

# Inspiron 13 7000

## 2-in-1

## Service Manual

**Computer Model:** Inspiron 13-7375  
**Regulatory Model:** P69G  
**Regulatory Type:** P69G002



# Notes, cautions, and warnings

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**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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# Contents

<b>Before working inside your computer.....</b>	<b>10</b>
Before you begin .....	10
Safety instructions.....	10
Recommended tools.....	11
Screw list.....	12
<b>After working inside your computer.....</b>	<b>14</b>
<b>Removing the base cover.....</b>	<b>15</b>
Procedure.....	15
<b>Replacing the base cover.....</b>	<b>18</b>
Procedure.....	18
<b>Removing the battery.....</b>	<b>19</b>
Prerequisites.....	19
Procedure.....	19
<b>Replacing the battery.....</b>	<b>21</b>
Procedure.....	21
Post-requisites.....	21
<b>Removing the solid-state drive.....</b>	<b>22</b>
Prerequisites.....	22
Procedure.....	22



<b>Replacing the solid-state drive.....</b>	<b>24</b>
Procedure.....	24
Post-requisites.....	25
<b>Removing the memory modules.....</b>	<b>26</b>
Prerequisites.....	26
Procedure.....	27
<b>Replacing the memory modules.....</b>	<b>29</b>
Procedure.....	29
Post-requisites.....	31
<b>Removing the coin-cell battery.....</b>	<b>32</b>
Prerequisites.....	32
Procedure.....	32
<b>Replacing the coin-cell battery.....</b>	<b>34</b>
Procedure.....	34
Post-requisites.....	34
<b>Removing the wireless card.....</b>	<b>35</b>
Prerequisites.....	35
Procedure.....	35
<b>Replacing the wireless card.....</b>	<b>37</b>
Procedure.....	37
Post-requisites.....	38
<b>Removing the speakers.....</b>	<b>39</b>
Prerequisites.....	39
Procedure.....	39



<b>Replacing the speakers.....</b>	<b>41</b>
Procedure.....	41
Post-requisites.....	41
<b>Removing the fan.....</b>	<b>42</b>
Prerequisites.....	42
Procedure.....	42
<b>Replacing the fan.....</b>	<b>44</b>
Procedure.....	44
Post-requisites.....	44
<b>Removing the heat sink.....</b>	<b>45</b>
Prerequisites.....	45
Procedure.....	45
<b>Replacing the heat sink.....</b>	<b>47</b>
Procedure.....	47
Post-requisites.....	47
<b>Removing the power-adapter port.....</b>	<b>48</b>
Prerequisites.....	48
Procedure.....	48
<b>Replacing the power-adapter port.....</b>	<b>50</b>
Procedure.....	50
Post-requisites.....	50
<b>Removing the power and volume-buttons board.....</b>	<b>51</b>
Prerequisites.....	51
Procedure.....	51



<b>Replacing the power and volume-buttons board.....</b>	<b>53</b>
Procedure.....	53
Post-requisites.....	53
<b>Removing the status-light board.....</b>	<b>54</b>
Prerequisites.....	54
Procedure.....	54
<b>Replacing the status-light board.....</b>	<b>56</b>
Procedure.....	56
Post-requisites.....	56
<b>Removing the touchpad.....</b>	<b>57</b>
Prerequisites.....	57
Procedure.....	57
<b>Replacing the touchpad.....</b>	<b>60</b>
Procedure.....	60
Post-requisites.....	60
<b>Removing the I/O board.....</b>	<b>61</b>
Prerequisites.....	61
Procedure.....	61
<b>Replacing the I/O board.....</b>	<b>63</b>
Procedure.....	63
Post-requisites.....	63
<b>Removing the display assembly.....</b>	<b>64</b>
Prerequisites.....	64
Procedure.....	64



<b>Replacing the display assembly.....</b>	<b>68</b>
Procedure.....	68
Post-requisites.....	68
<b>Removing the system board.....</b>	<b>69</b>
Prerequisites.....	69
Procedure.....	69
<b>Replacing the system board.....</b>	<b>74</b>
Procedure.....	74
Post-requisites.....	75
Entering the Service Tag in the BIOS setup program.....	75
<b>Removing the keyboard.....</b>	<b>76</b>
Prerequisites.....	76
Procedure.....	77
<b>Replacing the keyboard.....</b>	<b>80</b>
Procedure.....	80
Post-requisites.....	80
<b>Removing the palm-rest assembly.....</b>	<b>82</b>
Prerequisites.....	82
Procedure.....	83
<b>Replacing the palm-rest assembly.....</b>	<b>84</b>
Procedure.....	84
Post-requisites.....	84
<b>Removing the display panel.....</b>	<b>86</b>
Prerequisites.....	86
Procedure.....	86



- Replacing the display panel..... 89**
  - Procedure..... 89
  - Post-requisites..... 89
  
- Removing the display back-cover and antenna assembly..... 90**
  - Prerequisites..... 90
  - Procedure..... 90
  
- Replacing the display back-cover and antenna assembly..... 92**
  - Procedure..... 92
  - Post-requisites..... 92
  
- Removing the camera..... 93**
  - Prerequisites..... 93
  - Procedure..... 93
  
- Replacing the camera..... 95**
  - Procedure..... 95
  - Post-requisites..... 95
  
- Removing the display cable..... 96**
  - Prerequisites..... 96
  - Procedure..... 96
  
- Replacing the display cable..... 98**
  - Procedure..... 98
  - Post-requisites..... 98





<b>Downloading drivers.....</b>	<b>99</b>
Downloading the audio driver.....	99
Downloading the graphics driver.....	100
Downloading the USB driver.....	100
Downloading the chipset driver.....	101
Downloading the network driver.....	102
<b>System setup.....</b>	<b>104</b>
Boot Sequence.....	104
Navigation keys.....	104
BIOS overview.....	105
Entering the BIOS setup program.....	105
System setup options.....	105
<b>Troubleshooting.....</b>	<b>112</b>
Flashing the BIOS.....	112
Enhanced Pre-Boot System Assessment (ePSA) diagnostics.....	112
Running the ePSA diagnostics.....	113
System diagnostic lights.....	113
Flea power release.....	115
Wi-Fi power cycle.....	115
<b>Getting help and contacting Dell.....</b>	<b>116</b>
Self-help resources.....	116
Contacting Dell.....	117





# Before working inside your computer

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


## Before you begin

- 1 Save and close all open files and exit all open applications.
- 2 Shut down your computer. Click **Start** →  **Power** → **Shut down**.  
 **NOTE:** If you are using a different operating system, see the documentation of your operating system for shut-down instructions.
- 3 Disconnect your computer and all attached devices from their electrical outlets.
- 4 Disconnect all attached network devices and peripherals, such as keyboard, mouse, and monitor from your computer.
- 5 Remove any media card and optical disc from your computer, if applicable.

## Safety instructions

Use the following safety guidelines to protect your computer from potential damage and ensure your personal safety.

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

 **WARNING:** Disconnect all power sources before opening the computer cover or panels. After you finish working inside the computer, replace all covers, panels, and screws before connecting to the 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](http://www.dell.com/regulatory_compliance).
- △ **CAUTION:** Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.
- △ **CAUTION:** When you disconnect a cable, pull on its connector or on its pull tab, not on the cable itself. Some cables have connectors with locking tabs or thumb-screws that you must disengage before disconnecting the cable. When disconnecting cables, keep them evenly aligned to avoid bending any connector pins. When connecting cables, ensure that the ports and connectors are correctly oriented and aligned.
- △ **CAUTION:** Press and eject any installed card from the media-card reader.

## Recommended tools

The procedures in this document may require the following tools:












- Phillips screwdriver #0
- Phillips screwdriver #1
- Plastic scribe








# Screw list

The following table provides the list of screws that are used for securing different components to the computer.

**Table 1. Screw list**

Component	Secured to	Screw type	Quantity	
Base cover	Palm-rest assembly	M2.5x7	9	
Battery	Palm-rest assembly	M2x3	4	
Solid-state drive	Palm-rest assembly	M2x3	1	
Wireless card bracket	Palm-rest assembly	M2x3	1	
Fan	Palm-rest assembly	M2x3	2	
Power adapter port	Palm-rest assembly	M2x3	1	
Power and volume-buttons board	Palm-rest assembly	M2x3	1	
Touch-pad bracket	Palm-rest assembly	M2x2	4	
Touch pad	Palm-rest assembly	M2x2	4	
I/O board	Palm-rest assembly	M2x3.5	2	
Display assembly	Palm-rest assembly	M2.5x2.5 Big Head	4	

<b>Component</b>	<b>Secured to</b>	<b>Screw type</b>	<b>Quantity</b>	
System board bracket	System board and palm-rest assembly	M2.5x5	2	
System board	Palm-rest assembly	M2x2 Big Head	3	
Keyboard shield	Palm-rest assembly	M2x2 Big Head	14	
Keyboard	Palm-rest assembly	M1.2xL1.4	14	
Sensor board	Display panel	M2.5x2.5 Big Head	1	



# After working inside your computer

---



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

- 1 Replace all screws and ensure that no stray screws remain inside your computer.
- 2 Connect any external devices, peripherals, or cables you removed before working on your computer.
- 3 Replace any media cards, discs, or any other parts that you removed before working on your computer.
- 4 Connect your computer and all attached devices to their electrical outlets.
- 5 Turn on your computer.

# Removing the base cover

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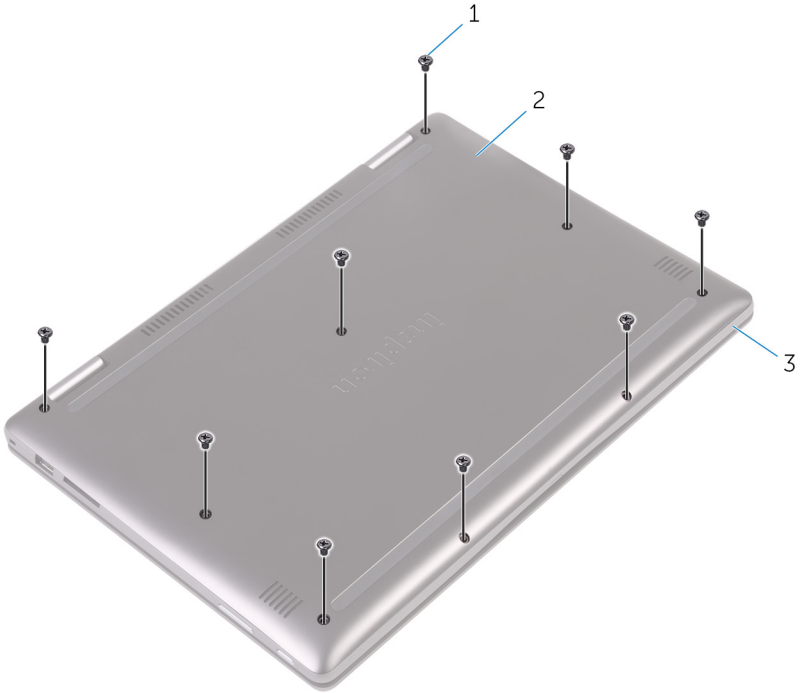
**WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best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

## Procedure

- 1 Close the display and turn the computer over.



- 2 Remove the nine screws (M2.5x7) that secure the base cover to the palm-rest assembly.



**Figure 1. Removing the screws**

- |   |                    |   |            |
|---|--------------------|---|------------|
| 1 | screws (9)         | 2 | base cover |
| 3 | palm-rest assembly |   |            |



- 3 Using a plastic scribe, release the tabs that secure the base cover to the palm-rest assembly and remove the base cover off the palm-rest assembly.



**Figure 2. Removing the base cover**

- |   |                |   |                    |
|---|----------------|---|--------------------|
| 1 | plastic scribe | 2 | palm-rest assembly |
| 3 | base cover     |   |                    |

# Replacing the base cover

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## Procedure

- 1 Align the base cover with the palm-rest assembly and snap it into place.
- 2 Replace the nine screws (M2.5x7) that secure the base cover to the palm-rest assembly.

# Removing the battery

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## Prerequisites

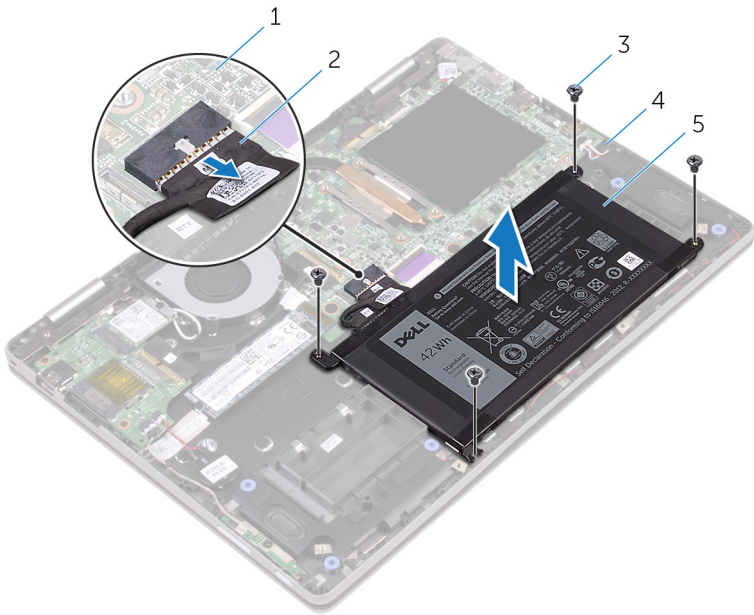
Remove the [base cover](#).

## Procedure

- 1 Disconnect the battery cable from the system board.
- 2 Remove the four screws (M2x3) that secure the battery to the palm-rest assembly.



- 3 Lift the battery off the palm-rest assembly.



**Figure 3. Removing the battery**

- |   |              |   |                    |
|---|--------------|---|--------------------|
| 1 | system board | 2 | battery cable      |
| 3 | screws (4)   | 4 | palm-rest assembly |
| 5 | battery      |   |                    |
- 4 Press and hold the power button for five seconds to ground the system board.

# Replacing the battery

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## Procedure

- 1 Align the screw holes on the battery with the screw holes on the palm-rest assembly.
- 2 Replace the four screws (M2x3) that secure the battery to the palm-rest assembly.
- 3 Connect the battery cable to the system board.


## Post-requisites

Replace the [base cover](#).




# Removing the solid-state drive

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 **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.

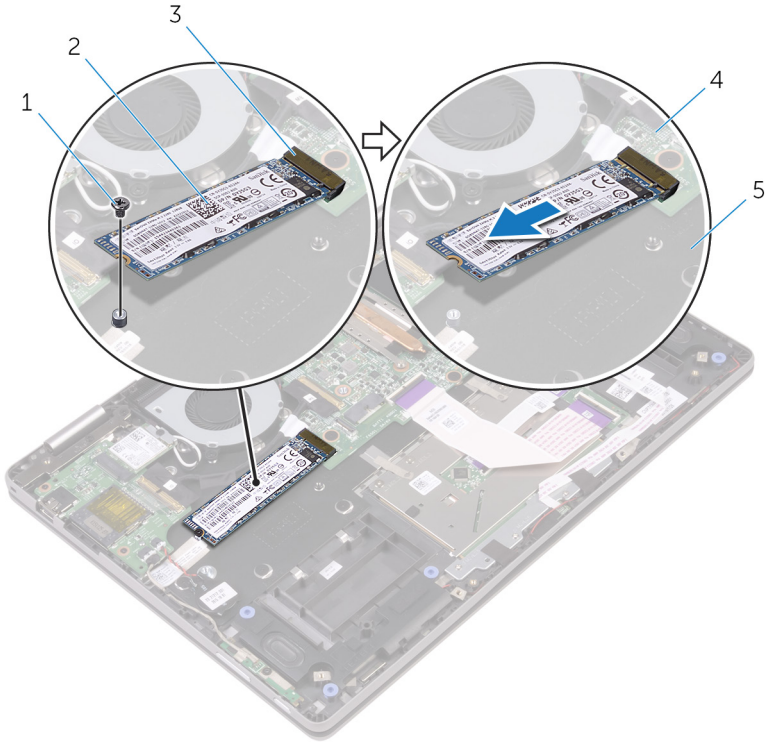
## Prerequisites

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

## Procedure

- 1 Remove the screw (M2x3) that secures the solid-state drive to the palm-rest assembly.

- 2 Slide and remove the solid-state drive off the system board.




**Figure 4. Removing the solid-state drive**

- |   |                        |   |                   |
|---|------------------------|---|-------------------|
| 1 | screw                  | 2 | solid-state drive |
| 3 | solid-state drive slot | 4 | system board      |
| 5 | palm-rest assembly     |   |                   |

# Replacing the solid-state drive

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

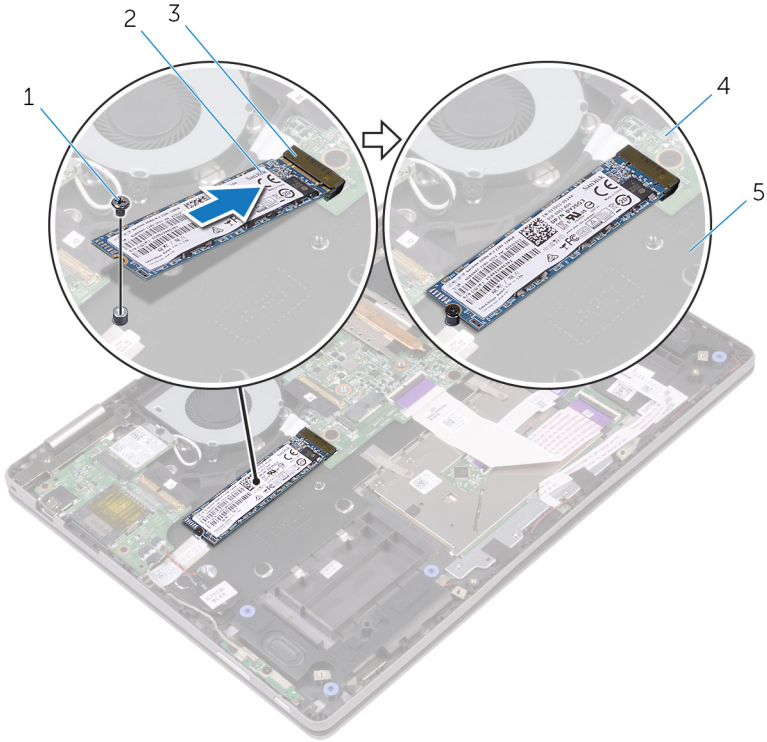
## Procedure

- 1 Slide the solid-state drive firmly into the slot on the system board at an angle and gently press the solid-state drive down until it snaps into position.

 **NOTE:** Ensure that the solid-state drive is firmly seated.



- 2 Press the other end of the solid-state drive and replace the screw (M2x3) that secures the solid-state drive to the palm-rest assembly.



**Figure 5. Replacing solid-state drive**

- |   |                        |   |                   |
|---|------------------------|---|-------------------|
| 1 | screw                  | 2 | solid-state drive |
| 3 | solid-state drive slot | 4 | system board      |
| 5 | palm-rest assembly     |   |                   |

## Post-requisites

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



# Removing the memory modules

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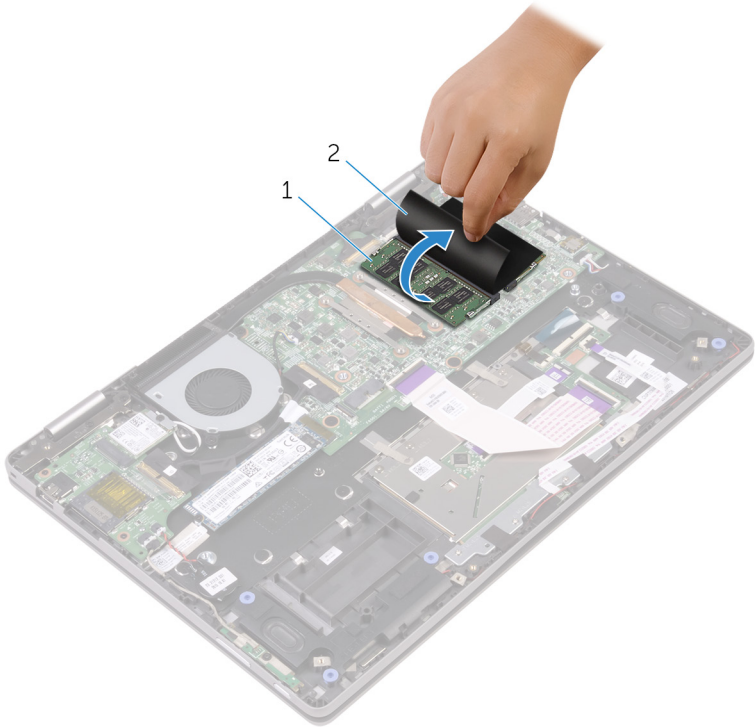
**WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best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

## Prerequisites

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

# Procedure

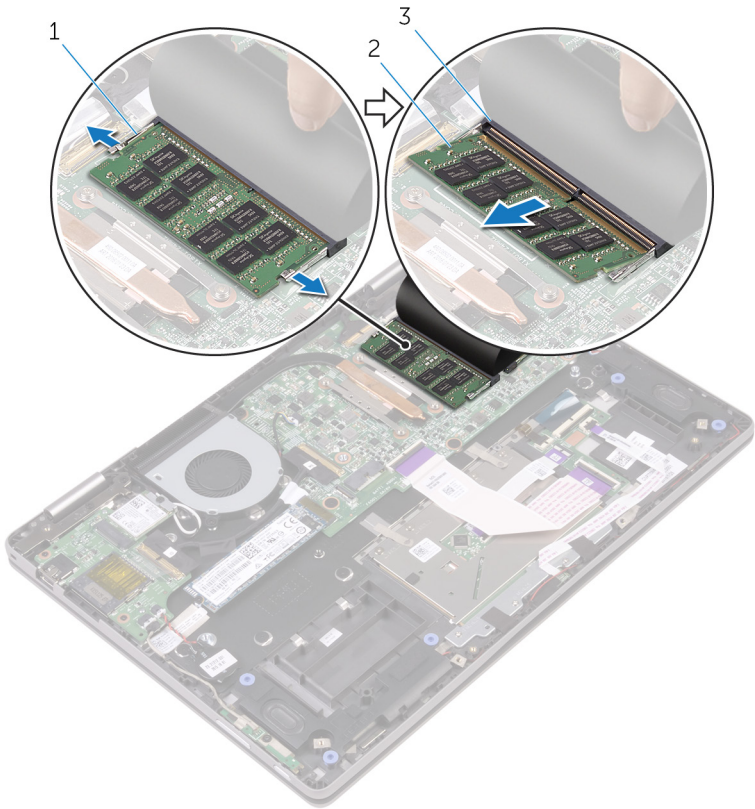
- 1 Lift the Mylar to access the memory module.



**Figure 6. Removing the Mylar**

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

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



**Figure 7. Removing the memory module**

- |   |                    |   |               |
|---|--------------------|---|---------------|
| 1 | securing clips (2) | 2 | memory module |
| 3 | memory-module slot |   |               |

# Replacing the memory modules

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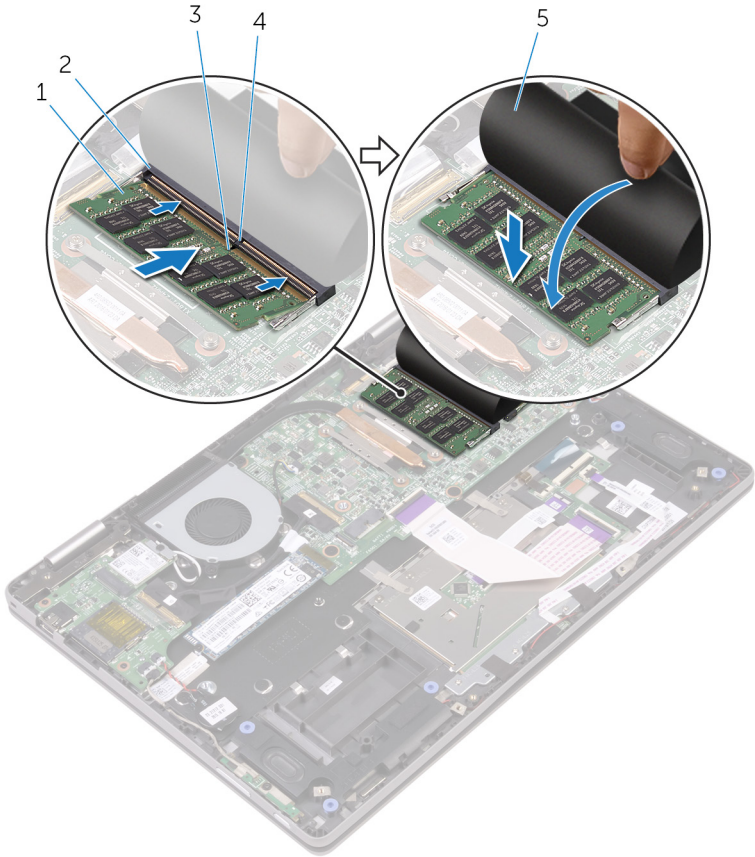
## Procedure

- 1 Lift the Mylar to access the memory-module slot.
- 2 Align the notch on the memory module with the tab on the memory-module slot.



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

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



**Figure 8. Replacing the memory module**

- |   |               |   |                    |
|---|---------------|---|--------------------|
| 1 | memory module | 2 | memory-module slot |
| 3 | notch         | 4 | tab                |
| 5 | Mylar         |   |                    |


# Post-requisites


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



# Removing the coin-cell battery

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

## Prerequisites

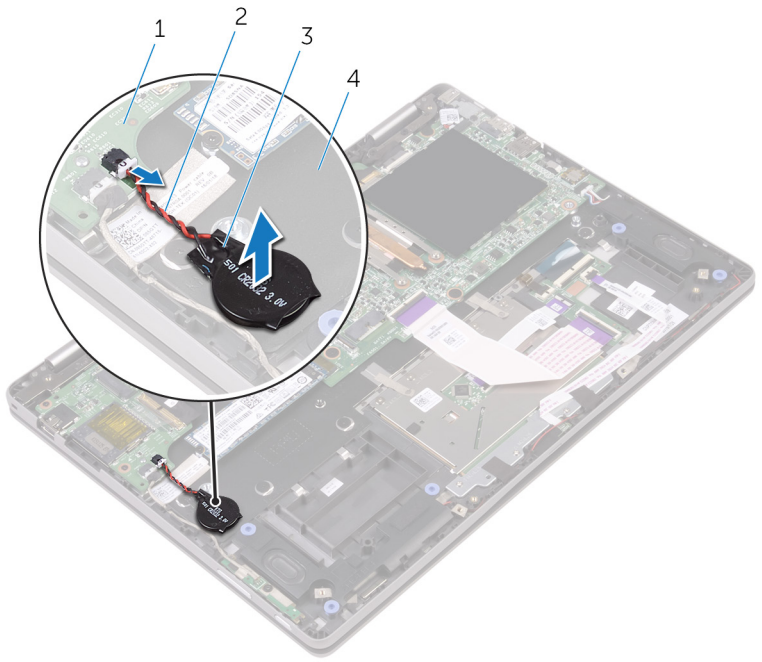
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).

## Procedure

- 1 Disconnect the coin-cell battery cable from the I/O board.



2 Peel the coin-cell battery off the palm-rest assembly.



**Figure 9. Removing the coin-cell battery**

- |   |                   |   |                         |
|---|-------------------|---|-------------------------|
| 1 | I/O board         | 2 | coin-cell battery cable |
| 3 | coin-cell battery | 4 | palm-rest assembly      |

# Replacing the coin-cell battery

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## Procedure

- 1 Adhere the coin-cell battery to the palm-rest assembly.
- 2 Connect the coin-cell battery cable to the I/O board.

## Post-requisites

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

# Removing the wireless card

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## Prerequisites

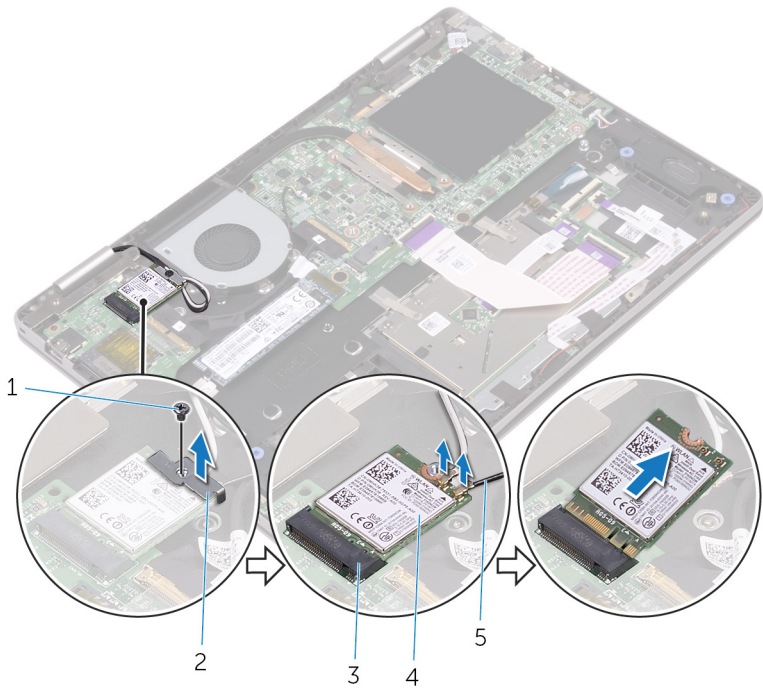
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).

## Procedure

- 1 Remove the screw (M2x3) that secures the wireless-card bracket to the wireless card.
- 2 Disconnect the antenna cables from the wireless card.



- 3 Slide and remove the wireless card from the wireless-card slot.




**Figure 10. Removing the wireless card**

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

# Replacing the wireless card

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## Procedure

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

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

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

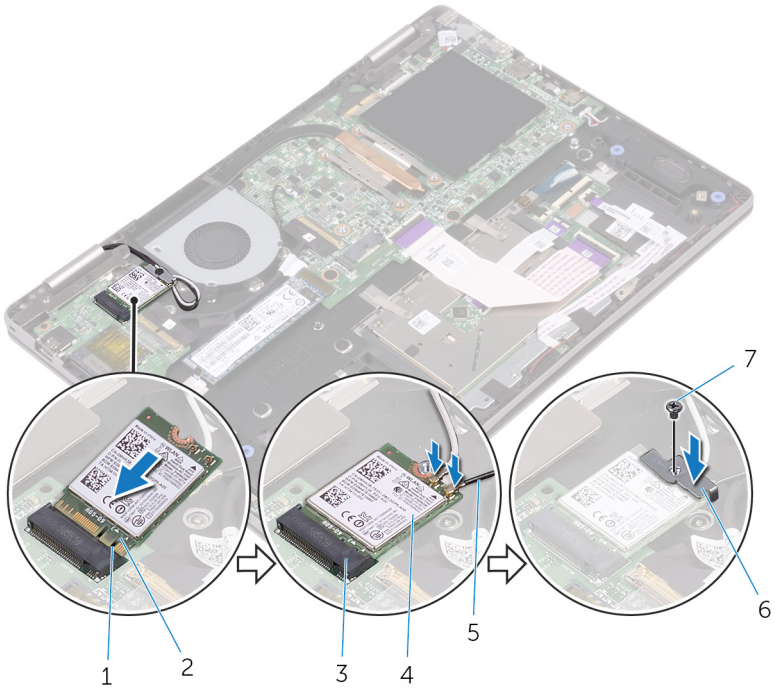
**Table 2. Antenna-cable color scheme**

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

- 4 Align the screw hole on the wireless card bracket with the screw hole on the wireless card.



- 5 Replace the screw (M2x3) that secures the wireless card bracket to the wireless card.



**Figure 11. Replacing the wireless card**

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

## Post-requisites

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

# Removing the speakers

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## Prerequisites

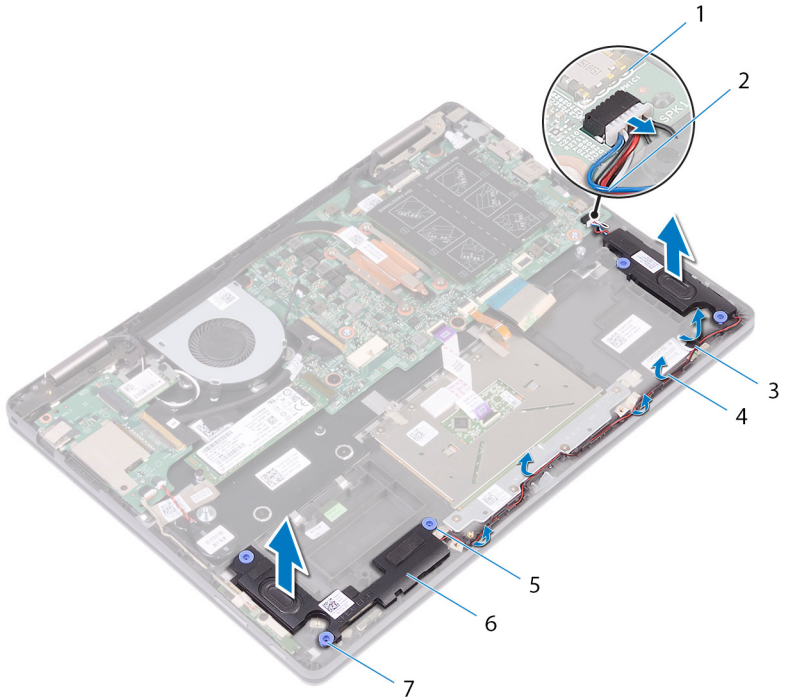
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).

## Procedure

- 1 Disconnect the speaker cable from the system board.
- 2 Peel off the pieces of tape that secure the speaker cable to the palm-rest assembly.
- 3 Remove the speaker cable from the routing guides on the palm-rest assembly.
- 4 Note the position of the rubber grommets before lifting the speaker.



- 5 Remove the speakers from the alignment posts and lift the speakers off the palm-rest assembly.



**Figure 12. Removing the speakers**

- |   |                     |   |                |
|---|---------------------|---|----------------|
| 1 | system board        | 2 | speaker cable  |
| 3 | tape (2)            | 4 | routing guides |
| 5 | alignment posts     | 6 | speakers (2)   |
| 7 | rubber grommets (5) |   |                |



# Replacing the speakers

---



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## Procedure



**NOTE:** The rubber grommets may get pushed out while replacing the speaker. Ensure that the rubber grommets are in their position after placing the speaker on the palm-rest assembly.

- 1 Using the alignment posts, align and place the speakers on the palm-rest assembly.
- 2 Replace the rubber grommets if they are pushed up while replacing the speaker.
- 3 Route the speaker cable through the routing guides on the palm-rest assembly.
- 4 Adhere the pieces of tape that secure the speaker cable to the palm-rest assembly.
- 5 Connect the speaker cable to the system board.

## Post-requisites

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



# Removing the 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](http://www.dell.com/regulatory_compliance).

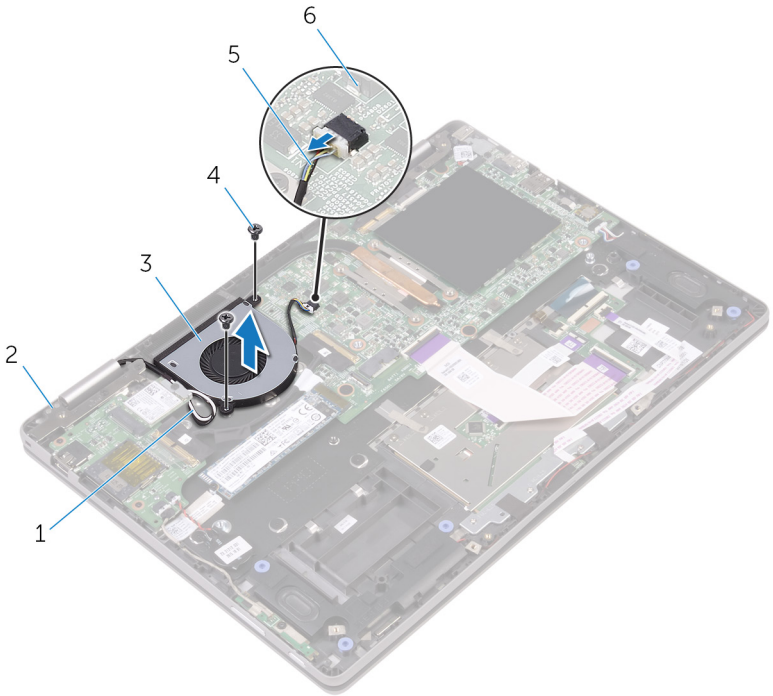
## Prerequisites

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

## Procedure

- 1 Remove the two screws (M2x3) that secure the fan to the palm-rest assembly.
- 2 Disconnect the fan cable from the system board.

- 3** Move the antenna cables out of the way and lift the fan off the palm-rest assembly.



**Figure 13. Removing the fan**

- |   |                    |   |                    |
|---|--------------------|---|--------------------|
| 1 | antenna cables (2) | 2 | palm-rest assembly |
| 3 | fan                | 4 | screws (2)         |
| 5 | fan cable          | 6 | system board       |

# Replacing the 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](http://www.dell.com/regulatory_compliance).

## Procedure



**CAUTION:** To avoid damage to the fan, do not place any cables under it.


- 1 Align the screw holes on the fan with the screw holes on the palm-rest assembly.
- 2 Replace the two screws (M2x3) that secure the fan to the palm-rest assembly.
- 3 Connect the fan cable to the system board.

## Post-requisites


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

# Removing the heat sink

---

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

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

 **CAUTION:** For maximum cooling of the processor, do not touch the heat transfer areas on the heat sink. The oils in your skin can reduce the heat transfer capability of the thermal grease.

## Prerequisites

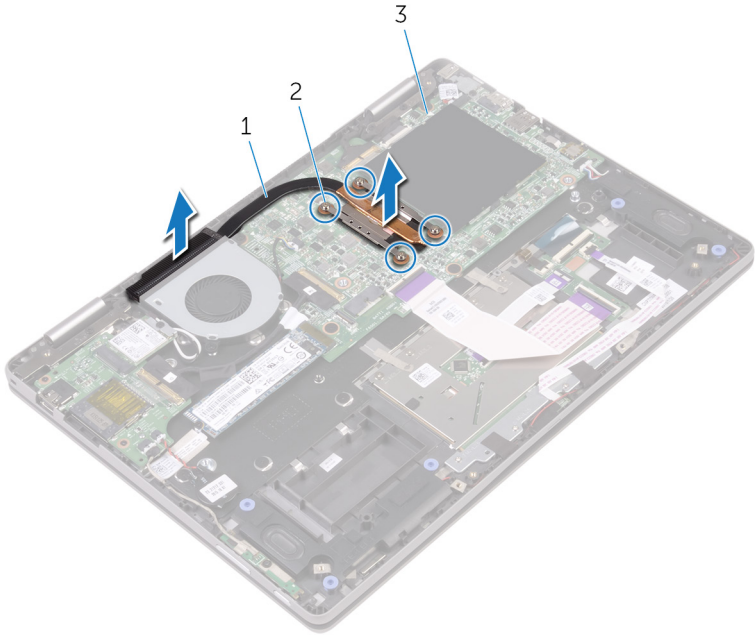
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).

## Procedure

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



- 2 Lift the heat sink off the system board.




**Figure 14. Removing the heat sink**


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

# Replacing the heat sink

---

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

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

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

## Procedure

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

## Post-requisites

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



# Removing the power-adapter port

---



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

## Prerequisites

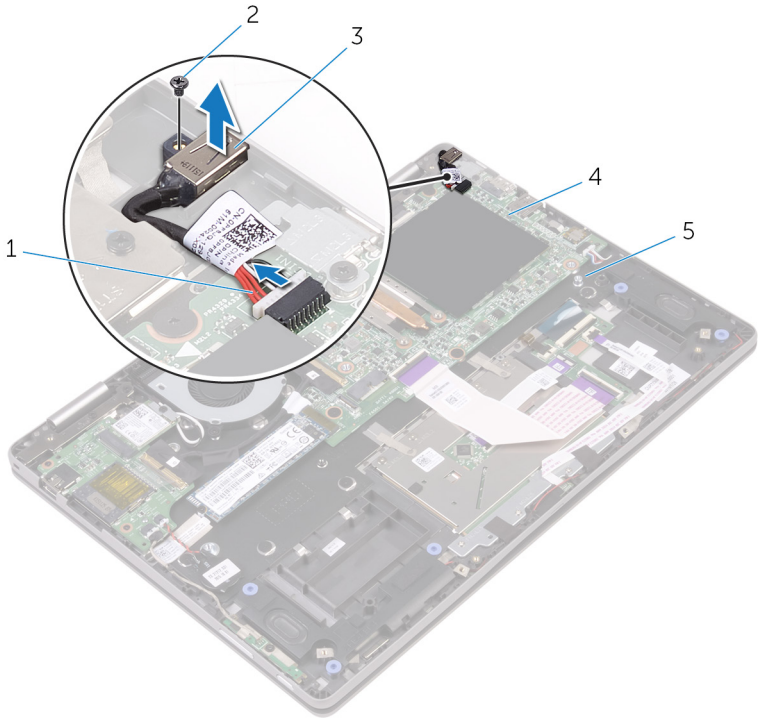
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).

## Procedure

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



**3** Lift the power-adapter port off the palm-rest assembly.



**Figure 15. Removing the power-adapter port**

- |   |                          |   |              |
|---|--------------------------|---|--------------|
| 1 | power-adapter port-cable | 2 | screw        |
| 3 | power adapter port       | 4 | system board |
| 5 | palm-rest assembly       |   |              |

# Replacing the power-adapter port

---



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

## Procedure

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

## Post-requisites

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

# Removing the power and volume-buttons board

---



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

## Prerequisites

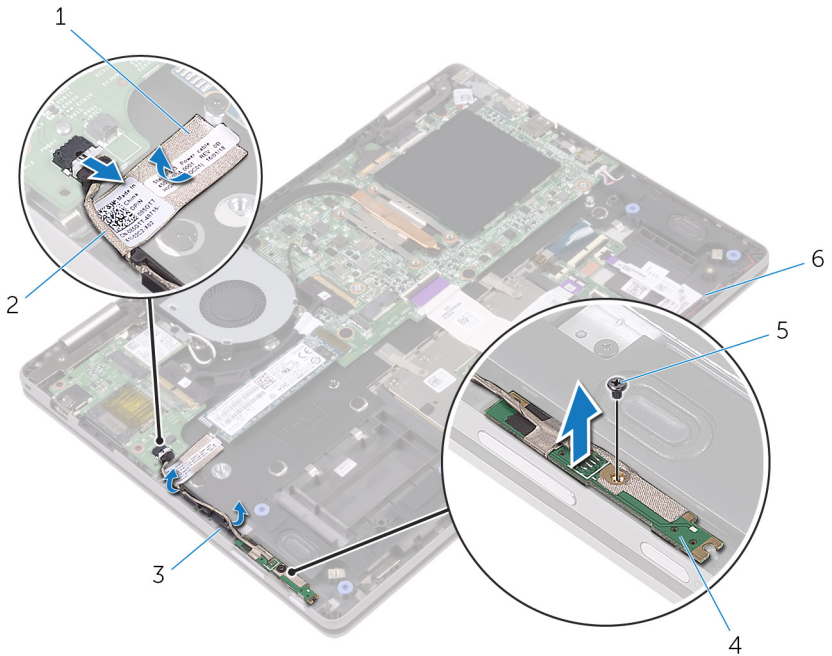
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [coin-cell battery](#).

## Procedure

- 1 Peel off the tape that secures the power and volume-buttons board-cable to the palm-rest assembly.
- 2 Disconnect the power and volume-buttons board-cable from the I/O board.
- 3 Remove the power and volume-buttons board-cable from the routing guides on the palm-rest assembly.
- 4 Remove the screw (M2x3) that secures the power and volume-buttons board to the palm-rest assembly.



- 5 Lift the power and volume-buttons board off the palm-rest assembly.



**Figure 16. Removing the power and volume-buttons board**

- |   |                    |   |                                      |
|---|--------------------|---|--------------------------------------|
| 1 | tape               | 2 | power and volume-buttons board-cable |
| 3 | routing guides (2) | 4 | power and volume-buttons board       |
| 5 | screw              | 6 | palm-rest assembly                   |

# Replacing the power and volume-buttons board

---



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

## Procedure

- 1 Align the screw hole on the power and volume-buttons board with the screw hole on the palm-rest assembly.
- 2 Replace the screw (M2x3) that secures the power and volume-buttons board to the palm-rest assembly.
- 3 Route the power and volume-buttons board-cable through the routing guides on the palm-rest assembly.
- 4 Connect the power and volume-buttons board-cable to the I/O board.
- 5 Adhere the tape that secures the power and volume-buttons board-cable to the palm-rest assembly.

## Post-requisites

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



# Removing the status-light board

---



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

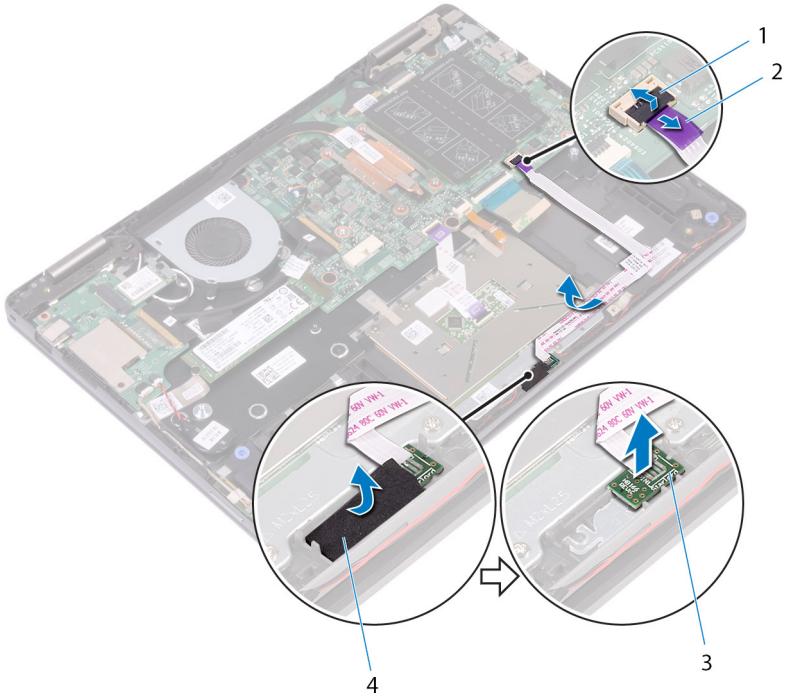
## Prerequisites

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

## Procedure

- 1 Open the latch and disconnect the status-light board-cable from the system board.
- 2 Peel the foam securing the status-light board to the palm-rest assembly.

3 Lift the status-light board off the palm-rest assembly.



**Figure 17. Removing the status-light board**

- |   |                    |   |                          |
|---|--------------------|---|--------------------------|
| 1 | latch              | 2 | status-light board-cable |
| 3 | status-light board | 4 | foam                     |

# Replacing the status-light board

---



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

## Procedure

- 1 Align and place the status-light board in the slot on the palm-rest assembly.
- 2 Adhere the foam securing the status-light board to the palm-rest assembly.
- 3 Slide the status-light board-cable into the connector on the system board and close the latch to secure the cable.

## Post-requisites

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



# Removing the touchpad

---



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

## Prerequisites

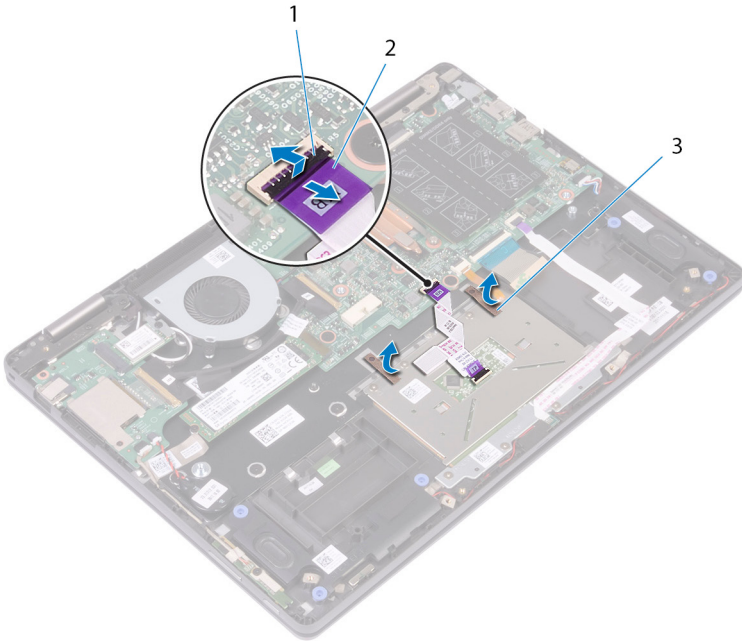
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [status-light board](#).

## Procedure

- 1 Open the latches and disconnect the touch-pad cable from the system board.



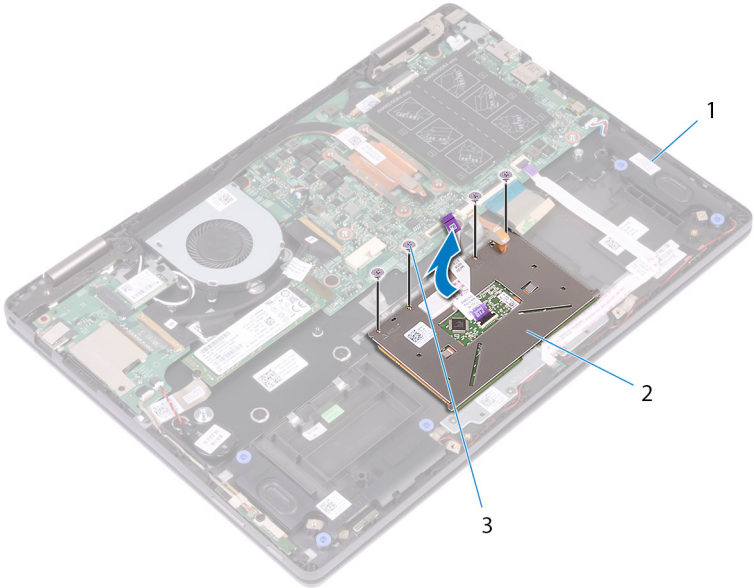
- 2 Peel off the pieces of tape that secure the touch-pad to the palm-rest assembly.



**Figure 18. Disconnecting touch-pad cable**

- |   |          |   |                 |
|---|----------|---|-----------------|
| 1 | latch    | 2 | touch-pad cable |
| 3 | tape (2) |   |                 |
- 3 Remove the screws that secure the touchpad to the palm-rest assembly.

- Slide and lift the touchpad off the palm-rest assembly.



**Figure 19. Removing the touchpad**

- |   |                    |   |           |
|---|--------------------|---|-----------|
| 1 | palm-rest assembly | 2 | touch pad |
| 3 | screws (4)         |   |           |

# Replacing the touchpad

---



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

## Procedure

- 1 Place the touchpad on the palm-rest assembly.
- 2 Align the screw holes on the touchpad with the screw holes on the palm-rest assembly.
- 3 Replace the screws that secure the touchpad to the palm-rest assembly.
- 4 Adhere the pieces of tape that secure the touchpad to the palm-rest assembly.
- 5 Slide the touch-pad cable into the respective connector on the system board and close the latch to secure the cable.

## Post-requisites

- 1 Replace the [status-light board](#).
- 2 Replace the [battery](#).
- 3 Replace the [base cover](#).

# Removing the I/O board

---



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

## Prerequisites

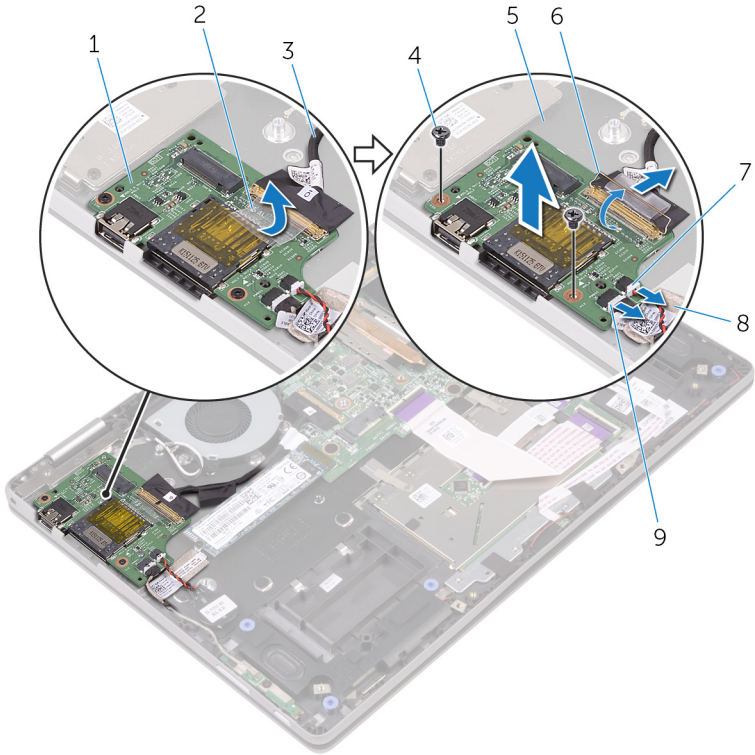
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [wireless card](#).

## Procedure

- 1 Peel off the tape that secures the I/O-board cable to the I/O board.
- 2 Disconnect the I/O-board cable from the I/O board.
- 3 Peel off the tape that secures the power and volume-buttons board-cable to the palm-rest assembly.
- 4 Disconnect the power and volume-buttons board-cable from the I/O board.
- 5 Disconnect the coin-cell battery-cable from the I/O board.
- 6 Remove the two screws (M2x3.5) that secures the I/O board to the palm-rest assembly.



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



**Figure 20. Removing the I/O-board**

- |   |                                      |   |            |
|---|--------------------------------------|---|------------|
| 1 | I/O board                            | 2 | tape       |
| 3 | I/O-board cable                      | 4 | screws (2) |
| 5 | palm-rest assembly                   | 6 | latch      |
| 7 | coin-cell battery-cable              | 8 | tape       |
| 9 | power and volume-buttons board-cable |   |            |

# 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](http://www.dell.com/regulatory_compliance).

## Procedure

- 1 Place the I/O board on the palm-rest assembly.
- 2 Align the screw holes on the I/O board with the screw holes on the palm-rest assembly.
- 3 Replace the two screws (M2x3.5) that secure the I/O board to the palm-rest assembly.
- 4 Connect the power and volume-buttons board-cable and coin-cell battery-cable to the I/O board.
- 5 Connect the I/O-board cable to the I/O board.
- 6 Adhere the tape that secures the power and volume-buttons board-cable to the palm-rest assembly.
- 7 Adhere the tape that secures the I/O-board cable to the I/O board.

## Post-requisites

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



# Removing the display assembly

---



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

## Prerequisites

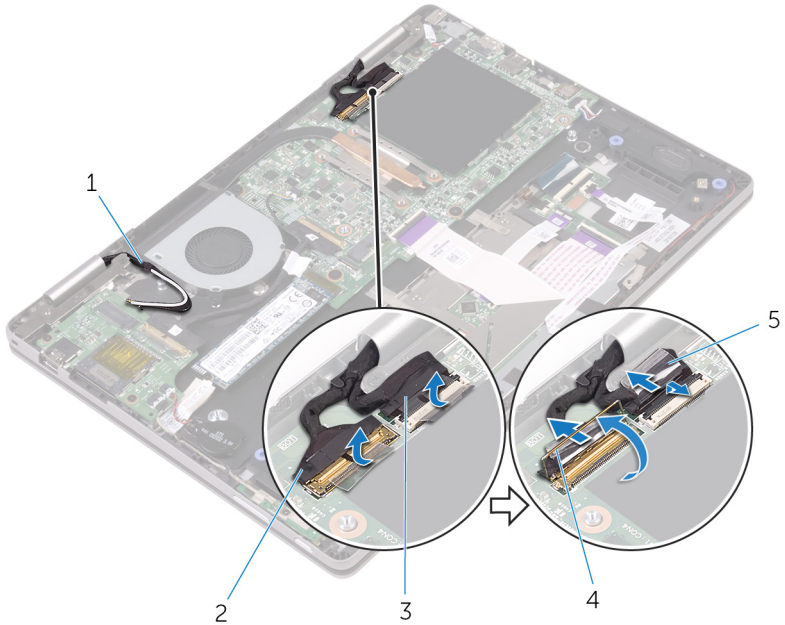
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [wireless card](#).

## Procedure

- 1 Peel off the pieces of tape that secure the display cable and touch-screen board-cable to the system board.



- 2 Open the latches to disconnect the display cable and the touch-screen board-cable from the system board.



**Figure 21. Disconnecting the cables**

- |   |                          |   |               |
|---|--------------------------|---|---------------|
| 1 | antenna cables (2)       | 2 | display cable |
| 3 | touch-screen board-cable | 4 | latch         |
| 5 | tape (2)                 |   |               |

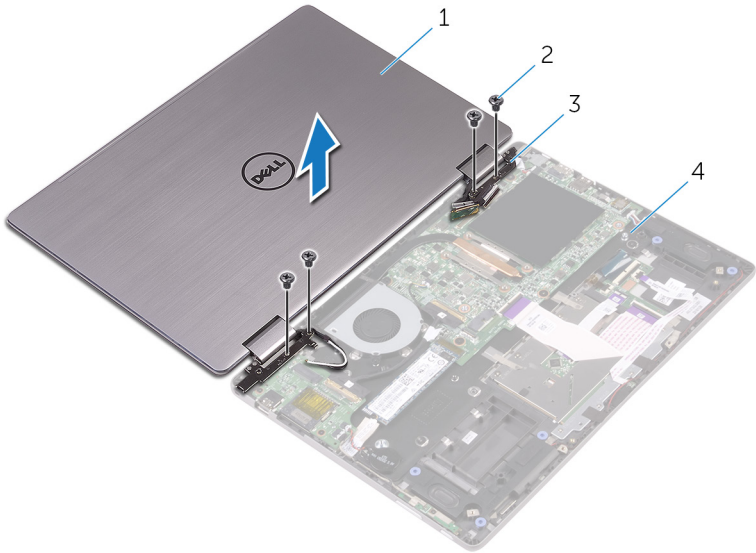
- 3 Turn the computer over and open the display as far as possible.

**⚠ CAUTION: Place the computer on a soft and clean surface to avoid scratching the display.**

- 4 Place the computer face down on a flat surface.



- 5 Remove the four screws (M2.5x2.5 Big Head) that secure the display assembly to the palm-rest assembly.



**Figure 22. Removing the display assembly**

- |   |                    |   |                    |
|---|--------------------|---|--------------------|
| 1 | display assembly   | 2 | screws (4)         |
| 3 | display hinges (2) | 4 | palm-rest assembly |

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




**Figure 23. Display assembly**

- display assembly

# Replacing the display assembly

---

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

## Procedure

 **CAUTION:** Place the computer on a soft and clean surface to avoid scratching the display.

- 1 Place the display assembly face down on the palm-rest assembly.
- 2 Align the screw holes on the display hinges with the screw holes on the palm-rest assembly.
- 3 Replace the four screws (M2.5x2.5 Big Head) that secure the display assembly to the palm-rest assembly.
- 4 Close the display and turn the computer over.
- 5 Slide the display cable and the touch-screen board-cable into their respective connectors on the system board and close the latches to secure the cables.
- 6 Adhere the pieces of tape that secure the display cable and the touch-screen board-cable to their respective connectors on the system board.

## Post-requisites

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

# Removing the system board

---



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



**NOTE:** Your computer's Service Tag is stored in the system board. You must enter the Service Tag in the BIOS setup program after you replace the system board.



**NOTE:** Replacing the system board removes any changes you have made to the BIOS using the BIOS setup program. You must make the appropriate changes again after you replace the system board.



**NOTE:** Before disconnecting the cables from the system board, note the location of the connectors so that you can reconnect the cables correctly after you replace the system board.

## Prerequisites

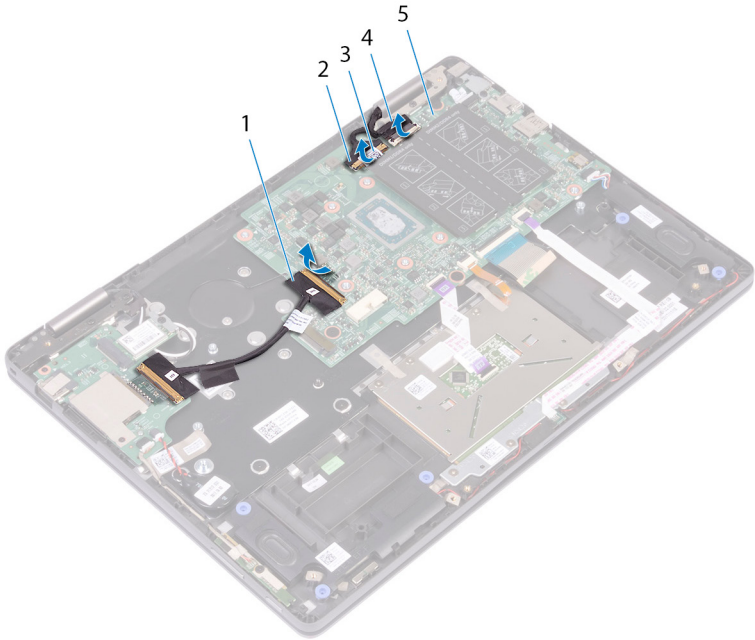
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [memory modules](#).
- 4 Remove the [fan](#).
- 5 Remove the [heat sink](#).
- 6 Remove the [solid-state drive](#).

## Procedure

- 1 Peel off the pieces of tape that secure the display cable and touch-screen board-cable to the system board.



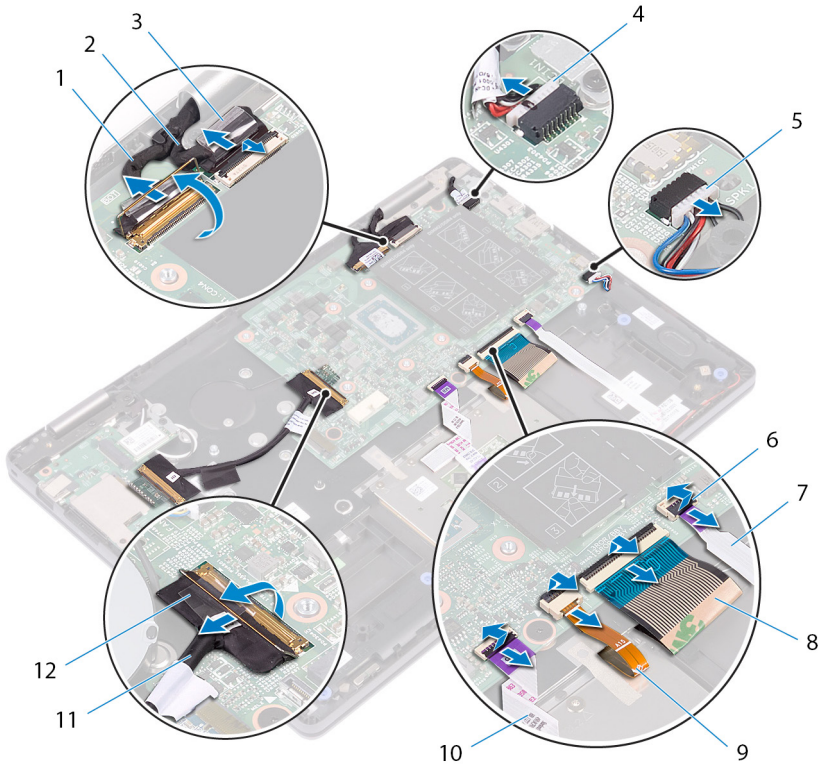
- 2 Peel off the tape that secures the I/O-board cable to the system board.



**Figure 24. Disconnecting the cables**

- |   |                 |   |                    |
|---|-----------------|---|--------------------|
| 1 | I/O-board cable | 2 | display cable      |
| 3 | tape (3)        | 4 | touch-screen cable |
| 5 | system board    |   |                    |
- 3 Open the latches to disconnect the display cable and the touch-screen board-cable from the system board.
  - 4 Open the latch to disconnect the I/O-board cable from the system board.
  - 5 Disconnect the power-adaptor cable and the speaker cable from the system board.

- 6 Open the latch and disconnect the status-light board cable, keyboard cable, keyboard backlit cable, and touch-pad cable from the system board.



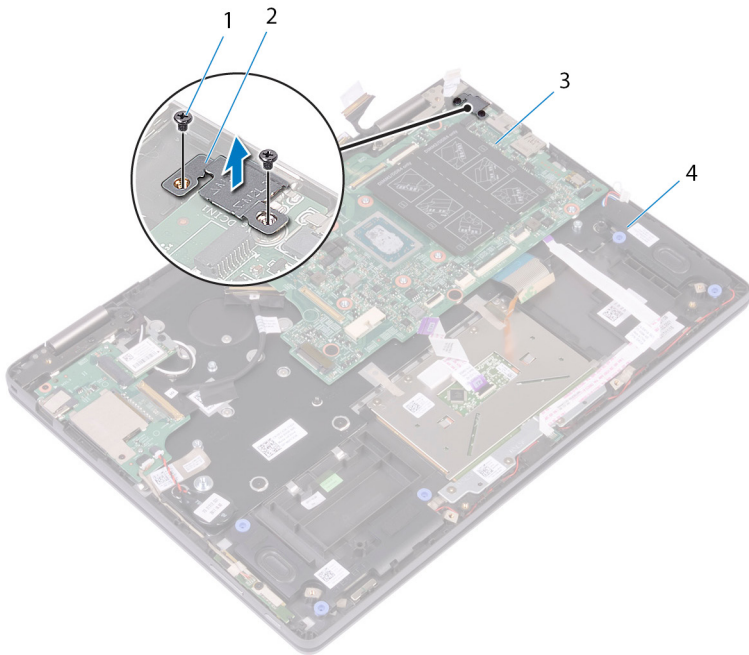
**Figure 25. Disconnecting system board cables**

- |    |                          |    |                          |
|----|--------------------------|----|--------------------------|
| 1  | display cable            | 2  | touch-screen cable       |
| 3  | tape (2)                 | 4  | power-adaptor port-cable |
| 5  | speaker cable            | 6  | latch                    |
| 7  | status-light board cable | 8  | keyboard cable           |
| 9  | keyboard backlit cable   | 10 | touch-pad cable          |
| 11 | I/O-board cable          | 12 | tape                     |

- 7 Remove the two screws (M2.5x5) that secure the system-board bracket to the system board and the palm-rest assembly.



- 8 Lift the system-board bracket off the palm-rest assembly.

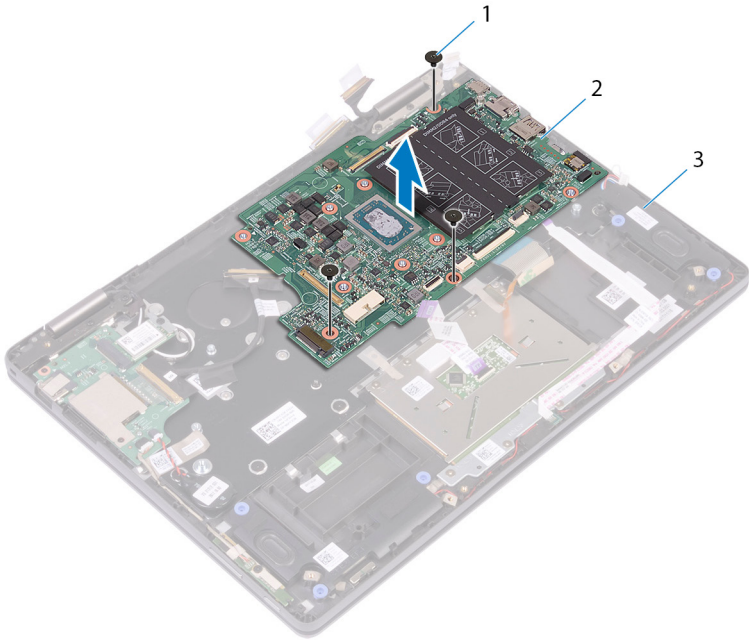


**Figure 26. Removing the system-board bracket**

- |   |              |   |                      |
|---|--------------|---|----------------------|
| 1 | screws (2)   | 2 | system-board bracket |
| 3 | system board | 4 | palm-rest assembly   |
- 9 Remove the three screws (M2x2 Big Head) that secure the system board to the palm-rest assembly.



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



**Figure 27. Removing the system board**

- |   |                    |   |              |
|---|--------------------|---|--------------|
| 1 | screws (3)         | 2 | system board |
| 3 | palm-rest assembly |   |              |

# Replacing the system board

---



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



**NOTE:** Your computer's Service Tag is stored in the system board. You must enter the Service Tag in the BIOS setup program after you replace the system board.



**NOTE:** Replacing the system board removes any changes you have made to the BIOS using the BIOS setup program. You must make the appropriate changes again after you replace the system board.

## Procedure

- 1 Align the screw holes on the system board with the screw holes on the palm-rest assembly.
- 2 Replace the three screws (M2x2 Big Head) that secures the system board to the palm-rest assembly.
- 3 Align the screw holes on the system-board bracket with the screw holes on the system board and the palm-rest assembly.
- 4 Replace the two screws (M2.5x5) that secure the system-board bracket to the system board and the palm-rest assembly.
- 5 Slide the I/O-board cable into the connector on the system board and close the latch to secure the cable.
- 6 Adhere the tape that secures the I/O-board cable to the system board.
- 7 Connect the power-adaptor port-cable and the speaker cable to the system board.
- 8 Slide the status-light board cable, keyboard cable, keyboard backlit cable, and touch-pad cable into the connector on the system board and close the latch to secure the cable.
- 9 Slide the display cable and the touch-screen board-cable into their respective connectors close the latches to secure the cables.

- 10 Adhere the pieces of tapes that secure the display cable and touch-screen board-cable to the system board.

## Post-requisites

- 1 Replace the [solid-state drive](#).
- 2 Replace the [heat sink](#)
- 3 Replace the [fan](#).
- 4 Replace the [memory modules](#).
- 5 Replace the [battery](#).
- 6 Replace the [base cover](#).

## Entering the Service Tag in the BIOS setup program

- 1 Turn on or restart your computer.
- 2 Press F2 when the Dell logo is displayed to enter the BIOS setup program.
- 3 Navigate to the **Main** tab and enter the Service Tag in the **Service Tag Input** field.



**NOTE: Service tag is the alphanumeric identifier located at the back side of your computer.**

# Removing the keyboard

---



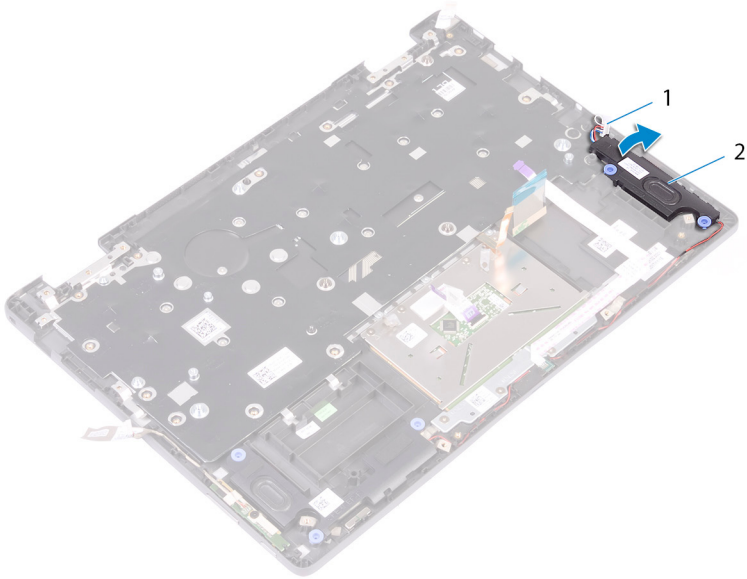
**WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best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

## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [memory modules](#).
- 4 Remove the [solid-state drive](#).
- 5 Remove the [wireless card](#).
- 6 Remove the [fan](#).
- 7 Remove the [display assembly](#).
- 8 Remove the [heat sink](#).
- 9 Remove the [I/O board](#).
- 10 Remove the [power-adaptor port](#).
- 11 Remove the [system board](#).

# Procedure

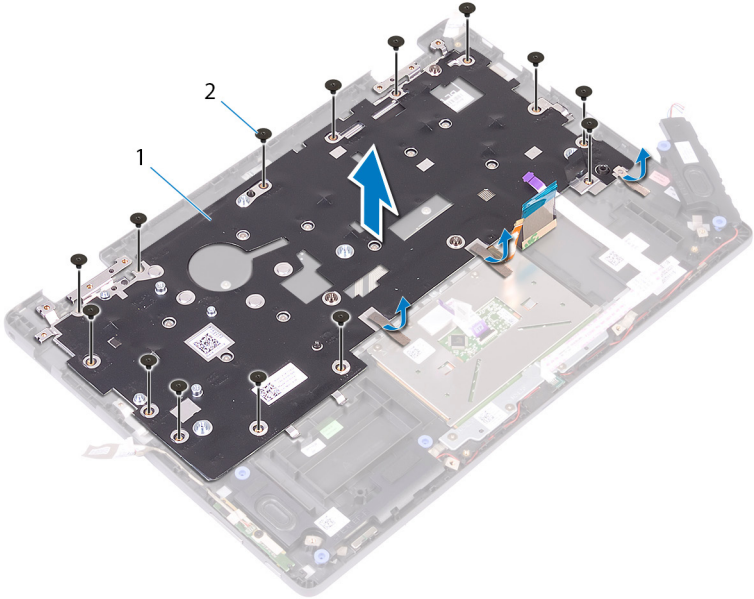
- 1 Lift the speaker off the palm-rest assembly.



**Figure 28. Lift the speaker cable**

- |   |               |   |         |
|---|---------------|---|---------|
| 1 | speaker cable | 2 | speaker |
|---|---------------|---|---------|
- 2 Remove the 14 screws (M2x2 Big Head) that secure the keyboard shield to the palm-rest assembly.
  - 3 Peel the tape that secures the keyboard shield to the palm-rest assembly.

- 4 Lift the keyboard shield off the keyboard.

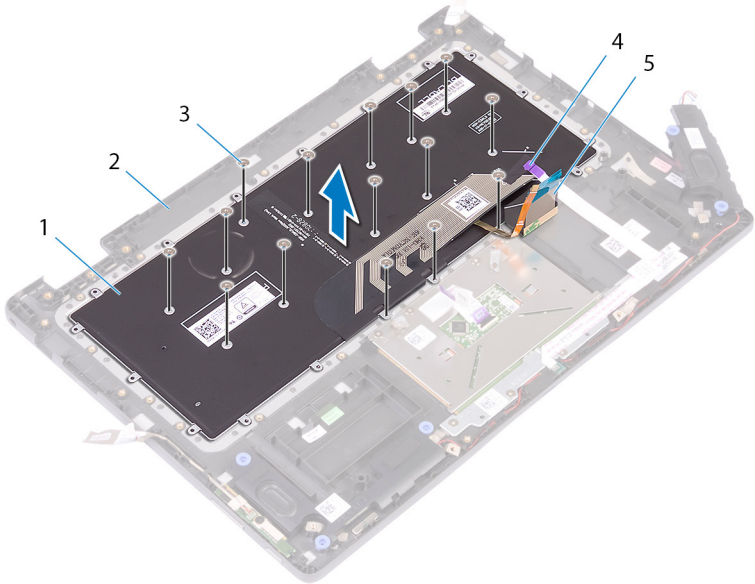


**Figure 29. Removing the keyboard shield**

- |   |                 |   |             |
|---|-----------------|---|-------------|
| 1 | keyboard shield | 2 | screws (14) |
|---|-----------------|---|-------------|

- 5 Remove the 14 screws (M1.2xL1.4) that secure the keyboard to the palm-rest assembly.

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



**Figure 30. Removing the keyboard**

- |   |                |   |                          |
|---|----------------|---|--------------------------|
| 1 | keyboard       | 2 | palm-rest assembly       |
| 3 | screws (14)    | 4 | keyboard backlight-cable |
| 5 | keyboard cable |   |                          |

# Replacing the keyboard

---



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

## Procedure

- 1 Place the keyboard on the palm-rest assembly.
- 2 Align the screw holes on the keyboard with the screw holes on the palm-rest assembly.
- 3 Replace the 14 screws (M1.2xL1.4) that secure the keyboard to the palm-rest assembly.
- 4 Align the screw holes on the keyboard shield with the screw holes on the palm-rest assembly.
- 5 Replace the 14 screws (M2x2 Big Head) that secure the keyboard shield to the palm-rest assembly.
- 6 Adhere the tape that secures the keyboard shield to the palm-rest assembly.

## Post-requisites

- 1 Replace the [system board](#).
- 2 Replace the [power-adapter port](#).
- 3 Replace the [I/O board](#).
- 4 Replace the [heat sink](#).
- 5 Replace the [display assembly](#).
- 6 Replace the [fan](#).
- 7 Replace the [wireless card](#).
- 8 Replace the [solid-state drive](#).
- 9 Replace the [memory modules](#).
- 10 Replace the [battery](#).



**11** Replace the [base cover](#).



# Removing the palm-rest assembly

---



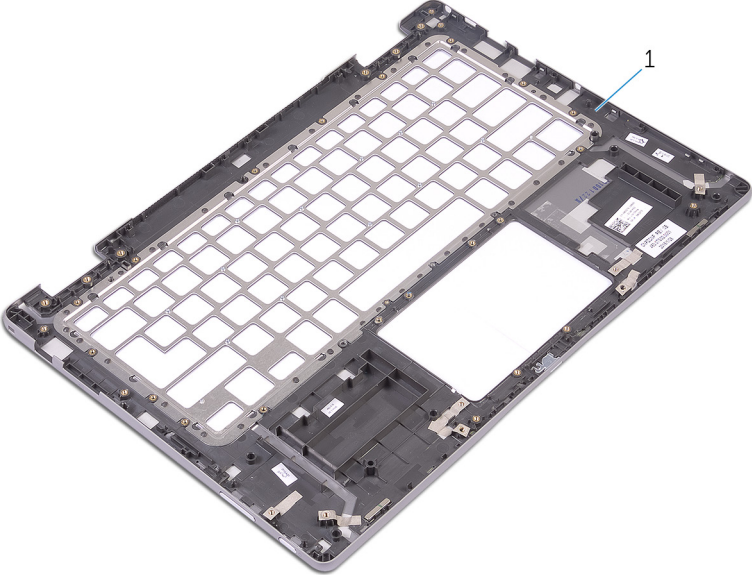
**WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best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

## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [memory modules](#).
- 4 Remove the [coin-cell battery](#).
- 5 Remove the [solid-state drive](#).
- 6 Remove the [wireless card](#).
- 7 Remove the [fan](#).
- 8 Remove the [touch pad](#).
- 9 Remove the [display assembly](#).
- 10 Remove the [heat sink](#).
- 11 Remove the [I/O board](#).
- 12 Remove the [power-adapter port](#).
- 13 Remove the [power and volume-buttons board](#).
- 14 Remove the [status light board](#).
- 15 Remove the [speakers](#).
- 16 Remove the [system board](#).
- 17 Remove the [keyboard](#).

# Procedure

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



**Figure 31. Removing the palm rest**

- 1 palm rest

# Replacing the palm-rest assembly

---



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

## Procedure

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

## Post-requisites

- 1 Replace the [keyboard](#).
- 2 Replace the [system board](#).
- 3 Replace the [speakers](#).
- 4 Replace the [status light board](#).
- 5 Replace the [power and volume-buttons board](#).
- 6 Replace the [power-adapter port](#).
- 7 Replace the [I/O board](#).
- 8 Replace the [heat sink](#).
- 9 Replace the [display assembly](#).
- 10 Replace the [touch pad](#).
- 11 Replace the [fan](#).
- 12 Replace the [wireless card](#).
- 13 Replace the [solid-state drive](#).
- 14 Replace the [coin-cell battery](#).
- 15 Replace the [memory modules](#).
- 16 Replace the [battery](#).

**17** Replace the [base cover](#).



# Removing the display panel

---



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

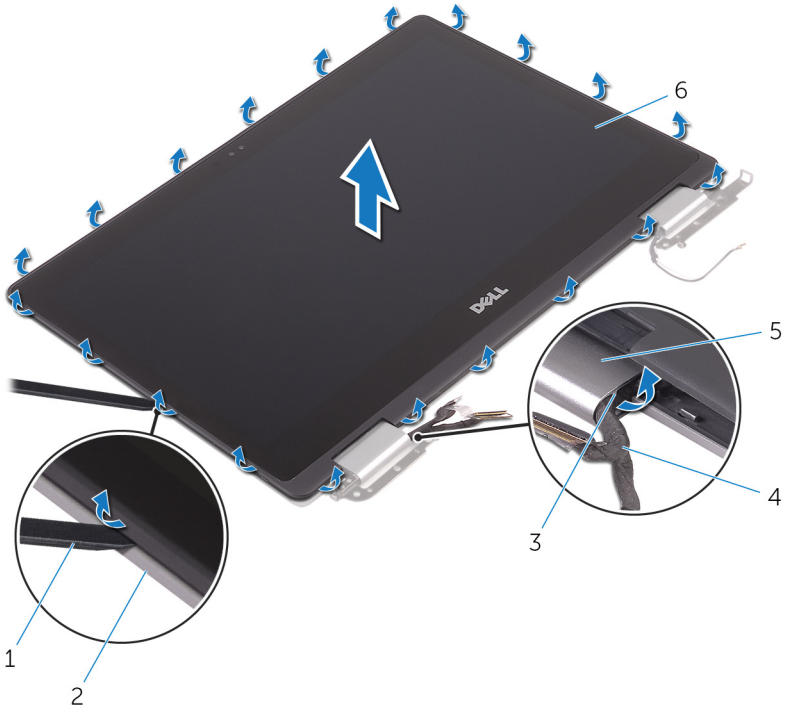
## Prerequisites

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

## Procedure

- 1 Remove the display cable from the routing guides inside the hinge covers.

- Using a plastic scribe, pry the display-panel assembly off the display back-cover and antenna assembly.



**Figure 32. Removing the display panel**

- |   |                |   |                        |
|---|----------------|---|------------------------|
| 1 | plastic scribe | 2 | display back-cover     |
| 3 | routing guides | 4 | display cable          |
| 5 | hinge covers   | 6 | display-panel assembly |

- Turn over the display-panel assembly.

- 4 Remove the [camera](#).

After performing the above steps, we are left with the display panel.



**Figure 33. Display panel**

- 1 display panel



# Replacing the display panel

---



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

## Procedure

- 1 Place the display panel on a flat surface.
- 2 Replace the [camera](#).
- 3 Turn over the display-panel assembly.
- 4 Route the display cable through the routing guides inside the hinge covers.
- 5 Align the display-panel assembly with the display back-cover and antenna assembly and gently snap the display-panel assembly into place.

## Post-requisites

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



# Removing the display back-cover and antenna assembly

---



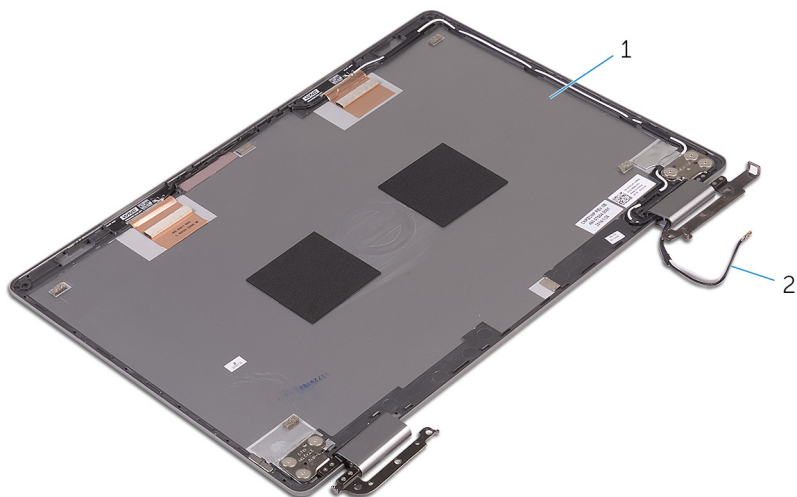
**WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best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

## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [display assembly](#).
- 4 Follow the procedure from step 1 to step 2 in "[Removing the display panel](#)".

## Procedure

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



**Figure 34. Display back-cover and antenna assembly**

- 1 display back-cover and antenna assembly
- 2 antenna cables

# Replacing the display back-cover and antenna assembly

---



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

## Procedure

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

## Post-requisites

- 1 Replace the [display panel](#).
- 2 Replace the [display assembly](#).
- 3 Replace the [battery](#).
- 4 Replace the [base cover](#).

# Removing the camera

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

## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [display assembly](#).
- 4 Follow the procedure from step 1 to step 3 in "[Removing the display panel](#)".

## Procedure

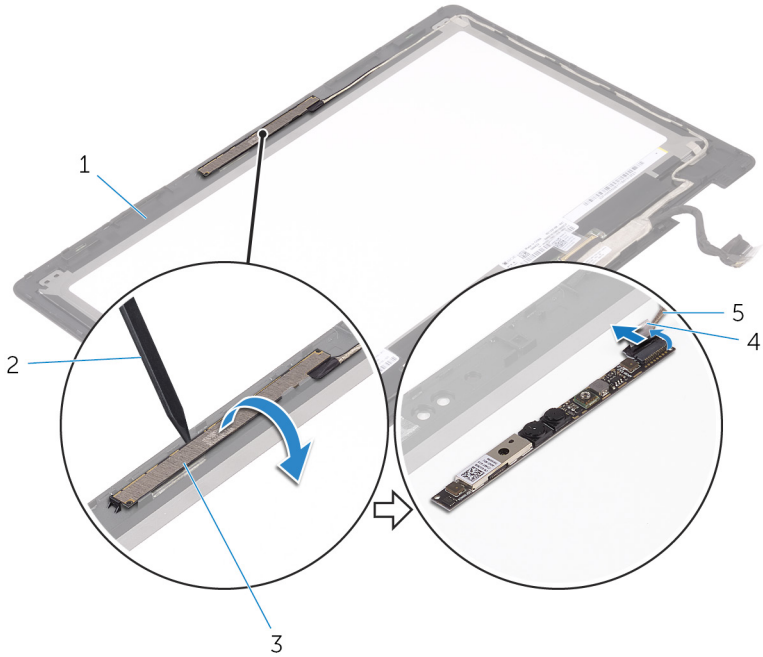


**CAUTION:** Place the display-panel assembly on a soft and clean surface to avoid scratching the display.

- 1 Using a plastic scribe, pry the camera module off the display panel.



- 2 Turn the camera over and peel off the tape to disconnect the camera cable from the camera module.



**Figure 35. Removing the camera**

- |   |               |   |                |
|---|---------------|---|----------------|
| 1 | display panel | 2 | plastic scribe |
| 3 | camera module | 4 | camera cable   |
| 5 | tape          |   |                |

# Replacing the camera

---



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

## Procedure

- 1 Connect the camera cable to the camera module.
- 2 Adhere the tape that secures the camera cable to the camera module.
- 3 Using the alignment post place the camera module on the display panel and snap it into place.

## Post-requisites

- 1 Follow the procedure from step 4 to step 6 in "[Replacing the display panel](#)".
- 2 Replace the [display assembly](#).
- 3 Replace the [battery](#).
- 4 Replace the [base cover](#).



# Removing the display cable

---



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

## Prerequisites

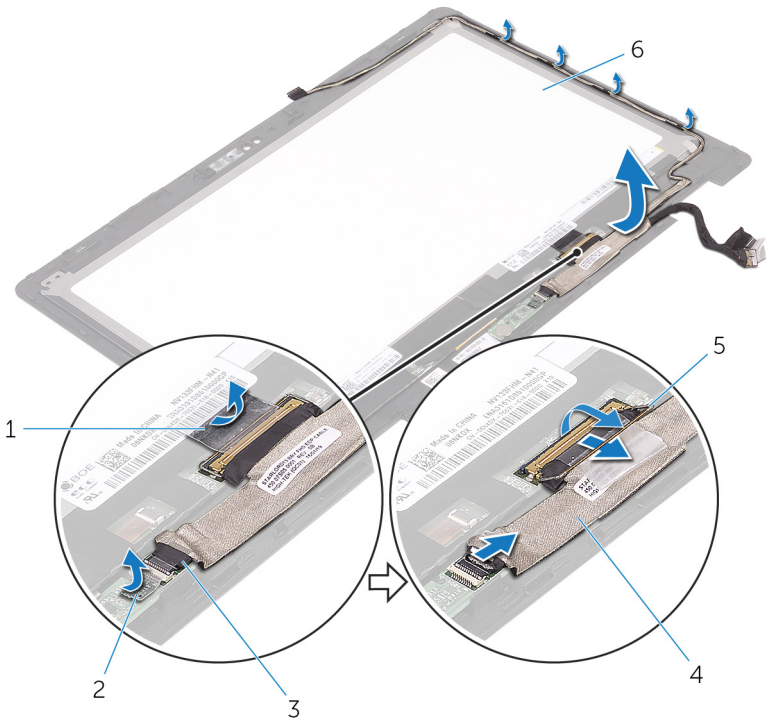
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [display assembly](#).
- 4 Follow the procedure from step 1 to step 3 in “[Removing the display panel](#)”.
- 5 Remove the [camera](#).

## Procedure

- 1 Peel off the tape and open the latch to disconnect the display cable from the display panel.
- 2 Peel off the sensor-board cable tape and disconnect the sensor-board cable.
- 3 Open the connector latch and disconnect the display cable.
- 4 Note the display cable routing and remove the display cable from the routing guides on the display panel.



5 Lift the display cable off the display panel.



**Figure 36. Removing the display cable**

- |   |                    |   |                         |
|---|--------------------|---|-------------------------|
| 1 | tape               | 2 | sensor-board cable tape |
| 3 | sensor-board cable | 4 | display cable           |
| 5 | latch              | 6 | display panel           |

# Replacing the display cable

---



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

## Procedure

- 1 Route the display cable through the routing guides on the display panel.
- 2 Slide the display cable into the connector and press down the latch to secure the cable.
- 3 Slide the sensor-board cable into the connector on the sensor board and press down the latch to secure the cable.
- 4 Adhere the sensor-board cable tape.
- 5 Adhere the tape that secures the display cable to the display panel.




## Post-requisites

- 1 Follow the procedure from step 4 to step 6 in "[Replacing the display panel](#)".
- 2 Replace the [display assembly](#).
- 3 Replace the [camera](#).
- 4 Replace the [battery](#).
- 5 Replace the [base cover](#).

# Downloading drivers




---

## Downloading the audio driver

- 1 Turn on your computer.
- 2 Go to [www.dell.com/support](http://www.dell.com/support).
- 3 Enter the Service Tag of your computer, and then click **Submit**.
  -  **NOTE: If you do not have the Service Tag, use the autodetect feature or manually browse for your computer model.**
- 4 Click **Drivers & downloads**.
- 5 Click the **Detect Drivers** button.
- 6 Review and agree to the Terms and Conditions to use **SupportAssist**, then click **Continue**.
- 7 If necessary, your computer starts to download and install **SupportAssist**.
  -  **NOTE: Review on-screen instructions for browser-specific instructions.**
- 8 Click **View Drivers for My System**.
- 9 Click **Download and Install** to download and install all driver updates detected for your computer.
- 10 Select a location to save the files.
- 11 If prompted, approve requests from **User Account Control** to make changes on the system.
- 12 The application installs all drivers and updates identified.
  -  **NOTE: Not all files can be installed automatically. Review the installation summary to identify if manual installation is necessary.**
- 13 For manual download and installation, click **Category**.
- 14 Click **Audio** in the drop-down list.
- 15 Click **Download** to download the audio driver for your computer.
- 16 After the download is complete, navigate to the folder where you saved the audio driver file.
- 17 Double-click the audio driver file icon and follow the instructions on the screen to install the driver.






# Downloading the graphics driver


- 1 Turn on your computer.
- 2 Go to [www.dell.com/support](http://www.dell.com/support).
- 3 Enter the Service Tag of your computer, and then click **Submit**.  
 **NOTE: If you do not have the Service Tag, use the autodetect feature or manually browse for your computer model.**
- 4 Click **Drivers & downloads**.
- 5 Click the **Detect Drivers** button.
- 6 Review and agree to the Terms and Conditions to use **SupportAssist**, then click **Continue**.
- 7 If necessary, your computer starts to download and install **SupportAssist**.  
 **NOTE: Review on-screen instructions for browser-specific instructions.**
- 8 Click **View Drivers for My System**.
- 9 Click **Download and Install** to download and install all driver updates detected for your computer.
- 10 Select a location to save the files.
- 11 If prompted, approve requests from **User Account Control** to make changes on the system.
- 12 The application installs all drivers and updates identified.  
 **NOTE: Not all files can be installed automatically. Review the installation summary to identify if manual installation is necessary.**
- 13 For manual download and installation, click **Category**.
- 14 Click **Video** in the drop-down list.
- 15 Click **Download** to download the graphics driver for your computer.
- 16 After the download is complete, navigate to the folder where you saved the graphics driver file.
- 17 Double-click the graphics driver file icon and follow the instructions on the screen to install the driver.

# Downloading the USB driver



- 1 Turn on your computer.
- 2 Go to [www.dell.com/support](http://www.dell.com/support).

- 3 Enter the Service Tag of your computer, and then click **Submit**.
  -  **NOTE: If you do not have the Service Tag, use the autodetect feature or manually browse for your computer model.**
- 4 Click **Drivers & downloads**.
- 5 Click the **Detect Drivers** button.
- 6 Review and agree to the Terms and Conditions to use **SupportAssist**, then click **Continue**.
- 7 If necessary, your computer starts to download and install **SupportAssist**.
  -  **NOTE: Review on-screen instructions for browser-specific instructions.**
- 8 Click **View Drivers for My System**.
- 9 Click **Download and Install** to download and install all driver updates detected for your computer.
- 10 Select a location to save the files.
- 11 If prompted, approve requests from **User Account Control** to make changes on the system.
- 12 The application installs all drivers and updates identified.
  -  **NOTE: Not all files can be installed automatically. Review the installation summary to identify if manual installation is necessary.**
- 13 For manual download and installation, click **Category**.
- 14 Click **Chipset** in the drop-down list.
- 15 Click **Download** to download the USB driver for your computer.
- 16 After the download is complete, navigate to the folder where you saved USB driver file.
- 17 Double-click the USB driver file icon and follow the instructions on screen to install the driver.


## Downloading the chipset driver

- 1 Turn on your computer.
- 2 Go to [www.dell.com/support](http://www.dell.com/support).
- 3 Enter the Service Tag of your computer, and then click **Submit**.
  -  **NOTE: If you do not have the Service Tag, use the autodetect feature or manually browse for your computer model.**
- 4 Click **Drivers & downloads**.



- 5 Click the **Detect Drivers** button.
- 6 Review and agree to the Terms and Conditions to use **SupportAssist**, then click **Continue**.
- 7 If necessary, your computer starts to download and install **SupportAssist**.  
 **NOTE: Review on-screen instructions for browser-specific instructions.**
- 8 Click **View Drivers for My System**.
- 9 Click **Download and Install** to download and install all driver updates detected for your computer.
- 10 Select a location to save the files.
- 11 If prompted, approve requests from **User Account Control** to make changes on the system.
- 12 The application installs all drivers and updates identified.  
 **NOTE: Not all files can be installed automatically. Review the installation summary to identify if manual installation is necessary.**
- 13 For manual download and installation, click **Category**.
- 14 Click **Chipset** in the drop-down list.
- 15 Click **Download** to download the appropriate chipset driver for your computer.
- 16 After the download is complete, navigate to the folder where you saved the chipset driver file.
- 17 Double-click the chipset driver file icon and follow the instructions on the screen to install the driver.

## Downloading the network driver

- 1 Turn on your computer.
- 2 Go to [www.dell.com/support](http://www.dell.com/support).
- 3 Enter the Service Tag of your computer, and then click **Submit**.  
 **NOTE: If you do not have the Service Tag, use the autodetect feature or manually browse for your computer model.**
- 4 Click **Drivers & downloads**.
- 5 Click the **Detect Drivers** button.
- 6 Review and agree to the Terms and Conditions to use **SupportAssist**, then click **Continue**.

7 If necessary, your computer starts to download and install **SupportAssist**.



**NOTE: Review on-screen instructions for browser-specific instructions.**

8 Click **View Drivers for My System**.

9 Click **Download and Install** to download and install all driver updates detected for your computer.

10 Select a location to save the files.

11 If prompted, approve requests from **User Account Control** to make changes on the system.

12 The application installs all drivers and updates identified.



**NOTE: Not all files can be installed automatically. Review the installation summary to identify if manual installation is necessary.**

13 For manual download and installation, click **Category**.

14 Click **Network** in the drop-down list.

15 Click **Download** to download the network driver for your computer.

16 Save the file, and after the download is complete, navigate to the folder where you saved the network driver file.

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



# System setup

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

## Boot Sequence

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

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

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

- Removable Drive (if available)
- STXXXX Drive

 **NOTE: XXX denotes the SATA drive number.**

- Optical Drive (if available)
- SATA Hard Drive (if available)
- Diagnostics


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

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

## Navigation keys

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



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

## BIOS overview

The BIOS manages data flow between the computer's operating system and attached devices such as hard disk, video adapter, keyboard, mouse, and printer.

## Entering the BIOS setup program

- 1 Turn on or restart your computer.
- 2 Press F2 when the Dell logo is displayed on the screen to enter the BIOS setup program.


You can change the user-defined settings in BIOS setup program.

## 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 setup options—Main menu**

<b>Main</b>	
System Time	Displays the current time in hh:mm:ss format.
System Date	Displays the current date in mm/dd/yyyy format.
BIOS Version	Displays the BIOS version.
Product Name	Displays the model number of your computer.
Service Tag	Displays the service tag of your computer.
Asset Tag	Displays the asset tag of your computer.
CPU Type	Displays the processor type.
CPU Speed	Displays the processor speed.
CPU ID	Displays the processor identification code.
<b>CPU Cache</b>	
L1 Cache	Displays the processor L1 cache size.
L2 Cache	Displays the processor L2 cache size.
L3 Cache	Displays the processor L3 cache size.
 <b>NOTE: This option is displayed only when the processor supports L3 Cache.</b>	
First HDD	Displays the type of hard drive installed.
AC Adapter Type	Displays the type of AC adapter.
System Memory	Displays the size of memory installed.
Memory Speed	Displays the speed of memory.
Keyboard Type	Displays the type of keyboard.

**Table 4. System setup options—Advanced menu**

<b>Advanced</b>	
PowerNow! Enable	Enables or disables the SpeedStep(tm) mode of the processor. Default: Enabled
Virtualization	Allows you to enable or disable the Virtualization technology. Default: Enabled
USB Emulation	Allows you to enable or disable the USB emulation feature. This feature defines how the BIOS, in the absence of a USB-aware operating system, handles USB devices. USB emulation is always enabled during POST.   <b>NOTE: You cannot boot any type of USB device (floppy, hard drive, or memory key) when this option is off.</b>  Default: Enabled
USB Powershare	Allows you to enable or disable the USB emulation feature. Default: Enabled
USB Wake Support	Allows you to enable USB devices to wake the computer from standby or to disable the USB wake support feature.   <b>NOTE: If USB PowerShare is enabled, a device connected to the USB PowerShare connector may not wake the computer.</b>  Default: Disabled
SATA Operation	Allows you to configure the operating mode of the integrated SATA hard drive controller. Default: AHCI
Adapter Warnings	Allows you to choose if the computer should display warning messages when



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## Advanced

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	you use AC adapters that are not supported by your computer. Default: Enabled
Function Key Behavior	Allows you to set function key or multimedia key as the default function key behavior. Default: Multimedia key
Keyboard Illumination	Allows you to set the keyboard illumination.
Keyboard Backlight with AC	Allows you to set the time for keyboard backlight.
Battery Health	Displays the battery health.
Battery Charge Configuration	Set the battery charge settings with a preselected custom charge start and stop. Default: Adaptive
Advance Battery Charge Configuration	Enable Advanced Battery Charge Configuration from the beginning of the day to a specified work period. Default: Disabled
BIOS Recovery from Hard Drive	Enable the user to recover from certain corrupted BIOS conditions from a recovery file on the user primary hard drive. Default: Enabled
BIOS Auto-Recovery	BIOS auto-recovery automatically recovers BIOS without user actions. Default: Disabled
Always perform Integrity Check	Allows you to enable or disable the Integrity checks. Default: Disabled

### **SupportAssist System Resolution**

Auto OS Recovery Threshold	Controls the automatic boot flow for SupportAssist System Resolution
----------------------------	--

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**Advanced**

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	Console and for the Dell OS Recovery tool. Default: 2
SupportAssist OS Recovery	Enable or disable the boot flow for the SupportAssist OS Recovery tool in the even of certain system errors. Default: Disabled

**Table 5. System setup options—Security menu**

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**Security**

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Admin Password	Displays if the administrator password is clear or set. Default: Not set
System Password	Displays if the system password is clear or set. Default: Not set
HDD1 Password	Displays if the HDD1 password is clear or set. Default: Not set.
Asset Tag	Set your system's Asset Tag.
Admin Password	Allows you to set the administrator password. The administrator password controls access to the system setup utility.
System Password	Allows you to set the system password. The system password controls access to the computer at boot.
HDD1 password	Allows you to set, change, or delete the hard-disk drive password.
Password Change	Allows you to permit or deny system password or HDD password changes. Default: Permitted



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**Security**

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Computrace	Enable or disable the BIOS module interface of the optional Computrace Service from Absolute Software.
Firmware TPM	Enable or disable the firmware TPM. Default: Enabled.
PPI Bypass for Clear Command	Enable or disable PPI Bypass. Default: Disabled
UEFI Firmware Capsule Updates	Enable or disable BIOS updates through UEFI capsule update packages. Default: Enabled.

**Table 6. System setup options—Boot menu**

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**Boot**

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Fast Boot	Enable or disable the fast boot option. Default: Enabled.
Secure Boot	Enable or disable the secure boot feature.
Load Legacy Option ROMs	Enable or disable the Load Legacy Option ROMs.
Boot List Option	Displays the available boot options
Attempt Legacy Boot	Enable or disable attempt to legacy boot. Default: Disabled.
File Browser Add Boot Option	Allows to add the boot options.
File Browser Del Boot Option	Allows to delete the boot options

**Table 7. System setup options—Exit menu**

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**Exit**

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Exit Saving Changes	Allows you to exit system setup and save your changes.
Save Change Without Exit	Allows you to save your changes without system exit.

---

**Exit**

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Exit Discarding Changes	Allows you to exit without saving changes.
Load Optimal Defaults	Allows you to load default values.
Discard Changes	Allows you to discard the changes.



# Troubleshooting

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## Flashing the BIOS

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

Follow these steps to flash the BIOS:

- 1 Turn on your computer.
- 2 Go to [www.dell.com/support](http://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.

## Enhanced Pre-Boot System Assessment (ePSA) diagnostics




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

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

- Run tests automatically or in an interactive mode
- Repeat tests
- Display or save test results



- Run thorough tests to introduce additional test options to provide extra information about the failed device(s)
- View status messages that inform you if tests are completed successfully
- View error messages that inform you of problems encountered during testing

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

For more information, see [Dell EPSA Diagnostic 3.0](#).

## Running the ePSA diagnostics

- 1 Power-on the computer.
- 2 As the computer boots, press the F12 key as the Dell logo appears.
- 3 On the boot menu screen, select the **Diagnostics** option.
- 4 Click the arrow key at the bottom left corner.  
Diagnostics front page is displayed.
- 5 Press the arrow in the lower-right corner to go to the page listing.  
The items detected are listed.
- 6 To run a diagnostic test on a specific device, press Esc and click **Yes** to stop the diagnostic test.
- 7 Select the device from the left pane and click **Run Tests**.
- 8 If there are any issues, error codes are displayed.  
Note the error code and validation number and contact Dell.

## System diagnostic lights

**Power and battery-status light:** Indicates the battery-charge status or the hard-drive activity.

### Power and battery-status light

Indicates the power and battery-charge status.

**Solid white** – Power adapter is connected and the battery has more than 5 percent charge.

**Amber** – Computer is running on battery and the battery has less than 5 percent charge.



## Off

- Power adapter is connected and the battery is fully charged.
- Computer is running on battery and the battery has more than 5 percent charge.
- Computer is in sleep state, hibernation, or turned off.

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

For example, the power and battery-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 no memory or RAM is detected.

The following table shows different light patterns and describes what they indicate.

**Table 8. System diagnostic lights**

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

**Caps Lock status light:** Indicates whether Caps Lock is enabled or disabled.

- Solid white – Caps Lock enabled.
- Off – Caps Lock disabled.

## Flea power release

Flea power is the residual static electricity that remains on the computer even after it has been powered off and the battery has been removed. The following procedure list the steps to conduct a flea power release for the computer.

- 1 Shut down the computer.
- 2 Remove the [base cover](#).
- 3 Follow step 1 in "[Removing the battery](#)".
- 4 Press and hold down the power button for 15 seconds to ground the system board.
- 5 Follow step 3 in "[Replacing the battery](#)".
- 6 Replace the [base cover](#).
- 7 Turn on the computer.

## Wi-Fi power cycle

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



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

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



# Getting help and contacting Dell

## Self-help resources

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

### Table 9. Self-help resources

Information about Dell products and services

[www.dell.com](http://www.dell.com)

Dell Help & Support app



Tips



Contact Support

In Windows search, type Contact Support, and press Enter.

Online help for operating system

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

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

Troubleshooting information, user manuals, setup instructions, product specifications, technical help blogs, drivers, software updates, and so on.

[www.dell.com/support](http://www.dell.com/support)

Dell knowledge base articles for a variety of computer concerns.

- 1 Go to [www.dell.com/support](http://www.dell.com/support).
- 2 Type the subject or keyword in the **Search** box.
- 3 Click **Search** to retrieve the related articles.

Learn and know the following information about your product:

See *Me and My Dell* at [www.dell.com/support/manuals](http://www.dell.com/support/manuals).

- Product specifications
- Operating system

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

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

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

## Contacting Dell

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



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



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

