E24179
First Edition / May 2025

ROG STRIX

GAMING NOTEBOOK PC

SERVICE MANUAL

MORE INFO:

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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



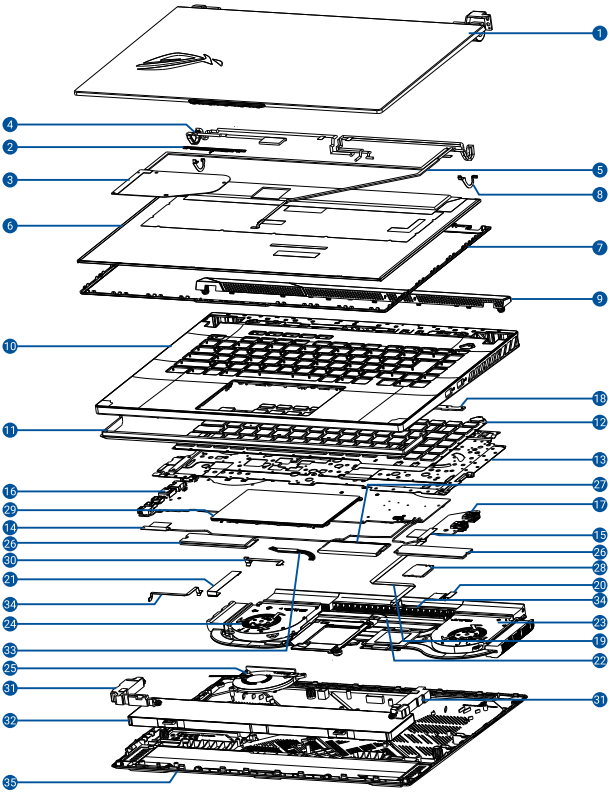
Tweezers

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

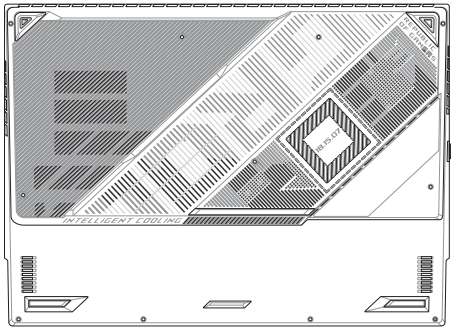


1. Top cover
2. Camera module
3. Logo backlight module*
4. eDP cable
5. Camera cable
6. Display panel
7. Display bezel
8. Hinge cap
9. Hinge cover
10. Keyboard frame
11. U-lens module
12. Keyboard module
13. Keyboard shielding
14. Antenna (right)
15. Antenna (left)
16. Motherboard
17. I/O board
18. Indicator board
19. Indicator board cable
20. I/O board cable
21. Keyboard backlight cable
22. Heat sink
23. CPU fan
24. GPU fan
25. VRAM fan
26. M.2 SSD module
27. RAM module
28. WLAN module
29. Touchpad module
30. Touchpad cable
31. Woofer speakers
32. Battery
33. Battery cable
34. U-light bar cable
35. Bottom cover

** On selected models*

Chapter 2: Service Procedures

Bottom cover



Before you begin

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

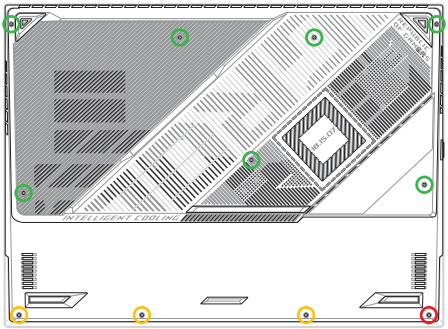
Screw list

- M2.5 X 15L (7pcs)
- M2.5 X 10L (3pcs)
- M2.5 X 10L (1pc Pop-open Screw)

Removal

IMPORTANT! 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.

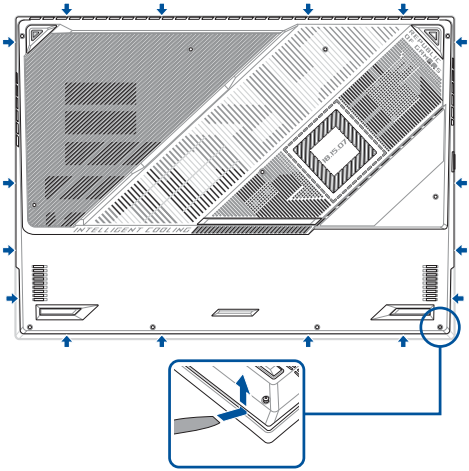
1. Remove the screw(s) from the bottom cover.
2. Loosen the Pop-open Screw without removing the screw from the cover.



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

4. Remove the bottom cover.

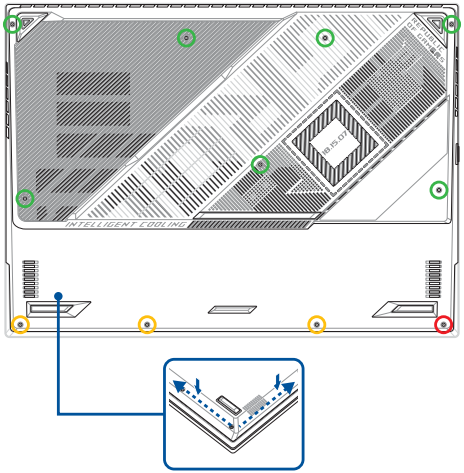
IMPORTANT! Avoid sliding the plastic blade along the side of your device or air vents to prevent damage.



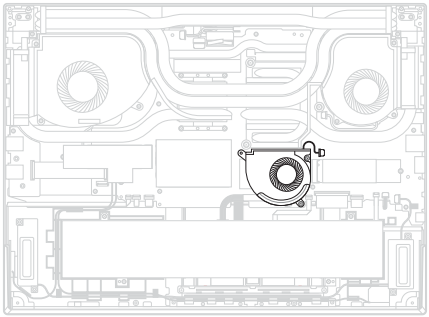
Installation

IMPORTANT! 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.

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.
4. Tighten the Pop-open Screw.



VRAM fan module



Before you begin

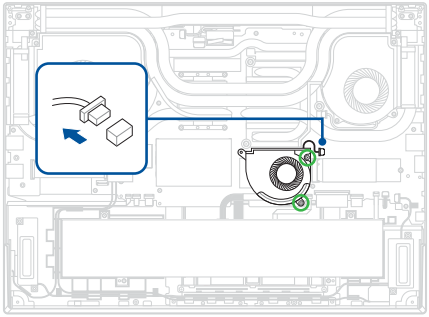
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.

Screw list

- M2.5 X 4.5L (2pcs)

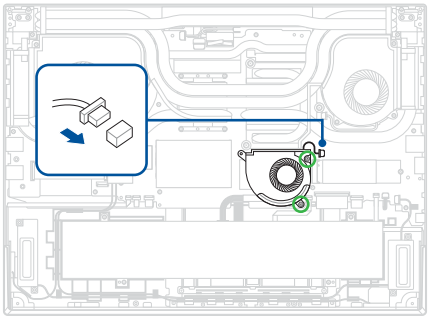
Removal

1. Remove the screw(s).
2. Disconnect the fan connector.
3. Remove the fan.

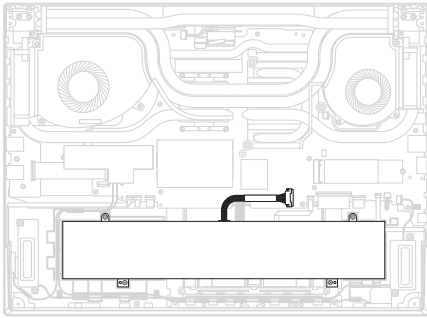


Installation

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



Battery



Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.
3. Remove the following components:
    - VRAM fan module

Screw list

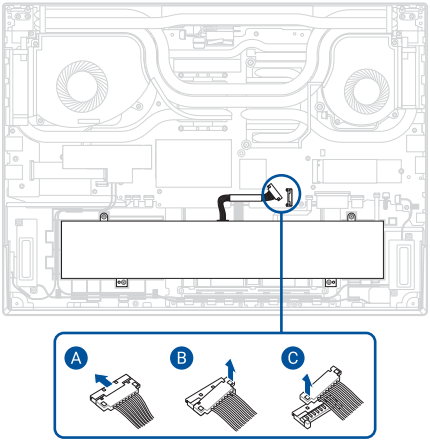
- M2.0 X 3.5L (4pcs)

Removal

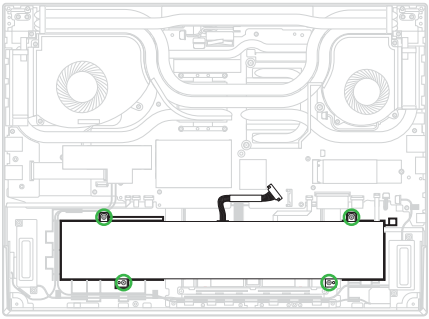
1. Disconnect the battery power cable.

IMPORTANT!

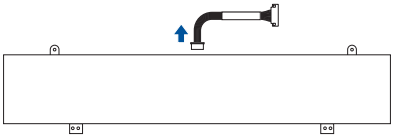
- Disconnect the battery power cable by lifting the side with the red wires first.
- Serious risk of fire or explosion may occur if the battery is punctured. If you are uncertain about proceeding, stop and contact an authorized service center for assistance.



2. Remove the screw(s) from the battery.
3. Remove the battery.

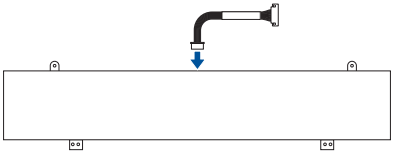


4. Remove the battery power cable.

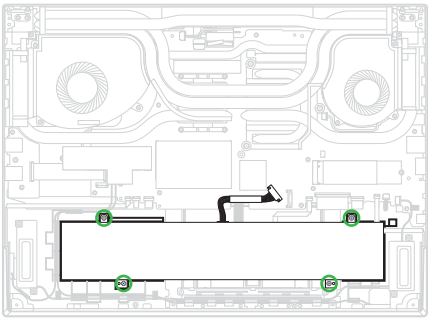


Installation

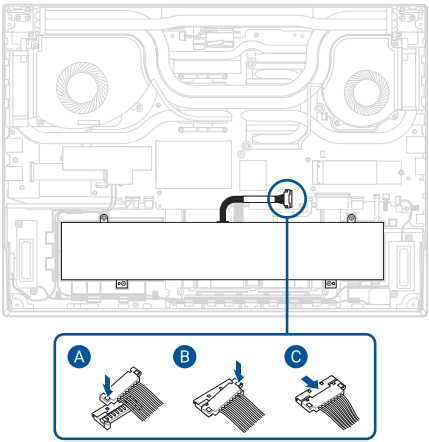
1. Connect the battery power cable to the battery.



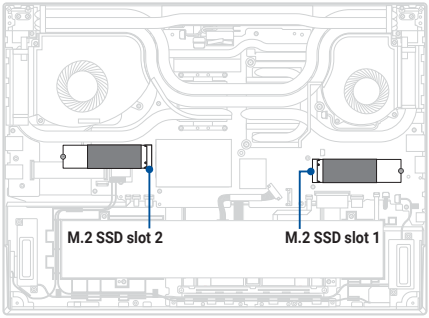
2. Install the battery.
3. Secure the battery using the screw(s) you removed earlier.



4. Reconnect the battery power cable.
5. Install the components you removed in the *Before you begin* section.



M.2 SSD module



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.

NOTE: The M.2 SSD slot 1 supports PCIe 5.0. Ensure your PCIe 5.0 M.2 SSD is installed in M.2 SSD slot 1 for optimal performance.

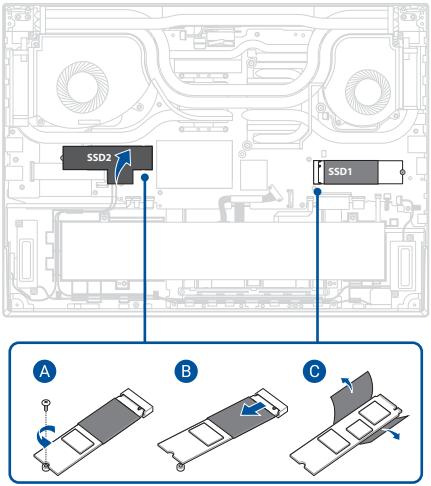
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.
3. Remove the following components:
   - VRAM fan module
   - Battery

Screw list

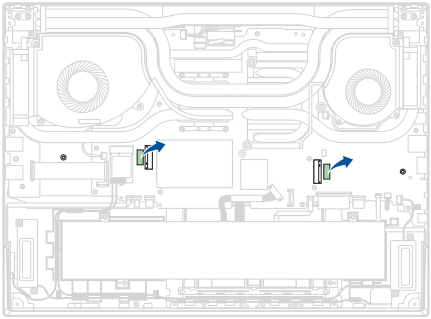
- M2.0 X 2.5L (2pcs)

Removal

1. Remove the polyester film on top of the M.2 SSD module (SSD2).
2. Remove the screw(s), then remove the M.2 SSD module(s) from the motherboard.
3. Remove the polyester film on the M.2 SSD module(s).

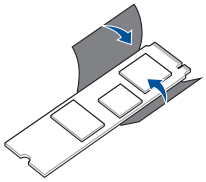


4. Remove the thermal pad(s) from the motherboard.

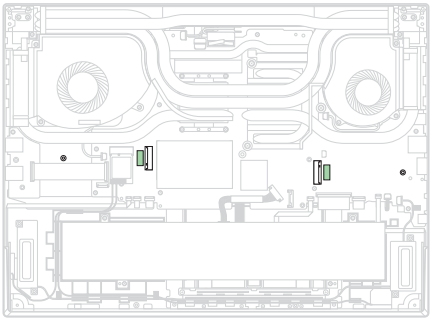


Installation

1. Remove the release liner(s) from the polyester film, then fold the polyester film around the M.2 SSD module(s) as shown in the illustration below.



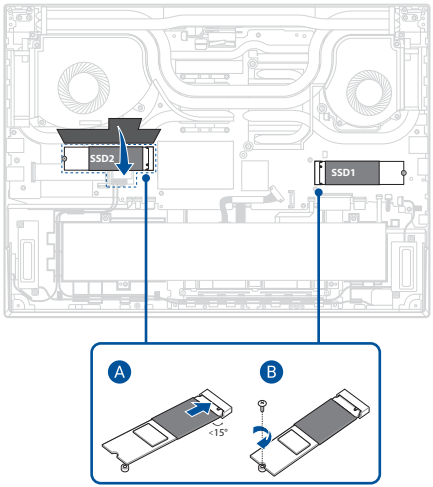
2. Install the thermal pad(s) on the motherboard.



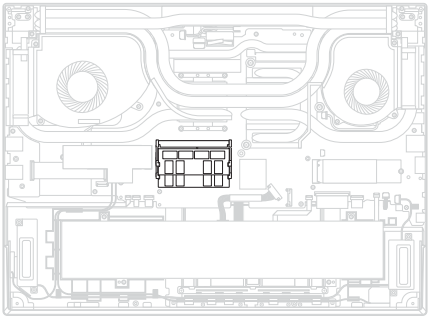
3. Align and insert the M.2 SSD module(s) into the M.2 connector(s) on the motherboard, then secure the M.2 SSD module(s) using the screw(s) you removed earlier.

4. Attach the polyester film on top of the M.2 SSD module (SSD2).

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



RAM module

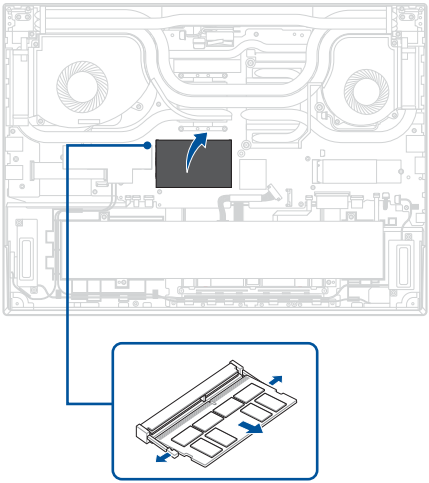


Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.
3. Remove the following components:
    - VRAM fan module
    - Battery

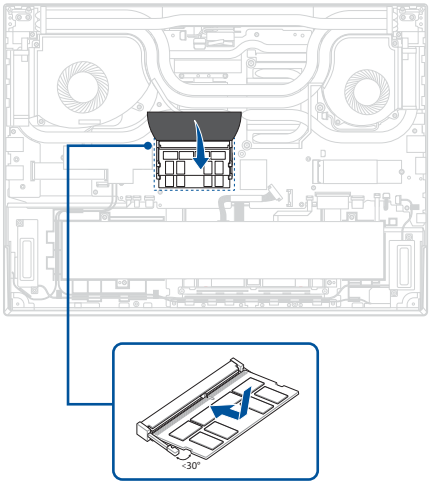
Removal

1. Remove the absorber sheet.
2. Push the clips outwards to remove the RAM module.

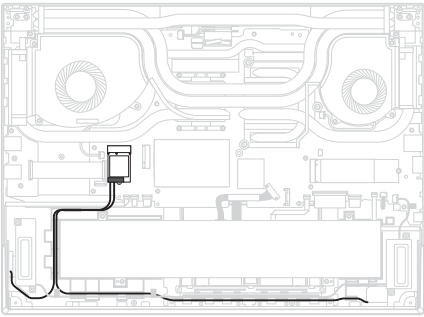


Installation

1. Align and insert the RAM module into the RAM module slot.
2. Reattach the absorber sheet.
3. Install the components you removed in the *Before you begin* section.



WLAN module



Before you begin

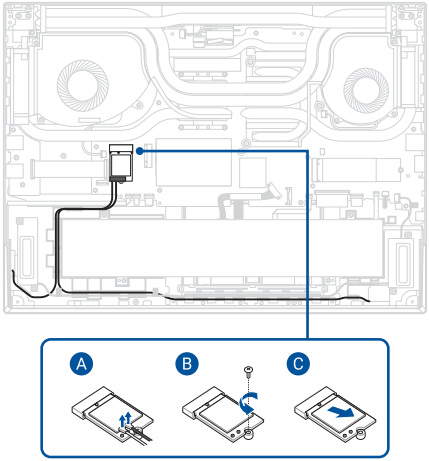
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.
3. Remove the following components:
   - VRAM fan module
   - Battery
   - M.2 SSD module

Screw list

● ⊕ M2.0 X 2.5L (1pc)

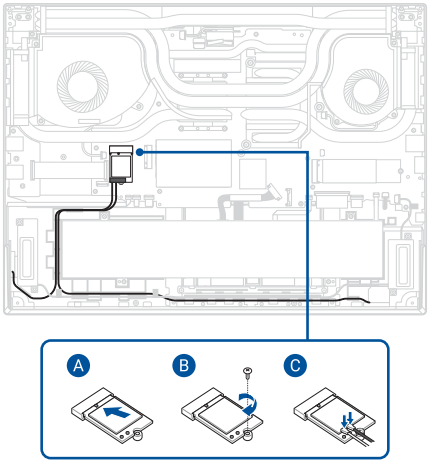
Removal

Disconnect the antenna cable(s), then remove the screw and remove the WLAN module.

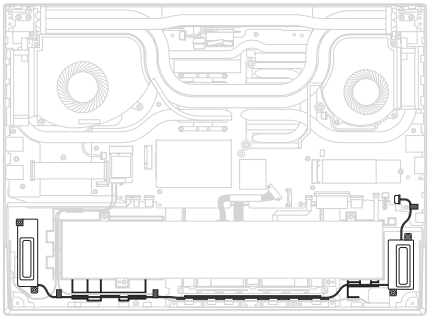


Installation

1. Install the WLAN module, then secure the WLAN module using the screw you removed earlier and reconnect the antenna cable(s).
2. Install the components you removed in the *Before you begin* section.



Woofer speakers

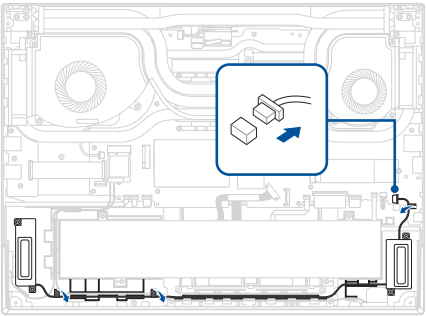


Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.
3. Remove the following components:
    - VRAM fan module
    - Battery

Removal

1. Disconnect the woofer speaker connector.
2. Remove the tape, then remove the woofer speaker cable from the cable guides.
3. Remove the woofer speakers.

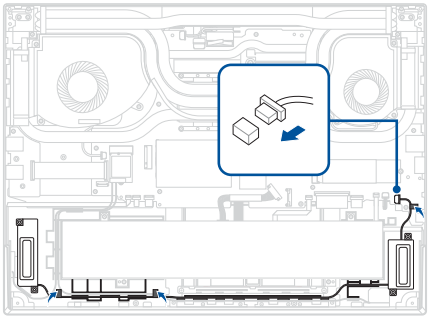


Installation

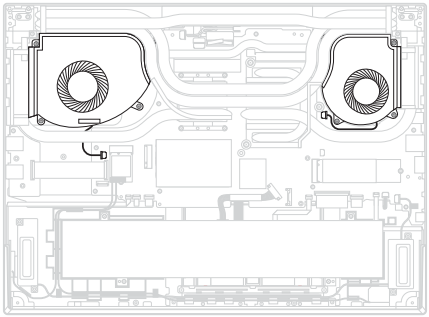
1. Install the woofer speakers.
2. Route the woofer speaker cable through the cable guides.

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. Reattach the tape.
4. Reconnect the woofer speaker connector.
5. Install the components you removed in the *Before you begin* section.



Fan module (CPU fan and GPU fan)



Before you begin

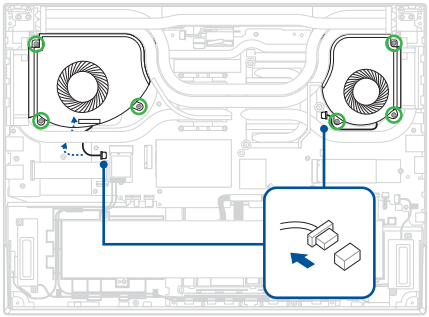
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.
3. Remove the following components:
   - VRAM fan module
   - Battery
   - M.2 SSD module

Screw list

● ⊕ M2.5 X 4.5L (6pcs)

Removal

1. Disconnect the fan connector(s).
2. Remove the screw(s).
3. Tilt the fan(s) upward and remove the fan(s) sideways.

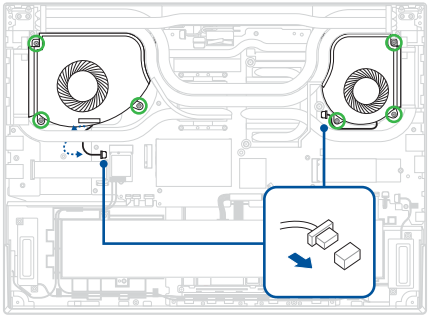


Installation

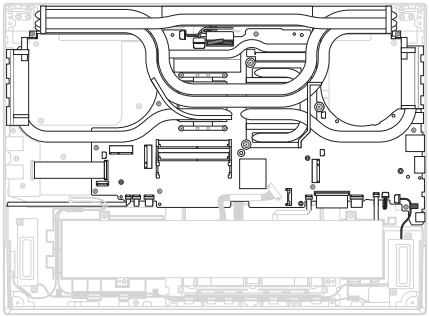
1. Tilt the fan(s) downward and install the fan(s) sideways.

NOTE: Ensure the cable(s) are routed under the heat sink.

2. Secure the fan(s) using the screw(s) you removed earlier.
3. Reconnect the fan connector.
4. Install the components you removed in the *Before you begin* section.



Heat sink and motherboard



Before you begin

WARNING! The heat sink contains liquid metal and should only be removed by authorized service personnel. Significant damage may occur to motherboard components if the heat sink is improperly removed.

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.
3. Remove the following components:

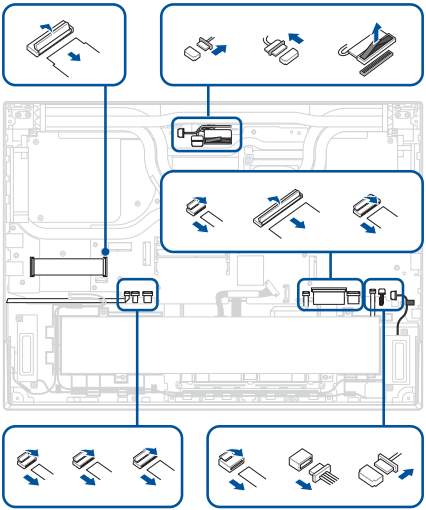
- VRAM fan module
- Battery
- M.2 SSD module
- RAM module
- WLAN module
- Fan module (CPU fan and GPU fan)

Screw list

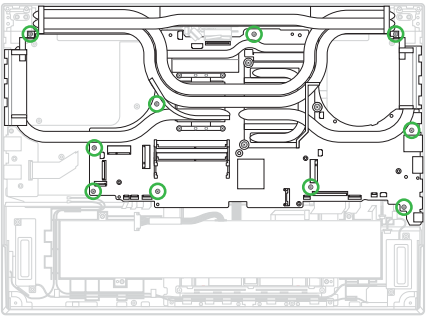
● ⊕ M2.0 X 3.5L (9pcs or 10pcs)

Removal

1. Disconnect the cables (if available) from the motherboard as shown in the illustration below.

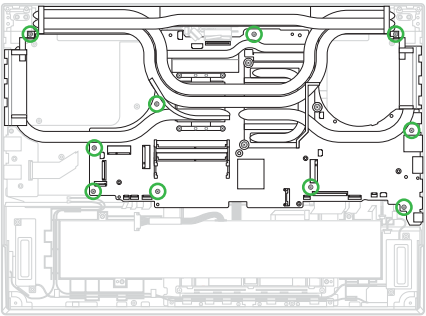


2. Remove the motherboard screw(s), then remove the motherboard with the heat sink installed on top.



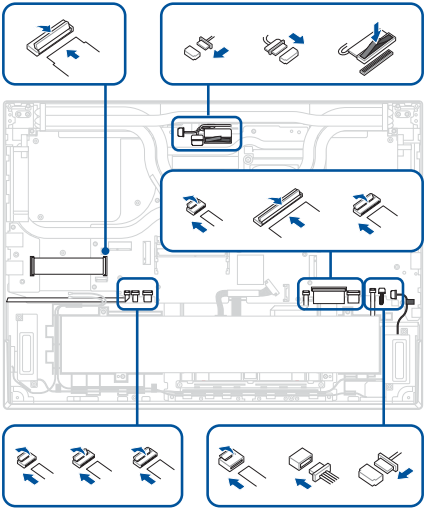
Installation

1. Install the motherboard with the heat sink installed on top, then secure the motherboard screw(s).

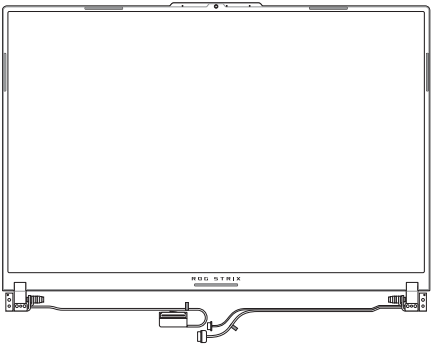


2. Reconnect the cable(s) to the motherboard as shown in the illustration below.

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



Display panel module



Before you begin

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

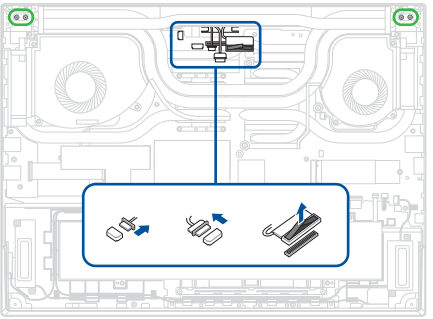
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.
3. Remove the following components:
   - VRAM fan module
   - Battery

Screw list

● ⊕ M2.5 X 4.5L (6pcs)

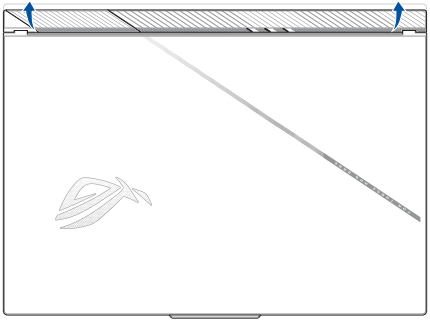
Removal

1. Remove the screw(s) and disconnect the cable(s) from the motherboard as shown in the illustration below.

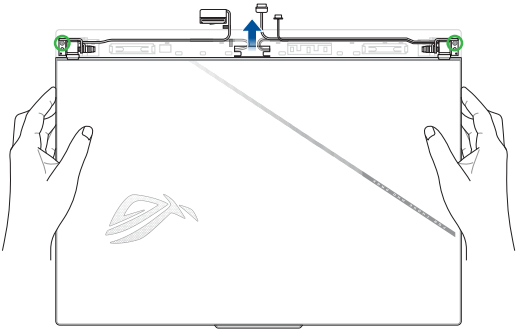


2. Flip the device over, then remove the thermal cover on the top-left corner (if available).

3. Use the plastic blade to pry open the hinge cover, then remove the hinge cover.

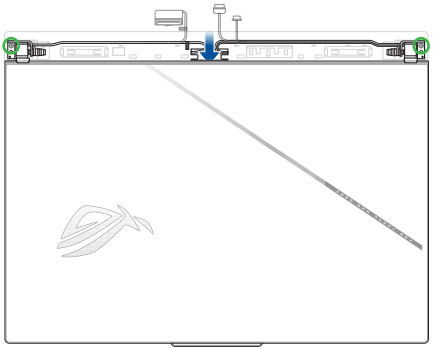


4. Carefully pull out the cable(s) you disconnected earlier through the hole.
5. Remove the screw(s).
6. Grasp the left side and the right side of the display panel module with both hands near the hinges, then lift to remove the display panel module.

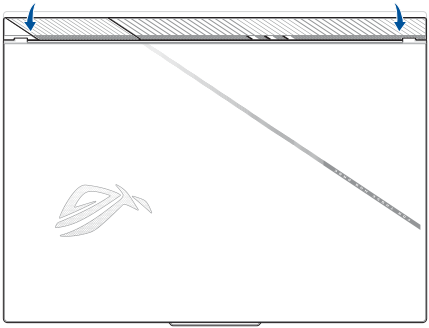


Installation

1. Align and place the display panel module on the top of the device.
2. Secure the hinges using the screw(s) you removed earlier, and carefully route the cable(s) through the hole.

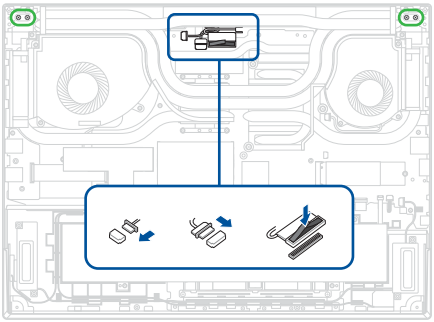


3. Install the hinge cover, then install the thermal cover (if available).

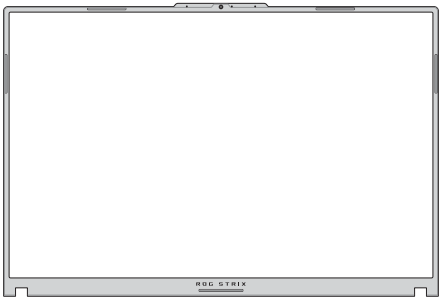


4. Flip over your device, reconnect the cables you routed through the hole in the previous step.

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



Display bezel



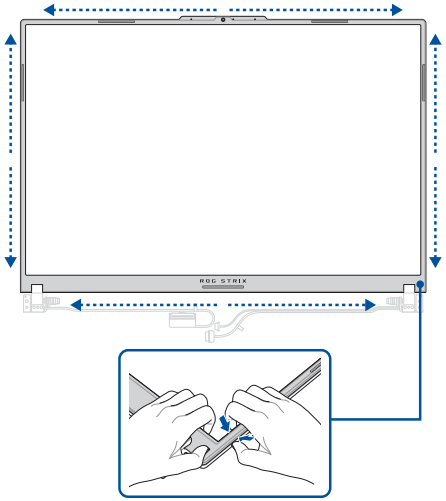
Before you begin

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.
3. Remove the following components:
   - VRAM fan module
   - Battery
   - Display panel module

Removal

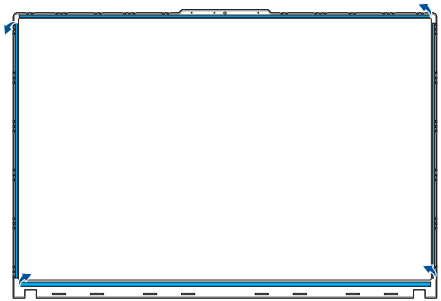
Carefully pry the bezel loose from the bottom right corner, then remove the bezel completely.



Installation

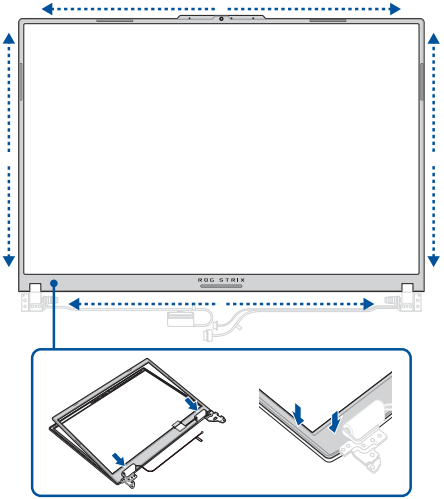
1. Remove the release liner(s) from the tape on the bezel.

NOTE: The tape cannot be reused. Remove any adhesive residue and use new tape when reinstalling components.



2. Align and install the bezel.

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



Display panel



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

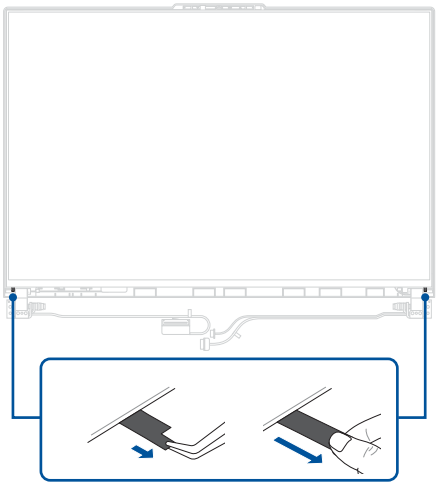
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.
3. Remove the following components:
   - VRAM fan module
   - Battery

- Display panel module
- Display bezel

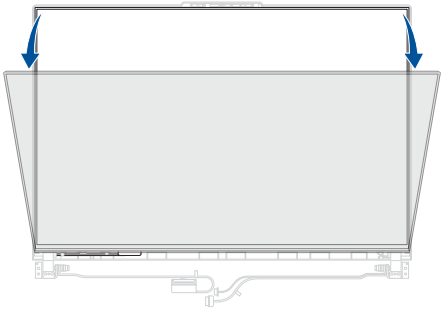
Removal

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

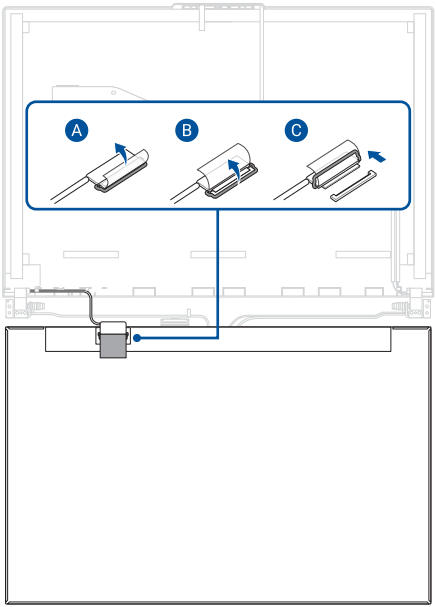
IMPORTANT! Maintain a flat angle and constant speed when pulling the stretch release tape. Excessive force may damage the stretch release tape and prevent removal of the display panel.



2. Lift the display panel as shown in the illustration below.

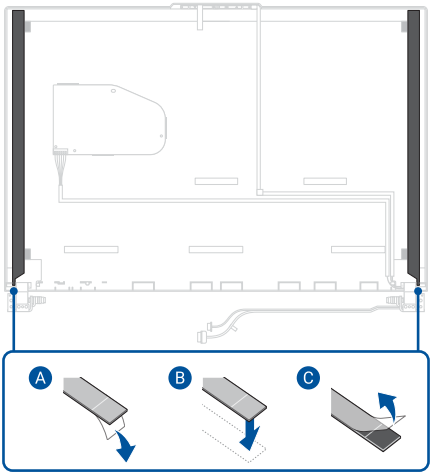


3. Disconnect the cable from the rear side of the display panel.

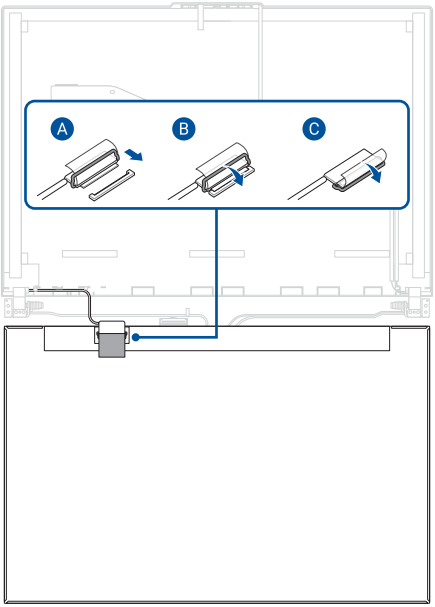


Installation

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.

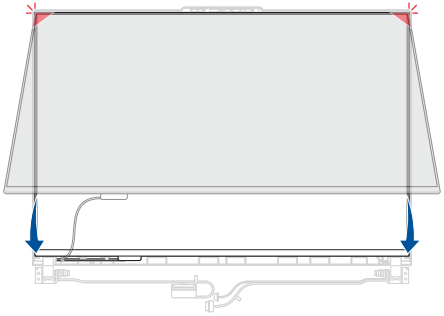


4. Reconnect the cable to the rear side of the display panel.

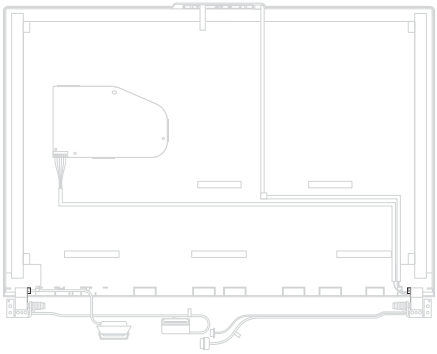


5. Align and install the display panel.

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



Hinge cap plugs

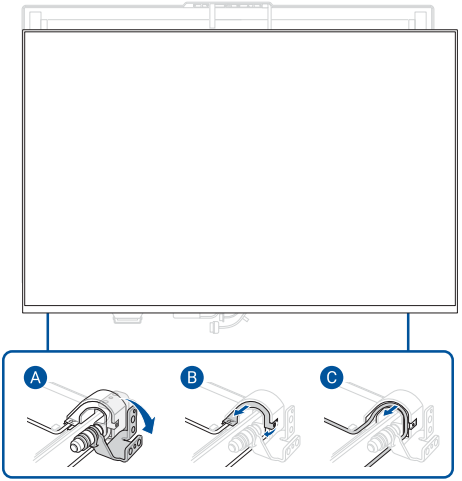


Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.
3. Remove the following components:
    - VRAM fan module
    - Battery
    - Display panel module
    - Display bezel
    - Display panel

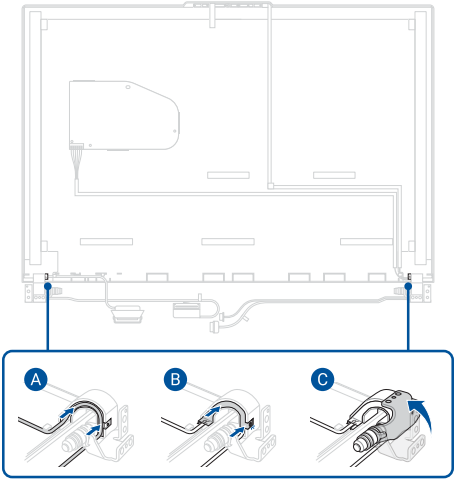
Removal

1. Pull the hinges to reveal the hinge cap plugs as shown in the illustration below, then pry and remove the hinge cap plugs.
2. Remove the cable(s) from the hinge caps.

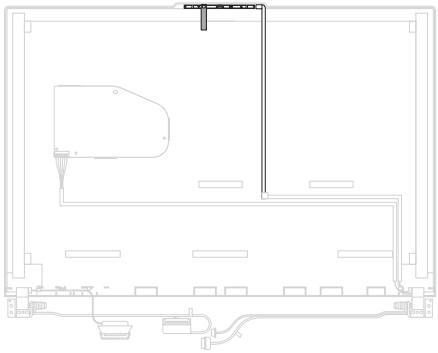


Installation

1. Route the cable(s) back into the hinge caps.
2. Align and install the right hinge cap plug and the left hinge cap plug in place respectively, then push the hinges back.
3. Install the components you removed in the *Before you begin* section.



Camera module



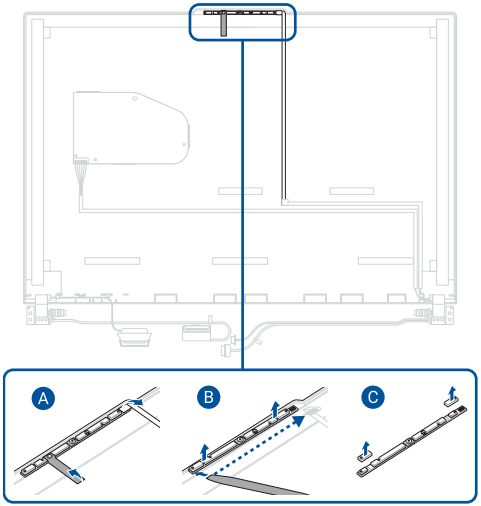
Before you begin

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.
3. Remove the following components:
    - VRAM fan module
    - Battery
    - Display panel module
    - Display bezel
    - Display panel

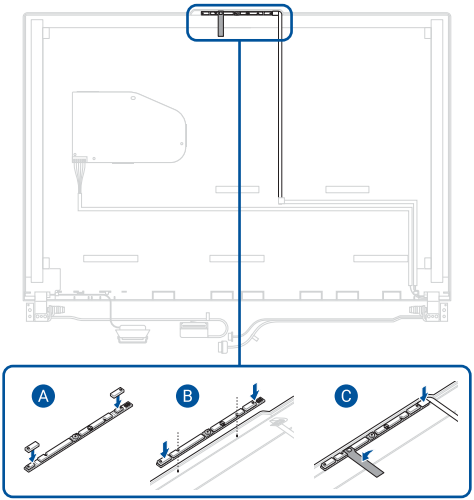
Removal

1. Disconnect the cable from the camera module and remove the tape.
2. Carefully remove the camera module, then remove the rubber caps from the camera module.

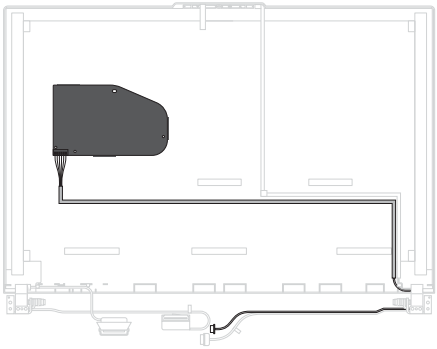


Installation

1. Attach the rubber caps to the camera module, then install the camera module.
2. Reattach the tape, then reconnect the cable to the camera module.
3. Install the components you removed in the *Before you begin* section.



Logo backlight module (on selected models)

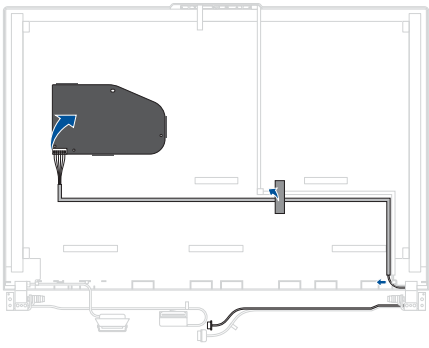


Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.
3. Remove the following components:
    - VRAM fan module
    - Battery
    - Display panel module
    - Display bezel
    - Display panel
    - Display hinge cap plugs

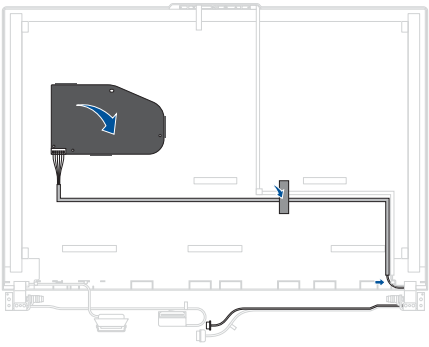
Removal

Remove the tape, then remove the logo backlight module.

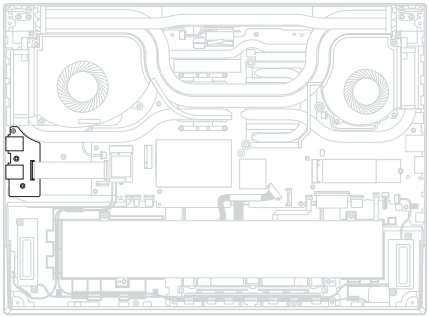


Installation

1. Attach the logo backlight module as shown in the illustration below.
2. Route the cable and reattach the tape.
3. Install the components you removed in the *Before you begin* section.



I/O board



Before you begin

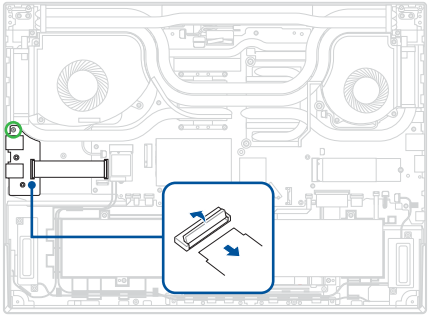
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.
3. Remove the following components:
    - VRAM fan module
    - Battery
    - M.2 SSD module

Screw list

● ⊕ M2.0 X 3.5L (1pc)

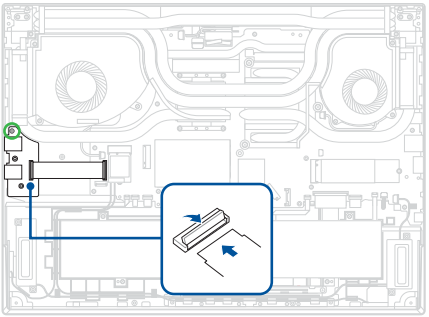
Removal

1. Disconnect the I/O FPC cable from the I/O board.
2. Remove the screw from the I/O board, then remove the I/O board.

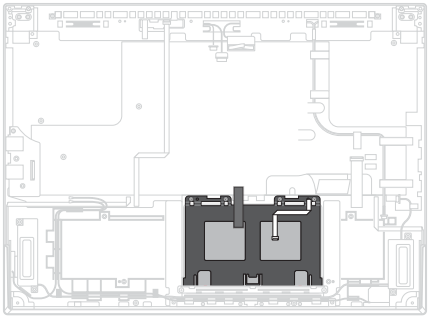


Installation

1. Install the I/O board, then secure the I/O board using the screw you removed earlier.
2. Reconnect the I/O FPC cable to the I/O board.
3. Install the components you removed in the *Before you begin* section.



Touchpad



Before you begin

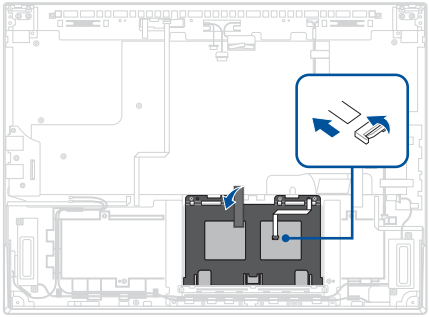
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.
3. Remove the following components:
    - VRAM fan module
    - Battery
    - M.2 SSD module
    - RAM module
    - WLAN module
    - Fan module (CPU fan and GPU fan)
    - Heat sink and motherboard

Screw list

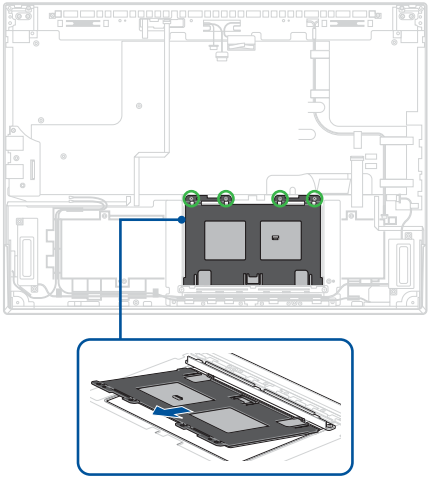
- M2.0 X 2.5L (4pcs)

Removal

1. Disconnect and remove the touchpad FFC cable from the touchpad.
2. Remove the tape.

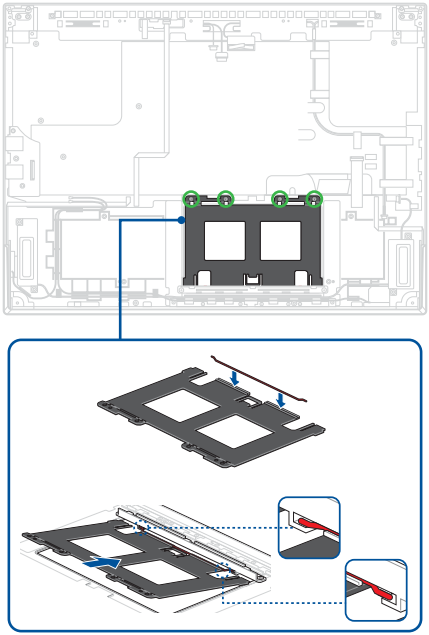


3. Remove the screw(s), then remove the touchpad module.

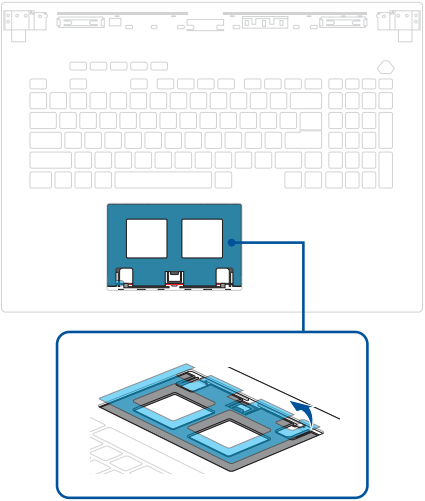


Installation

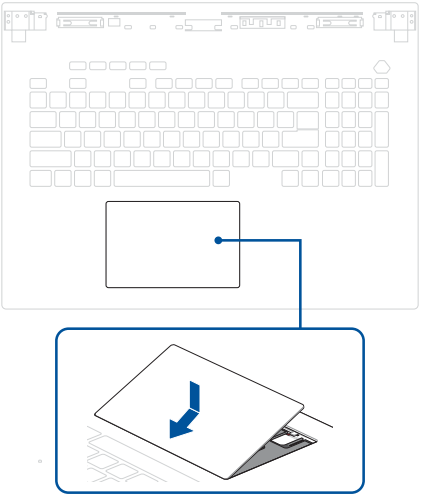
1. Align and install the double hook bar on the bracket as shown in the illustration below.
2. Install the touchpad bracket by making sure both hooks of the double hook bar are properly positioned in the slots, then secure the touchpad bracket using the screw(s) you removed earlier.



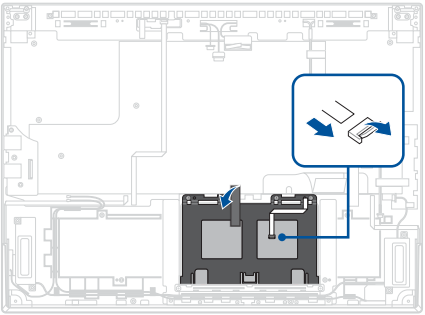
3. Flip the keyboard module over, then remove the release liner from the tape on the touchpad bracket.



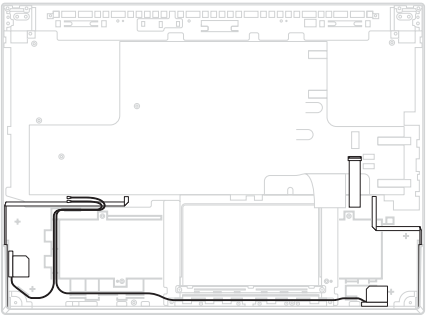
4. Align and install the touchpad.



5. Flip the keyboard module over, then reconnect the cable.
6. Reattach the tape.
7. Install the components you removed in the *Before you begin* section.



Keyboard module



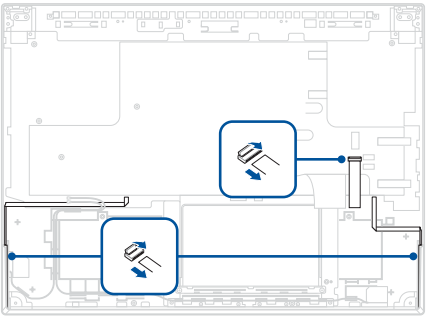
Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover.
3. Remove the following components:
    - VRAM fan module
    - Battery
    - M.2 SSD module
    - RAM module
    - WLAN module
    - Woofer speakers

- Fan module (CPU fan and GPU fan)
- Heat sink and motherboard
- I/O board
- Indicator board

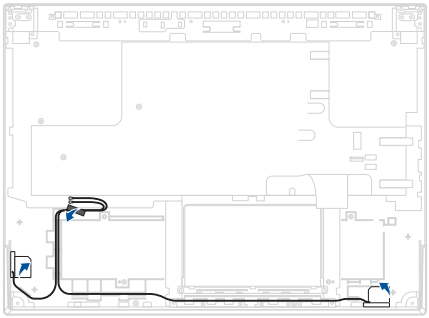
Removal

1. Disconnect and remove the FFC cable(s) as shown in the illustration below.



2. Remove the tape, then remove the antenna cable(s) as shown in the illustration below.

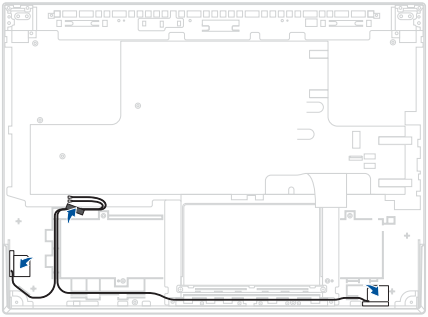
IMPORTANT! The antenna cable(s) cannot be reused once removed.



Installation

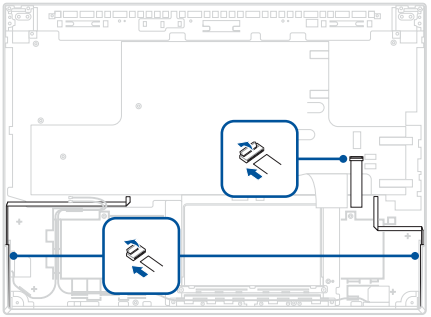
1. Install the antenna cable(s).
2. Route the cable(s) through the cable guide(s) and reattach the tape.

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. Route and reconnect the FFC cable(s) as shown in the illustration below.

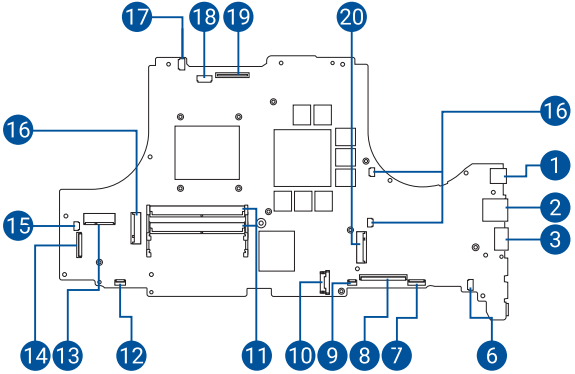
4. Install the components you removed in the *Before you begin* section.



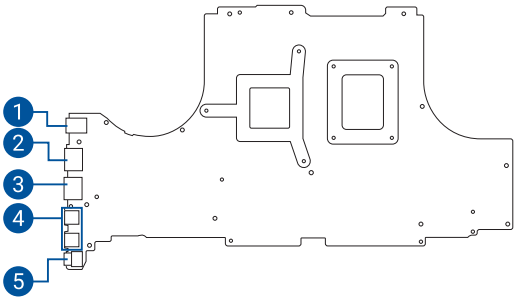
Appendices

Wiring and connection diagrams

Top View



Bottom View



1. Power supply connector
2. LAN connector
3. HDMI connector
4. USB Type-C® connector
5. Audio connector
6. Speaker connector
7. Keyboard backlight connector
8. Keyboard membrane connector
9. Touchpad connector
10. Battery connector
11. RAM module slot
12. Indicator board connector
13. Wi-Fi socket
14. I/O board connector
15. Fan connector
16. Second SSD connector
17. Logo backlight connector*
18. Camera connector
19. LVDS connector
20. Main SSD connector

** On selected models*