1	
Hard drive	Hard-drive bracket	M3x3.5	3	

Component	Secured to	Screw type	Quantity	Screw image
I/O panel	Middle frame	M3x5	9	
I/O board	Middle frame	M3x5	4	
I/O bracket	Middle frame	M3x5	9	
Inner frame	Middle frame	M3x5	9	
Media-card reader	Middle frame	M3x5	2	
Microphones (4)	Middle frame	M2x4	4	
Middle frame	Display panel	M3x5	11	
Power-button board	Middle frame	M2x3.5	2	
Side I/O-board	Middle frame	M3x5	2	
Side I/O-board bracket	Middle frame	M3x5	2	
Solid-state drive	System board	M2x3.5	1	
Speakers (2)	Middle frame	Washer-type M3x4	4	



Component	Secured to	Screw type	Quantity	Screw image
Stand	I/O bracket	M4x6	6	



NOTE: The number and type of screws securing the stand to the computer is the same for both pedestal and articulating stand options.

System-board shield	System board	M3x5	5	
System board	Middle frame	M3x5	5	
Wireless card	System board	M2x3.5	1	

Identifier	GUID-06588814-2678-4667-9FF9-C009F4BCE185
Status	Released

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.



Identifier	GUID-93575C2B-9DA3-42EF-B01E-9C841B3CE7F5
Status	Released

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.

Identifier GUID-2BDC1A6D-A7A6-4E25-BED3-DC959CF150E0
Status Released

Inside view of your computer

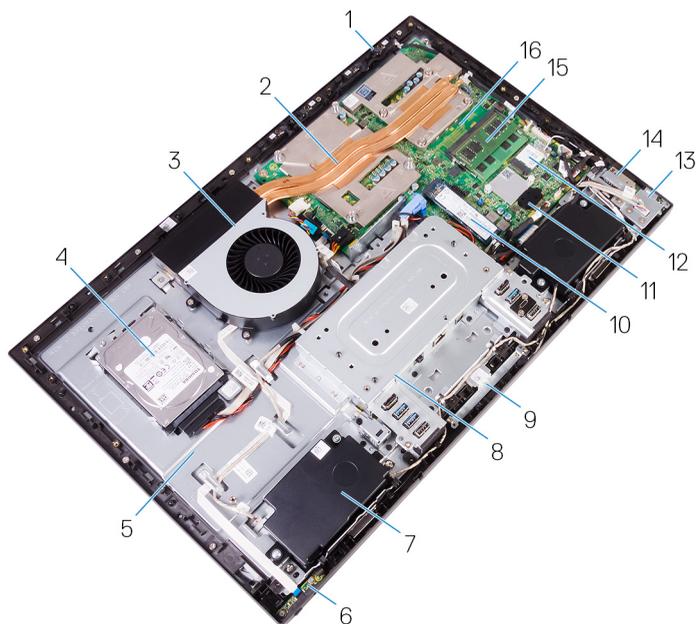


Figure 1. : Inside view of your computer

- | | | | |
|----|--------------------|----|---------------------|
| 1 | Microphone | 2 | Processor heat-sink |
| 3 | Chassis fan | 4 | Hard drive |
| 5 | Middle frame | 6 | Power-button board |
| 7 | Speaker | 8 | I/O bracket |
| 9 | Camera assembly | 10 | Solid-state drive |
| 11 | Coin-cell assembly | 12 | Wireless card |
| 13 | Side I/O-board | 14 | Media-card reader |
| 15 | Memory module | 16 | System board |



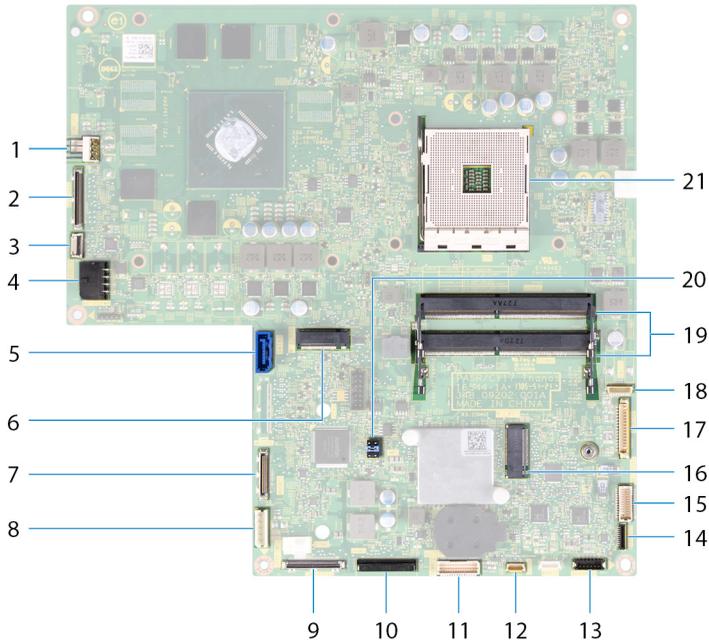
Identifier

GUID-71169ED4-E40D-426D-A039-FED8DF441CC4

Status

Released

System board components



- | | | | |
|----|--|----|---|
| 1 | fan-power cable (FAN_SYS) connector | 2 | display cable (MB-DISPC) connector |
| 3 | power-button board cable (OSDC1) connector | 4 | power cable (MB-DCPWR) connector |
| 5 | hard-drive data cable (SATA0) connector | 6 | SSD-card connector (M.2) |
| 7 | rear I/O cable (RUSBC1) connector | 8 | hard-drive power cable (SATA_PWR1) connector |
| 9 | USB Type-C cable (MB-TYPEC1) connector | 10 | rear I/O-board power cable (RPWRC1) connector |
| 11 | rear I/O-board cable (LAUOC1) connector | 12 | touch-screen cable (TOUCH1) connector |

13	speaker cable (SPEAKER) connector	14	media-card reader cable (SDRDC1) connector
15	side I/O-board cable (MB-SUSBC) connector	16	wireless card connector
17	camera cable (WEBCAM) connector	18	microphones cable (DMIC1) connector
19	memory modules (2) connectors	20	system board jumper
21	processor socket		



Identifier	GUID-AE7F608F-4CAF-464A-B977-4C4D9BB3963A
Status	Released

Removing the back cover

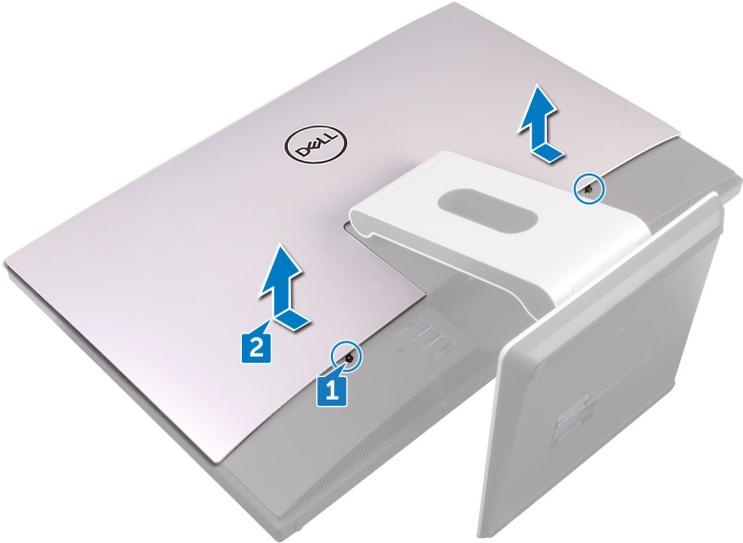
 **WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best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

Identifier	GUID-A9010B6F-79A8-45BF-B456-32309E53A1CD
Status	Released

Procedure

- 1 Loosen the two captive screws that secure the back cover to the inner frame.

2 Slide and lift the back cover off the inner frame.



Identifier	GUID-411D5FFA-086D-432E-9CE3-0ECBF9B7BA71
Status	Released

Replacing the back 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.

Identifier	GUID-5D9B8709-778A-4903-BD7B-77C0D8FB1527
Status	Released

Procedure

- 1 Align the tabs on the back cover with the slots on the inner frame.
- 2 Slide the back cover towards the bottom of the computer and snap the back cover in place.
- 3 Tighten the captive screws that secure the back cover to the inner frame.

Identifier	GUID-4BBD3587-8BDA-47F1-ACEB-3CE6AB50FBB3
Status	Released

Removing the stand

 **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.

Identifier	GUID-564219C6-A1C8-4CD4-A687-41C399C0187A
Status	Released

Prerequisites

Remove the [back cover](#).

Identifier	GUID-0BCFB6EF-5225-473F-99D8-146FCBA30AF3
Status	Released

Procedure

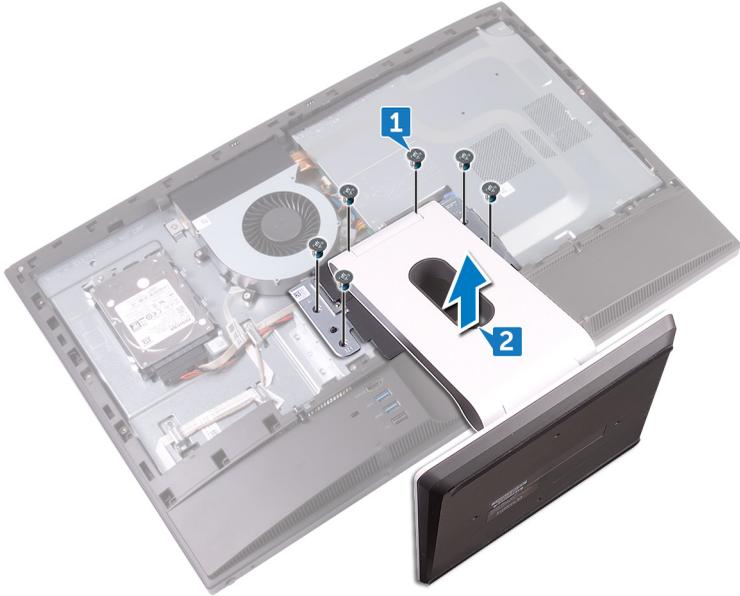
 **NOTE:** The removal and replacement process is the same for articulating and pedestal stands.

- 1 Remove the six screws (M4x6) that secure the stand to the middle frame.



- Forcefully lift the stand off the I/O bracket. A snapping sound should be heard when the stand is removed correctly.

 **NOTE: Exercise caution when removing the stand so as to not damage the chassis fan.**



Identifier	GUID-A1A7E0D7-52BF-4F80-84FE-DF5301AE97BA
Status	Released

Replacing the stand

 **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.

Identifier	GUID-2CEB6A7E-9A11-4F89-A0D6-CF401756AE13
Status	Released

Procedure

 **NOTE:** The following procedure applies for both articulating and pedestal stand options.

- 1 Place the tabs on the stand into the slots on the inner frame and snap them into place.
- 2 Align the screw holes on the stand with the screw holes on the middle frame.
- 3 Replace the six screws (M4x6) that secure the stand to the middle frame.

Identifier	GUID-3AF6ABC8-B9EC-4B01-A8E8-B63F09F90FF1
Status	Released

Post-requisites

Replace the [back cover](#).



Identifier	GUID-5DE1E07B-4633-4536-ACBF-4A3067007FE0
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Status	Released
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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.

Identifier	GUID-564219C6-A1C8-4CD4-A687-41C399C0187A
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Status	Released
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Prerequisites

Remove the [back cover](#).

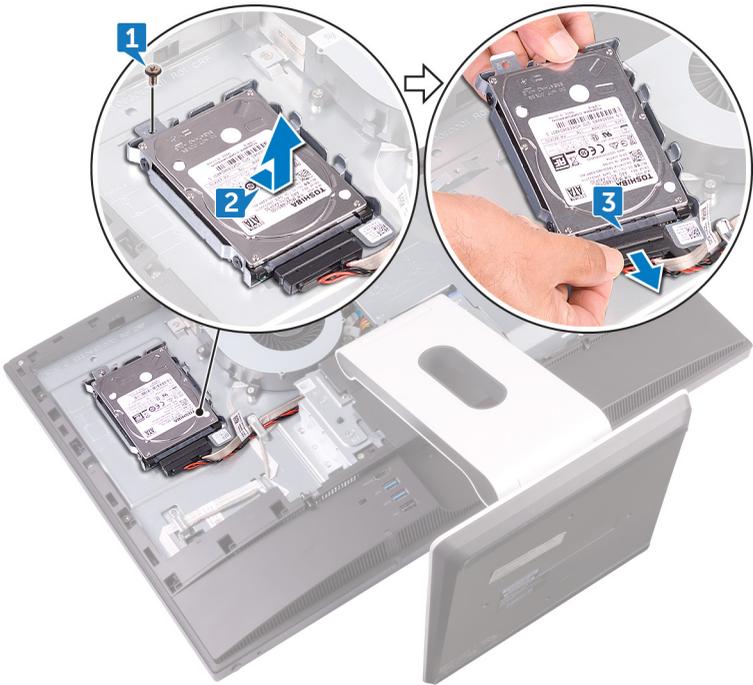
Identifier	GUID-90E10C48-C53D-41F4-921D-6812C45F5377
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Status	Released
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Procedure

- 1 Remove the screw (M3x5) securing the hard-drive assembly to the middle frame.
- 2 Slide and lift the hard-drive assembly from the middle frame.

- 3 Disconnect the hard-drive data and power cable (SATA0 and SATA_PWR1) from the hard-drive assembly.



- 4 Remove the three screws (M3x3.5) securing the hard drive to the hard-drive bracket.

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

 **NOTE:** Note the orientation of the hard drive so that you can replace it correctly.



Identifier GUID-8D72BB77-0F8B-428E-A98E-FF7DA2CDA899

Status Released

Replacing 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.

Identifier GUID-E7435AC4-C894-4B54-B01A-0AEF52F5333B

Status Released

Procedure

- 1 Align the screw holes on the disk drive with the screw holes on the disk-drive bracket.
- 2 Replace the three screws (M3x3.5) securing the hard drive to the hard-drive bracket.
- 3 Connect the hard-drive data and power cable (SATA0 and SATA_PWR1) to the hard-drive assembly.
- 4 Place and slide the hard-drive assembly into the middle frame.
- 5 Replace the screw (M3x5) securing the hard-drive assembly to the middle frame.

Identifier GUID-3AF6ABC8-B9EC-4B01-A8E8-B63F09F90FF1

Status Released

Post-requisites

Replace the [back cover](#).



Identifier	GUID-D70E2888-388C-4C7A-8DBA-D6AE0E7AF9C5
Status	Released

Removing the inner frame



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

Identifier	GUID-D59A7B3D-EEDE-4408-A09B-369CCA408ADF
Status	Released

Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [stand](#).

Identifier	GUID-68B6B60A-87D5-4CB4-B78C-17738845C2ED
Status	Released

Procedure

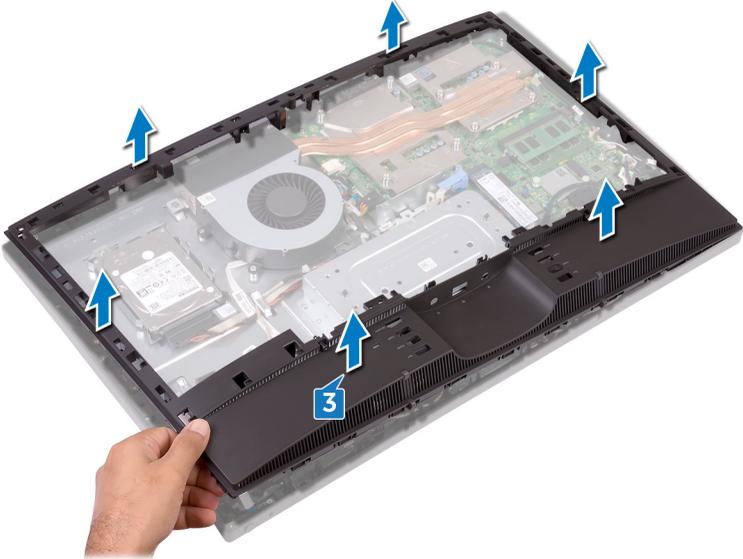
- 1 Remove the nine screws (M3x5) that secure the inner frame to the middle frame.



- 2 Gently pry the inner frame from the sides off the middle frame.



3 Lift the inner frame from the middle frame.



Identifier	GUID-037F1F4F-9569-4D86-A8B5-B2ABD95EF213
Status	Released

Replacing the inner frame

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

Identifier	GUID-FBAE8B99-464B-4844-9934-A5162D7C2C94
Status	Released

Procedure

- 1 Sliding the inner frame at an angle, align the audio-out port through the respective slot on the inner frame and the screw holes on the inner frame with the screw holes on the middle frame.
- 2 Starting from the edge closest to the I/O bracket, press the inner frame down until it clicks in place.
- 3 Replace the nine screws (M3x5) that secure the inner frame to the middle frame.

Identifier	GUID-824DB7F2-DD6B-4A5B-8AFB-D64D2FD9CFEF
Status	Released

Post-requisites

- 1 Replace the [stand](#).
- 2 Replace the [back cover](#).

Identifier	GUID-1FB16E7C-AF0C-4FA0-8736-EAD91D8969A8
Status	Released

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.

Identifier	GUID-77F77B30-2AD8-4B7D-988A-9BC1CDDDB98C5
Status	Released

Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [stand](#).
- 3 Remove the [inner frame](#).

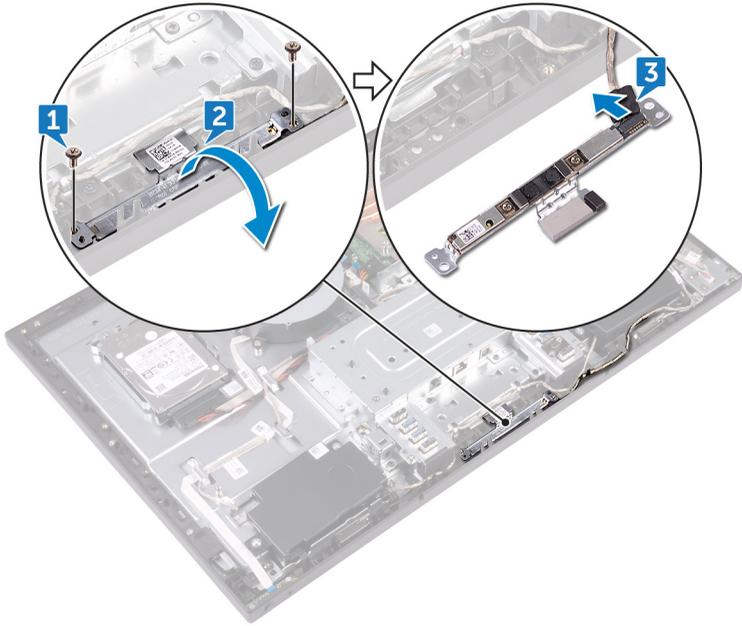
Identifier	GUID-404C4A75-0B50-40AF-8B48-F6447304ECF8
Status	Released

Procedure

- 1 Remove the two screws (M3x5) that secure the camera assembly to the middle frame.
- 2 Lift the camera assembly off the middle frame.



- 3** Disconnect the camera cable (WEBCAM) from the camera assembly.



Identifier	GUID-690FF12D-2581-4326-8270-C4B813388FD3
Status	Released

Replacing the camera

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Identifier	GUID-A450E113-5E46-4B80-819A-5308E3927740
Status	Released

Procedure

- 1 Connect the camera cable (WEBCAM) to the camera assembly.
- 2 Turn the camera assembly and align the screw holes on the camera assembly with the screw holes on the middle frame.
- 3 Replace the two screws (M3x5) that secure camera assembly to the middle frame.

Identifier	GUID-7E8ED145-5E0A-485E-9E46-CFB1A1437B4E
Status	Released

Post-requisites

- 1 Replace the [inner frame](#).
- 2 Replace the [stand](#).
- 3 Replace the [back cover](#).



Identifier	GUID-4A66256A-A5D7-4E79-972B-16EC49B5A599
Status	Released

Removing the microphones

 **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.

Identifier	GUID-77F77B30-2AD8-4B7D-988A-9BC1CDDDB98C5
Status	Released

Prerequisites

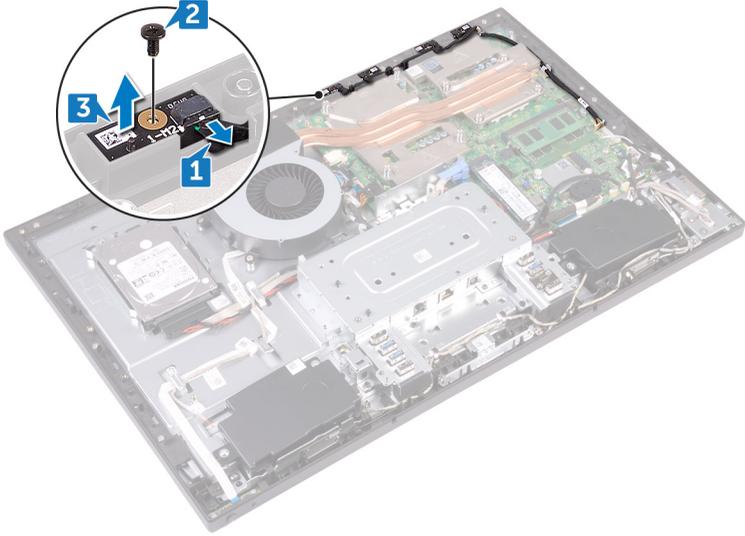
- 1 Remove the [back cover](#).
- 2 Remove the [stand](#).
- 3 Remove the [inner frame](#).

Identifier	GUID-E08FAFA1-AC83-4A60-BF6C-37BA15B6D937
Status	Released

Procedure

- 1 Disconnect the microphones cable (DMIC1) from the microphone modules (4).
- 2 Remove the four screws (M2x4) that secure the microphone modules (4) to the middle frame.

- 3** Using a plastic scribe, carefully pry and lift the microphone modules (4) off the slots on the middle frame.



Identifier	GUID-3A2F1E45-BFAC-42D9-984B-18155ED41333
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Status	Released
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Replacing the microphones



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.

Identifier	GUID-032C6904-C94B-42E1-980C-C365DCCF5977
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Status	Released
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Procedure

- 1 Connect the microphones cable (DMIC1) to the microphone modules.
- 2 Align the microphone modules (4) with their slots on the middle frame.
- 3 Route the microphones cable (DMIC1) through the routing guides on middle frame.
- 4 Replace the four screws (M2x4) that secures the microphone module to the middle frame.

Identifier	GUID-7E8ED145-5E0A-485E-9E46-CFB1A1437B4E
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Status	Released
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Post-requisites

- 1 Replace the [inner frame](#).
- 2 Replace the [stand](#).
- 3 Replace the [back cover](#).

Identifier	GUID-A35BD2D5-B3B3-4708-AF1C-D61C58B9F952
Status	Released

Removing the power-button 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.

Identifier	GUID-77F77B30-2AD8-4B7D-988A-9BC1CDDDB98C5
Status	Released

Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [stand](#).
- 3 Remove the [inner frame](#).

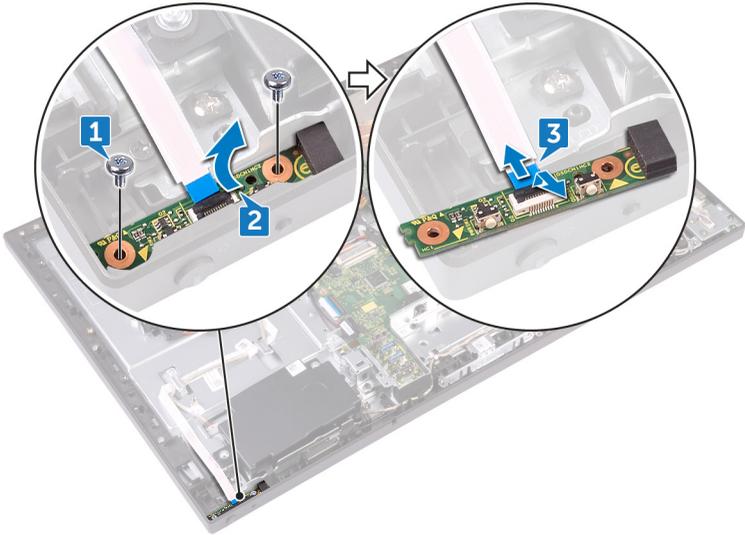
Identifier	GUID-B58F7F11-A315-41A0-806D-DD6BA5EA5239
Status	Released

Procedure

- 1 Remove the two screws (M2x3.5) that secure the power-button board shield to the middle frame.
- 2 Slide and lift the power-button board off the middle frame.



- 3** Open the latch, disconnecting the power-button board cable (0SDC1) from its slot on the power-button board. Then, remove the power-button board cable (0SDC1) from the routing guide on the middle frame.



Identifier GUID-FBA68EE4-1E13-4F28-9B84-362694B97060

Status Released

Replacing the power-button 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.

Identifier GUID-BBCD2F9C-73C1-455D-B425-613C19121447

Status Released

Procedure

- 1 Connect the power-button board cable (OSDC1) to the power-button board and route the cable through the routing guide on the middle frame.
- 2 Align the power-button board to the slot on the middle frame and place the power-button board on the middle frame.
- 3 Align the screw holes on power-button board shield to the screw holes on middle frame.
- 4 Replace the two screws (M2x3.5) that secures the power-button board shield to middle frame.

Identifier GUID-7E8ED145-5E0A-485E-9E46-CFB1A1437B4E

Status Released

Post-requisites

- 1 Replace the [inner frame](#).
- 2 Replace the [stand](#).



3 Replace the [back cover](#).



Identifier	GUID-E782B6FD-6208-4460-8AD1-2CF3F3D81247
Status	Released

Removing the front 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.

Identifier	GUID-FB928045-3557-470B-AD59-1BAF36A5A5F5
Status	Released

Prerequisites

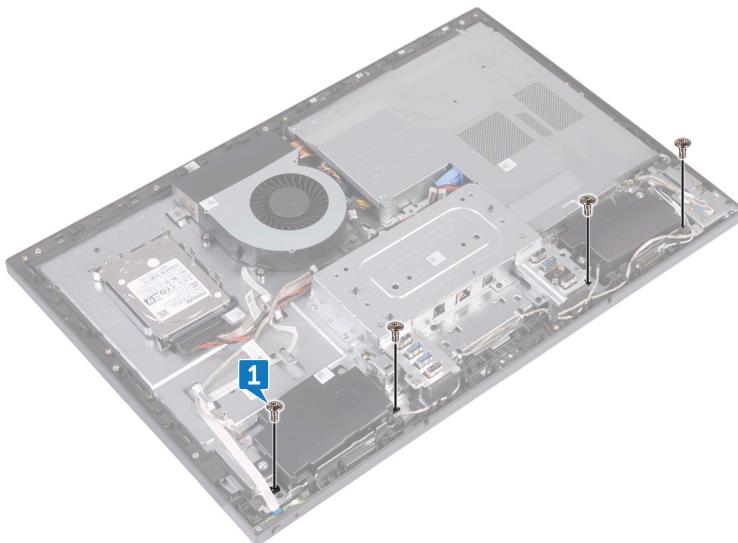
- 1 Remove the [back cover](#).
- 2 Remove the [stand](#).
- 3 Remove the [inner frame](#).
- 4 Remove the [camera](#).



Identifier	GUID-BFD5B4AF-EF93-4F85-A2ED-4D3C73894420
Status	Released

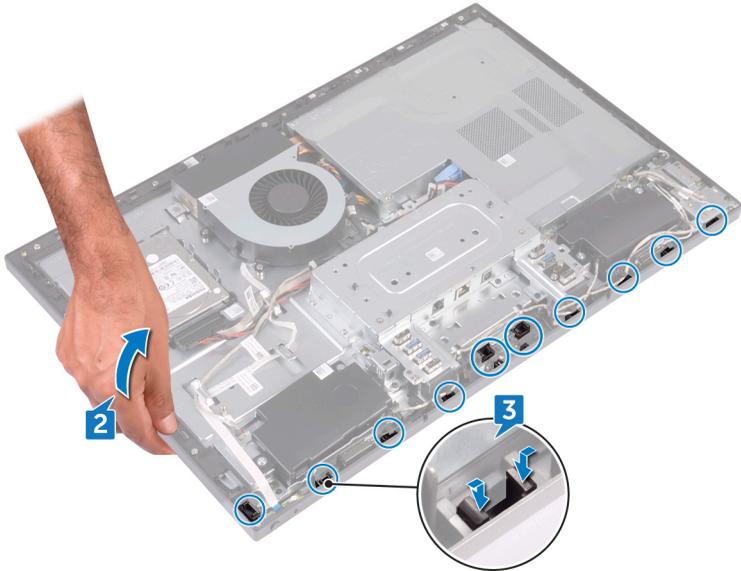
Procedure

- 1 Remove the four screws (Step-type M3x5.6) that secure the front bezel to the middle frame.



- 2 Lift and hold in place the system at an angle.

- 3** Release the ten latches securing the front bezel to the display panel.



- 4** Gently lift the front bezel off the display panel.



Identifier	GUID-60F23EC0-94F6-45C6-B6CD-17F914DA5206
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Status	Released
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Replacing the front 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.

Identifier	GUID-DD87AC23-2B78-4AD6-B68F-45144509FEB7
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Status	Released
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Procedure

- 1 Aligning the latches on the front bezel to the slots on the middle frame, snap the front bezel back in place.
- 2 Replace the four screws (Step-type M3x5.6) that secure the front bezel to the middle frame

Identifier	GUID-6FF4AE03-CF3B-4901-9D62-1D9E4FF75B20
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Status	Released
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Post-requisites

- 1 Replace the [camera](#).
- 2 Replace the [inner frame](#).
- 3 Replace the [stand](#).
- 4 Replace the [back cover](#).

Identifier	GUID-342B5CBF-63A8-4038-B670-4F7C53E1E5DE
Status	Released

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.

Identifier	GUID-564219C6-A1C8-4CD4-A687-41C399C0187A
Status	Released

Prerequisites

Remove the [back cover](#).

Identifier	GUID-BF4E3E42-2266-46DB-BDF3-95FFF09038C6
Status	Released

Procedure

- 1 Remove the five screws (M3x5) that secure the system-board shield to the middle frame.



- 2 Lift the system-board shield off the middle frame.



Identifier	GUID-5274B19C-AEEA-4EF8-952E-C1CDE89980E4
Status	Released

Replacing 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.

Identifier	GUID-A37B938C-961A-47B0-AA77-0269FEA026FD
Status	Released

Procedure

- 1 Align the screw holes on the system-board shield with the screw holes on the middle frame.
- 2 Replace the five screws (M3x5) that secure the system-board shield to the middle frame.

Identifier	GUID-3AF6ABC8-B9EC-4B01-A8E8-B63F09F90FF1
Status	Released

Post-requisites

Replace the [back cover](#).



Identifier	GUID-CF4B7AEA-F9A9-4432-8BD8-AB77D419F494
Status	Released

Removing the chassis fan

 **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.

Identifier	GUID-80B6901A-84B9-4E89-AECE-A1BD484B2AEF
Status	Released

Prerequisites

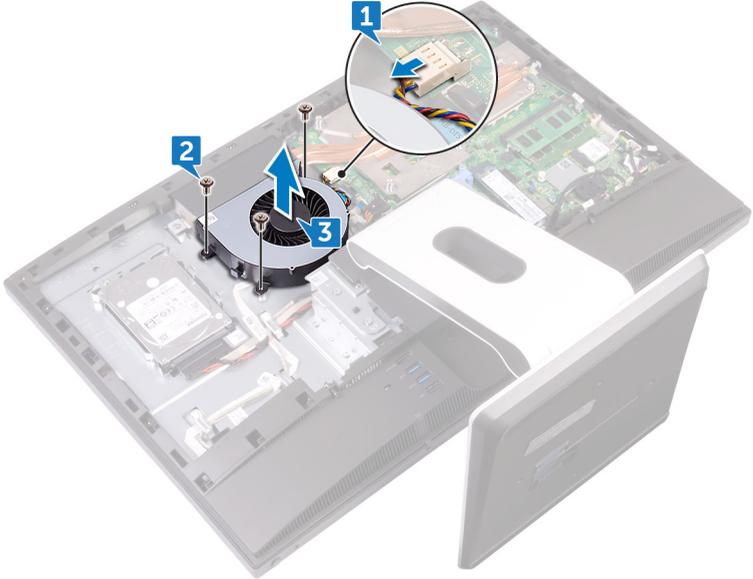
- 1 Remove the [back cover](#).
- 2 Remove the [system-board shield](#).

Identifier	GUID-B2DF68B6-7454-4584-9652-6ECD9242030C
Status	Released

Procedure

- 1 Disconnect the fan-power cable (FAN_SYS) from its connector on the system board.
- 2 Remove the three screws (M3x5) that secure the chassis fan to the middle frame.

3 Lift the chassis fan off the middle frame.



Identifier	GUID-A5935F79-B1C0-4412-A1FD-03EA0DB0E2A1
Status	Released

Replacing the chassis fan

 **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.

Identifier	GUID-600C2E4F-5738-4A4A-A19B-29DF2828654F
Status	Released

Procedure

- 1 Align the screw holes on the chassis fan with the screw holes on the middle frame.
- 2 Replace the three screws (M3x5) that secure the chassis fan to the middle frame.
- 3 Connect the chassis fan cable to the system board.

Identifier	GUID-352452C2-A4B4-43B4-9917-C72AF18BDA02
Status	Released

Post-requisites

- 1 Replace the [system-board shield](#).
- 2 Replace the [back cover](#).

Identifier	GUID-BF7F1ECA-BC62-4949-B1BE-EC64E351719E
Status	Released

Removing the speakers

 **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.

Identifier	GUID-B921E997-CD1E-4A7D-96D6-723B6E2D1F99
Status	Released

Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [stand](#).
- 3 Remove the [inner frame](#).
- 4 Remove the [system-board shield](#).

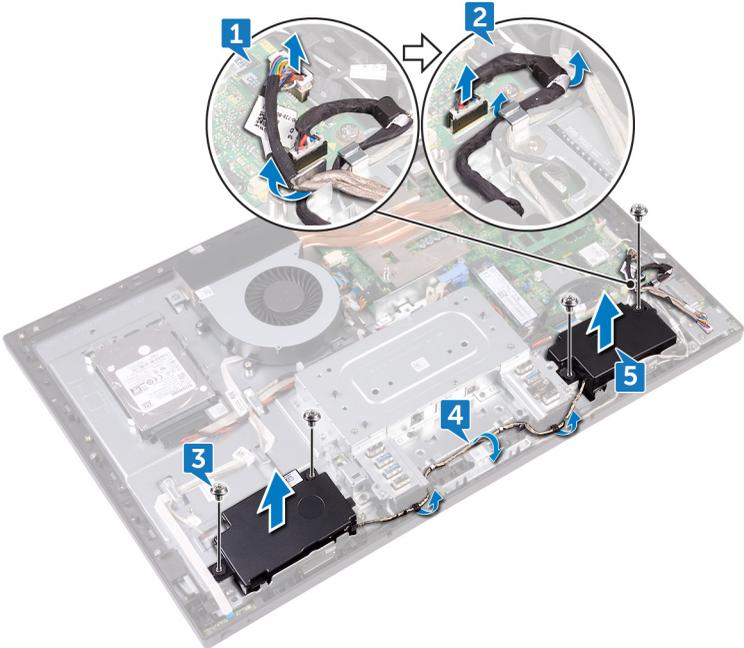
Identifier	GUID-A8CDAD08-077C-4EB6-AAD8-0E0FD6FE9AEF
Status	Released

Procedure

- 1 Disconnect the side I/O-board cable (MB-SUSBC) from the system board and remove it from the routing guide on the middle frame.
- 2 Disconnect the speaker cable (SPEAKER) from the system board and remove it from the routing guide on the middle frame.
- 3 Remove the four screws (Washer-type M3x4) that secure the speakers to the middle frame.
- 4 Remove the speaker cable (SPEAKER) from the routing guide on the I/O bracket.



5 Lift the speakers along with the cable off the middle frame.



Identifier GUID-40DC76F7-B3EC-450A-848E-632D68C352E2

Status Released

Replacing the speakers

 **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.

Identifier GUID-B3DDAC26-FDE3-49CF-B328-1DB4505F6A70

Status Released

Procedure

- 1 Align the screw holes on the speakers to the screw holes on the middle frame.
- 2 Route the speaker (SPEAKER) cable through the routing guide on the I/O bracket.
- 3 Replace the four screws (Washer-type M3x4) that secure the speakers to the middle frame.
- 4 Reconnect the speaker cable (SPEAKER) from the system board and route the cable through the routing guide on the middle frame.
- 5 Reconnect the side I/O-board cable (MB-SUSBC) from the system board and route the cable through the routing guide on the middle frame.

Identifier GUID-FC905C12-5D10-4857-AB3A-4AD62CEE2D88

Status Released

Post-requisites

- 1 Replace the [system-board shield](#).
- 2 Replace the [inner frame](#).
- 3 Replace the [stand](#).



- 4 Replace the [back cover](#).



Identifier	GUID-7A647C13-3614-4248-8625-5BB2EBA6CAE1
Status	Released

Removing the side 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.

Identifier	GUID-B921E997-CD1E-4A7D-96D6-723B6E2D1F99
Status	Released

Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [stand](#).
- 3 Remove the [inner frame](#).
- 4 Remove the [system-board shield](#).

Identifier	GUID-24C4BAED-5521-41AC-B66D-402B48A6789F
Status	Released

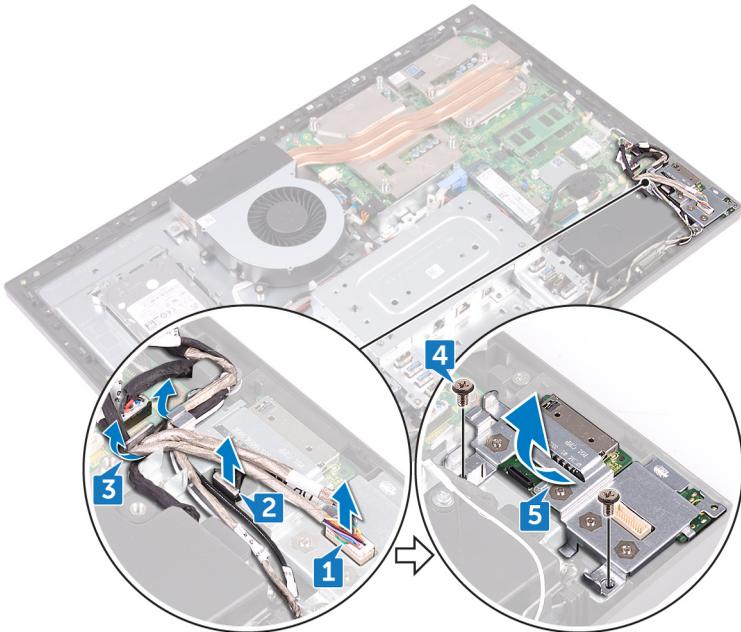
Procedure

Before conducting the following removal procedure, disconnect and remove from the respective routing the following cables:

- Antenna cables from the wireless-card.
 - Speaker cable (SPEAKER) from the system board.
 - Camera cable (WEBCAM) from the system board.
- 1 Disconnect the side I/O-board cable (MB-SUSBC) from the side I/O-board.

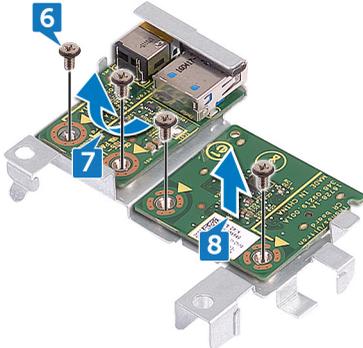


- 2 Disconnect the media-card reader cable (SDRDC1) from the media-card reader board.
- 3 Release the side I/O-board and media-card reader cables (MB-SUSBC and SDRDC1) from the routing guides on the middle frame.
- 4 Remove the two screws (M3x5) securing the side I/O-bracket to the middle frame.
- 5 Lift the side I/O-bracket from the middle frame.



- 6 Remove the four screws (M3x5) securing the side I/O-board and the media-card reader board to the side I/O-bracket.
- 7 Slide and lift the side I/O-board from the side I/O-bracket.

8 Lift the media-card reader board from the side I/O-bracket.



Identifier	GUID-2EFE7E92-337F-4710-A2AB-08FF9D39DEFF
Status	Released

Replacing the side 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.

Identifier	GUID-B7327466-8B47-4D0D-B1D9-4FA52AD5EB1D
Status	Released

Procedure

After conducting the following replacement procedure, and if the following cables were disconnected and removed in the removal process reconnect and route through the respective routing guides the following cables:

- Antenna cables from the wireless-card.
 - Speaker cable (SPEAKER) from the system board.
 - Camera cable (WEBCAM) from the system board.
- 1** Replace the media-card reader board and the side I/O-board aligning the screw holes with the screw holes on the side I/O-bracket.
 - 2** Replace the four screws (M3x5) securing the side I/O-board and the media-card reader board to the side I/O-bracket.
 - 3** Replace the side I/O-bracket aligning the guiding pins and screw holes to the respective slots and screw holes on the middle frame.
 - 4** Replace the two screws (M3x5) securing the side I/O-bracket to the middle frame.
 - 5** Route the side I/O-board and media-card reader cables (MB-SUSBC and SDRDC1) through the routing guides on middle frame.

- 6 Connect the side I/O-board cable (MB-SUSBC) to the side I/O-board
- 7 Connect the media-card reader cable (SDRDC1) to the media-card reader board.

Identifier	GUID-FC905C12-5D10-4857-AB3A-4AD62CEE2D88
Status	Released

Post-requisites

- 1 Replace the [system-board shield](#).
- 2 Replace the [inner frame](#).
- 3 Replace the [stand](#).
- 4 Replace the [back cover](#).



Identifier	GUID-30E8BC49-DE3E-4C3F-8226-86CE5F32F388
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Status	Released
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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.

Identifier	GUID-80B6901A-84B9-4E89-AECE-A1BD484B2AEF
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Status	Released
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Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [system-board shield](#).

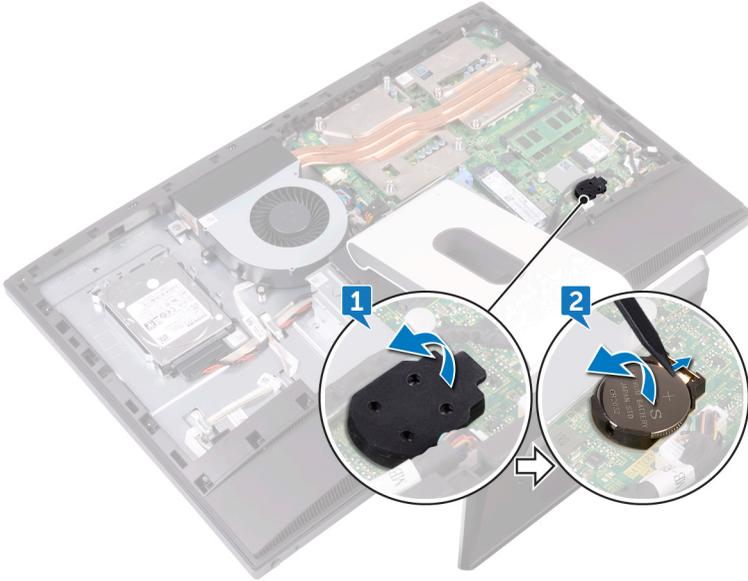
Identifier	GUID-04585CBC-D868-4F96-B6A4-D1FEE69E3FD0
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Status	Released
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Procedure

- 1 Pull the coin-cell rubber cap from the system board.

-
- 2 Using a plastic scribe, press on the metal clip. Then carefully pry and lift off the coin-cell battery from the coin-cell holder on the system board.



Identifier	GUID-5E22F4A0-F01F-4522-8155-BE22A8CA6E5F
Status	Released

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.

Identifier	GUID-D072C769-E940-4199-B5EA-9135A9B32037
Status	Released

Procedure

- 1 With the positive-side facing up, insert the coin-cell battery into the battery socket on the system board and press down the battery into place.
- 2 Adhere the coin-cell rubber cap onto the positive-side of the coin cell battery.

Identifier	GUID-352452C2-A4B4-43B4-9917-C72AF18BDA02
Status	Released

Post-requisites

- 1 Replace the [system-board shield](#).
- 2 Replace the [back cover](#).

Identifier	GUID-AAC0DC5A-1680-492D-804F-52F812D409C2
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Status	Released
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Removing the memory modules



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.

Identifier	GUID-80B6901A-84B9-4E89-AECE-A1BD484B2AEF
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Status	Released
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Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [system-board shield](#).



Identifier	GUID-F2AFE7C5-C76F-405D-965F-7B9317A97498
Status	Released

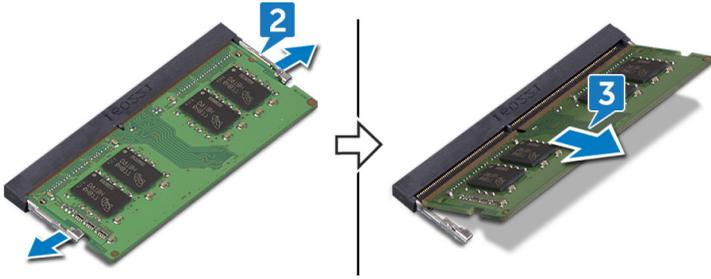
Procedure

- 1 Locate the memory modules on the system board.



- 2 Using your fingertips, spread apart the securing clips at each end of the memory-module slot until the memory module pops up.

- 3** Slide and remove the memory module from the memory-module slot.



Identifier GUID-1F5023F5-9868-4AAF-A9F5-BFB400CD890A

Status Released

Replacing the memory modules

 **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.

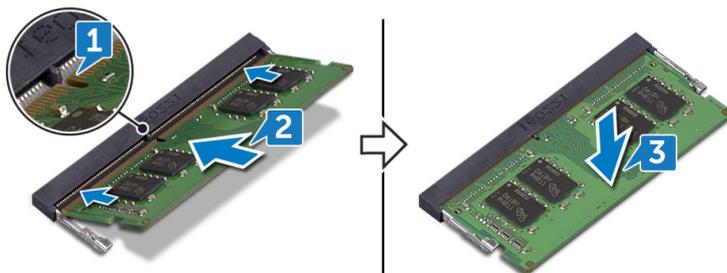
Identifier GUID-EE5CD206-B299-4C27-9FEE-CC356F85A430

Status Released

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.
- 3 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.



Identifier	GUID-352452C2-A4B4-43B4-9917-C72AF18BDA02
Status	Released

Post-requisites

- 1 Replace the [system-board shield](#).
- 2 Replace the [back cover](#).



Identifier	GUID-1C25F362-25CF-40CD-8A9B-2B98FB94F5FC
Status	Released

Removing the solid-state 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:** Solid-state drives are fragile. Exercise care when handling the solid-state drive.

 **CAUTION:** To avoid data loss, do not remove the solid-state drive while the computer is in sleep or on state.

Identifier	GUID-80B6901A-84B9-4E89-AECE-A1BD484B2AEF
Status	Released

Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [system-board shield](#).

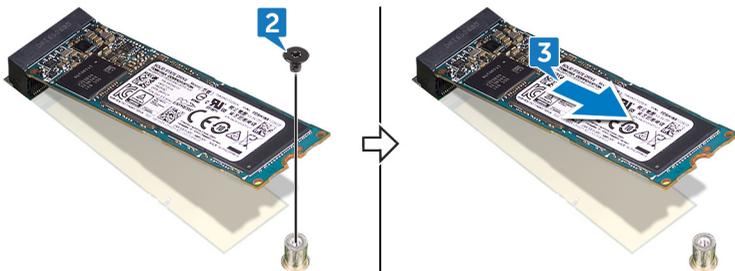
Identifier	GUID-1680FE31-8F83-4316-857E-29E88939E139
Status	Released

Procedure

- 1 Locate the solid-state drive on the system board.



- 2 Remove the screw (M2x3.5) securing the solid-state drive to the system board.
- 3 Slide and remove the solid-state drive from the solid-state drive slot.



Identifier GUID-792E5316-8EFA-4894-AE68-995416D3FD47

Status Released

Replacing the solid-state 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.

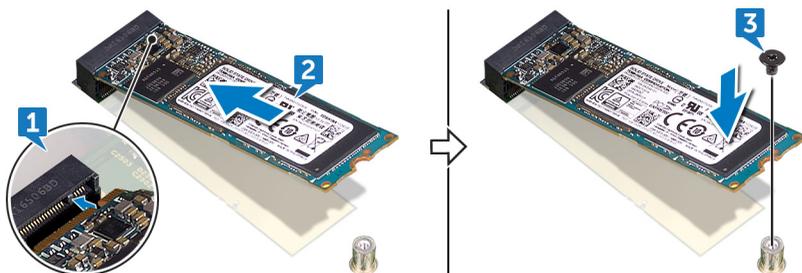
⚠ CAUTION: Solid-state drives are fragile. Exercise care when handling the solid-state drive.

Identifier GUID-6D35BC0B-2F5D-4390-9367-860834EB453B

Status Released

Procedure

- 1 Align the notch on the solid-state drive with the tab on the solid-state drive slot.
- 2 Slide the solid-state drive into the solid-state drive slot.
- 3 Replace the screw (M2x3.5) securing the solid-state drive to the system board.



Identifier	GUID-352452C2-A4B4-43B4-9917-C72AF18BDA02
Status	Released

Post-requisites

- 1 Replace the [system-board shield](#).
- 2 Replace the [back cover](#).



Identifier	GUID-4AF7A7F4-79DC-43F4-A4DF-63362F890FB6
Status	Released

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.

Identifier	GUID-80B6901A-84B9-4E89-AECE-A1BD484B2AEF
Status	Released

Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [system-board shield](#).

Identifier	GUID-322D3424-D13D-44E3-929C-16ABCF532DCB
Status	Released

Procedure

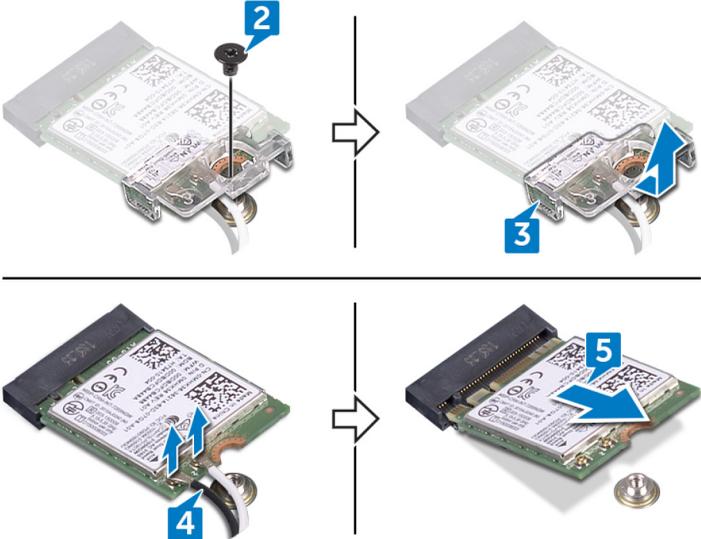
- 1 Locate the wireless card on the system board.



- 2 Remove the screw (M2x3.5) that secures the wireless card to the system board.
- 3 Lift the wireless-card shield off the system board.
- 4 Disconnect the antenna cables from the wireless card.



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



Identifier	GUID-94E88AEC-6F12-4B0E-AA6A-B28D8E200225
Status	Released

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.

Identifier	GUID-5408FA60-373B-4369-911B-4C440294E0BC
Status	Released

Procedure

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

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

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

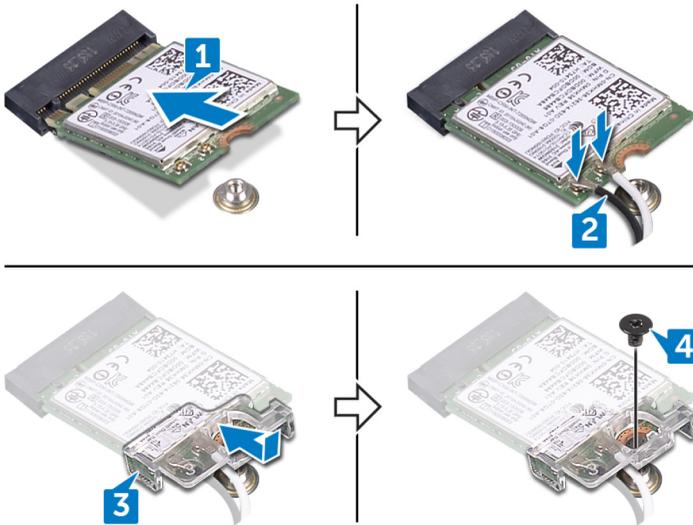
Table 2. : Wirelesscard colour scheme

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

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



- 4 Replace the screw (M2x3.5) that secures the wireless-card bracket and the wireless card to the system board.



Identifier	GUID-352452C2-A4B4-43B4-9917-C72AF18BDA02
Status	Released

Post-requisites

- 1 Replace the [system-board shield](#).
- 2 Replace the [back cover](#).

Identifier	GUID-E8004503-F3A2-4044-A06D-72AF81105987
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Status	Released
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Removing the processor 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: 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.

Identifier	GUID-80B6901A-84B9-4E89-AECE-A1BD484B2AEF
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Status	Released
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Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [system-board shield](#).



Identifier	GUID-4415AA78-B8CF-44F8-B029-C92465743459
Status	Released

Procedure for computers with discrete graphics

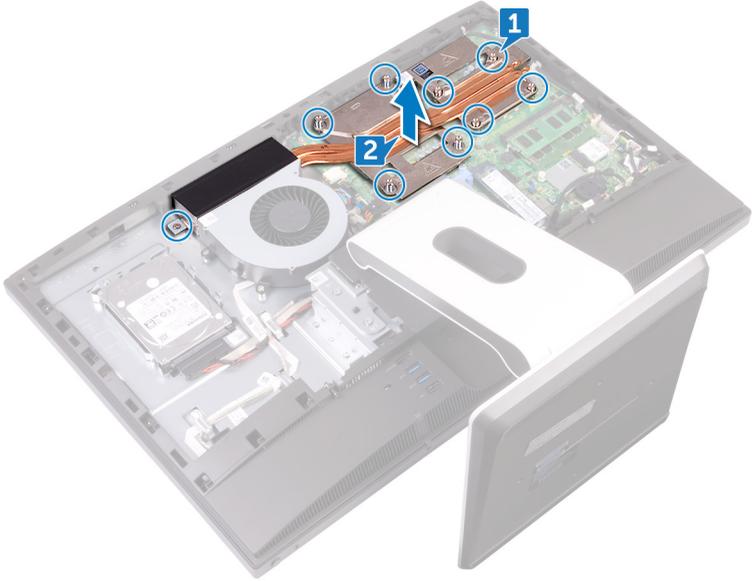


NOTE: Depending on the configuration you ordered, the appearance of the processor heat-sink and the number of screws may differ.

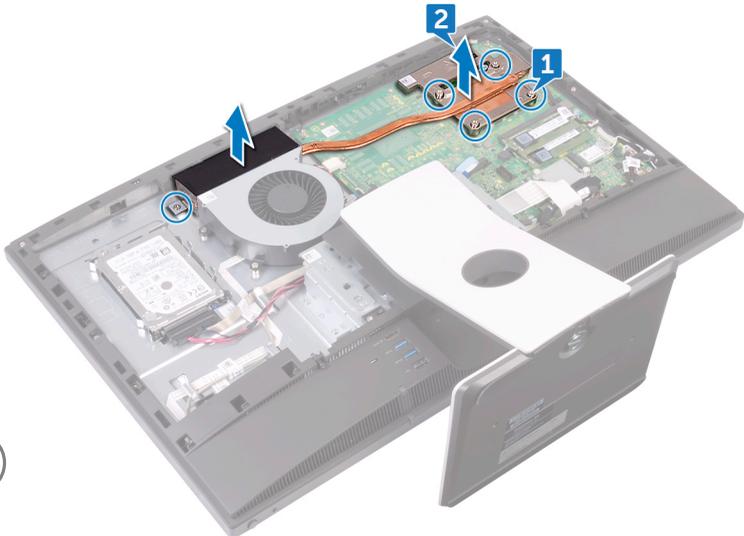
- 1 In sequential order (indicated on the heat sink), loosen the captive screws that secure the processor heat-sink to the system board.

2 Lift the processor heat-sink off the system board.

 **NOTE: Computers that support the AMD Radeon RX560 graphics configuration are shipped with 9 captive screws**



 **NOTE: Computers that ship with only integrated graphics processors are shipped with 5 captive screws**



Identifier	GUID-4092A0B3-1920-47B2-A11B-C1A246BDCED3
Status	Released

Replacing the processor 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:** 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.

Identifier	GUID-9CA68C4F-B8C9-4C56-8CE0-50843D819FC9
Status	Released

Procedure

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

Identifier	GUID-352452C2-A4B4-43B4-9917-C72AF18BDA02
Status	Released

Post-requisites

- 1 Replace the [system-board shield](#).
- 2 Replace the [back cover](#).

Identifier	GUID-54026723-901E-49A7-9E20-7404ECA98BFB
Status	Released

Removing the processor



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.

Identifier	GUID-E0860599-02A9-4A20-B0DA-4ECBA3577791
Status	Released

Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [system-board shield](#).
- 3 Remove the [processor heat sink](#).



Identifier	GUID-8DCCEFCE-0863-4F94-9B10-B319B9B178D3
Status	Released

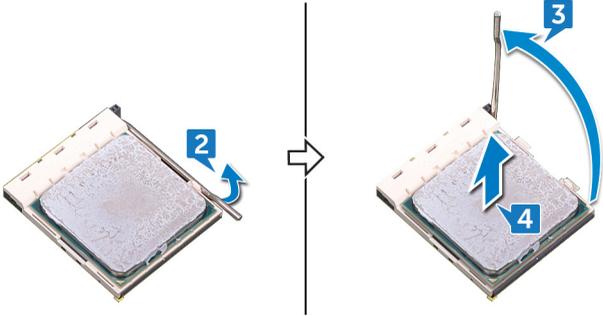
Procedure

- 1 Locate the processor on the system board.



- 2 Press the release-lever down and then pull it outwards to release it from the securing tab.
- 3 Pull up the release-lever completely to unlock the processor.

4 Gently lift the processor and remove it from the processor socket.



Identifier GUID-08EA64DA-0940-45B5-9DEF-7609F5E6BB53

Status Released

Replacing the processor

 **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:** If either the processor or the heat sink is replaced, use the thermal grease provided in the kit to ensure that thermal conductivity is achieved.

 **NOTE:** A new processor ships with a thermal pad in the package. In some cases, the processor may ship with the thermal pad attached to it.

Identifier GUID-3C7E4C01-E523-44F0-BFAF-10D6656A0240

Status Released

Procedure

- 1 Ensure that the release lever on the processor socket is fully extended in the open position.

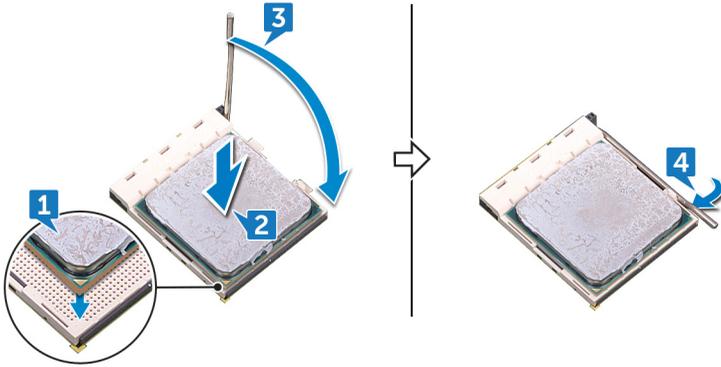
 **CAUTION:** The pin-1 corner of the processor has a triangle that aligns with the triangle on the pin-1 corner on the processor socket. When the processor is properly seated, all four corners are aligned at the same height. If one or more corners of the processor are higher than the others, the processor is not seated properly.

- 2 Align the notches on the processor with the tabs on the processor socket and place the processor in the processor socket.

 **CAUTION:** Ensure that the processor-cover notch is positioned underneath the alignment post.

- 3 When the processor is fully seated in the socket, close the processor cover.

- Pivot the release-lever down and place it under the tab on the processor cover.



Identifier	GUID-6ECA0A14-E6B5-4301-8231-310E1ED95B4C
Status	Released

Post-requisites

- Replace the [processor heat sink](#).
- Replace the [system-board shield](#).
- Replace the [back cover](#).

Identifier	GUID-4EB11C22-0492-4F16-83CE-A64092ACEB01
Status	Released

Removing the I/O bracket

 **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.

Identifier	GUID-77F77B30-2AD8-4B7D-988A-9BC1CDDDB98C5
Status	Released

Prerequisites

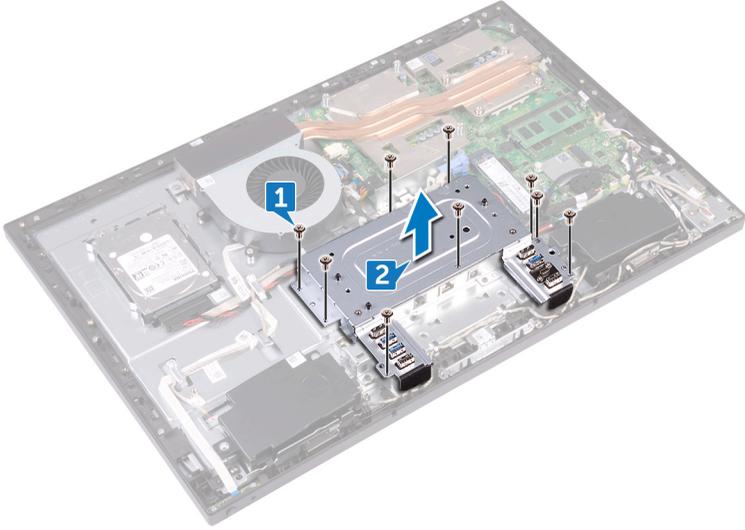
- 1 Remove the [back cover](#).
- 2 Remove the [stand](#).
- 3 Remove the [inner frame](#).

Identifier	GUID-1DB0D375-A139-43AC-8642-57446A7C4198
Status	Released

Procedure

- 1 Remove the nine screws (M3x5) securing the I/O bracket to the middle frame.

- 2 Lift the I/O bracket off the middle frame.



Identifier	GUID-95E4D169-600E-4E8D-9A1E-709C6727D43A
Status	Released

Replacing the I/O bracket

 **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.

Identifier	GUID-18D6BC9D-6CF3-462A-A514-B75386C54A4E
Status	Released

Procedure

- 1 Align the screw holes on the I/O bracket with the screw holes on the middle frame.
- 2 Replace the nine screws (M3x5) that secure the I/O bracket to the middle frame.

Identifier	GUID-7E8ED145-5E0A-485E-9E46-CFB1A1437B4E
Status	Released

Post-requisites

- 1 Replace the [inner frame](#).
- 2 Replace the [stand](#).
- 3 Replace the [back cover](#).

Identifier	GUID-DC61C8F1-86D0-49DE-B8D8-229750E714D6
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Status	Released
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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.

Identifier	GUID-03ED21C7-4AD2-4963-A530-1EBCCE89AEB3
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Status	Released
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Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [stand](#).
- 3 Remove the [inner frame](#).
- 4 Remove the [I/O board bracket](#).

Identifier	GUID-E9B53490-9AEB-483C-B91B-1C16A0DB0411
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Status	Released
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Procedure

- 1 Open the latch and disconnect the display-panel cable (EDPCN1) from the I/O board.
- 2 Disconnect the rear I/O-board power cable (RPWRC1) from the I/O board.
- 3 Using the pull tab, disconnect the display cable (SB-DISPC) from the I/O board.
- 4 Using the pull tab, disconnect the USB Type-C cable (SB-TYPEC1) from the I/O board.
- 5 Press down the latch on the power cable connector and pull the connector to disconnect the power cable (SB-DCPWR) from the I/O board.



- 6 Using the pull tab, disconnect the rear I/O cable (RUSBC1) from the I/O board.
- 7 Open the latch and disconnect the rear I/O-board cable (LAUOC1) from the I/O board.
- 8 Disconnect the display converter cable (CONVERTER) from the I/O board.
- 9 Remove the cables from the routing guide on the I/O board.



- 10 Remove the four (M3x5) screws that secure the I/O board to the middle frame.

11 Lift the I/O board off the middle frame.



Identifier	GUID-98F27B1C-9F09-48EC-83D7-FC85C825E6A4
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Status	Released
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Replacing 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.

Identifier	GUID-3E463184-761F-4F49-B490-074419ECD30C
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Status	Released
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Procedure

- 1 Align the screw holes on the I/O board with the screw holes on the middle frame.
- 2 Replace the four screws (M3x5) that secure the I/O board to the middle frame.
- 3 Route and connect the following cables through the respective routing guides and connectors on the I/O board:
 - Display converter cable (CONVERTER)
 - Rear I/O-board cable (LAUOC1)
 - Rear I/O cable (RUSBC1)
 - Power cable (SB-DCPWR)
 - USB Type-C cable (SB-TYPEC1)
 - Display cable (SB-DISPC)
 - Rear I/O-board power cable (RPWRC1)
 - Display-panel cable (EDPCN1)

Identifier	GUID-04DFACAA-7548-4A84-A079-897E8D472E03
Status	Released

Post-requisites

- 1 Replace the [I/O bracket](#).
- 2 Replace the [inner frame](#).
- 3 Replace the [stand](#).
- 4 Replace the [back cover](#).



Identifier GUID-B54497E8-5AD5-4FF9-AD4A-F32FDBEDE1E8

Status Released

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.

Identifier GUID-B944BA0A-F1E5-46AE-8A89-82A3CD6B69CE

Status Released

Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [system-board shield](#).
- 3 Remove the [memory modules](#).
- 4 Remove the [solid-state drive](#).
- 5 Remove the [wireless card](#).
- 6 Remove the [processor heat sink](#).
- 7 Remove the [processor](#).

Identifier	GUID-C8D68A7B-1DC0-4F71-B689-01B3B0677E5B
Status	Released

Procedure

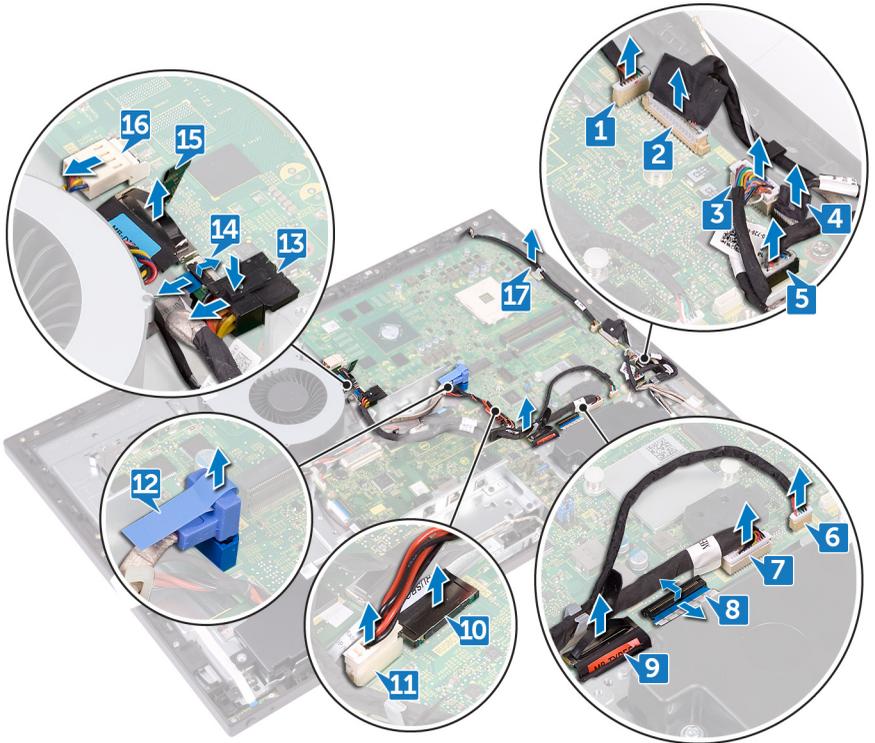
 **NOTE:** To avoid any potential damage to the cables, ensure to release them from the routing guides.

 **NOTE:** Note the routing of each cable as you remove them and the order of removal so that you can reroute it correctly during the replacement of the system board.

- 1 Disconnect the microphones cable (DMIC1) from the system board.
- 2 Disconnect the camera cable (WEBCAM) from the system board.
- 3 Disconnect the side I/O-board cable (MB-SUSBC) from the system board.
- 4 Disconnect the media-card reader cable (SDRDC1) from the system board.
- 5 Disconnect the speaker cable (SPEAKER) from the system board.
- 6 Disconnect the touch-screen cable (TOUCH1) from the system board. This step is applicable only for touch screen systems.
- 7 Disconnect the rear I/O-board power cable (RPWRC1) from the system board.
- 8 Open the latch and disconnect the rear I/O-board cable (LAUOC1) from the system board.
- 9 Using the pull tab, disconnect the USB Type-C cable (MB-TYPEC1) from the system board.
- 10 Using the pull tab, disconnect the rear I/O cable (RUSBC1) from the system board.
- 11 Disconnect the hard-drive power cable (SATA_PWR1) from the system board.
- 12 Using the pull tab, disconnect the hard-drive data cable (SATA0) from the system board.
- 13 Open the latch and disconnect the power cable (MB-DCPWR) from the system board.
- 14 Open the latch and disconnect the power-button board cable (0SDC1) from the system board.
- 15 Using the pull tab, disconnect the display cable (MB-DISPC) from the system board.
- 16 Disconnect the fan-power cable (FAN_SYS) from the system board.

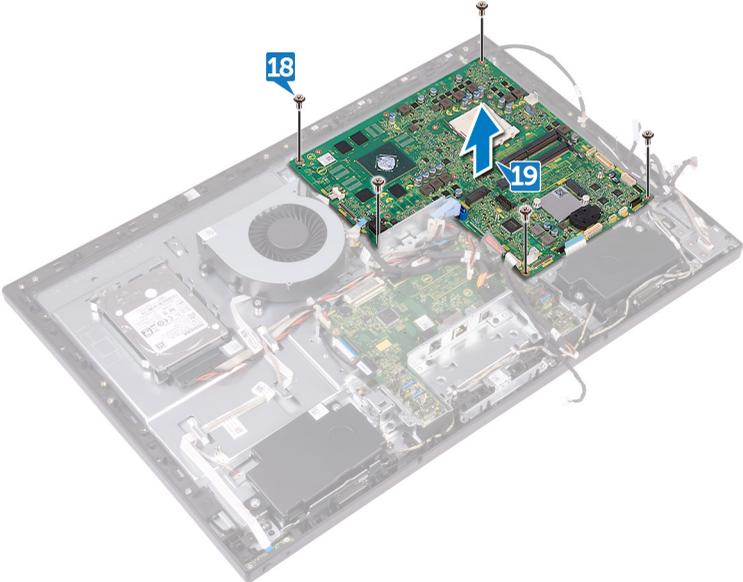


- 17** Release and lift the microphones cable from the routing guide on the system board.



- 18** Remove the five screws (M3x5) that secure the system board to the middle frame.

19 Lift the system board off the middle frame.



Identifier GUID-67274E98-E2F1-4B7B-A903-F38BA6B62028

Status Released

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.

Identifier GUID-E610713C-ED77-4B5B-B657-312963ECE003

Status Released

Procedure

 **NOTE:** The system board is shipped with the coin-cell battery.

- 1 Align the screw holes on the system board with the screw holes on the middle frame.
- 2 Replace the five screws (M3x5) that secure the system board to the middle frame.

3 Route and connect the following cables through the respective routing guides and connectors on the system board:

- Fan-power cable (FAN_SYS)
- Display cable (MB-DISPC)
- Power-button board cable (OSDC1)
- Power cable (MB-DCPWR)
- Hard-drive data cable (SATA0)
- Hard-drive power cable (SATA_PWR1)
- Rear I/O cable (RUSBC1)
- USB Type-C cable (MB-TYPEC1)
- Rear I/O-board cable (LAUOC1)
- Rear I/O-board power cable (RPWRC1)
- Touch-screen cable (TOUCH1)
- Speaker cable (SPEAKER)
- Media-card reader cable (SDRDC1)
- Side I/O-board cable (MB-SUSBC)
- Camera cable (WEBCAM)
- Microphones cable (DMIC1)

Identifier	GUID-221C1873-0102-4BBD-8D19-1E8C70D471AA
Status	Released

Post-requisites

- 1** Replace the [processor](#).
- 2** Replace the [processor heat-sink](#).
- 3** Replace the [wireless card](#).
- 4** Replace the [solid-state drive](#).
- 5** Replace the [memory modules](#).
- 6** Replace the [system-board shield](#).
- 7** Replace the [back cover](#).



Identifier	GUID-665E66D0-54D4-403E-91DA-E6669EC906EC
Status	Released

Removing the middle frame



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

Identifier	GUID-53918591-3B49-45C4-B25B-682511A7CA16
Status	Released

Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [stand](#).
- 3 Remove the [hard drive](#).
- 4 Remove the [inner frame](#).
- 5 Remove the [camera](#).
- 6 Remove the [microphones](#).
- 7 Remove the [power-button board](#).
- 8 Remove the [front bezel](#).
- 9 Remove the [system-board shield](#).
- 10 Remove the [chassis fan](#).
- 11 Remove the [speakers](#).
- 12 Remove the [side I/O-board](#).
- 13 Remove the [wireless card](#).
- 14 Remove the [processor heat sink](#).
- 15 Remove the [I/O bracket](#).
- 16 Remove the [I/O board](#).

- 17 Remove the [system board](#).

Identifier	GUID-56AF6918-411B-424E-AE5D-32DE47A635B8
Status	Released

Procedure

 **NOTE:** Depending on the configuration you ordered, the appearance of the middle frame may differ.

- 1 Press the tabs on the display converter cable (CONVERTER) and disconnect the cable from the display panel through its slot on the middle frame.
- 2 Remove all of the cables from the routing guides on the middle frame.

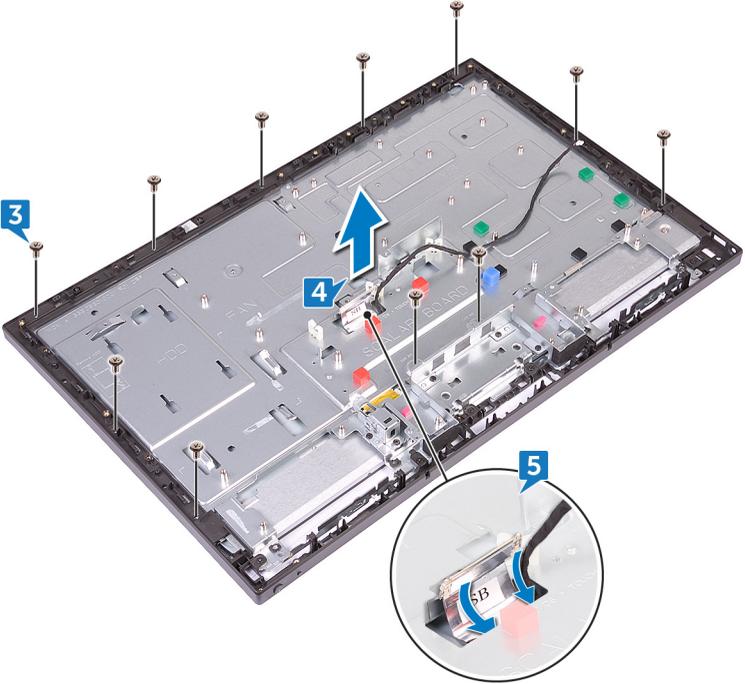
 **NOTE:** Note the routing of each cable as you remove them and the order of removal so that you can reroute it correctly during the replacement of the middle frame.



- 3 Remove the 11 screws (M3x5) that secure the middle frame to the display panel.
- 4 Lift the middle frame off the display panel.



- 5 Push the touch-screen cable (TOUCH1) and the display-panel cable (EDPCN1) through the slot on the middle frame.



Identifier	GUID-27CA34A0-72DA-4F52-8342-74BFFC6F3B92
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Status	Released
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Replacing the middle frame



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

Identifier	GUID-27BBF28A-30F4-4B13-920A-C9BE49614E6C
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Status	Released
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Procedure

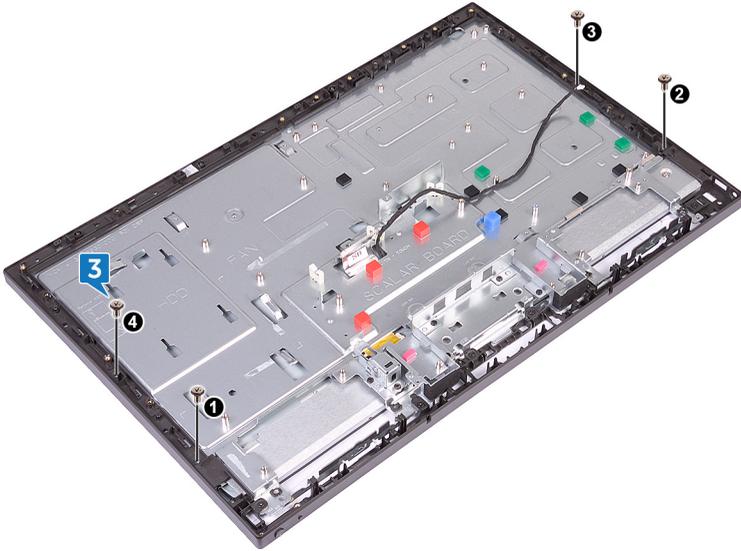
- 1 Push the touch-screen cable (TOUCH1) and the display-panel cable (EDPCN1) through the slot on the middle frame.



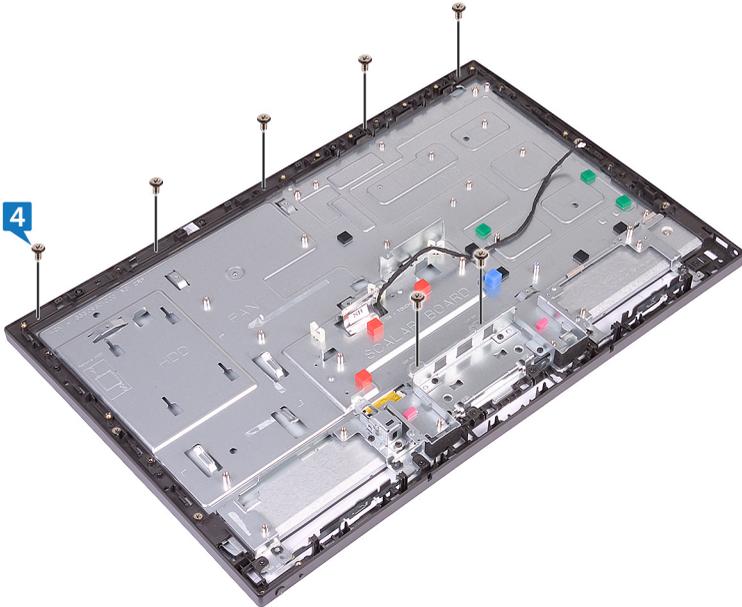
- 2 Aligning the display panel to the slot on the middle frame slide the display panel into the slot on the middle frame.



-
-
- 3** In sequential order replace the four screws (M3x5) that secure the middle frame to the display panel.



- 4 Replace the seven remaining screws (M3x5) that secure the middle frame to the display panel.



- 5 Route all the cables through the routing guides on the middle frame.
- 6 Connect the display converter cable (CONVERTER) to the display panel through its slot on the middle frame.

Identifier	GUID-37F0AD22-4B4B-4FED-912B-2B9782400AA6
Status	Released

Post-requisites

- 1 Replace the [system board](#).
- 2 Replace the [I/O board](#).
- 3 Replace the [I/O bracket](#).
- 4 Replace the [processor heat-sink](#).
- 5 Replace the [wireless card](#).
- 6 Replace the [side I/O-board](#).

- 7 Replace the [speakers](#).
- 8 Replace the [chassis fan](#).
- 9 Replace the [system-board shield](#).
- 10 Replace the [front bezel](#).
- 11 Replace the [power-button board](#).
- 12 Replace the [microphones](#).
- 13 Replace the [camera](#).
- 14 Replace the [inner frame](#).
- 15 Replace the [hard drive](#).
- 16 Replace the [stand](#).
- 17 Replace the [back cover](#).



Identifier	GUID-7D2CEA1B-1FC0-4606-86EB-F51C5DFB6E52
Status	Released

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.

Identifier	GUID-D9603FEE-64F1-4EE2-BFED-51709BDC219D
Status	Released

Prerequisites

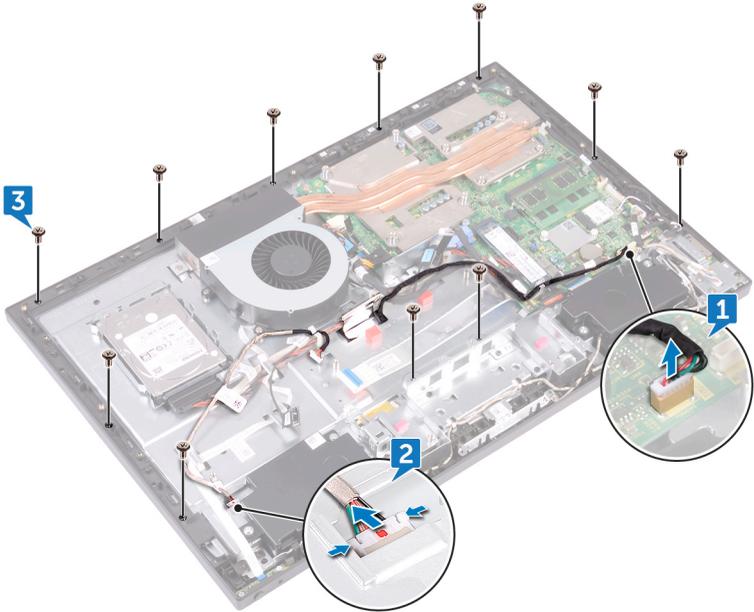
- 1 Remove the [back cover](#).
- 2 Remove the [stand](#).
- 3 Remove the [inner frame](#).
- 4 Remove the [system-board shield](#).
- 5 Remove the [I/O bracket](#).
- 6 Remove the [I/O board](#).

Identifier	GUID-5CBC7BEE-C363-4F74-9E54-3F5E357974B6
Status	Released

Procedure

- 1 Disconnect the touch-screen cable (TOUCH1) from the system board.
- 2 Disconnect the display converter cable (CONVERTER) from the display panel through its slot on the middle frame.

- 3 Remove the 11 screws (M3x5) that secure the middle frame to the display panel.



- 4 Lift and hold in place at an angle the middle frame off the display panel.
- 5 Push the touch screen cable (TOUCH1) and the display-panel cable (EDPCN1) through the slot on the middle frame.

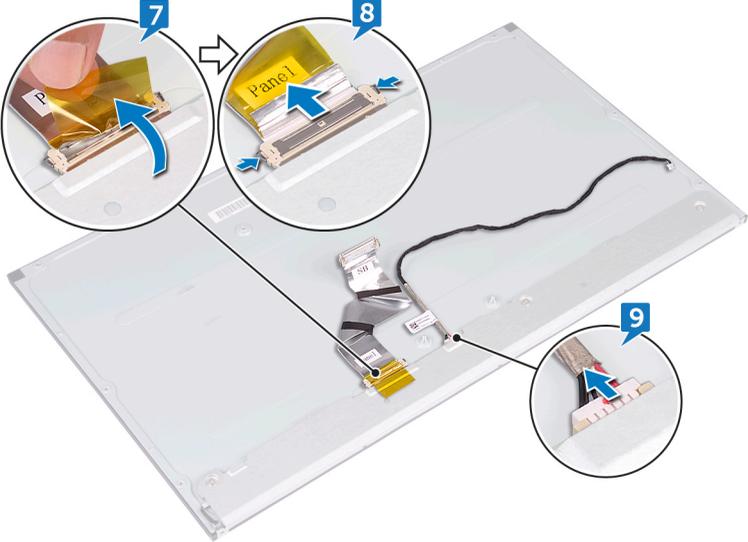


- 6 Lift the system off the display panel.



- 7 Peel and lift the Mylar covering the display-panel cable (EDPCN1) and the display-panel connector on the display panel.
- 8 Press the tabs on the display-panel cable (EDPCN1) and disconnect the cable from the display panel.

9 Disconnect the touch-screen cable (TOUCH1) from the display panel.



Identifier	GUID-6FD32244-34F4-4843-983D-B6C14903EFC9
Status	Released

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.

Identifier	GUID-78BC7FEA-CFDA-42A6-BF25-8439FFBE55C1
Status	Released

Procedure

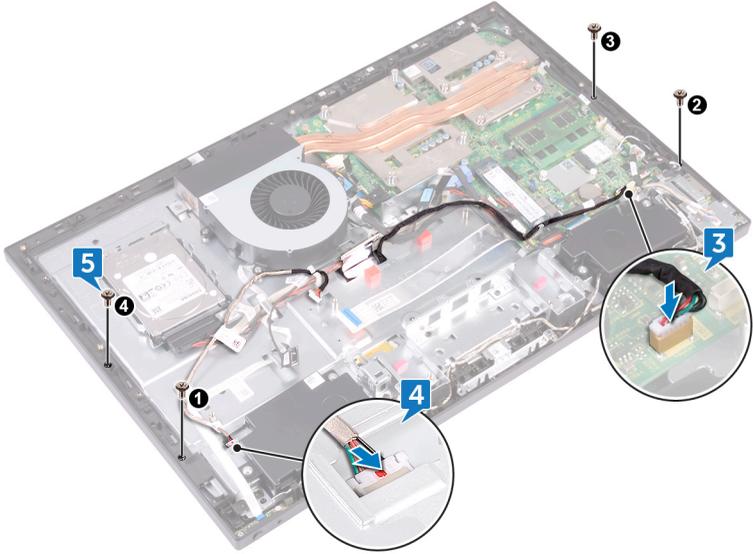
- 1 Push the touch-screen cable (TOUCH1) and the display-panel cable (EDPCN1) through the slot on the middle frame.

- 2 Aligning the display panel to the slot on the middle frame, slide the display panel into the slot on the middle frame.

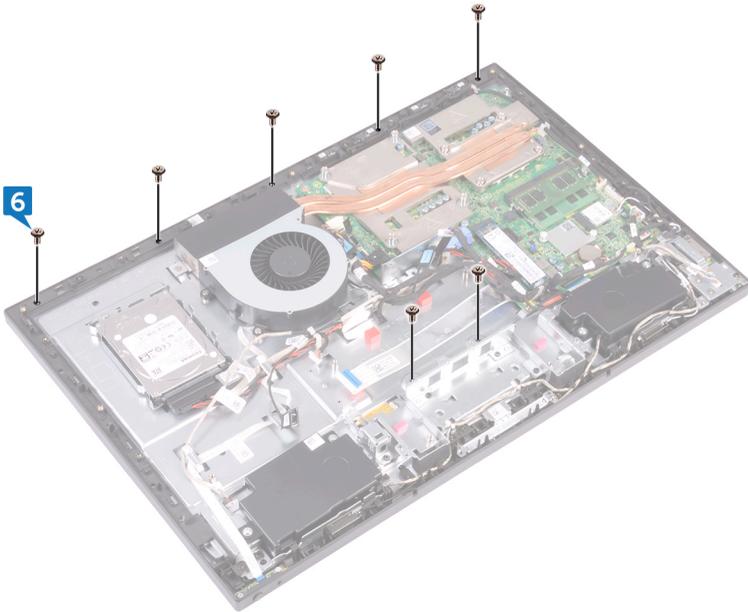


- 3 Connect touch-screen cable (TOUCH1) to the system board.
- 4 Connect display converter cable (CONVERTER) to the display panel through its slot on the middle frame.

- 5** In sequential order, replace the four screws (M3x5) that secure the display panel to the middle frame.



- 6 Replace the seven remaining screws (M3x5) that secure the display panel to the middle frame.



Identifier	GUID-B7A3563C-C646-4F8D-B9D8-2D3DF2CF68B2
Status	Released

Post-requisites

- 1 Replace the [I/O board](#).
- 2 Replace the [I/O bracket](#).
- 3 Replace the [system-board shield](#).
- 4 Replace the [inner frame](#).
- 5 Replace the [stand](#).
- 6 Replace the [back cover](#).



Identifier	GUID-7C4079DF-9FF4-48AC-A162-4A939A8B2557
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Status	Released
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BIOS setup program

Identifier	GUID-E8E05C46-BC9D-4CF1-AC84-34B87FDCCFB7
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Status	Released
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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.

Identifier	GUID-1432A924-49E9-4080-961D-2AFBDAF42039
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Status	Released
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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.**

Identifier	GUID-9241E2A3-E86F-4E72-9DD1-79905AD2A93D
Status	Released

System Setup Options

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

Table 3. System information

Main — System Information	
BIOS Revision	Displays the BIOS revision number.
BIOS Build Date	Displays the BIOS build date in mm/dd/yyyy format.
System Name	Displays the computer model.
System Time	Displays the current time in hh:mm:ss format.
System Date	Displays the current date in mm/dd/yyyy format.
Service Tag	Displays the Service Tag of the computer.
Service Tag Input	Allows you to enter the Service Tag of the computer if the Service Tag field is empty.
Asset Tag	Displays the asset tag of the computer when the asset tag is present.

Table 4. Processor information

Main — Processor Information	
Processor Type	Displays the processor type.
Processor ID	Displays the processor ID.



Main — Processor Information

Processor Core Count	Processor Core Count.
Processor L1 Cache	Displays the processor's L1 cache size.
Processor L2 Cache	Displays the processor's L2 cache size.
Processor L3 Cache	Displays the processor's L3 cache size.

Table 5. Memory Information

Main — Memory Information

Memory Installed	Displays the memory installed.
Memory Available	Displays the memory available.
Memory Running Speed	Displays the memory speed in MHz.
Memory Technology	Displays the type of installed memory.

Table 6. SATA Information

Main — SATA Information

SATA 1:

Device Type	Displays the SATA device connected to the SATA 1 connector.
Device ID	Displays the serial number of the SATA 1 device.
Device Size	Displays the size of the SATA 1 device in GB, if the device is a hard drive.

Table 7. USB Configuration

Advanced — USB Configuration

Rear USB Ports	Allows you to enable or disable the rear USB ports — Enabled or Disabled (Enabled by default).
Side USB Ports	Allows you to enable or disable the side USB ports — Enabled or Disabled (Enabled by default).

Table 8. Onboard Device Configuration

Advanced — Onboard Device Configuration

Onboard Audio Controller	Allows you to enable or disable the onboard audio controller — Enabled or Disabled (Enabled by default).
SATA Mode	Displays the SATA mode on your computer —ATA, AHCI or RAID (RAID or AHCI by default).
Onboard LAN Controller	Allows you to enable or disable the onboard LAN controller — Enabled or Disabled (Enabled by default).
Onboard LAN Boot ROM	Allows you to boot your computer from a network — Enabled or Disabled (Disabled by default).

Table 9. Boot options

Boot

Numlock Key	Allows you to set the status of the Num Lock key during boot to On or Off (On by default).
Secure Boot Control	Allows you to enable or disable the secure boot control— Enabled or Disabled (Enabled by default).
	 NOTE: To enable this feature, the computer must be in the UEFI boot mode.
Load Legacy OPROM	Allows you to load the legacy OPROM when in the UEFI boot mode. (Never by default).
Keyboard Errors	Allows you to enable or disable the display of keyboard-related errors during boot — Report or Do Not Report (Report by default).
USB Boot Support	Allows you to enable or disable booting from USB mass storage devices such as external hard drive, optical drive, USB key, and so on — Enable or Disable (Enabled by default).



Boot

Boot Mode:

- 1st Boot Device Displays the first boot device.
- 2nd Boot Device Displays the second boot device.
- 3rd Boot Device Displays the third boot device.
- 4th Boot Device Displays the fourth boot device.
- 5th Boot Device Displays the fifth boot device.

Hard Disk Drivers Displays the boot sequence of the hard drive.

USB Storage Drivers Displays the boot sequence of the USB storage drive.

CD/DVD ROM Drivers Displays the boot sequence of the optical drive.

Table 10. Power options

Power

Wake Up by Integrated LAN/WLAN Allow the computer to be powered on by special LAN or wireless LAN signals — Enabled or Disabled (Disabled by default).



NOTE: This option can be enabled only if the Deep Sleep Mode is set to Disable.

AC Recovery Allows you to configure the behavior of your computer after it recovers from a power failure — Power Off, Power On, or Last Power State (Power Off by default).

Auto Power On Allows you to enable or disable the computer from turning on automatically — Enabled or Disabled (Disabled by default).

Auto Power On Mode Allows you to set the computer to turn on automatically every day or on a preselected date.



NOTE: This option can be configured only if the Auto Power On mode is set to Enabled Everyday .or Selected Day (Selected Day by default).

Auto Power On Date Allows you to set the date on which the computer must turn on automatically.

Power



NOTE: This option can be configured only if the Auto Power On mode is set to Enabled 1 to 31 (15 by default).

Auto Power On
Time

Allows you to set the time at which the computer must turn on automatically.



NOTE: This option can be configured only if the Auto Power On mode is set to Enabled hh:mm:ss (12:30:30 by default).

Deep Sleep Control

Allows you to set Deep Sleep Mode — Disabled. Enabled in S5 (computer is off) only, Enabled in S4 (Hibernate state of computer) and S5 by default.

Table 11. Security options

Security

Supervisor
Password

Displays the supervisor password.

User Password

Displays the user password.

Set User Password

Allows you to set, change, or clear the user password.

Password Check

Allows you to enable password verification either when you attempt to enter system setup or each time the computer boots Setup or Always (Setup by default).



NOTE: Password Check option is visible only when the user password is set.

Set Supervisor
Password

Allows you to set, change, or delete the supervisor password. The supervisor password controls access to the system setup utility.



NOTE: Deleting the supervisor password deletes the user password. Set the supervisor password before setting the user password.

User Access Level

Allows you to restrict or provide access to the system setup utility — No Access, View Only, Limited, or Full Access (Full Access by default).



Security

- No Access: Restricts users from editing system setup options
- View Only: Allows users to only view system setup options
- Limited: Allows users to edit limited system setup options
- Full Access: Allows users to edit all system setup options except the supervisor password

Table 12. Exit options

Exit	
Save Changes and Reset	Allows you to exit system setup and save your changes.
Discard Changes and Reset	Allows you to exit system setup and load previous values for all system setup options.
Load Defaults	Allows you to load default values for all system setup options.

Identifier	GUID-185C8B9A-D728-4477-99FC-D9276DAD3A15
Status	Released

Clearing forgotten passwords



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.

Identifier	GUID-80B6901A-84B9-4E89-AECE-A1BD484B2AEF
Status	Released

Prerequisites

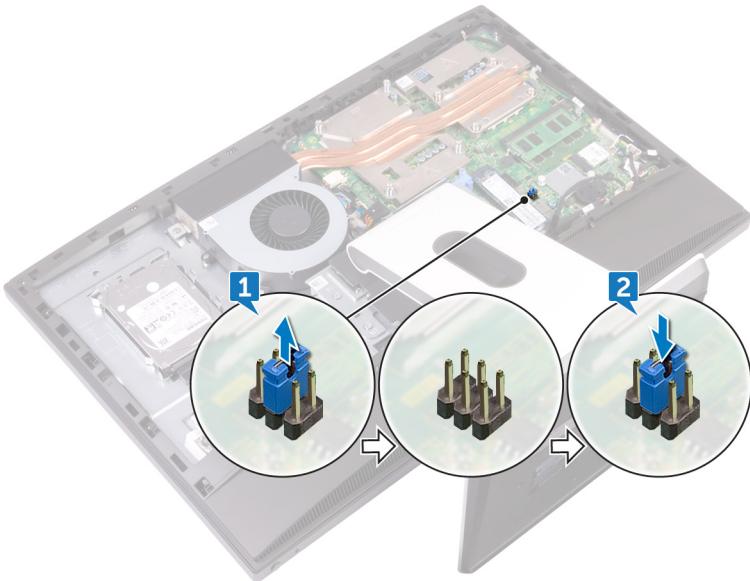
- 1 Remove the [back cover](#).
- 2 Remove the [system-board shield](#).

Identifier	GUID-E460A5C1-E81C-46D2-B369-E0B84F6FB238
Status	Released

Procedure

 **NOTE:** For the location of the jumper, see “[System board components](#)”.

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



Identifier	GUID-352452C2-A4B4-43B4-9917-C72AF18BDA02
Status	Released

Post-requisites

- 1 Replace the [system-board shield](#).
- 2 Replace the [back cover](#).



Identifier	GUID-85E904E9-9739-40E9-B16E-44C3F6C759A5
Status	Released

Clearing CMOS settings



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.

Identifier	GUID-80B6901A-84B9-4E89-AECE-A1BD484B2AEF
Status	Released

Prerequisites

- 1 Remove the [back cover](#).
- 2 Remove the [system-board shield](#).

Identifier	GUID-72B24AB8-1C12-4D39-A467-95E27160D979
Status	Released

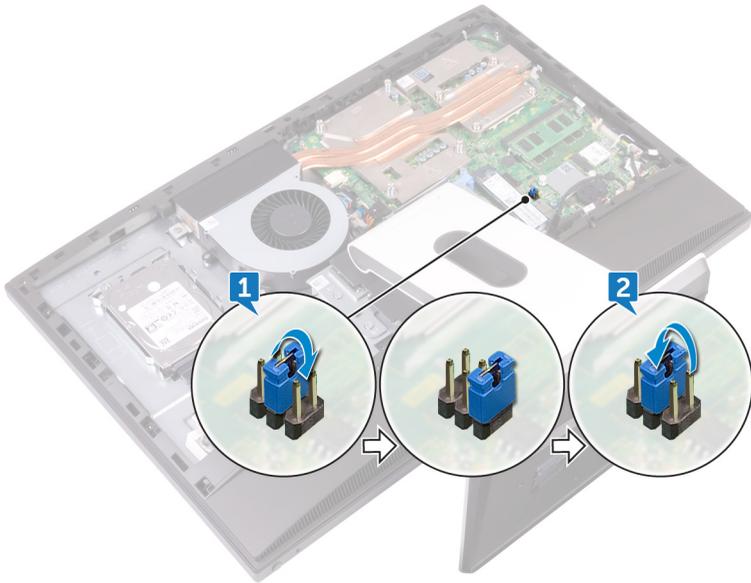
Procedure



NOTE: For more information on the location of the CMOS reset jumper, see "[System board components](#)".

- 1 Remove the jumper plug from the password jumper-pins and connect it to the CMOS jumper-pins.

- 2 Wait for 5 seconds and replace the jumper plug to its original location.



Identifier	GUID-352452C2-A4B4-43B4-9917-C72AF18BDA02
Status	Released

Post-requisites

- 1 Replace the [system-board shield](#).
- 2 Replace the [back cover](#).

Identifier	GUID-F5899359-C2E1-41C0-9663-4C79969506EB
Status	Released

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.

Identifier	GUID-A88CF4BC-F775-4FAF-97B9-77C8D75E67A3
Status	Released

Diagnostics

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 2,3 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:

Table 13. System diagnostic lights

Light pattern	Problem description
1	System board, BIOS corruption, or ROM error
3	System board, Chipset error, Clock failure, Gate A20 failure, Super I/O failure, or Keyboard controller failure
4	Memory or RAM failure
5	Coin-cell battery failure
6	GPU failure
7	CPU failure
8	Display failure
3,6	BIOS recovery image not found



Light pattern	Problem description
3,7	BIOS recovery image found but invalid

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.



Identifier	GUID-AF18382F-D265-43C2-85DA-28FFB5875F37
Status	Released

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 14. Self-help resources

Information about Dell products and services	www.dell.com
Dell Help & Support app	
Get started app	
Accessing help	In Windows search, type Help and 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
Learn about your operating system, setting up and using your computer, data backup, diagnostics, and so on.	See <i>Me and My Dell</i> at 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.

