E20219
First Edition / May 2022

IN SEARCH OF INCREDIBLE

Service Manual

ASUS

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Disclaimer

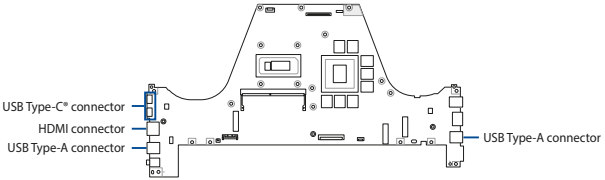
ASUS is not responsible for direct, indirect, intentional or unintentional damages resulting from improper installation and operation.

Safety precautions

- Keep liquids or moisture away from your Notebook PC before installing or removing any components.
- Ensure to place your Notebook PC on a stable surface before installing or removing any components.
- Detach the clip or flap before removing the signal cables to prevent damage.
- Disconnect the power plug by pulling the plug evenly to avoid damage. Ensure to connect the signal cables in the correct orientation.
- Disconnect all power cables and remove the battery pack (if applicable) before cleaning your Notebook PC with liquid detergent to avoid risk of electric shock.
- Disconnect all power cables and remove the battery pack (if applicable) before installing or removing any components. Ensure to read and follow the instructions in the manual.

- Before handling components, use a grounded wrist strap or touch a safely grounded object to avoid damaging them due to static electricity.
- Keep liquids or moisture away from your Notebook PC to avoid short circuits.
- Hold components by the edges to avoid touching the ICs.
- Ensure to properly install all the components before connecting the AC power.
- Do not use power adapters or batteries from other devices to reduce the risk of injury to persons due to fire or explosion. Use only certified power adapters or batteries supplied by the manufacturer or authorized retailers.
- Ensure to install the correct screw models on your Notebook PC to prevent damage.

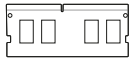
Major components



Motherboard with ports and connectors



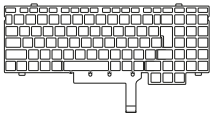
M.2 SSD module



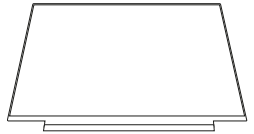
RAM module



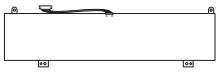
Thermal module



Keyboard



LCD panel module



Battery and power connector



Power adapter

NOTE:

- The illustrations are for reference only.
- The maintenance procedures described in this manual depend on the model configuration and may not reflect the entire servicing process. For servicing those components that are not covered in this manual, please visit an authorized service center for further assistance.

Installation tools



Screwdriver



Plastic blade

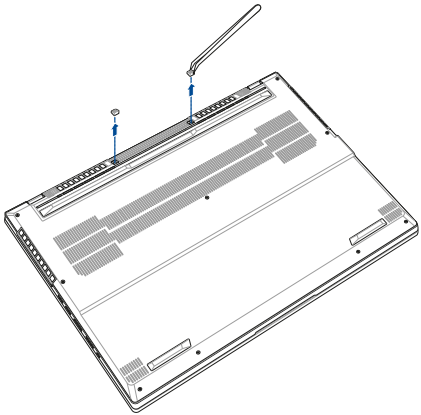


Tweezers

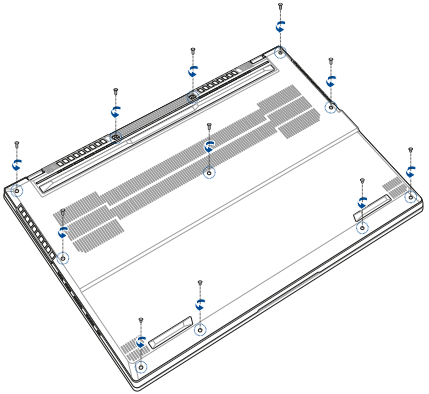
Removing the bottom cover

NOTE: The appearance of your Notebook PC's bottom view may vary per model.

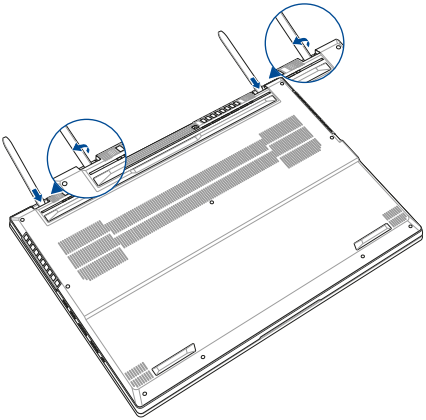
A. Remove the rubber tab(s).



B. Remove the screw(s) from the Notebook PC's bottom cover.



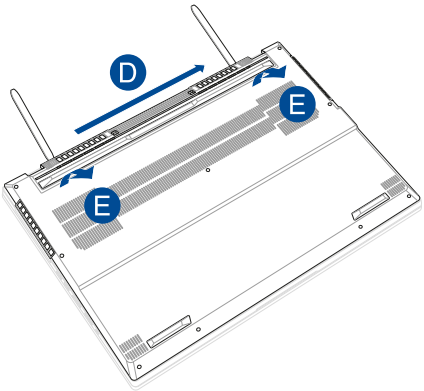
C. Use the plastic blade to pry loose the bottom cover as shown in the illustration below.



D. Pry open the indicated area of the bottom cover as shown in the illustration below.

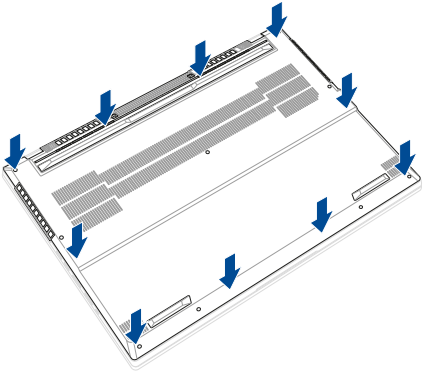
IMPORTANT! Avoid sliding the plastic blade along the side of your Notebook PC to prevent damage.

E. Remove the bottom cover.

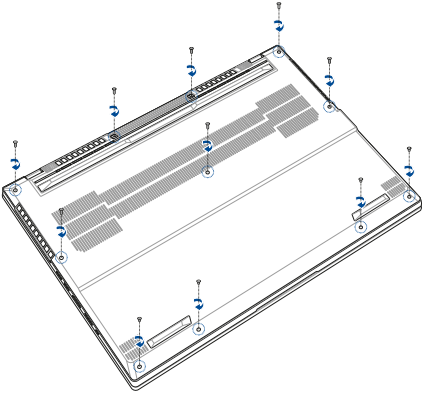


To reattach the bottom cover:

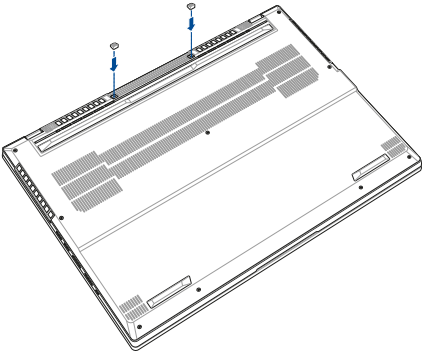
A. Align and reattach the bottom cover.



B. Secure the bottom cover using the screw(s) you removed earlier.



C. Reattach the rubber tab(s).

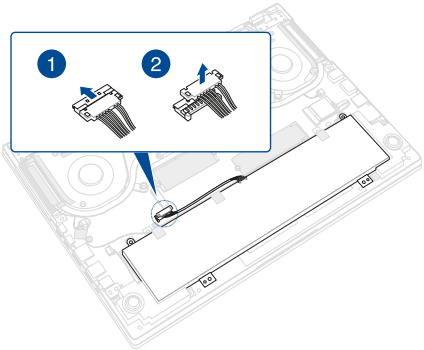


Disconnecting the battery

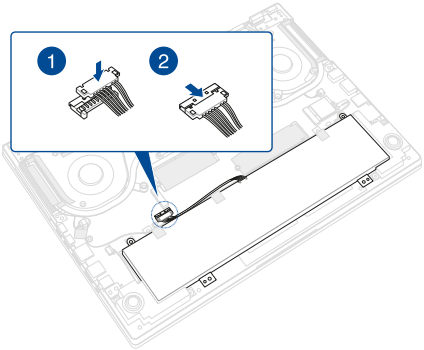
A. Remove the bottom cover.

> **NOTE:** For more details, refer to the *Removing the bottom cover* section in this manual.

B. Locate and disconnect the battery power cable as shown in the illustration below.



To connect the battery, align and connect the cable to the battery connector before you reattach the bottom cover.



Replacing the battery

Refer to the following steps when installing a compatible battery in your Notebook PC:

IMPORTANT! Purchase your battery from authorized retailers of this Notebook PC to ensure maximum compatibility and reliability.

WARNING! Disconnect all the connected peripherals, any telephone or telecommunication lines and power connector (such as external power supply, battery pack, etc.) before removing the bottom cover.

NOTE:

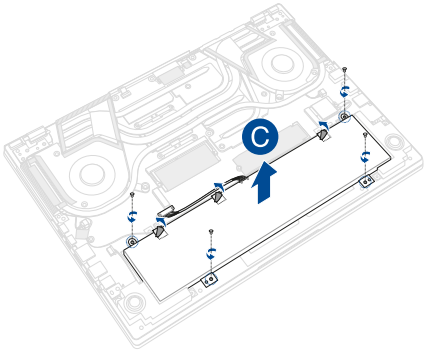
- The appearance of your Notebook PC's bottom view and battery may vary per model but the module installation remains the same.
- It is recommended that you install the battery under professional supervision. You may also visit an authorized service center for further assistance.

A. Remove the bottom cover and disconnect the battery.

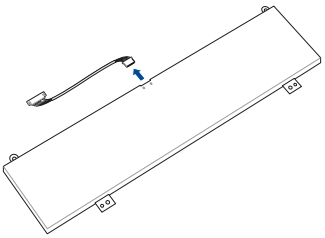
> **NOTE:** For more details, refer to the *Removing the bottom cover* and *Disconnecting the battery* sections in this manual.

B. Remove the screw(s) and tape from the battery.

C. Remove the battery.



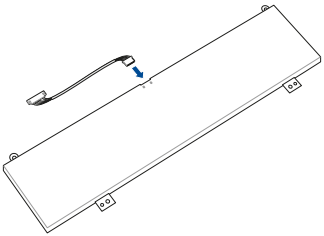
D. Remove the battery power cable.



To install the new battery:

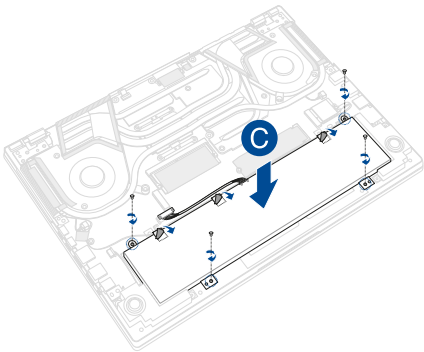
A. Prepare the new battery.

B. Connect the battery power cable to the battery.



C. Reinstall the battery.

D. Secure the battery using the screw(s) you removed earlier then reattach the tape.



Replacing the M.2 SSD module

Refer to the following steps when installing a compatible M.2 SSD module in your Notebook PC:

IMPORTANT! Purchase your M.2 SSD module from authorized retailers of this Notebook PC to ensure maximum compatibility and reliability.

WARNING! Disconnect all the connected peripherals, any telephone or telecommunication lines and power connector (such as external power supply, battery pack, etc.) before removing the bottom cover.

NOTE:

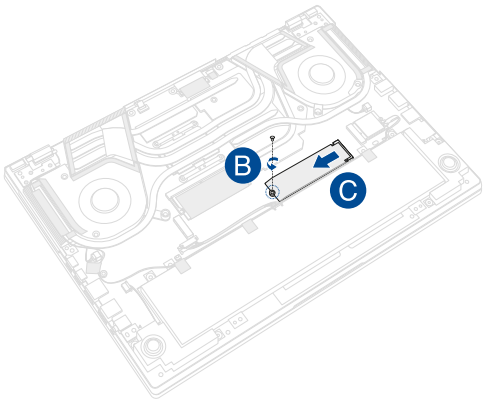
- The appearance of your Notebook PC's bottom view and M.2 SSD module may vary per model but the module installation remains the same.
- It is recommended that you install the M.2 SSD module under professional supervision. You may also visit an authorized service center for further assistance.

A. Remove the bottom cover and disconnect the battery.

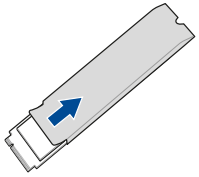
> **NOTE:** For more details, refer to the *Removing the bottom cover* and *Disconnecting the battery* sections in this manual.

B. Remove the screw from the M.2 SSD module.

C. Remove the M.2 SSD module.



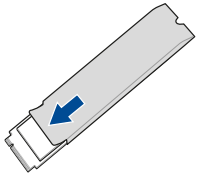
D. Remove the M.2 SSD module cover.



To install the new M.2 SSD module:

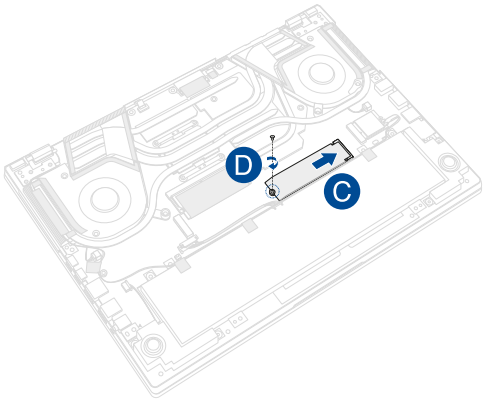
A. Prepare the new M.2 SSD module.

B. Reinstall the M.2 SSD module cover.



C. Align and insert the M.2 SSD module into the M.2 connector on the motherboard.

D. Secure the M.2 SSD module in place using the screw you removed earlier.



Replacing the RAM module

Upgrade the memory capacity of your Notebook PC by installing a RAM (Random Access Memory) module in the memory module compartment. Refer to the following steps when installing a RAM module in your Notebook PC:

IMPORTANT! Visit an authorized service center or retailer for information on RAM module upgrades for your Notebook PC. Purchase your RAM modules from authorized retailers of this Notebook PC to ensure maximum compatibility and reliability.

WARNING! Disconnect all the connected peripherals, any telephone or telecommunication lines and power connector (such as external power supply, battery pack, etc.) before removing the bottom cover.

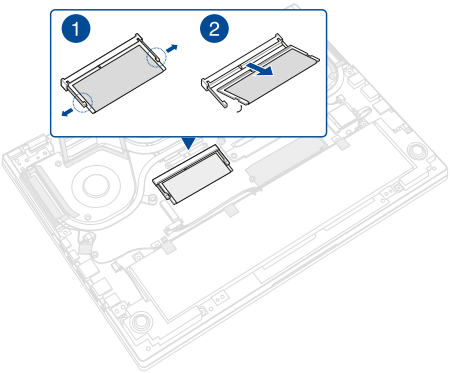
NOTE:

- The appearance of your Notebook PC's bottom view and RAM module may vary per model but the RAM module installation remains the same.
- It is recommended that you install the RAM module under professional supervision. You may also visit an authorized service center for further assistance.

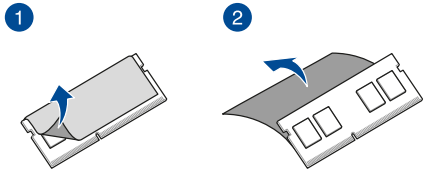
A. Remove the bottom cover and disconnect the battery.

NOTE: For more details, refer to the *Removing the bottom cover* and *Disconnecting the battery* sections in this manual.

B. Push the clips outwards to remove the RAM module.



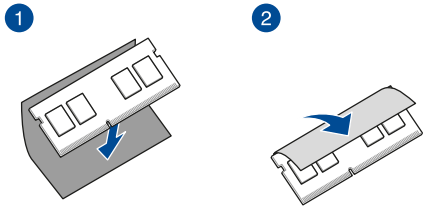
C. Remove the mylar from the RAM module.



To install the new RAM module:

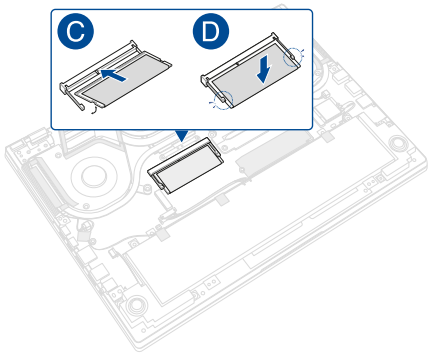
A. Prepare the new RAM module.

B. Reattach the mylar to the RAM module.



C. Align and insert the RAM module into the RAM module slot.

D. Push down the RAM module until it clicks in place.



Replacing the LCD module

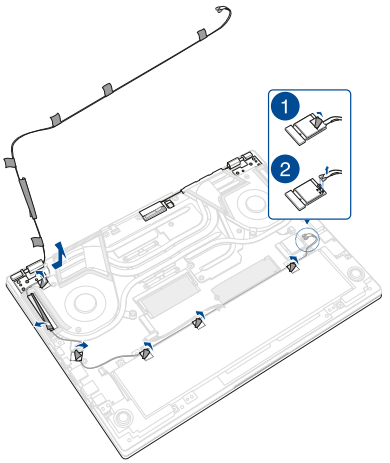
IMPORTANT! Do not bend the LCD panel in any ways to avoid risk of LCD panel leakage.

NOTE: The illustrations are for reference only.

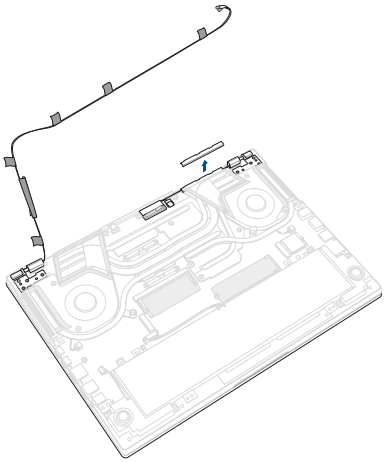
A. Remove the bottom cover and disconnect the battery.

NOTE: For more details, refer to the *Removing the bottom cover* and *Disconnecting the battery* sections in this manual.

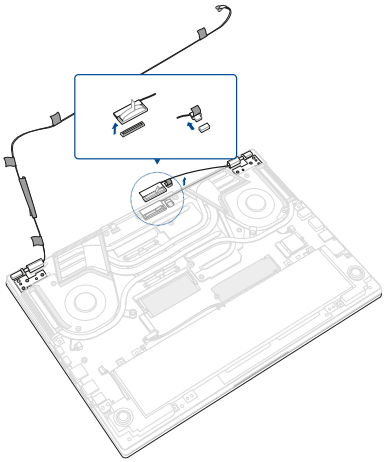
B. Remove the antenna(s) as shown in the illustration below.



C. Locate and remove the cable cover.

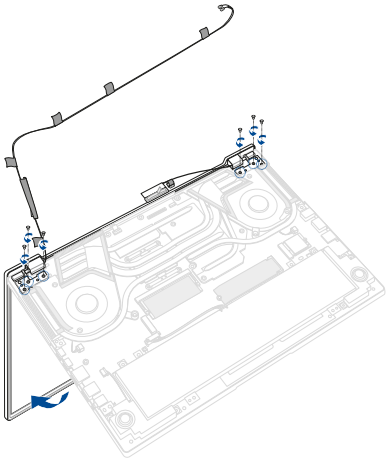


D. Remove the connector(s) as shown in the illustration below.

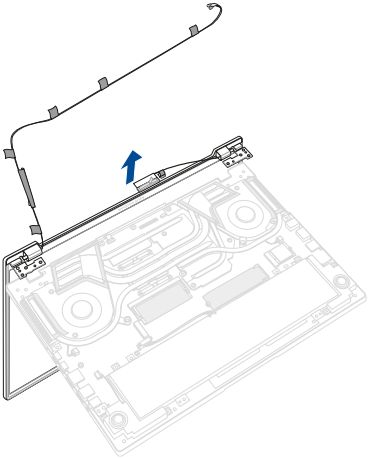


E. Place your Notebook PC in the orientation as shown in the illustration below.

F. Remove the screw(s) from the hinge.



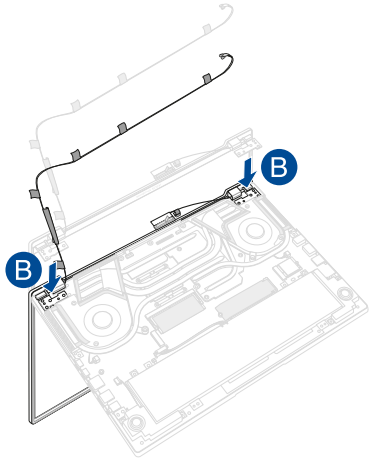
G. Remove the LCD panel module.



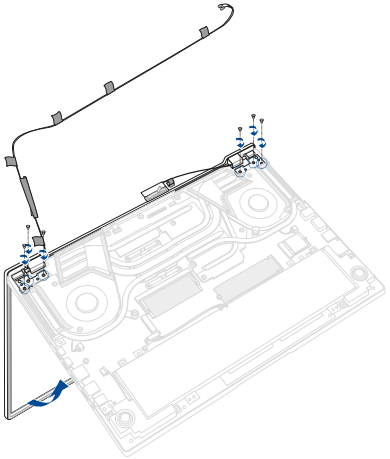
To install the new LCD panel module:

A. Prepare the new LCD panel module.

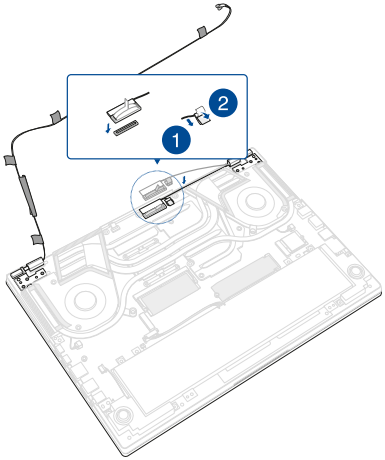
B. In the orientation shown, align and place the hinge of the display panel on the screw holes of the chassis.



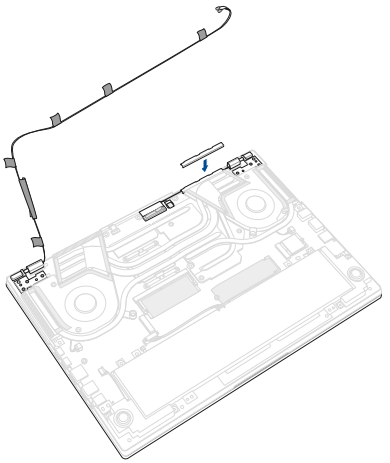
C. Secure the hinge using the screw(s) you removed earlier.



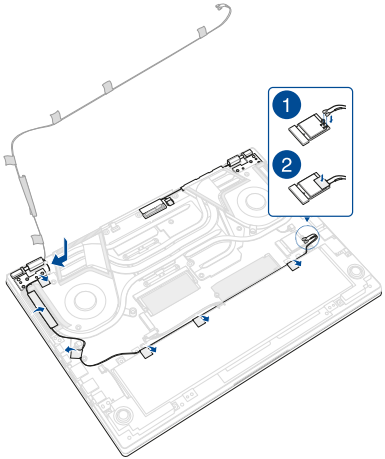
D. Reconnect the connector(s) as shown in the illustration below.



E. Reattach the cable cover.



F. Reconnect the antenna(s) as shown in the illustration below.



Replacing the motherboard

Refer to the following steps when installing the motherboard to your Notebook PC:

IMPORTANT! Purchase your motherboard from authorized retailers of this Notebook PC to ensure maximum compatibility and reliability.

WARNING! Disconnect all the connected peripherals, any telephone or telecommunication lines and power connector (such as external power supply, battery pack, etc.) before removing the bottom cover.

NOTE:

- The appearance of your Notebook PC's bottom view and motherboard may vary per model but the module installation remains the same.
- It is recommended that you install the motherboard under professional supervision. You may also visit an authorized service center for further assistance.

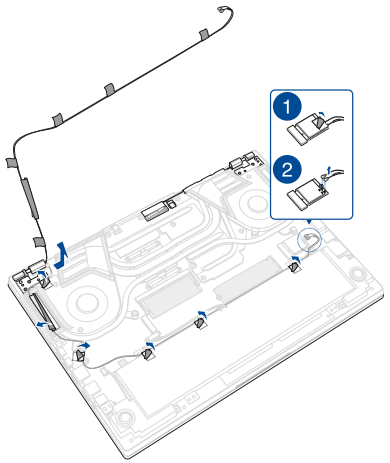
A. Remove the bottom cover and disconnect the battery.

NOTE: For more details, refer to the *Removing the bottom cover* and *Disconnecting the battery* sections in this manual.

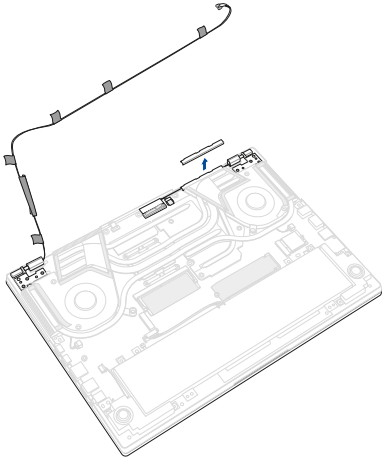
B. Remove the M.2 SSD module and RAM module.

NOTE: For more details, refer to the *Replacing the M.2 SSD module* and *Replacing the RAM module* sections in this manual.

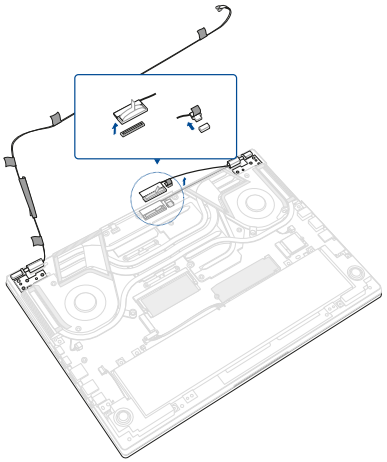
C. Remove the antenna(s) as shown in the illustration below.



D. Locate and remove the cable cover.

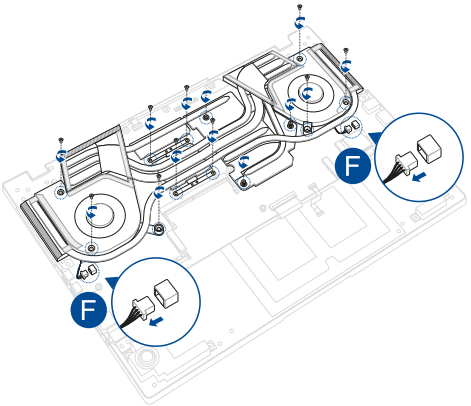


E. Remove the connector(s) as shown in the illustration below.

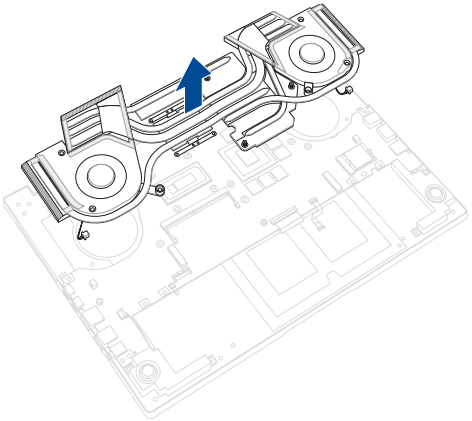


F. Remove the fan connector(s).

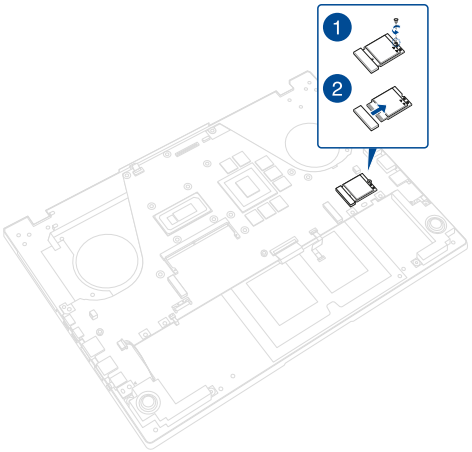
G. Remove the screw(s) from the thermal module.



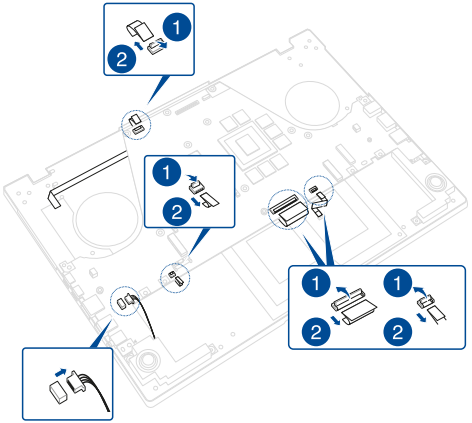
H. Remove the thermal module.



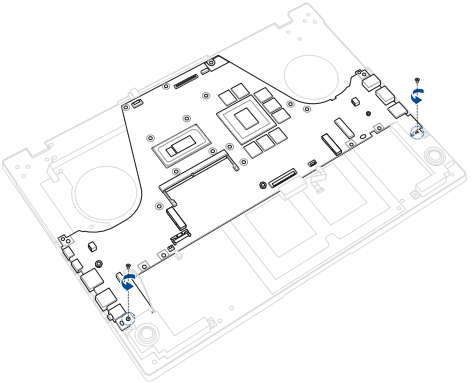
I. Remove the WLAN module as shown in the illustration below.



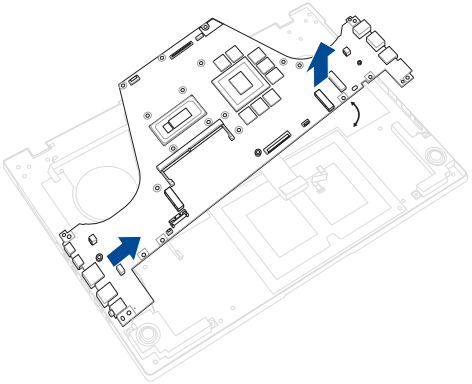
J. Remove all the cable(s) and connector(s) as shown in the illustration below.



K. Remove the screw(s) from the motherboard.



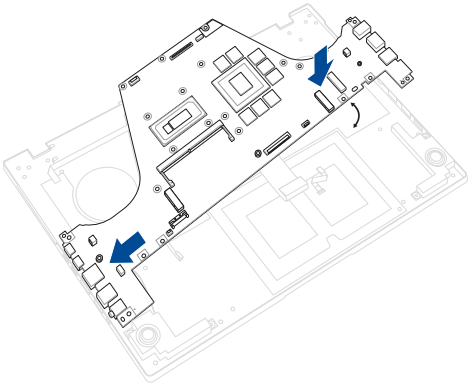
L. Remove the motherboard.



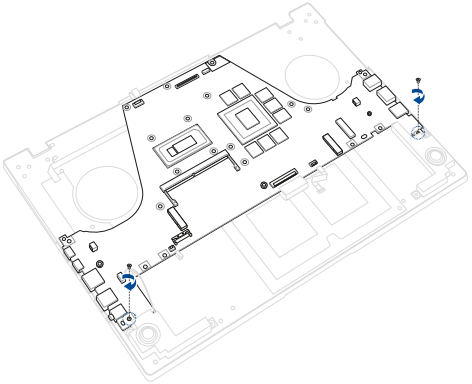
To install the new motherboard:

A. Prepare the new motherboard.

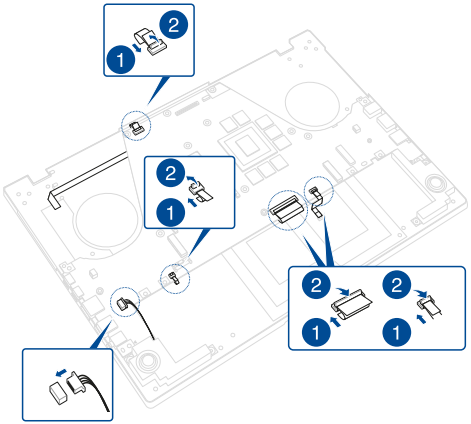
B. Align and place the motherboard in the chassis.



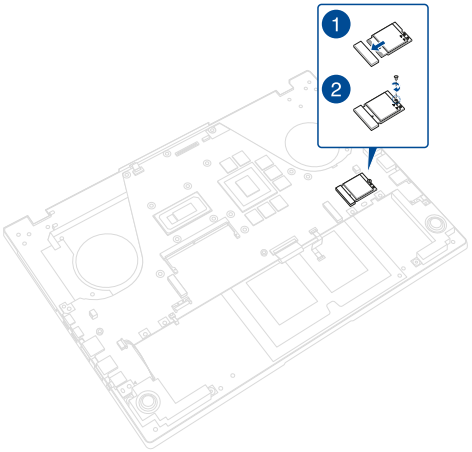
C. Secure the motherboard using the screw(s) you removed earlier.



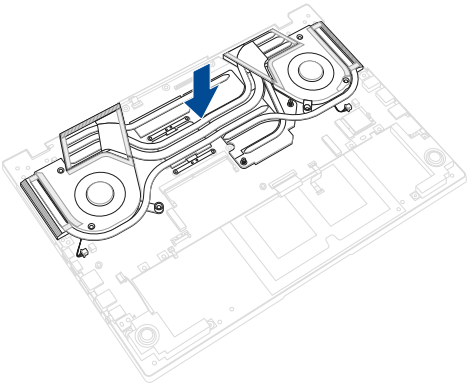
D. Reconnect all the cable(s) and connector(s) as shown in the illustration below.



E. Reinstall the WLAN module.

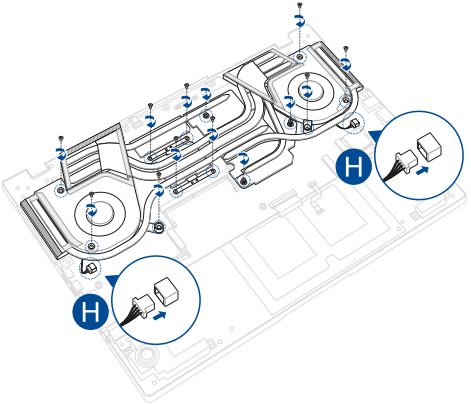


F. Reinstall the thermal module.

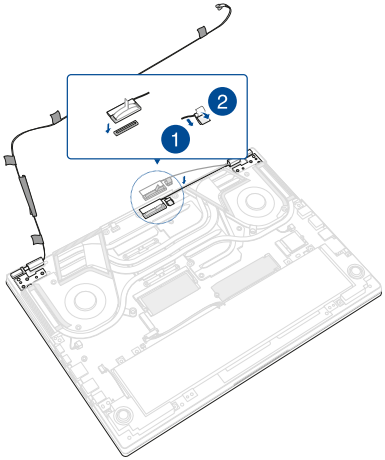


G. Secure the thermal module using the screw(s) you removed earlier.

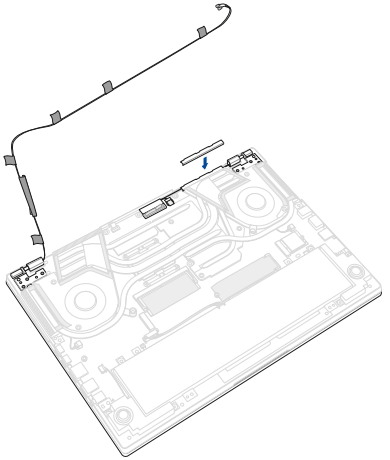
H. Reconnect the fan connector(s).



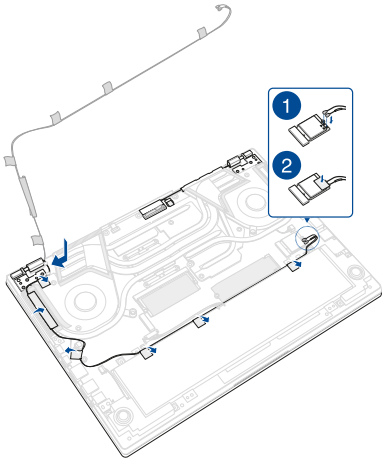
I. Reconnect the connector(s) as shown in the illustration below.



J. Reattach the cable cover.



K. Reconnect the antenna(s) as shown in the illustration below.

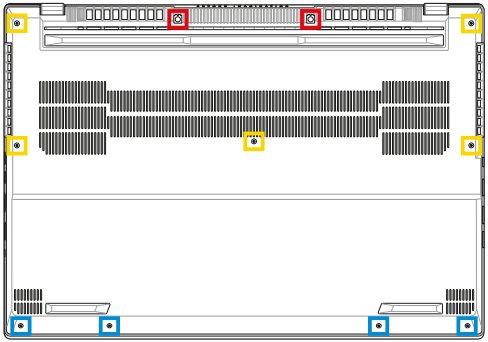


L. Reinstall the M.2 SSD module and RAM module.

NOTE: For more details, refer to the *Replacing the M.2 SSD module* and *Replacing the RAM module* sections in this manual.

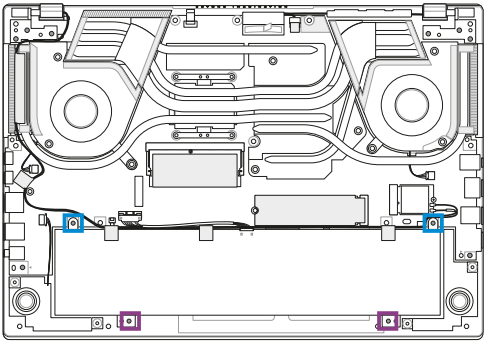
Screw map

Cover screw map



- M2.0 X 11.0L (5PCS)
- M2.0 X 8.0L (2PCS)
- M2.0 X 3.5L (4PCS)

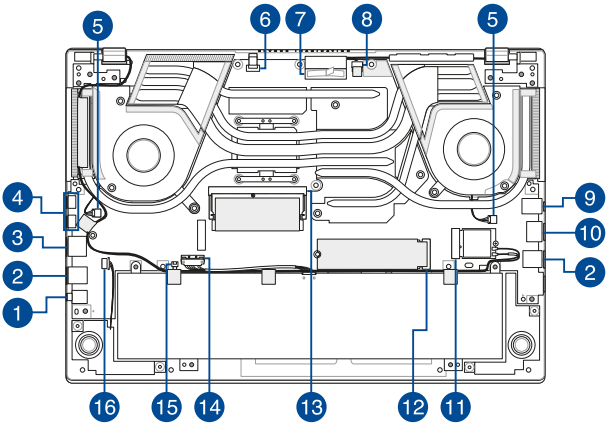
Battery screw map



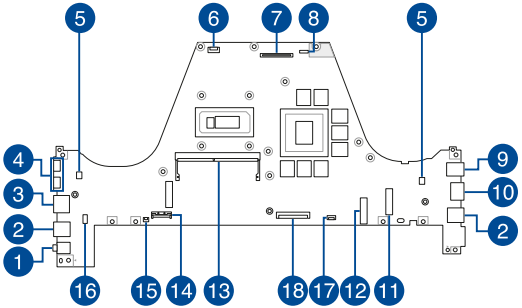
- M2.0 X 8.0L (2PCS)
- M2.0 X 4.0L (2PCS)

Wiring and connection diagrams

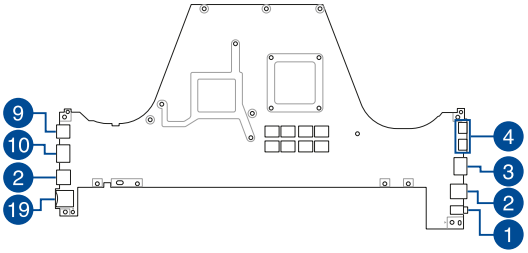
NOTE: The illustrations are for reference only.



Top View



Bottom View



1. Headphone/Headset/ Microphone jack
2. USB Type-A connector
3. HDMI connector
4. USB Type-C® connector
5. Fan connector
6. I/O FFC connector
7. eDP connector
8. eDP OLED connector
9. Power supply connector
10. RJ45 connector
11. WLAN connector
12. SSD connector
13. DDR connector
14. Battery connector
15. Backlight connector
16. Speaker connector
17. Touchpad connector
18. Keyboard connector
19. MicroSD card connector