E18190
First Edition / June 2021

IN SEARCH OF INCREDIBLE

Service Manual

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Table of Contents

Disclaimer....4
Safety precautions....4
Major components....6
Installation tools....7
Removing the compartment cover....8
Disconnecting the battery....11
Replacing the battery....13
Replacing the M.2 SSD module....17
Replacing the LCD module....20
Replacing the motherboard....33
Wiring and connection diagrams....43

Disclaimer

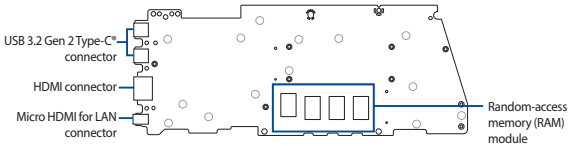
ASUS is not responsible for direct, indirect, intentional or unintentional damages resulting from improper installation and operation.

Safety precautions

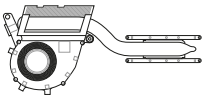
- Keep liquids or moisture away from your Notebook PC before installing or removing any components.
- Ensure to place your Notebook PC on a stable surface before installing or removing any components.
- Detach the clip or flap before removing the signal cables to prevent damage.
- Disconnect the power 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.

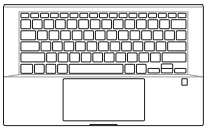
Major components



Motherboard with ports and connectors



Fan/Cooling radiator

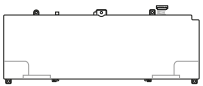


Keyboard (Top case module)

M.2 SSD module

LCD panel module

Power adapter



Battery and power connector

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

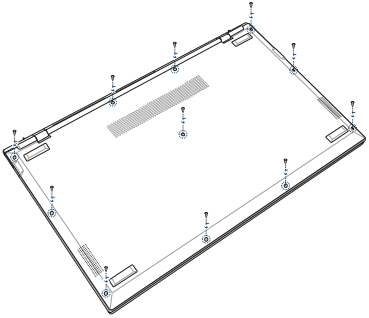
Plastic blade

Tweezers

Removing the compartment cover

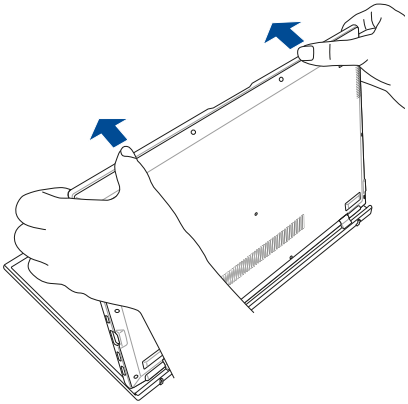
NOTE: The appearance of your Notebook PC's bottom view may vary per model.

A. Use the torx screwdriver to remove the screw(s) from the Notebook PC's compartment cover.

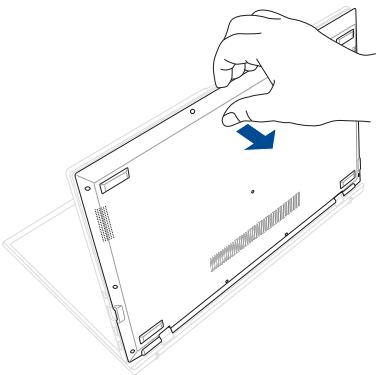


B. Place your Notebook PC in the orientation as shown in the illustration below.

C. Starting from the bottom edge, separate the compartment cover from the chassis as shown in the illustration below.



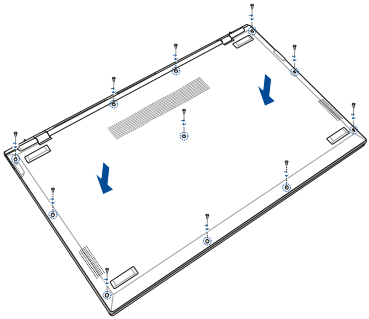
D. From the gap created in the previous step, detach the compartment cover and remove from the chassis.



To reattach the compartment cover:

E. Align and reattach the compartment cover.

F. Secure the compartment cover using the screw(s) you removed earlier.

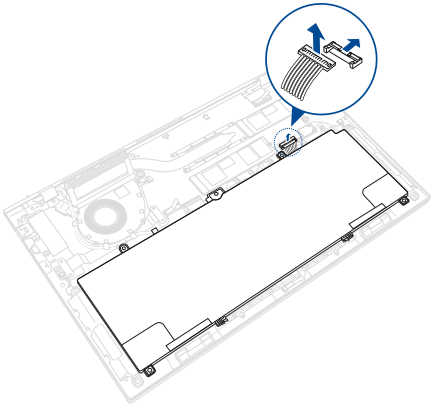


Disconnecting the battery

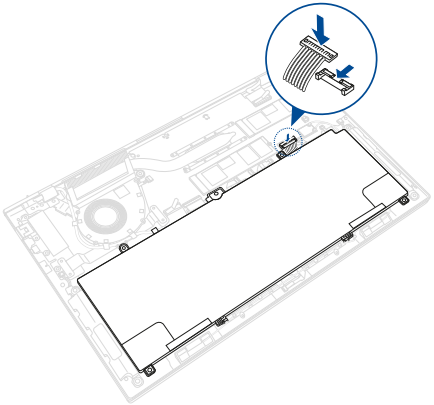
A. Remove the compartment cover.

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

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



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

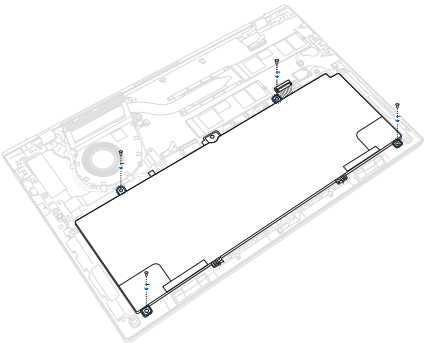
NOTE:

- 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.

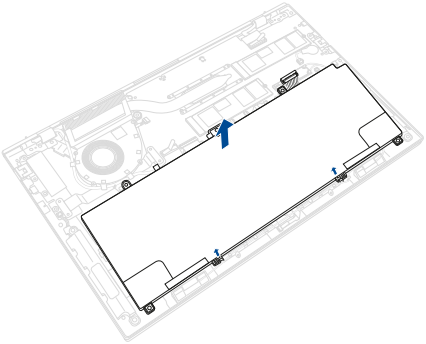
A. Remove the compartment cover and disconnect the battery.

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

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

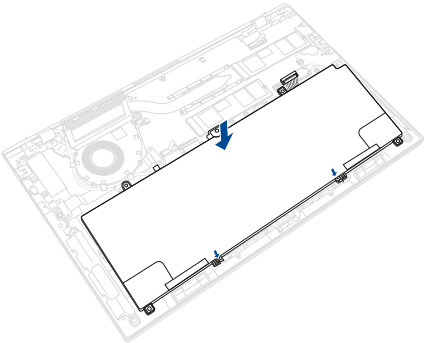


C. Remove the battery.

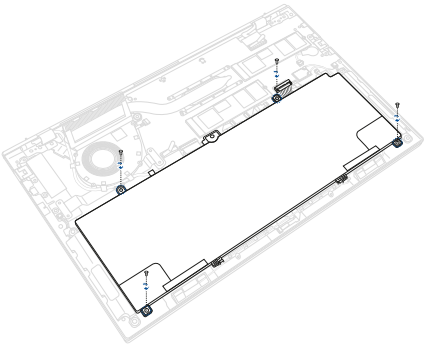


D. Prepare the new battery.

E. Reinstall the battery as shown in the illustration below.



F. Secure the battery using the screw(s) you removed earlier.



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 compartment cover.

NOTE:

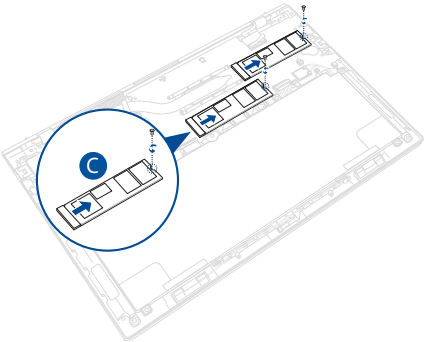
- The appearance of your Notebook PC's bottom view and M.2 SSD module may vary per model but the module installation remains the same.
- It is recommended that you install the M.2 SSD module under professional supervision. You may also visit an authorized service center for further assistance.

A. Remove the compartment cover and disconnect the battery.

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

B. Remove the screw(s) from the M.2 SSD module.

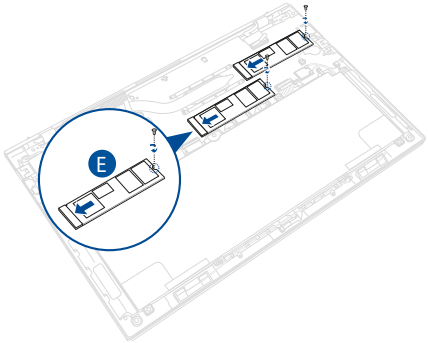
C. Remove the M.2 SSD module from the motherboard.



D. Prepare the new M.2 SSD module.

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

F. Secure the M.2 SSD module in place using the screw(s) you removed earlier.



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.

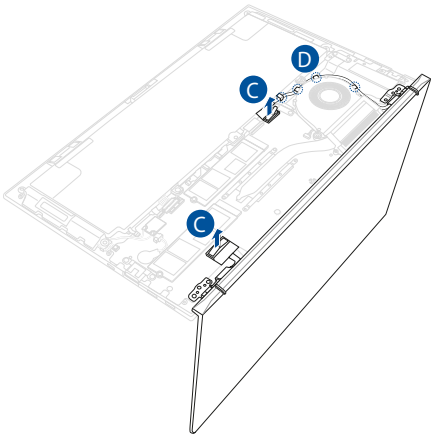
A. Remove the compartment cover and disconnect the battery.

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

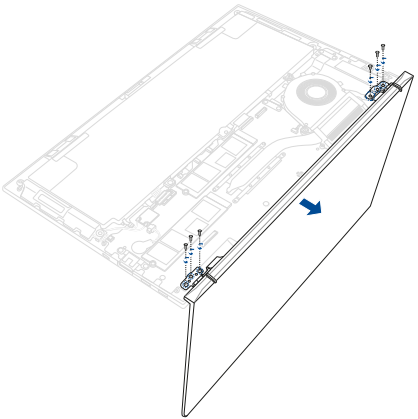
B. Place your Notebook PC in the orientation as shown in the illustration below.

C. Locate and disconnect all the cable(s) as shown in the illustration below.

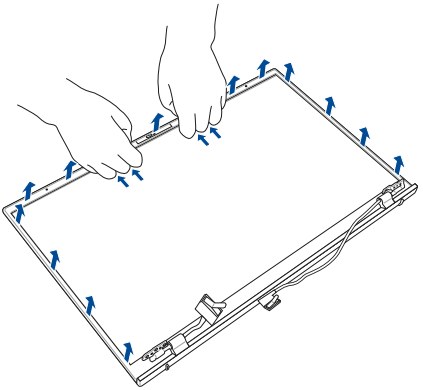
D. Unroute the eDP cable from the cable guides on the chassis.



E. Remove the screw(s) from the hinges, and then remove the LCD panel module.



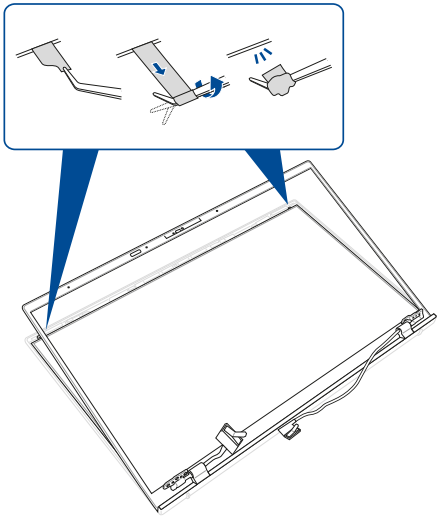
F. Pry loose the top side of the bezel first, then continue with the left and right sides of the bezel. DO NOT remove the bezel!



G. Locate the tip of the adhesive strips near the top area of the display panel.

H. Carefully pull the adhesive strips out one part at a time as shown in the illustration below.

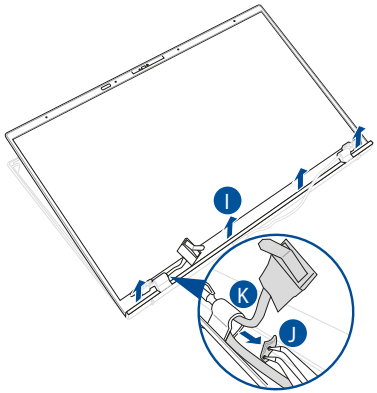
IMPORTANT! Avoid pulling the adhesive strips with excessive force or the adhesive strips might break.



I. Release the bottom side of the LCD bezel.

J. Use the tweezers to remove the tab from the LCD hinge cap.

K. While removing the LCD panel module and the LCD bezel, remove also the eDP cable from the LCD hinge cap.

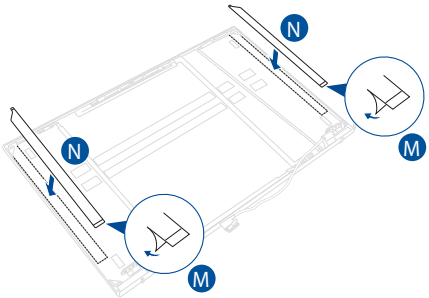


NOTE: The bottom of the LCD bezel is attached to the LCD panel module.

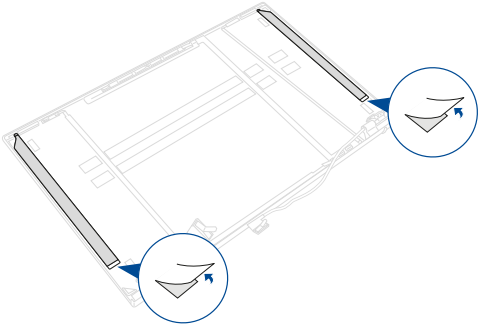
L. Prepare the new adhesive strips.

M. Remove the release liner underneath the adhesive strips.

N. Align and apply the adhesive strips as shown in the illustration below.



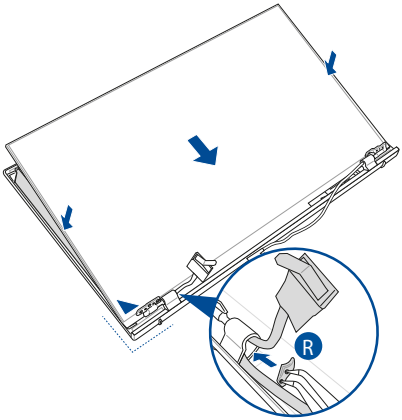
O. Remove the release liner above the adhesive strips.



P. Prepare the new LCD panel module.

Q. Align and place the new LCD panel module in the orientation as shown in the illustration below.

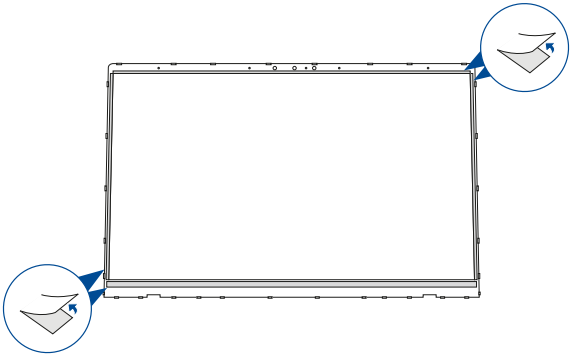
R. Guide the eDP cable through the LCD hinge cap. Use the tweezers to secure the eDP cable to the LCD hinge cap with a tab.



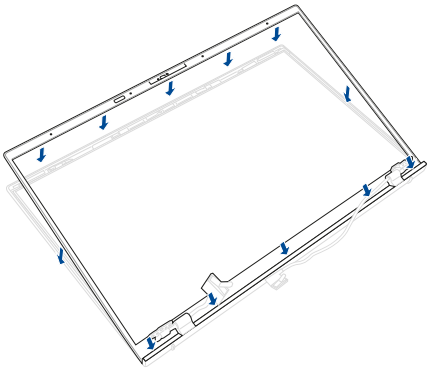
S. Prepare the new LCD bezel.

NOTE: The new LCD bezel comes with pre-attached adhesive strips.

T. Remove the release liner underneath the LCD bezel.

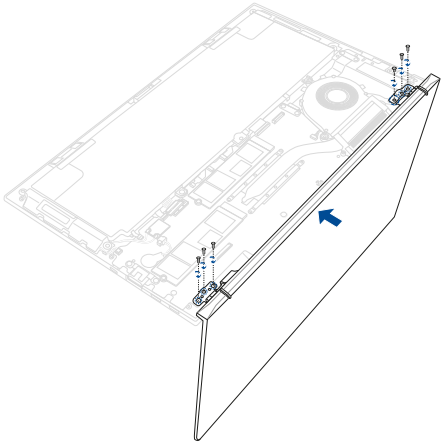


U. Align and gently reattach the bezel onto its slot on the bottom side of the LCD panel module. Continue reattaching upward along the left and right sides. Finally, reattach the top side.



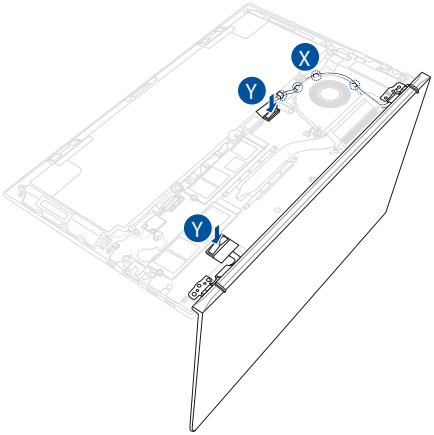
V. In the orientation shown, align and place the hinge of the display module on the screw holes on the chassis.

W. Secure the LCD panel module using the screw(s) you removed earlier.

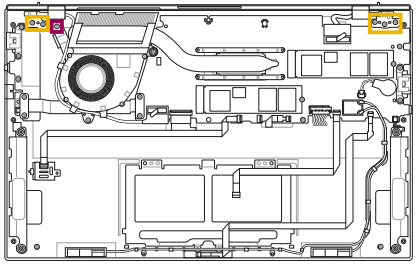


X. Route the eDP cable through the cable guides on the chassis.

Y. Reconnect all the cable(s) as shown in the illustration below.



LCD hinges screw map



M2.0 X 4.5L (5PCS)
M2.0 X 3.5L (1PCS)

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 compartment cover.

NOTE:

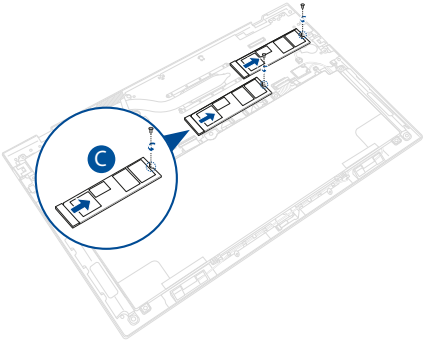
- The appearance of your Notebook PC's bottom view and motherboard may vary per model but the module installation remains the same.
- It is recommended that you install the motherboard under professional supervision. You may also visit an authorized service center for further assistance.

A. Remove the LCD panel module.

NOTE: For more details, refer to steps A to E in the *Replacing the LCD module* section in this manual.

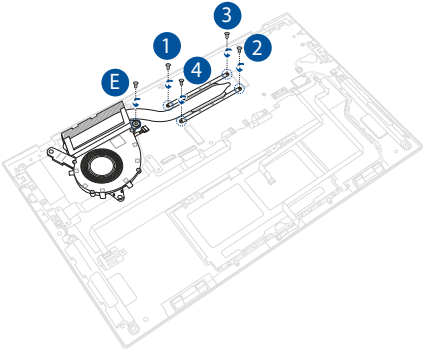
B. Remove the screw(s) from the M.2 SSD module.

C. Remove the M.2 SSD module from the motherboard.



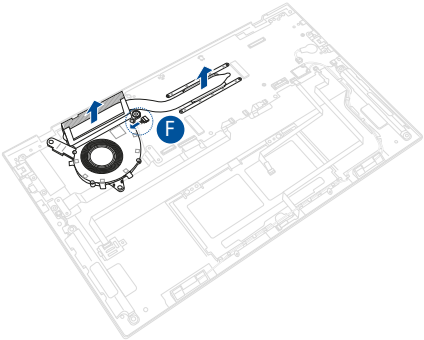
D. Remove the cooling radiator screw(s) one by one in the sequence as shown in the illustration below.

E. Remove the screw(s) from the fan.



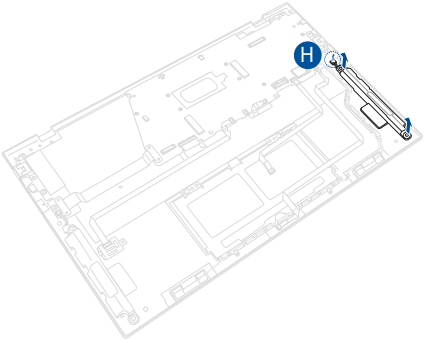
F. Locate and disconnect the fan cable(s) as shown in the illustration below.

G. Remove the fan/cooling radiator from the motherboard.



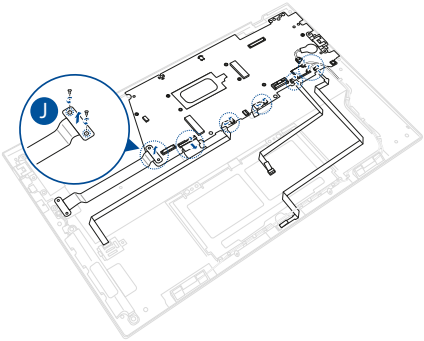
H. Locate and disconnect the left speaker cable(s) as shown in the illustration below.

I. Remove the speaker from the chassis.

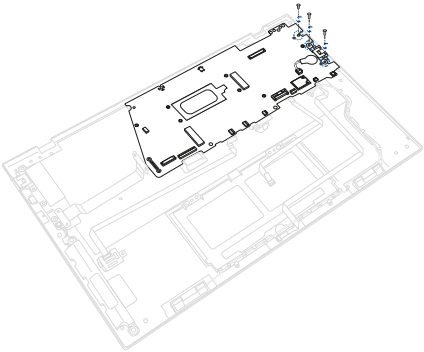


J. Remove the screw(s) from the I/O board FFC connector.

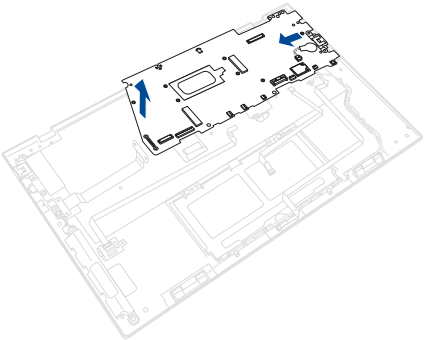
K. Locate and disconnect all the cable(s) and antenna(s) as shown in the illustration below.



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

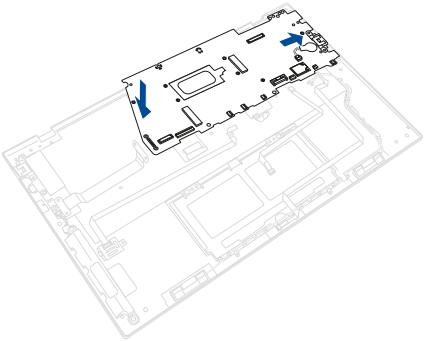


M. Release the motherboard I/O connectors from the I/O slots on the chassis and then remove the motherboard.

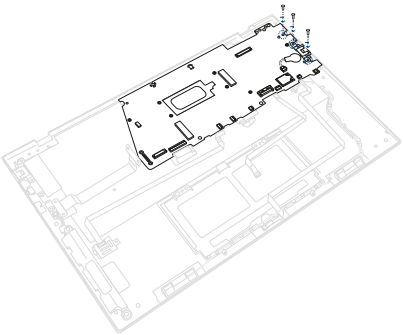


N. Prepare the new motherboard.

O. Align and insert the motherboard I/O connectors into the I/O connectors on the chassis. Then lower the motherboard back in the chassis.

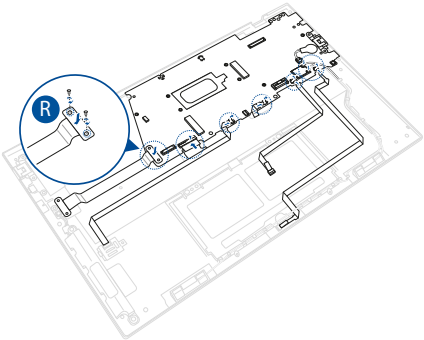


P. Secure the motherboard using the screw(s) you removed earlier.



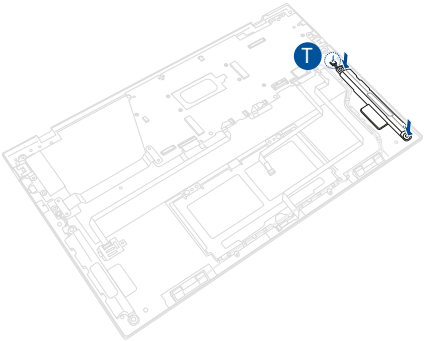
Q. Locate and reconnect all the connector(s) and antenna(s) disconnected earlier.

R. Secure the I/O board FFC connector using the screw(s) you removed earlier.



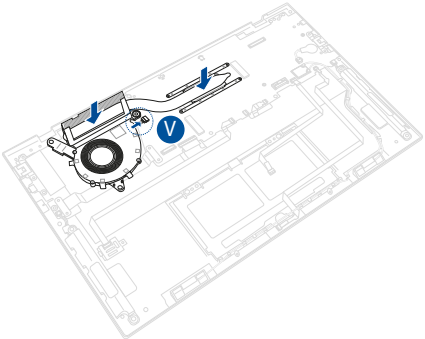
S. Align and install the speaker into its slot on the chassis.

T. Reconnect the left speaker cable(s) as shown in the illustration below.



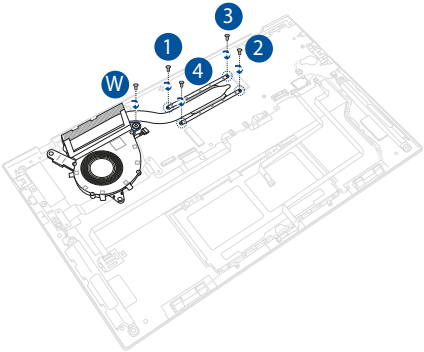
U. Align and replace the fan/cooling radiator on the screw holes of the motherboard.

V. Reconnect the fan cable(s) as shown in the illustration below.



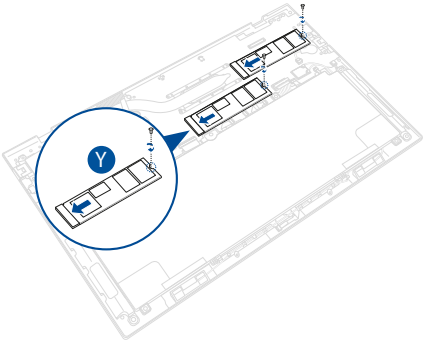
W. Secure the fan in place using the screw(s) you removed earlier.

X. Secure the cooling radiator screw(s) one by one in the sequence as shown in the illustration below.

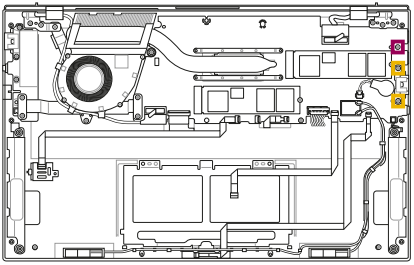


Y. Align and insert the M.2 SSD module into the M.2 connector on the motherboard.

Z. Secure the M.2 SSD module in place using the screw(s) you removed earlier.

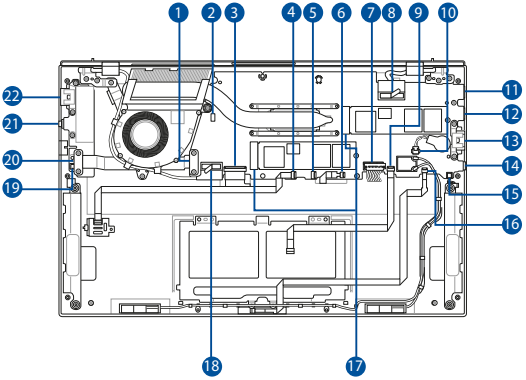


Motherboard screw map

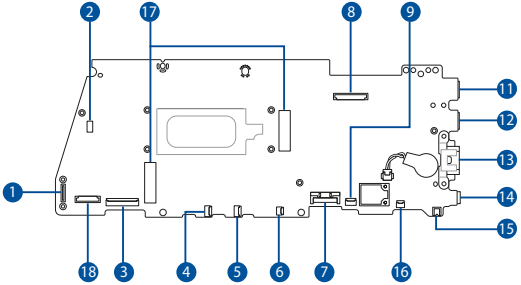


M2.0 X 4.5L (2PCS)
M2.0 X 3.0L (1PCS)

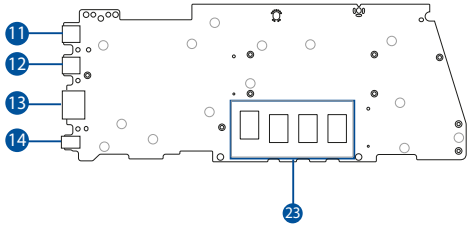
Wiring and connection diagrams



Top View



Bottom View



1. I/O FPC connector
2. Fan connector
3. Keyboard connector
4. Fingerprint board connector
5. NFC connector
6. Backlight connector
7. Battery power connector
8. Display connector
9. Touchpad connector
10. RTC connector
11. USB 3.2 Gen 2 Type-C® connector
12. USB 3.2 Gen 2 Type-C® connector
13. HDMI connector
14. Micro HDMI for LAN connector
15. Speaker connector
16. LED connector
17. M.2 SSD module connector
18. Camera connector
19. Speaker connector
20. I/O FPC connector
21. Headphone/Headset/ Microphone jack
22. USB 3.2 Gen 1 connector
23. Random-access memory (RAM) module