E25919
First Edition / July 2025

IN SEARCH OF INCREDIBLE

Service Manual

ASUS

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Important information

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SERVICE AND SUPPORT

Visit our multi-language website at https://www.asus.com/support/.

Chapter 1: Introduction

Disclaimer

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

Safety precautions

- 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 device to avoid short circuits.
- Remove rings, watches, and any other metal objects from your hands.
- Hold components by the edges to avoid touching the ICs.
- Properly install all 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.
- Detach all clips or flaps before removing cables to prevent damage.

- Disconnect cables, connectors, and power plugs by pulling the plug evenly to avoid damage.
- Use the correct screw models on your device to prevent damage.
- Confirm that the cable orientation is correct before connecting any cables.
- Fully remove all adhesive residue after removing and before installing any components.
- Photograph the appearance of cables, cable routing, connectors, and screws for later reference before proceeding with each step.

Pre-repair checklist

- Read the entire manual before starting any service procedures and follow all instructions.
- Back up the data on your device.
- Place your device on a clean and stable surface.
- Turn off your device.
- Disconnect all connected peripherals and cables.
- Disconnect all power cables and remove the battery pack (if applicable).

IMPORTANT!

- If you are uncertain about performing the described service procedures, stop and contact an authorized service center for assistance.
- Purchase replacement components from authorized retailers of this device to ensure maximum compatibility and reliability.

NOTE:

- The illustrations are for reference only.
- The service procedures described in this manual depend on the model configuration and may not reflect the entire servicing process. To service components that are not covered in this manual, please visit an authorized service center for further assistance.
- Keep all adhesive tape, insulating materials, screws, and other removable items in a safe place until the service procedure is completed, as they may be needed during installation.

Repair tools

Screwdriver

Plastic blade

Tweezers

Accessories

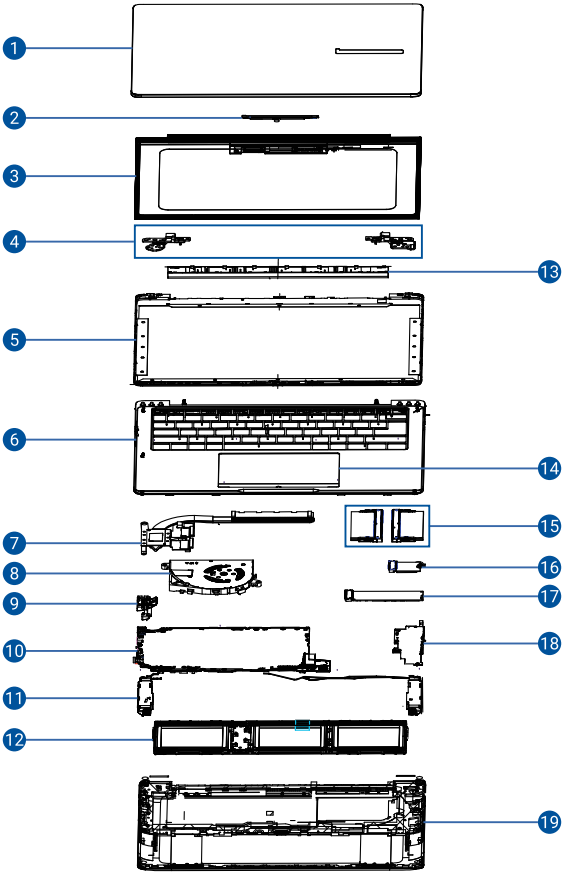
Power adapter

Diagnostic tools

Use ASUS System Diagnostics after completing any service procedures to ensure that all components are working properly.

For more information, visit www.asus.com/support/FAQ/1048490/.

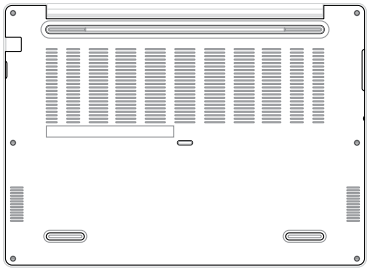
Major components



1. Top cover
2. Camera module
3. Display panel
4. Hinges
5. Display bezel
6. Keyboard module
7. Heat sink
8. Fan module
9. LAN port bracket
10. Motherboard
11. Speakers
12. Battery
13. Hinge cap
14. Touchpad
15. RAM module
16. WLAN module
17. M.2 SSD module
18. I/O board
19. Bottom cover

Chapter 2: Service Procedures

Bottom cover



Before you begin

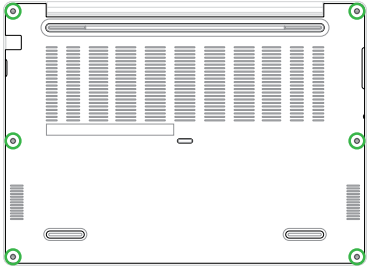
Read the **Safety Precautions** and complete the **Pre-repair Checklist**.

Screw list

- ⊕ M2.0 X 4.0L (6pcs)

Removal

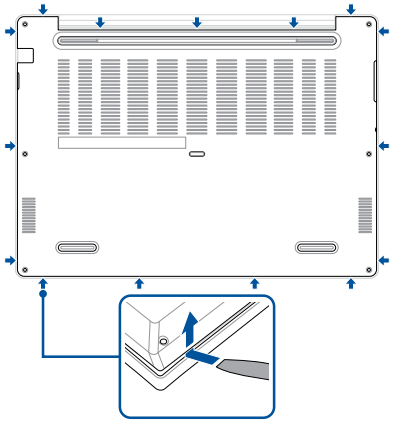
1. Remove the screw(s) from the bottom cover.



2. Use the plastic blade to pry open the indicated area of the bottom cover as shown in the illustration below.

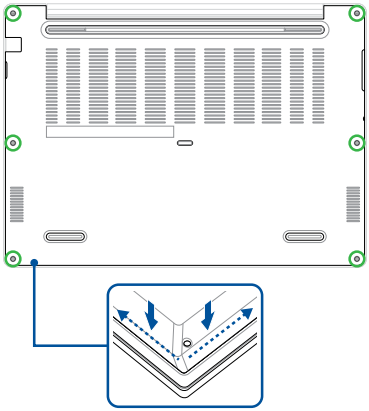
IMPORTANT!

- Avoid sliding the plastic blade along the side of your device or air vents to prevent damage.
- System power will be cut off automatically upon removal of the bottom cover. To restore power, reattach the bottom cover securely and connect the AC power adapter to your Notebook PC after the servicing is complete.

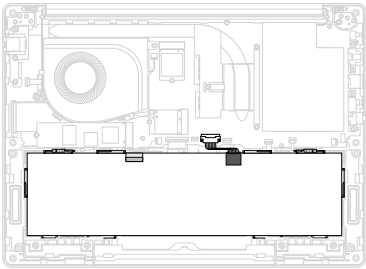


Installation

1. Install the bottom cover.
2. Gently press down on the bottom cover until it clicks into place.
3. Secure the bottom cover using the screw(s) you removed earlier.



Battery



Before you begin

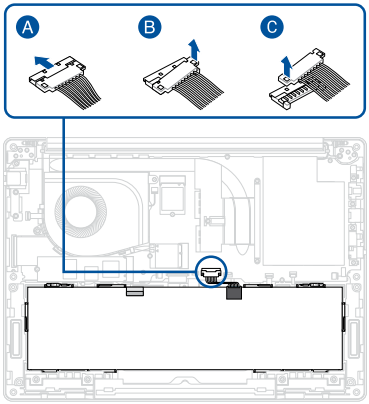
IMPORTANT! Serious risk of fire or explosion may occur if the battery is punctured. If you are uncertain about proceeding, stop and contact an authorized service center for assistance.

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.

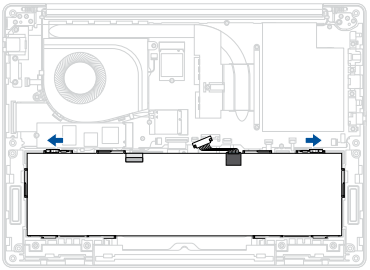
Removal

1. Disconnect the battery power cable.

IMPORTANT! Disconnect the battery power cable by lifting the side with the red wires first.

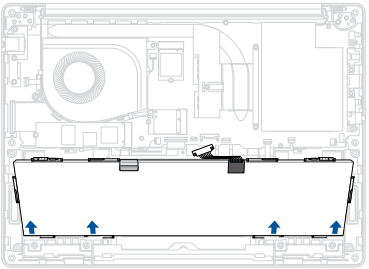


2. Push the latches into the unlocked position.

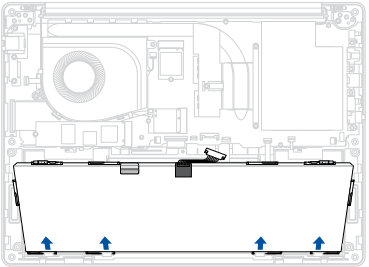


3. Remove the battery.

50Wh battery

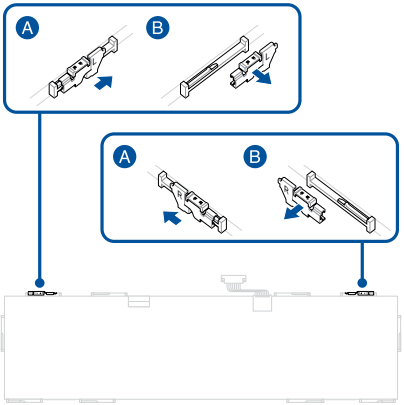


70Wh battery

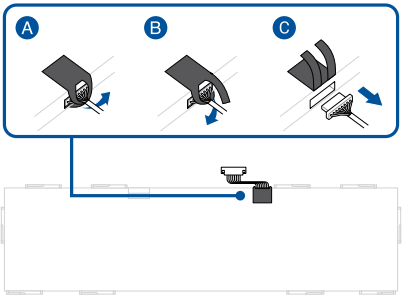


4. Remove the latches.

NOTE: The following steps are only required when you are replacing the existing component with a new one.

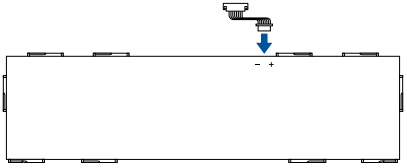


5. Remove the tape, then disconnect the cable.

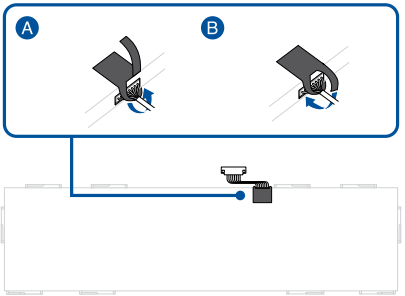


Installation

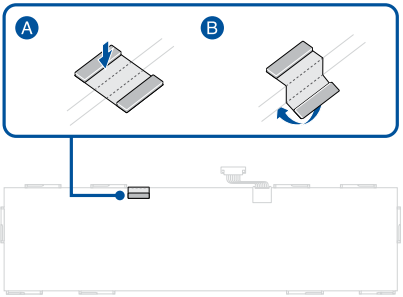
1. Reconnect the cable.



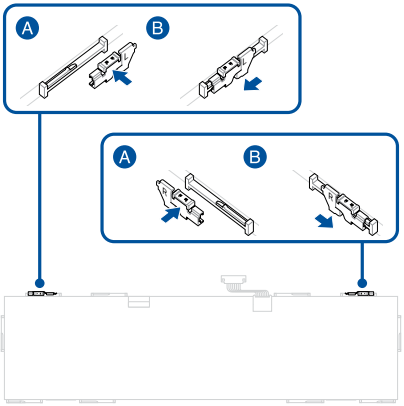
2. Attach the tape.



3. Attach the foam piece to the battery (50Wh battery only).

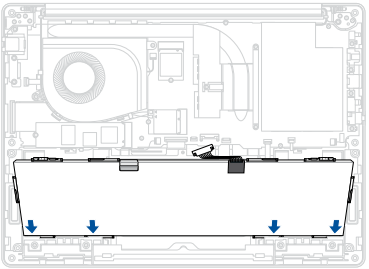


4. Install the latches.

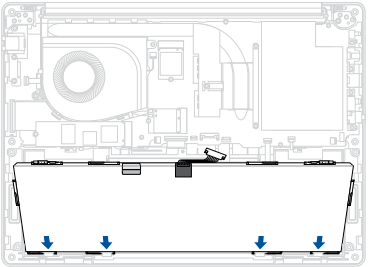


5. Install the battery.

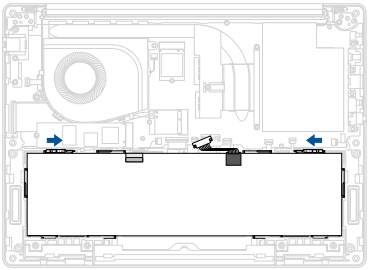
50Wh battery



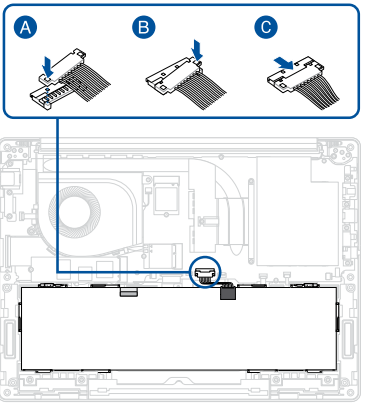
70Wh battery



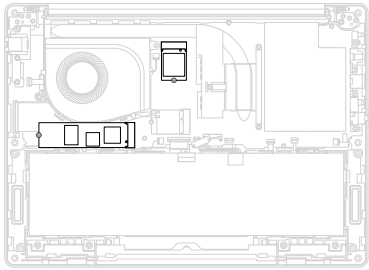
6. Push the latches into the locked position.



7. Reconnect the battery power cable.
8. Install the components you removed in the *Before you begin* section.



M.2 SSD module



Before you begin

NOTE: The operating system must be installed on the primary M.2 SSD (SSD1/ Disk 0)

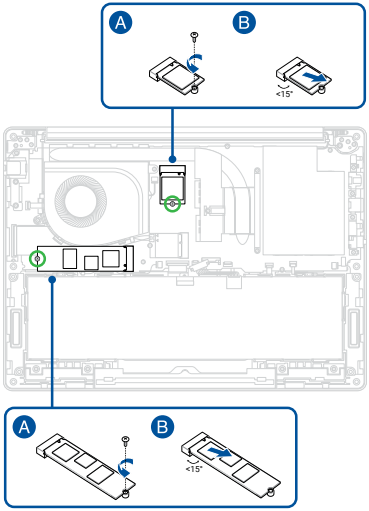
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.

Screw list

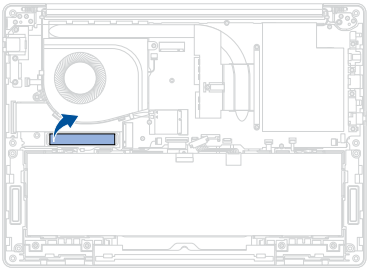
- ⊕ M2.0 X 2.5L (1-2pcs)

Removal

1. Remove the screw(s).
2. Remove the M.2 SSD module(s).

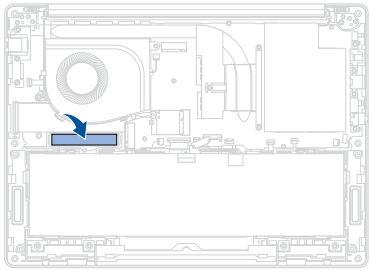


3. Remove the thermal pad from the motherboard.

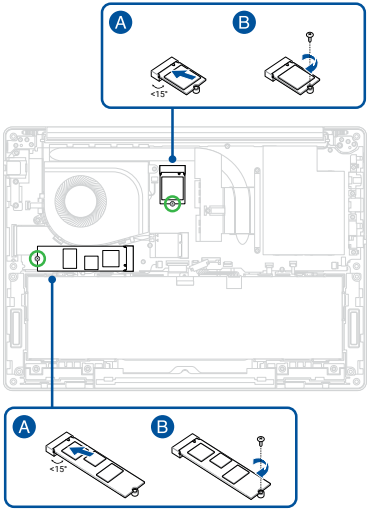


Installation

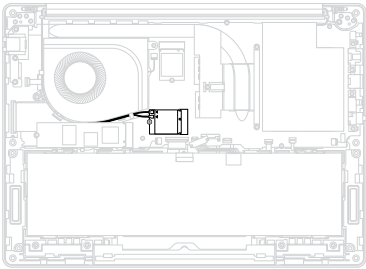
1. Attach the thermal pad to the motherboard.



2. Install the M.2 SSD module(s), then secure the M.2 SSD module(s) using the screw(s) you removed earlier.
3. Install the components you removed in the *Before you begin* section.



WLAN module



Before you begin

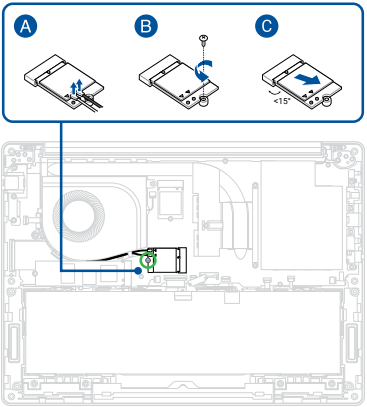
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.

Screw list

- ⊕ M2.0 X 2.5L (1pc)

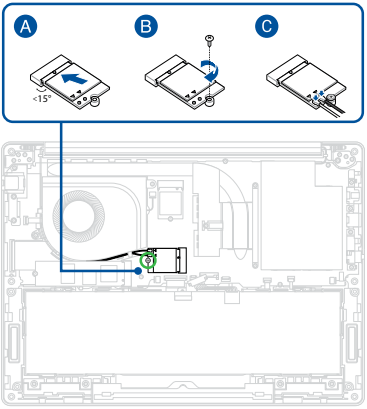
Removal

1. Disconnect the cable(s).
2. Remove the screw.
3. Remove the WLAN module.

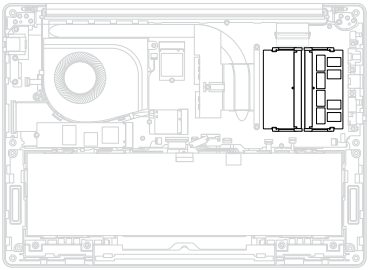


Installation

1. Install the WLAN module.
2. Secure the WLAN module using the screw you removed earlier.
3. Reconnect the cable(s).
4. Install the components you removed in the *Before you begin* section.



RAM module

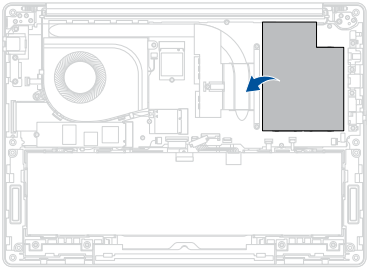


Before you begin

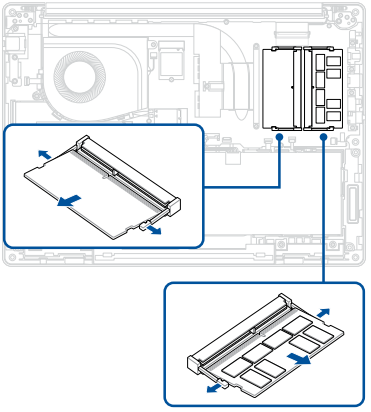
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.

Removal

1. Remove the absorber sheet.

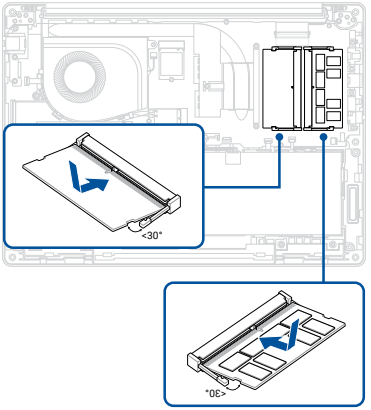


2. Push the clips outwards to remove the RAM module(s).

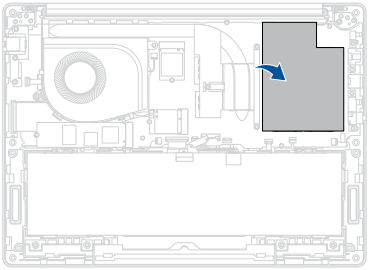


Installation

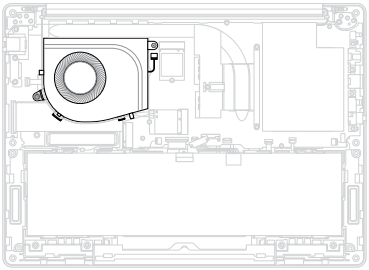
1. Align and insert the RAM module(s) into the RAM module slot(s).



2. Attach the absorber sheet.
3. Install the components you removed in the *Before you begin* section.



Fan module



Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.

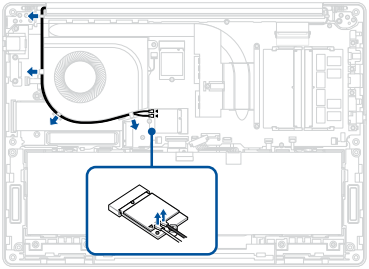
Screw list

- ⊕ M2.0 X 4.5L (2pcs)

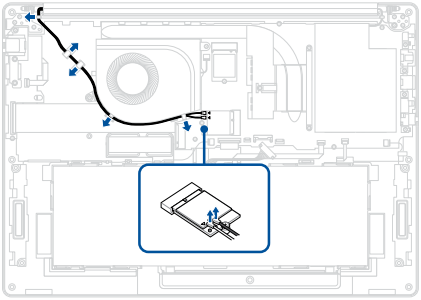
Removal

1. Disconnect the cable(s).
2. Remove the cable(s) from the cable guide(s).

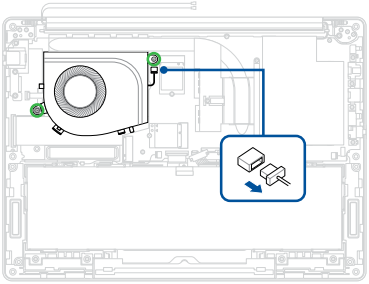
14” model



16” model

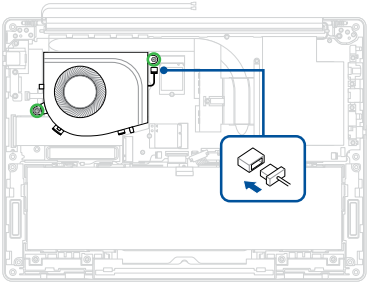


3. Remove the screw(s) and disconnect the cable, then remove the fan.



Installation

1. Install the fan, then reconnect the cable and secure the fan using the screw(s) you removed earlier.

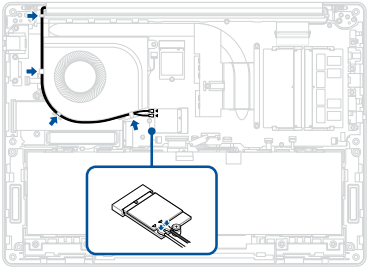


2. Route the cable(s) through the cable guide(s).

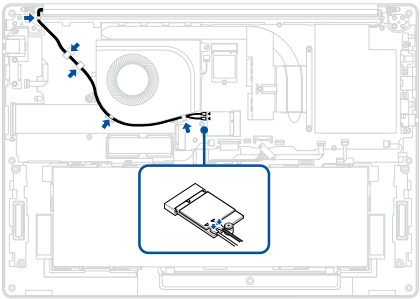
IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

3. Reconnect the cable(s).
4. Install the components you removed in the *Before you begin* section.

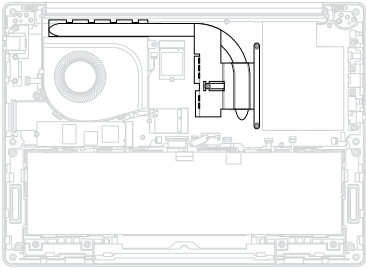
14” model



16” model



Heat sink



Before you begin

IMPORTANT! Thermal paste, thermal pads, liquid metal, or other thermal interface materials must be thoroughly removed and replaced if this component is removed. Ensure that replacement materials are available before proceeding, or contact an authorized service center for assistance.

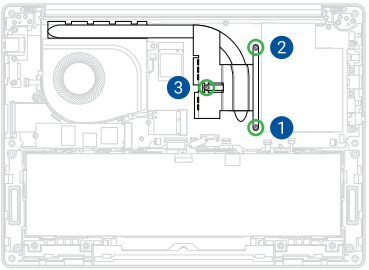
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.

Screw list

- ⊕ M2.0 X 2.5L (3pcs)

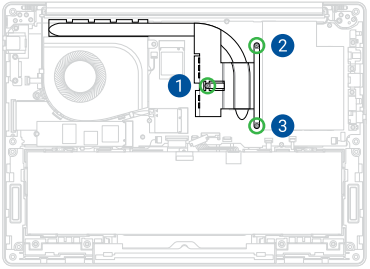
Removal

Remove the screw(s) one by one in the sequence shown in the illustration below, then remove the heat sink.

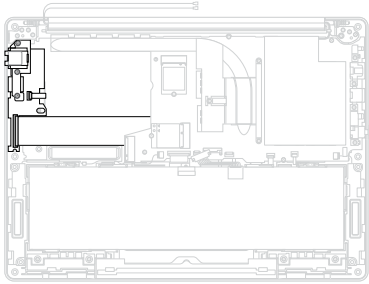


Installation

1. Install the heat sink, then secure the heat sink screw(s) one by one in the sequence shown in the illustration below.
2. Install the components you removed in the *Before you begin* section.



I/O board



Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.

Screw list

14” model

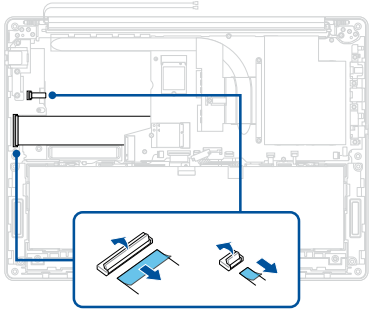
- ⊕ M2.0 X 4.5L (3pcs)

16” model

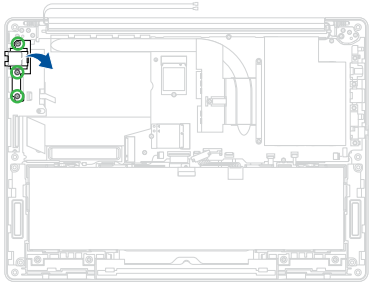
- ⊕ M2.0 X 4.5L (4pcs)

Removal

1. Disconnect the cable(s).

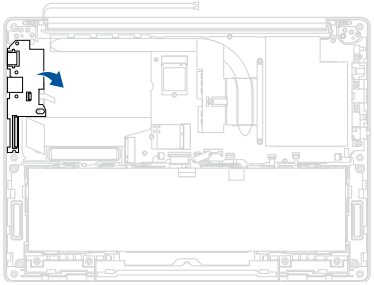


2. Remove the screw(s), then remove the LAN port bracket.

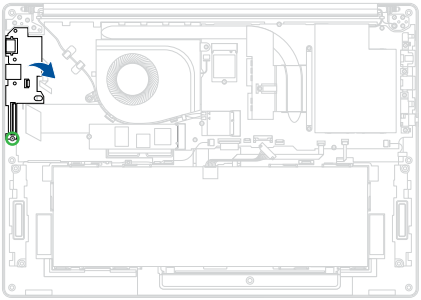


3. Remove the screw (on selected models).
4. Remove the I/O board.

14” model



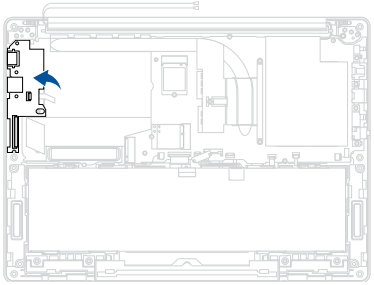
16” model



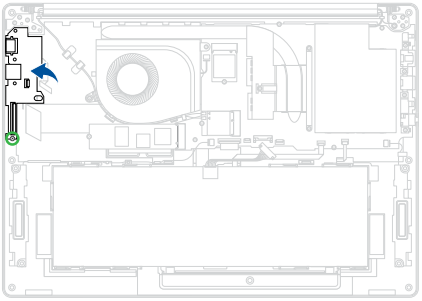
Installation

1. Install the I/O board.
2. Secure the I/O board using the screw you removed earlier (on selected models).

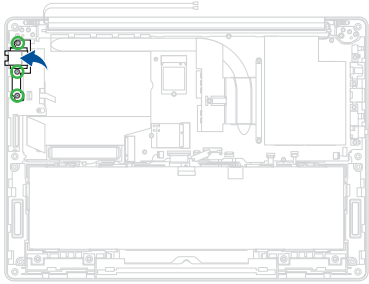
14” model



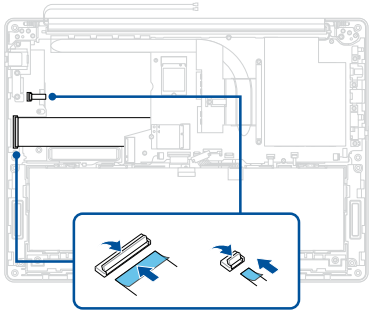
16” model



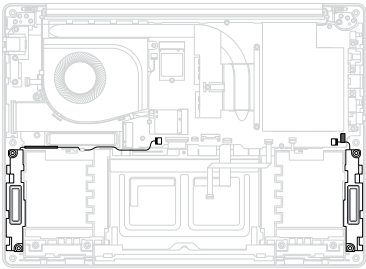
3. Install the LAN port bracket, then secure the LAN port bracket using the screw(s) you removed earlier.



4. Reconnect the cable(s).
5. Install the components you removed in the *Before you begin* section.



Speakers



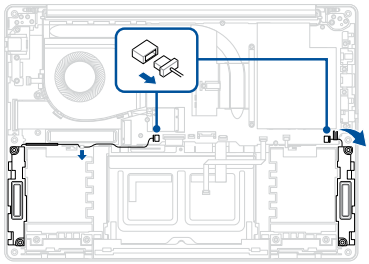
Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.
3. Remove the following components:
    - Battery

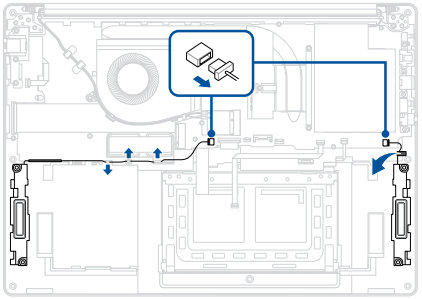
Removal

1. Disconnect the cable(s).
2. Remove the tape.
3. Remove the cable(s) from the cable guide(s).
4. Remove the speakers.

14” model



16” model



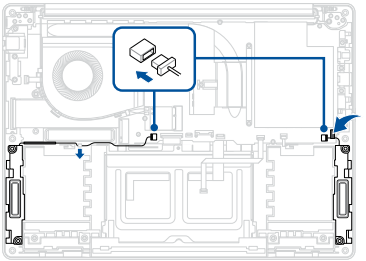
Installation

1. Install the speakers.
2. Reconnect the cable(s).
3. Route the cable through the cable guide(s).

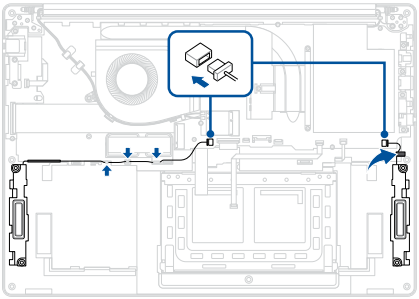
IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

4. Attach the tape.
5. Install the components you removed in the *Before you begin* section.

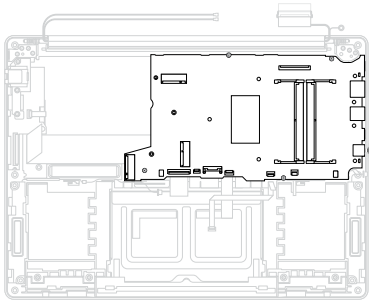
14” model



16” model



Motherboard



Before you begin

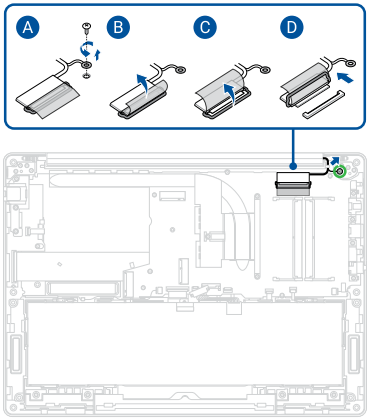
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.
3. Remove the following components:
   - Battery
   - M.2 SSD module
   - WLAN module
   - RAM module
   - Fan module

Screw list

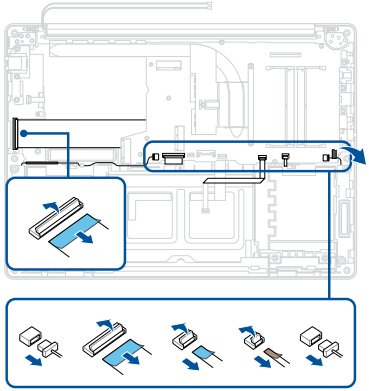
- M2.5 X 4.5L (1pc)
- M2.0 X 4.5L (4pcs)
- M2.0 X 2.5L (7pcs)

Removal

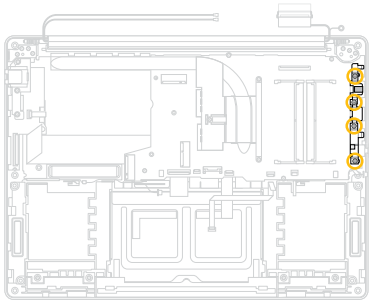
1. Remove the tape, then remove the screw and disconnect the cable.



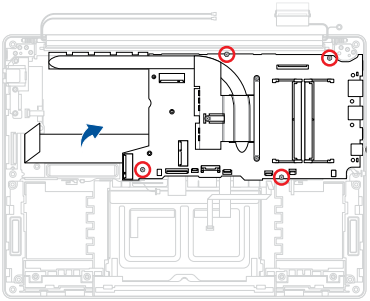
2. Remove the tape, then disconnect the cable(s).



3. Remove the screw(s), then remove the I/O port bracket.

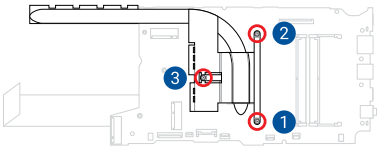


4. Remove the screw(s), then remove the motherboard.

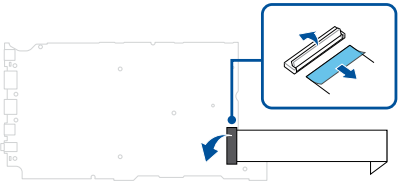


5. Remove the screw(s) one by one in the sequence shown in the illustration below, then remove the heat sink.

NOTE: The following steps are only required when you are replacing the existing component with a new one.

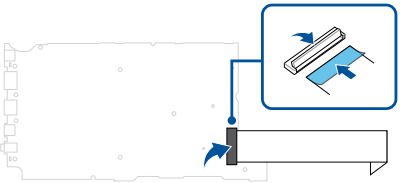


6. Remove the tape and disconnect the cable from the rear side of the motherboard.

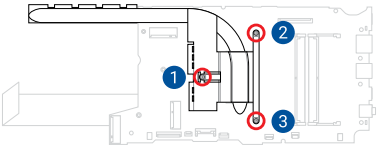


Installation

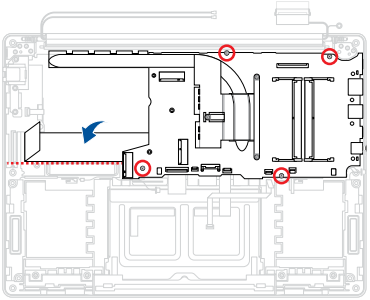
1. Reconnect the cable to the rear side of the motherboard, then attach the tape.



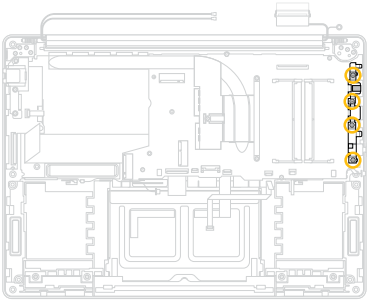
2. Install the heat sink onto the front side of the motherboard, then secure the heat sink screw(s) one by one in the sequence shown in the illustration below.



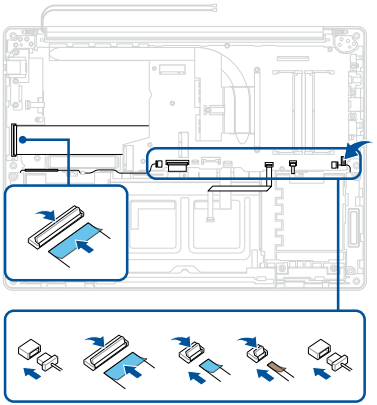
3. Install the motherboard, then secure the motherboard using the screw(s) you removed earlier.



4. Install the I/O port bracket, then secure the I/O port bracket using the screw(s) you removed earlier.



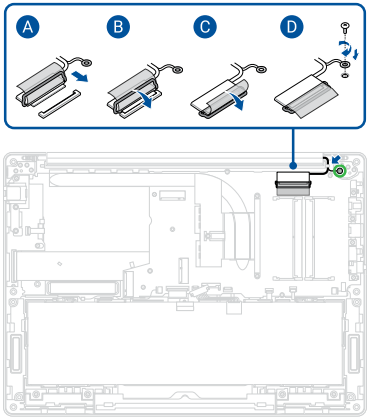
5. Reconnect the cable(s), then attach the tape.



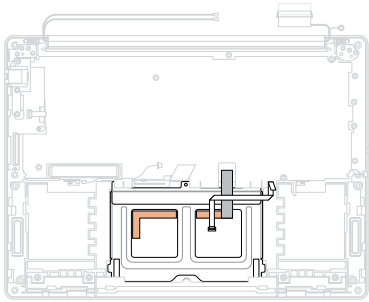
6. Route the cable through the cable guide(s).

IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

7. Reconnect the cable and secure the cable using the screw you removed earlier, then attach the tape.
8. Install the components you removed in the *Before you begin* section.



Touchpad



Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.
3. Remove the following components:
   - Battery
   - M.2 SSD module
   - WLAN module
   - RAM module
   - Fan module
   - Motherboard

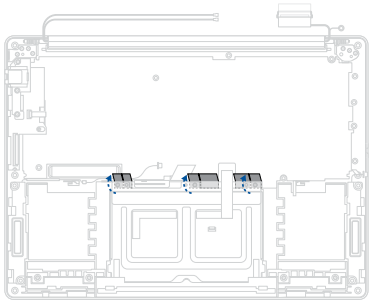
Screw list

- ⊕ M2.0 X 2.5L (3pcs)

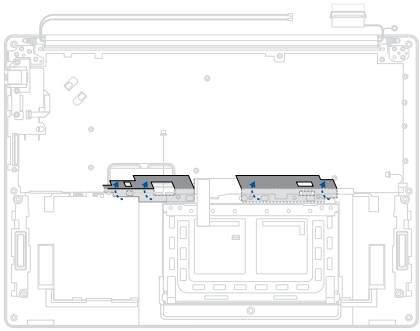
Removal

1. Partially peel off the polyester film.

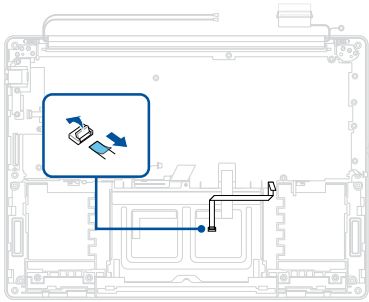
14” model



16” model

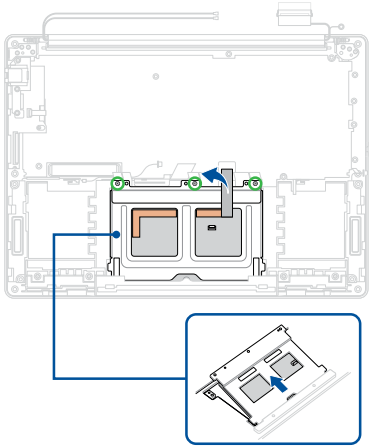


2. Disconnect the cable.

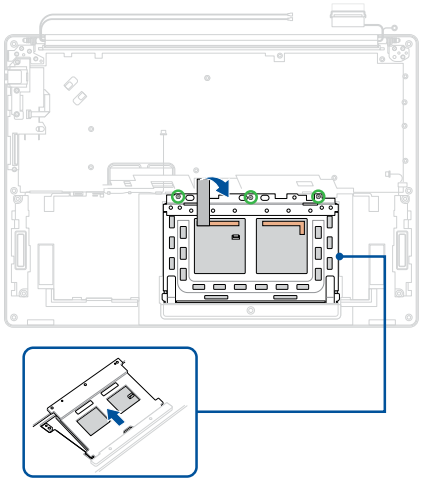


3. Remove the tape.
4. Remove the screw(s), then remove the touchpad.

14” model



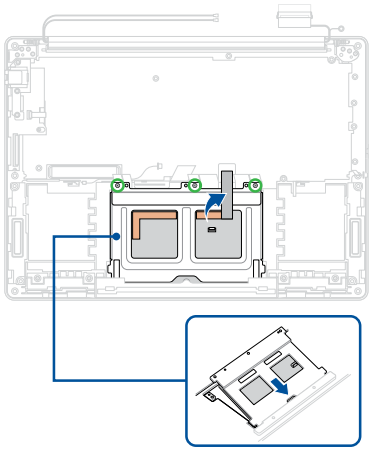
16” model



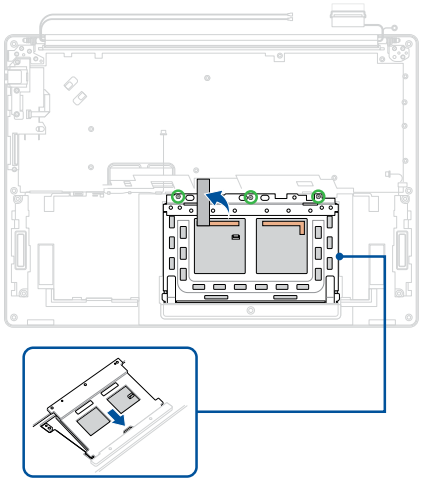
Installation

1. Install the touchpad, then secure the touchpad using the screw(s) you removed earlier.
2. Attach the tape.

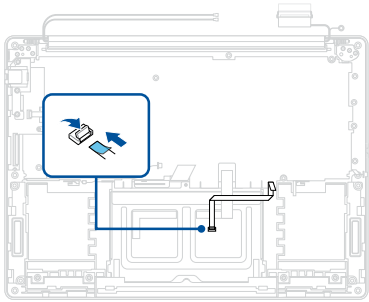
14” model



16” model

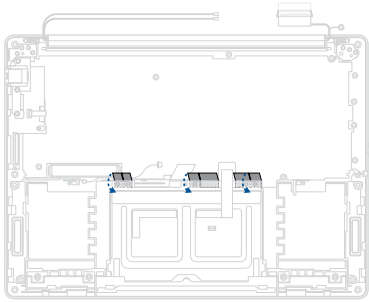


3. Reconnect the cable.

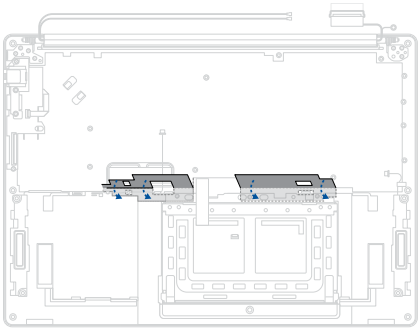


4. Attach the polyester film.
5. Install the components you removed in the *Before you begin* section.

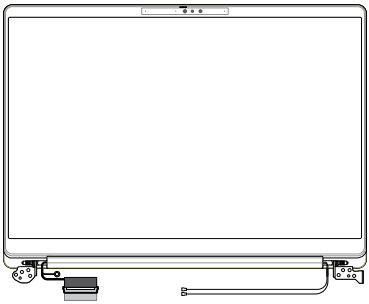
14” model



16” model



Display panel module



Before you begin

IMPORTANT! Do not bend the display panel in any way to avoid risk of display panel leakage.

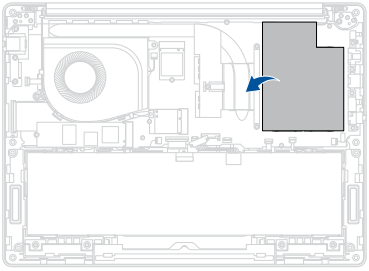
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.
3. Remove the following components:
   - WLAN module

Screw list

- ⊕ M2.5 X 4.5L (8pcs)

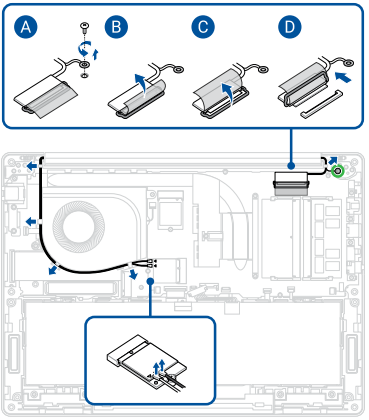
Removal

1. Remove the polyester film.

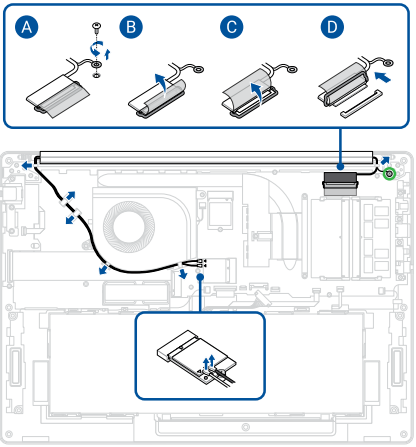


2. Remove the screw and disconnect the cable(s).

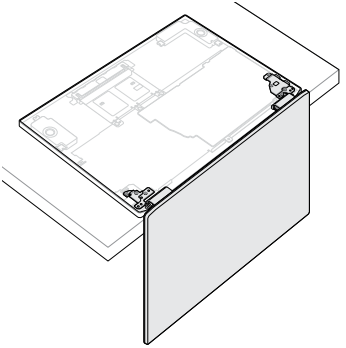
14” model



16” model

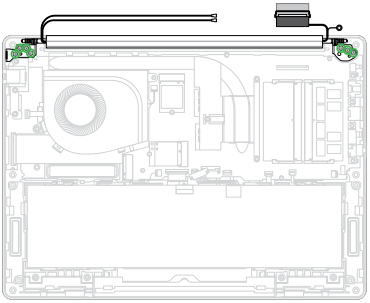


3. Place your device with the display panel hanging over the edge of the workspace as shown in the illustration below.

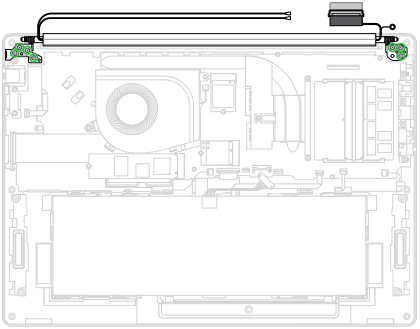


4. Remove the screw(s).

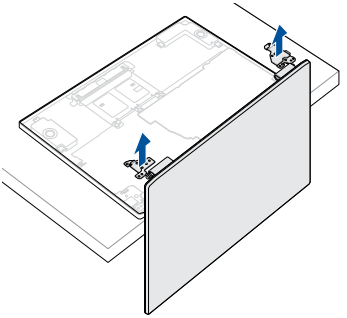
14” model



16” model

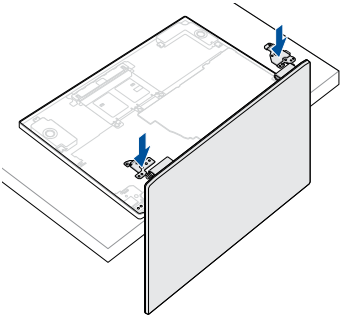


5. Remove the display panel module.



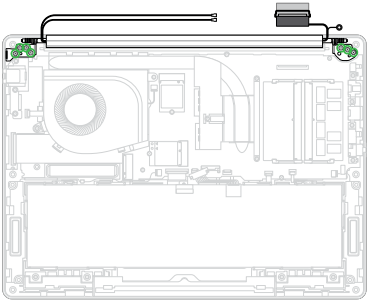
Installation

1. In the orientation shown, align and place the hinges of the display panel module on the screw holes.

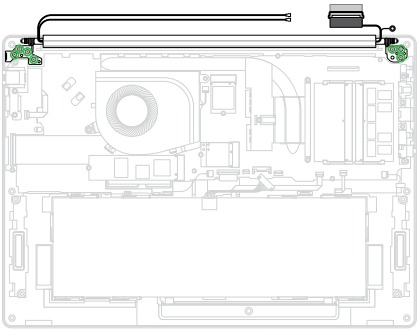


2. Secure the display panel module using the screw(s) you removed earlier.

14” model



16” model

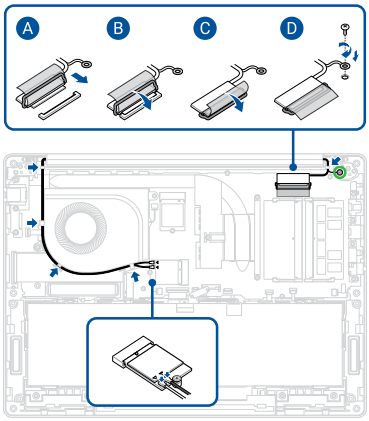


3. Route the cable through the cable guide(s).

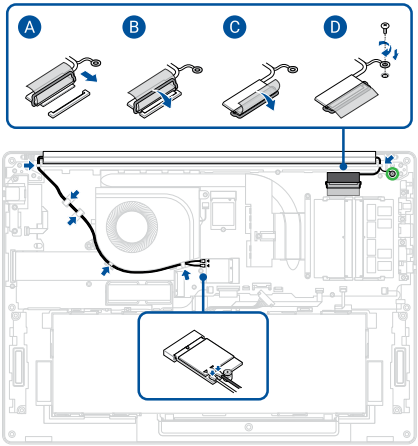
IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

4. Reconnect the cable(s).
5. Secure the cable using the screw you removed earlier.

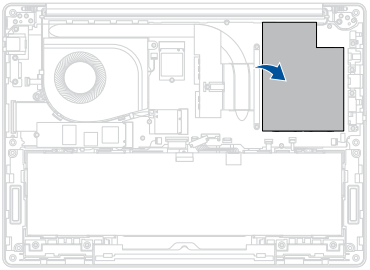
14” model



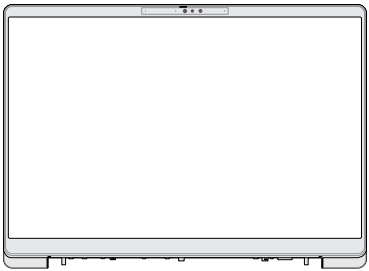
16” model



6. Attach the polyester film.
7. Install the components you removed in the *Before you begin* section.



Display bezel



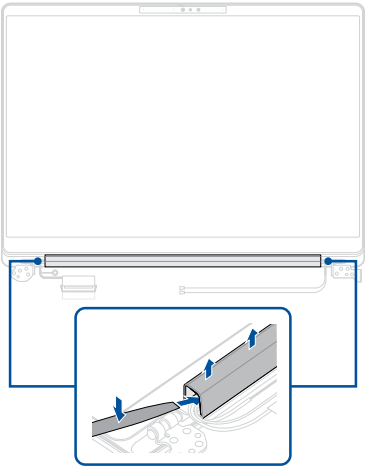
Before you begin

IMPORTANT! This component is fragile. Damage may occur if the service procedure is performed incorrectly. If you are uncertain about proceeding, stop and contact an authorized service center for assistance.

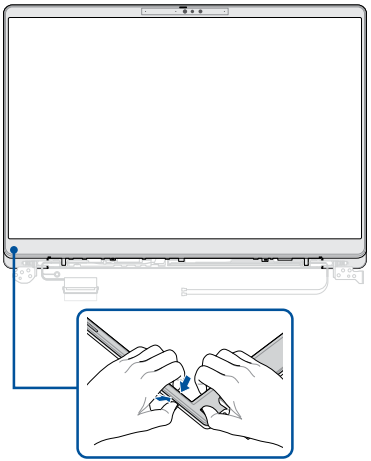
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.
3. Remove the following components:
   - Display panel module

Removal

1. Pry and remove the hinge cap.

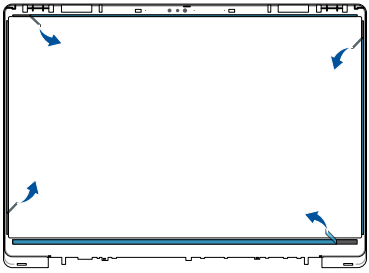


2. Carefully pry the bezel loose, then remove the bezel.

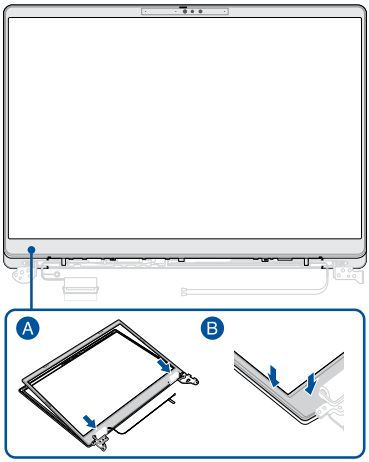


Installation

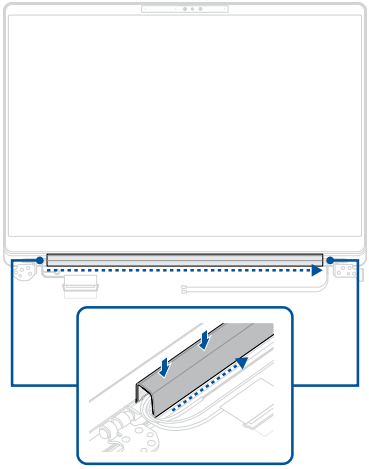
1. Remove the release liners from the tape on the bezel.



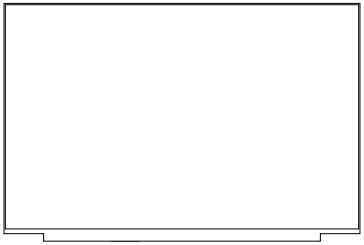
2. Align and install the bezel.



3. Install the hinge cap.
4. Install the components you removed in the *Before you begin* section.



Display panel



Before you begin

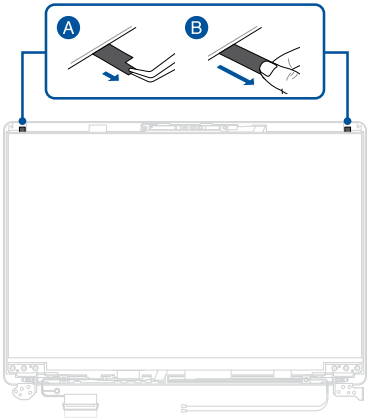
IMPORTANT! Do not bend the display panel in any way to avoid risk of display panel leakage.

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.
3. Remove the following components:
   - Display panel module
   - Display bezel

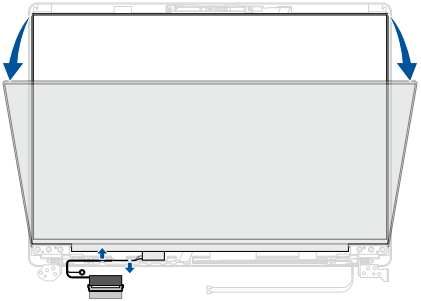
Removal

1. Locate the tip of the stretch release tape, then carefully pull out the stretch release tape as shown in the illustration below.

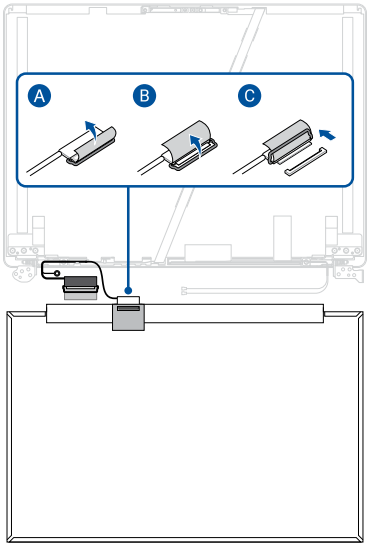
IMPORTANT! Maintain a flat angle and constant speed when pulling the stretch release tape. Excessive force may damage the stretch release tape and prevent removal of the display panel.



2. Remove the cable(s) from the cable guide(s).
3. Lift and flip the display panel over.



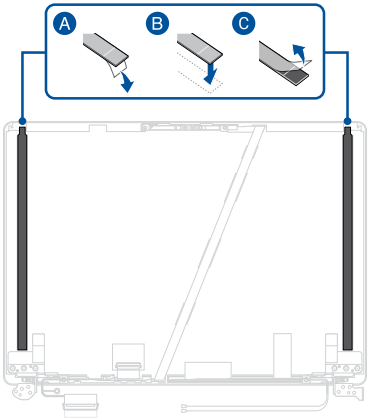
4. Disconnect the cable from the rear side of the display panel.



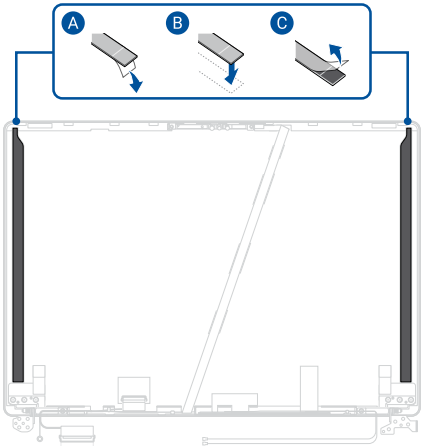
Installation

1. Remove the release liner(s) from the bottom side of the stretch release tape.
2. Align and attach the stretch release tape to the top cover.
3. Remove the release liner(s) from the top side of the stretch release tape.

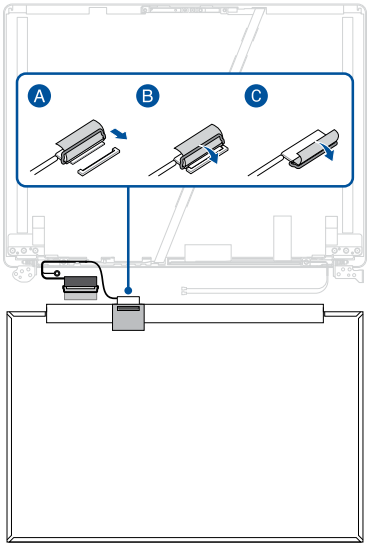
14” model



16” model



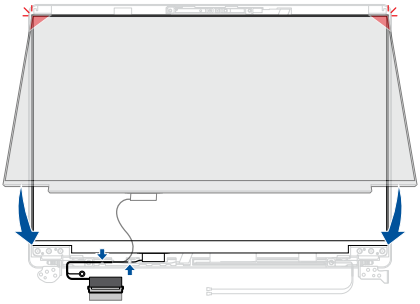
4. Reconnect the cable to the rear side of the display panel.



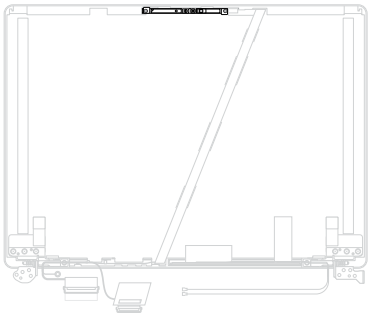
5. Flip the display panel over, then align the display panel with the chassis and gently press down on the display panel.
6. Route the cable through the cable guide(s).

IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

7. Install the components you removed in the *Before you begin* section.



Camera module



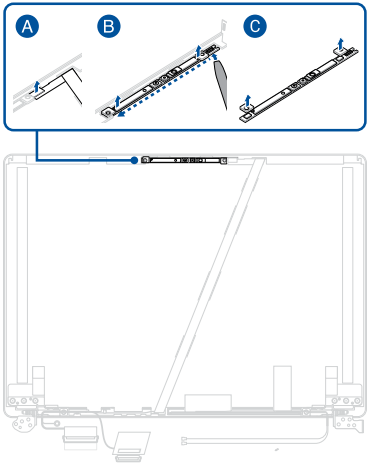
Before you begin

IMPORTANT! This component is fragile. Damage may occur if the service procedure is performed incorrectly. If you are uncertain about proceeding, stop and contact an authorized service center for assistance.

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.
3. Remove the following components:
   - Display panel module
   - Display bezel
   - Display panel

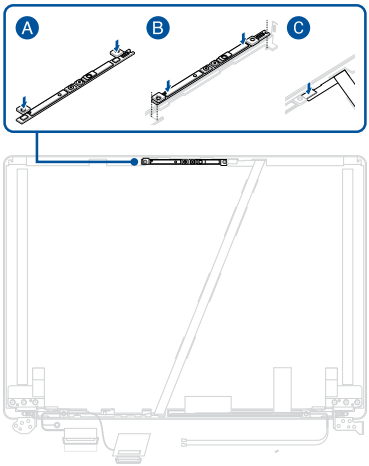
Removal

1. Disconnect the cable.
2. Carefully remove the camera module.
3. Remove the rubber caps from the camera module.

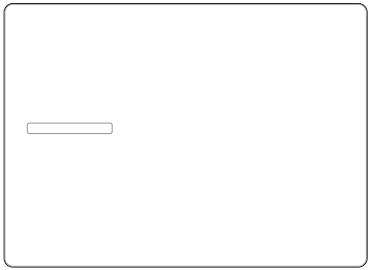


Installation

1. Attach the rubber caps to the camera module.
2. Install the camera module.
3. Reconnect the cable.
4. Install the components you removed in the *Before you begin* section.



Top cover



Before you begin

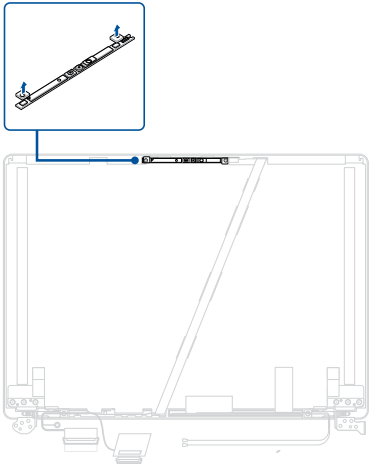
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.
3. Remove the following components:
   - Display panel module
   - Display bezel
   - Display panel

Screw list

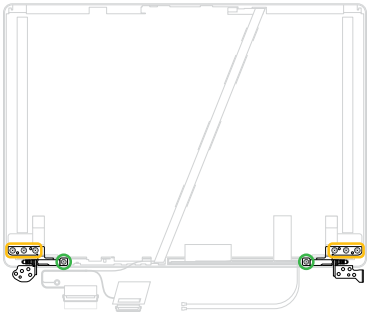
- ⊕ M2.5 X 4.5L (2pcs)
- ⊕ M2.5 X 2.5L (6pcs)

Removal

1. Remove the rubber caps from the camera module.

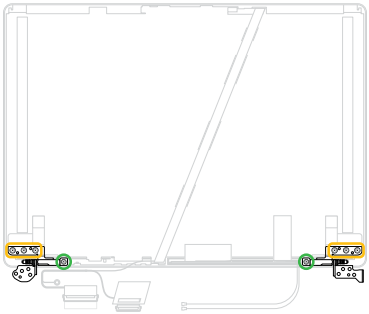


2. Remove the screw(s), then remove the hinges.

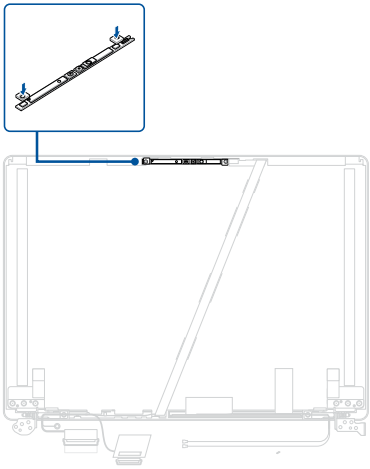


Installation

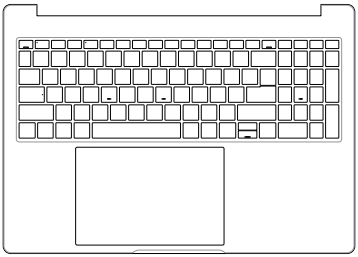
1. Install the hinges, then secure the hinges using the screw(s) you removed earlier.



2. Attach the rubber caps to the camera module.
3. Install the components you removed in the *Before you begin* section.



Keyboard module



Before you begin

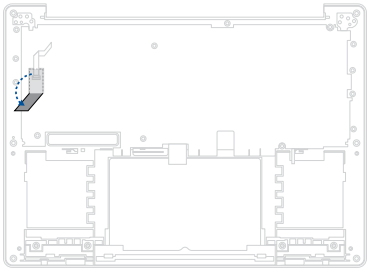
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.
3. Remove the following components:
   - Battery
   - M.2 SSD module
   - WLAN module
   - RAM module
   - Fan module
   - Heat sink
   - I/O board
   - Speakers
   - Motherboard
   - Touchpad
   - Display panel module

Screw list

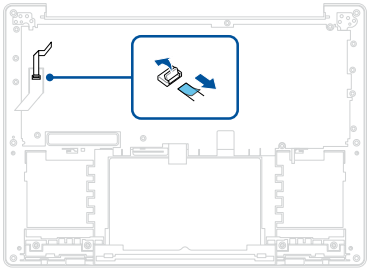
- ⊕ M2.0 X 4.5L (4-5pcs)

Removal

1. Partially peel off the polyester film.

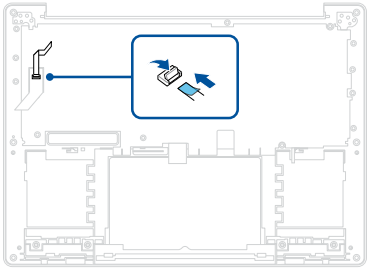


2. Disconnect the cable.

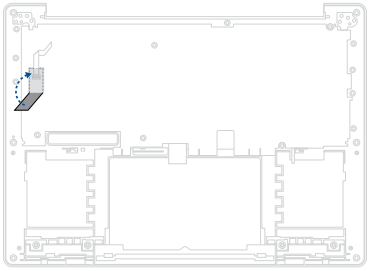


Installation

1. Reconnect the cable.



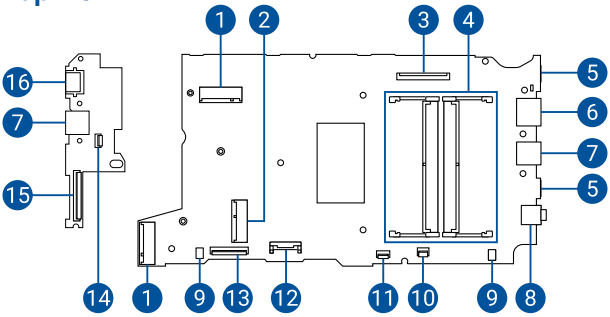
2. Attach the polyester film.
3. Install the components you removed in the *Before you begin* section.



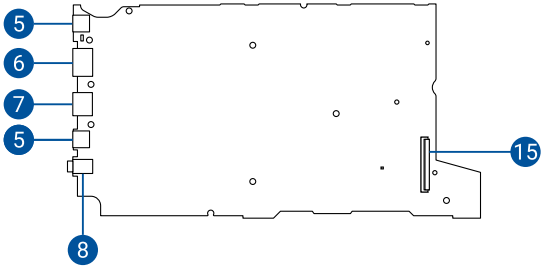
Appendix

Wiring and connection diagrams

Top view



Bottom view



1. M.2 SSD connector
2. WLAN module connector
3. eDP connector
4. RAM module slot
5. USB Type-C® connector
6. HDMI connector
7. USB Type-A connector
8. Audio connector
9. Speaker connector
10. Keyboard backlight connector
11. Touchpad connector
12. Battery connector
13. Keyboard connector
14. Fingerprint sensor connector
15. I/O board connector
16. LAN connector