

# Inspiron 11 3000 2-in-1 Service Manual

**Computer Model:** Inspiron 3185  
**Regulatory Model:** P25T  
**Regulatory Type:** P25T003



# 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>19</b>
Procedure.....	19
<b>Removing the battery.....</b>	<b>20</b>
Prerequisites.....	20
Procedure.....	20
<b>Replacing the battery.....</b>	<b>22</b>
Procedure.....	22
Post-requisites.....	22
<b>Removing the power and volume-buttons board.....</b>	<b>23</b>
Prerequisites.....	23
Procedure.....	23



<b>Replacing the power and volume-buttons board.....</b>	<b>25</b>
Procedure.....	25
Post-requisites.....	25
<b>Removing the power-adapter port.....</b>	<b>26</b>
Prerequisites.....	26
Procedure.....	26
<b>Replacing the power-adapter port.....</b>	<b>28</b>
Procedure.....	28
Post-requisites.....	28
<b>Removing the hard drive.....</b>	<b>29</b>
Prerequisites.....	29
Procedure.....	29
<b>Replacing the hard drive.....</b>	<b>32</b>
Procedure.....	32
Post-requisites.....	32
<b>Removing the I/O board.....</b>	<b>33</b>
Prerequisites.....	33
Procedure.....	34
<b>Replacing the I/O board.....</b>	<b>36</b>
Procedure.....	36
Post-requisites.....	36
<b>Removing the wireless card.....</b>	<b>37</b>
Prerequisites.....	37
Procedure.....	37



<b>Replacing the wireless card.....</b>	<b>39</b>
Procedure.....	39
Post-requisites.....	40
<b>Removing the coin-cell battery.....</b>	<b>41</b>
Prerequisites.....	41
Procedure.....	41
<b>Replacing the coin-cell battery.....</b>	<b>44</b>
Procedure.....	44
Post-requisites.....	44
<b>Removing the speakers.....</b>	<b>45</b>
Prerequisites.....	45
Procedure.....	45
<b>Replacing the speakers.....</b>	<b>47</b>
Procedure.....	47
Post-requisites.....	47
<b>Removing the heat sink.....</b>	<b>48</b>
Prerequisites.....	48
Procedure.....	48
<b>Replacing the heat sink.....</b>	<b>50</b>
Procedure.....	50
Post-requisites.....	50
<b>Removing the memory module.....</b>	<b>51</b>
Prerequisites.....	51
Procedure.....	51



<b>Replacing the memory module.....</b>	<b>53</b>
Procedure.....	53
Post-requisites.....	54
<b>Removing the touchpad.....</b>	<b>55</b>
Prerequisites.....	55
Procedure.....	55
<b>Replacing the touchpad.....</b>	<b>58</b>
Procedure.....	58
Post-requisites.....	58
<b>Removing the display assembly.....</b>	<b>59</b>
Prerequisites.....	59
Procedure.....	59
<b>Replacing the display assembly.....</b>	<b>65</b>
Procedure.....	65
Post-requisites.....	66
<b>Removing the system board.....</b>	<b>67</b>
Prerequisites.....	67
Procedure.....	67
<b>Replacing the system board.....</b>	<b>72</b>
Procedure.....	72
Post-requisites.....	73
Entering the Service Tag in the BIOS setup program.....	73
<b>Removing the palm-rest and keyboard assembly.....</b>	<b>74</b>
Prerequisites.....	74
Procedure.....	74



<b>Replacing the palm-rest and keyboard assembly.....</b>	<b>76</b>
Procedure.....	76
Post-requisites.....	76
<b>Removing the display panel.....</b>	<b>77</b>
Prerequisites.....	77
Procedure.....	77
<b>Replacing the display panel.....</b>	<b>79</b>
Procedure.....	79
Post-requisites.....	79
<b>Removing the display hinges.....</b>	<b>80</b>
Prerequisites.....	80
Procedure.....	81
<b>Replacing the display hinges.....</b>	<b>83</b>
Procedure.....	83
Post-requisites.....	83
<b>Removing the camera.....</b>	<b>84</b>
Prerequisites.....	84
Procedure.....	84
<b>Replacing the camera.....</b>	<b>87</b>
Procedure.....	87
Post-requisites.....	87
<b>Removing the sensor board.....</b>	<b>88</b>
Prerequisites.....	88
Procedure.....	88



<b>Replacing the sensor board.....</b>	<b>90</b>
Procedure.....	90
Post-requisites.....	90
<b>Downloading drivers.....</b>	<b>91</b>
Downloading the audio driver.....	91
Downloading the video driver.....	92
Downloading the USB driver.....	92
Network adapter and Bluetooth drivers.....	93
Downloading the network driver.....	94
<b>System setup.....</b>	<b>96</b>
Boot Sequence.....	96
Navigation keys.....	96
BIOS overview.....	97
Entering BIOS setup program.....	97
System setup options.....	98
<b>System and setup password.....</b>	<b>103</b>
Assigning a system password and setup password.....	103
Deleting or changing an existing system and or setup password.....	104
Clearing CMOS settings.....	104
Clearing forgotten passwords.....	105
<b>Troubleshooting.....</b>	<b>106</b>
Flashing the BIOS.....	106
Flashing BIOS (USB key).....	106
Enhanced Pre-Boot System Assessment (ePSA) diagnostics.....	107



Running the ePSA diagnostics.....	107
System LED diagnostics.....	108
Flea power release.....	109
Wi-Fi power cycle.....	109
<b>Getting help and contacting Dell.....</b>	<b>111</b>
Self-help resources.....	111
Contacting Dell.....	112





# 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 #1
- Plastic scribe



# Screw list

**Table 1. Screw list**

Component	Secured to	Screw type	Quantity	Screw image
Back cover	Palm-rest and keyboard assembly	M2.5x7	9	
Battery	Palm-rest and keyboard assembly	M2x3	1	
Display cable bracket	Palm-rest and keyboard assembly	M2x2 (Big head)	1	
Hard drive	Palm-rest and keyboard assembly	M3x3	1	
Hard-drive bracket	Hard drive	M3x3	4	
Hinges	Palm-rest and keyboard assembly	M2.5x5	4	
Hinge plate	Cover	M2.5x2.5 (Big head)	4	
I/O board	Palm-rest and keyboard assembly	M2x3	2	
Power adapter	Palm-rest and keyboard assembly	M2x3	1	
System board	Palm-rest and keyboard assembly	M2x2 (Big Head)	1	

<b>Component</b>	<b>Secured to</b>	<b>Screw type</b>	<b>Quantity</b>	<b>Screw image</b>
Touch pad	Palm-rest and keyboard assembly	M2x2	4	
Wireless card	Palm-rest and keyboard assembly	M2x3	1	



# After working inside your computer

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

- 1** Replace all screws and ensure that no stray screws remain inside your computer.
- 2** Connect any external devices, peripherals, 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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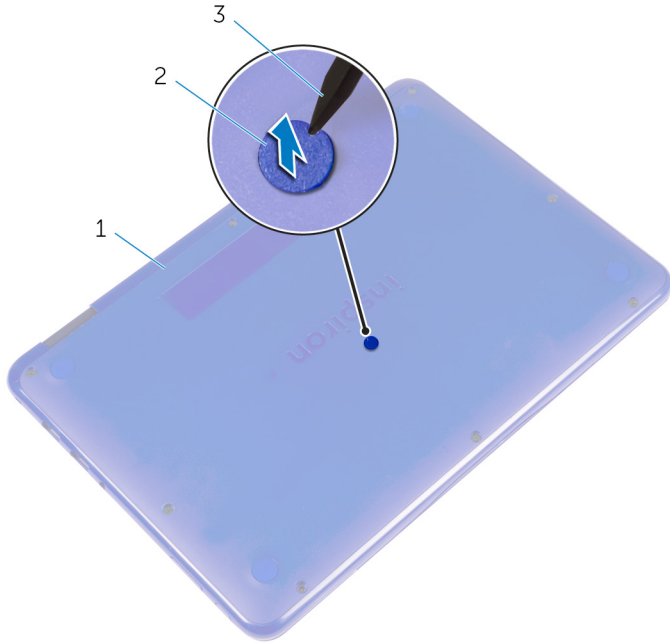
**WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best 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.



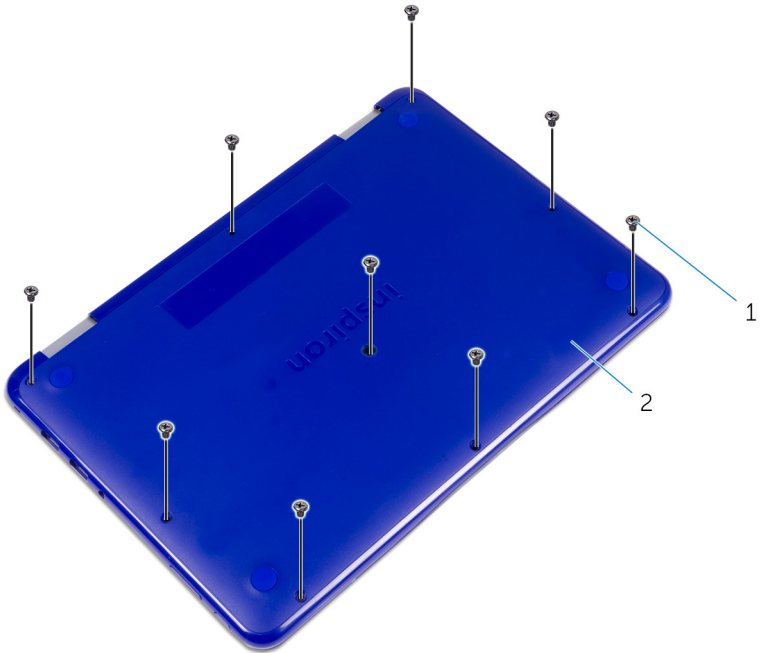
- 2 Using a plastic scribe, pry the screw cover from the base cover.



**Figure 1. Removing the screw cover**

- |   |                |   |             |
|---|----------------|---|-------------|
| 1 | base cover     | 2 | screw cover |
| 3 | plastic scribe |   |             |

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



**Figure 2. Removing the screws from the base cover**

1 M2.5x7 screws (9)

2 base cover

- Using a plastic scribe, pry the base cover from the palm-rest and keyboard assembly.



**Figure 3. Removing the base cover**

1 plastic scribe

2 base cover

# Replacing the base cover

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## Procedure

- 1 Slide the tabs on the base cover into the slots on the palm-rest and keyboard assembly and snap the base cover into place.
- 2 Replace the nine screws (M2.5x7) that secure the base cover to the palm-rest and keyboard assembly.
- 3 Replace the screw cover into its slot on the base cover.



# Removing the battery

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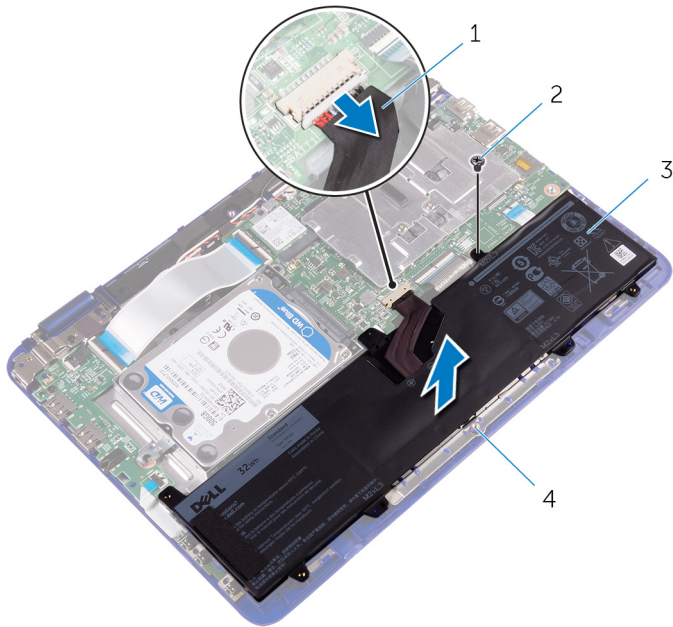
## Prerequisites

Remove the [base cover](#).

## Procedure

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

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



**Figure 4. Removing the battery**

- |   |               |   |                                 |
|---|---------------|---|---------------------------------|
| 1 | battery cable | 2 | screw (M2x3)                    |
| 3 | battery       | 4 | palm-rest and keyboard assembly |
- 4 Turn the computer over.
  - 5 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 hole on the battery with the screw hole on the palm-rest and keyboard assembly.
- 2 Replace the screw (M2X3) that secures the battery to the palm-rest and keyboard assembly.
- 3 Connect the battery cable to the system board.

## Post-requisites

Replace the [base cover](#).

# Removing the power and volume-buttons board

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## Prerequisites

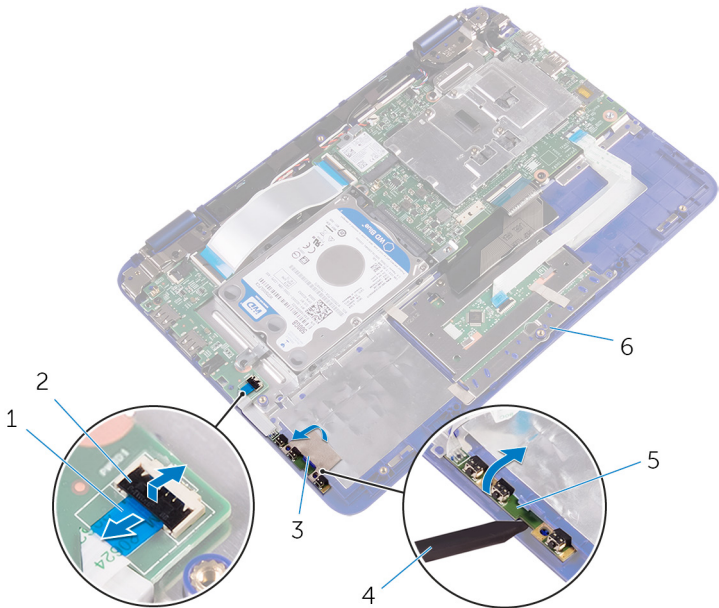
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).

## Procedure

- 1 Open the latch and disconnect the power and volume-buttons board cable from the I/O board.
- 2 Peel the tape that secures the power and volume-buttons board to the palm-rest and keyboard assembly.



- 3 Using a plastic scribe, pry the power and volume-buttons board, along with its cable, off the palm-rest and keyboard assembly.



**Figure 5. Removing the power and volume-buttons board**

- |   |                                      |   |                                 |
|---|--------------------------------------|---|---------------------------------|
| 1 | power and volume-buttons board cable | 2 | latch                           |
| 3 | tape                                 | 4 | plastic scribe                  |
| 5 | power and volume-buttons board       | 6 | palm-rest and keyboard assembly |

# Replacing the power and volume-buttons board

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## Procedure

- 1 Place the power and volume-buttons board into the slot on the palm-rest and keyboard assembly.
- 2 Adhere the tape that secures the power and volume-buttons board to the palm-rest and keyboard assembly.
- 3 Slide the power and volume-buttons board cable into the connector on the I/O board and close the latch to secure the cable.

## Post-requisites

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



# Removing the power-adapter port

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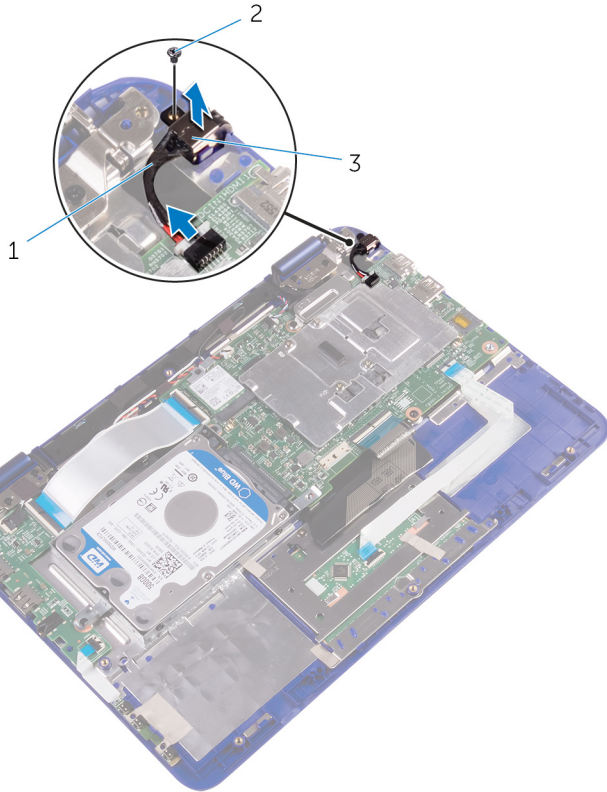
## Prerequisites

- 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 and keyboard assembly.

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



**Figure 6. Removing the power-adapter port**

- |   |                          |   |            |
|---|--------------------------|---|------------|
| 1 | power-adapter port cable | 2 | M2x3 screw |
| 3 | power-adapter port       |   |            |



# Replacing the power-adapter port

---



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## Procedure


- 1 Place the power-adapter port into the slot on the palm-rest and keyboard assembly.
- 2 Align the screw hole on the power-adapter port with the screw hole on the palm-rest and keyboard assembly.
- 3 Replace the screw (M2X3) that secures the power-adapter port to the palm rest and keyboard assembly.
- 4 Connect the power-adapter port cable to the system board.

## Post-requisites


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

# Removing the hard drive

---

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

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

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

## Prerequisites

 **NOTE:** Applicable only for computers that are shipped with a hard drive.

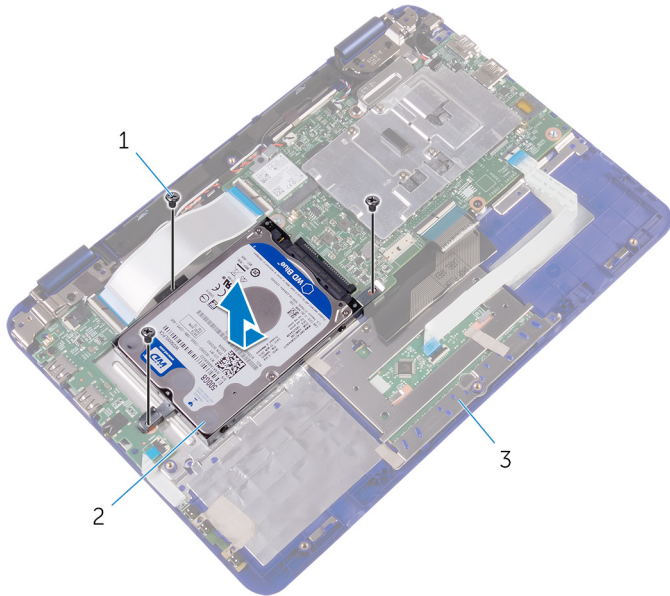
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).

## Procedure

- 1 Remove the screw (M2x3) that secures the hard-drive assembly to the palm-rest and keyboard assembly.
- 2 Remove the screw (M2x3) that secures the hard-drive assembly to the system board.
- 3 Remove the screw (M2x3) that secures the hard-drive assembly to the I/O board.



- 4 Lift the hard-drive assembly off the palm-rest and keyboard assembly.



**Figure 7. Removing the hard-drive assembly**

- |   |                                 |   |                     |
|---|---------------------------------|---|---------------------|
| 1 | M2x3 screws (3)                 | 2 | hard-drive assembly |
| 3 | palm-rest and keyboard assembly |   |                     |
- 5 Remove the four screws (M3x3) that secure the hard-drive bracket to the hard drive.

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




**Figure 8. Removing the screws from the hard drive**

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

# Replacing the hard drive

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

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

## Procedure

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

## Post-requisites

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

# Removing the I/O board

---



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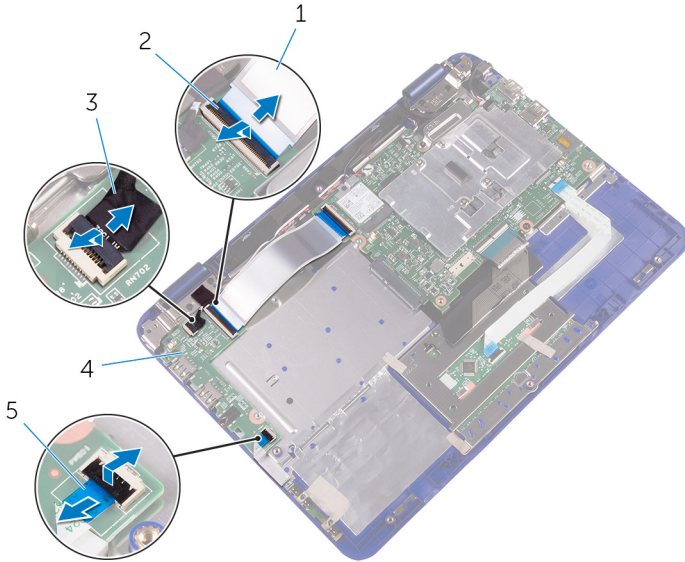
## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Follow the procedure from step 1 to step 4 in "[Removing the hard drive](#)"(Only for computers shipped with a hard drive).



# Procedure

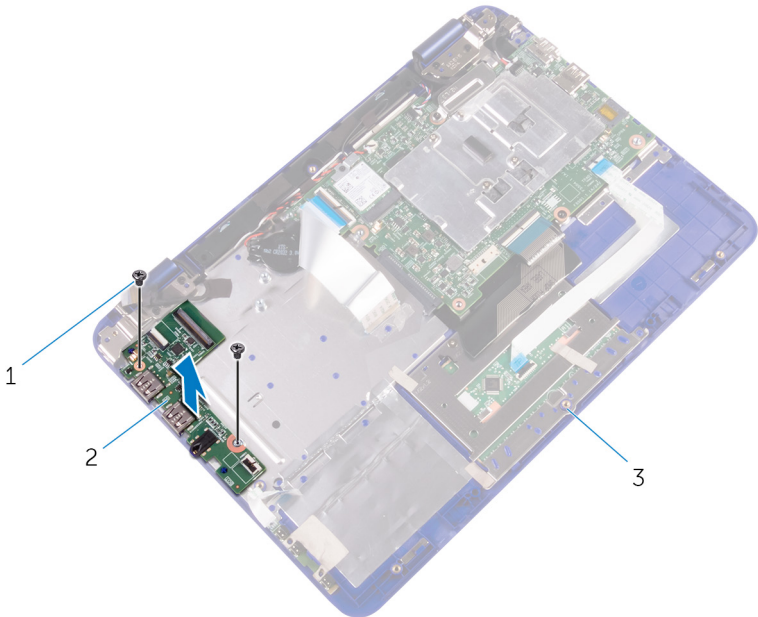
- 1 Open the latches and disconnect the I/O-board cable, power and volume-buttons board cable, and sensor-board cables from the I/O board.



**Figure 9. Disconnecting the cables from the IO board**

- |   |                                      |   |           |
|---|--------------------------------------|---|-----------|
| 1 | I/O-board cable                      | 2 | latch     |
| 3 | sensor-board cable                   | 4 | I/O board |
| 5 | power and volume-buttons board cable |   |           |

- 2 Remove the two screws (M2x3) that secure the I/O board to the palm-rest and keyboard assembly.



**Figure 10. Removing the screws from the IO board**

- |   |                                 |   |           |
|---|---------------------------------|---|-----------|
| 1 | M2x3 screws (2)                 | 2 | I/O board |
| 3 | palm-rest and keyboard assembly |   |           |
- 3 Lift the I/O board off the palm-rest and keyboard assembly.

# Replacing the I/O board

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## Procedure

- 1 Place the I/O board on the palm-rest and keyboard assembly.
- 2 Align the screw holes on the I/O board with the screw holes on the palm-rest and keyboard assembly.
- 3 Replace the two screws (M2x3) that secure the I/O board to the palm-rest and keyboard assembly.
- 4 Slide the power and volume-buttons board, sensor-board cable and I/O-board cables into their respective slots on the I/O board and close the latches to secure the cables.

## Post-requisites

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

# Removing the wireless card

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## Prerequisites

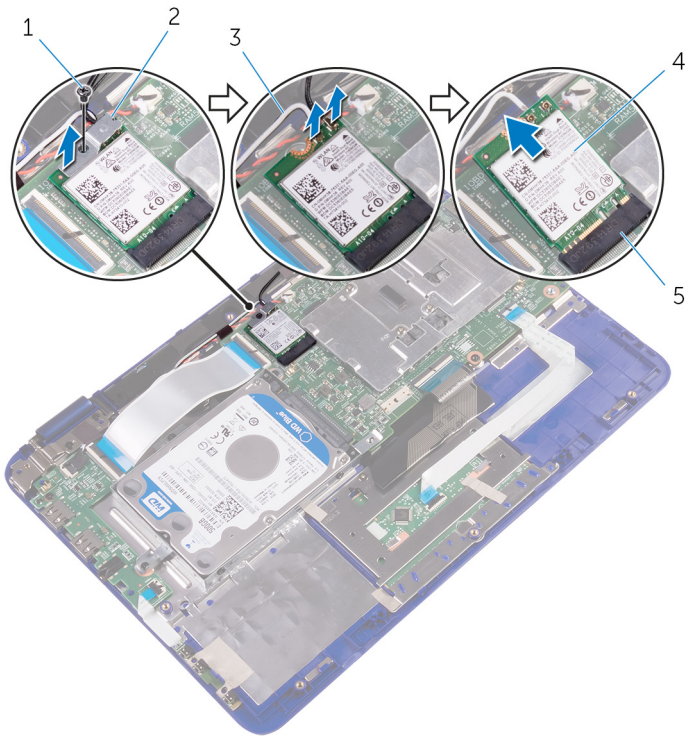
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).

## Procedure

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




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



**Figure 11. Removing the wireless card**

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

# 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 on the system board.
- 2 Slide the wireless card into the wireless-card slot on the system board.
- 3 Connect the antenna cables to the wireless card.

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

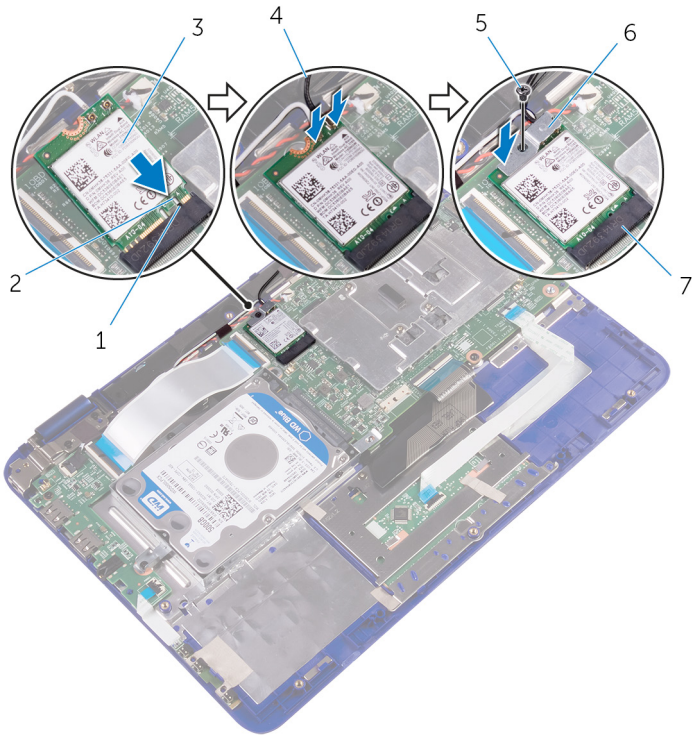
**Table 2. Antenna-cable color scheme**

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

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



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



**Figure 12. Replacing the wireless card**


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


## Post-requisites

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

# Removing the coin-cell battery

---

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

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

## Prerequisites

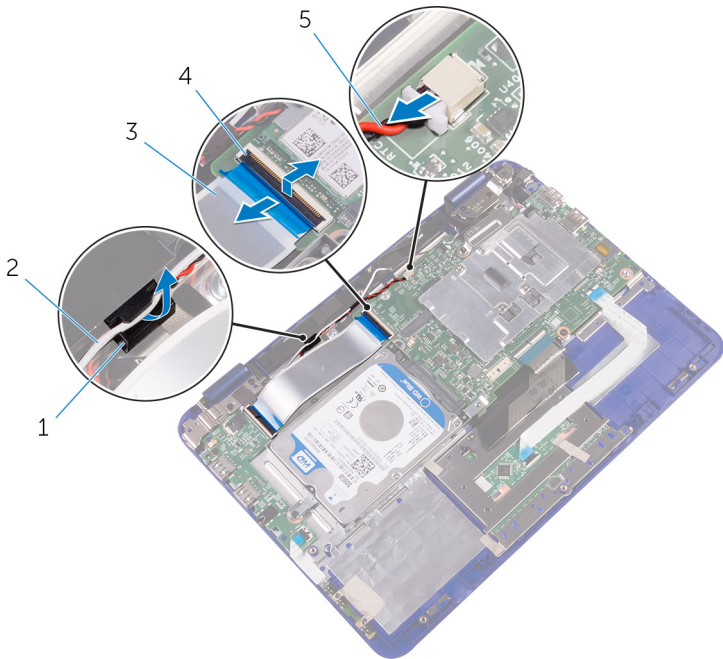
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).

## Procedure

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



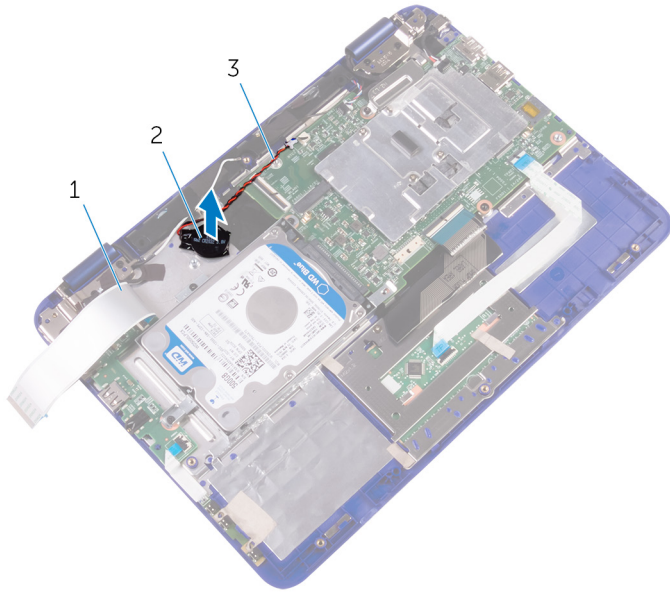
- 3 Open the latch and disconnect the I/O-board cable from the system board.



**Figure 13. Disconnecting the antenna and coin-cell battery cables**

- |   |                         |   |               |
|---|-------------------------|---|---------------|
| 1 | routing guide           | 2 | antenna cable |
| 3 | I/O-board cable         | 4 | latch         |
| 5 | coin-cell battery cable |   |               |
- 4 Turn the I/O-board cable over to access the coin-cell battery.

- 5 Peel off the coin-cell battery from the palm-rest and keyboard assembly.



**Figure 14. Removing the coin-cell battery**

- |   |                         |   |                   |
|---|-------------------------|---|-------------------|
| 1 | I/O-board cable         | 2 | coin-cell battery |
| 3 | coin-cell battery cable |   |                   |

# Replacing the coin-cell battery

---



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

## Procedure

- 1 With the positive side facing up, place the coin-cell battery on the palm-rest and keyboard assembly.
- 2 Route the coin-cell battery cable and the antenna cables through the routing guides on the right speaker.
- 3 Connect the coin-cell battery cable to the system board.
- 4 Place the I/O board cable over the coin-cell battery.
- 5 Slide the I/O-board cable into its slot 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 speakers

---



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

## Prerequisites

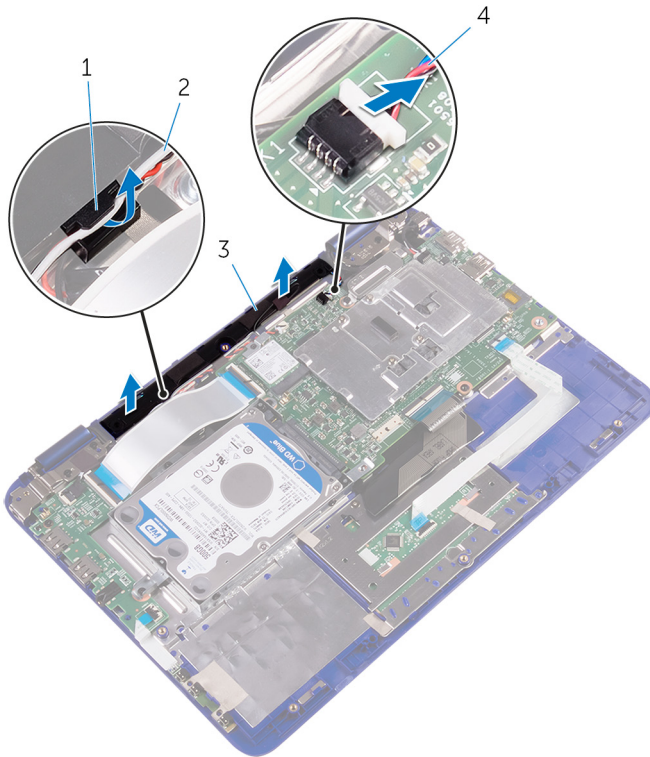
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).

## Procedure

- 1 Disconnect the speaker cable from the system board.
- 2 Remove the coin-cell battery and antenna cables from the routing guides on the right speaker.



- 3 Release the speakers from the alignment posts and lift the speakers off the palm-rest and keyboard assembly.



**Figure 15. Removing the speakers**

- |   |               |   |                                      |
|---|---------------|---|--------------------------------------|
| 1 | routing guide | 2 | antenna and coin-cell battery cables |
| 3 | speakers (2)  | 4 | speaker cable                        |

# Replacing the speakers

---



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

## Procedure

- 1 Using the alignment posts on the palm-rest and keyboard assembly, place the speakers on the palm-rest and keyboard assembly.
- 2 Route the coin-cell battery and antenna cables through the routing guides on the palm-rest and keyboard assembly.
- 3 Connect the speaker 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.

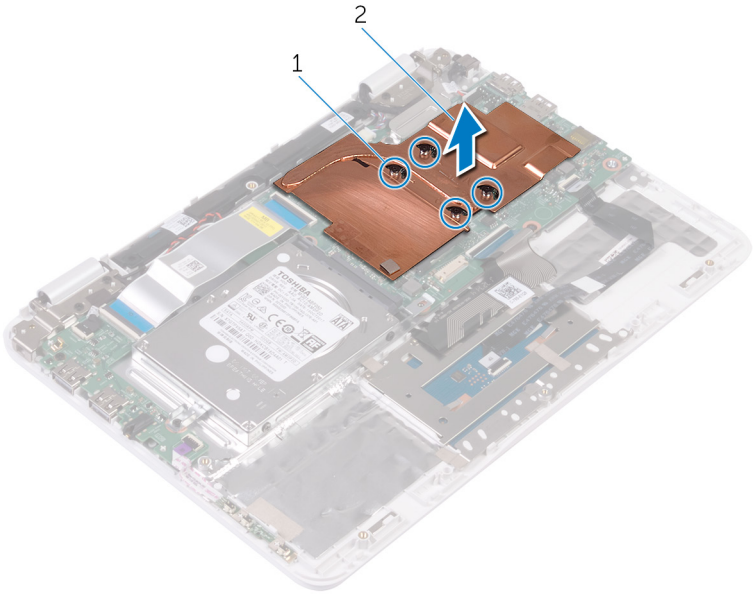
## Prerequisites

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

## Procedure

- 1 In a reverse sequential order (beginning with screw number 4), loosen the four captive screws that secure the heat sink to the system board.

2 Lift the heat sink off the system board.



**Figure 16. Removing the heat sink**

1 captive screws (4)

2 heat sink



# 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 and align the screw holes on the heat sink to the screw holes on the system board.
- 2 In a sequential order, tighten the four captive screws that secure the heat sink to the system board.

## Post-requisites

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

# Removing the memory module

---



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

## Prerequisites

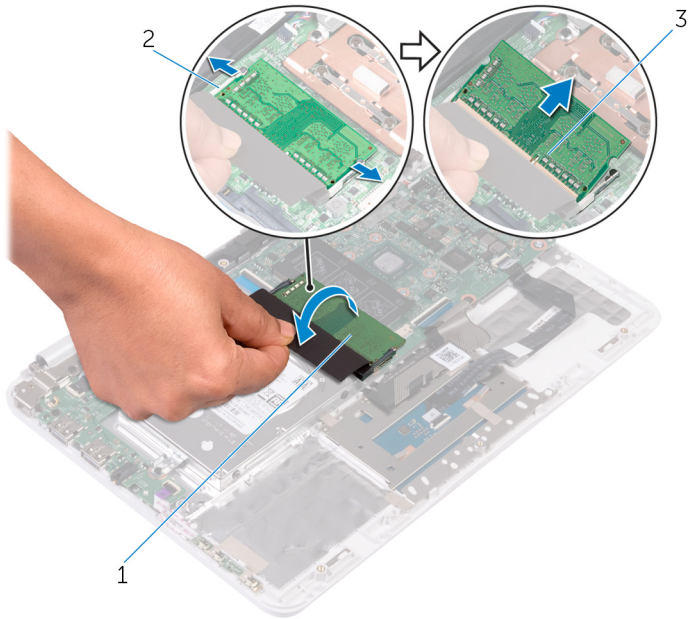
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [heat sink](#).

## Procedure

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



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



**Figure 17. Removing the memory module**

- 1 Mylar  
2 securing clips (2)  
3 memory module

# Replacing the memory module

---



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

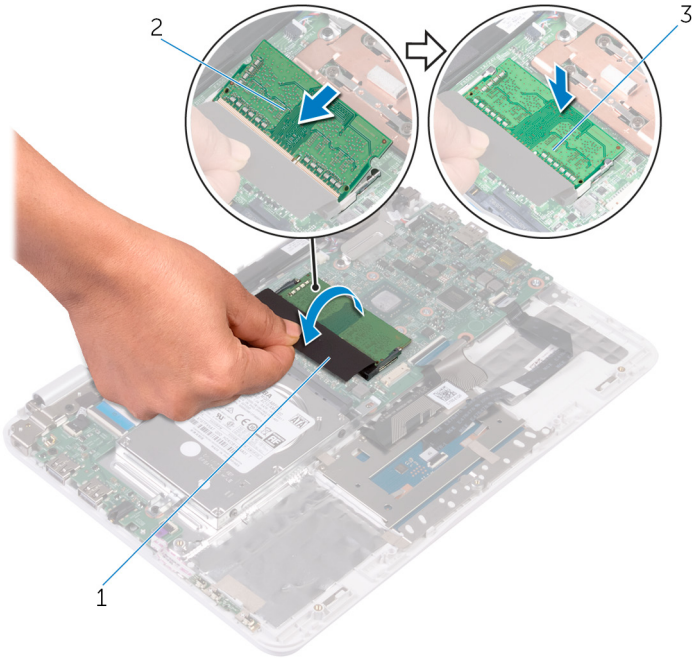
## Procedure

- 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 and slide the memory module firmly into the slot at an angle.



- 3 Press the memory module down until it clicks into place.

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



**Figure 18. Replacing the memory module**

1 Mylar

2 memory module

## Post-requisites

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

# 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

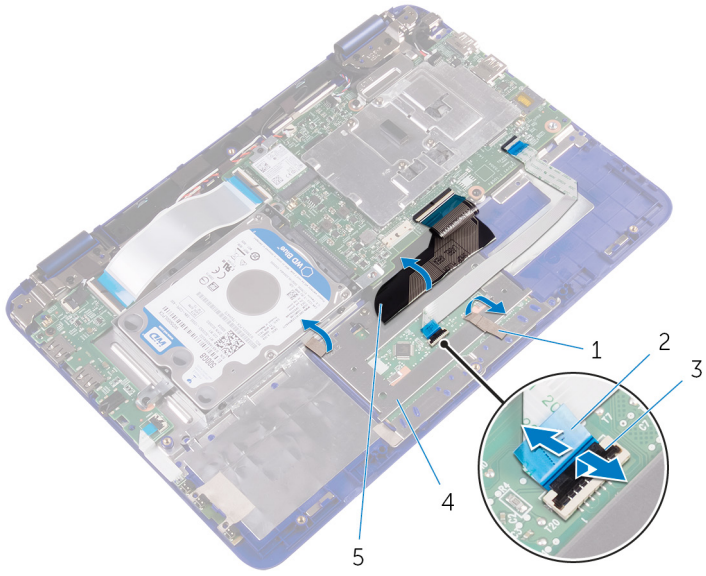
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).

## Procedure

- 1 Open the latch and disconnect the touchpad cable from the touchpad.
- 2 Peel the tapes from the touchpad.



- 3 Turn the keyboard cable over and place it on the system board.



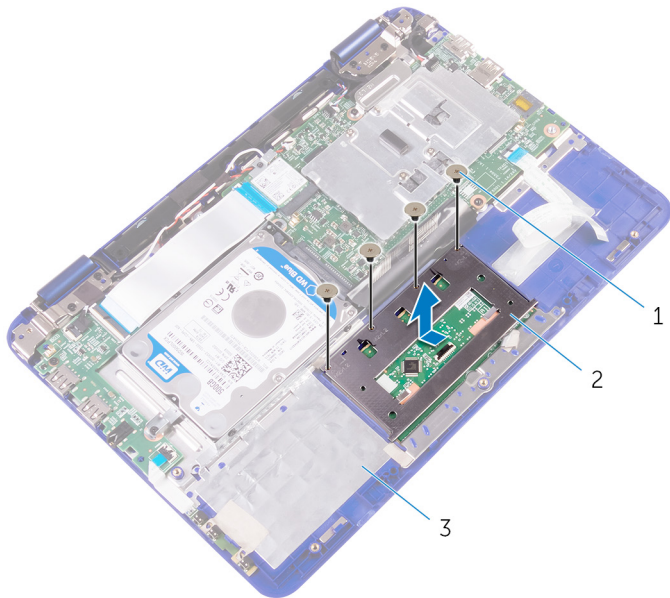
**Figure 19. Disconnecting the touchpad cable**

- |   |                |   |                |
|---|----------------|---|----------------|
| 1 | tapes          | 2 | touchpad cable |
| 3 | latch          | 4 | touchpad       |
| 5 | keyboard cable |   |                |

- 4 Remove the four screws (M2x2) that secure the touchpad to the palm-rest and keyboard assembly.



- 5 Slide and remove the touchpad away from the palm-rest and keyboard assembly.



**Figure 20. Removing the touchpad**

- |   |                                 |   |          |
|---|---------------------------------|---|----------|
| 1 | M2x2 screws (4)                 | 2 | touchpad |
| 3 | palm-rest and keyboard assembly |   |          |

# 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 Slide the tabs on the touchpad into the slots on the palm-rest and keyboard assembly.
- 2 Align the screw holes on the touchpad with the screw holes on the palm-rest and keyboard assembly.
- 3 Replace the four screws (M2x2) that secure the touchpad to the palm-rest and keyboard assembly.
- 4 Place the keyboard cable over the touchpad.
- 5 Adhere the tapes over the touchpad.
- 6 Slide the touchpad cable into its slot on the touchpad and press down the latch to secure the cable.

## Post-requisites

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

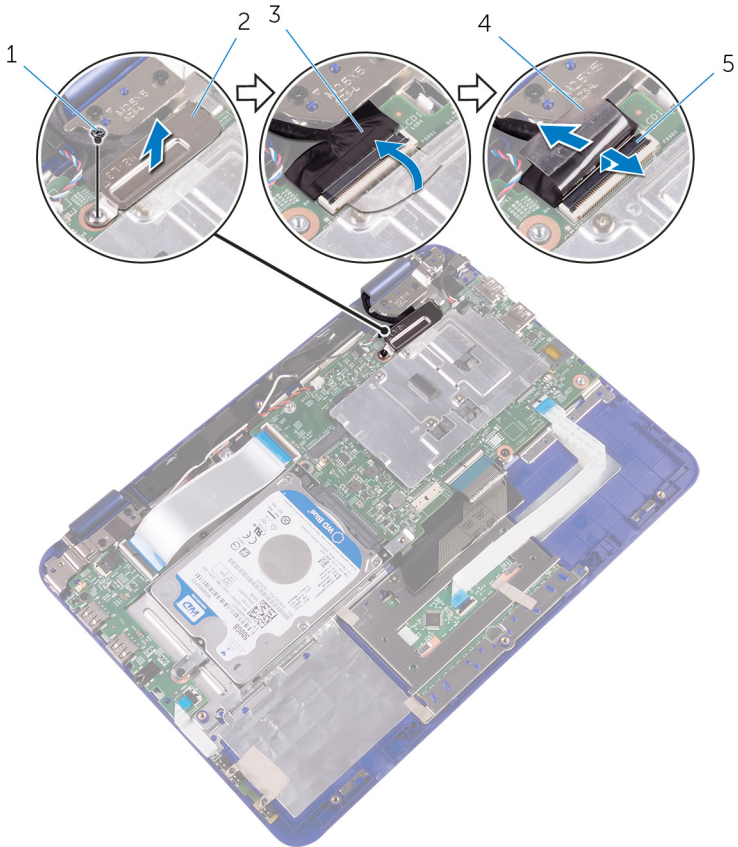
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [wireless card](#).

## Procedure

- 1 Remove the screw (M2x3) that secures the display-cable bracket to the system board.
- 2 Lift the display-cable bracket off the system board.
- 3 Peel off the tape to access the display cable.



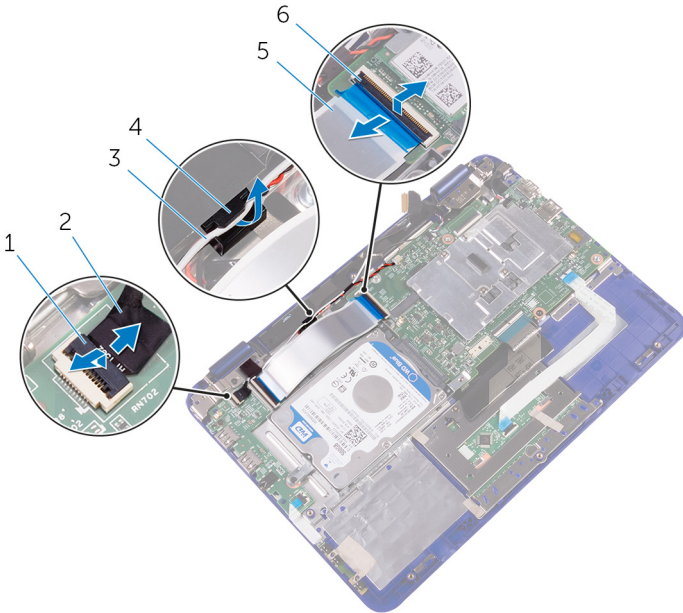
- 4 Open the latch and disconnect the display cable.



**Figure 21. Disconnecting the display cable**

- |   |               |   |                       |
|---|---------------|---|-----------------------|
| 1 | M2x3 screw    | 2 | display-cable bracket |
| 3 | display cable | 4 | tape                  |
| 5 | latch         |   |                       |
- 5 Open the latch and disconnect the sensor-board cable from the I/O board.
  - 6 Remove the antenna cable from the routing guide on the right speaker.

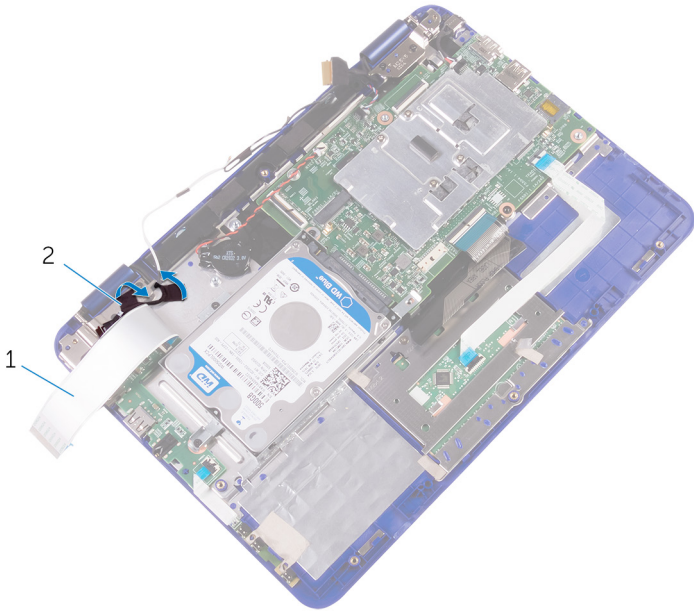
- 7 Open the latch and disconnect the I/O-board cable from the system board.



**Figure 22. Disconnecting the IO-board cable**

- |   |                 |   |                    |
|---|-----------------|---|--------------------|
| 1 | latch           | 2 | sensor-board cable |
| 3 | antenna cable   | 4 | routing guide      |
| 5 | I/O-board cable | 6 | latch              |

- 8 Peel the tapes off the display hinges.



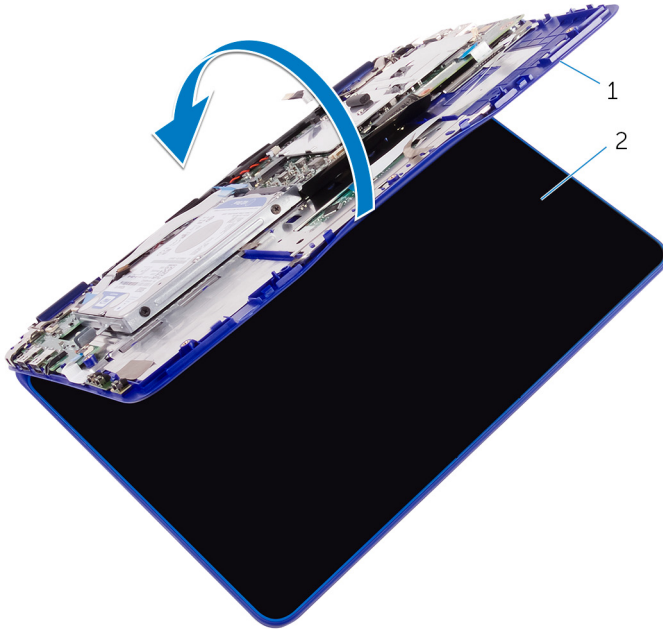
**Figure 23. Removing the tapes**

1 I/O-board cable

2 tape

- 9 Lift the palm-rest and keyboard assembly as far as possible, and then turn the computer over.

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



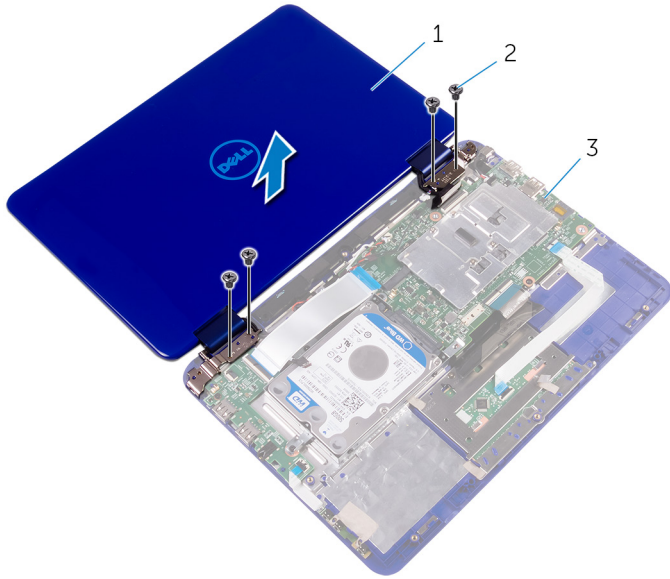
**Figure 24. Lifting the display assembly**

1 palm-rest assembly

2 display assembly

- 10 Place the computer face down on a flat surface.
- 11 Remove the four screws (M2.5x5) that secure the display assembly to the palm-rest and keyboard assembly.

**12** Lift the display assembly off the palm-rest and keyboard assembly.




**Figure 25. Removing the display assembly**

- |   |                                 |   |                   |
|---|---------------------------------|---|-------------------|
| 1 | display assembly                | 2 | M2.5x5 screws (4) |
| 3 | palm-rest and keyboard 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 on the palm-rest and keyboard assembly.
- 2 Align the screw holes on the display hinges with the screw holes on the palm-rest and keyboard assembly.
- 3 Replace the four screws (M2.5x5) that secure the display assembly to the palm-rest and keyboard assembly.
- 4 Turn the computer over and close the display.
- 5 Slide the I/O-board cable into its slot on the system board and press down the latch to secure the cable.
- 6 Route the antenna cable through its routing on the right speaker.
- 7 Slide the sensor-board cable into its slot on the I/O board and press down the latch to secure the cable.
- 8 Slide the display cable into its slot on the system board and press down the latch to secure the cable.
- 9 Adhere the tape on the display cable.
- 10 Align the screw hole on the display-cable bracket with the screw hole on the system board.
- 11 Replace the screw (M2x3) that secures the display-cable bracket to the system board.



# Post-requisites

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



# Removing the system board

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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).



**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

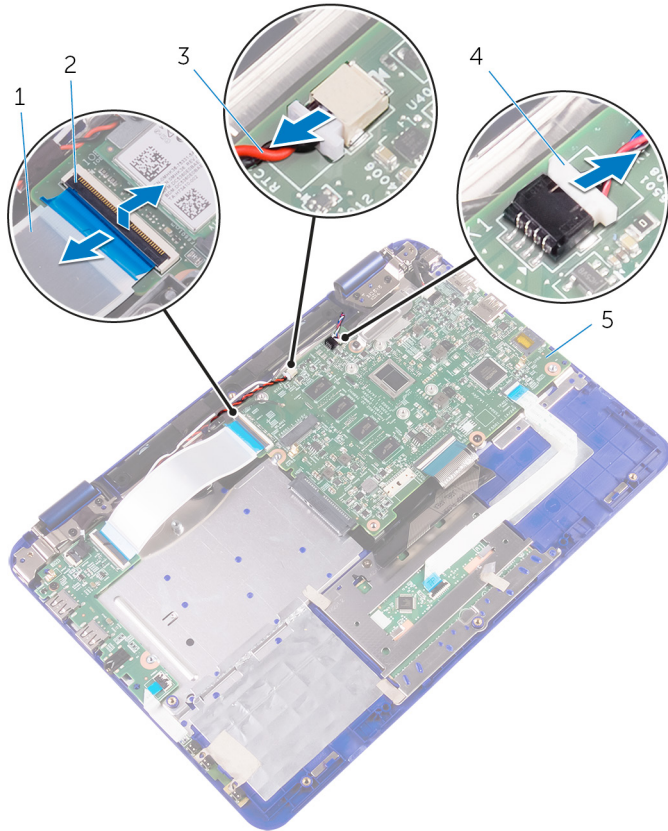
- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [wireless card](#).
- 4 Follow the procedure from "[Removing the hard drive](#)" (Only for computers shipped with a hard drive).
- 5 Remove the [memory module](#).

## Procedure

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



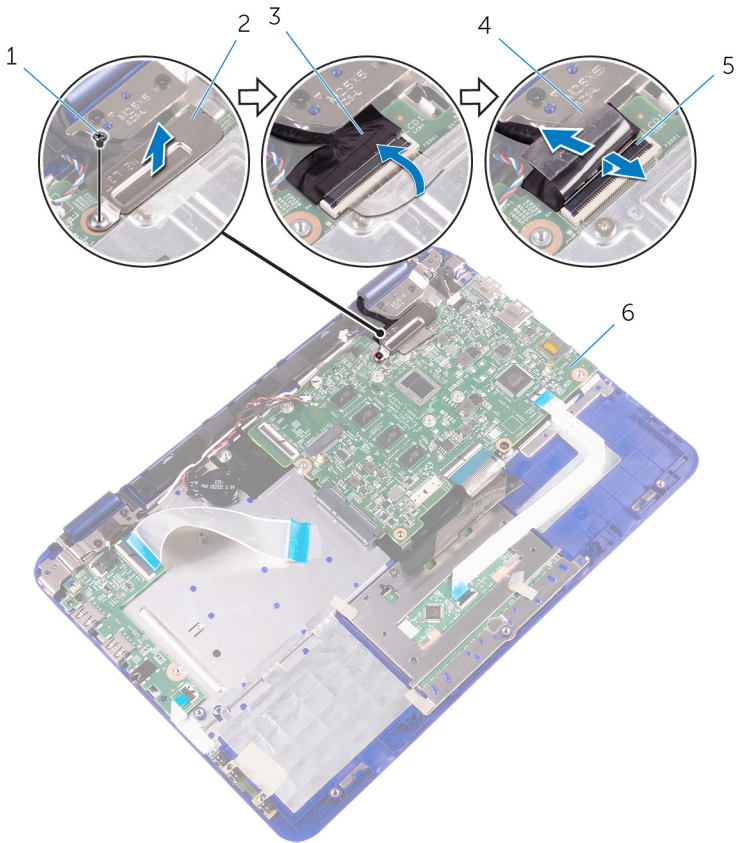
- 2 Disconnect the coin-cell battery and speaker cables from the system board.



**Figure 26. Disconnecting the coin-cell battery and speaker cables**

- |   |                         |   |               |
|---|-------------------------|---|---------------|
| 1 | I/O-board cable         | 2 | latch         |
| 3 | coin-cell battery cable | 4 | speaker cable |
| 5 | system board            |   |               |
- 3 Remove the screw (M2x3) that secures the display-cable bracket to the system board and lift the display-cable bracket off the system board.

- 4 Disconnect the display cable from the system board.

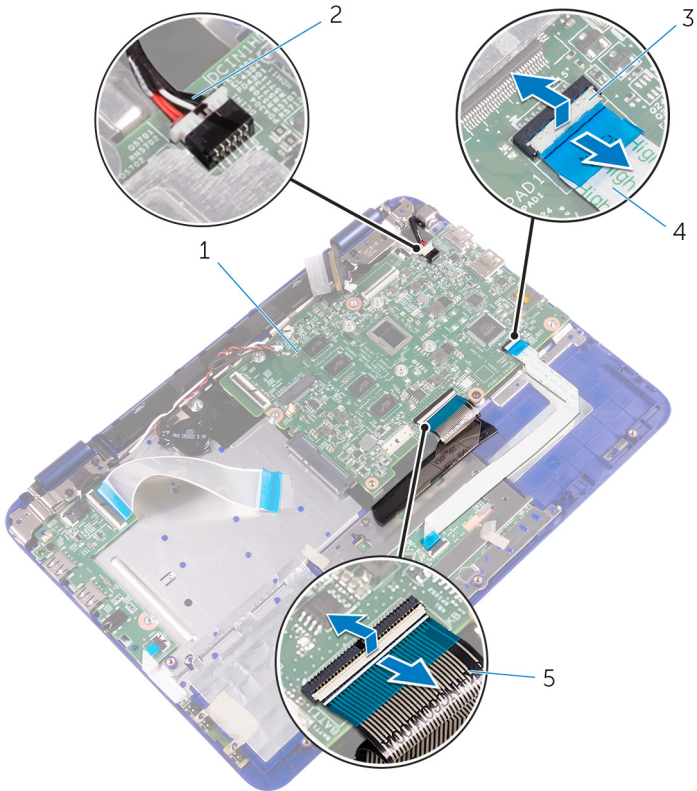


**Figure 27. Disconnecting the display cable**

- |   |               |   |                       |
|---|---------------|---|-----------------------|
| 1 | screw         | 2 | display-cable bracket |
| 3 | display cable | 4 | tape                  |
| 5 | latch         | 6 | system board          |
- 5 Open the latch and disconnect the touchpad cable from the system board.
- 6 Open the latch and disconnect the keyboard cable from the system board.



- 7 Disconnect the power-adaptor port cable from the system board.



**Figure 28. Disconnecting the power-adaptor port cable**

- |   |                |   |                          |
|---|----------------|---|--------------------------|
| 1 | system board   | 2 | power-adaptor port cable |
| 3 | latch          | 4 | touchpad cable           |
| 5 | keyboard cable |   |                          |

- 8 Remove the screw (M2x3) that secures the system board to the palm-rest and keyboard assembly.

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



**Figure 29. Removing the system board**

1 system board

2 palm-rest and keyboard assembly

# Replacing the system board

---



**WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices, see the Regulatory Compliance home page at [www.dell.com/regulatory\\_compliance](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 and keyboard assembly.
- 2 Replace the screw (M2x3) that secures the system board to the palm-rest and keyboard assembly.
- 3 Connect the power-adaptor port cable and the speaker cable to the system board.
- 4 Slide the touchpad cable into the slot on the system board and press down the latch to secure the cable.
- 5 Slide the keyboard cable into its slot on the system board and press down the latch to secure the cable.
- 6 Slide the I/O-board cable into the slot on the system board and press down the latch to secure the cable.
- 7 Align the screw hole on the display-cable bracket to the screw holes on the system board.
- 8 Replace the screw (M2x3) that secures the display-cable bracket to the screw holes on the system board.
- 9 Connect the display cable to the system board.
- 10 Connect the coin-cell battery and speaker cables from the system board.

## Post-requisites

- 1 Replace the [memory module](#).
- 2 Follow the procedure from step 3 to step 4 in "[Replacing the hard drive](#)".
- 3 Replace the [wireless card](#).
- 4 Replace the [battery](#).
- 5 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 palm-rest and keyboard assembly

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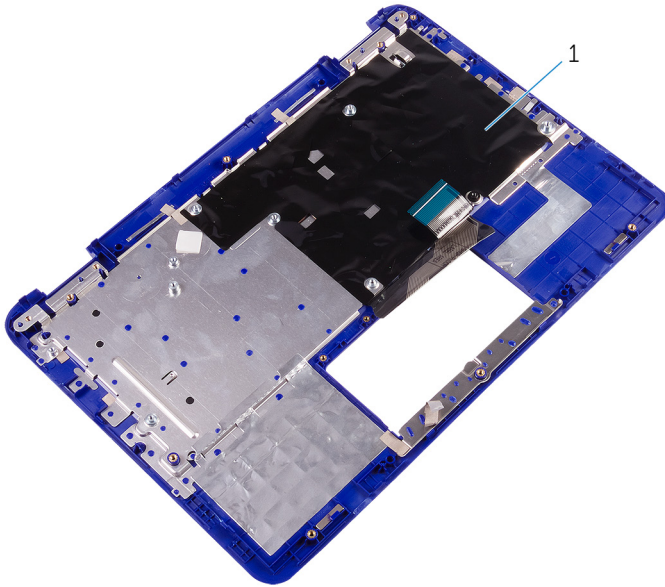
**WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best 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 [power and volume-buttons board](#).
- 4 Remove the [wireless card](#).
- 5 Follow the procedure from “[Removing the hard drive](#)” (Only for computers shipped with a hard drive).
- 6 Remove the [I/O board](#).
- 7 Remove the [power-adapter port](#).
- 8 Remove the [touchpad](#).
- 9 Remove the [speakers](#).
- 10 Remove the [system board](#).
- 11 Remove the [display assembly](#).

## Procedure

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



**Figure 30. Palm-rest and keyboard assembly**

- 1 palm-rest and keyboard assembly

# Replacing the palm-rest and keyboard assembly

---



**WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices, see the Regulatory Compliance home page at [www.dell.com/regulatory\\_compliance](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 [display assembly](#).
- 2 Replace the [system board](#).
- 3 Replace the [speakers](#).
- 4 Replace the [touchpad](#).
- 5 Replace the [power-adapter port](#).
- 6 Replace the [I/O board](#).
- 7 Follow the procedure from step 3 to step 4 in "[Replacing the hard drive](#)".
- 8 Replace the [wireless card](#).
- 9 Replace the [power and volume-buttons board](#).
- 10 Replace the [battery](#).
- 11 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 [wireless card](#).
- 4 Remove the [display assembly](#).

## Procedure

- 1 Release the sensor-board cable from the routing guide on the right hinge.
- 2 Release the display cable from the routing guides on the left hinge.



- 3 Using a plastic scribe, pry the display panel off the display-back cover.



**Figure 31. Removing the display panel**

- |   |                    |   |                    |
|---|--------------------|---|--------------------|
| 1 | display panel      | 2 | display hinges (2) |
| 3 | routing guide      | 4 | sensor-board cable |
| 5 | plastic scribe     | 6 | display cable      |
| 7 | display-back cover |   |                    |

# 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



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

- 1 Align the display panel on the display-back cover and snap the display panel into place.
- 2 Route the display cable through the routing guide on the left hinge.
- 3 Route the sensor-board cable through the routing guide on the right hinge.

## Post-requisites

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



# Removing the display hinges

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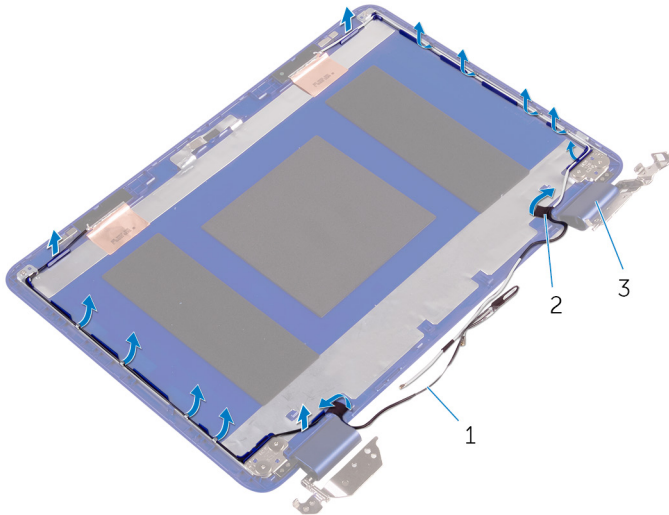
**WARNING:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best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

## Prerequisites

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Remove the [wireless card](#).
- 4 Remove the [display assembly](#).
- 5 Remove the [display panel](#).

# Procedure

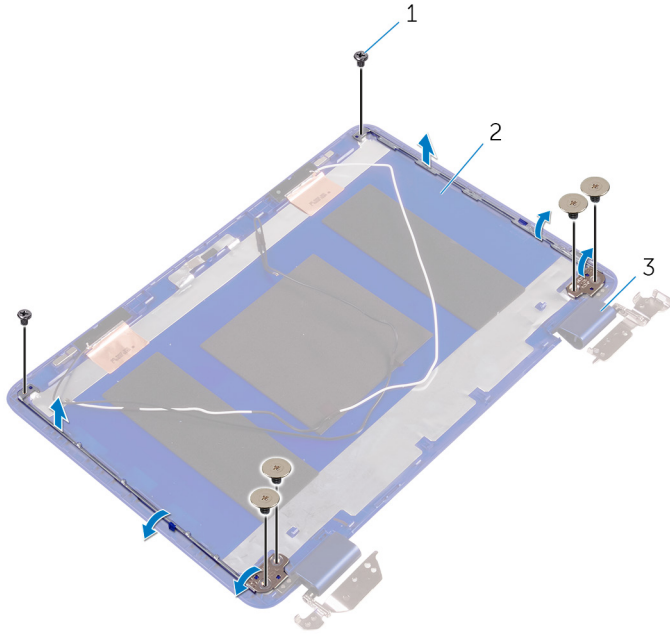
- 1 Peel the tapes and remove the antenna cables from the routing guides on the display back cover.



**Figure 32. Removing the antenna cables**

- |   |                    |   |      |
|---|--------------------|---|------|
| 1 | antenna cables (2) | 2 | tape |
| 3 | hinge cover (2)    |   |      |
- 2 Remove the two screws (M2x2.5) and four screws (M2.5x2.5) that secure the display hinges to the display back-cover and antenna assembly.

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



**Figure 33. Removing the display hinges**

- |   |  |   |  |
|---|--|---|--|
| 1 | M2x2.5 screws (2) and<br>M2.5x2.5 screws (4) | 2 | display back-cover and<br>antenna assembly |
| 3 | hinges (2)                                   |   |  |

# Replacing the display hinges

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

## Procedure

- 1 Align the screw holes on the display hinges with the screw holes on the display back-cover and antenna assembly.
- 2 Replace the two screws (M2x2.5) and four screws (M2.5x2.5) that secure the display hinges to the display back-cover and antenna assembly.
- 3 Route the antenna cables through the routing guides on the display back cover and secure it in place.

## Post-requisites

- 1 Replace the [display panel](#).
- 2 Replace the [display assembly](#).
- 3 Replace the [wireless card](#).
- 4 Replace the [battery](#).
- 5 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 [wireless card](#).
- 4 Remove the [display assembly](#).
- 5 Remove the [display panel](#).

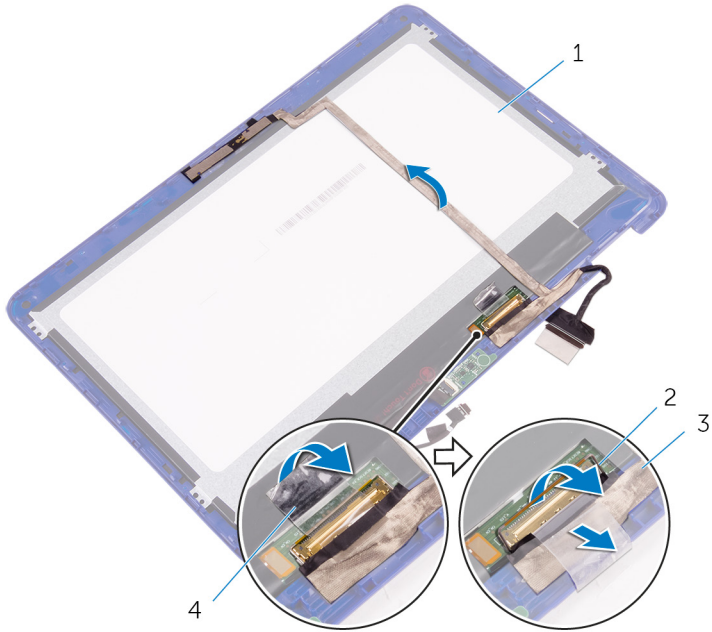
## Procedure



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

- 1 Peel the tape to access the latch for the display cable.
- 2 Open the latch and disconnect the display cable.

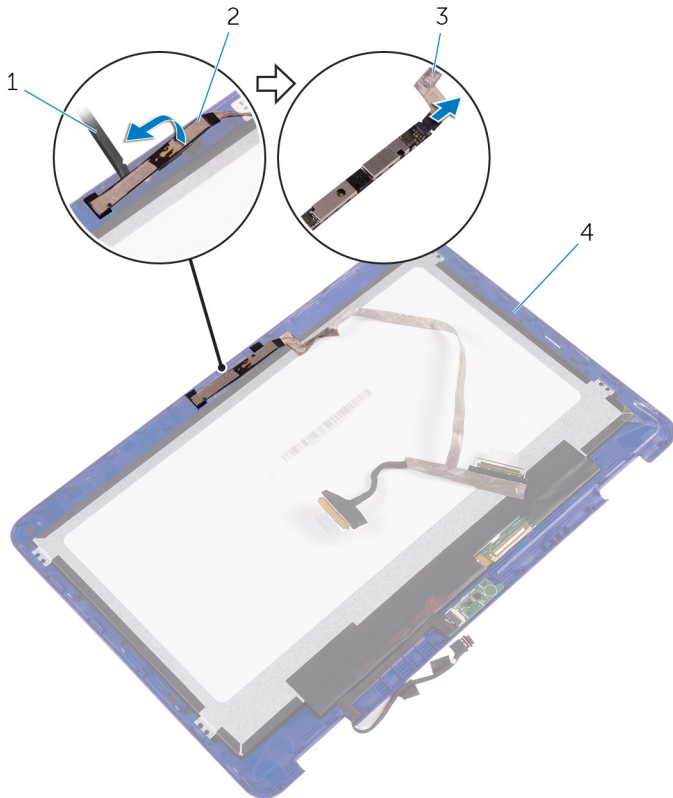
- 3 Peel the tape that secures the display cable to the display panel.



**Figure 34. Disconnecting the display cable**

- |   |               |   |       |
|---|---------------|---|-------|
| 1 | display panel | 2 | latch |
| 3 | display cable | 4 | tape  |
- 4 Using a plastic scribe, pry the camera off the display-back cover.

- 5 Turn the camera over and disconnect the camera cable from the camera.



**Figure 35. Removing the camera**

- |   |                |   |                    |
|---|----------------|---|--------------------|
| 1 | plastic scribe | 2 | camera             |
| 3 | camera cable   | 4 | display-back cover |

# Replacing 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).

## Procedure

- 1 Connect the camera cable to the camera.
- 2 Using the alignment post, place the camera on the display-back cover and snap it into place.
- 3 Slide the display cable into its slot on the display-back cover and press down the latch to secure the cable.
- 4 Adhere the tape on the display-cable connector.
- 5 Adhere the tape to secure the display cable to the display panel.

## Post-requisites

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



# Removing the sensor board

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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 [wireless card](#).
- 4 Remove the [display assembly](#).
- 5 Remove the [display panel](#).

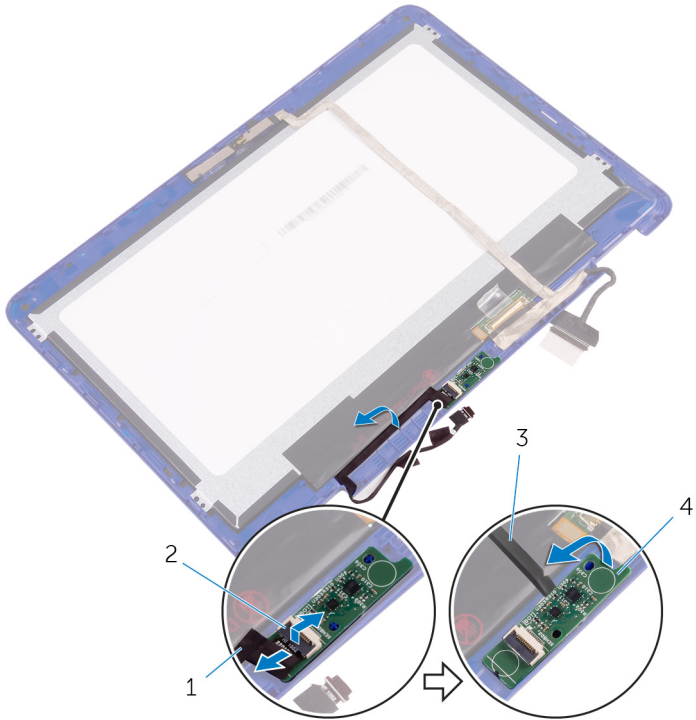
## Procedure



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

- 1 Open the latch and disconnect the sensor-board cable from the sensor board.

- 2 Using a plastic scribe, pry the sensor board off the display-back cover.



**Figure 36. Removing the sensor board**

- |   |                    |   |              |
|---|--------------------|---|--------------|
| 1 | sensor-board cable | 2 | latch        |
| 3 | plastic scribe     | 4 | sensor board |

# Replacing the sensor 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 sensor board on the display-back cover and snap the sensor board into place.
- 2 Slide the sensor-board cable into the slot on the sensor board and press down the latch to secure the cable.




## Post-requisites

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

# Downloading drivers




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## 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 video 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 **USB** 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.

## Network adapter and Bluetooth drivers

In the Device Manager, check if the network card driver is installed. Install the driver updates from [www.dell.com/support](http://www.dell.com/support).




- ▼  Network adapters
  -  Bluetooth Device (Personal Area Network)
  -  Bluetooth Device (RFCOMM Protocol TDI)
  -  Qualcomm QCA9565 802.11b/g/n Wireless Adapter
  -  WAN Miniport (IKEv2)
  -  WAN Miniport (IP)
  -  WAN Miniport (IPv6)
  -  WAN Miniport (L2TP)
  -  WAN Miniport (Network Monitor)
  -  WAN Miniport (PPPOE)
  -  WAN Miniport (PPTP)
  -  WAN Miniport (SSTP)

In the Device Manager, check if the Bluetooth driver is installed. Install the driver updates from [www.dell.com/support](http://www.dell.com/support).

- ▼  Bluetooth
  -  Microsoft Bluetooth Enumerator
  -  Microsoft Bluetooth LE Enumerator
  -  Microsoft Bluetooth Protocol Support Driver
  -  Qualcomm QCA9565 Bluetooth 4.0

## 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



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



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

Use the BIOS Setup program for the following purposes:

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

## Entering BIOS setup program

- 1 Turn on (or restart) your computer.



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



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

## System setup options



**NOTE: Depending on this 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.
First HDD	Displays the type of hard drive installed.

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**Main**

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eMMC Device	Displays the type of eMMC 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.

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

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**Advanced**

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PowerNow! Enable	Enables or disables the Intel(R) 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 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



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## Advanced

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SATA Operation	Allows you to configure the operating mode of the integrated SATA hard drive controller. Default: AHCI
Adapter Warnings	Allows you to choose if the computer should display warning messages when you use AC adapters that are not supported by your computer. Default: Enabled
Function Key Behavior	Allows you to set function key or multimedia key as the default function key behavior. Default: Multimedia key
Battery Health	Displays the battery health.

### Miscellaneous Devices

USB Debug	Enable or disable USB debug. Default: Disabled
BIOS Recovery from Hard Drive	Enable or disable BIOS recovery from hard drive. Default: Enabled
Battery Charge Configuration	Set the battery charge settings with a preselected custom charge start and stop. Default: Adaptive
Advanced Battery Charge Configuration	Enable Advance Battery Charge Configuration from the beginning of the day to a specified work period. Default: Disabled

### SupportAssist System Resolution

Auto OS Recovery Threshold	Controls the automatic boot flow for SupportAssist System Resolution Console and for the Dell OS Recovery tool. Default: 2
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**Advanced**

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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	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 drive password.
Password Change	Allows you to permit or deny system password or HDD password changes. Default: Permitted
Computrace	Enable or disable the BIOS module interface of the optional Computrace Service from Absolute Software. Default: Deactivate
Firmware TPM	Enable or disable the firmware TPM. Default: Disabled.
PPI Bypass for Clear Command	Enable or disable the PPI Bypass for Clear Command. 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**

<b>Boot</b>	
Fast Boot	Enable or disable the fast boot feature. Default: Minimal
Secure Boot	Enable or disable the secure boot feature. Default: Disabled.
Load Legacy Option ROMs	Enable or disable the Load Legacy Option ROMs. Default: Disabled.
Boot List Option	Displays the boot list options.
File Browser Add Boot Option	Add the file system for boot option.
File Browser Add Boot Option	Delete the file system for boot option.
UEFI Boot	Shows the source for Windows Boot Manager.

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

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

# System and setup password

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

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



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



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



**NOTE: System and setup password feature is disabled.**

## Assigning a system password and setup password

You can assign a new **System Password** only when the status is in **Not Set**.

To enter the system setup, press F2 immediately after a power-on or re-boot.

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



- 4 Press Esc and a message prompts you to save the changes.
- 5 Press Y to save the changes.  
The computer reboots.

## Deleting or changing an existing system and or setup password

Ensure that the **Password Status** is Unlocked (in the System Setup) before attempting to delete or change the existing System and/or Setup password. You cannot delete or change an existing System or Setup password, if the **Password Status** is Locked.

To enter the System Setup, press F2 immediately after a power-on or reboot.

- 1 In the **System BIOS** or **System Setup** screen, select **System Security** and press Enter.  
The **System Security** screen is displayed.
- 2 In the **System Security** screen, verify that **Password Status** is **Unlocked**.
- 3 Select **System Password**, alter or delete the existing system password and press Enter or Tab.
- 4 Select **Setup Password**, alter or delete the existing setup password and press Enter or Tab.



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

- 5 Press Esc and a message prompts you to save the changes.
- 6 Press Y to save the changes and exit from System Setup.  
The computer reboots.

## Clearing CMOS settings



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

- 1 Remove the [base cover](#).
- 2 Remove the [battery](#).
- 3 Disconnect the [coin-cell battery](#).
- 4 Wait for one minute.

- 5 Connect the [coin-cell battery](#).
- 6 Replace the [battery](#).
- 7 Replace the [base cover](#).

## Clearing forgotten passwords

Contact Dell technical support to clear the forgotten passwords, see [www.dell.com/contactdell](http://www.dell.com/contactdell).



# 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.

## Flashing BIOS (USB key)

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


- 8 The **BIOS Update Utility** appears. Follow the instructions on the screen to complete the BIOS update.

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

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

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

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

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

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

### Running the ePSA diagnostics

- 1 Turn on your computer.
- 2 As the computer boots, press the F12 key as the Dell logo appears.
- 3 On the boot menu screen, select the **Diagnostics** option.
- 4 Click the arrow at the bottom left corner.  
Diagnostics front page is displayed.
- 5 Click the arrow in the lower-right corner to go to the page listing.  
The items detected are listed.
- 6 To run a diagnostic test on a specific device, press Esc and click **Yes** to stop the diagnostic test.




- 7 Select the device from the left pane and click **Run Tests**.
- 8 If there are any issues, error codes are displayed.  
Note the error code and validation number and contact Dell.

## System LED diagnostics

**Battery-status light:** Indicates the battery status of the computer.

- 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 to the computer and battery is fully charged, or power adapter is not connected to the computer and the battery has sufficient charge.

The power LED light blinking amber pattern is used to determine failures.

 **NOTE: Amber LED blinking pattern: The Power Button LED shall blink the corresponding LED codes for the corresponding fault condition. The repeated pattern has a long pause inserted in the middle. For example, No Memory detected, Power Button LED blinks two times followed by a pause, blinks two times, and pause. This pattern continues until the computer is turned off. The following table depicts the LED patterns with possible troubleshooting solution.**

**Table 8. System LED patterns**

LED 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

LED pattern	Problem description
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 following repetitive beep codes help the user troubleshoot problems with this 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 provides the instructions on how to conduct flea power release:

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

## 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.**