XPS 11

Service Manual

Computer model: XPS 9P33
Regulatory model: P16T
Regulatory type: P16T001

Notes, Cautions, and Warnings

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

CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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Before Working Inside Your Computer

Before You Begin

CAUTION: To avoid data loss, save and close all open files and exit all open programs before turning off your computer.

1. Save and close all open files, exit all open programs, and turn off your computer.

   Point to the lower or upper-right corner of the screen to open the charms sidebar and click **Settings**→ **Power**→ **Shut down**.

   NOTE: If you are using a different operating system, see the documentation of your operating system for shut-down instructions.

2. After the computer shuts down, disconnect it from the electrical outlet.
3. Disconnect all cables — such as power and USB cables — from your computer.
4. Disconnect all peripherals, including media cards, connected to your computer.

Recommended Tools

The procedures in this document require the following tools:

- Phillips screwdriver
- Torx #5 (T5) screwdriver
- Plastic scribe

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 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 power source.

CAUTION: Only a certified service technician is authorized to remove the computer cover and access any of the components inside the computer. See the safety instructions for complete information about safety precautions, working inside your computer, and protecting against electrostatic discharge.

CAUTION: To avoid damaging the computer, make sure that the work surface is flat and clean.

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, make sure that the ports and connectors are correctly oriented and aligned.

CAUTION: To avoid damaging the components and cards, handle them by their edges and avoid touching pins and contacts.

CAUTION: Press and eject any installed card from the media-card reader.

After Working Inside Your Computer

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

1. Replace all screws and make sure that no stray screws remain inside your computer.
2. Connect any cables, peripherals, and other parts you removed before working on your computer.
3. Connect your computer to the electrical outlet.
4. Turn on your computer.

Removing the Base Cover

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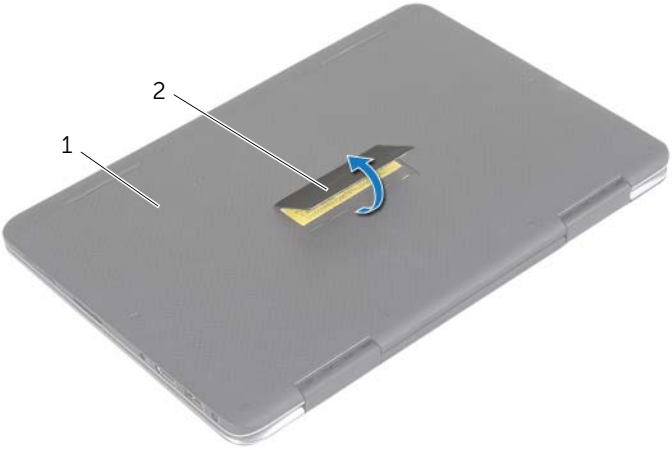
Procedure

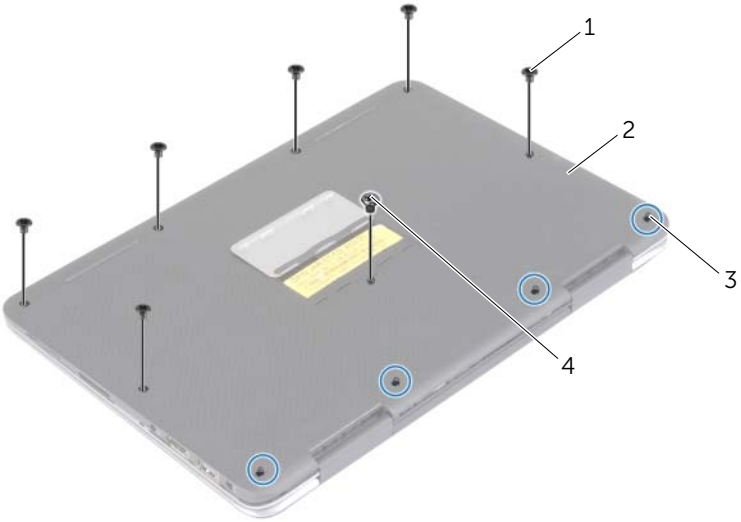
1. Close the display, and turn the computer over.
2. Release the system badge and turn it over.



1	base cover	2	system badge

3 Remove the screws that secure the base cover to the palm-rest assembly.

4 Loosen the captive screws that secure the base cover to the palm-rest assembly.



1	screws (Torx) (6)	2	base cover
3	captive screws (4)	4	screw (Phillips)

5 Place the computer with the rear side facing you, and gently pry up the base cover.

Replacing the Base Cover

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Procedure

1. Place the base cover on the palm-rest assembly and snap the base cover into place.
2. Tighten the captive screws that secure the base cover to the palm-rest assembly.
3. Replace the screws that secure the base cover to the palm-rest assembly.
4. Turn the system badge over and snap it into place.

Removing the Battery

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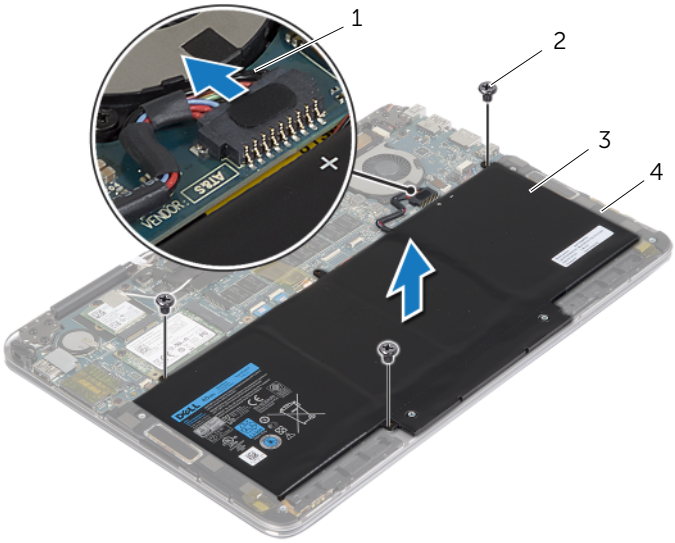
Prerequisites

Remove the base cover. See "Removing the Base Cover" on page 8.

Procedure

1. Disconnect the battery cable from the system board.
2. Remove the screws that secure the battery to the palm-rest assembly.
3. Lift the battery, along with its cable, off the palm-rest assembly.



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

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

Replacing the Battery

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Procedure

1. Close the display and turn the computer over.
2. Align the screw holes on the battery with the screw holes on the palm-rest assembly.
3. Replace the screws that secure the battery to the palm-rest assembly.
4. Connect the battery cable to the system board.

Postrequisites

Replace the base cover. See "Replacing the Base Cover" on page 10.

Removing the Wireless Card

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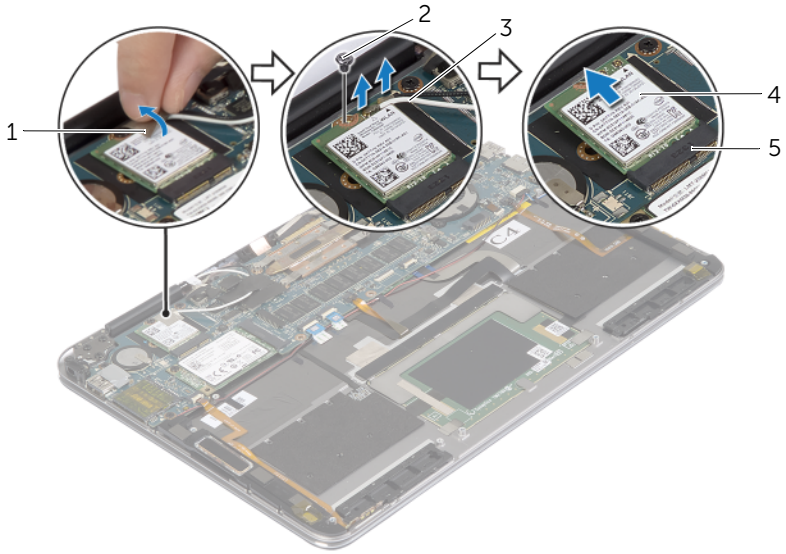
Prerequisites

1. Remove the base cover. See "Removing the Base Cover" on page 8.
2. Remove the battery. See "Removing the Battery" on page 11.

Procedure

1. Peel off the conductive tape that covers the antenna cables.
2. Disconnect the antenna cables from the wireless card.
3. Remove the screw that secures the wireless card to the system board.
4. Slide and remove the wireless card out of the wireless-card connector.



1	conductive tape	2	screw
3	antenna cables (2)	4	wireless card
5	wireless-card connector		

Replacing the Wireless Card

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Procedure

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

1. Align the notch on the wireless card with the tab on the wireless-card connector.
2. Insert the wireless card at an angle into the wireless-card connector.
3. Press the other end of the wireless card down and replace the screw that secures the wireless card to the system board.
4. Connect the antenna cables to the wireless card.

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

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

5. Adhere the conductive tape to the antenna cables.

Postrequisites

1. Replace the battery. See "Replacing the Battery" on page 12.
2. Replace the base cover. See "Replacing the Base Cover" on page 10.

Removing the mSATA Card

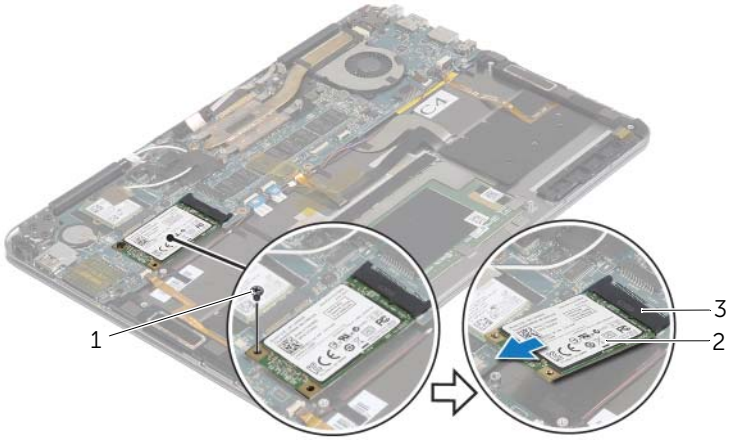
WARNING: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in "Before Working Inside Your Computer" on page 5. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 7.
For more safety best practices, see the Regulatory Compliance home page at dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover. See "Removing the Base Cover" on page 8.
2. Remove the battery. See "Removing the Battery" on page 11.

Procedure

1. Remove the screw that secures the mSATA card to the palm-rest assembly.
2. Slide the mSATA card out of the mSATA-card connector.



1	screw	2	mSATA card
3	mSATA-card connector		

Replacing the mSATA Card

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Procedure

1. Align the notch on the mSATA card with the tab on the mSATA-card connector.
2. Insert the mSATA card at an angle into the mSATA-card connector.
3. Press the other end of the mSATA card down and replace the screw that secures the mSATA card to the palm-rest assembly.

Postrequisites

1. Replace the battery. See "Replacing the Battery" on page 12.
2. Replace the base cover. See "Replacing the Base Cover" on page 10.

Removing the Fan

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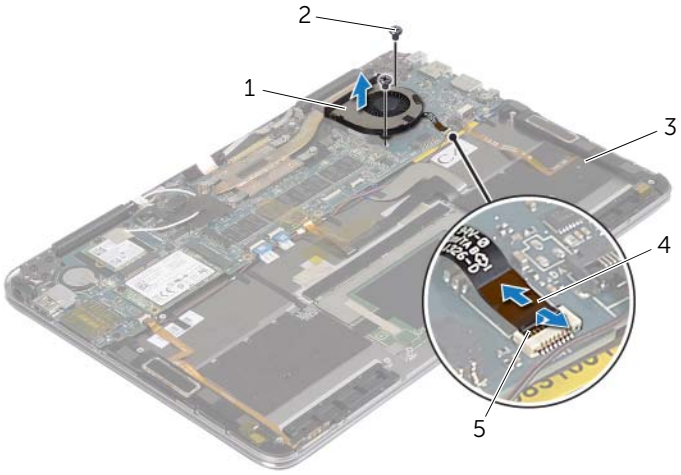
Prerequisites

1. Remove the base cover. See "Removing the Base Cover" on page 8.
2. Remove the battery. See "Removing the Battery" on page 11.

Procedure

1. Lift the connector latch and disconnect the fan cable from the system board.
2. Remove the screws that secure the fan to the palm-rest assembly.
3. Lift the fan, along with its cable, off the palm-rest assembly.



1	fan	2	screws (2)
3	palm-rest assembly	4	fan cable
5	connector latch		

Replacing the Fan

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Procedure

1. Align the screw holes on the fan with the screw holes on the palm-rest assembly.
2. Replace the screws that secure the fan to the palm-rest assembly.
3. Slide the fan cable into the system-board connector and press down on the connector latch to secure the cable.

Postrequisites

1. Replace the battery. See "Replacing the Battery" on page 12.
2. Replace the base cover. See "Replacing the Base Cover" on page 10.

Removing the Display Assembly

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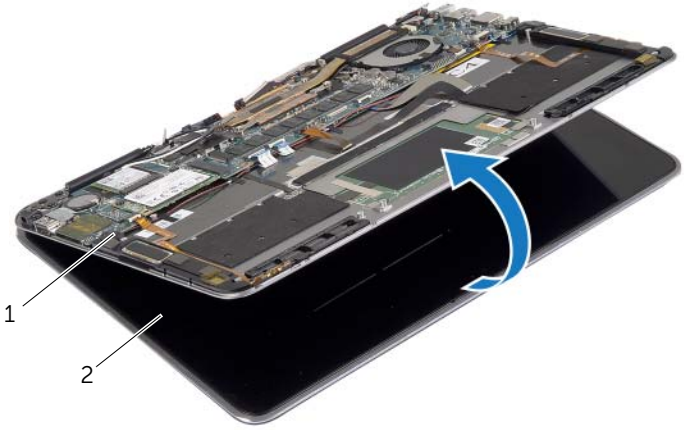
For more safety best practices, see the Regulatory Compliance home page at dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover. See "Removing the Base Cover" on page 8.
2. Remove the battery. See "Removing the Battery" on page 11.

Procedure

1. Carefully rotate the palm-rest assembly to an angle of 180 degrees.



1	palm-rest assembly	2	display assembly

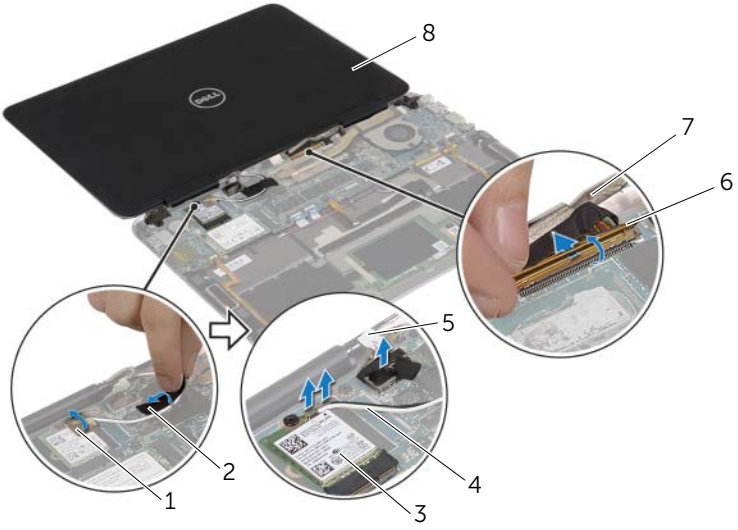
2 Turn the computer over.

1	palm-rest assembly	2	display assembly

3 Peel off the conductive and Mylar tapes that cover the antenna cables and disconnect the antenna cables from the wireless card.

4 Disconnect the display cable from the system board.

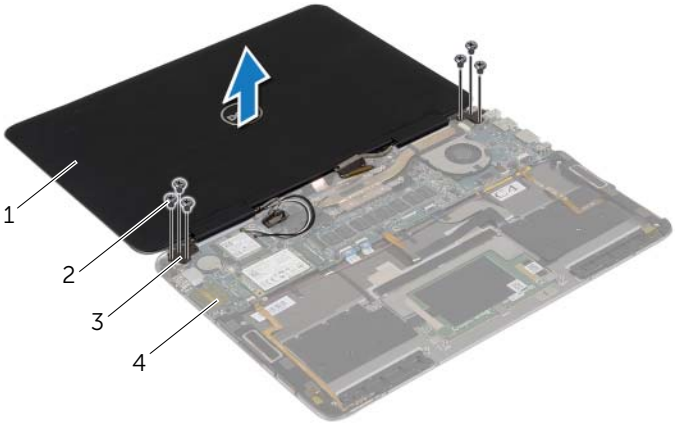
5 Lift the connector latch, and using the pull tab, disconnect the webcam cable from the system board.



1	conductive tape	2	Mylar tape
3	wireless card	4	antenna cables (2)
5	display cable	6	connector latch
7	webcam cable	8	display assembly

6 Remove the screws that secure the display hinges to the palm-rest assembly.

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



1	display assembly	2	screws (6)
3	display hinges (2)	4	palm-rest assembly

Replacing the Display Assembly

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Procedure

1. Align the screw holes on the display hinges with the screw holes on the palm-rest assembly.
2. Replace the screws that secure the display hinges to the palm-rest assembly.
3. Slide the webcam cable into the system-board connector and press down on the connector latch to secure the cable.
4. Connect the display cable to the system board.
5. Connect the antenna cables to the wireless card.
6. Adhere the conductive and Mylar tapes to the antenna cables.
7. Turn the computer over.
8. Rotate the palm-rest assembly to an angle of 180 degrees.

Postrequisites

1. Replace the battery. See "Replacing the Battery" on page 12.
2. Replace the base cover. See "Replacing the Base Cover" on page 10.

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" on page 5. After working inside your computer, follow the instructions in "After Working Inside Your Computer" on page 7.
For more safety best practices, see the Regulatory Compliance home page at dell.com/regulatory_compliance.

Prerequisites

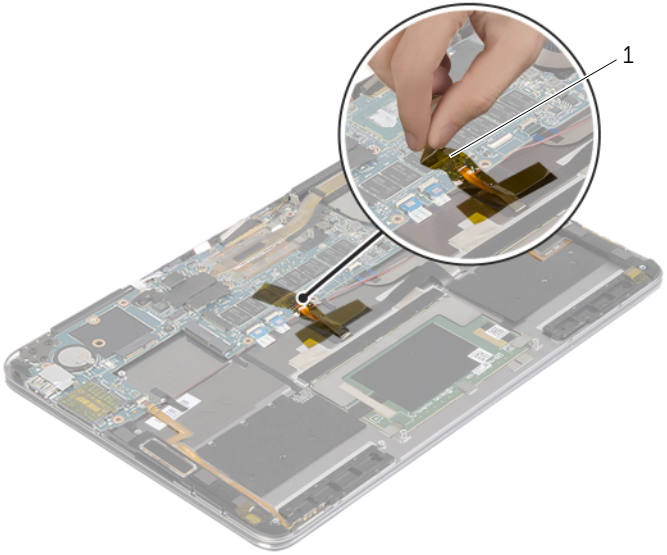
1. Remove the base cover. See "Removing the Base Cover" on page 8.
2. Remove the battery. See "Removing the Battery" on page 11.
3. Remove the wireless card. See "Removing the Wireless Card" on page 13.
4. Remove the mSATA card. See "Removing the mSATA Card" on page 15.

Procedure

NOTE: Replacing the system board removes any changes you made to the BIOS using System Setup. Enter the Service Tag of your computer in the BIOS and make the desired changes again after you replace the system board.
For more information on entering the Service Tag in the BIOS, see "Replacing the System Board" on page 30.

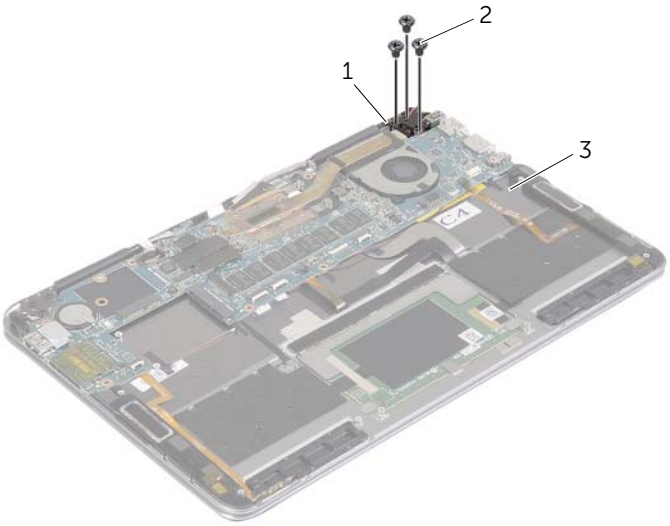
NOTE: Before disconnecting the cables from the system board, note the location of the connectors so that you can reconnect them correctly after you replace the system board.

1 Peel off the adhesive foam from the keyboard and keyboard-backlight cable.



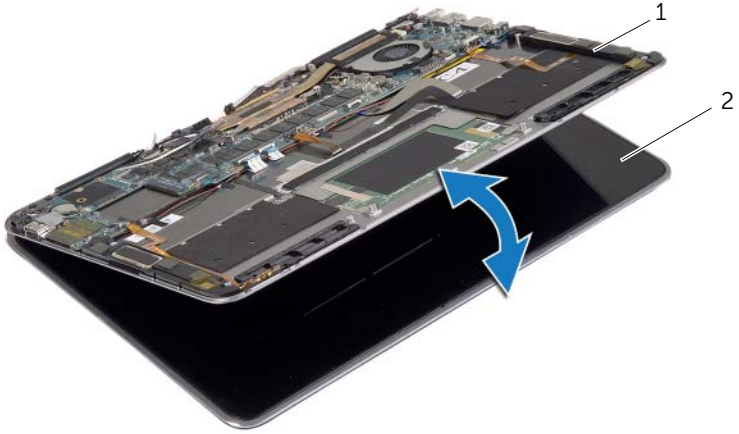
1	adhesive foam

2 Remove the screws that secure the display hinge to the palm-rest assembly.



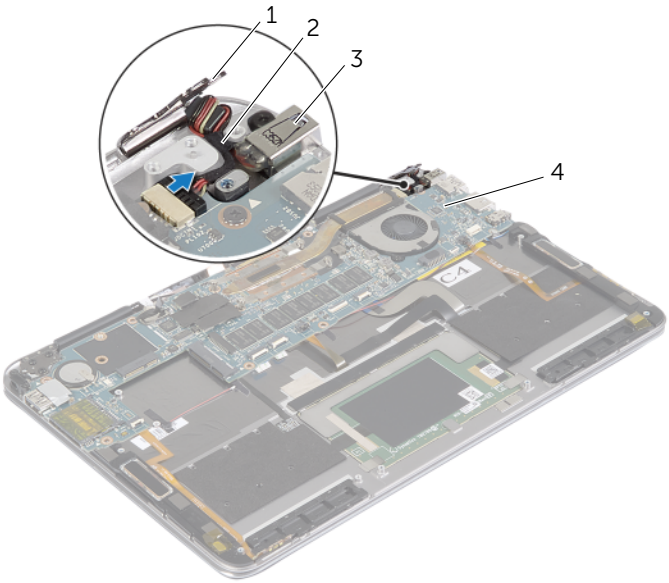
1	display hinge	2	screws (3)
3	palm-rest assembly		

3 Open the palm-rest assembly to release the display hinge and close the palm-rest assembly.



1	palm-rest assembly	2	display assembly

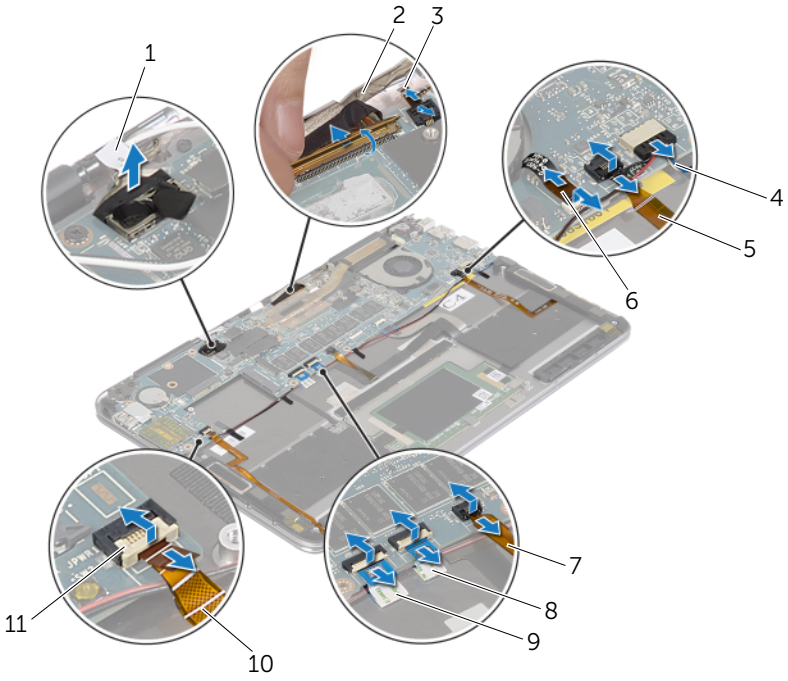
4 Disconnect the power-adapter port cable from the system board.



1	display hinge	2	power-adapter port cable
3	power-adapter port	4	system board

5 Lift the connector latches, and using the pull tabs disconnect the power-button cable, NFC cable, touchpad cable, keyboard and keyboard-backlight cable, volume-control buttons cable, fan cable, webcam cable, and display-lid switch cable.

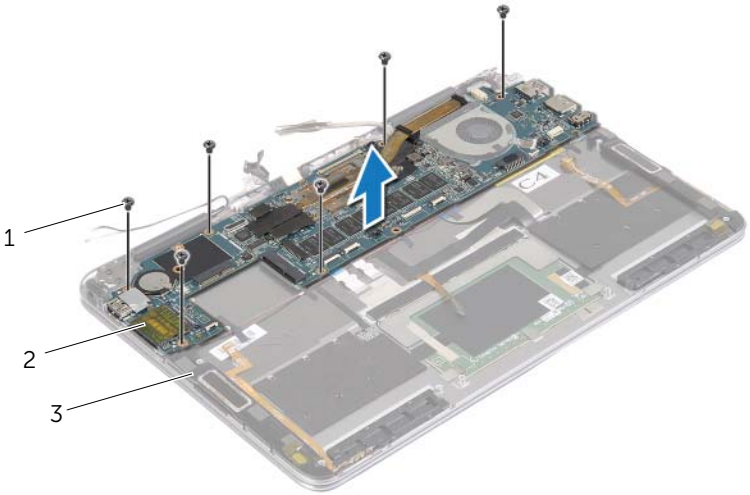
6 Disconnect the speaker cable and display cable.



1	display cable	2	webcam cable
3	display-lid switch cable	4	speaker cable
5	volume-control buttons cable	6	fan cable
7	keyboard and keyboard-backlight cable	8	touchpad cable
9	NFC cable	10	power-button cable
11	connector latch		

7 Remove the screws that secure the system board to the palm-rest assembly.

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



1	screws (6)	2	system board
3	palm-rest assembly		

Replacing the System Board

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For more safety best practices, see the Regulatory Compliance home page at dell.com/regulatory_compliance.

Procedure

CAUTION: Make sure that no cables are placed under the system board.

1. Align the screw holes on the system board with the screw holes on the palm-rest assembly.
2. Replace the screws that secure the system board to the palm-rest assembly.
3. Slide the power-button cable, NFC cable, touchpad cable, keyboard and keyboard-backlight cable, volume-control buttons cable, fan cable, webcam cable, and display-lid switch cable into the system-board connectors, and press down on the connector latches to secure the cables.
4. Connect the speaker cable, display cable, and power-adapter port cable to the system board.
5. Press down the display hinge in place.
6. Replace the screws that secure the display hinge to the palm-rest assembly.

Postrequisites

1. Replace the mSATA card. See "Replacing the mSATA Card" on page 16.
2. Replace the wireless card. See "Replacing the Wireless Card" on page 14.
3. Replace the battery. See "Replacing the Battery" on page 12.
4. Replace the base cover. See "Replacing the Base Cover" on page 10.

Entering the Service Tag in the BIOS

1. Turn on the computer.
2. At the Dell logo, press F2 to enter System Setup.
3. Navigate to the **Main** tab and type the Service Tag in the **Service Tag** field.

Removing the Palm-Rest Assembly

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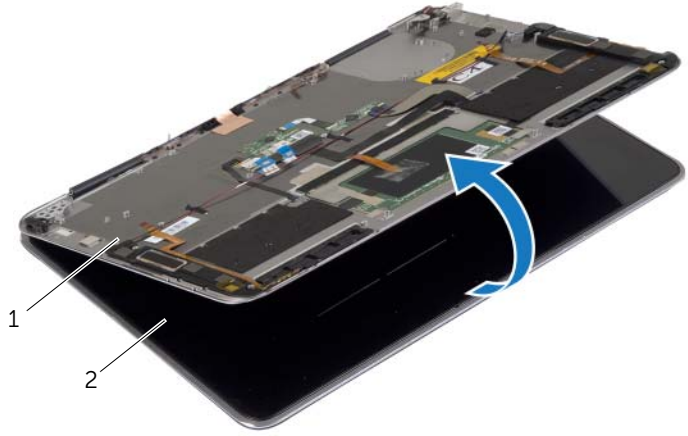
For more safety best practices, see the Regulatory Compliance home page at dell.com/regulatory_compliance.

Prerequisites

1. Remove the base cover. See "Removing the Base Cover" on page 8.
2. Remove the battery. See "Removing the Battery" on page 11.
3. Remove the mSATA card. See "Removing the mSATA Card" on page 15.
4. Remove the fan. See "Removing the Fan" on page 17.
5. Remove the system board. See "Removing the System Board" on page 24.

Procedure

1. Carefully rotate the palm-rest assembly to an angle of 180 degrees.



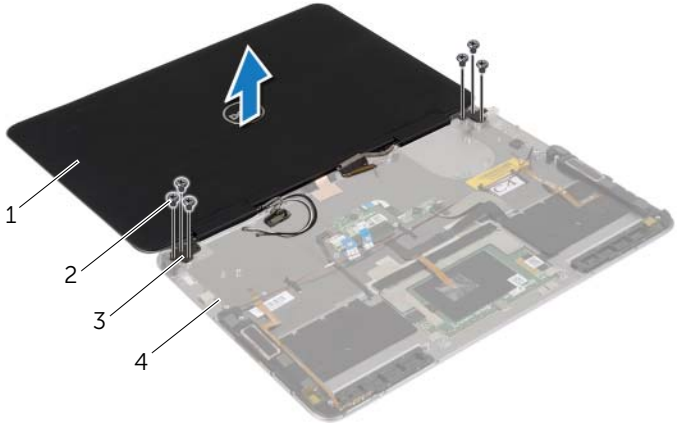
1	palm-rest assembly	2	display assembly

2 Turn the computer over.

1	palm-rest assembly	2	display assembly

3 Remove the screws that secure the display hinges to the palm-rest assembly.

4 Lift the display assembly away from the palm-rest assembly.



1	display assembly	2	screws (6)
3	display hinges (2)	4	palm-rest assembly

Replacing the Palm-Rest Assembly

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Procedure

1. Align the screw holes on the display hinges with the screw holes on the palm-rest assembly.
2. Replace the screws that secure the display hinges to the palm-rest assembly.
3. Turn the computer over.
4. Rotate the palm-rest assembly to an angle of 180 degrees.

Postrequisites

1. Replace the system board. See "Replacing the System Board" on page 30.
2. Replace the fan. See "Replacing the Fan" on page 18.
3. Replace the mSATA card. See "Replacing the mSATA Card" on page 16.
4. Replace the battery. See "Replacing the Battery" on page 12.
5. Replace the base cover. See "Replacing the Base Cover" on page 10.

Flashing the BIOS

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

1. Turn on the computer.
2. Go to **dell.com/support**.
3. If you have your computer's Service Tag, type your computer's Service Tag and click **Submit**.

   If you do not have your computer's Service Tag, click **Detect Service Tag** to allow automatic detection of the Service Tag.

   NOTE: If the Service Tag cannot be detected automatically, select your product under the product categories.
4. Click **Drivers & Downloads**.
5. In the **Operating System** drop-down, select the operating system installed on your computer.
6. Click **BIOS**.
7. Click **Download File** to download the latest version of the BIOS for your computer.
8. Save the file and once 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.