

E24294

First Edition / October 2024

IN SEARCH OF INCREDIBLE



Service Manual

ASUS

COPYRIGHT INFORMATION

No part of this manual, including the products and software described in it, may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language in any form or by any means, except documentation kept by the purchaser for backup purposes, without the express written permission of ASUSTeK COMPUTER INC. ("ASUS").

ASUS PROVIDES THIS MANUAL "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL ASUS, ITS DIRECTORS, OFFICERS, EMPLOYEES OR AGENTS BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES (INCLUDING DAMAGES FOR LOSS OF PROFITS, LOSS OF BUSINESS, LOSS OF USE OR DATA, INTERRUPTION OF BUSINESS AND THE LIKE), EVEN IF ASUS HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES ARISING FROM ANY DEFECT OR ERROR IN THIS MANUAL OR PRODUCT.

Products and corporate names appearing in this manual may or may not be registered trademarks or copyrights of their respective companies, and are used only for identification or explanation and to the owners' benefit, without intent to infringe.

SPECIFICATIONS AND INFORMATION CONTAINED IN THIS MANUAL ARE FURNISHED FOR INFORMATIONAL USE ONLY, AND ARE SUBJECT TO CHANGE AT ANY TIME WITHOUT NOTICE, AND SHOULD NOT BE CONSTRUED AS A COMMITMENT BY ASUS. ASUS ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS OR INACCURACIES THAT MAY APPEAR IN THIS MANUAL, INCLUDING THE PRODUCTS AND SOFTWARE DESCRIBED IN IT.

Copyright © 2024 ASUSTeK COMPUTER INC. All Rights Reserved.

LIMITATION OF LIABILITY

Circumstances may arise where because of a default on ASUS' part or other liability, you are entitled to recover damages from ASUS. In each such instance, regardless of the basis on which you are entitled to claim damages from ASUS, ASUS is liable for no more than damages for bodily injury (including death) and damage to real property and tangible personal property; or any other actual and direct damages resulted from omission or failure of performing legal duties under this Warranty Statement, up to the listed contract price of each product.

ASUS will only be responsible for or indemnify you for loss, damages or claims based in contract, tort or infringement under this Warranty Statement.

This limit also applies to ASUS' suppliers and its reseller. It is the maximum for which ASUS, its suppliers, and your reseller are collectively responsible.

UNDER NO CIRCUMSTANCES IS ASUS LIABLE FOR ANY OF THE FOLLOWING: (1) THIRD-PARTY CLAIMS AGAINST YOU FOR DAMAGES; (2) LOSS OF, OR DAMAGE TO, YOUR RECORDS OR DATA; OR (3) SPECIAL, INCIDENTAL, OR INDIRECT DAMAGES OR FOR ANY ECONOMIC CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS OR SAVINGS), EVEN IF ASUS, ITS SUPPLIERS OR YOUR RESELLER IS INFORMED OF THEIR POSSIBILITY.

SERVICE AND SUPPORT

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

Table of Contents

Chapter 1: Introduction

Disclaimer	8
Safety precautions.....	8
Pre-repair checklist.....	10
Repair tools	11
Accessories	11
Diagnostic tools.....	11
Major components	12

Chapter 2: Service Procedures

Bottom cover	16
Removal.....	17
Installation.....	19
Battery	20
Removal.....	21
Installation.....	24
M.2 SSD module	28
Removal.....	29
Installation.....	30
WLAN module	31
Removal.....	32
Installation.....	35
Speakers	38
Removal.....	39
Installation.....	40

Fan module (on selected models).....	42
Removal.....	43
Installation.....	44
Heat sink.....	45
Removal.....	46
Installation.....	47
I/O board.....	48
Removal.....	49
Installation.....	51
Motherboard.....	53
Removal.....	54
Installation.....	58
Touchpad.....	62
Removal.....	63
Installation.....	67
Display panel module.....	71
Removal.....	72
Installation.....	76
Display bezel.....	79
Removal.....	80
Installation.....	81
Display panel.....	83
Removal.....	84
Installation.....	89

Camera module	95
Removal.....	96
Installation.....	98
Top cover.....	100
Removal.....	101
Installation.....	103
Keyboard module.....	107
Removal.....	108
Installation.....	109
Appendix	
Wiring and connection diagrams.....	112

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



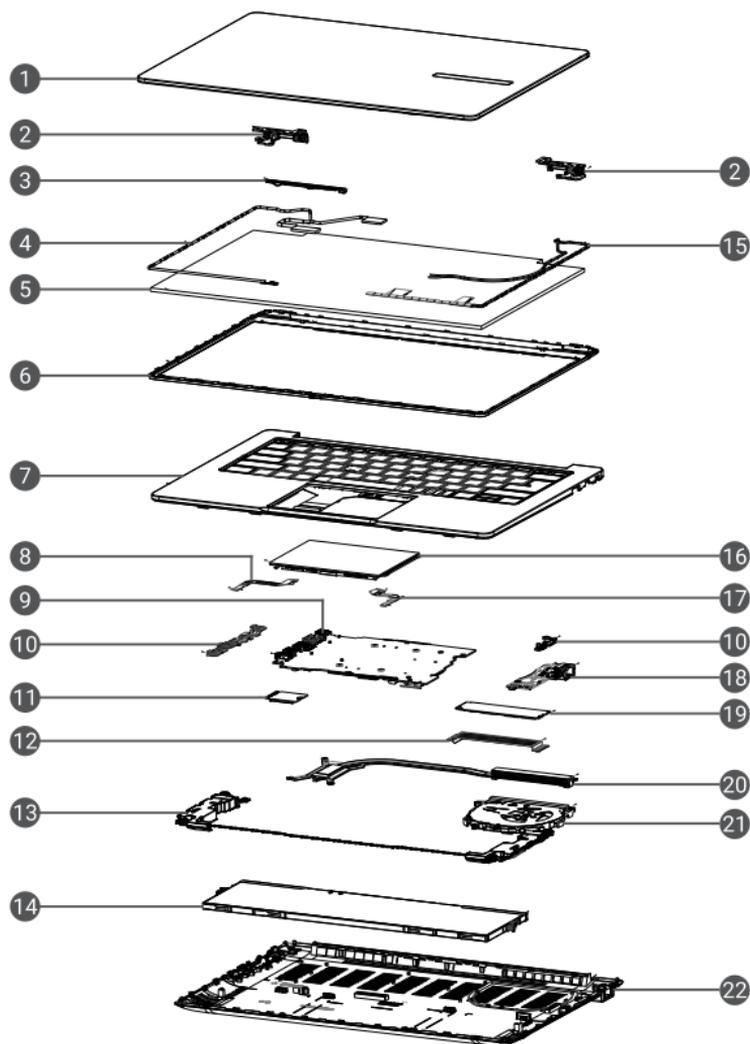
Power adapter

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

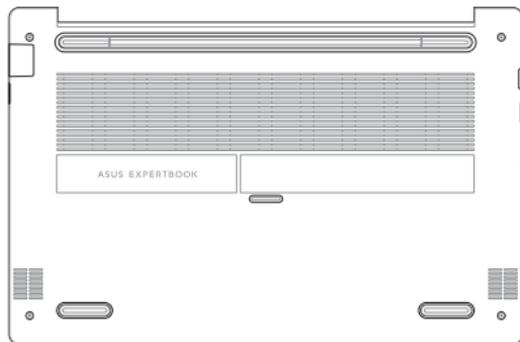


1. Top cover
2. Hinges
3. Camera module
4. eDP cable
5. Display panel
6. Display bezel
7. Keyboard module
8. Fingerprint sensor cable*
9. Motherboard
10. I/O port bracket
11. WLAN module
12. I/O board cable
13. Speakers
14. Battery
15. WLAN antenna
16. Touchpad
17. Touchpad cable
18. I/O board
19. M.2 SSD module
20. Heat sink
21. Fan module*
22. 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

- ⊕ M2.0 X 3.0L+5 captive screw (2-4pcs)
- ⊕ M2.0 X 2.3L+3.7 captive screw (0-2pcs)

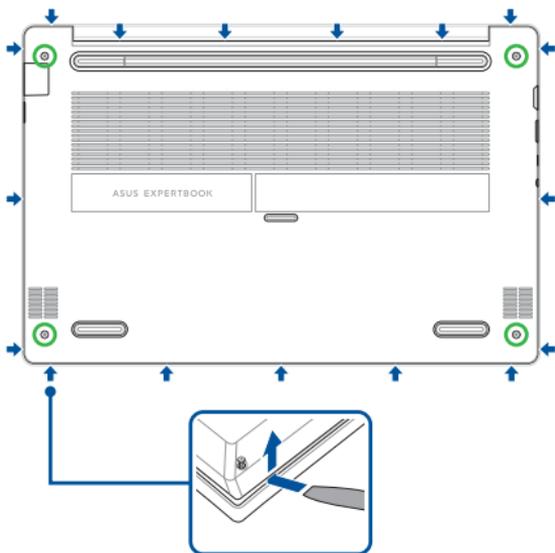
Removal

1. Loosen the captive screw(s) without removing the screw(s).
2. Use the plastic blade to pry open the indicated area of the bottom cover as shown in the illustration below.

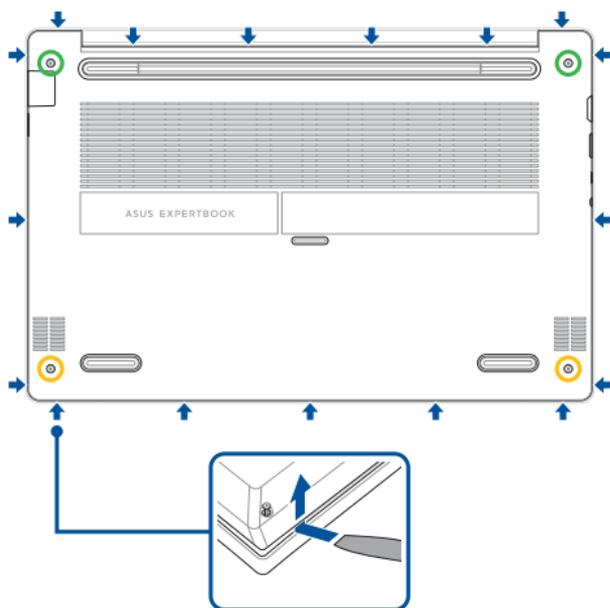
IMPORTANT!

- 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.
-

14" models



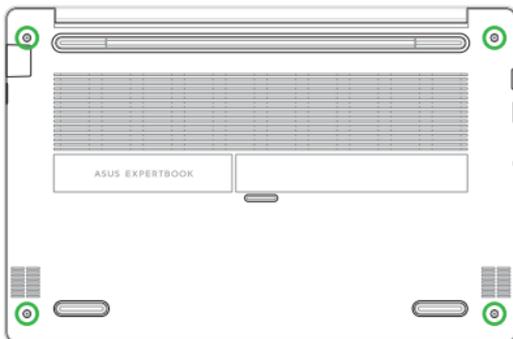
15" models



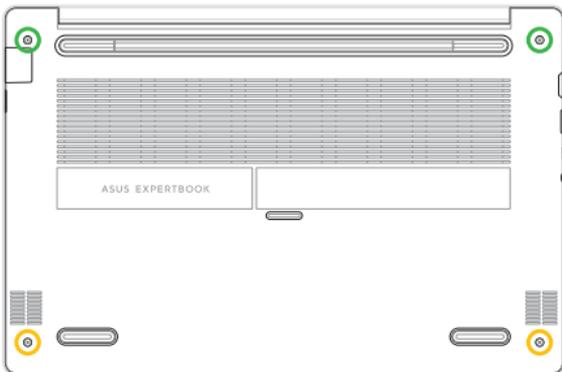
Installation

1. Install the bottom cover.
2. Gently press down on the bottom cover until it clicks into place.
3. Secure the bottom cover by tightening the screw(s).

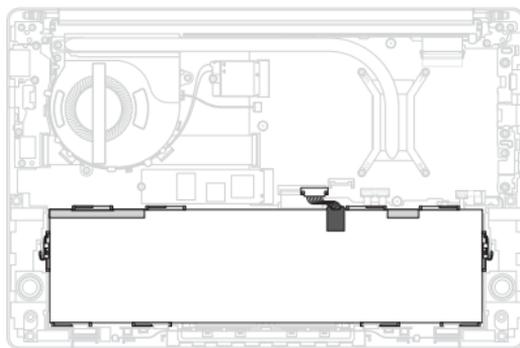
14" models



15" models



Battery



Before you begin

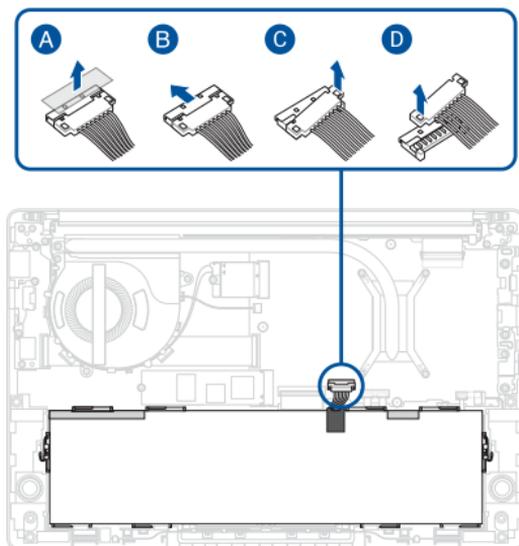
IMPORTANT! Serious risk of fire or explosion may occur if the battery is punctured. If you are uncertain about proceeding, stop and contact an authorized service center for assistance.

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

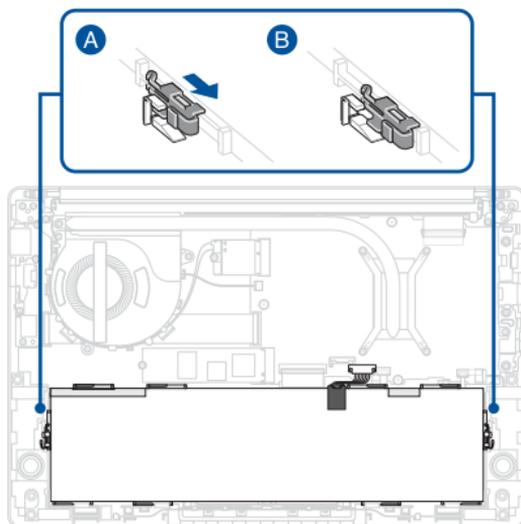
Removal

1. Remove the polyester film, then disconnect the battery power cable.

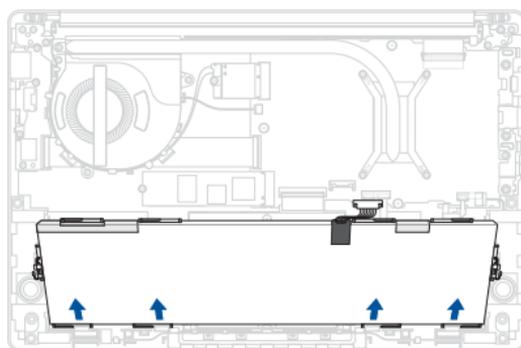
IMPORTANT! Disconnect the battery power cable by lifting the side with the red wires first.



2. Push the latches into the unlocked position.



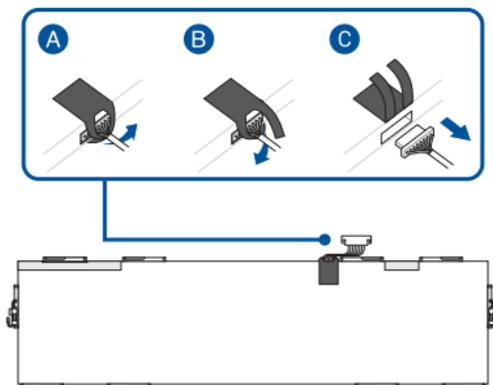
3. Remove the battery.



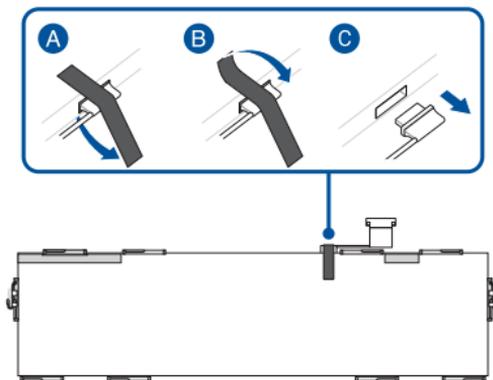
4. Remove the tape, then disconnect the cable.

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

14" models

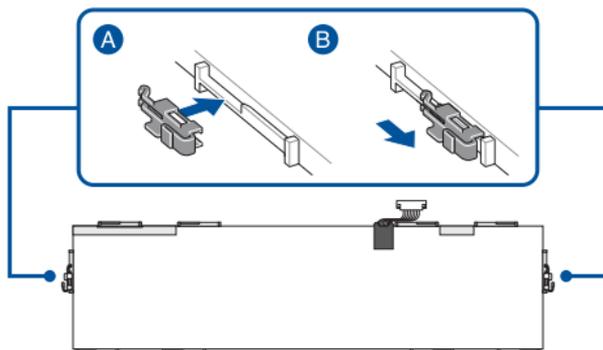


15" models



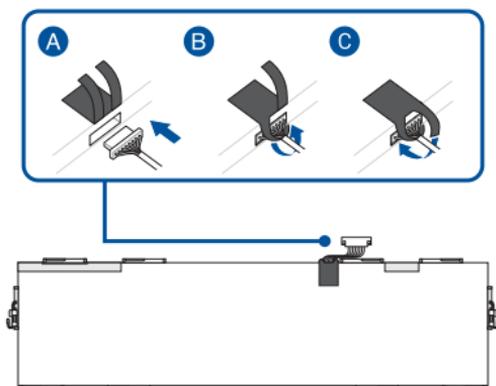
Installation

1. Install the latches.

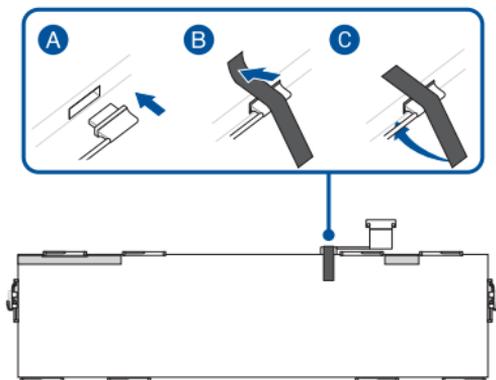


2. Reconnect the cable, then reattach the tape.

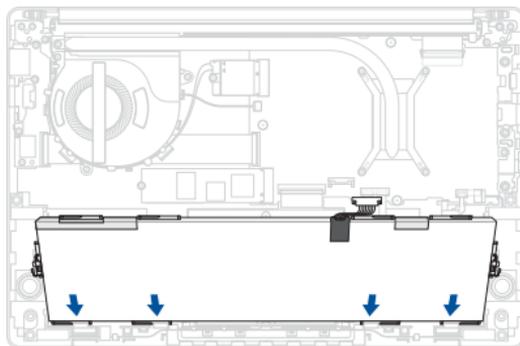
14" models



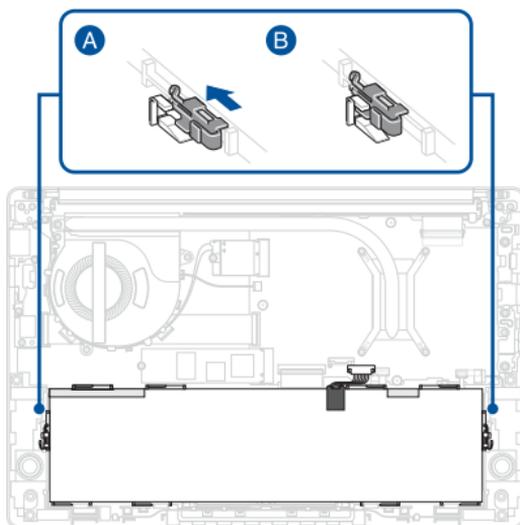
15" models



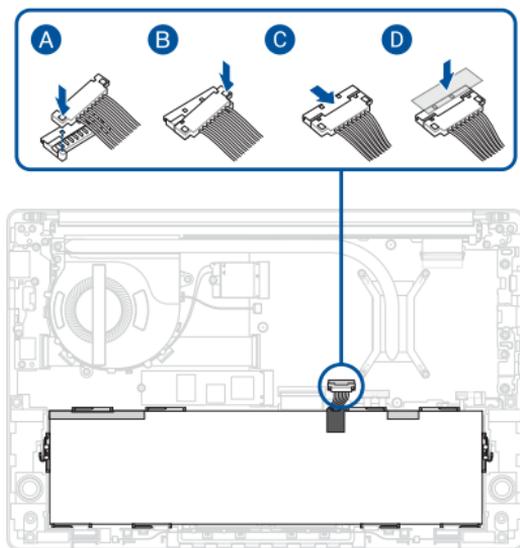
3. Install the battery.



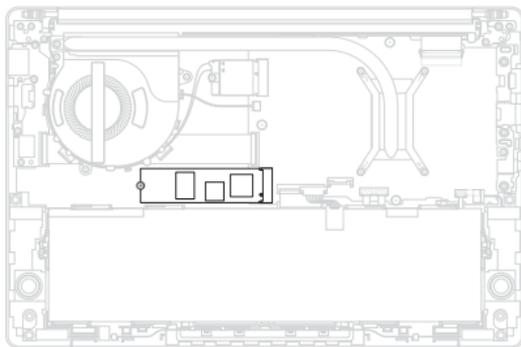
4. Push the latches into the locked position.



5. Reconnect the battery power cable, then reattach the polyester film.
6. Install the components you removed in the *Before you begin* section.



M.2 SSD module



Before you begin

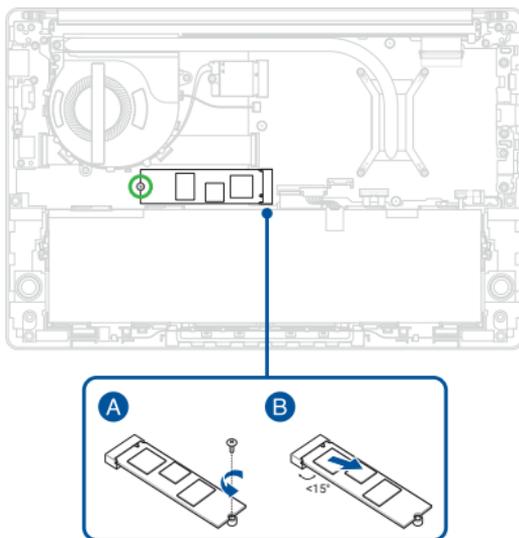
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.

Screw list

- ⊕ M2.0 X 2.5L (1pc)

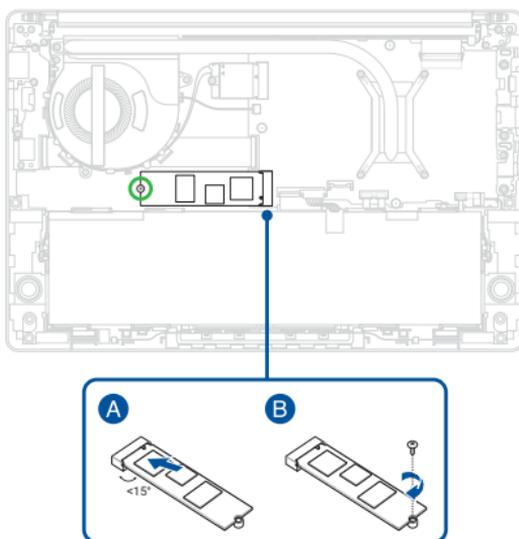
Removal

1. Remove the screw.
2. Remove the M.2 SSD module from the motherboard.

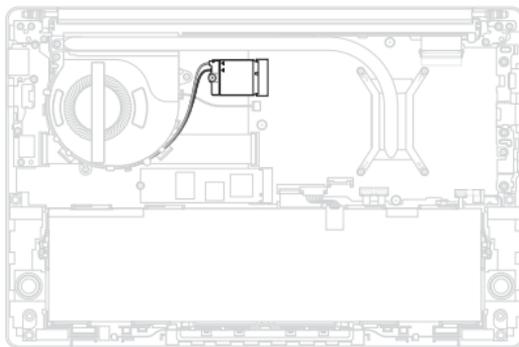


Installation

1. Align and insert the M.2 SSD module into the M.2 connector on the motherboard.
2. Secure the M.2 SSD module using the screw you removed earlier.
3. Install the components you removed in the *Before you begin* section.



WLAN module



Before you begin

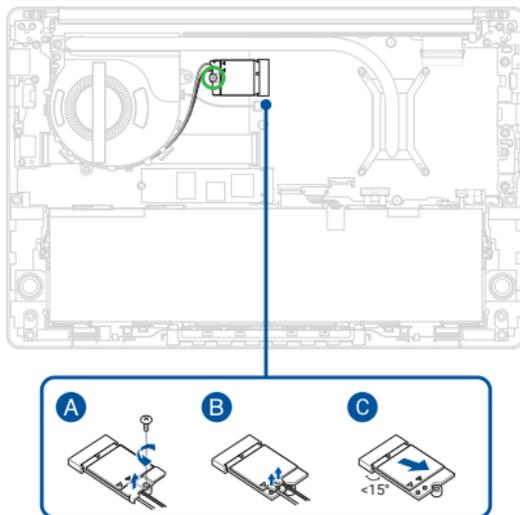
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.

Screw list

- ⊕ M2.0 X 2.5L (1pc)

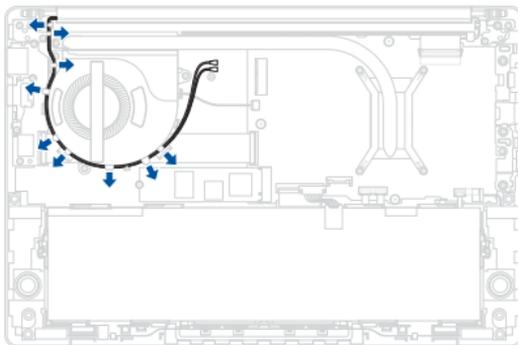
Removal

1. Remove the screw, then remove the bracket.
2. Disconnect the cable(s).
3. Remove the WLAN module.

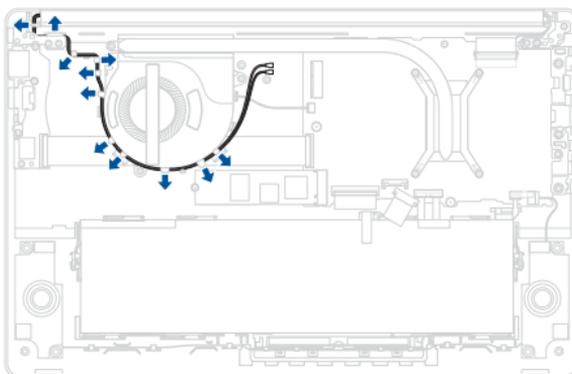


4. Remove the tape (if available) then remove the cable(s) from the cable guide(s).

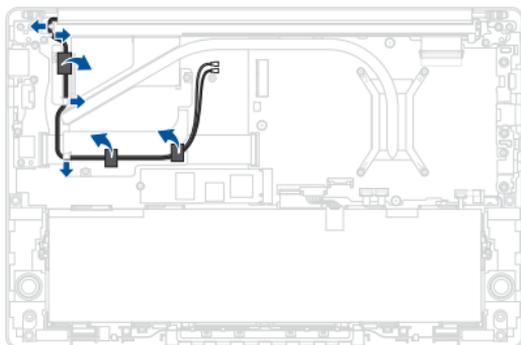
14" models with a heat sink and fan



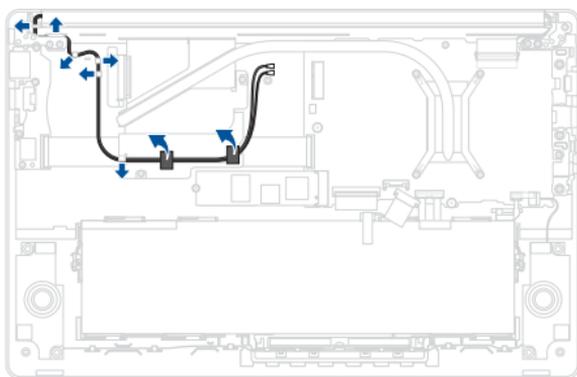
15" models with a heat sink and fan



14" models with a passive heat sink



15" models with a passive heat sink

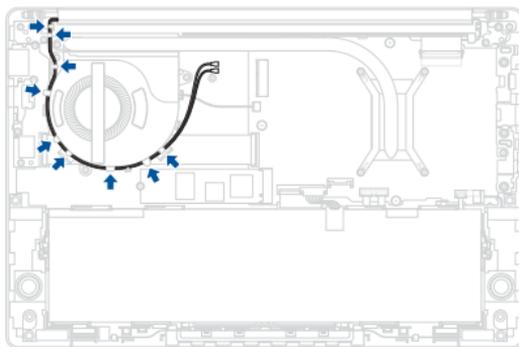


Installation

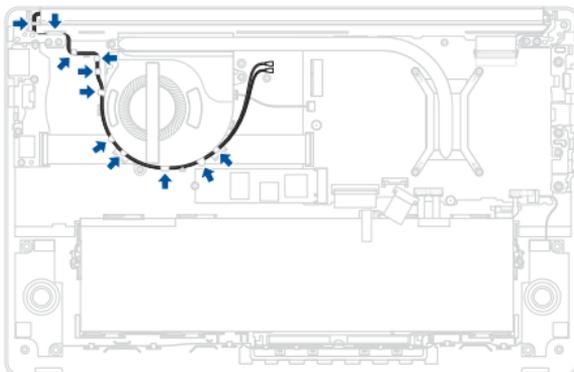
1. Route the cable through the cable guide(s), then reattach the tape (if available).

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.

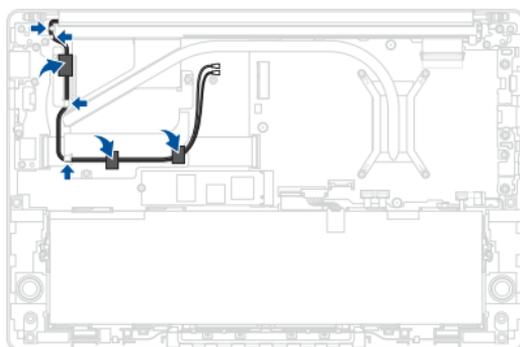
14" models with a heat sink and fan



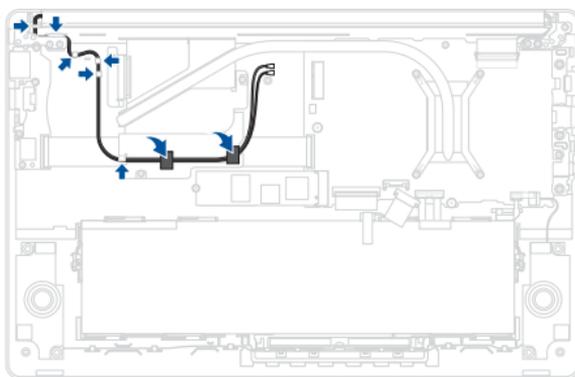
15" models with a heat sink and fan



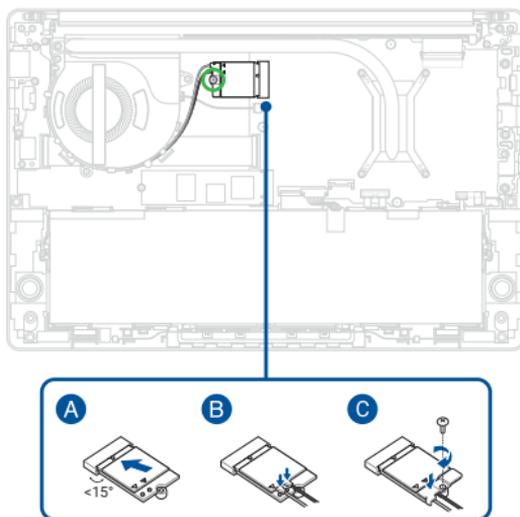
14" models with a passive heat sink



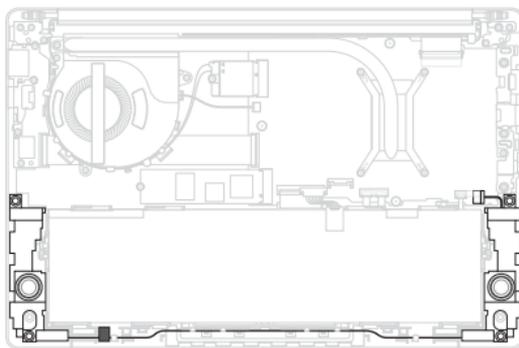
15" models with a passive heat sink



2. Install the WLAN module.
3. Reconnect the cable(s).
4. Install the bracket, then secure the bracket using the screw you removed earlier.
5. Install the components you removed in the *Before you begin* section.



Speakers



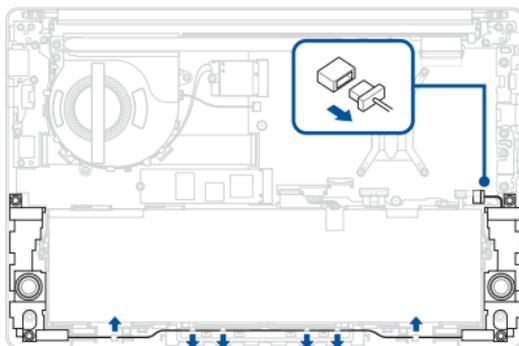
Before you begin

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

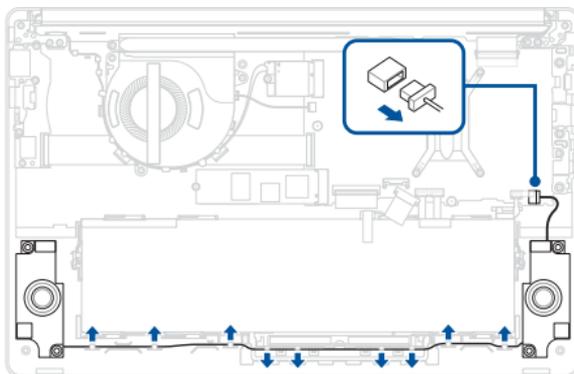
Removal

Disconnect the cable, then remove the speakers.

14" models



15" models



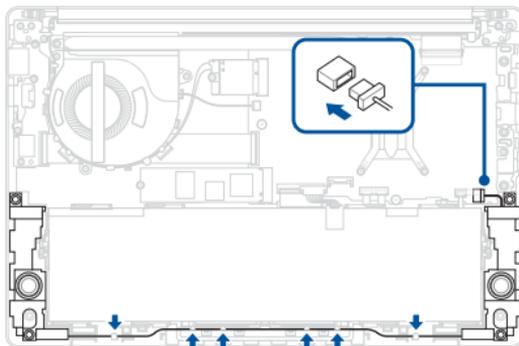
Installation

1. Install the speakers and route the cable through the cable guide(s), then reconnect the cable.

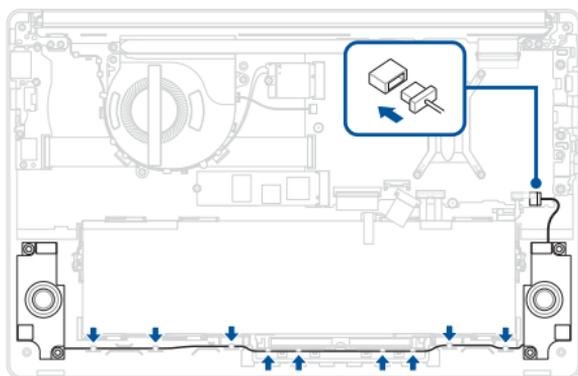
IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

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

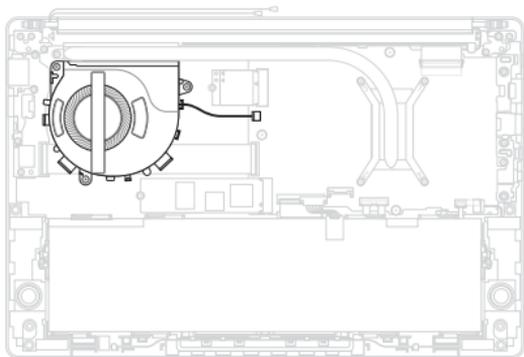
14" models



15" models



Fan module (on selected models)



Before you begin

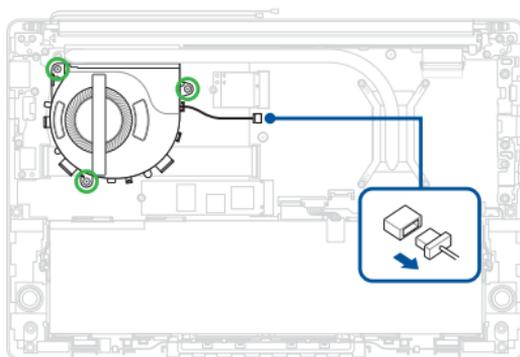
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the following components:
 - Bottom cover
 - Battery
 - WLAN module

Screw list

- ⊕ M2.0 X 2.5L (3pcs)

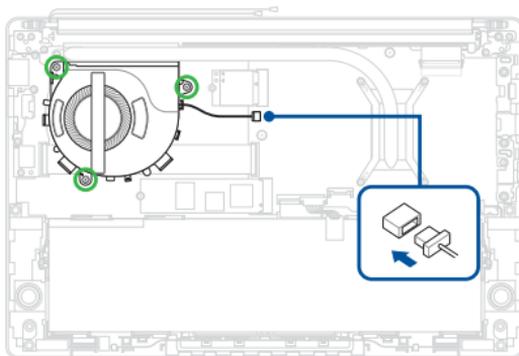
Removal

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

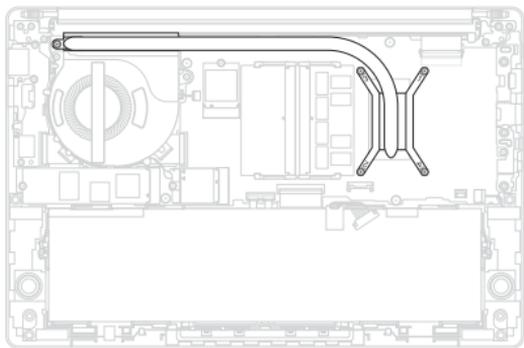


Installation

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



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.

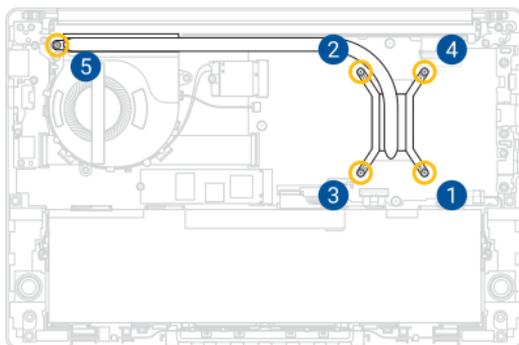
Screw list

- ⊕ M2.0 X 2.5L (0-3pcs)
- ⊕ M2.0 X 2.0L (4-5pcs)

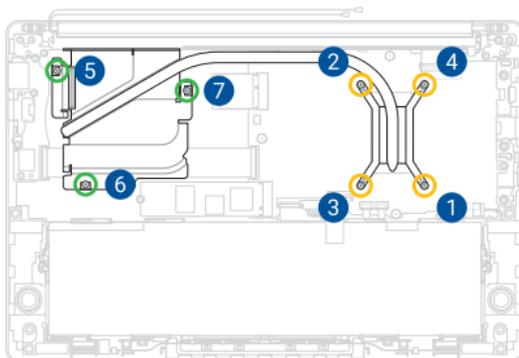
Removal

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

Models with a heat sink and fan



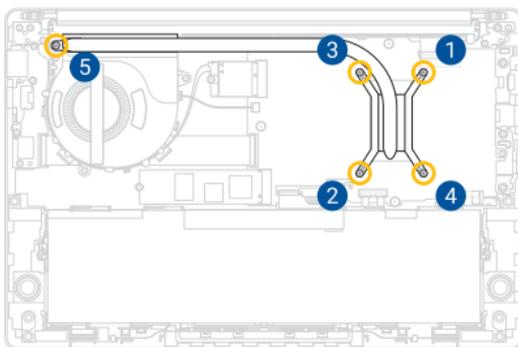
Models with a passive heat sink



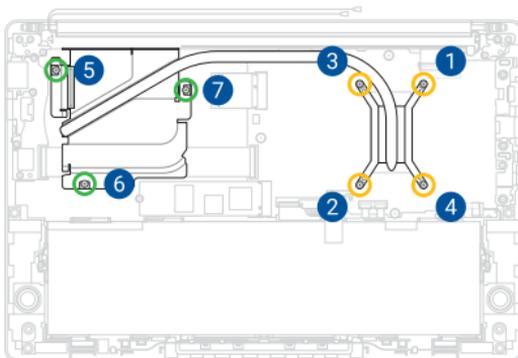
Installation

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.

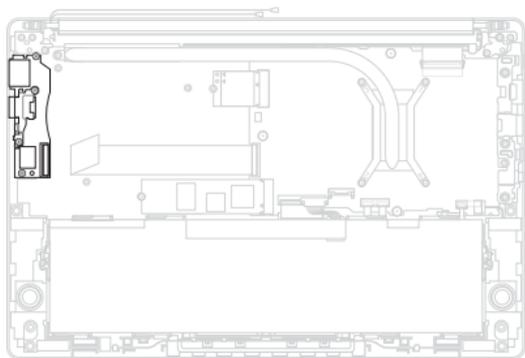
Models with a heat sink and fan



Models with a passive heat sink



I/O board



Before you begin

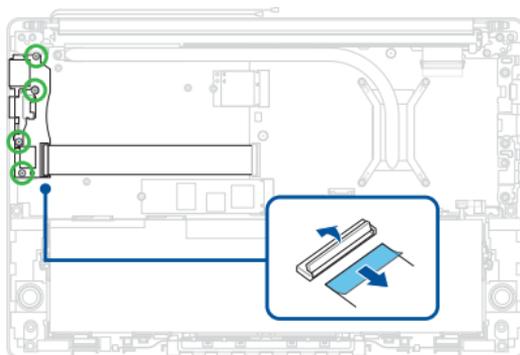
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.
3. Remove the following components:
 - Fan module (on selected models)

Screw list

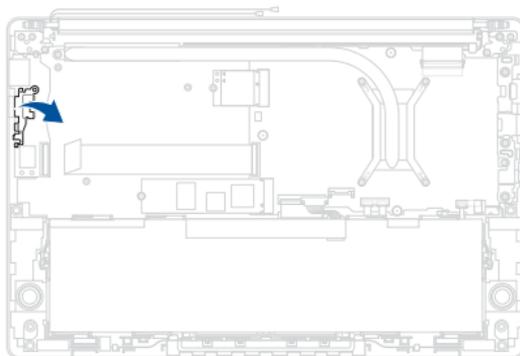
- ⊕ M2.0 X 4.0L (4pcs)

Removal

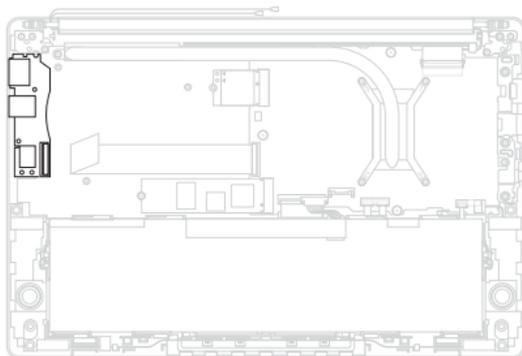
1. Disconnect the cable, then remove the screw(s).



2. Remove the bracket.

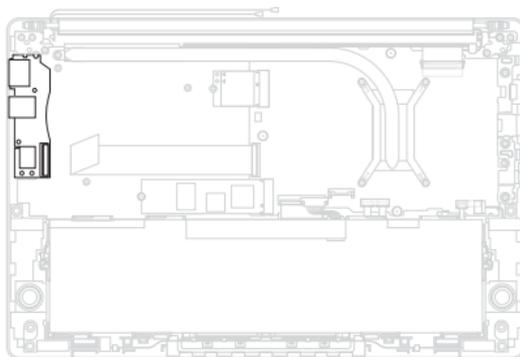


3. Remove the I/O board.

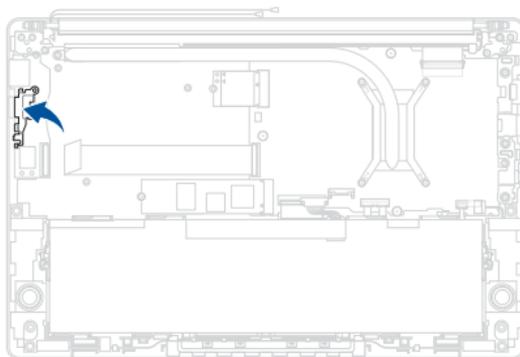


Installation

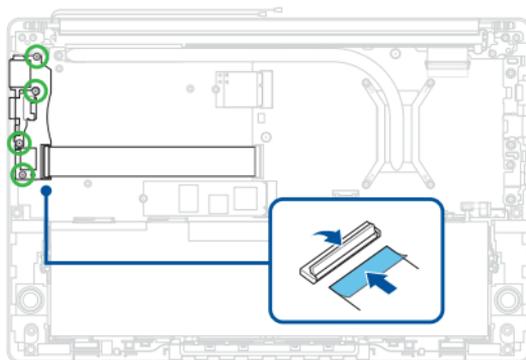
1. Install the I/O board.



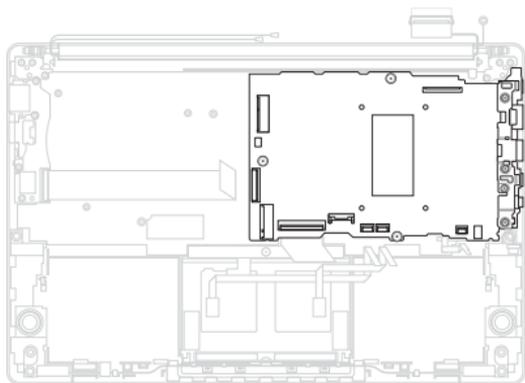
2. Install the bracket.



3. Secure the I/O board using the screw(s) you removed earlier, then reconnect the cable.
4. Install the components you removed in the *Before you begin* section.



Motherboard



Before you begin

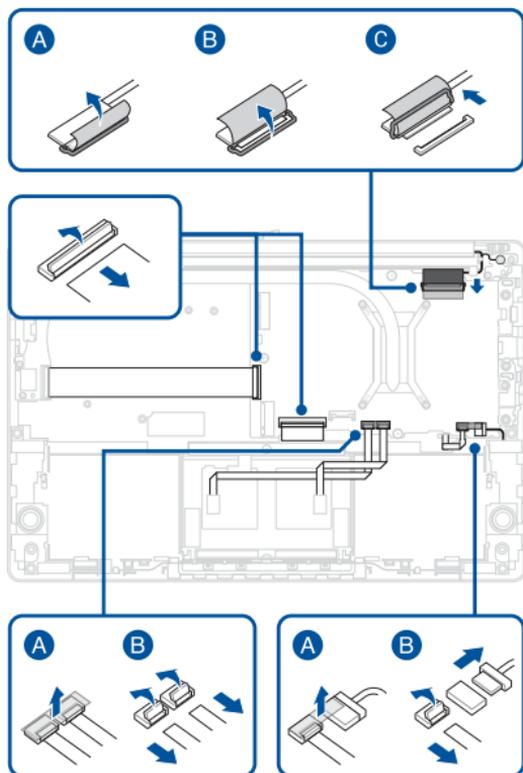
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.
3. Remove the following components:
 - Battery
 - M.2 SSD module
 - WLAN module
 - Fan module (on selected models)

Screw list

- ⊕ M2.0 X 4.0L (4-5pcs)
- ⊕ M2.0 X 2.5L (0-3pcs)
- ⊕ M2.0 X 2.0L, 7D (2-3pcs)
- ⊕ M2.0 X 2.0L (4-5pcs)

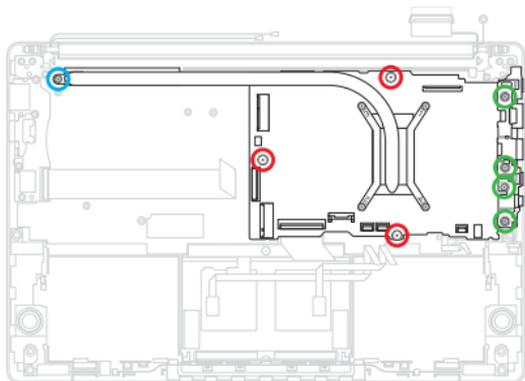
Removal

1. Remove the polyester film, then disconnect the cable(s).

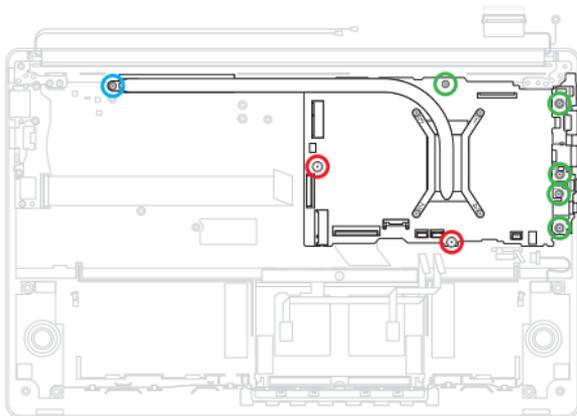


2. Remove the screw(s), then remove the motherboard.

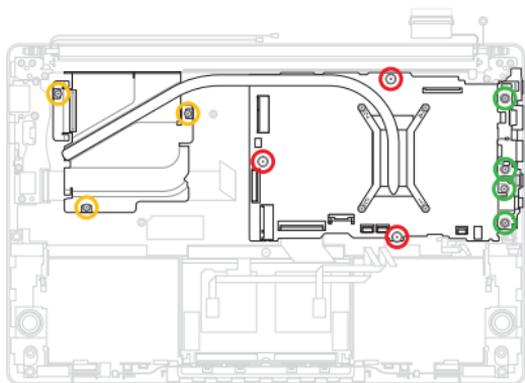
14" models with a heat sink and fan



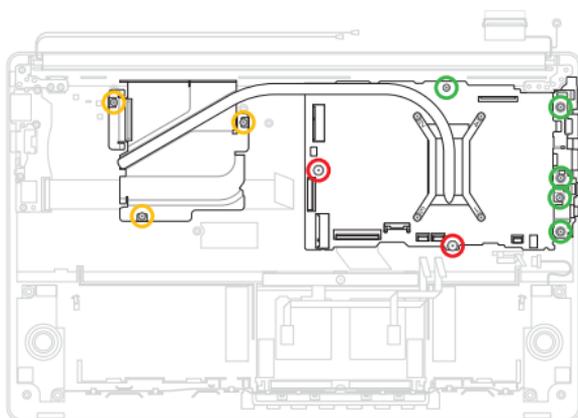
15" models with a heat sink and fan



14" models with a passive heat sink

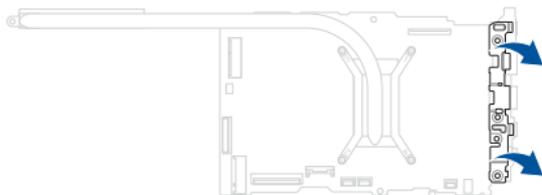


15" models with a passive heat sink

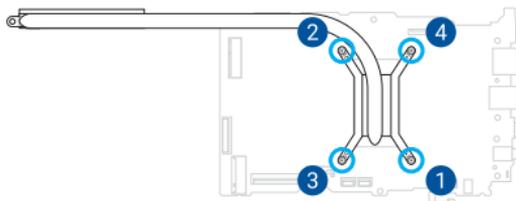


3. Remove the bracket.

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

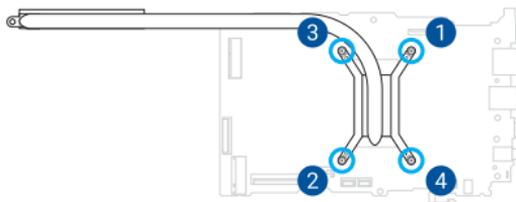


4. Remove the screw(s) one by one in the sequence shown in the illustration below, then remove the heat sink.

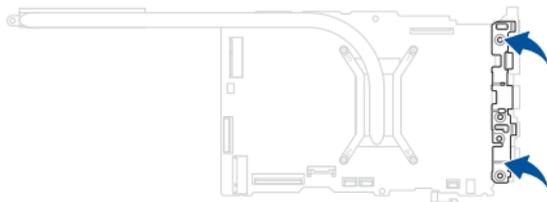


Installation

1. Install the heat sink, then secure the heat sink screw(s) one by one in the sequence shown in the illustration below.

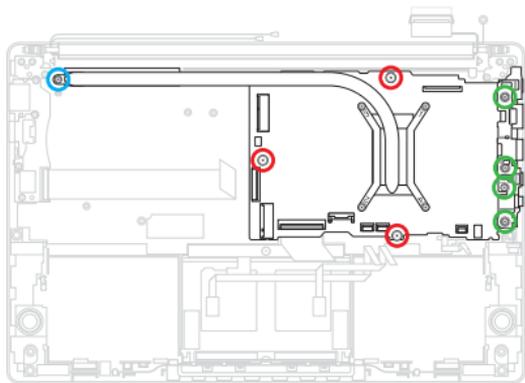


2. Install the bracket.

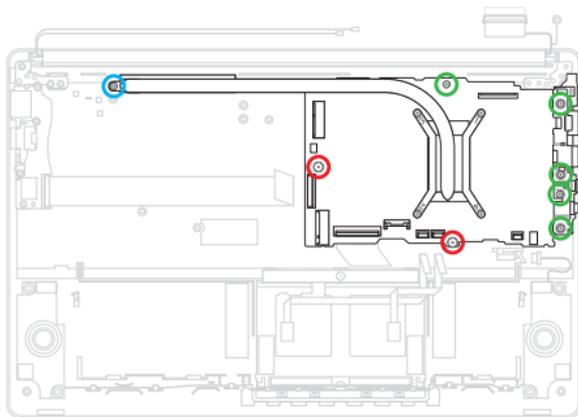


3. Install the motherboard, then secure the motherboard using the screw(s) you removed earlier.

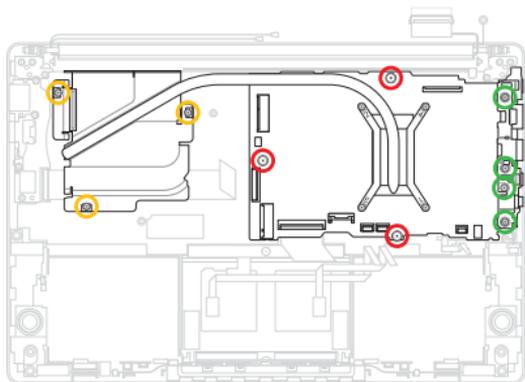
14" models with a heat sink and fan



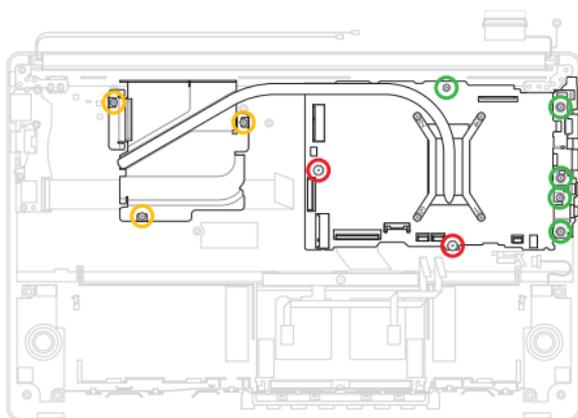
15" models with a heat sink and fan



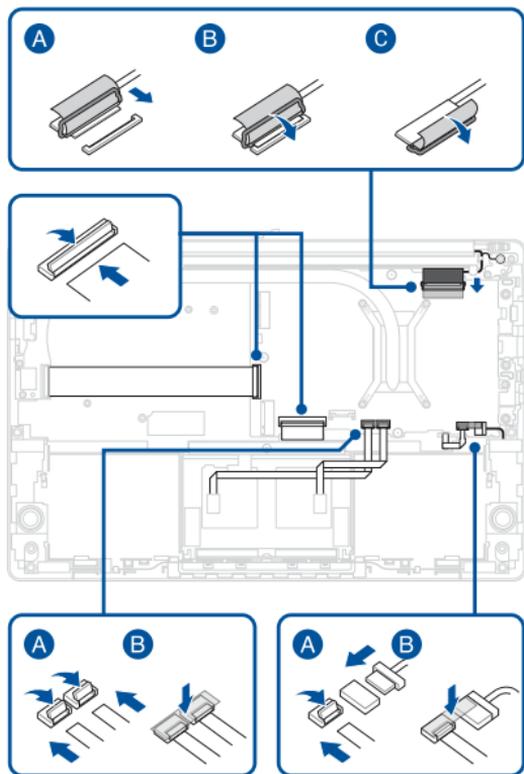
14" models with a passive heat sink



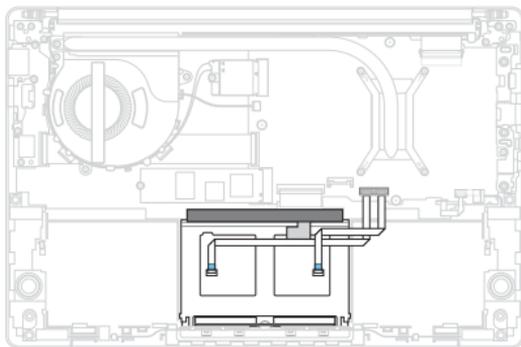
15" models with a passive heat sink



4. Reconnect the cable(s), then reattach the polyester film.
5. 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

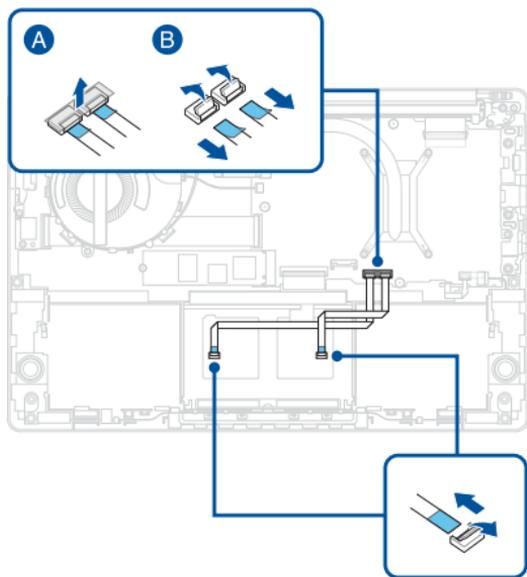
Screw list

- ⊕ M2.0 X 2.0L (3pcs)

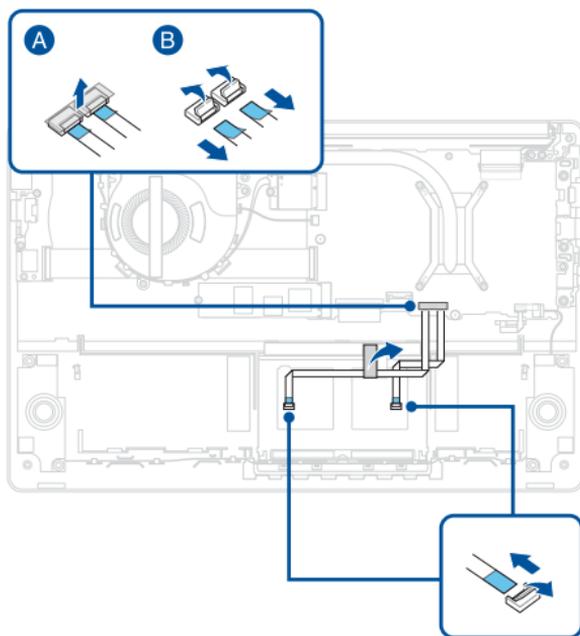
Removal

1. Remove the polyester film, then disconnect the cable(s).

14" models

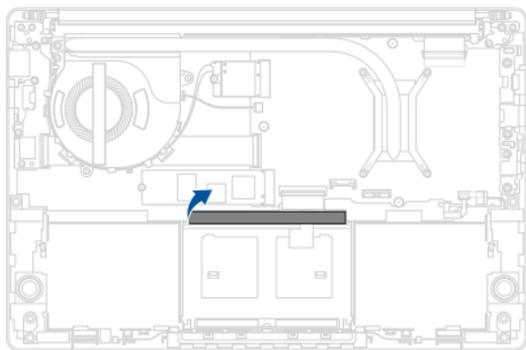


15" models

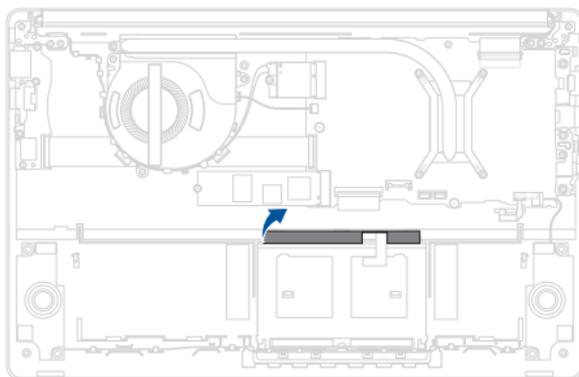


2. Remove the polyester film.

14" models

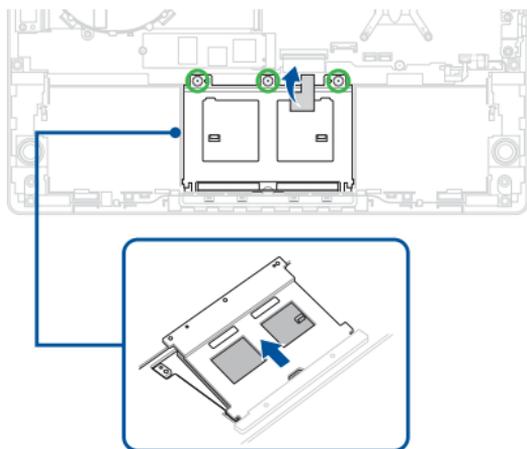


15" models

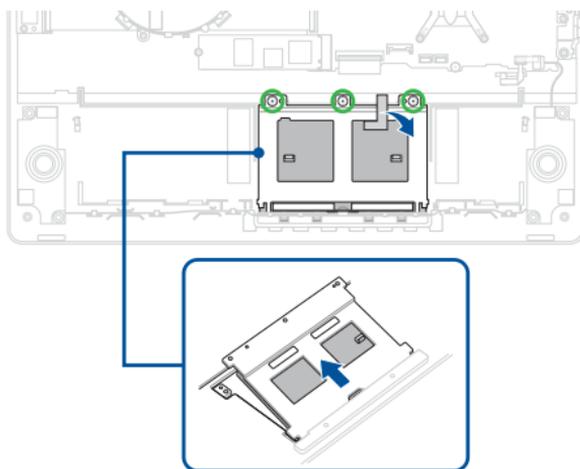


3. Remove the tape and remove the screw(s), then remove the touchpad.

14" models



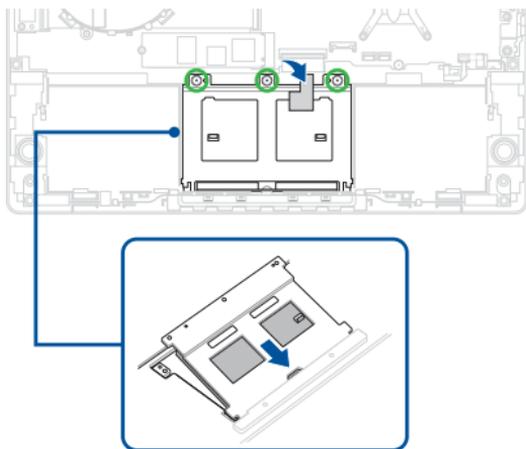
15" models



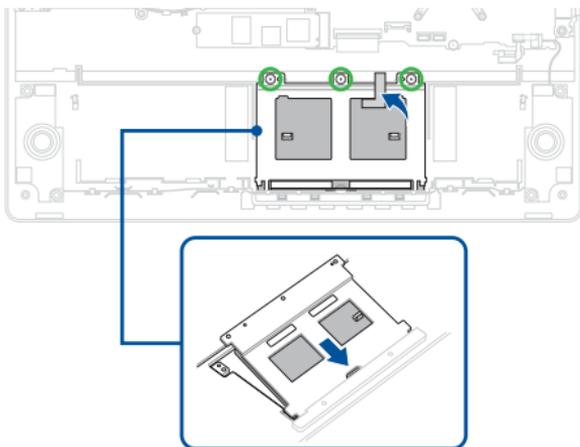
Installation

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

14" models

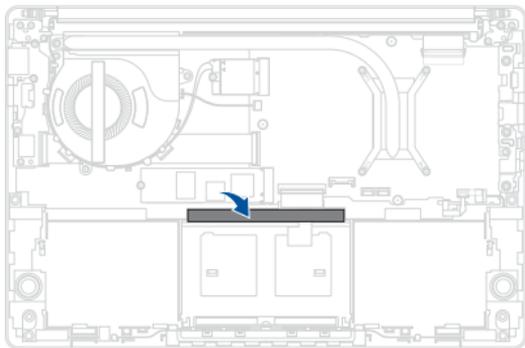


15" models

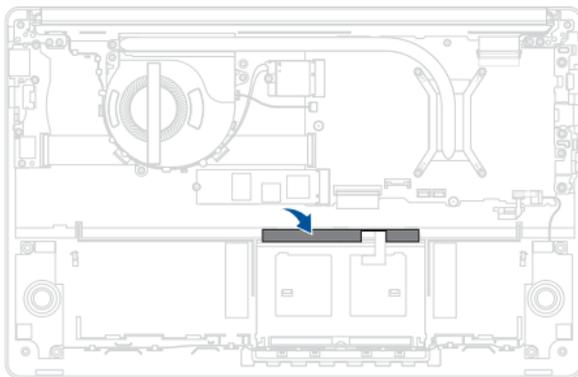


2. Reattach the polyester film.

14" models

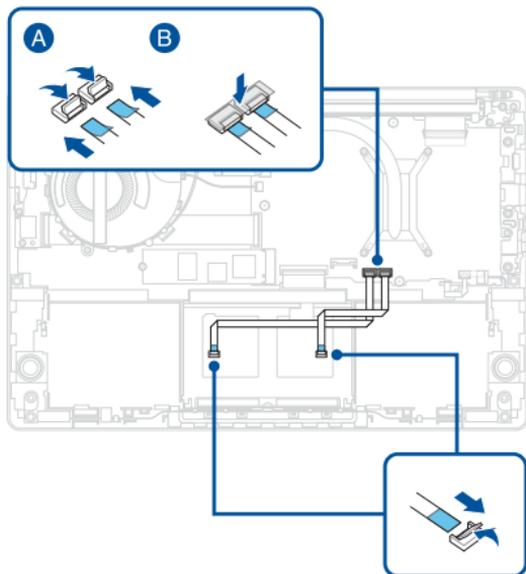


15" models

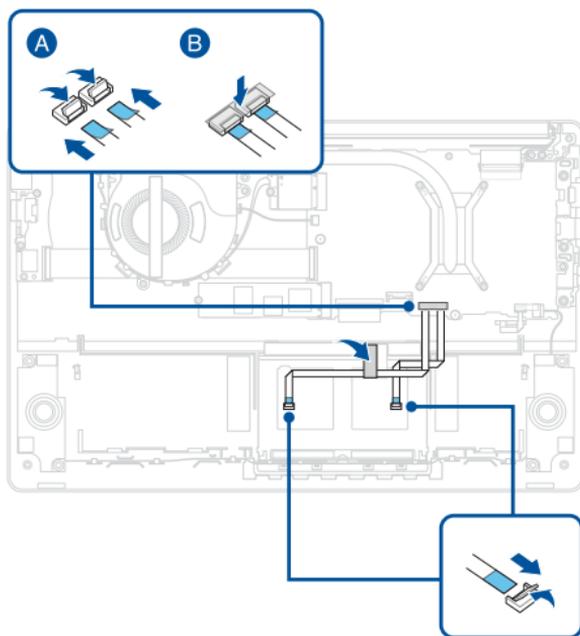


3. Reconnect the cable(s), then reattach the polyester film.
4. Install the components you removed in the *Before you begin* section.

14" models



15" models



Display panel module



Before you begin

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

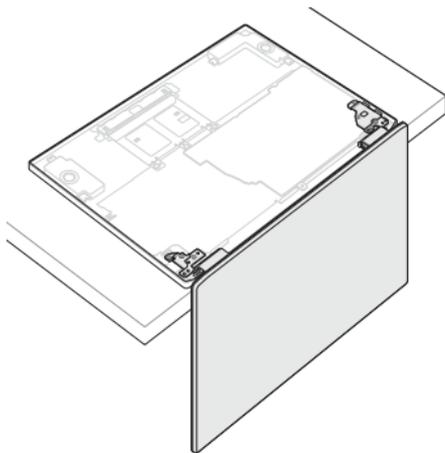
1. Read the **Safety Precautions** and **Pre-repair Checklist**.
2. Remove the bottom cover and disconnect the battery power cable.
3. Remove the following components:
 - WLAN module

Screw list

- ⊕ M2.0 X 5.0L (6pcs)
- ⊕ M2.0 X 4.0L (6pcs)

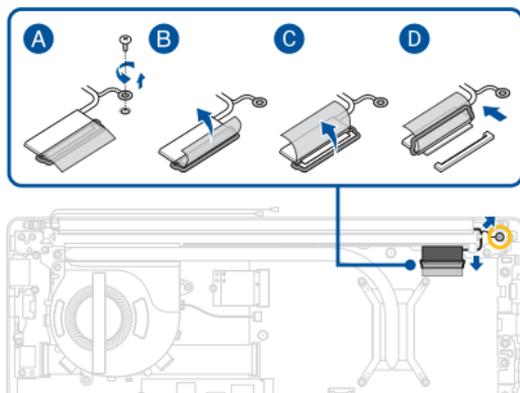
Removal

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

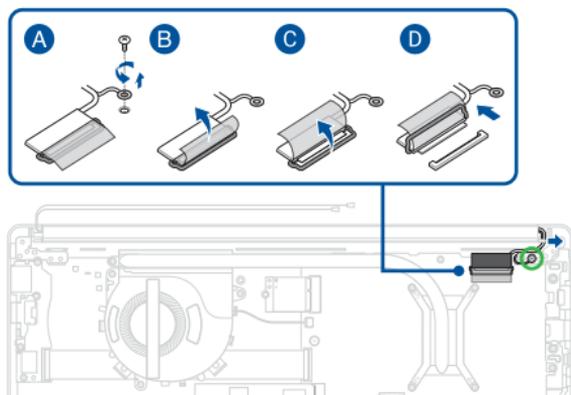


2. Remove the screw, then disconnect the cable.

14" models

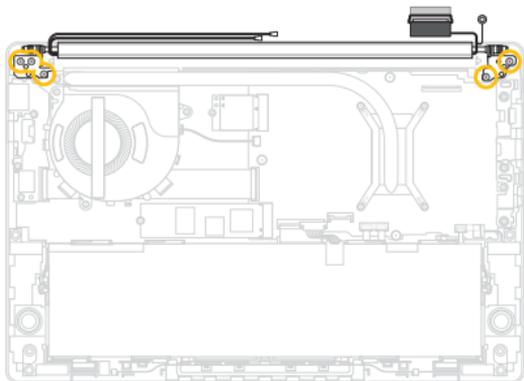


15" models

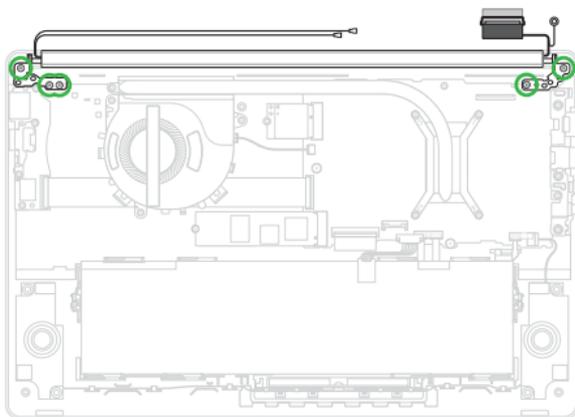


3. Remove the screw(s).

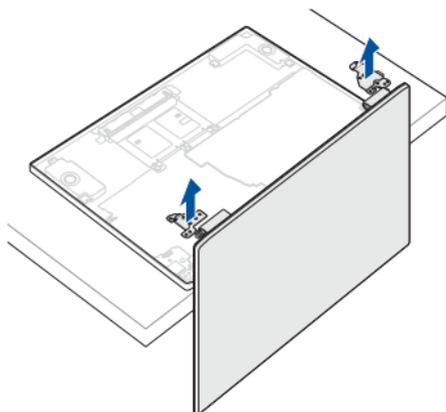
14" models



15" models

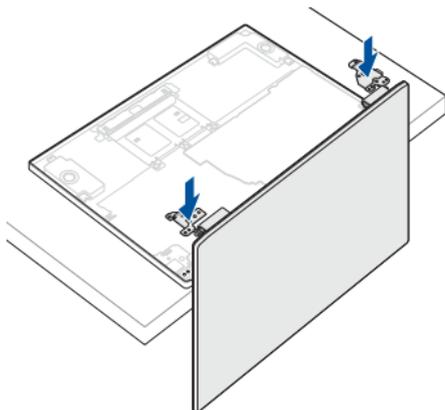


4. Remove the display panel module.



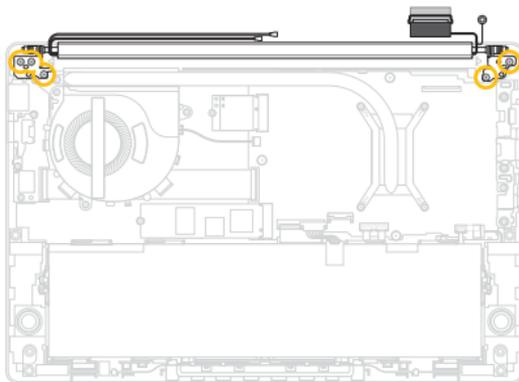
Installation

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

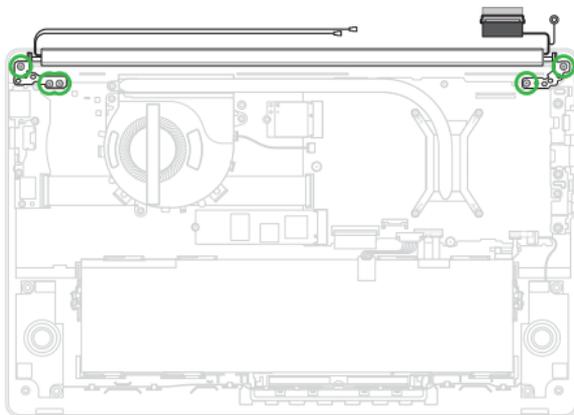


2. Secure the display panel module using the screw(s) you removed earlier.

14" models

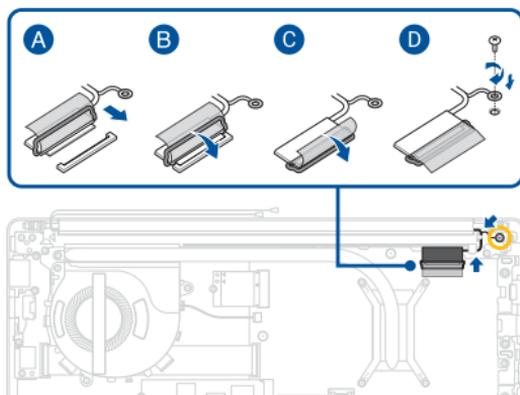


15" models

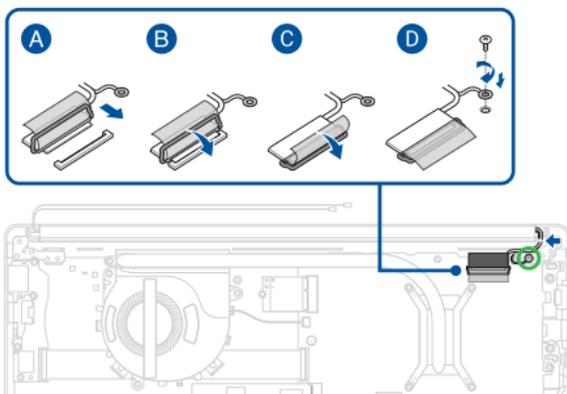


3. Reconnect the cable, then secure the cable using the screw you removed earlier.
4. Install the components you removed in the *Before you begin* section.

14" models



15" models



Display bezel



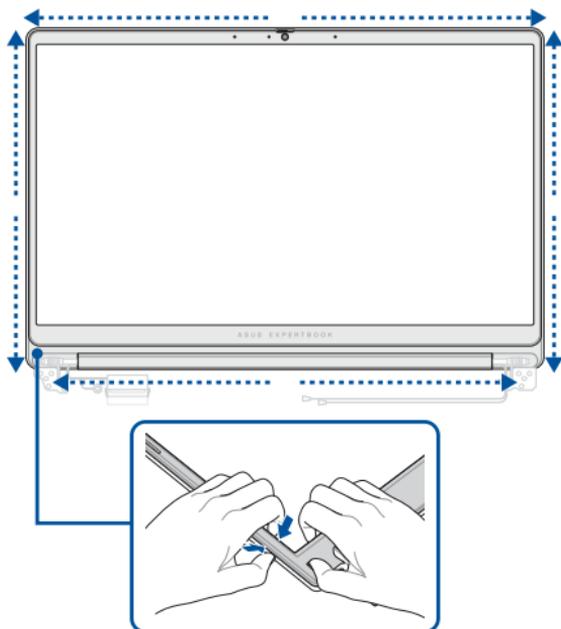
Before you begin

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

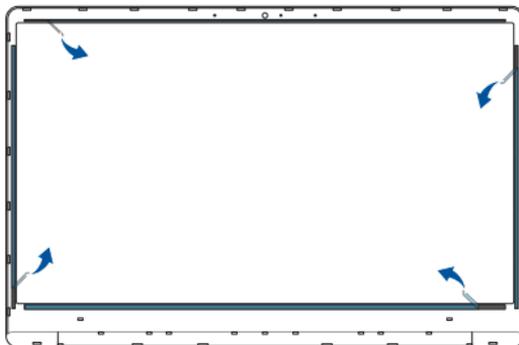
Removal

Carefully pry the bezel loose, then remove the bezel.

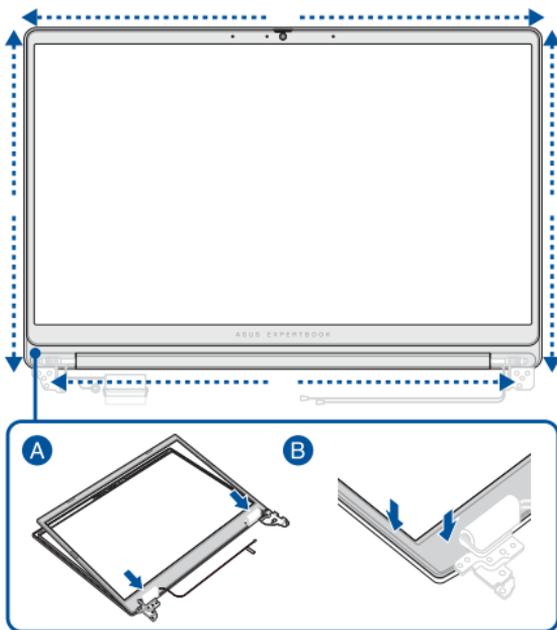


Installation

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



2. Align and install the bezel.
3. Install the 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

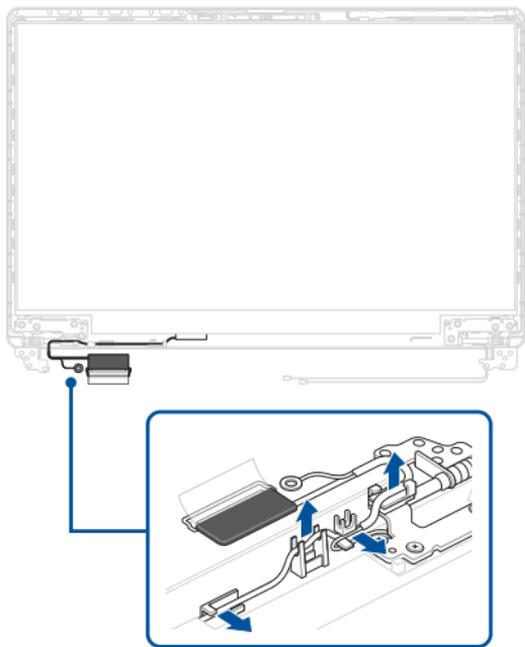
Screw list

- ⊕ M2.5 X 3.0L (8pcs)

Removal

1. Remove the cable from the cable guide(s) (on selected models).

14" models

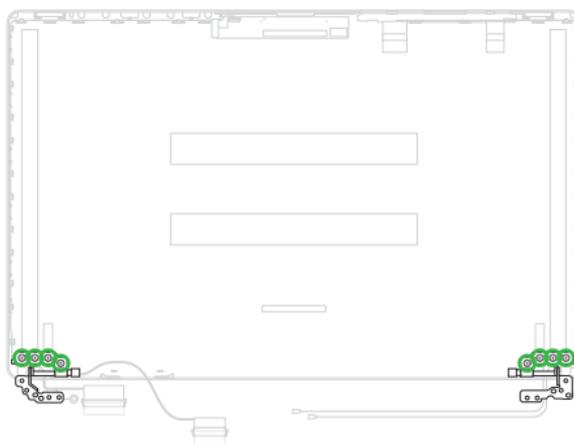


2. Remove the screw(s), then remove the hinges.

14" models



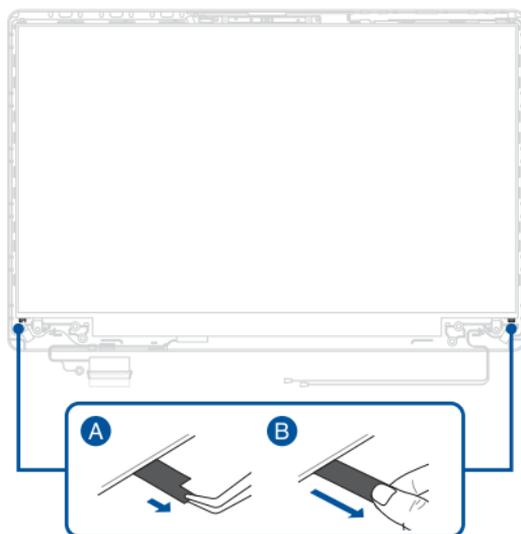
15" models



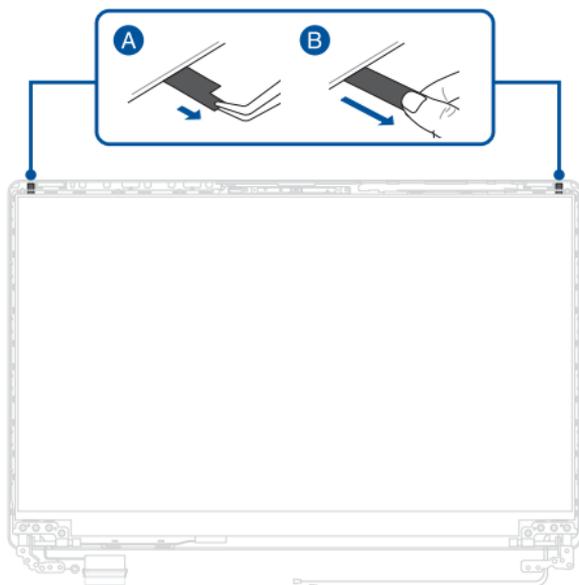
3. Locate the tip of the stretch release tape, then carefully pull out the stretch release tape as shown in the illustration below.

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.

14" models



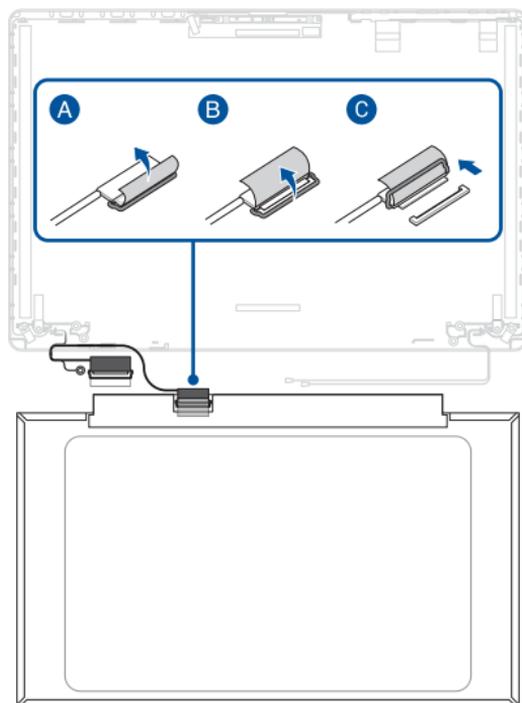
15" models



4. Lift and flip the display panel over.



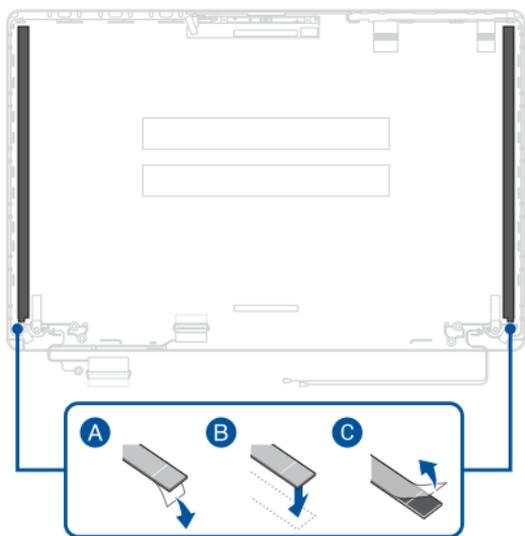
5. Disconnect the cable.



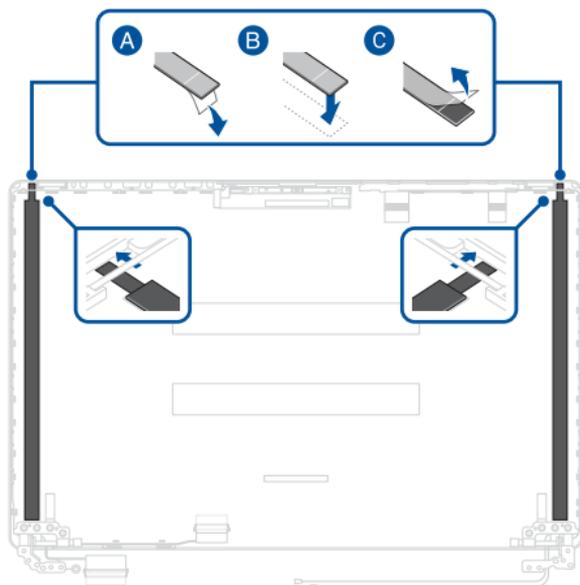
Installation

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.

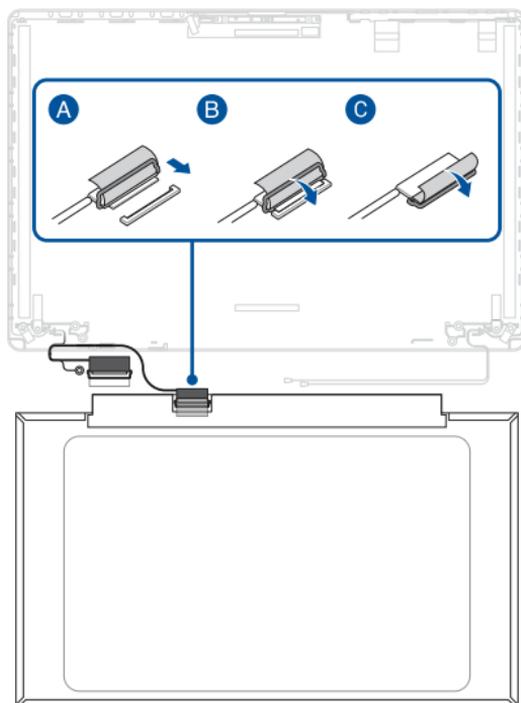
14" models



15" models



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.

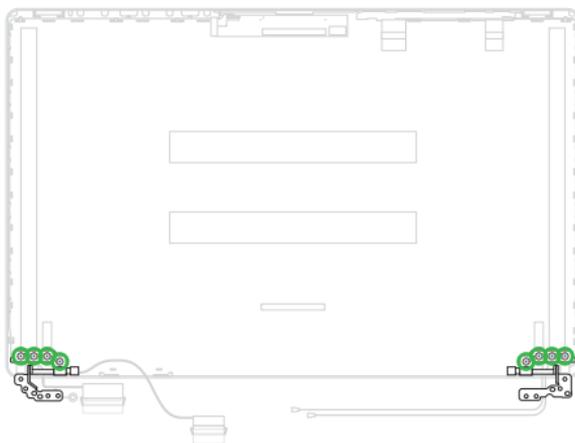


6. Install the hinges, then secure the hinges using the screw(s) you removed earlier.

14" models



15" models

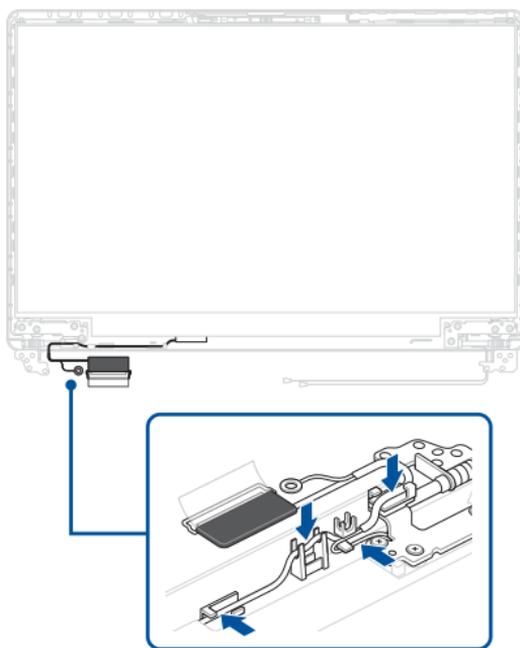


7. Route the cable through the cable guide(s) (on selected models).

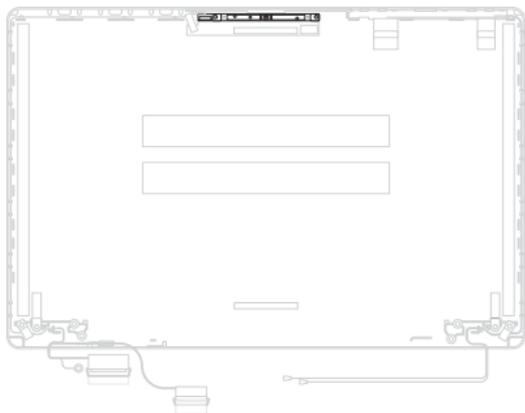
IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

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

14" models



Camera module



Before you begin

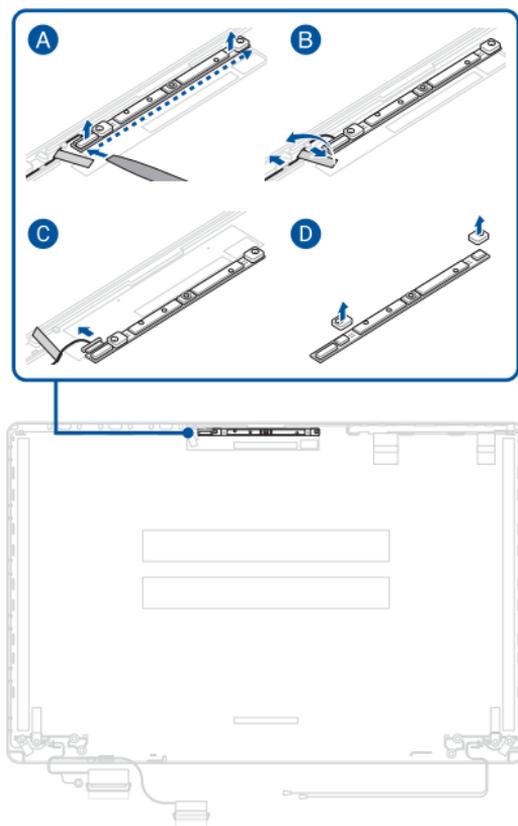
IMPORTANT! This component is fragile. Damage may occur if the service procedure is performed incorrectly. If you are uncertain about proceeding, stop and contact an authorized service center for assistance.

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

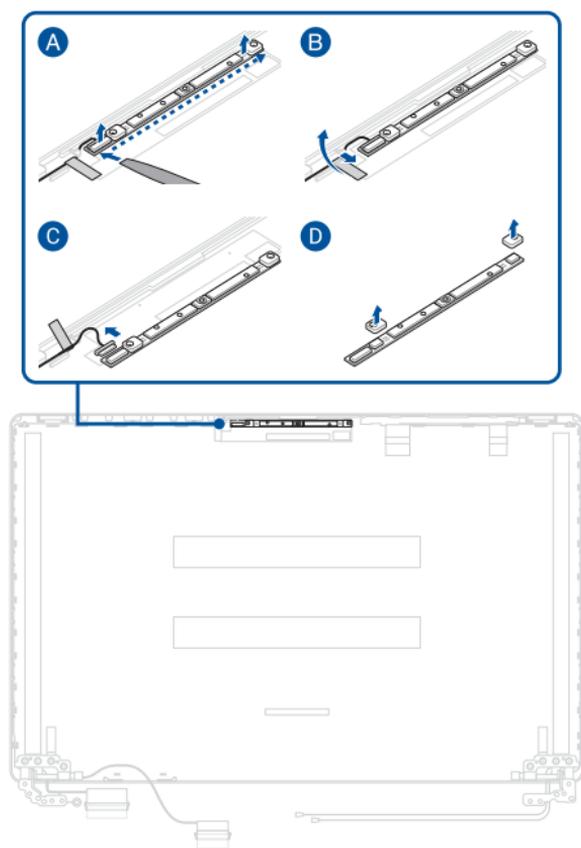
Removal

1. Carefully remove the camera module.
2. Remove the tape, then remove the cable from the cable guide(s).
3. Disconnect the cable.
4. Remove the rubber caps from the camera module.

14" models



15" models



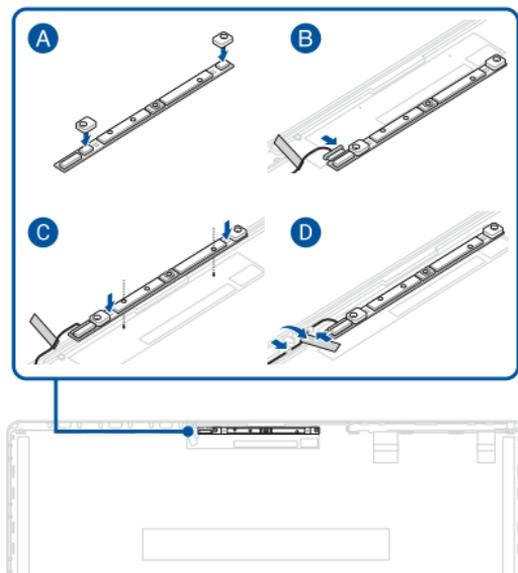
Installation

1. Attach the rubber caps to the camera module.
2. Reconnect the cable.
3. Install the camera module.
4. Route the cable through the cable guide, then reattach the tape.

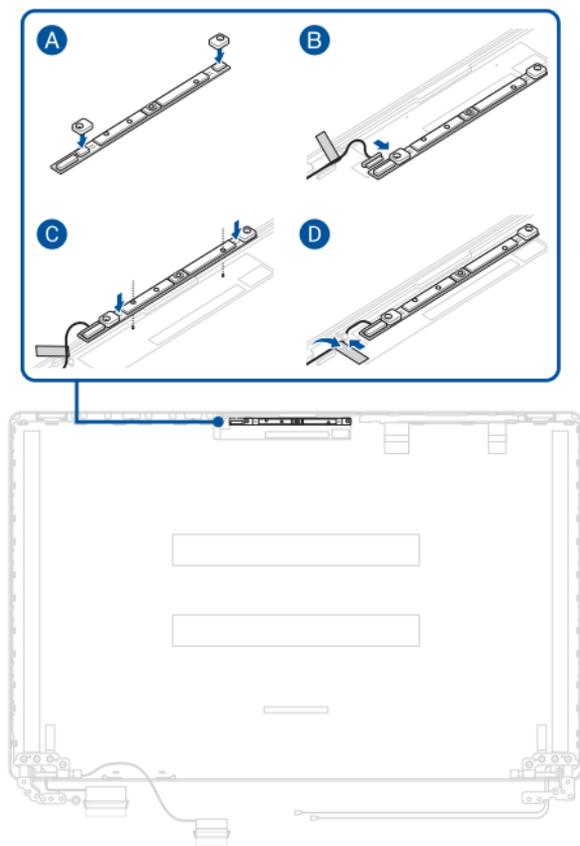
IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

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

14" models



15" models



Top cover



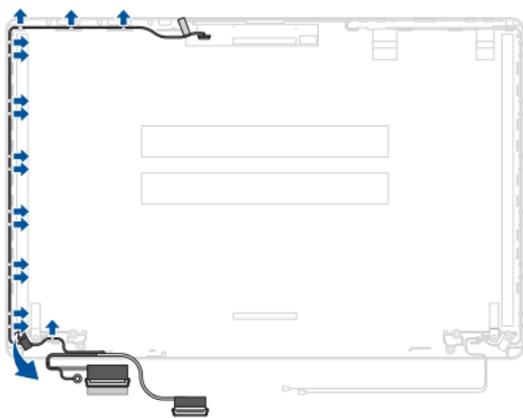
Before you begin

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
 - Camera module

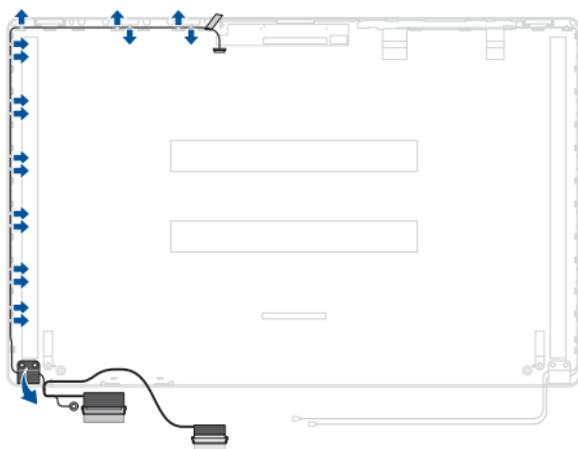
Removal

1. Remove the tape, then remove the cable.

14" models



15" models

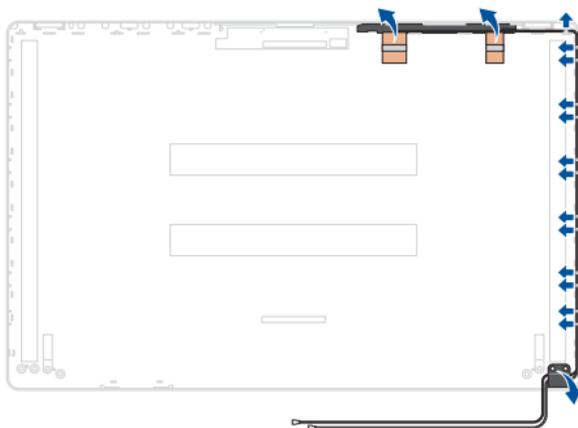


2. Remove the tape, then remove the cable.

14" models



15" models



Installation

1. Reattach the cable, then route the cable through the cable guide 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.

14" models



15" models

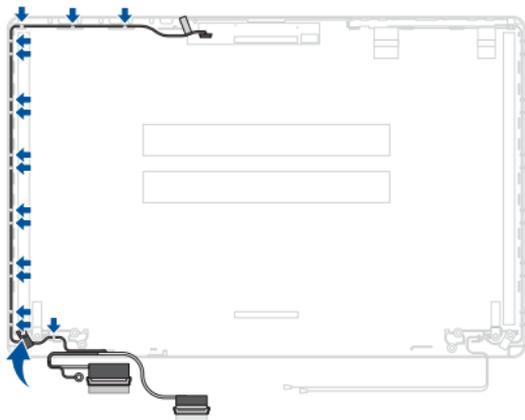


2. Reattach the cable, then route the cable through the cable guide and reattach the tape.

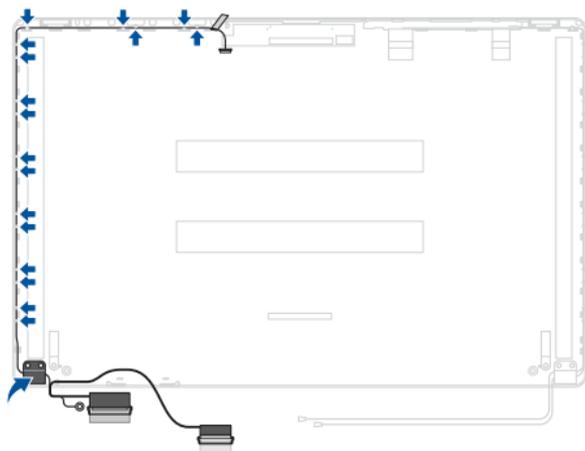
IMPORTANT! Damage may occur if cables are not properly routed through the cable guides. Confirm that all cables are routed through each of the indicated cable guides before proceeding.

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

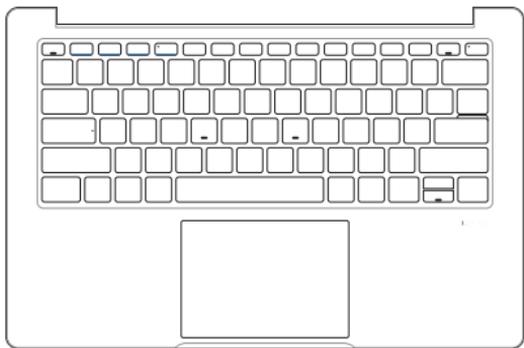
14" models



15" models



Keyboard module



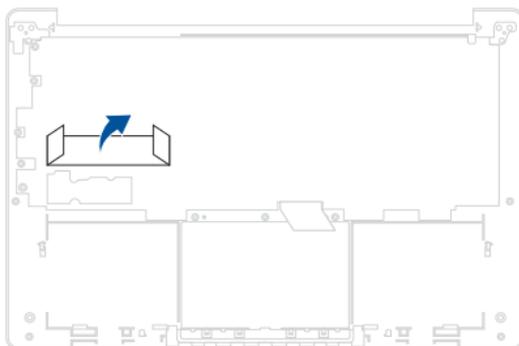
Before you begin

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
 - Speakers
 - Fan module (on selected models)
 - Heat sink

- I/O board
- Motherboard
- Touchpad
- Display panel module

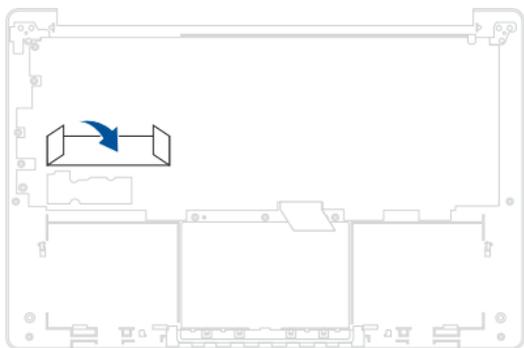
Removal

Remove the cable.



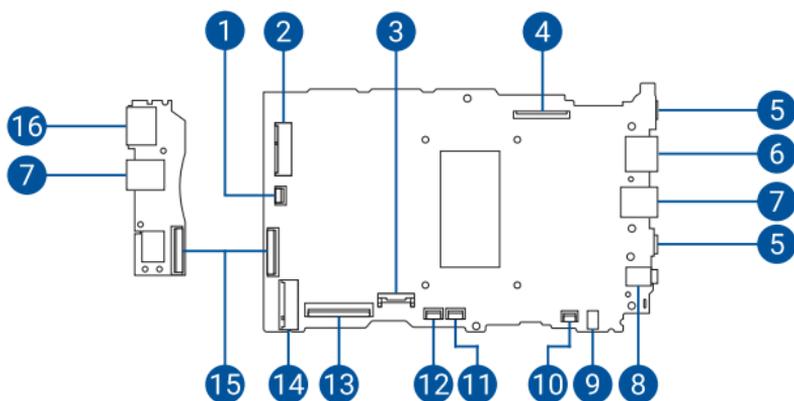
Installation

1. Reattach the cable.
2. Install the components you removed in the *Before you begin* section.



Appendix

Wiring and connection diagrams



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

* On selected models