

Alienware 17 R4

Manual de servicio

Notas, precauciones y avisos

 **NOTA:** Una **NOTA** indica información importante que le ayuda a hacer un mejor uso de su producto.

 **PRECAUCIÓN:** Una **PRECAUCIÓN** indica la posibilidad de daños en el hardware o la pérdida de datos, y le explica cómo evitar el problema.

 **AVISO:** Un mensaje de **AVISO** indica el riesgo de daños materiales, lesiones corporales o incluso la muerte.

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Antes de manipular el interior del equipo

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

Antes de empezar

1. Guarde y cierre todos los archivos abiertos y salga de todas las aplicaciones abiertas.
2. Apague el equipo. Haga clic en **Inicio** > **Alimentación** > **Apagar**.
 - i** | **NOTA:** Si utiliza otro sistema operativo, consulte la documentación de su sistema operativo para conocer las instrucciones de apagado.
3. Desconecte el equipo y todos los dispositivos conectados de las tomas de alimentación eléctrica.
4. Desconecte del equipo todos los dispositivos de red y periféricos conectados como el teclado, el mouse y el monitor.
5. Extraiga cualquier tarjeta de medios y disco óptico del equipo, si corresponde.

Instrucciones de seguridad

Utilice las siguientes directrices de seguridad para proteger su equipo de posibles daños y para garantizar su seguridad personal.

- i** | **NOTA:** 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.
- i** | **NOTA:** 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.
- △** | **PRECAUCIÓN:** To avoid damaging the computer, ensure that the work surface is flat and clean.
- △** | **PRECAUCIÓN:** To avoid damaging the components and cards, handle them by their edges, and avoid touching pins and contacts.
- △** | **PRECAUCIÓN:** 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.
- △** | **PRECAUCIÓN:** 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.
- △** | **PRECAUCIÓN:** 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.
- △** | **PRECAUCIÓN:** Press and eject any installed card from the media-card reader.



















Herramientas recomendadas

Los procedimientos de este documento podrían requerir el uso de las siguientes herramientas:

- Destornillador Phillips n.º 1
- Punta trazadora de plástico

Screw list

Table 1. Screw list

Component	Secured to	Screw type	Quantity	Screw image
Base cover	Palm-rest assembly	M2.5x13	6	
Battery	Palm-rest assembly	M2.5x5	4	
Computer base	Palm-rest assembly	M2.5x8	14	
Display assembly	Palm-rest assembly	M2.5x5	6	
Hard-drive assembly	Computer base	M2.5x5	4	
Hard-drive bracket	Hard-drive assembly	M3x3	4	
Heat-sink assembly	System board	M2x3	7	
I/O board	Palm-rest assembly	M2.5x5	2	
Keyboard bracket	Palm-rest assembly	M2x3	17	
Power-adaptor port bracket	Palm-rest assembly	M2x3	1	
Power-button board	Palm-rest assembly	M2x3	2	
Rear-I/O cover	Computer base	M2.5x7	2	
Solid-state drive	Computer base	M2x3	1	
Subwoofer	Palm-rest assembly	M2x2	2	
System-board assembly	Palm-rest assembly	M2.5x5	7	
Touchpad bracket	Palm-rest assembly	M2x3	5	
Tron-light holder	Palm-rest assembly	M2.5x5	2	
Wireless-card bracket	Computer base	M2x3	1	

Después de manipular el interior del equipo

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

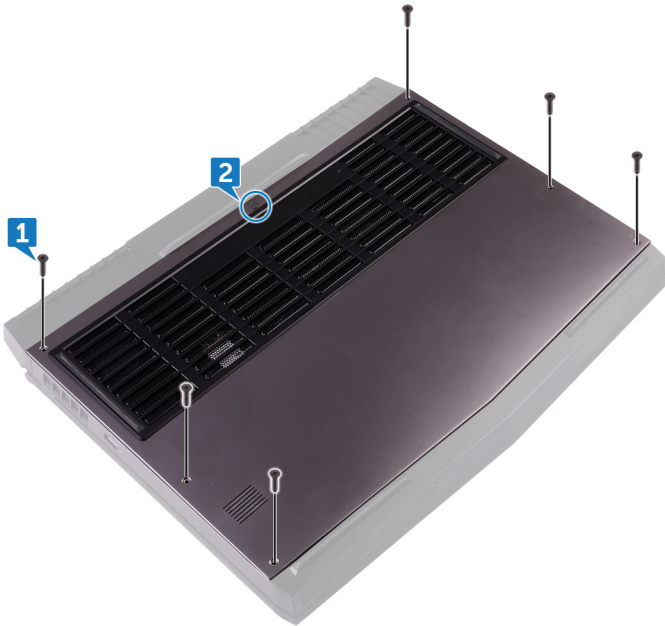
1. Coloque todos los tornillos y asegúrese de que ninguno quede suelto en el interior de equipo.
2. Conecte todos los dispositivos externos, los periféricos y los cables que haya extraído antes de manipular el equipo.
3. Coloque las tarjetas multimedia, los discos y cualquier otra pieza que haya extraído antes de manipular el equipo.
4. Conecte el equipo y todos los dispositivos conectados a la toma eléctrica.
5. Encienda el equipo.

Removing the base cover

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

Procedure

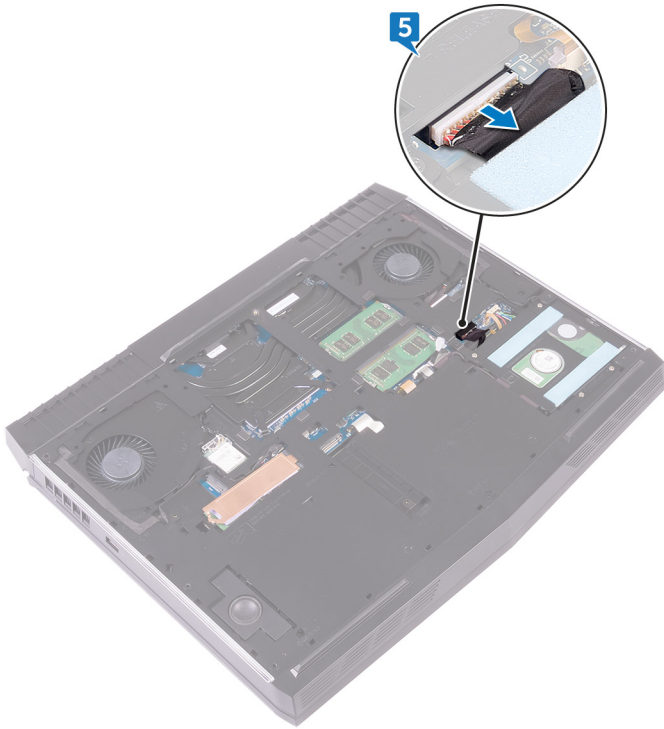
1. Remove the six screws (M2.5x13) that secure the base cover to the computer base.
2. Loosen the captive screw that secures the base cover to the computer base to open a gap between the two parts.



3. Using a plastic scribe, gently pry the base cover from the gap around the captive screw to release the clips on the base cover from the computer base.
4. Lift the base cover off the computer base.



5. Disconnect the battery cable from the system board.



6. Press and hold the power button for five seconds to ground the system board.

Colocación de la cubierta de la base

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Procedure

1. Connect the battery cable to the system board.
2. Tighten the captive screw that secures the base cover to the computer base.
3. Replace the six screws (M2.5x13) that secure the base cover to the computer base.

Extracción de la unidad de disco duro

ⓘ NOTA: 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.

⚠ PRECAUCIÓN: Hard drives are fragile. Exercise care when handling the hard drive.

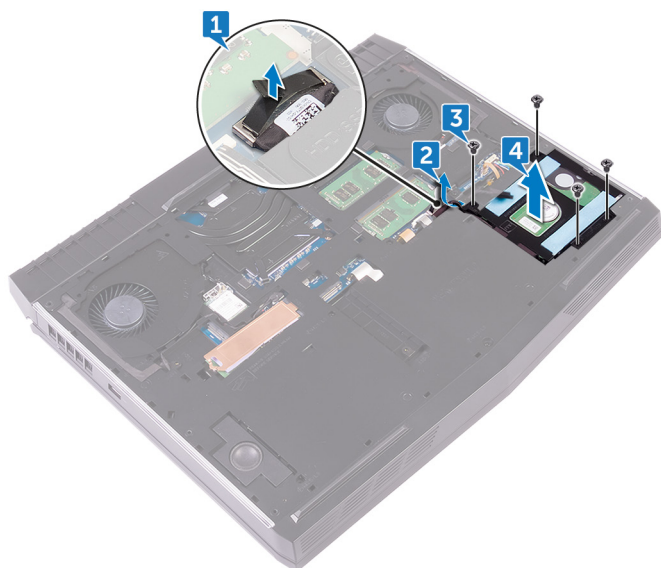
⚠ PRECAUCIÓN: To avoid data loss, do not remove the hard drive while the computer is in sleep or on state.

Prerequisites

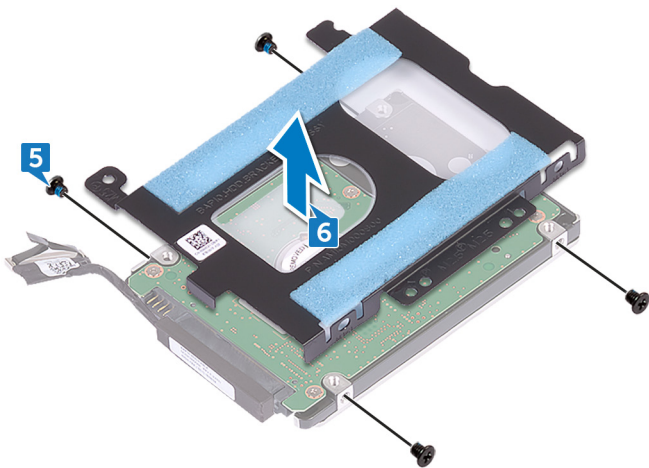
Remove the [base cover](#).

Procedimiento

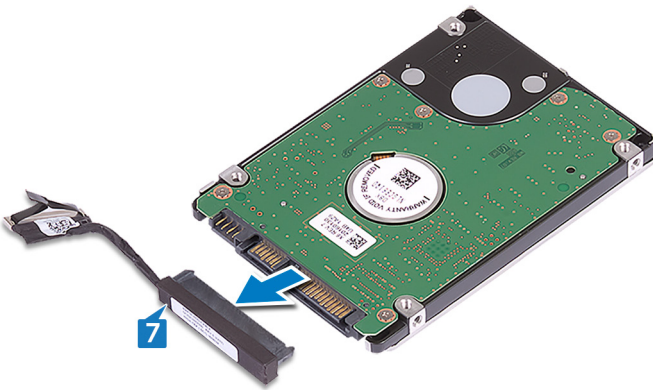
1. Con la lengüeta de tiro, desconecte el cable de la unidad de disco duro de la placa base.
2. Extraiga el cable de la unidad de disco duro de las guías de colocación de la base del equipo.
3. Quite los cuatro tornillos (M2.5 x 5) que fijan el ensamblaje de la unidad de disco duro a la base del equipo.
4. Levante el ensamblaje de la unidad de disco duro junto con su cable para extraerlo de la base del equipo.



5. Extraiga los cuatro tornillos (M3 x 3) que fijan el soporte de la unidad de disco duro a la unidad de disco duro.
6. Levante el soporte de la unidad de disco duro para extraerlo de la unidad de disco duro.



7. Desconecte la tarjeta mediadora de la unidad de disco duro.



Colocación de la unidad de disco duro

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

Procedure

1. Connect the interposer to the hard drive.
2. Align the screw holes on the hard-drive bracket with the screw holes on the hard-drive assembly.
3. Replace the four screws (M3x3) that secure the hard-drive bracket to the hard-drive assembly.
4. Align the screw holes on the hard-drive assembly with the screw holes on the computer base.
5. Replace the four screws (M2.5x5) that secure the hard-drive assembly to the computer base.
6. Route the hard-drive cable through the routing guides on the computer base.
7. Connect the hard-drive cable to the system board.

Post-requisites

Replace the [base cover](#).

Extracción de la tarjeta inalámbrica

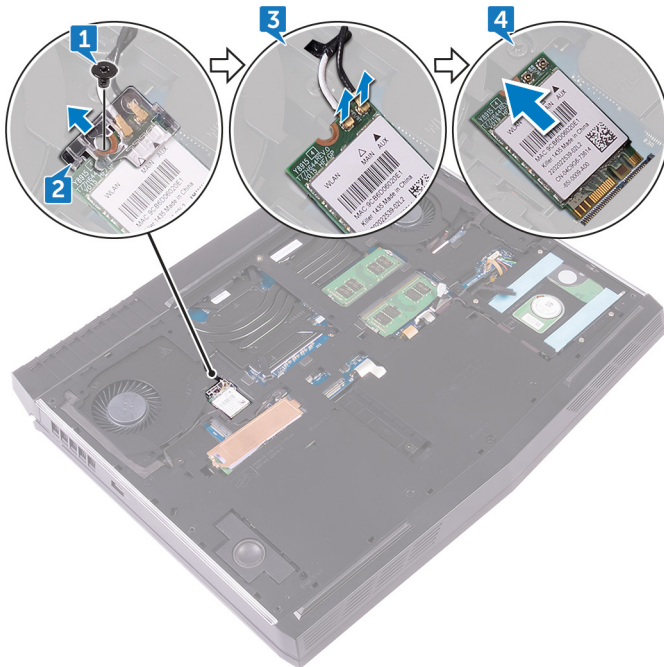
ⓘ **NOTA:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

Remove the [base cover](#).

Procedure

1. Remove the screw (M2x3) that secures the wireless-card bracket to the computer base.
2. Slide and remove the wireless-card bracket from the wireless card.
3. Slide the wireless card out of the wireless-card slot.



Colocación de la tarjeta inalámbrica

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

Procedure

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

1. Align the notch on the wireless card with the tab on the wireless-card slot.
2. Slide the wireless card bracket on to the wireless card, and align the screw hole on the wireless-card bracket with the screw hole on the wireless card and the computer base.
3. Slide the wireless card at an angle into the wireless-card slot.
4. Connect the antenna cables to the wireless card.

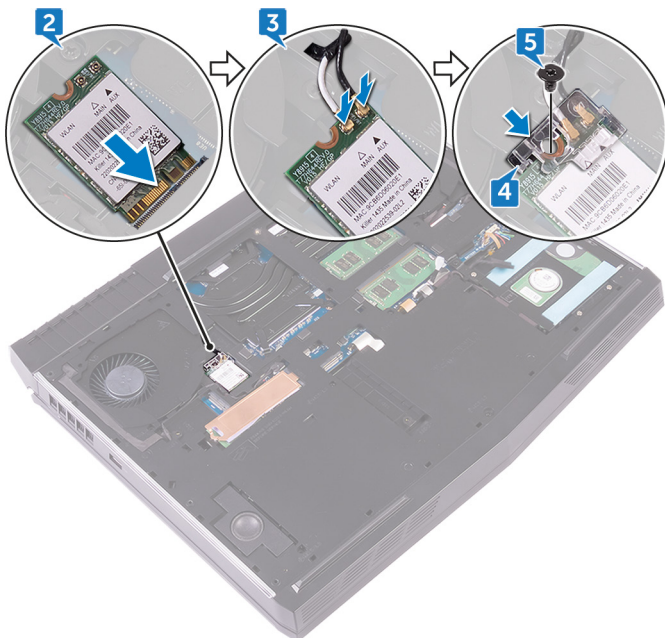
The following table provides the antenna-cable color scheme for the wireless card supported by your computer.

Table 2. Antenna-cable color scheme

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

NOTE: To avoid potential damage to the wireless-card bracket, carefully place it on at an angle on the wireless card before replacing it.

5. Align the screw hole on the wireless-card bracket with the screw hole on the wireless card and the computer base.
6. Press the other end of the wireless card and replace the screw (M2x3) that secures the wireless-card bracket to the computer base.



Post-requisites

Replace the [base cover](#).

Extracción de la unidad de estado sólido

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

△ **PRECAUCIÓN:** Para evitar la pérdida de datos, no extraiga la unidad de estado sólido mientras el equipo esté encendido o en modo de suspensión.

Prerequisites

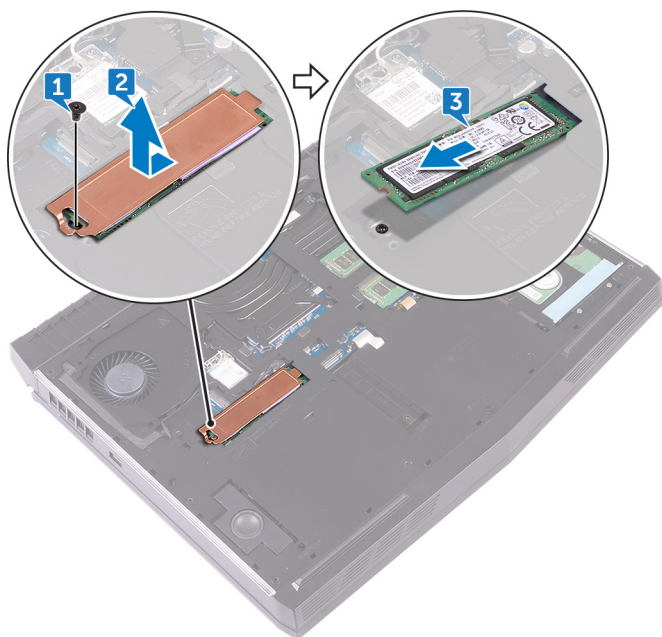
Remove the [base cover](#).

Procedimiento

1. Extraiga el tornillo (M2x3) que fija el protector de la unidad de estado sólido y la unidad de estado sólido a la base del equipo.
2. Retire el protector de la unidad de estado sólido de la unidad de estado sólido.

i **NOTA:** Unidad de estado sólido protector se aplica a los equipos que se envían con 1 TB unidad de estado sólido.

3. Deslice y extraiga la unidad de estado sólido de la ranura de la unidad de estado sólido.



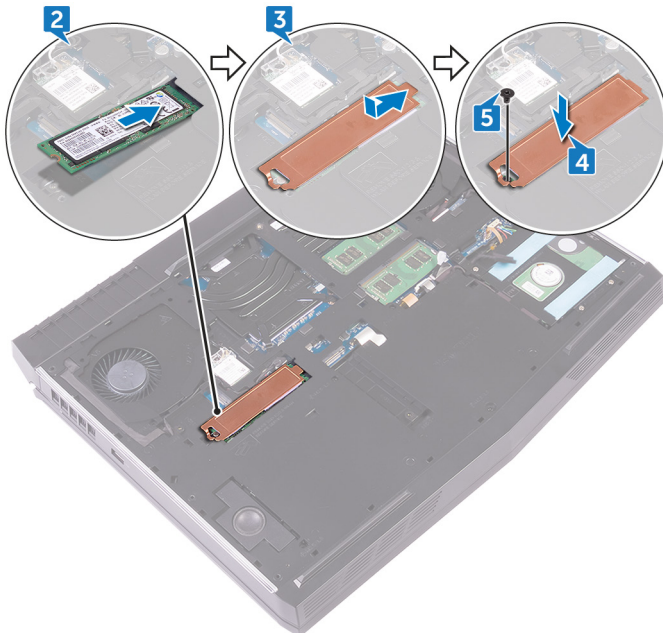
Colocación de la unidad de estado sólido

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

Procedure

1. Align the notch on the solid-state drive with the tab on the solid-state drive slot.
2. Slide the solid-state drive into the solid-state drive slot.
3. Slide and adhere the solid-state drive shield on the solid-state drive.
4. Align the screw hole on the solid-state drive and solid-state drive shield with the screw hole on the computer base.
5. Replace the screw (M2x3) that secures the solid-state drive to the computer base.



Post-requisites

Replace the [base cover](#).

Extracción de los módulos de memoria

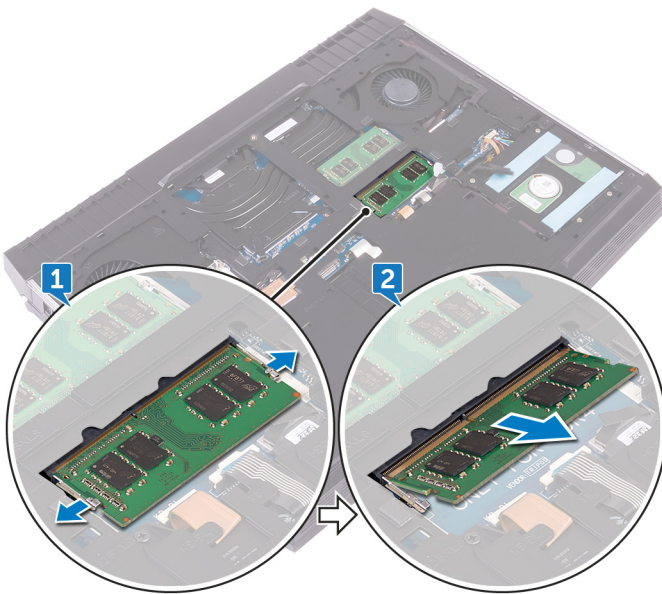
ⓘ **NOTA:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

Remove the [base cover](#).

Procedimiento

1. Separe con la punta de los dedos los ganchos de fijación de cada extremo de la ranura del módulo de memoria hasta que el módulo salte.
2. Deslice y extraiga el módulo de memoria de su ranura.



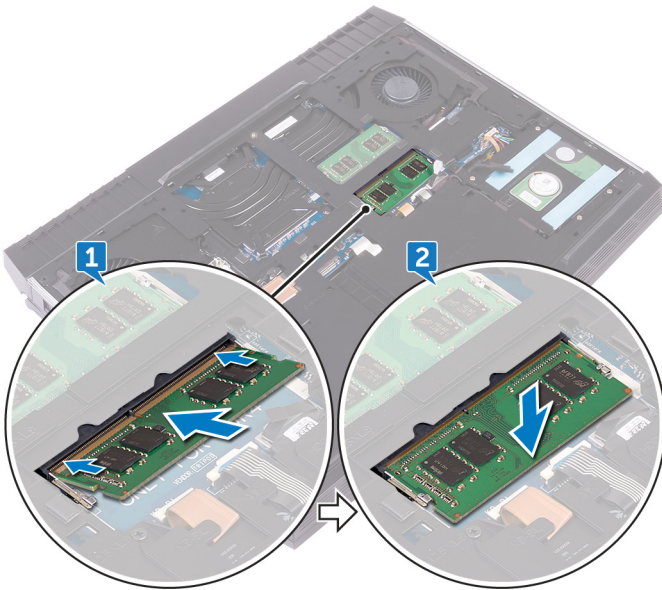
Colocación de los módulos de memoria

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Procedure

1. 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.
2. Press the memory module down until it clicks into place.

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



Post-requisites

Replace the [base cover](#).

Extracción de la cubierta de E/S posterior

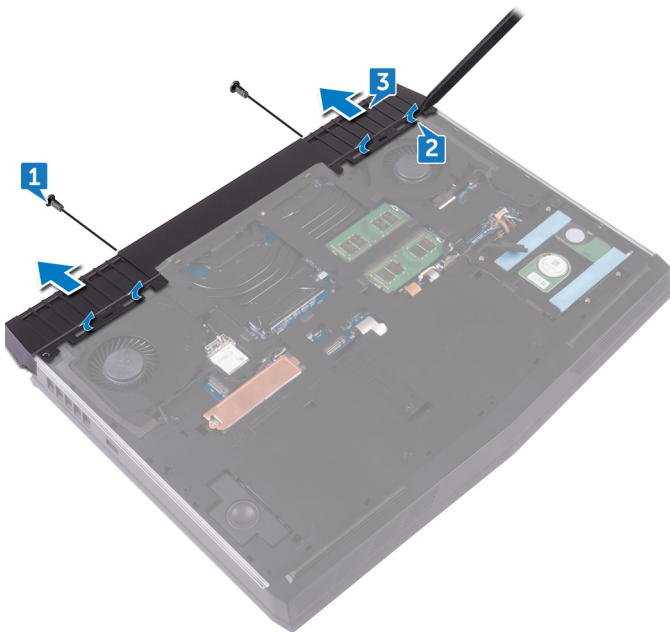
NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

Remove the [base cover](#).

Procedimiento

1. Quite los dos tornillos (M2.5 x7) que fijan la cubierta de E/S posterior al ensamblaje del reposamanos.
2. Usando una punta trazadora de plástico, levante con cuidado y libere las lengüetas que fijan posterior cubierta de E/S a la base del equipo.
3. Deslice y extraiga la cubierta de E/S trasera de la base del equipo.

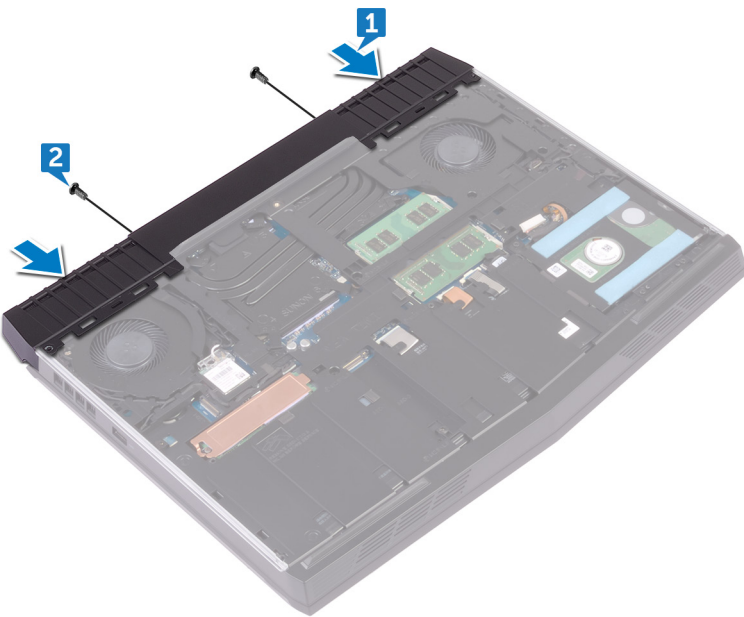


Sustitución de la cubierta de E/S posterior

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

Procedure

1. Align the tabs on the rear-I/O cover with the slots on the computer base and snap the rear-I/O cover into place.
2. Replace the two screws (M2.5x7) that secure the rear-I/O cover to the palm-rest assembly.



Post-requisites

Replace the [base cover](#).

Extracción de la base del equipo

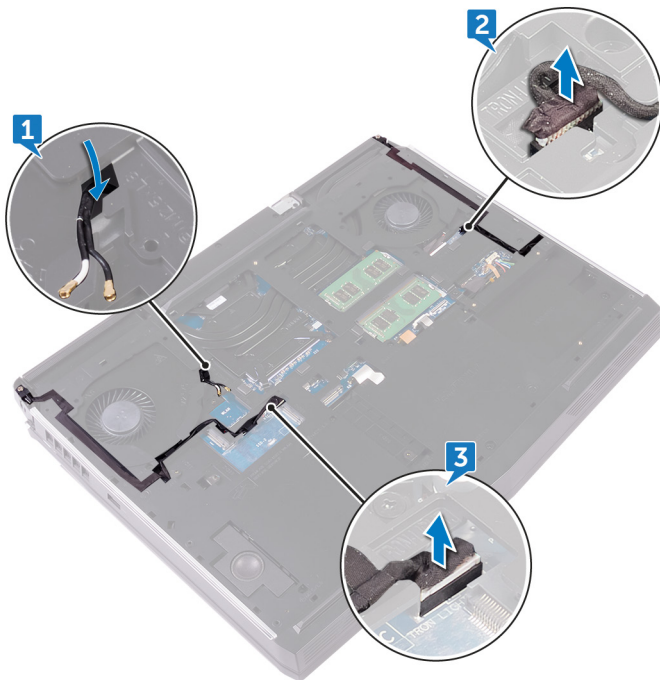
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Prerequisites

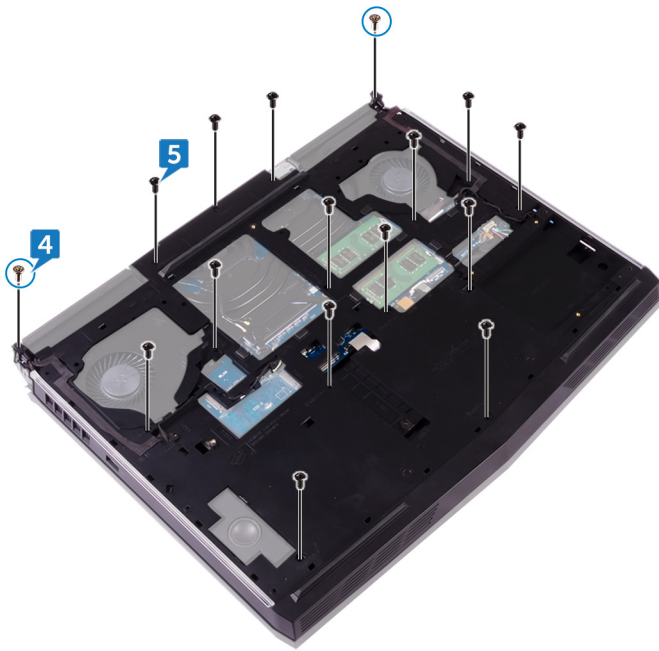
1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [rear-I/O cover](#).

Procedure

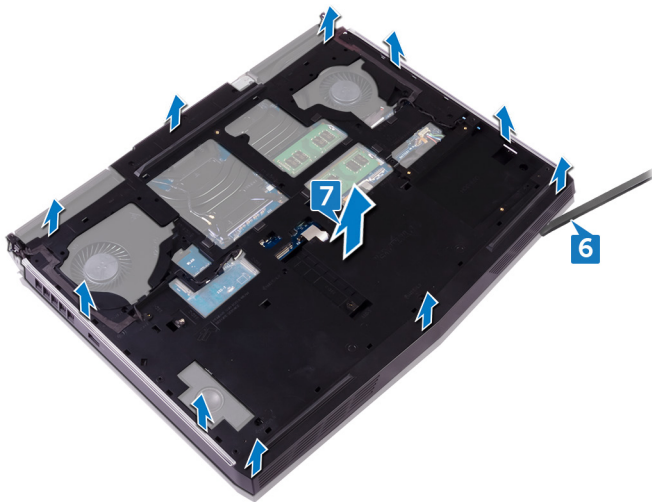
1. Note the cable routing and remove the antenna cables from the routing guides on the computer base.
2. Disconnect the tron-light cable from the system board.
3. Disconnect the tron-light cable from the system board.



4. Remove the two screws (M2.5x5) that secure the computer base to the palm-rest assembly.
5. Remove the 14 screws (M2.5x8) that secure the computer base to the palm-rest assembly.



6. Using a plastic scribe, gently release the tabs on the computer base from the slots on the palm-rest assembly.
7. Lift the computer base off the palm-rest assembly.



Colocación de la base del equipo

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

Procedure

1. Align the screw holes on the computer base with the screw holes on the palm-rest assembly.
2. Replace the 14 screws (M2.5x8) that secure the computer base to the palm-rest assembly.
3. Replace the two screws (M2.5x5) that secure the computer base to the palm-rest assembly.
4. Connect the tron-light cables to the system board.
5. Route the antenna cables through the routing guides on the computer base.

Post-requisites

1. Replace the [rear-I/O cover](#).
2. Replace the [solid-state drive](#).
3. Replace the [wireless card](#).
4. Replace the [base cover](#).

Extracción de la batería de tipo botón

NOTA: 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.

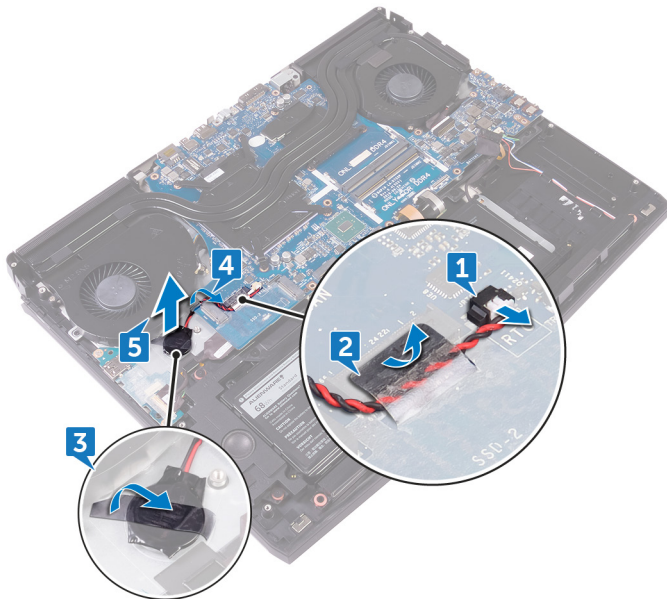
PRECAUCIÓN: Removing the coin-cell battery resets the BIOS setup program's settings to default. It is recommended that you note the BIOS setup program's settings before removing the coin-cell battery.

Prerequisites

1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [rear-I/O cover](#).
5. Remove the [computer base](#).

Procedure

1. Disconnect the coin-cell battery cable from the system board.
2. Peel off the tape that secures the coin-cell battery cable to the system board.
3. Peel off the tape that secures the coin-cell battery to the palm-rest assembly.
4. Note the cable routing and remove the coin-cell battery cable from the routing guide on the palm-rest assembly.
5. Gently peel off the coin-cell battery along with its cable off the palm-rest assembly.

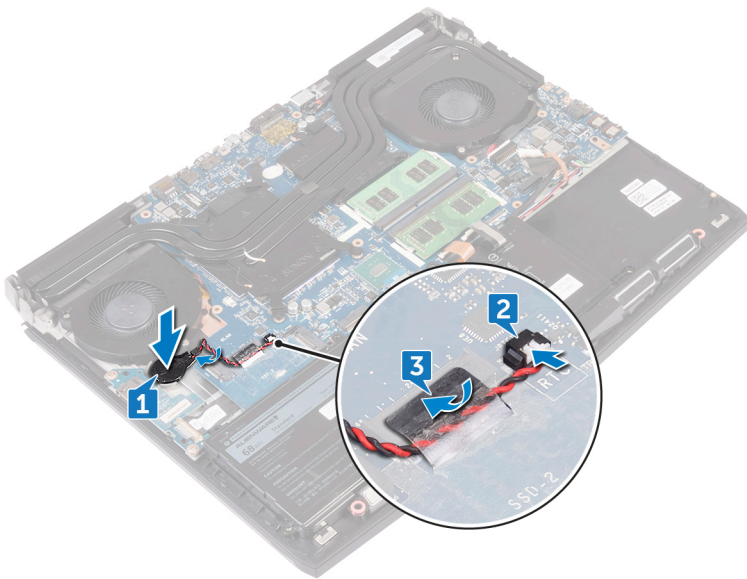


Colocación de la batería de tipo botón

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

Procedure

1. Adhere the coin-cell battery to the palm-rest assembly.
2. Adhere the tape that secures the coin-cell battery to the palm-rest assembly.
3. Connect the coin-cell battery cable to the system board.
4. Route the coin-cell battery cable through the routing guide and adhere the tape that secures the coin-cell battery cable to the system board.



Post-requisites

1. Replace the [computer base](#).
2. Replace the [rear-I/O cover](#).
3. Replace the [solid-state drive](#).
4. Replace the [wireless card](#).
5. Replace the [base cover](#).

Extracción de los altavoces

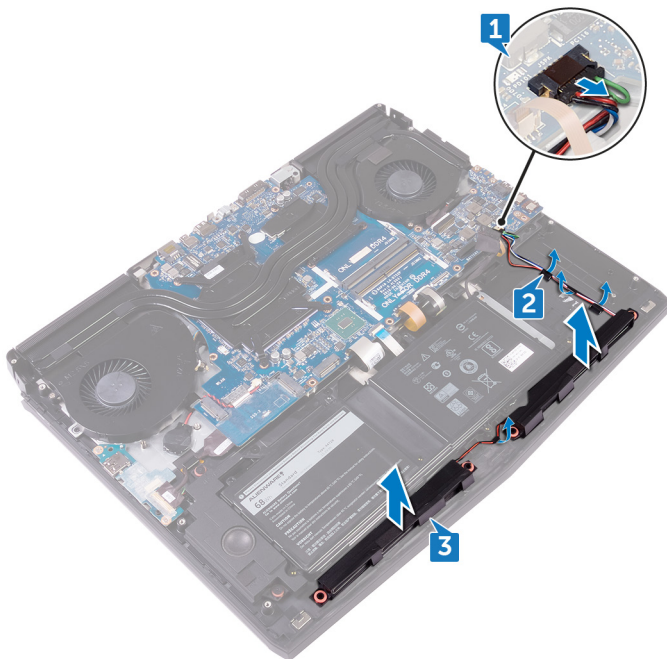
NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [rear-I/O cover](#).
5. Remove the [computer base](#).

Procedure

1. Disconnect the speaker cable from the system board.
2. Remove the speaker cable from the routing guides on the palm-rest assembly.
3. Lift the speakers along with its cable off the palm-rest assembly.



Colocación de los altavoces

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

Procedure

1. Using the alignment posts, place the speakers on the palm-rest assembly.
2. Route the speaker cable through the routing guides on the palm-rest assembly.
3. Connect the speaker cable to the system board.

Post-requisites

1. Replace the [computer base](#).
2. Replace the [rear-I/O cover](#).
3. Replace the [solid-state drive](#).
4. Replace the [wireless card](#).
5. Replace the [base cover](#).

Extracción de la placa de E/S

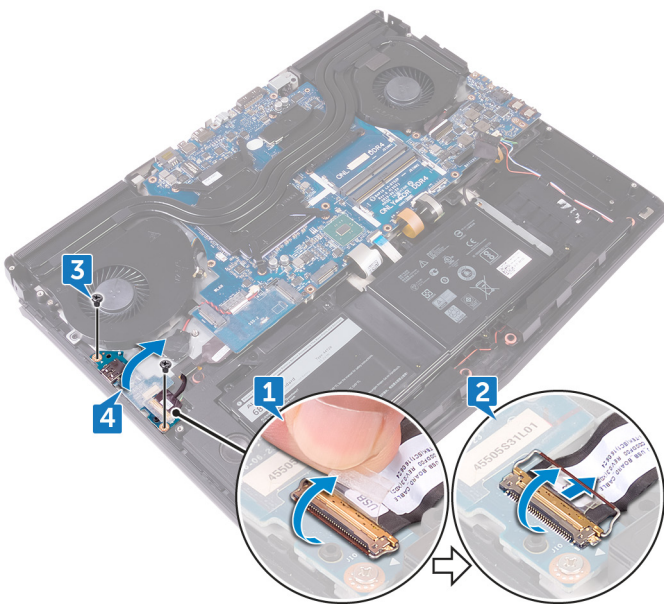
NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

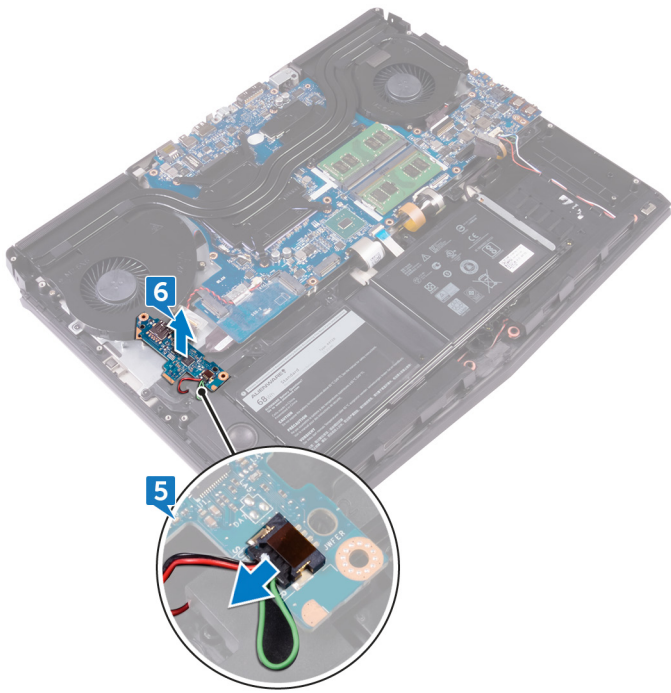
1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [rear-I/O cover](#).
5. Remove the [computer base](#).

Procedimiento

1. Retire la cinta que fija el cable de la placa E/S a la placa E/S.
2. Levante el pestillo y desconecte el cable de la placa de E/S de dicha placa.
3. Extraiga los dos tornillos (M2.5 x 5) que fijan la placa de E/S al ensamblaje del reposamanos.
4. Dele la vuelta a la placa E/S.



5. Desconecte el cable del altavoz de tonos graves.
6. Quite la placa de E/S fuera del ensamblaje del reposamanos.



Colocación de la placa de E/S

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

Procedure

1. Connect the subwoofer cable to the I/O board.
2. Turn the I/O board over.
3. Using the alignment posts, place the I/O board on the palm-rest assembly and align the screw holes on the I/O board with the screw holes on the palm-rest assembly.
4. Replace the two screws (M2.5x5) that secure the I/O board to the palm-rest assembly.
5. Slide the I/O-board cable into the connector on the I/O board and close the latch to secure the cable.
6. Adhere the tape that secures the I/O-board cable to the I/O board.

Post-requisites

1. Replace the [computer base](#).
2. Replace the [rear-I/O cover](#).
3. Replace the [solid-state drive](#).
4. Replace the [wireless card](#).
5. Replace the [base cover](#).

Extracción del subwoofer

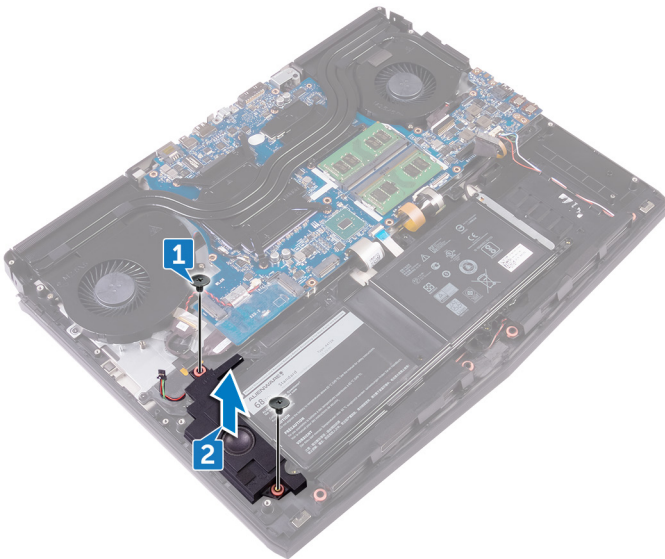
NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [rear-I/O cover](#).
5. Remove the [computer base](#).
6. Remove the [I/O board](#).

Procedimiento

1. Extraiga los dos tornillos (M2x2) que fijan el subwoofer al ensamblaje del reposamanos.
2. Levante el subwoofer y su cable para extraerlo del ensamblaje del reposamanos.



Colocación del subwoofer

ⓘ **NOTA:** 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.

Procedimiento

1. Alinee los orificios para tornillos del subwoofer con los orificios para tornillos del ensamblaje del reposamanos.
2. Vuelva a colocar los dos tornillos (M2X2) que fijan el subwoofer al ensamblaje del reposamanos.

Post-requisites

1. Replace the [I/O board](#).
2. Replace the [computer base](#).
3. Replace the [rear-I/O cover](#).
4. Replace the [solid-state drive](#).
5. Replace the [wireless card](#).
6. Replace the [base cover](#).

Extracción del ensamblaje de la placa base

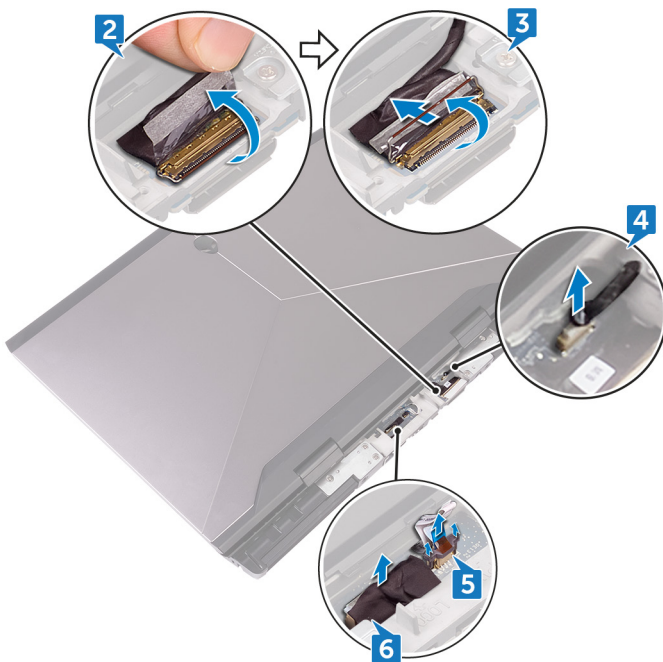
- ① **NOTA:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices, see the Regulatory Compliance home page at www.dell.com/regulatory_compliance.
- ① **NOTA:** 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.
- ① **NOTA:** 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.
- ① **NOTA:** 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 [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [rear-I/O cover](#).
5. Remove the [computer base](#).
6. Remove the [memory modules](#).

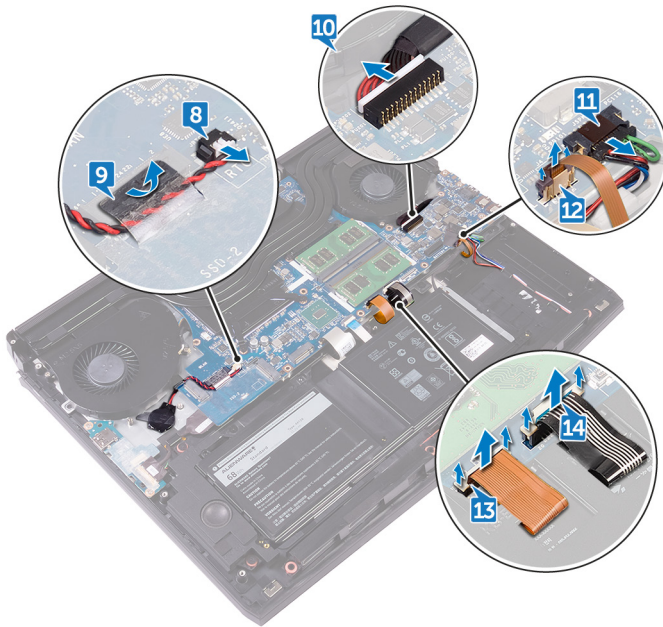
Procedimiento

1. Gire el equipo.
2. Despegue la cinta que fija el cable de la pantalla a la placa base
3. Abra el pestillo y desconecte el cable de la pantalla de la placa base.
4. Desconecte el cable de la placa del rastreador ocular tobií de la placa base.
5. Levante el pestillo y desconecte el cable del botón de encendido de la placa base.
6. Desconecte el cable de la placa del logotipo de la placa base.

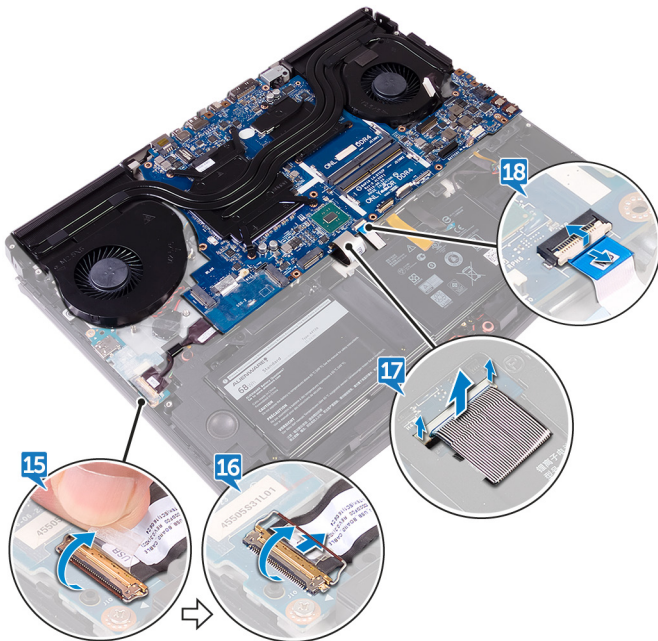


7. Gire el equipo.

8. Desconecte el cable de la batería de tipo botón de la placa base.
9. Despegue la cinta adhesiva que fija el cable de la batería de tipo botón a la placa base.
10. Desconecte el cable del puerto del adaptador de alimentación de la placa base.
11. Desconecte el cable de los altavoces de la placa base.
12. Levante el pestillo y desconecte el cable de retroiluminación de las teclas macro de la placa base.
13. Levante el pestillo y desconecte el cable de retroiluminación de las teclas macro de la placa base.
14. Levante el pestillo y desconecte el cable de las teclas macro de la placa base.



15. Retire la cinta que fija el cable de la placa E/S a la placa E/S.
16. Levante el pestillo y desconecte el cable de la placa de E/S de dicha placa.
17. Levante el pestillo y desconecte el cable del teclado del conector de la placa base.
18. Levante el pestillo y desconecte el cable de la superficie táctil de la placa base.

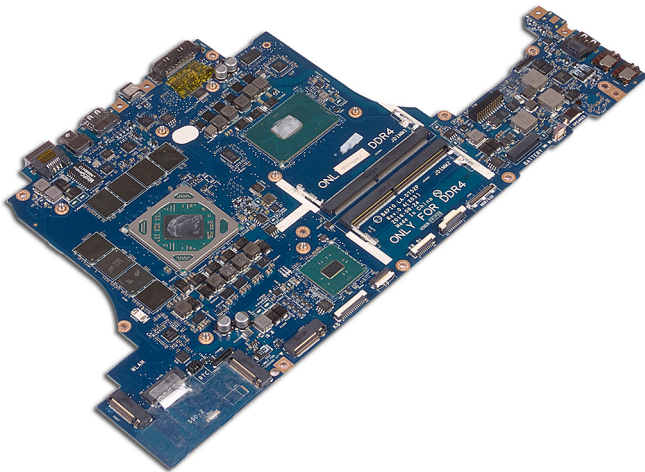


19. Extraiga el tornillo (M2.5 x 5) que fija el soporte del puerto USB de tipo-C a la placa base y saque el soporte de la placa base.
20. Retire los siete tornillos (M2.5 x 5) que fijan el ensamblaje de la placa base al ensamblaje del reposamanos.
21. Levante el ensamblaje de la placa base para extraerlo del ensamblaje del reposamanos.



22. Extraiga el [ensamblaje del disipador de calor](#).

23. Después de realizar todos los pasos anteriores, queda la placa base.



Colocación de la placa base

- ⓘ **NOTA:** 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.
- ⓘ **NOTA:** 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.
- ⓘ **NOTA:** 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.

Procedimiento

⚠ **PRECAUCIÓN:** Asegúrese de que no haya cables debajo de la placa base.

1. Coloque el [ensamblaje del disipador de calor](#).
2. Alinee los orificios de los tornillos de la placa base con los orificios de los tornillos del ensamblaje del reposamanos.
3. Coloque los siete tornillos (M2.5 x 5) que fijan el ensamblaje de la placa base al ensamblaje del reposamanos.
4. Alinee el orificio para tornillos del soporte del puerto USB de tipo C con el orificio para tornillo de la placa base.
5. Coloque el tornillo (M2.5 x 5) que fija el soporte del puerto USB de tipo C a la placa base.
6. Coloque el cable de la placa de E/S en el conector de la placa de E/S y cierre el pestillo para fijar el cable.
7. Pegue la cinta que fija el cable de la placa de E/S a ésta.
8. Coloque el cable de la superficie táctil en los conector en la placa del sistema y cierre los pestillos para fijar los cables.
9. Inserte el cable del teclado, el cable de retroiluminación de las teclas macro y el cable de retroiluminación del teclado en sus conectores y presione los pestillos para fijar los cables.
10. Conecte el cable de las teclas macro, el cable del altavoz, el cable del puerto del adaptador de alimentación y el cable de la batería de tipo botón a la placa base.
11. Coloque la batería de tipo botón a través de la canaleta y pegue la cinta para fijar el cable.
12. Gire el equipo.
13. Conecte el cable de la placa de logotipo, el cable de la placa del botón de encendido y el cable de la placa del rastreador ocular Tobii en la placa base.
14. Deslice el cable de la pantalla en el conector de la placa base y cierre el pestillo para fijar el cable.
15. Pegue la cinta que fija el cable de la pantalla a la placa base.

Post-requisites

1. Replace the [memory modules](#).
2. Replace the [computer base](#).
3. Replace the [rear-I/O cover](#).
4. Replace the [solid-state drive](#).
5. Replace the [wireless card](#).
6. Replace the [base cover](#).

Extracción del ensamblaje del disipador de calor

ⓘ NOTA: 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.

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

⚠ PRECAUCIÓN: 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.

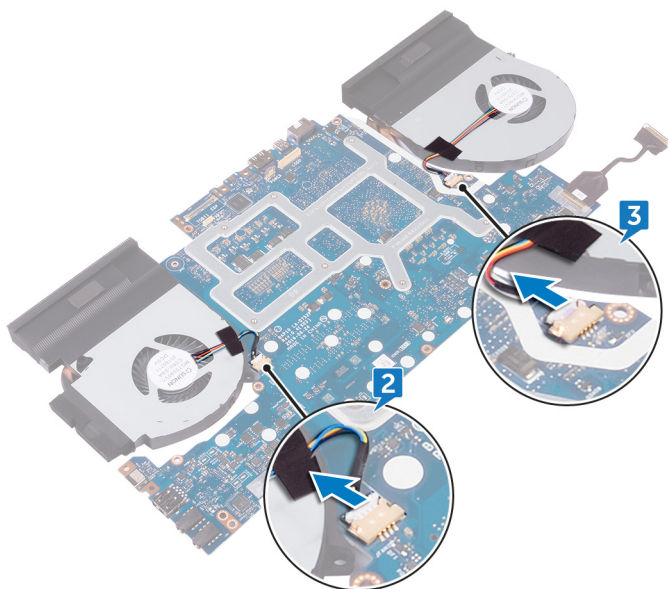
Prerequisites

1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [memory modules](#).
5. Remove the [rear-I/O cover](#).
6. Remove the [computer base](#).

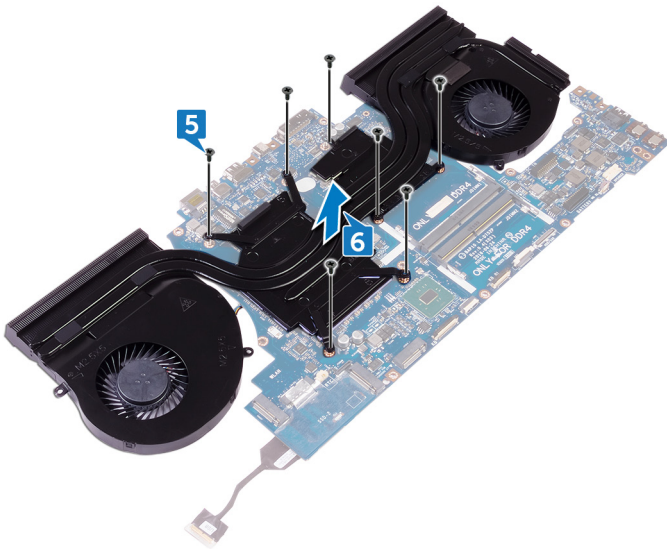
Procedimiento

1. Dele la vuelta al ensamblaje de la placa base.
2. Desconecte el cable del ventilador de la placa base.
3. Desconecte el cable del ventilador de la placa base.

ⓘ NOTA: Para los equipos que incluyen el controlador de gráficos NVIDIA GeForce GTX 1060, extraiga los ventiladores de la placa base tras desconectar los cables de los ventiladores.



4. Dele la vuelta al ensamblaje de la placa base.
5. Quite los siete tornillos (M2x3) que fijan el ensamblaje del disipador de calor a la placa base.
6. Levante el ensamblaje del disipador de calor para sacarlo de la placa base.



Replacing the heat-sink assembly

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

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

NOTE: If either the system board or the fan and heat-sink assembly is replaced, use the thermal pad/paste provided in the kit to ensure that thermal conductivity is achieved.

Procedure

1. Align the screw holes on the heat-sink assembly with the screw holes on the system board.
2. Replace the seven screws (M2x3) that secure the heat-sink assembly to the system board.
3. Turn the system-board assembly over.

NOTE: For computers shipped with NVIDIA GeForce GTX 1060 graphics controller, place the fans on the slots on the system board.

4. Connect the fan cable to the system board.
5. Connect the fan cable to the system board.
6. Adhere the tape that secures the fan cable to the system-board assembly.

Post-requisites

1. Replace the [computer base](#).
2. Replace the [rear-I/O cover](#).
3. Replace the [memory modules](#).
4. Replace the [solid-state drive](#).
5. Replace the [wireless card](#).
6. Replace the [base cover](#).

Extracción del puerto del adaptador de alimentación

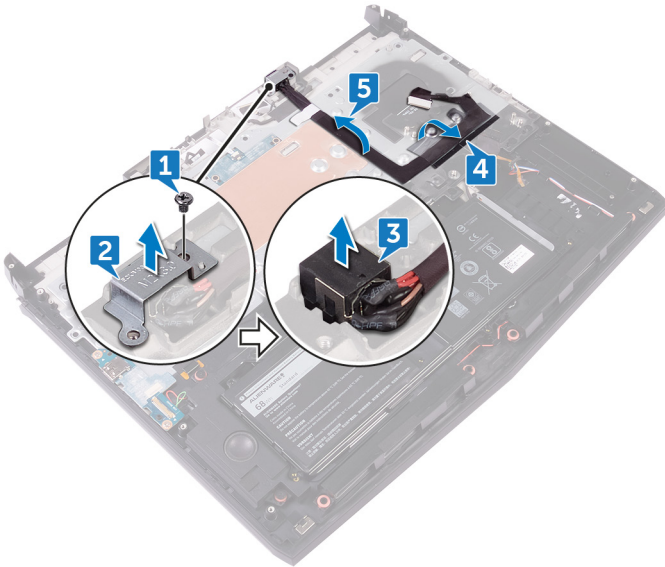
NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [memory modules](#).
5. Remove the [rear-I/O cover](#).
6. Remove the [computer base](#).

Procedure

1. Remove the screw (M2x3) that secures the power-adapter port bracket to the palm-rest assembly.
2. Lift the power-adapter port bracket off the power-adapter port.
3. Lift the power-adapter port off the palm-rest assembly.
4. Peel the tape that secures the power-adapter-port cable to the palm-rest assembly.
5. Note the routing and remove the power-adapter port cable from the routing guides on the palm-rest assembly.



Colocación del puerto del adaptador de alimentación

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

Procedure

1. Align the power-adapter port in the slot on the palm-rest assembly.
2. Align the screw hole on the power-adapter port bracket with the screw hole on the palm-rest assembly.
3. Using the alignment post, place the power-adapter port bracket on the power-adapter port.
4. Replace the screw (M2x3) that secures the power-adapter port bracket to the palm-rest assembly.
5. Route the power-adapter port cable through the routing guides on the palm-rest assembly.

Post-requisites

1. Replace the [computer base](#).
2. Replace the [rear-I/O cover](#).
3. Replace the [memory modules](#).
4. Replace the [solid-state drive](#).
5. Replace the [wireless card](#).
6. Replace the [base cover](#).

Extracción de la placa del botón de encendido

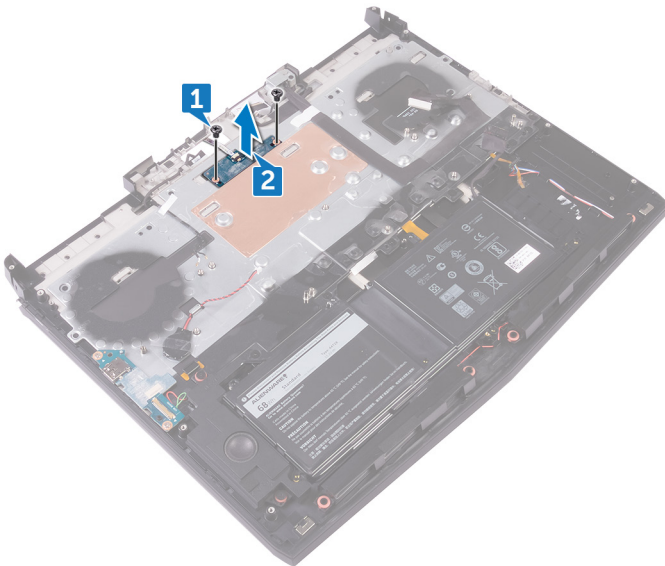
(i) NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [memory modules](#).
5. Remove the [rear-I/O cover](#).
6. Remove the [computer base](#).

Procedimiento

1. Extraiga los dos tornillos (M2 x 3) que fijan la placa del botón de encendido al ensamblaje del reposamanos.
2. Levante la placa del botón de encendido junto con el cable y extráigalos del ensamblaje del reposamanos.



Colocación de la placa del botón de encendido

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

Procedure

1. Using the alignment posts, place the power-button board on the palm-rest assembly.
2. Align the screw holes on the power-button board with the screw holes on the palm-rest assembly.
3. Replace the two screws (M2x3) that secure the power-button board to the palm-rest assembly.

Post-requisites

1. Replace the [computer base](#).
2. Replace the [rear-I/O cover](#).
3. Replace the [memory modules](#).
4. Replace the [solid-state drive](#).
5. Replace the [wireless card](#).
6. Replace the [base cover](#).

Extracción del ensamblaje de la pantalla

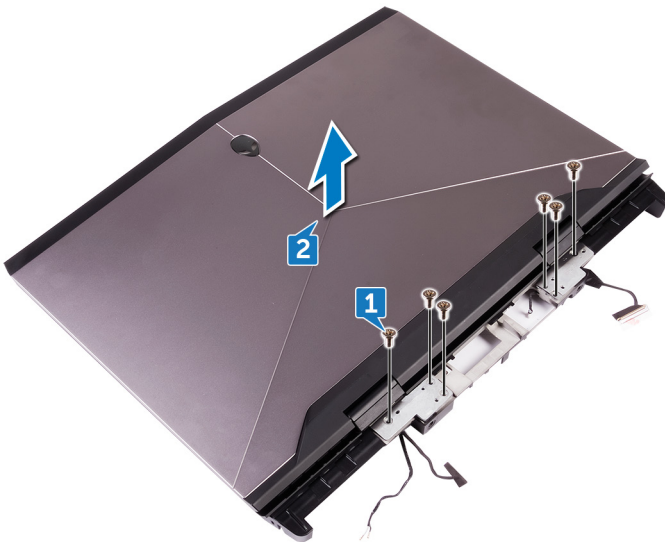
NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [memory modules](#).
5. Remove the [rear-I/O cover](#).
6. Remove the [computer base](#).

Procedure

1. Remove the six screws (M2.5x5) that secure the display assembly to the palm-rest assembly.
2. Lift the display assembly off the computer base.



Colocación del ensamblaje de la pantalla

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

Procedure

1. Align the screw holes on the display hinges with the screw holes on the palm-rest assembly.
2. Replace the six screws (M2.5x5) that secure the display assembly to the palm-rest assembly.

Post-requisites

1. Replace the [computer base](#).
2. Replace the [rear-I/O cover](#).
3. Replace the [memory modules](#).
4. Replace the [solid-state drive](#).
5. Replace the [wireless card](#).
6. Replace the [base cover](#).

Extracción de la batería

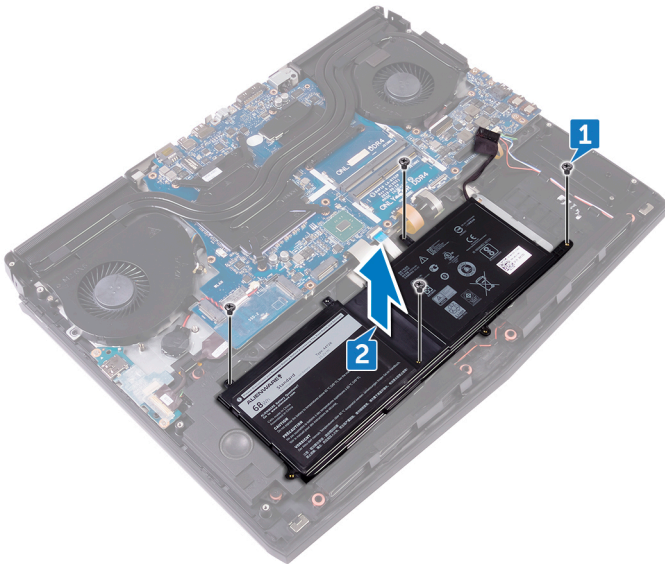
(i) **NOTA:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best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

Prerequisites

1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [rear-I/O cover](#).
5. Remove the [computer base](#).

Procedure

1. Remove the four screws (M2.5x5) that secure the battery to the palm-rest assembly.
2. Lift the battery, along with its cable, off the palm-rest assembly.

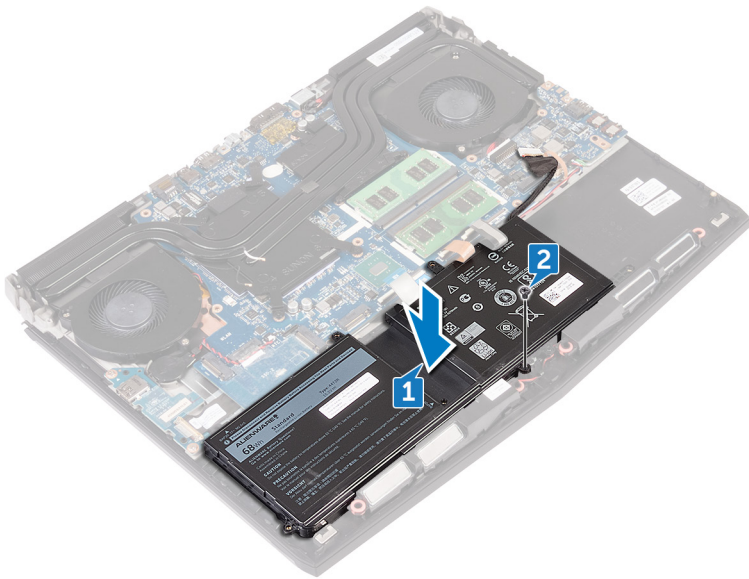


Colocación de la batería

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

Procedure

1. Using the alignment post, place the battery on the palm-rest assembly.
2. Align the screw holes on the battery with the screw holes on the palm-rest assembly.
3. Replace the four screws (M2.5x5) that secure the battery to the palm-rest assembly.



Post-requisites

1. Replace the [computer base](#).
2. Replace the [rear-I/O cover](#).
3. Replace the [solid-state drive](#).
4. Replace the [wireless card](#).
5. Replace the [base cover](#).

Extracción de la superficie táctil

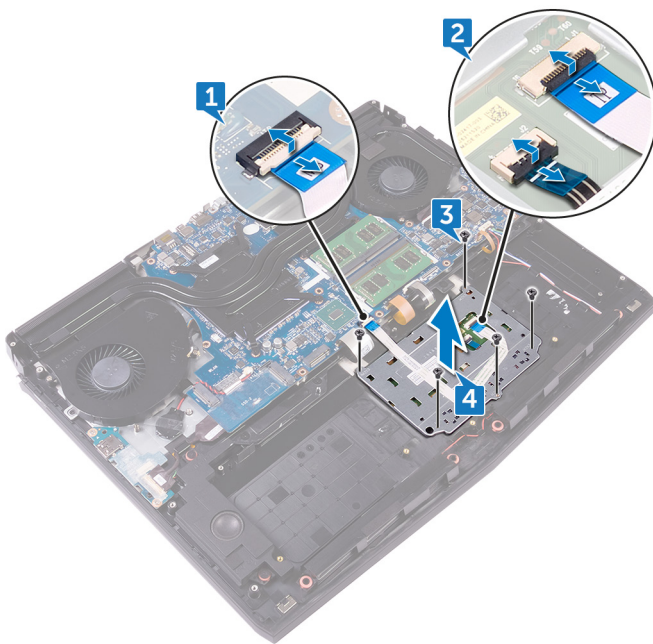
i NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [rear-I/O cover](#).
5. Remove the [computer base](#).
6. Remove the [battery](#).

Procedure

1. Open the latch and disconnect the touchpad cable from the system board.
2. Open the latches and disconnect the other end of the touchpad cable and the touchpad-buttons cable from the touchpad.
3. Remove the five screws (M2x3) that secure the touchpad bracket to the palm-rest assembly.
4. Lift the touchpad bracket off the palm-rest assembly.



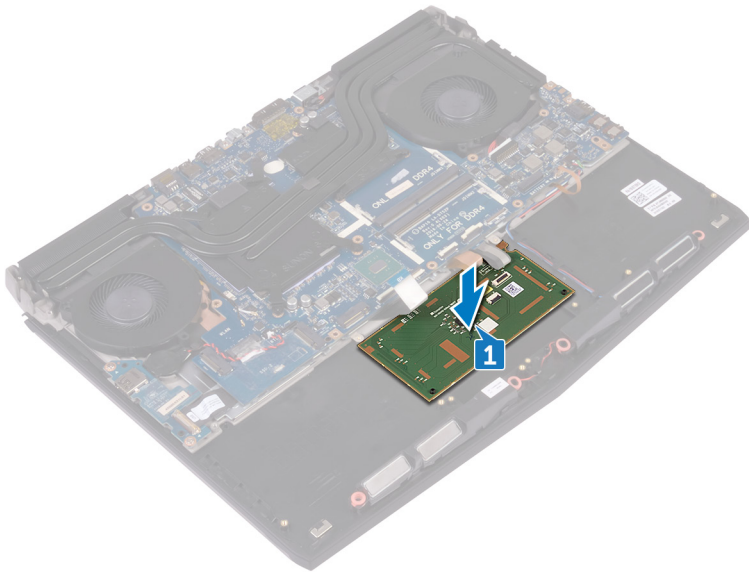
Colocación de la superficie táctil

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

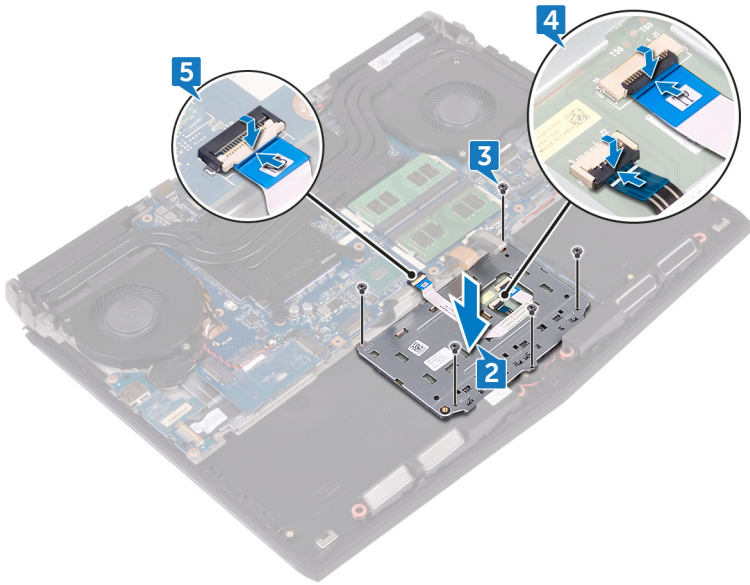
Procedure

- ⓘ** **NOTE:** Clean the adhesive thoroughly on the palm-rest assembly to avoid having gap between the touchpad and the palm-rest assembly.

Using the alignment posts on the palm-rest assembly, place the touchpad to the palm-rest assembly.



- Align the screw holes on the touchpad bracket with the screw holes on the palm-rest assembly.
- Replace the five screws (M2x3) that secure the touchpad bracket to the palm-rest assembly.
- Slide the touchpad cable and touchpad-buttons cable into their respective connectors on the touch pad and close the latches to secure the cables.
- Slide the touchpad cable into the connector on the system board and close the latch to secure the cable.



Post-requisites

1. Replace the [battery](#).
2. Replace the [computer base](#).
3. Replace the [rear-I/O cover](#).
4. Replace the [solid-state drive](#).
5. Replace the [wireless card](#).
6. Replace the [base cover](#).

Extracción del teclado

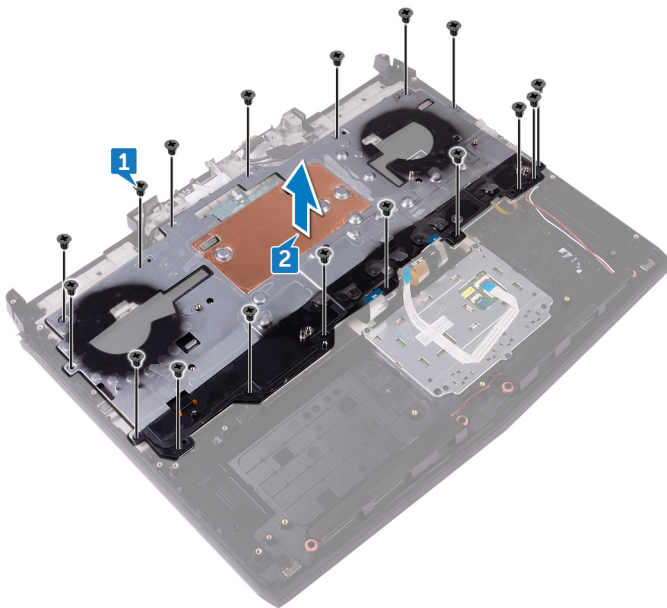
NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

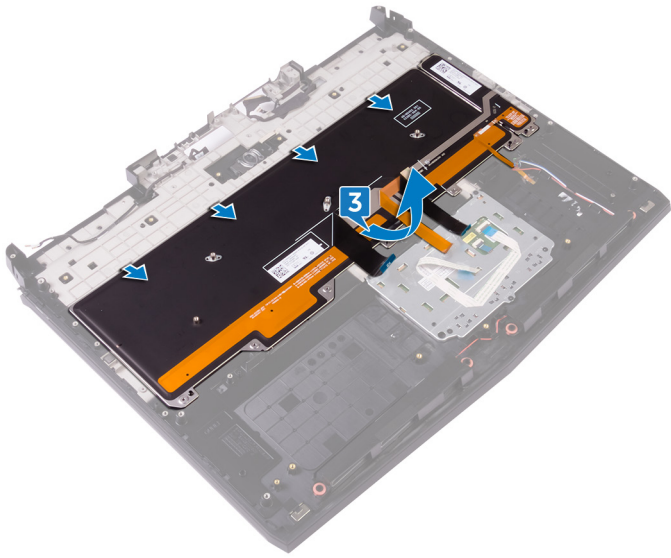
1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [memory modules](#).
5. Remove the [rear-I/O cover](#).
6. Remove the [computer base](#).
7. Remove the [coin-cell battery](#).
8. Remove the [I/O board](#).
9. Remove the [subwoofer](#).
10. Remove the [power-adaptor port](#).
11. Remove the [battery](#).

Procedimiento

1. Extraiga los 17 tornillos (M2 x 3) que fijan el soporte del teclado al ensamblaje del reposamanos.
2. Levante el soporte del teclado para extraerlo del ensamblaje del reposamanos.



3. Levante el teclado en ángulo y extráigalo de las lengüetas en el ensamblaje del reposamanos.



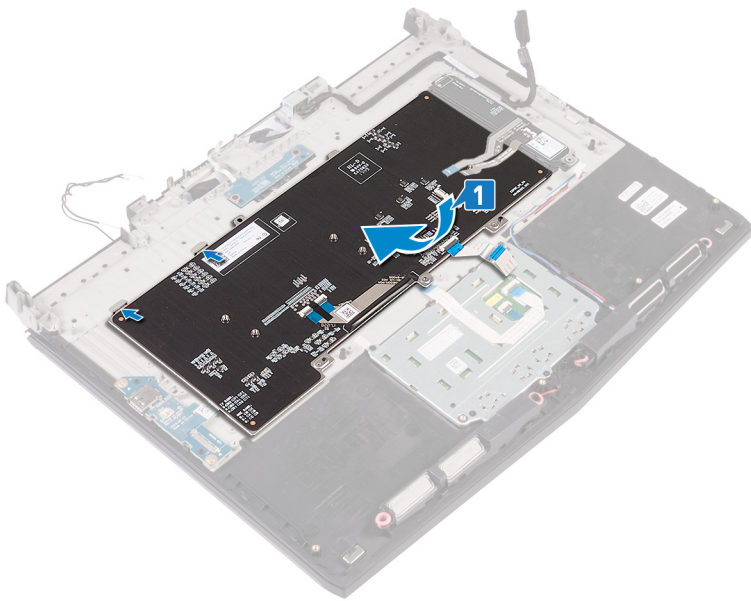
Colocación del teclado

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

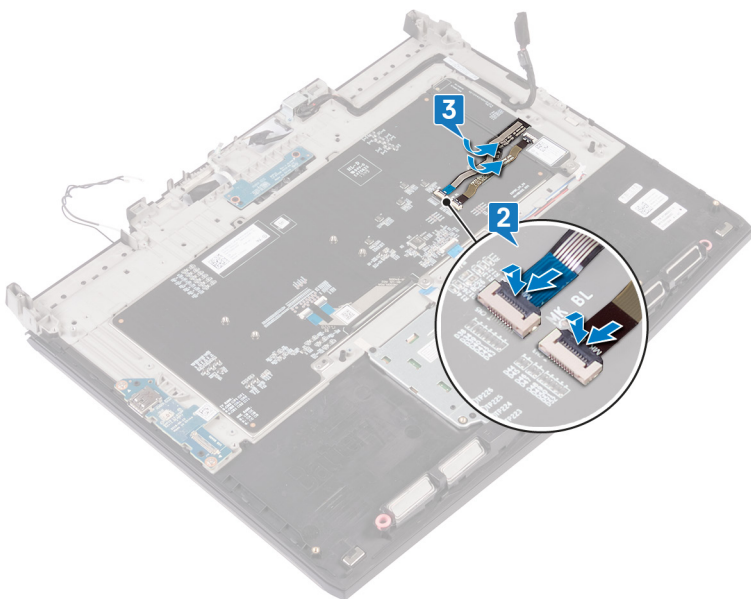
Procedure

⚠ **CAUTION:** Ensure that there are no cables under the keyboard.

1. Slide the keyboard under the tabs on the palm-rest assembly.



2. Align the screw holes on the keyboard bracket with the screw holes on the palm-rest assembly.
3. Replace the 15 screws (M2x3) that secure the keyboard bracket to the palm-rest assembly.



Post-requisites

1. Replace the [battery](#).
2. Replace the [power-adapter port](#).
3. Replace the [subwoofer](#).
4. Replace the [I/O board](#).
5. Replace the [coin-cell battery](#).
6. Replace the [computer base](#).
7. Replace the [rear-I/O cover](#).
8. Replace the [memory modules](#).
9. Replace the [solid-state drive](#).
10. Replace the [wireless card](#).
11. Replace the [base cover](#).

Extracción del reposamanos

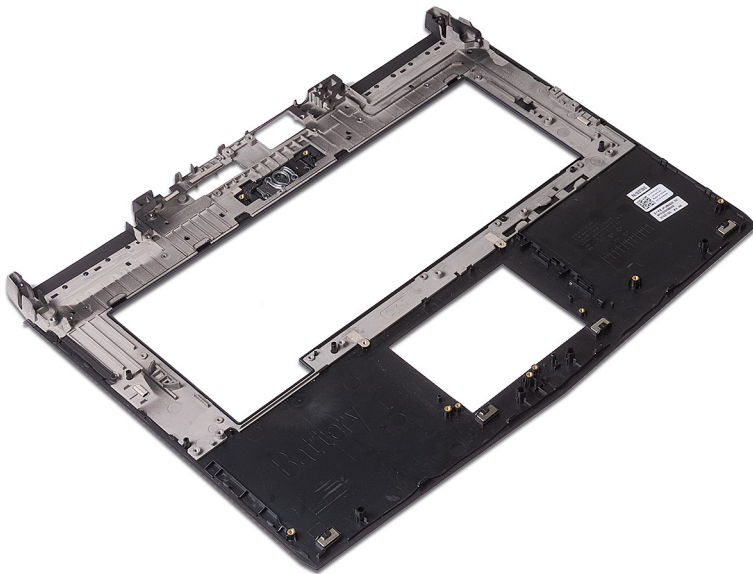
i NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [rear-I/O cover](#).
5. Remove the [computer base](#).
6. Remove the [coin-cell battery](#).
7. Remove the [speakers](#).
8. Remove the [I/O board](#).
9. Remove the [subwoofer](#).
10. Remove the [memory modules](#).
11. Remove the [power-button board](#).
12. Remove the [power-adapter port](#).
13. Remove the [battery](#).
14. Remove the [touchpad](#).
15. Remove the [keyboard](#).
16. Remove the [display assembly](#).

Procedure

After performing all the prerequisites, we are left with the palm rest.



Colocación del reposamanos

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

Procedure

Place the palm rest on a flat surface.

Post-requisites

1. Replace the [display assembly](#).
2. Replace the [keyboard](#).
3. Replace the [touchpad](#).
4. Replace the [battery](#).
5. Replace the [power-adaptor port](#).
6. Replace the [power-button board](#).
7. Replace the [memory modules](#).
8. Replace the [subwoofer](#).
9. Replace the [I/O board](#).
10. Replace the [speakers](#).
11. Replace the [coin-cell battery](#).
12. Replace the [computer base](#).
13. Replace the [rear-I/O cover](#).
14. Replace the [solid-state drive](#).
15. Replace the [wireless card](#).
16. Replace the [base cover](#).

Extracción del embellecedor de la pantalla

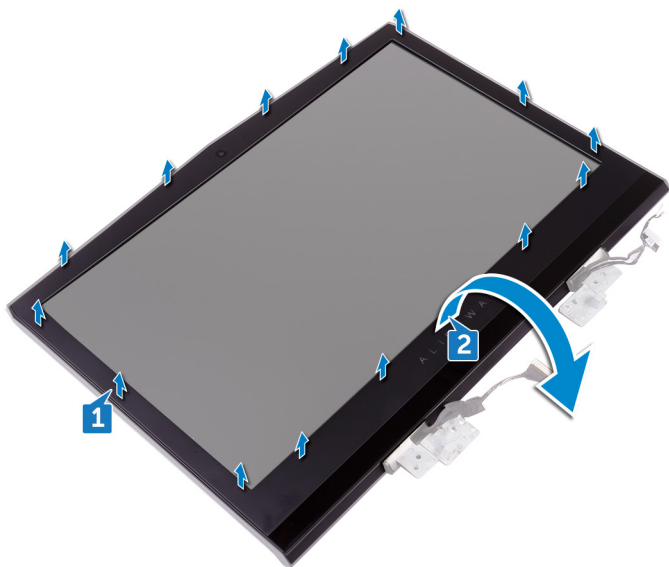
NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

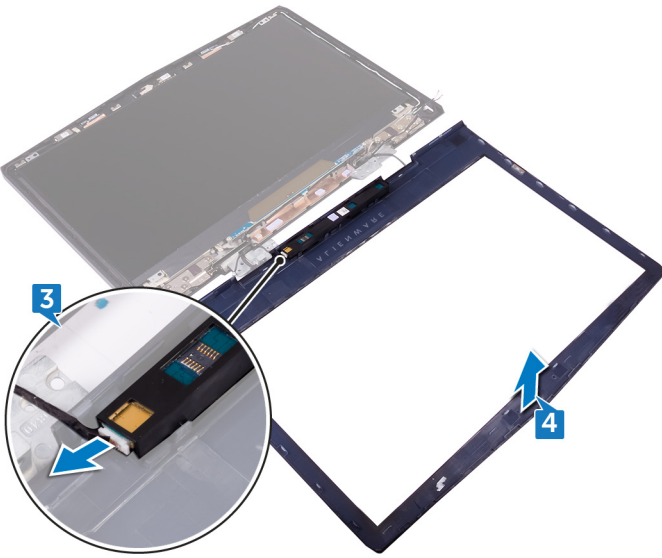
1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [memory modules](#).
5. Remove the [rear-I/O cover](#).
6. Remove the [computer base](#).
7. Remove the [display assembly](#).

Procedimiento

1. Con la punta de los dedos, haga palanca con cuidado en el lado interno del embellecedor de la pantalla.
2. Levante el embellecedor de la pantalla cuidadosamente y déle la vuelta.



3. Desconecte el cable del rastreador ocular tobii de su módulo.
4. Levante el bisel de la pantalla para separarlo del ensamblaje de la pantalla.



5. Extraiga el [módulo del rastreador ocular tobii](#).

Colocación del embellecedor de la pantalla

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

Procedure

1. Replace the [tobii eye-tracker module](#).
2. Connect the tobii eye-tracker board cable to the tobii eye-tracker module.
3. Carefully turn the display bezel over.
4. Align the display bezel with the display back-cover and antenna assembly and gently snap the display bezel into place.

Post-requisites

1. Replace the [display assembly](#).
2. Replace the [computer base](#).
3. Replace the [rear-I/O cover](#).
4. Replace the [memory modules](#).
5. Replace the [solid-state drive](#).
6. Replace the [wireless card](#).
7. Replace the [base cover](#).

Extracción del módulo del rastreador ocular Tobii

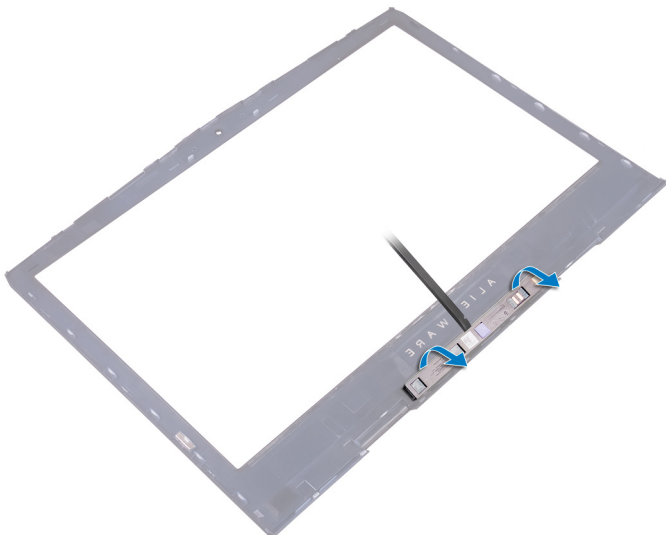
NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [memory modules](#).
5. Remove the [rear-I/O cover](#).
6. Remove the [computer base](#).
7. Remove the [display assembly](#).

Procedimiento

Con una punta trazadora de plástico, haga palanca para extraer el módulo del rastreador ocular Tobii del embellecedor de la pantalla.



Colocación del módulo del rastreador ocular Tobii

ⓘ **NOTA:** 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.

Procedimiento

ⓘ **NOTA:** Después de volver a colocar el módulo del rastreador ocular Tobii, inicie la aplicación EyeX con conexión a Internet para actualizar el firmware automáticamente.

Coloque el módulo del rastreador ocular Tobii en el embellecedor de la pantalla y encájelo en su sitio siguiendo las marcas de alineación.

Post-requisites

1. Replace the [display assembly](#).
2. Replace the [computer base](#).
3. Replace the [rear-I/O cover](#).
4. Replace the [memory modules](#).
5. Replace the [solid-state drive](#).
6. Replace the [wireless card](#).
7. Replace the [base cover](#).

Extracción de la placa del logotipo

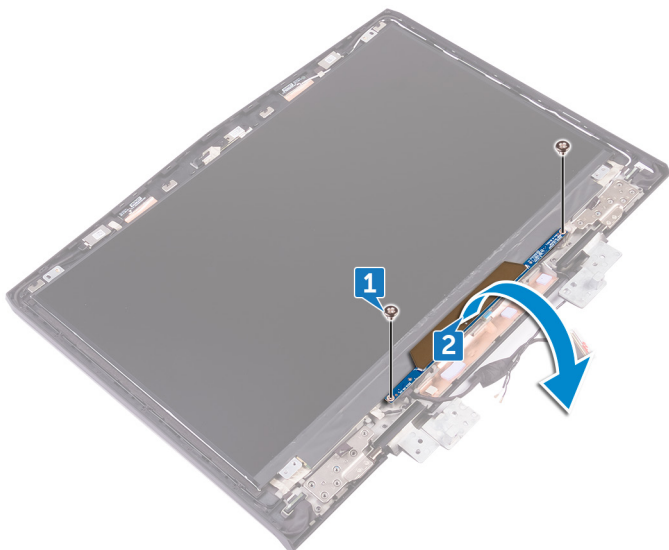
i NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

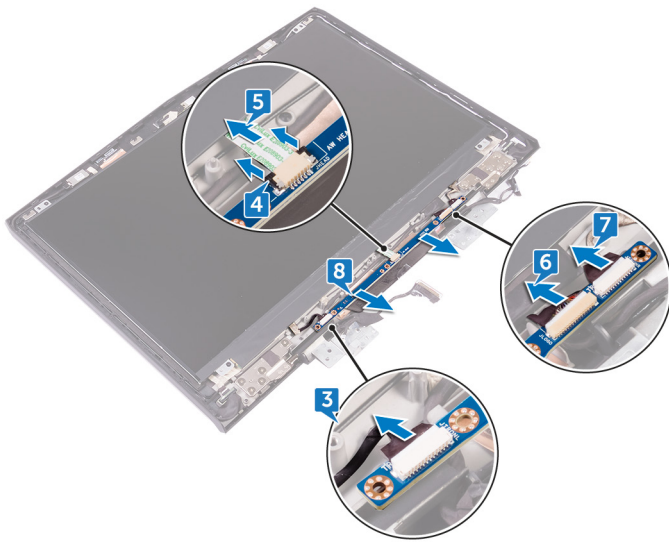
1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [rear-I/O cover](#).
5. Remove the [computer base](#).
6. Remove the [memory modules](#).
7. Remove the [display assembly](#).
8. Remove the [display bezel](#).

Procedimiento

1. Quite los dos tornillos (M2x3) que fijan la placa del logotipo al ensamblaje de la antena y la cubierta posterior de la pantalla.
2. Dé la vuelta a la placa del logotipo.



3. Desconecte el cable de la luz de tron de la placa del logotipo.
4. Tire del seguro que fija el cable de Alienhead a la placa del logotipo.
5. Desconecte el cable de Alienhead de la placa del logotipo.
6. Desconecte el cable de la placa del logotipo de la placa del logotipo.
7. Desconecte el cable de la luz de tron de la placa del logotipo.
8. Levante la placa del logotipo para extraerlo del ensamblaje de la antena y la cubierta posterior de la pantalla.



Colocación de la placa del logotipo

(i) **NOTA:** 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.

Procedimiento

1. Conecte los cables de luz tron, el cable de la placa del logotipo y el cable de Alienhead a la placa del logotipo.
2. Presione el pestillo que fija el cable de Alienhead a la placa del logotipo.
3. Dé la vuelta a la placa del logotipo.
4. Coloque la placa del logotipo en la cubierta posterior de la pantalla y el ensamblaje de la antena usando las marcas de alineación.
5. Alinee los orificios para tornillos de la placa del logotipo con los orificios para tornillos de la cubierta posterior de la pantalla y del ensamblaje de la antena.
6. Vuelva a colocar los dos tornillos (M2x3) que fijan la placa del logotipo al ensamblaje de la antena y la cubierta posterior de la pantalla.

Post-requisites

1. Replace the [display bezel](#).
2. Replace the [display assembly](#).
3. Replace the [memory modules](#).
4. Replace the [computer base](#).
5. Replace the [rear-I/O cover](#).
6. Replace the [solid-state drive](#).
7. Replace the [wireless card](#).
8. Replace the [base cover](#).

Extracción del panel de la pantalla

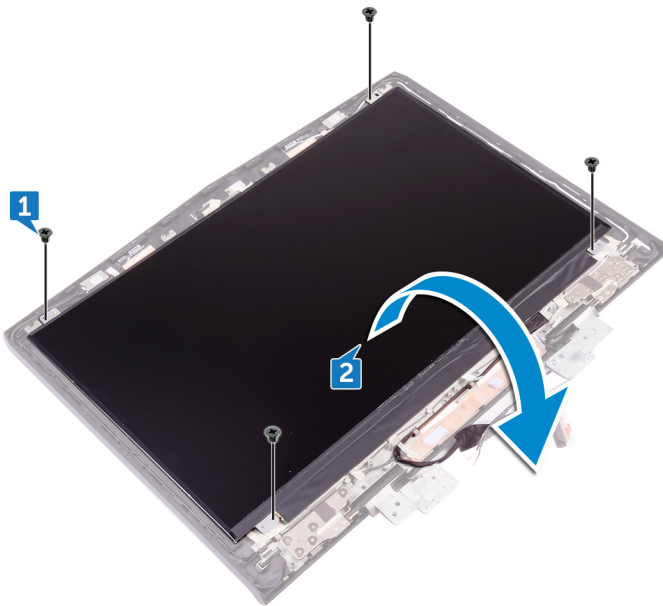
NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

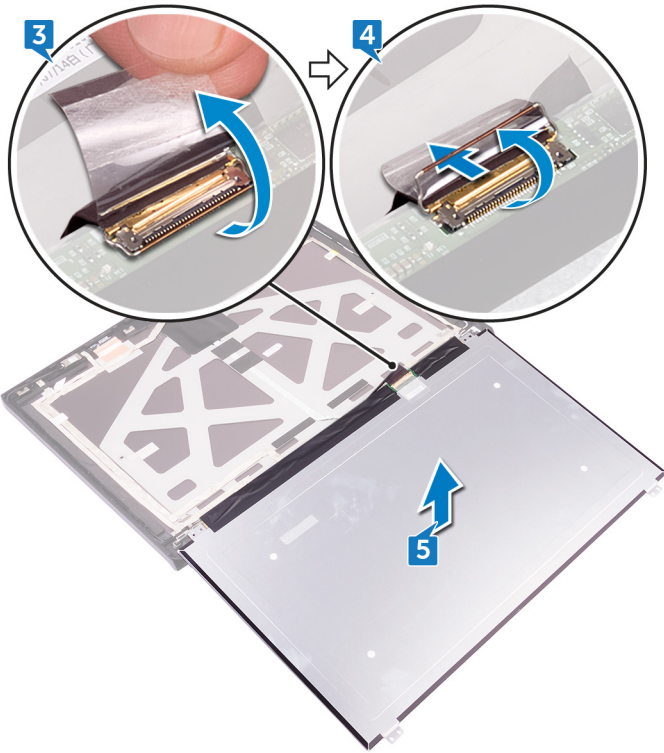
1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [memory modules](#).
5. Remove the [rear-I/O cover](#).
6. Remove the [computer base](#).
7. Remove the [display assembly](#).
8. Remove the [display bezel](#).
9. Remove the [logo board](#).

Procedimiento

1. Quite los cuatro tornillos (M2 x 3) que fijan el panel de la pantalla al ensamblaje de la antena y la cubierta posterior de la pantalla.
2. Levante con cuidado el panel de la pantalla y dele la vuelta.



3. Quite la cinta que fija el cable de la pantalla al panel de la pantalla.
4. Abra el pestillo para desconectar el cable de la pantalla del panel de la pantalla.
5. Levante el panel la pantalla para extraerlo del ensamblaje de la antena y la cubierta posterior de la pantalla.



Colocación del panel de la pantalla

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

Procedure

1. Align the display panel on the display back-cover.
2. Slide the display cable into the connector on the display panel and close the latch to secure the cable.
3. Adhere the tape that secures the display cable to the display panel.
4. Turn the display panel over and gently place it on the display back-cover and antenna assembly.
5. Replace the four screws (M2x3) that secure the display panel to the display back-cover and antenna assembly.

Post-requisites

1. Replace the [logo board](#).
2. Replace the [display bezel](#).
3. Replace the [display assembly](#).
4. Replace the [computer base](#).
5. Replace the [rear-I/O cover](#).
6. Replace the [memory modules](#).
7. Replace the [solid-state drive](#).
8. Replace the [wireless card](#).
9. Replace the [base cover](#).

Extracción de la cámara

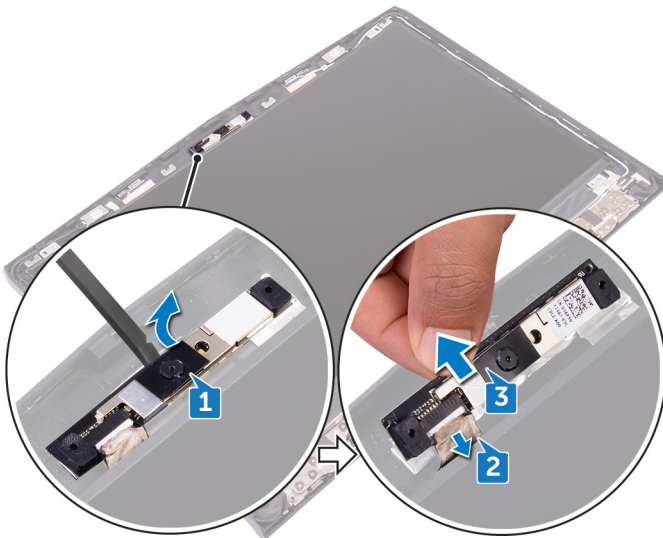
i NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [rear-I/O cover](#).
5. Remove the [computer base](#).
6. Remove the [memory modules](#).
7. Remove the [display assembly](#).
8. Remove the [display bezel](#).

Procedimiento

1. Con una punta trazadora de plástico, haga palanca en la cámara con cuidado para extraerla del ensamblaje de la antena y la cubierta posterior de la pantalla.
2. Desconecte el cable de la cámara del módulo de la cámara.
3. Levante el módulo de la cámara del ensamblaje de la antena y la cubierta posterior de la pantalla.



Colocación de la cámara

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

Procedure

1. Connect the camera cable to the camera module.
2. Place the camera module on the display back-cover and antenna assembly.
3. Adhere the camera module to the display back-cover and antenna assembly.

Post-requisites

1. Replace the [display bezel](#).
2. Replace the [display assembly](#).
3. Replace the [memory modules](#).
4. Replace the [computer base](#).
5. Replace the [rear-I/O cover](#).
6. Replace the [solid-state drive](#).
7. Replace the [wireless card](#).
8. Replace the [base cover](#).

Extracción de las bisagras de la pantalla

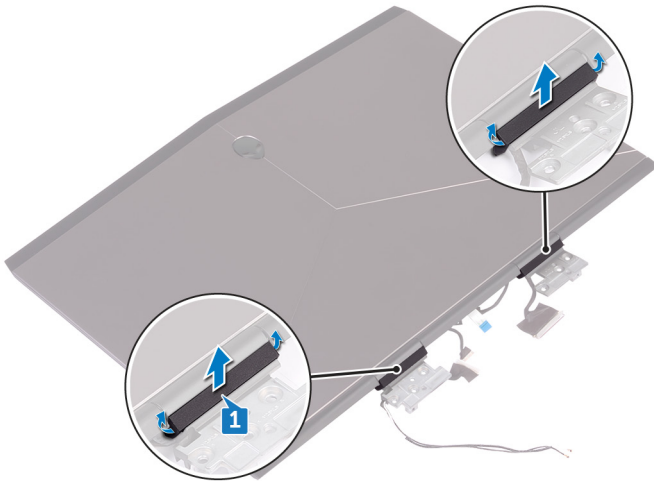
i NOTA: Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

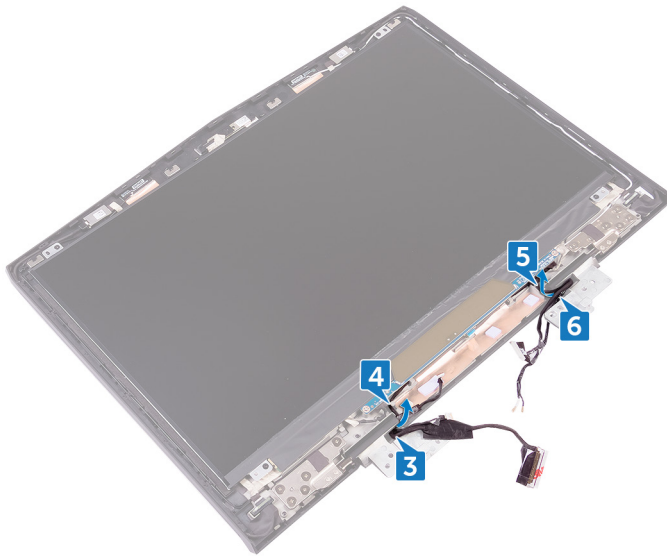
1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [rear-I/O cover](#).
5. Remove the [computer base](#).
6. Remove the [memory modules](#).
7. Remove the [display assembly](#).
8. Remove the [display bezel](#).

Procedimiento

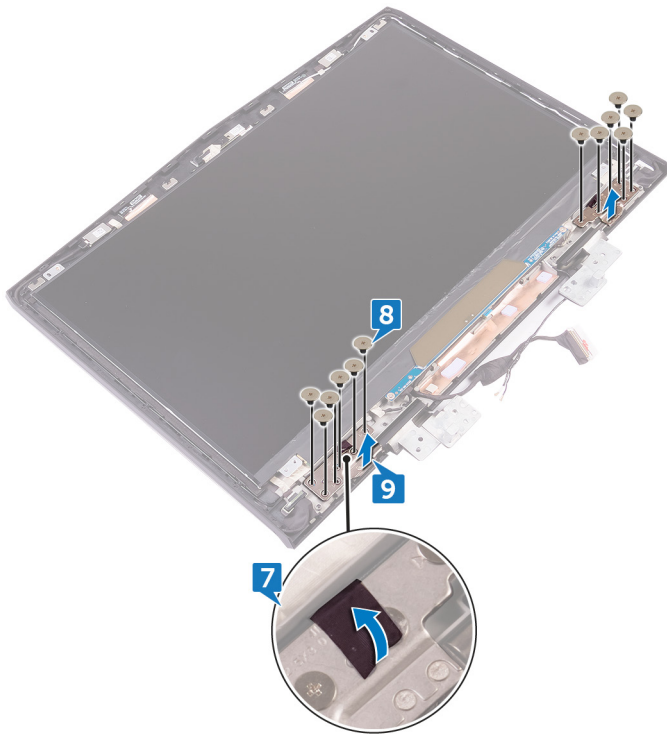
1. Extraiga las cubiertas de las bisagras.



2. Dé la vuelta al ensamblaje de la pantalla.
3. Extraiga el cable de la pantalla de la guía de colocación del ensamblaje de la antena y la cubierta posterior de la pantalla.
4. Extraiga el cable cable de la placa del rastreador ocular tobii de la guía de colocación en el ensamblaje de la antena y la cubierta posterior de la pantalla.
5. Extraiga el cable de la placa de logotipo de las guías de colocación en el ensamblaje de la antena y la cubierta posterior de la pantalla.
6. Extraiga los cables de la antena inalámbrica de la guía de colocación del ensamblaje de la antena y la cubierta posterior de la pantalla.



7. Despegue la cinta que fija la bisagra de la pantalla al ensamblaje de la antena y la cubierta posterior de la pantalla.
8. Extraiga los 12 tornillos (M2.5 x3) que fijan las bisagras al ensamblaje de la antena y la cubierta posterior de la pantalla.
9. Levante las bisagras de la ensamblaje de la antena y la cubierta posterior de la pantalla.



Colocación de las bisagras de la pantalla

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

Procedure

1. Align the screw holes on the display hinges with the screw holes on the display back-cover and antenna assembly.
2. Replace the 12 screws (M2.5x3) that secure the display hinges to the display back-cover and antenna assembly.
3. Replace the tape that secures the display hinge to the display back-cover and antenna assembly.
4. Route the antenna cables, power-button board cable, logo-board cable, tobii eye-tracker board cable, and display cable through the routing guides on the display back-cover and antenna assembly.
5. Turn the display assembly over.
6. Place the hinge caps on the display hinges and press down to snap them into place.

Post-requisites

1. Replace the [display bezel](#).
2. Replace the [display assembly](#).
3. Replace the [memory modules](#).
4. Replace the [computer base](#).
5. Replace the [rear-I/O cover](#).
6. Replace the [solid-state drive](#).
7. Replace the [wireless card](#).
8. Replace the [base cover](#).

Extracción del ensamblaje de la antena y la cubierta posterior de la pantalla

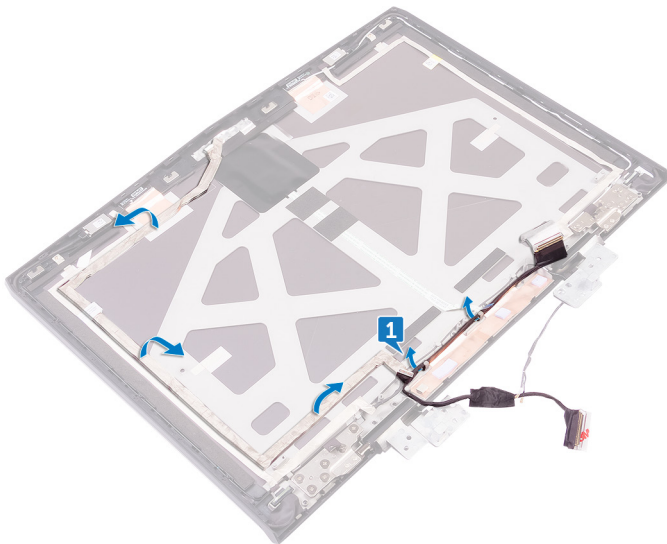
i **NOTA:** Before working inside your computer, read the safety information that shipped with your computer and follow the steps in [Before working inside your computer](#). After working inside your computer, follow the instructions in [After working inside your computer](#). For more safety best practices,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

Prerequisites

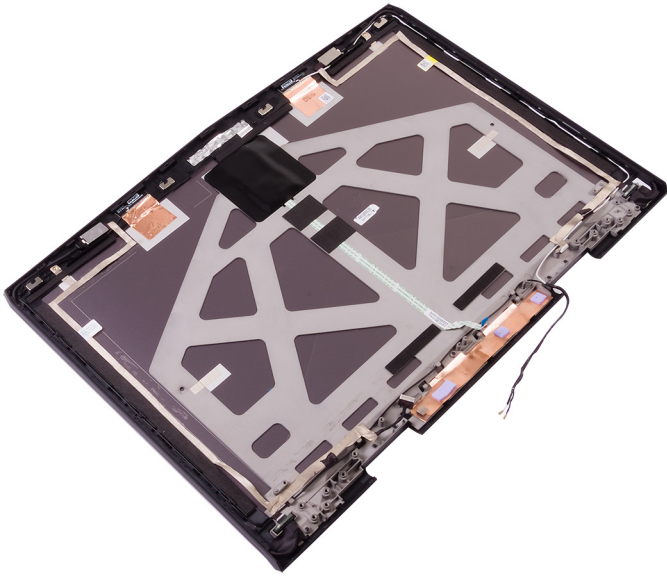
1. Remove the [base cover](#).
2. Remove the [wireless card](#).
3. Remove the [solid-state drive](#).
4. Remove the [rear-I/O cover](#).
5. Remove the [computer base](#).
6. Remove the [battery](#).
7. Remove the [memory modules](#).
8. Remove the [display assembly](#).
9. Remove the [display bezel](#).
10. Remove the [camera](#).
11. Remove the [logo board](#).
12. Remove the [display panel](#).
13. Remove the [display hinges](#).

Procedure

1. Peel off the display cable, logo-board cable, and camera cable from the display back-cover and antenna assembly.



2. After performing all the above steps, you are left with the display back-cover and antenna assembly.



Colocación del ensamblaje de antena y la cubierta posterior de la pantalla

i NOTA: 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.

Procedimiento

1. Coloque el ensamblaje de la antena y la cubierta posterior de la pantalla en una superficie limpia y plana.
2. Adhiera los cables de la pantalla, la placa del logotipo y la cámara al ensamblaje de la antena y la cubierta trasera de la pantalla.

Post-requisites

1. Replace the [display hinges](#).
2. Replace the [display panel](#).
3. Replace the [logo board](#).
4. Replace the [camera](#).
5. Replace the [display bezel](#).
6. Replace the [display assembly](#).
7. Replace the [memory modules](#).
8. Replace the [battery](#).
9. Replace the [computer base](#).
10. Replace the [rear-I/O cover](#).
11. Replace the [solid-state drive](#).
12. Replace the [wireless card](#).
13. Replace the [base cover](#).

Descripción general de BIOS

El BIOS administra el flujo de datos entre el sistema operativo del equipo y los dispositivos conectados, como la unidad de disco duro, el adaptador de vídeo, un teclado, un mouse o una impresora.

Acceso al programa de configuración del BIOS

1. Encienda (o reinicie) el equipo.
2. Pulse F2 cuando aparezca el logotipo de Dell para entrar en el programa de configuración del BIOS.

Puede modificar los valores de configuración que el usuario puede definir en programa de configuración del BIOS.

Secuencias clave de tiempos

El teclado no es el primer dispositivo que inicia el programa de configuración del BIOS. Por tanto, si pulsa un tecla demasiado pronto, el teclado se bloqueará. En tal caso, se muestra un mensaje de error del teclado de la pantalla y no podrá reiniciar el equipo con la combinación de teclas Ctrl + Alt + Supr.

Para evitar que el teclado se bloquee, espere a que el teclado se haya iniciado por completo. El teclado se ha iniciado si se produce una de las siguientes situaciones:

- Las luces del teclado parpadean.
- Durante el inicio, en la esquina superior derecha aparece la indicación F2=Setup.

System Setup Options

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

Table 3. System setup options—Main menu

Main	
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.
CPU L1 Cache	Displays the processor L1 cache size.
CPU L2 Cache	Displays the processor L2 cache size.
CPU L3 Cache	Displays the processor L3 cache size.
Integrated Graphics	Displays the integrated graphics.
Discrete Graphics 1	Displays the first discrete graphics installed on your computer.
First HDD	Displays the type of hard drive installed.
Second HDD	Displays the type of secondary hard-drive installed.
Third HDD	Displays the type of third hard-drive installed.
Fourth HDD	Displays the type of fourth hard-drive installed.
M.2 PCIe SSD-1	Displays the type of primary SSD installed.
M.2 PCIe SSD-2	Displays the type of secondary SSD installed.

Main

M.2 PCIe SSD-3

Displays the type of third SSD installed.

Table 4. System setup options—Advanced menu

Advanced

Intel(R) SpeedStep Technology

Allows you to enable or disable Intel (R) Speedstep Technology.

NOTE: If enabled, the processor clock speed and core voltage are adjusted dynamically based on the processor load.

Default: Enabled

Virtualization

Allows you to enable or disable the Intel Virtualization technology.

Default: Enabled

VT for Direct I/O

Specify whether a Virtual Machine Monitor (VMM) can utilize the additional hardware capabilities provided by Intel Virtualization Technology for Direct I/O.

Integrated NIC

Allows you to enable or disable the on-board LAN controller.

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.

NOTE: You cannot boot any type of USB device (floppy, hard drive, or memory key) when this option is off.

Default: Enabled

USB PowerShare

Allows you to charge USB devices when the computer is turned off or in standby mode.

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.

NOTE: If USB PowerShare is enabled, a device connected to the USB PowerShare connector may not wake the computer.

Default: Disabled

SATA Operation

Allows you to configure the operating mode of the integrated SATA hard drive controller.

Default: AHCI

Adapter Warnings

Allows you to choose if the computer should display warning messages when 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: Function key

Express Charge

Allows you to charge your computer battery using Standard Charge or Express Charge mode.

Default: Express Charge

Advanced

Touchpad Backlight	Allows you to configure the touchpad backlight option.
Battery Health	Displays the battery health.
Intel Software Guard Extensions	Allows you to enable or disable the Intel Software Guard Extensions Default: Disabled
BIOS Recovery	Enable the user to recover from certain corrupted BIOS conditions from a recovery file on the user primary hard drive Default: Enabled
Performance Options	
CPU Performance Mode	Enables you to select the CPU performance mode. Default: Enabled
Fan Performance Mode	Enables you to select the fan performance mode. Default: Balanced Mode
Core Over Clocking Level	Enable or disable the over-clocking setting and adjust the processor flex ratio and voltage in the Customization mode. Default: Disabled
SupportAssist System Resolution	
Auto OS Recovery Threshold	Control the automatic boot flow for SupportAssist System Resolution Console and for Dell OS Recovery tool.

Table 5. System setup options—Security menu

Security

Unlock Setup Status	Displays if the setup status is unlocked.
Admin Password Status	Displays if the administrator password is clear or set. Default: Not set
System password Status	Displays if the system password is clear or set. Default: Not set
HDD password Status	Displays if the HDD password is clear or set. Default: Not set
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.
HDD password	Allows you to set, change or delete the hard-disk drive password.
Password Change	Allows you to permit or deny system password or HDD password changes. Default: Permitted
Computrace	Enable or disable the BIOS module interface of the optional Computrace Service from Absolute Software.
Firmware TPM	Enables you to enable or disable the firmware TPM function. Default: Enabled

Security

UEFI Capsule Firmware Updates

Enable or disable BIOS updates through UEFI capsule update packages.

Table 6. System setup options—Boot menu

Boot

Boot List Option	Displays the available boot options.
File Browser Add Boot Option	Allows to add the boot options.
File Browser Del Boot Option	Allows to delete the boot options
Secure Boot	Enable or disable the secure boot feature.
Legacy Option ROMs	Enable or disable the Legacy Option ROMs.
Boot Option Priorities	Displays the boot sequence.
Boot Option #1	Displays the available first boot option.
Boot Option #2	Displays the available second boot option.
Boot Option #3	Displays the available third boot option.

Table 7. System setup options—Exit menu

Exit

Save Changes and Reset	Allows you to exit system setup and save your changes.
Discard Changes and Reset	Allows you to exit system setup and load previous values for all system setup options.
Restore 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.
Save Changes	Allows you to save the changes for all system setup options.

Clearing BIOS (System Setup) and System passwords

Contact Dell technical support to clear the forgotten passwords. For more information, see www.dell.com/contactdell.

Borrado de la configuración de CMOS

1. Extraiga la [cubierta de la base](#).
2. Extraiga la [batería](#).
3. Extraiga la [batería de tipo botón](#).
4. Espere un minuto.
5. Coloque la [batería de celda tipo botón](#).
6. Coloque la [batería](#).
7. Coloque la [cubierta de la base](#).

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.
3. Click **Product support**, enter the Service Tag of your computer, and then click **Submit**.

(i) | NOTA: 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.

Menú de inicio

Este equipo incluye un menú de inicio de una vez. Mediante el uso de esta función, puede cambiar la secuencia de dispositivos desde los que el equipo intenta iniciarse, por ejemplo, disquete, CD-ROM, unidad de disco duro o red.

Mejoras del menú de inicio

Las mejoras en el menú de inicio son las siguientes:

- **Acceso más fácil:** Pulse F12 para acceder al menú de selección de inicio.
- **Indicaciones para el usuario:** Se le pide al usuario que utilice las teclas de la pantalla del BIOS.
- **Opciones de diagnóstico:** El menú de inicio incluye las opciones de diagnóstico de ePSA.

Diagnostics

Power and battery-status light: Indicates the power and battery-charge status.

Solid amber – Computer is running on battery and the battery has less than 10 percent charge.

User-defined color (AC mode) – Power adapter is connected and the battery is fully charged.

User-defined color (Battery mode) – Computer is running on battery and the battery has more than 10 percent charge.

User-defined color (Breathing, that is, slow decrease/increase in illumination) – Computer is in sleep state.

Off – Computer is in hibernation, or turned off.

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

For example, the power and battery-status light blinks red two times followed by a pause, and then blinks blue three times followed by a pause. This 2,3 pattern continues until the computer is turned off indicating no memory or RAM is detected.

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

Table 8. Diagnostics

Diagnostic light codes	Problem description
2,1	Processor failure
2,2	System board: BIOS or ROM (Read-Only Memory) failure
2,3	No memory or RAM (Random-Access Memory) detected
2,4	Memory or RAM (Random-Access Memory) failure
2,5	Invalid memory installed
2,6	System-board or chipset error
2,7	Display failure
3,1	Coin-cell battery failure
3,2	PCI, video card/chip failure
3,3	Recovery image not found
3,4	Recovery image found but invalid
3,5	Power-rail failure
3,6	System BIOS Flash incomplete
3,7	Management Engine (ME) error

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.

Network port light: Indicates network connectivity.



- Off – No network connection.
- Solid green – 10 Mbps connection.
- Solid orange – 100 Mbps connection.
- Solid yellow – 1000 Mbps connection.
- Flicker yellow – Network activity.

Getting help and contacting Alienware

Self-help resources


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


Table 9. Alienware products and online self-help resources

Information about Alienware products and services	www.alienware.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 www.dell.com/support/linux
Troubleshooting information, user manuals, setup instructions, product specifications, technical help blogs, drivers, software updates, and so on	www.alienware.com/gamingservices
VR Support	www.dell.com/VRsupport
Tobii Eye Tracker and Tobii Eye Tracking	www.tobii.com
Videos providing step-by-step instructions to service your computer	www.youtube.com/alienwareservices

Contacting Alienware

To contact Alienware for sales, technical support, or customer service issues, see www.alienware.com.

 **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.**