

E23234

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IN SEARCH OF INCREDIBLE



Service Manual

ASUS

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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.
-

Installation tools



Screwdriver

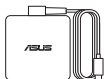


Plastic blade



Tweezers

Accessories



Power adapter

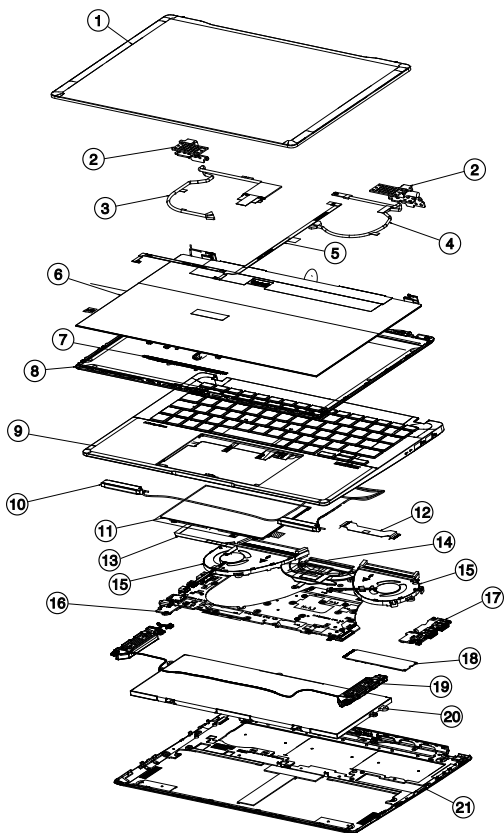
Diagnostic tools

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/.

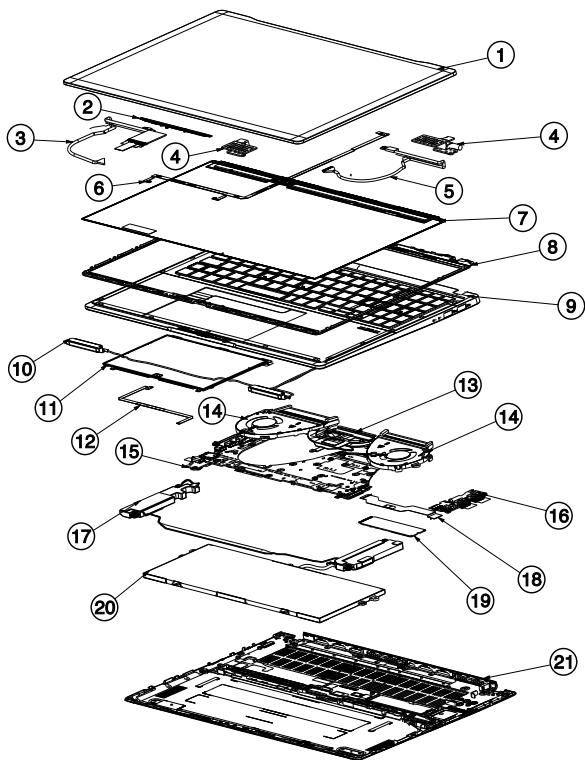
Major components

14" model



1. Top cover
2. Display hinges
3. eDP cable
4. Camera cable
5. Camera FPC cable
6. Display panel
7. Camera module
8. Display bezel
9. Keyboard module
10. Antenna cables
11. Touchpad
12. I/O board FPC cable
13. Touchpad FFC cable
14. Heat sink
15. Fans
16. Motherboard
17. I/O board
18. M.2 SSD module
19. Speakers
20. Battery
21. Bottom cover

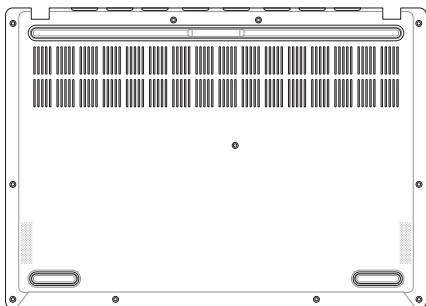
15"/16" model



1. Top cover
2. Camera module
3. eDP cable
4. Display hinges
5. Camera cable
6. Camera FPC cable
7. Display panel
8. Display bezel
9. Keyboard module
10. Antenna cables
11. Touchpad
12. Touchpad FFC cable
13. Heat sink
14. Fans
15. Motherboard
16. I/O board
17. Speakers
18. I/O board FPC cable
19. M.2 SSD module
20. Battery
21. Bottom cover

Chapter 2: ***Service Procedures***

Bottom cover



Before you begin

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

Screw list

14" model

- ⊗ M2.0 X 7.5L (2pcs)
- ⊗ M2.0 X 6.5L (2pcs)
- ⊗ M2.0 X 4.7L (7pcs)

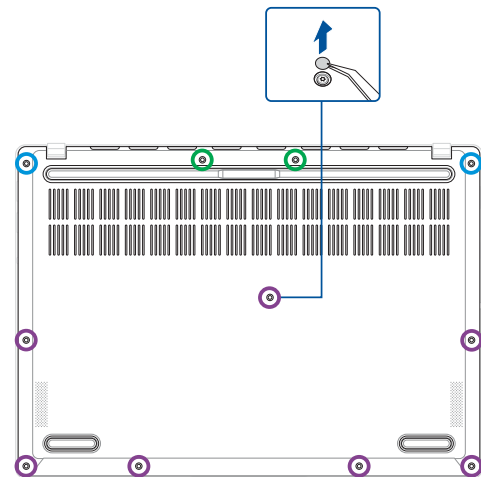
15"/16" model

- ⊗ M2.0 X 6.5L (6pcs)
- ⊗ M2.0 X 4.7L (3pcs)
- ⊗ M2.0 X 3.5L (1pc)

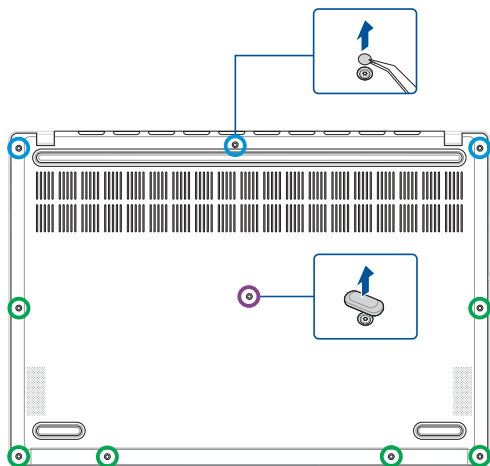
Removal

1. Remove the screw cover(s), then remove the screw(s) from the bottom cover.

14" model



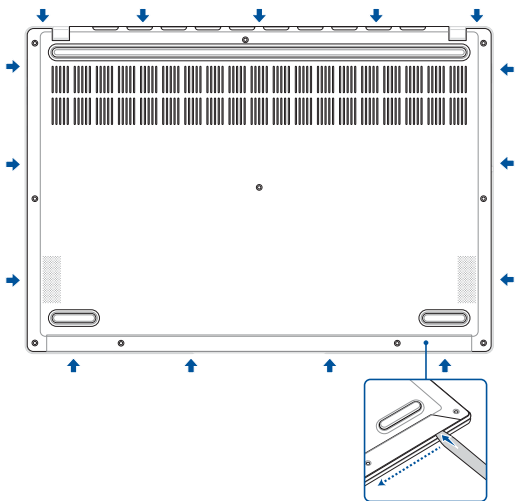
15"/16" model



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

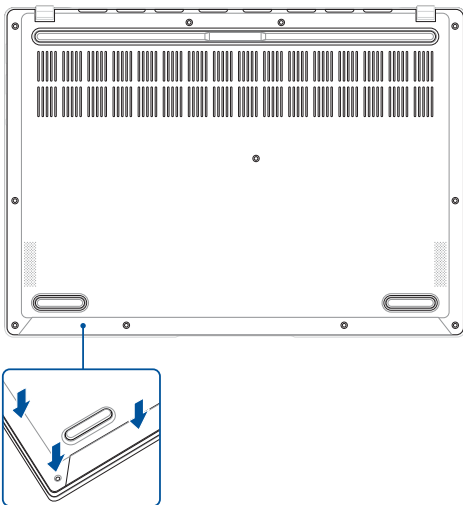
IMPORTANT! Avoid sliding the plastic blade along the side of your device or air vents to prevent damage.

3. Remove the bottom cover.



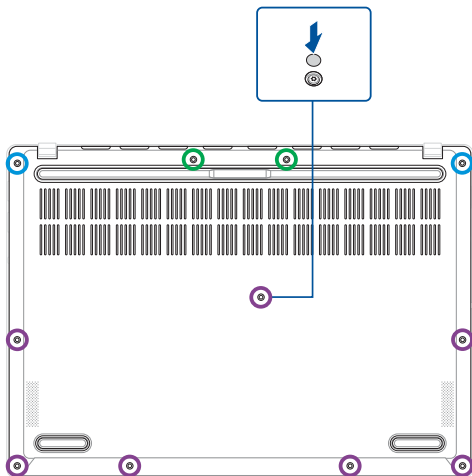
Installation

1. Install the bottom cover.
2. Gently press down on the bottom cover until it clicks into place.

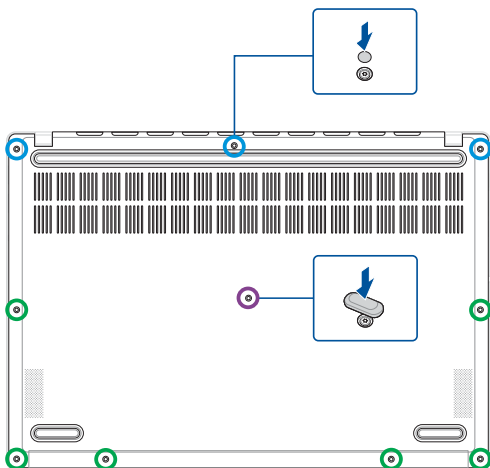


3. Secure the bottom cover using the screw(s) you removed earlier, then install the screw cover(s).

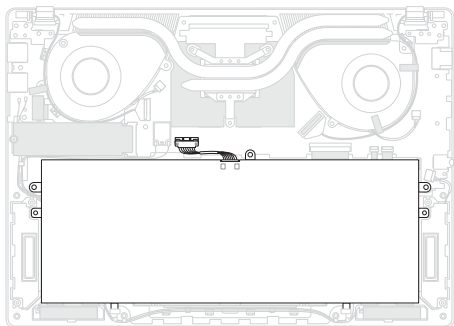
14" model



15"/16" model



Battery



Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the following components:
 - Bottom cover

Screw list

14" model

- ⊕ M2.0 X 3.5L (2pcs)

15"/16" model

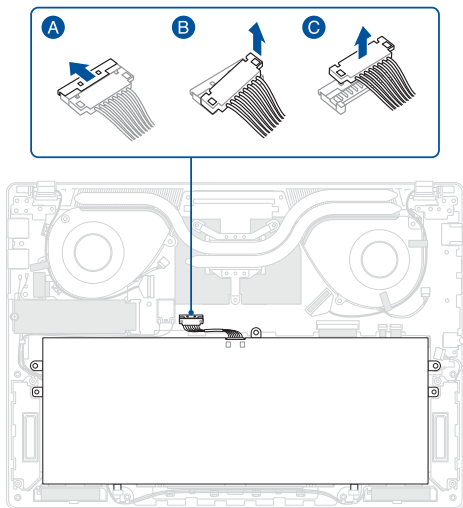
- ⊕ M2.0 X 3.5L (3pcs)

Removal

1. Disconnect the battery power cable.

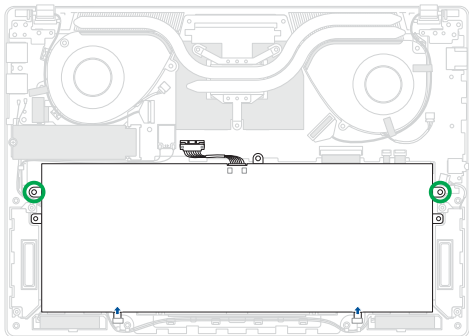
IMPORTANT!

- 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.
-

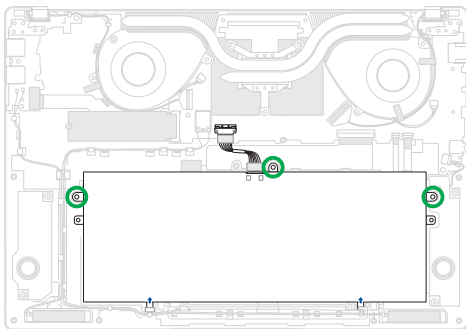


2. Remove the screw(s) from the battery.
3. Remove the battery.

14" model

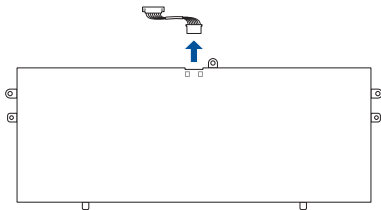


15"/16" model



4. Remove the battery power cable.

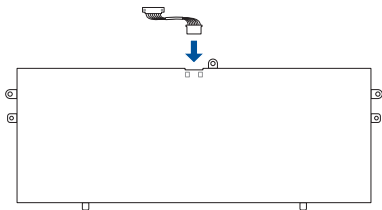
NOTE: This step is only required when you are replacing the existing component with a new one.



Installation

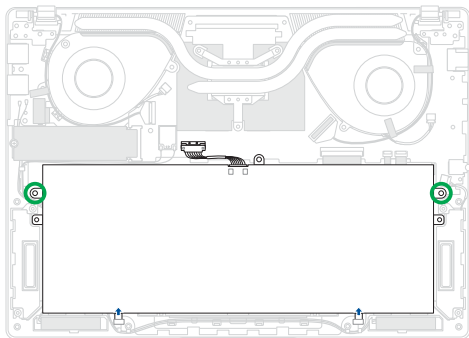
1. Connect the battery power cable to the battery.

NOTE: This step is only required when you are replacing the existing component with a new one.

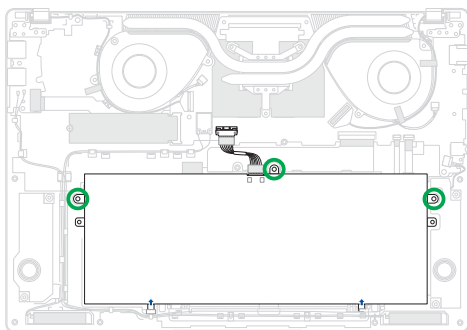


2. Install the battery.
3. Secure the battery using the screw(s) you removed earlier.

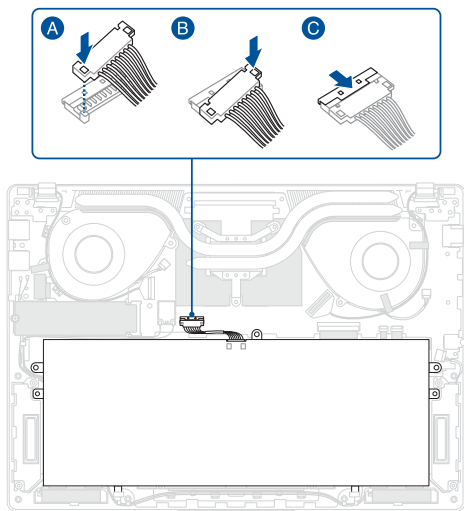
14" model



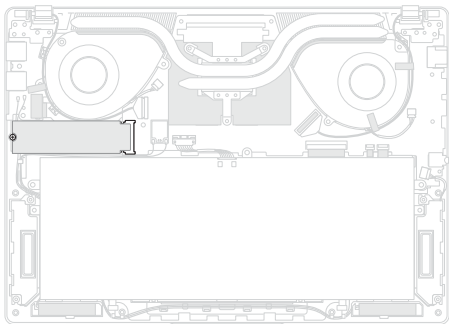
15"/16" model



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

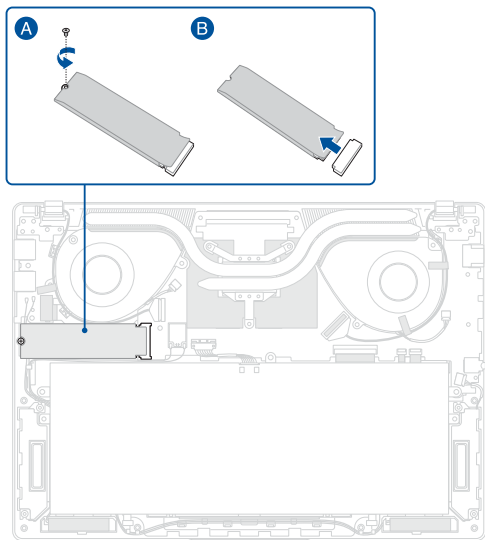
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the following components:
 - Bottom cover
 - Battery

Screw list

- ⊕ M2.0 X 2.5L (1pc)

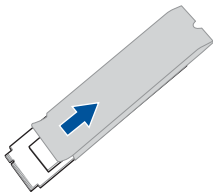
Removal

1. Remove the screw, then remove the M.2 SSD module from the motherboard.



2. Remove the aluminum foil sleeve.

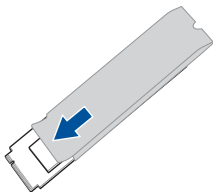
NOTE: This step is only required when you are replacing the existing component with a new one.



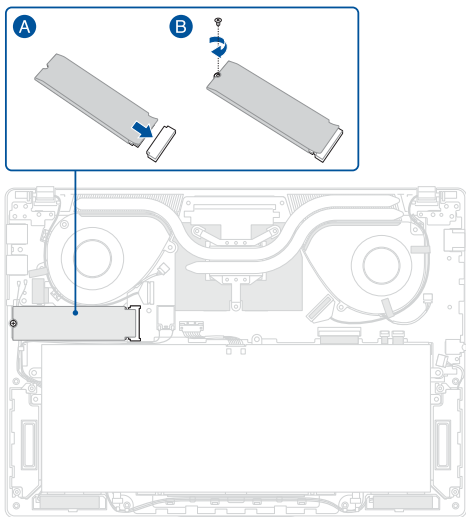
Installation

1. Insert the M.2 SSD module into the aluminum foil sleeve.

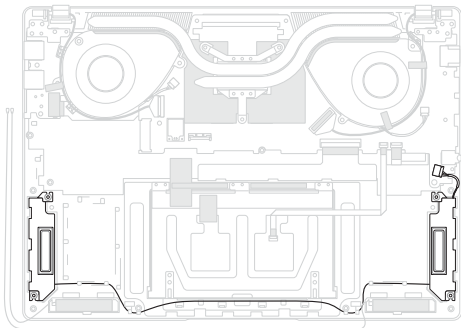
NOTE: This step is only required when you are replacing the existing component with a new one.



2. Align and insert the M.2 SSD module into the M.2 connector on the motherboard, then secure the M.2 SSD module using the screw you removed earlier.
3. 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 following components:
 - Bottom cover
 - Battery

Screw list

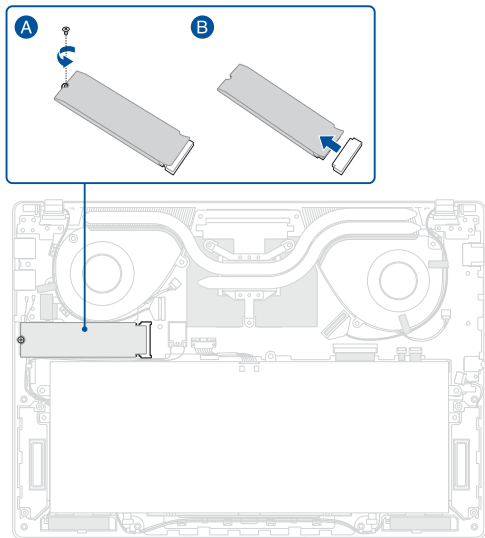
14" model

- ⊕ M2.0 X 2.5L (1pc)

Removal

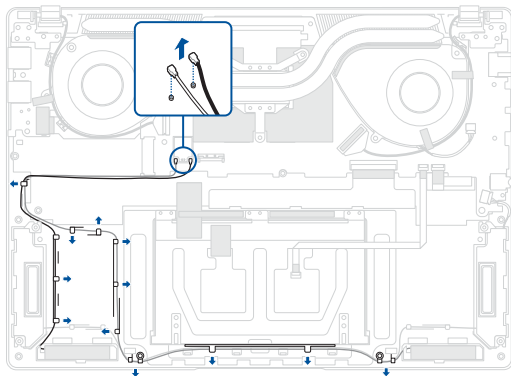
1. (On 14" model) Remove the M.2 SSD module.

14" model

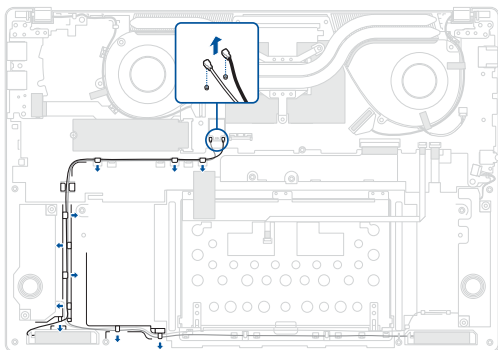


2. Disconnect the antenna cable(s), then remove the cable(s) from the cable guide(s).

14" model

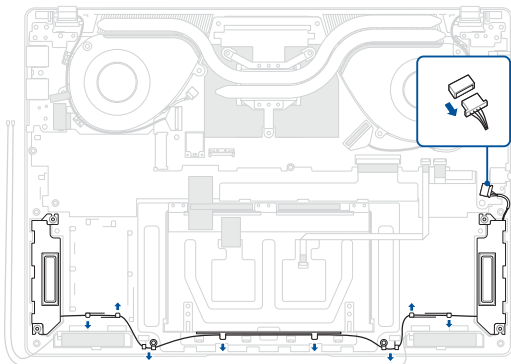


15"/16" model

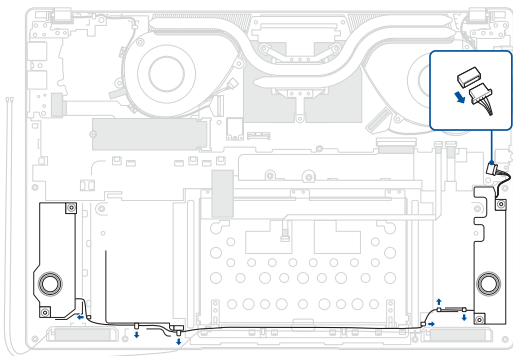


3. Disconnect the speaker connector.
4. Remove the speaker cable from the cable guide(s).
5. Remove the speakers.

14" model



15"/16" model



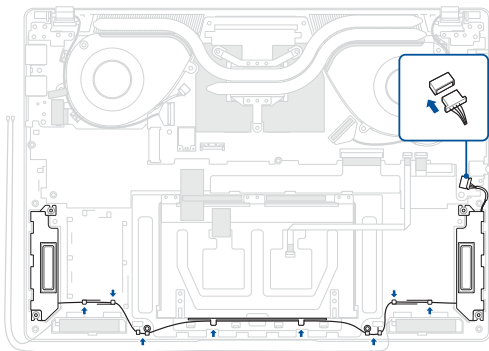
Installation

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

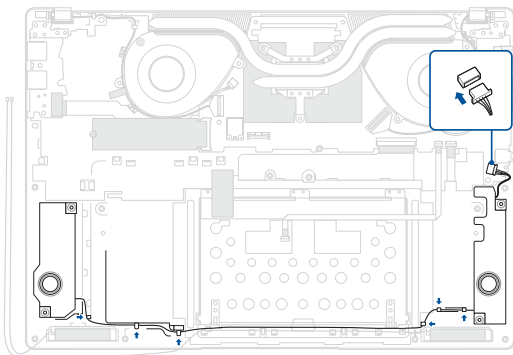
IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

3. Reconnect the speaker connector.

14" model



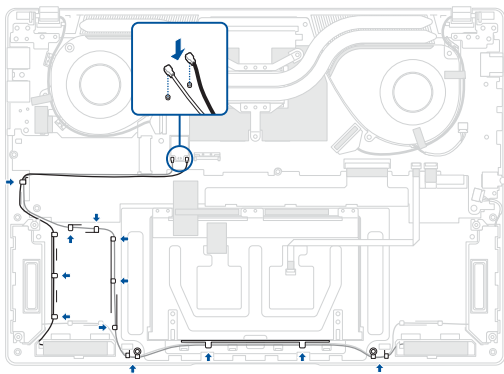
15"/16" model



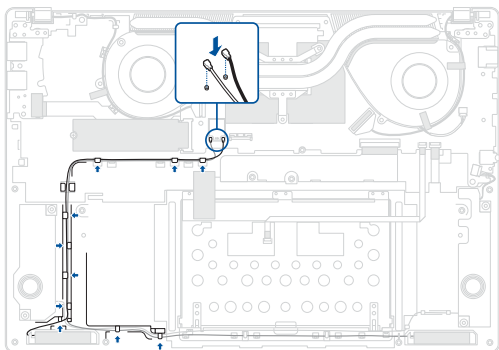
4. Route the antenna cable(s) through the cable guide(s), then reconnect the antenna cable(s).

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.

14" model

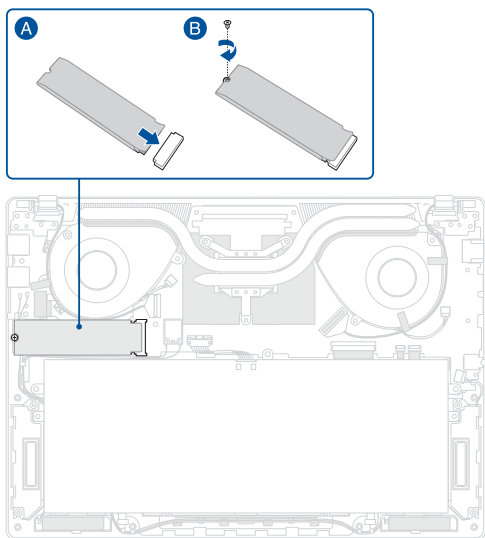


15"/16" model

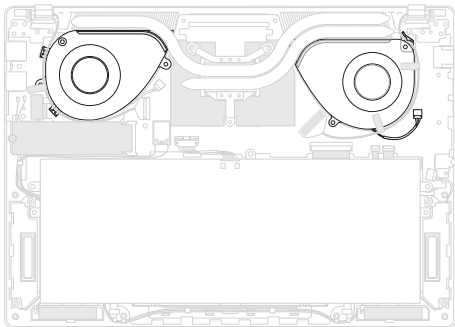


5. (On 14" model) Align and insert the M.2 SSD module into the M.2 connector on the motherboard, then secure the M.2 SSD module using the screw you removed earlier.
6. Install the components you removed in the *Before you begin* section.

14" model



Fan module



Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the following components:
 - Bottom cover
 - Battery

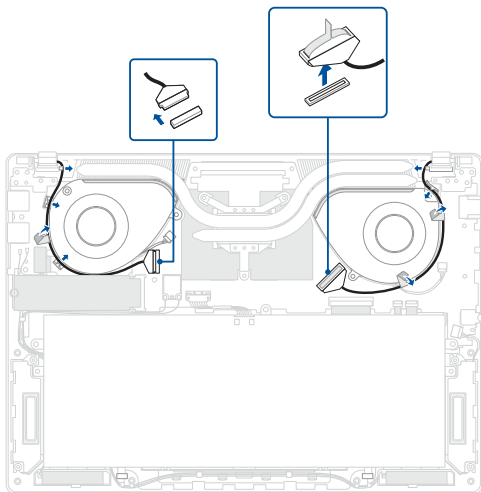
Screw list

- ⊕ M2.0 X 3.5L (5pcs)

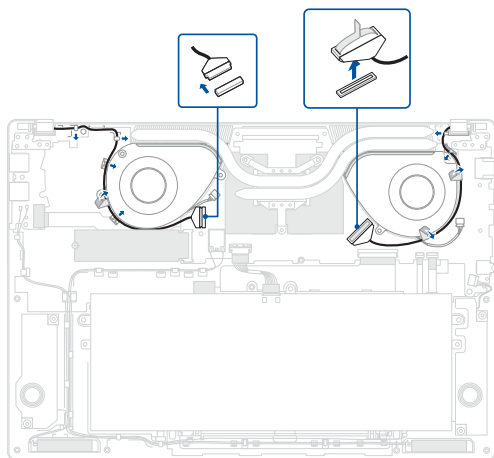
Removal

1. Disconnect the cable(s).
2. Remove the tape, then remove the cable(s) from the cable guide(s).

14" model

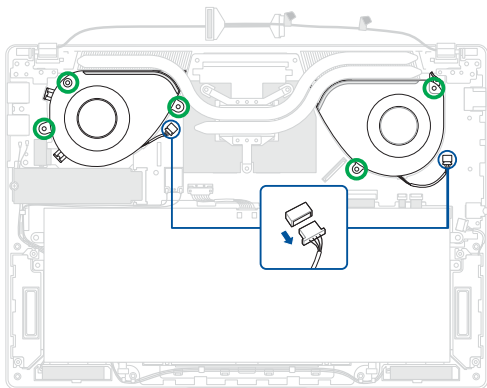


15"/16" model

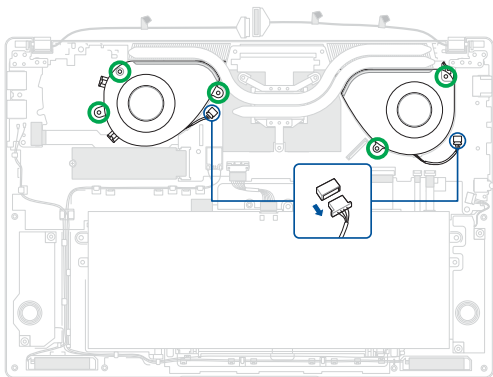


3. Disconnect the fan connector(s).
4. Remove the screw(s).
5. Remove the fan(s).

14" model



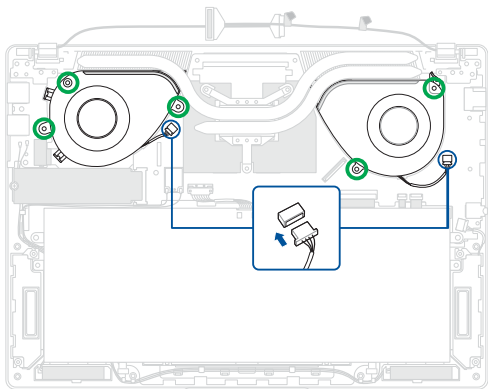
15"/16" model



Installation

1. Install the fan(s).
2. Secure the fan(s) using the screw(s) you removed earlier.
3. Reconnect the fan connector(s).

14" model

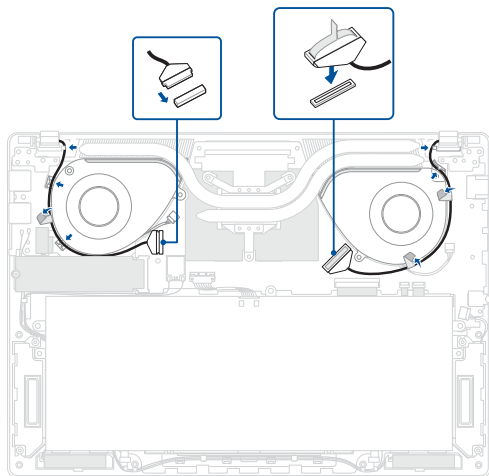


4. Route the cable(s) through the cable guide(s) and reattach the tape.

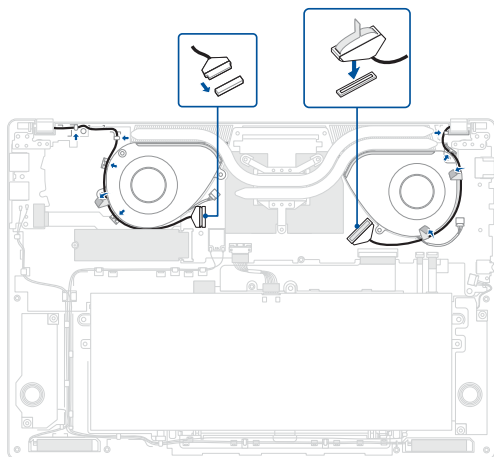
IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

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

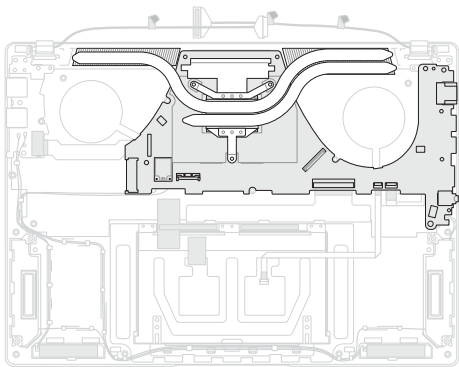
14" model



15"/16" model



Heat sink and motherboard



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 following components:
 - Bottom cover
 - Battery
 - M.2 SSD module
 - Fan module

Screw list

14" model

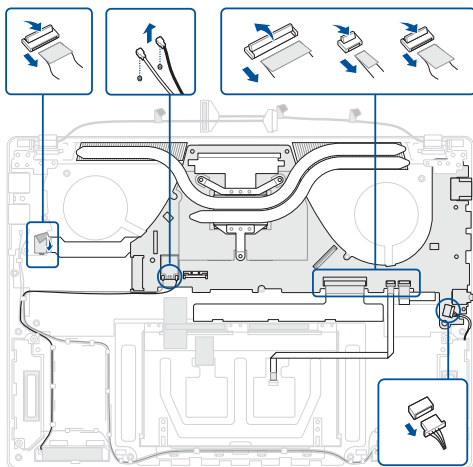
- ⊕ M2.5 X 5.0L (2pcs)
- ⊕ M2.0 X 3.5L (2pcs)
- ⊕ M2.0 X 2.5L (4pcs)

15"/16" model

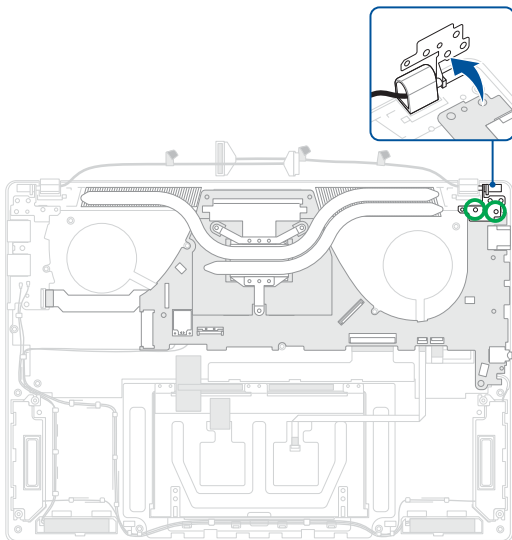
- ⊕ M2.5 X 5.0L (2pcs)
- ⊕ M2.0 X 3.5L (3pcs)
- ⊕ M2.0 X 2.5L (5pcs)
- ⊕ M2.0 X 2.0L (1pc)

Removal

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

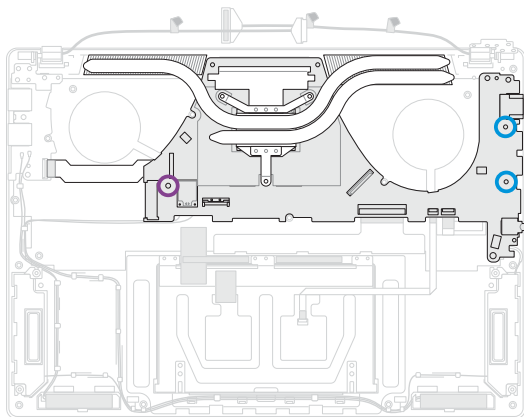


2. Remove the screw(s) from the hinge on the right side, then lift the hinge to a 90-degree position.

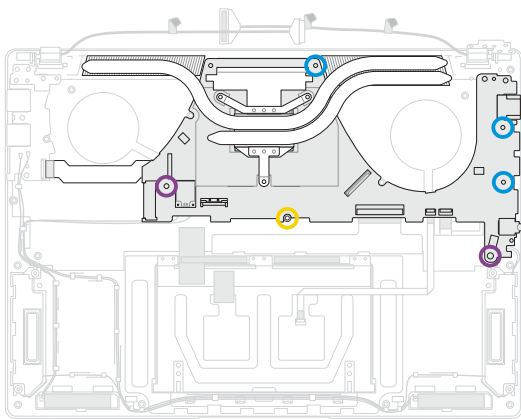


3. Remove the screw(s) from the motherboard, then remove the heat sink and motherboard.

14" model



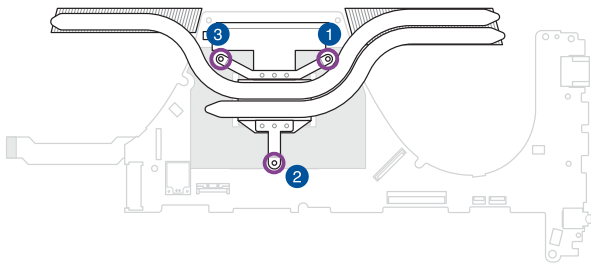
15"/16" model



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

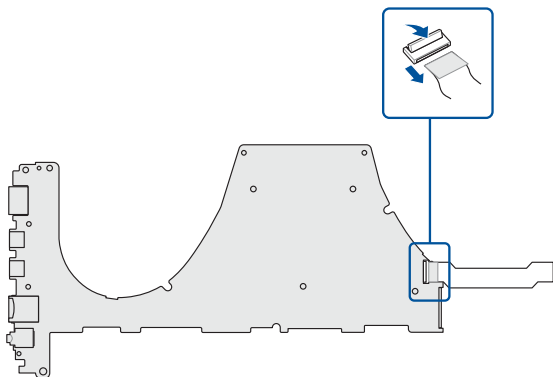
IMPORTANT! Vertically lift the heat sink using the left side of the heat sink to prevent damage.

NOTE: This step is only required when you are replacing the existing component with a new one.



5. Turn over the motherboard, then disconnect the I/O board cable.

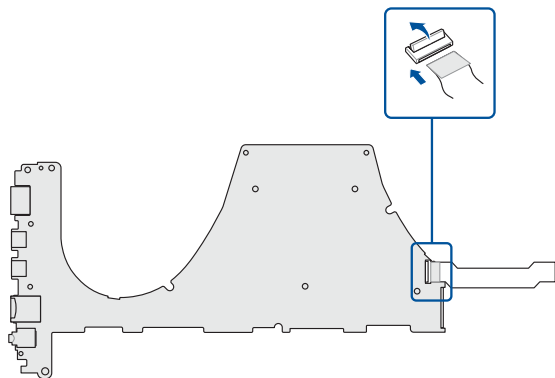
NOTE: This step is only required when you are replacing the existing component with a new one.



Installation

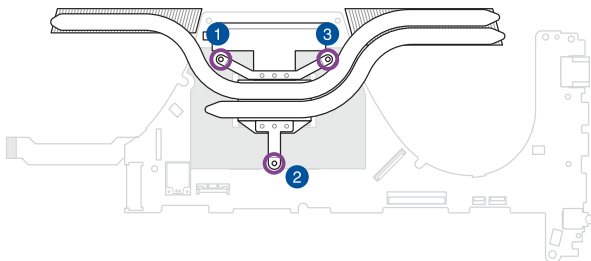
1. Place the motherboard in the orientation as shown, then reconnect the I/O board cable.

NOTE: This step is only required when you are replacing the existing component with a new one.



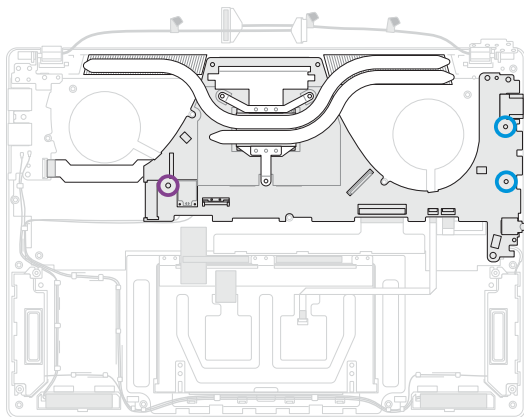
2. Turn over the motherboard and install the heat sink, then secure the heat sink screw(s) one by one in the sequence shown in the illustration below.

NOTE: This step is only required when you are replacing the existing component with a new one.

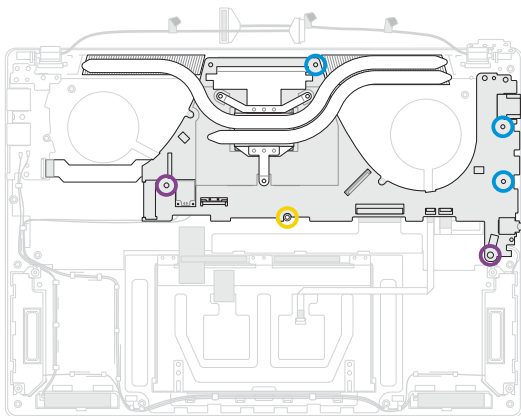


3. Install the heat sink and motherboard, then secure the motherboard using the screw(s) you removed earlier.

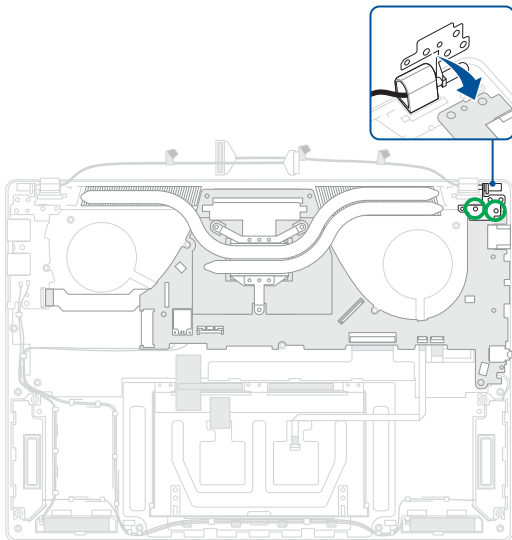
14" model



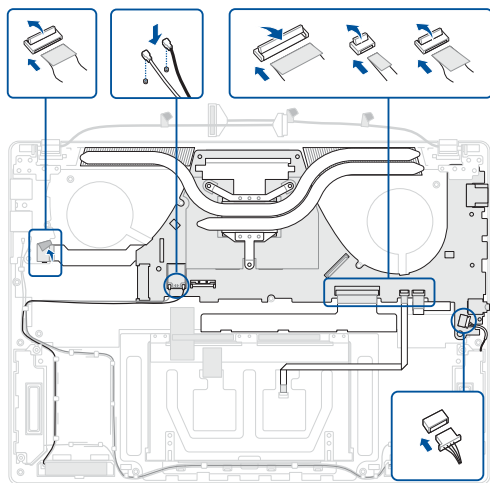
15"/16" model



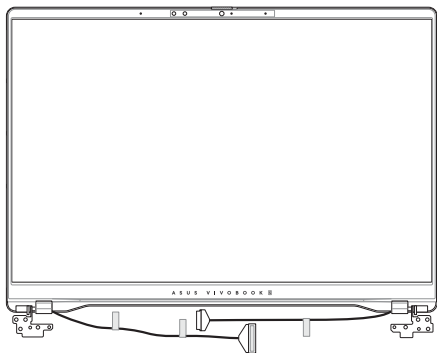
4. Place the hinge of the display panel module on the screw holes, then secure the hinge using the screw(s) you removed earlier.



5. Reconnect the cable(s) as shown in the illustration below.
6. 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.

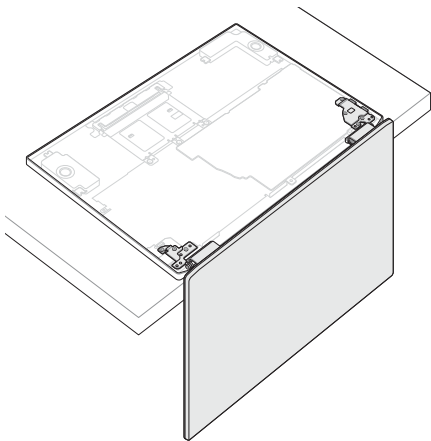
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the following components:
 - Bottom cover
 - Battery

Screw list

- ⊕ M2.5 X 5.0L (4pcs)

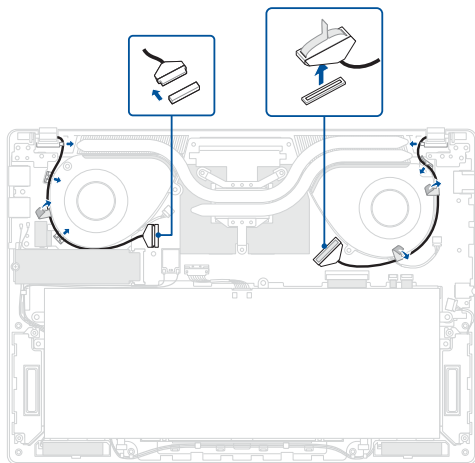
Removal

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

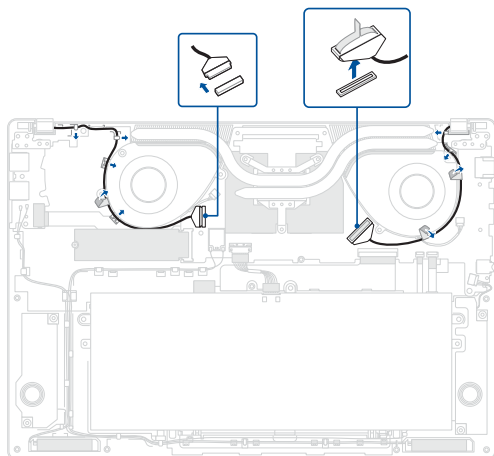


2. Disconnect the cable(s) from the motherboard.
3. Remove the tape, then remove the cable(s) from the cable guide(s).

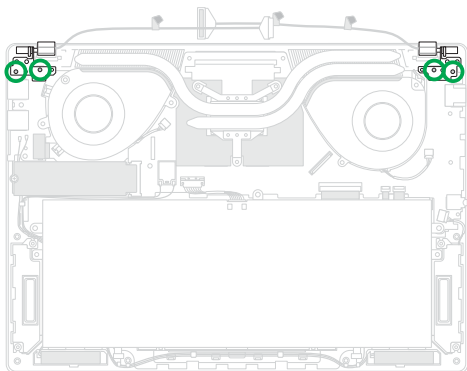
14" model



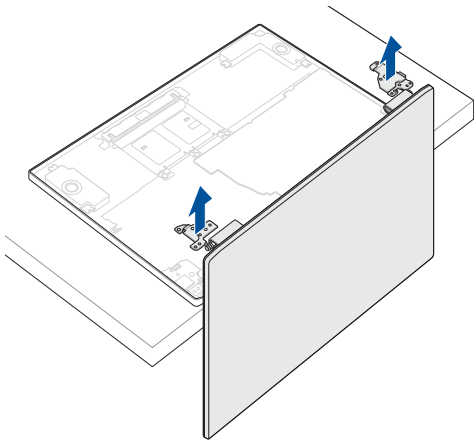
15"/16" model



4. Remove the screw(s).

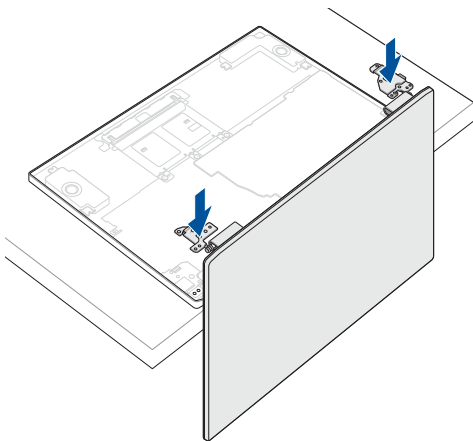


5. Remove the display panel module.

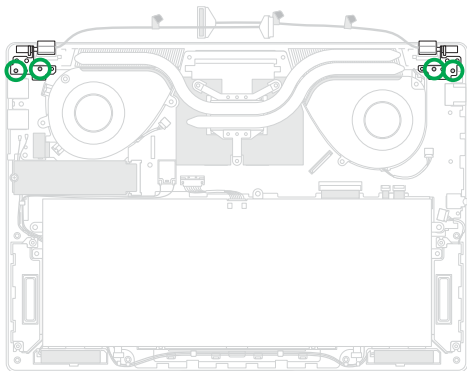


Installation

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



2. Secure the hinges using the screw(s) you removed earlier.

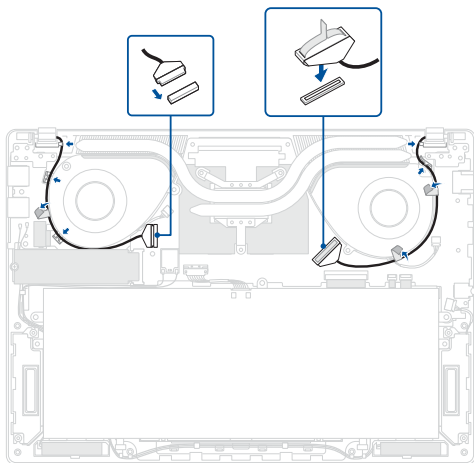


3. Route the cable(s) through the cable guide(s), then reattach the tape.

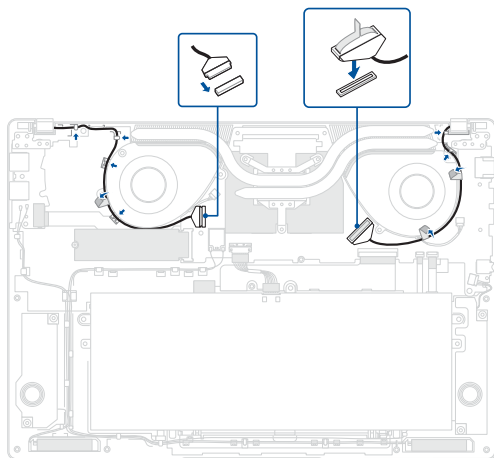
IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

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

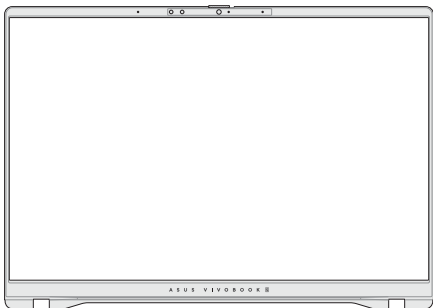
14" model



15"/16" model



Display bezel



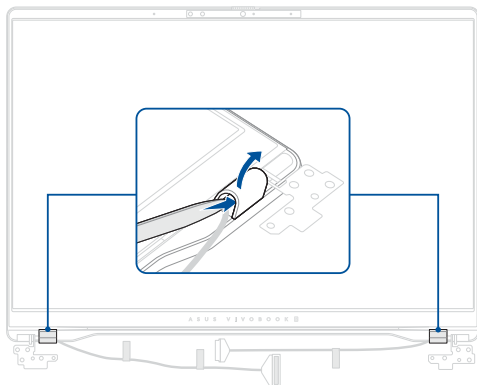
Before you begin

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.

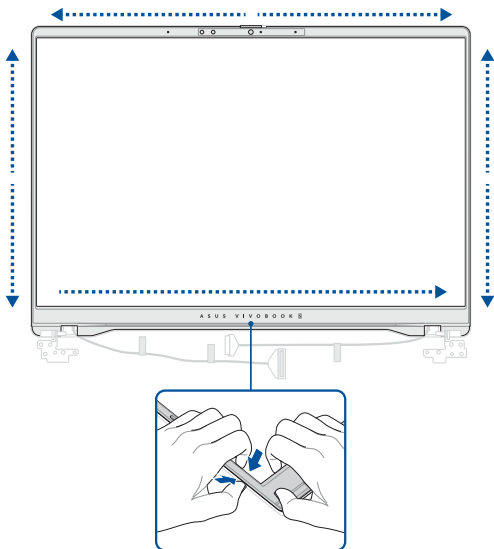
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the following components:
 - Bottom cover
 - Battery
 - Display panel module

Removal

1. Remove the hinge caps as shown in the illustration below.



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

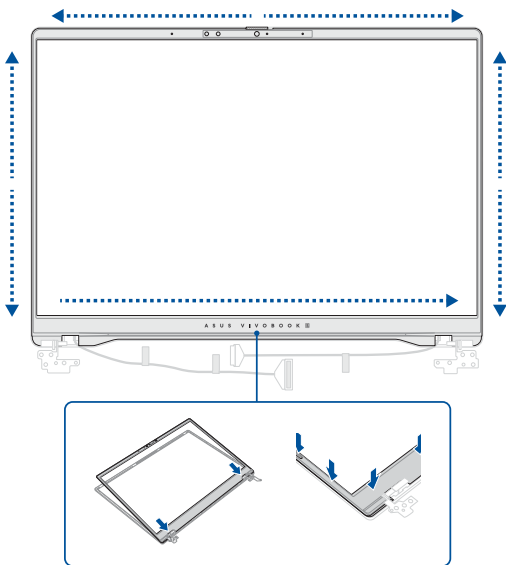


Installation

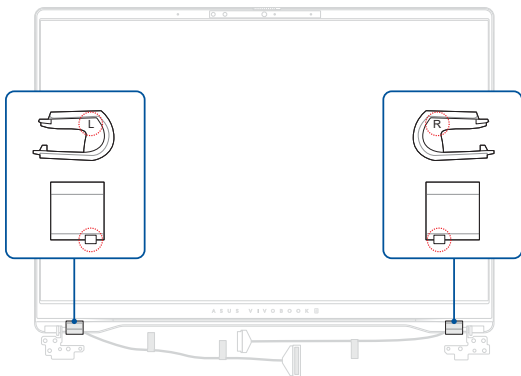
1. Remove the release liner(s) from the tape on the bezel.

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 hinge caps in the proper orientation as shown and make sure that the hinge caps are securely installed.
4. 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.
-

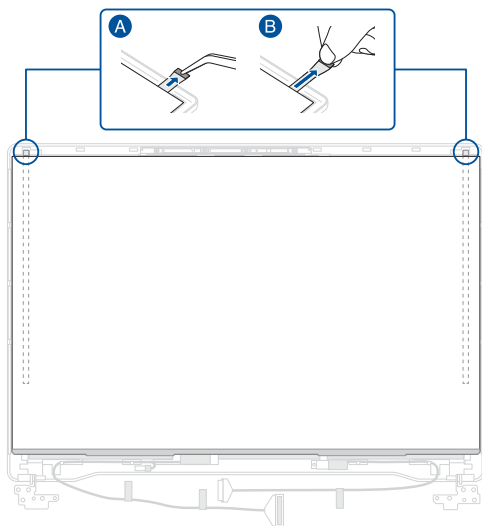
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the following components:
 - Bottom cover
 - Battery
 - Display panel module
 - Display bezel

Removal

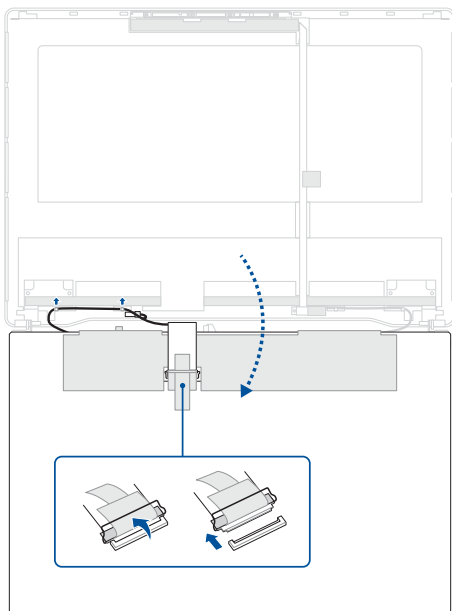
1. Locate the tip of the stretch release tape, then carefully pull out the stretch release tape as shown in the illustration below.

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. Remove the display panel from the top cover.

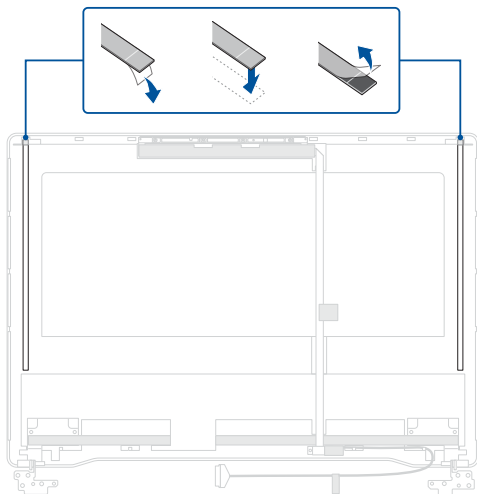


3. Lift the display panel, then disconnect the cable from the rear side of the display panel.
4. Remove the cable from the cable guide(s).



Installation

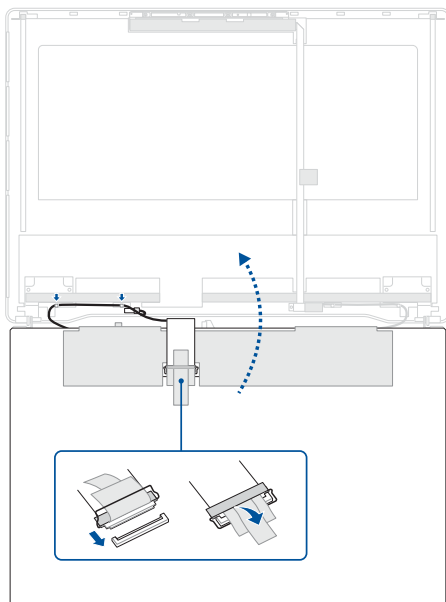
1. Place the top cover in the orientation shown in the illustration below.
2. Remove the release liner(s) from the bottom side of the stretch release tape.
3. Align and attach the stretch release tape to the top cover.
4. Remove the release liner(s) from the top side of the stretch release tape.



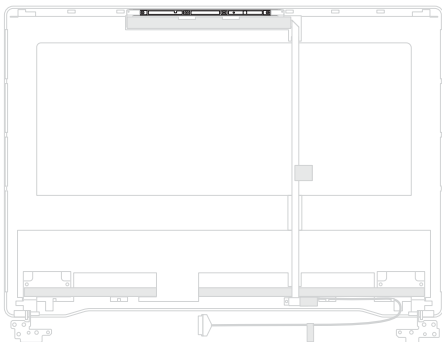
5. Route the cable through the cable guide(s), then reconnect the cable to the rear side of the display panel.

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.

6. Align and install the display panel.
7. Install the components you removed in the *Before you begin* section.



Camera module



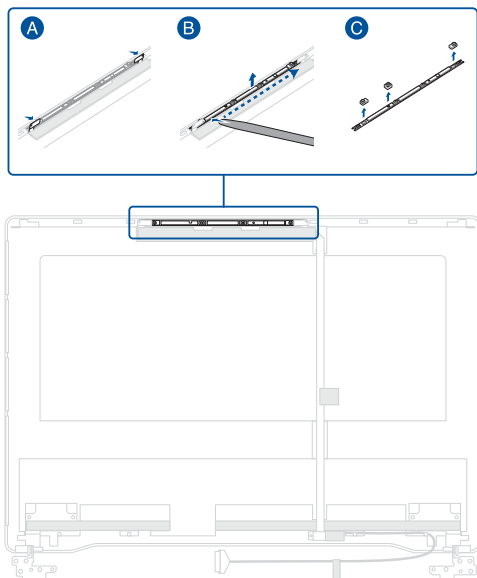
Before you begin

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 following components:
 - Bottom cover
 - Battery
 - Display panel module
 - Display bezel
 - Display panel

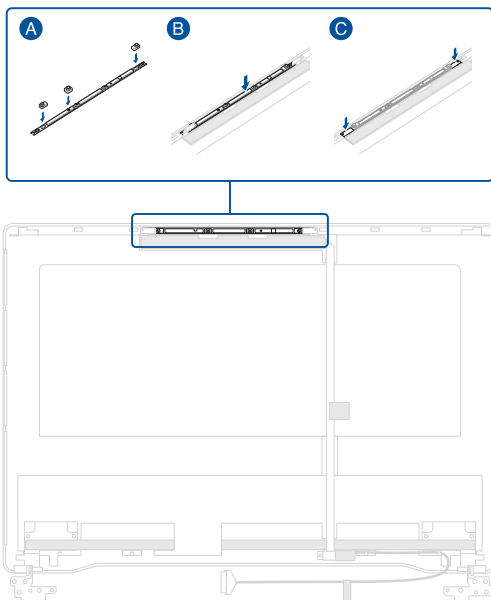
Removal

Disconnect the cable and carefully remove the camera module, then remove the rubber caps from the camera module.

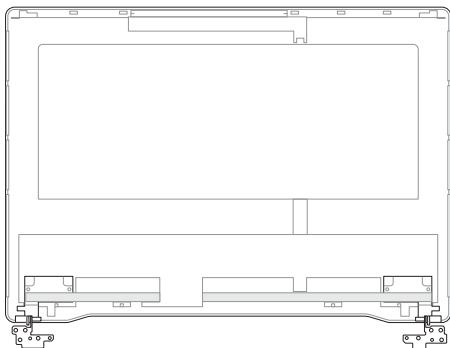


Installation

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



Top cover



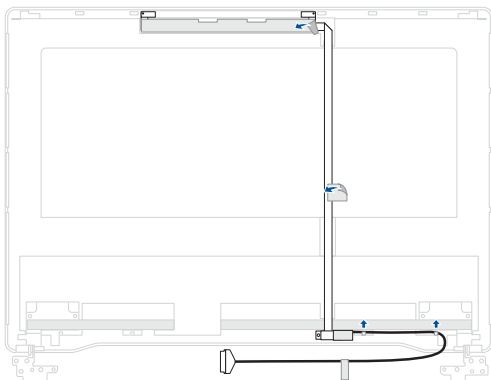
Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the following components:
 - Bottom cover
 - Battery
 - Display panel module
 - Display bezel
 - Display panel
 - Camera module

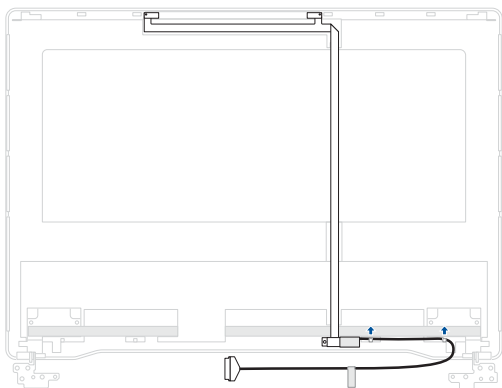
Removal

Remove the cable as shown in the illustration below.

14" model



15"/16" model



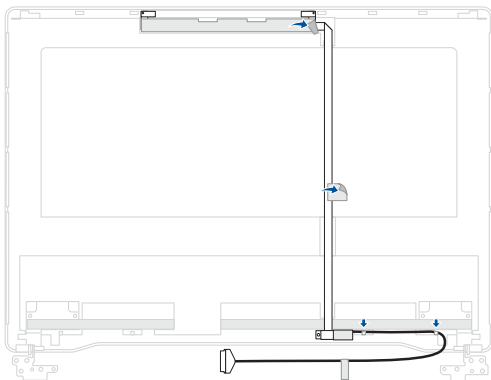
Installation

1. Install the cable and route the cable through the cable guide(s).

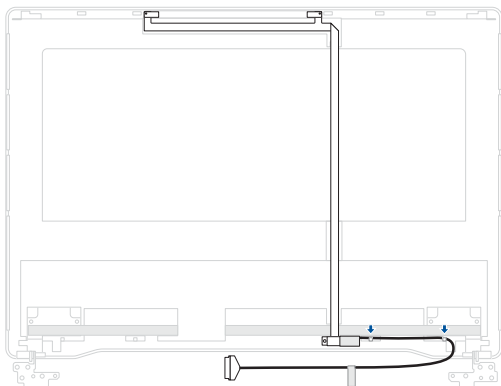
IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

2. (On 14" model) Reattach the sponge and tape.
3. Install the components you removed in the *Before you begin* section.

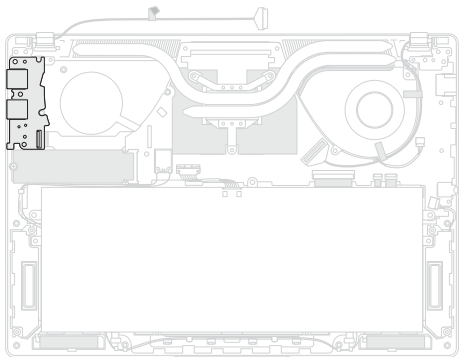
14" model



15"/16" model



I/O board



Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the following components:
 - Bottom cover
 - Battery

Screw list

14" model

- ⊕ M2.5 X 5.0L (2pcs)
- ⊕ M2.0 X 3.5L (5pcs)

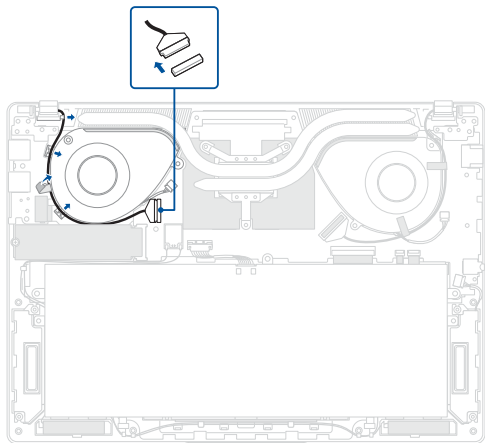
15"/16" model

- ⊕ M2.5 X 5.0L (2pcs)
- ⊕ M2.0 X 3.5L (2pcs)
- ⊕ M2.0 X 2.0L (1pc)

Removal

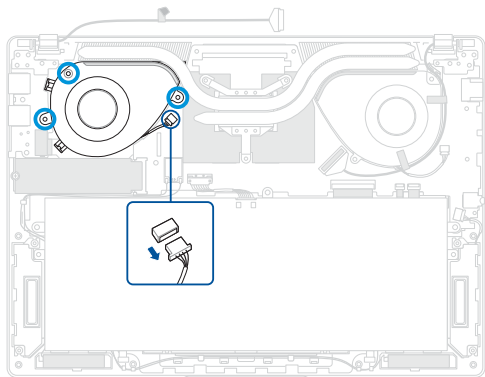
1. (On 14" model) Disconnect the cable and remove the cable from the cable guide(s).

14" model

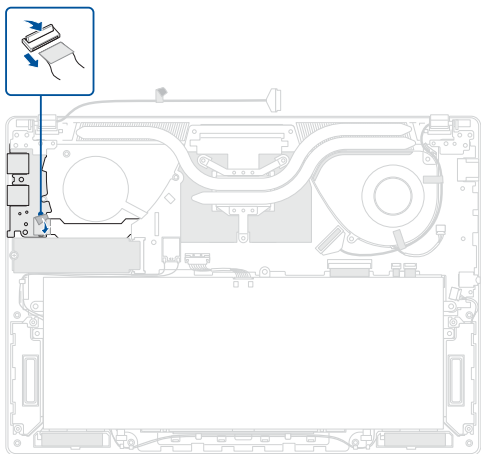


2. (On 14" model) Disconnect the fan connector.
3. (On 14" model) Remove the screw(s), then remove the fan.

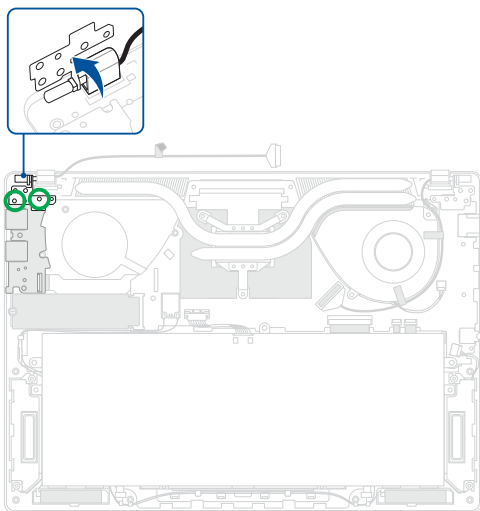
14" model



4. Remove the tape, then disconnect the I/O board cable.

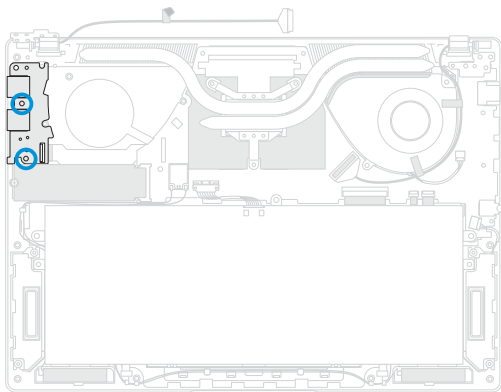


5. Remove the screw(s) from the hinge on the left side, then lift the hinge to a 90-degree position.

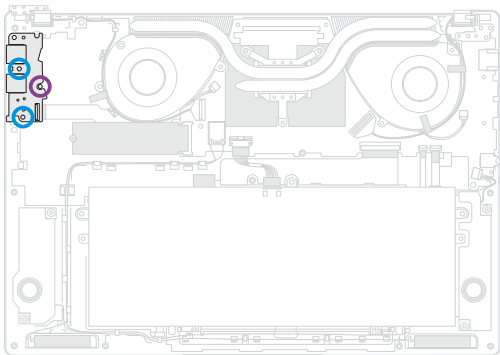


6. Remove the screw(s) from the I/O board, then remove the I/O board.

14" model



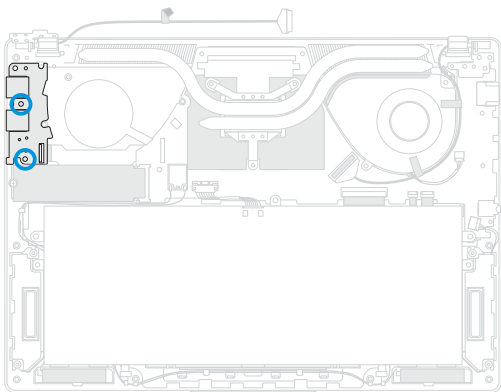
15"/16" model



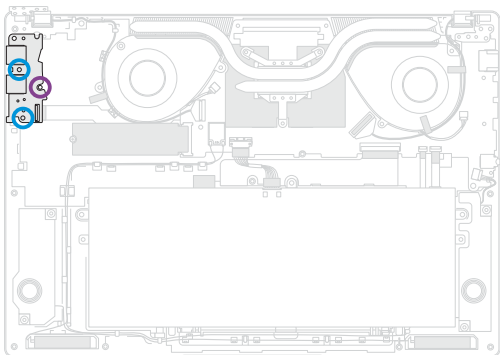
Installation

1. Install the I/O board, then secure the I/O board using the screw(s) you removed earlier.

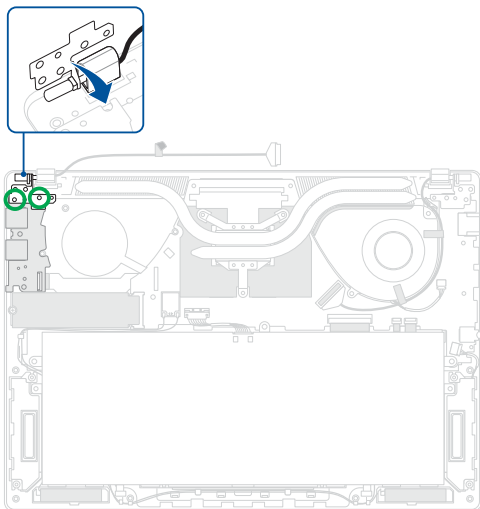
14" model



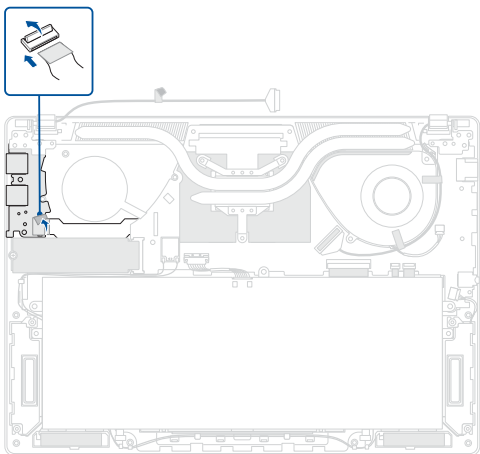
15"/16" model



2. Place the hinge of the display panel module on the screw holes, then secure the hinge using the screw(s) you removed earlier.

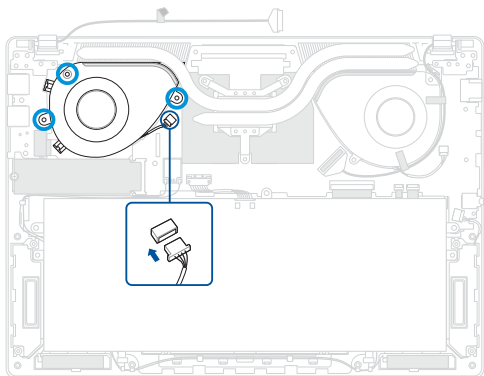


3. Reconnect the I/O board cable, then reattach the tape.



4. (On 14" model) Install the fan, then secure the fan using the screw(s) you removed earlier.
5. (On 14" model) Reconnect the fan connector.

14" model

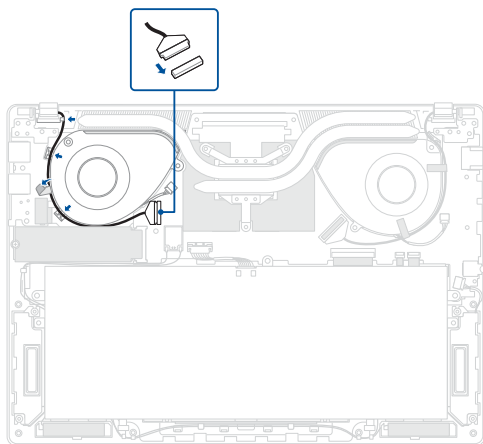


6. (On 14" model) Route the cable through the cable guide(s) and reattach the tape, then reconnect the cable.

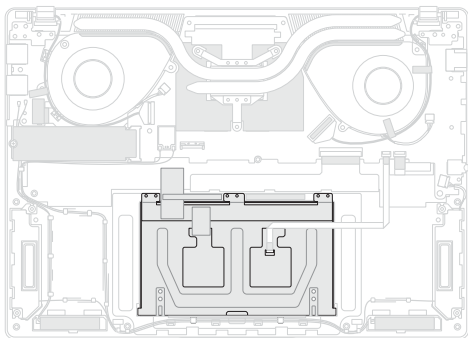
IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

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

14" model



Touchpad



Before you begin

1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the following components:
 - Bottom cover
 - Battery

Screw list

14" model

● ⊕ M1.6 X 2.5L (3pcs)

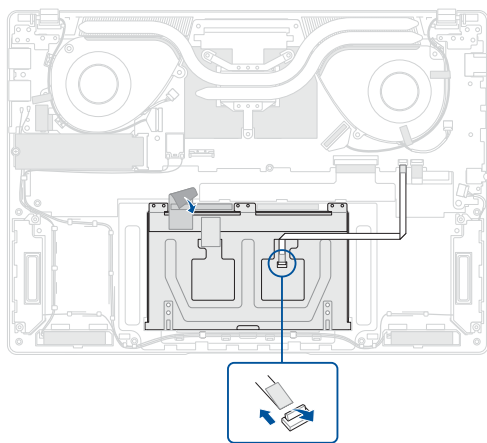
15"/16" model

● ⊕ M1.6 X 2.0L (3pcs)

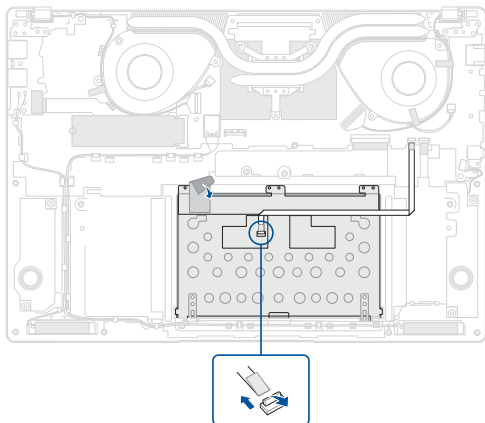
Removal

1. Disconnect the cable and remove the tape.

14" model

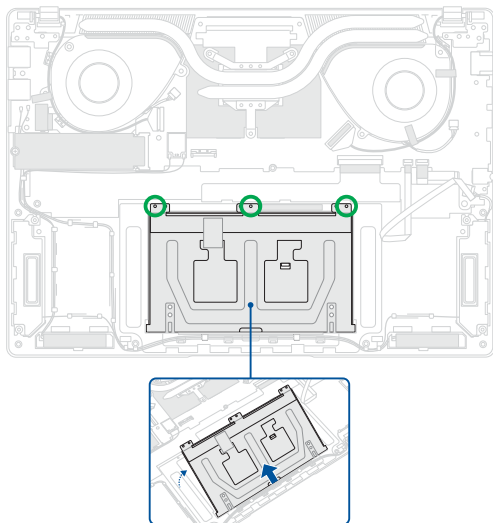


15"/16" model

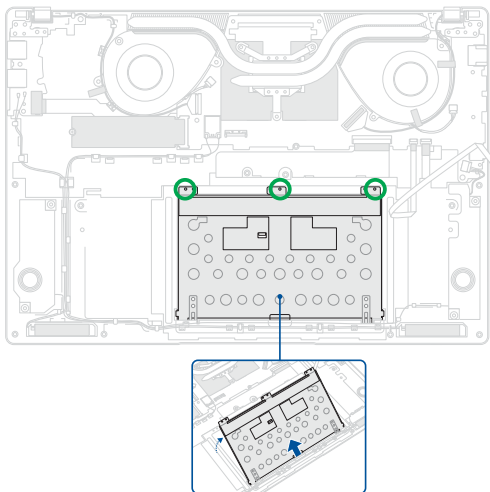


2. Remove the screw(s), then remove the touchpad.

14" model



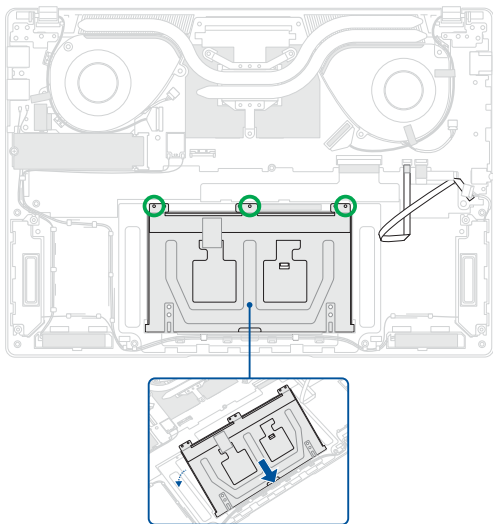
15"/16" model



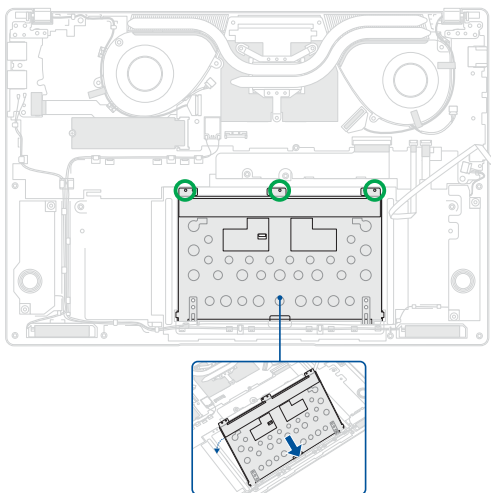
Installation

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

14" model



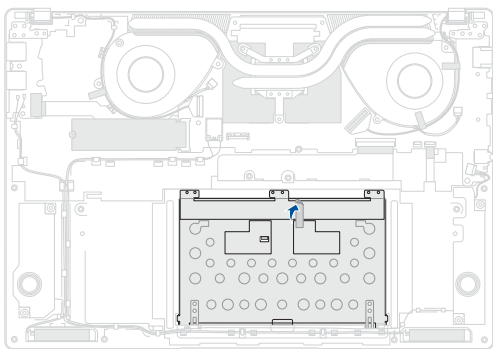
15"/16" model



2. (On 15"/16" AMD model) Attach the tape as shown in the illustration below.

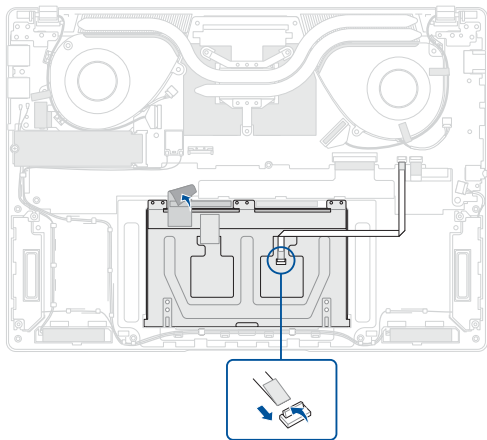
NOTE: This step is only required when you are replacing the existing component with a new one.

15"/16" AMD model

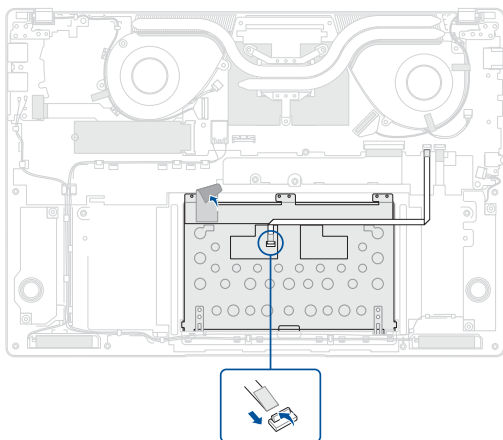


3. Reconnect the cable and reattach the tape.
4. Install the components you removed in the *Before you begin* section.

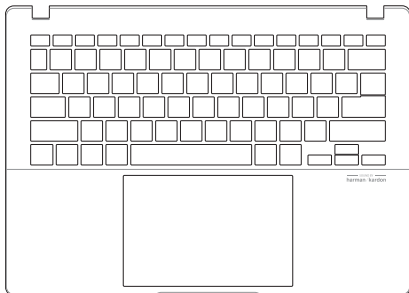
14" model



15"/16" model



Keyboard module



Before you begin

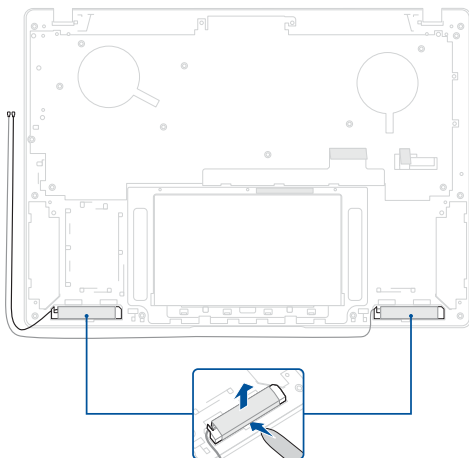
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the following components:
 - Bottom cover
 - Battery
 - M.2 SSD module
 - Speakers
 - Fan module
 - Heat sink and motherboard
 - Display panel module
 - I/O board
 - Touchpad

Removal

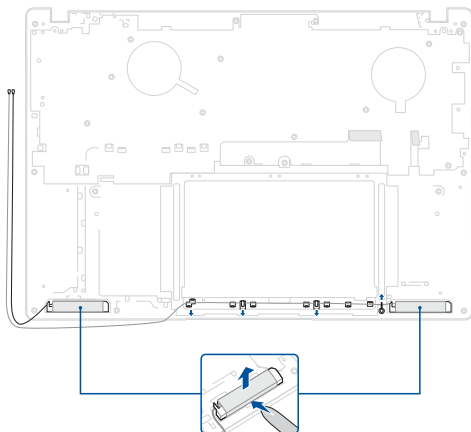
Remove the antenna cable(s) as shown in the illustration below.

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

14" model



15"/16" model



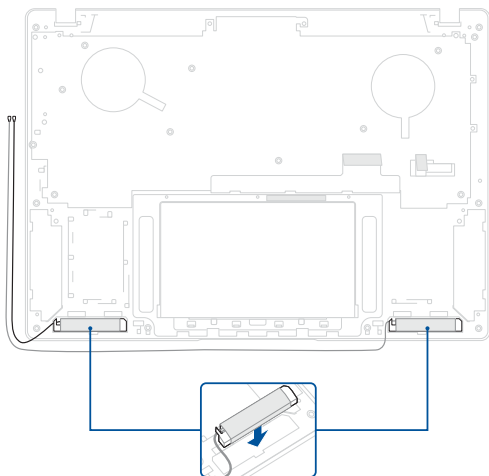
Installation

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

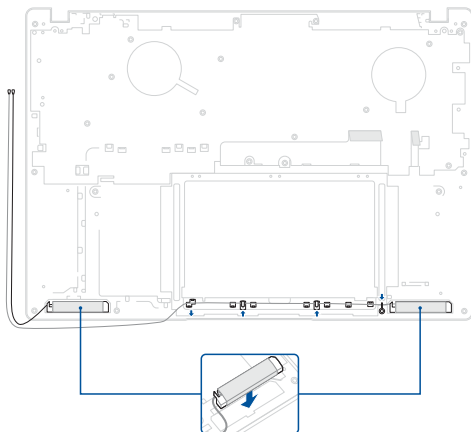
IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

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

14" model



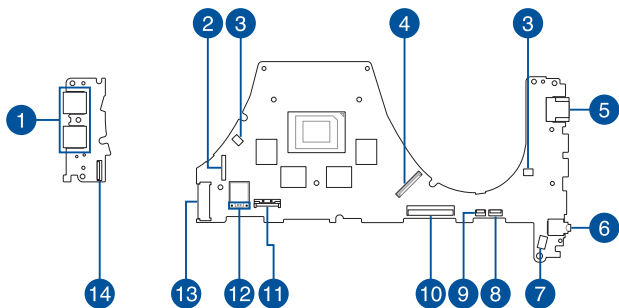
15"/16" model



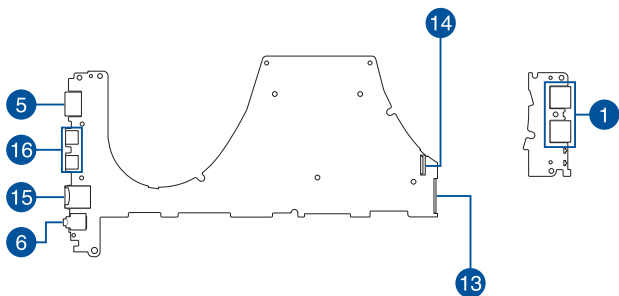
Appendices

Wiring and connection diagrams

Top View



Bottom View



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

