System Upgrades and Repairs

CELSIUS H7613

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System Upgrades and Repairs

We recommend printing out the relevant sections of this chapter prior to installation as the device for installing/removing hardware components needs to be switched off.

The following illustrations may differ from your device, depending on its configuration and features.

If you have received any further documents with your device, you should read these through carefully.

Please note the following instructions before installing/removing system components:

- The device must be switched off when installing/removing components and it must not be in power-saving mode.
- Disconnect the mains plug before opening the device.
- Press on the power button for approx. 5-10 seconds in order to discharge the remaining power.
- Remove all externally connected cables.
- Take care not to pinch any cables when installing/removing components.
- Please ensure that the installed components that might heat up intensely during operation do not exceed the permitted operating temperature.

Please take note of the target audience addressed in these instructions. Damage to the device incurred as a result of unqualified methods used during repair work as well as the use of unsuitable spare parts or assemblies during the repair work or upgrades of the device may void your warranty claim.

During a system expansion or a hardware upgrade, it is possible that the BIOS must be updated. You can find more information in the technical information provided for your device.

Information on the installation and removal of components

These instructions provide information on disassembling the device in addition to upgrading or exchanging components.
The steps in these instructions describe the removal of a component. Installation is carried out in the reverse order.
Specifics are separately described after the removal.

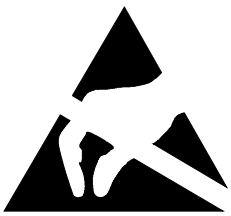
Please pay attention to the locking mechanism (indentations and centring pins) when installing hardware components.

Note that some components on the mainboard may be very hot if the device was in use shortly before the case was removed.

Utmost care is required during installation and removal to avoid damaging components.
Use a non-slip base.

Never use items with sharp edges (screwdrivers) to lever them out.

Parts with Electrostatic Sensitive Devices (ESD) can be identified by a corresponding label.
When dealing with boards with ESDs, the following points must always be observed:



- Always ensure there is a static discharge (e.g. by touching a grounded object) prior to commencing with the work.
- The devices and tools being used must not be statically charged.
- Only touch the components along the edges or on the areas marked in green (contact points).
- Contacts and electronic components must not touch when handling components equipped with ESD protection.

Screws

Screw: M2.5XL6 (D4.5) Screwdriver: Phillips PH00 (ISO 8764)		
Screw: M2.0XL2.5 Screwdriver: Phillips PH00 (ISO 8764)		
Screw: M2.5XL4 Screwdriver: Phillips PH00 (ISO 8764)		

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Tools

Screwdriver: Phillips PH00 (ISO 8764)

Plastic tool (from iFixit: Part # 922-5065)

Plastic tool (from iFixit: Part # SKU: EU145335-1)

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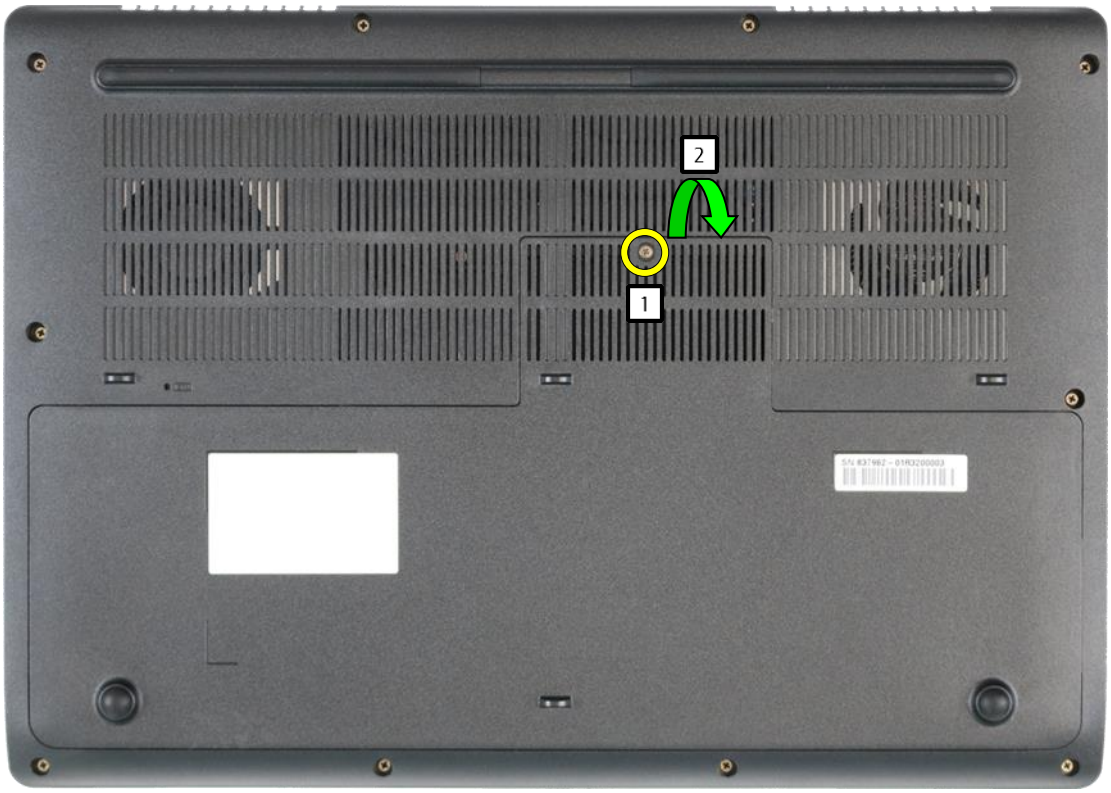
Remove the service door

Required work steps:
- Close the notebook
- Remove cables and components

Required tools:
- Screwdriver: Phillips PH00



- Undo the screw (1).
- Remove the service door (2).

Please note that the screw is firmly anchored and cannot be removed.

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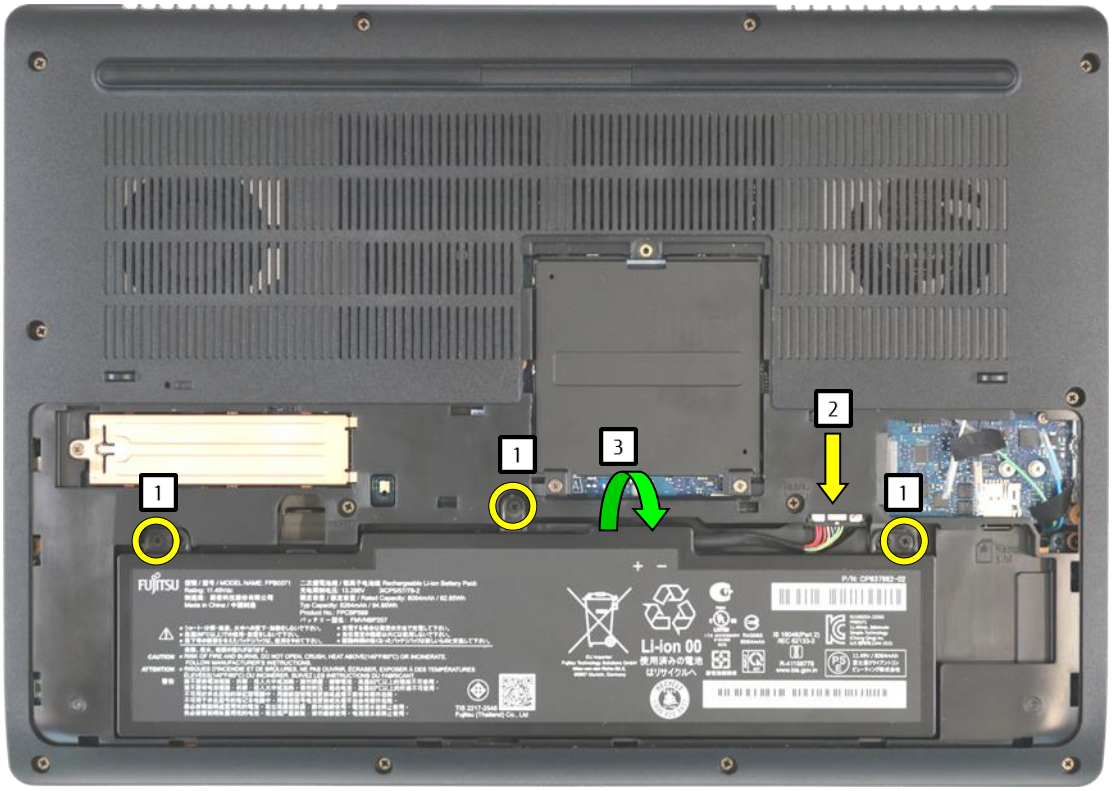
Remove the battery

Required work steps:
- Remove the service door

Required tools:
- Screwdriver: Phillips PH00

The improper exchanging of the lithium battery can result in a danger of explosions!
The lithium battery may be replaced only by a battery recommended by the manufacturer.
Do not dispose of lithium batteries in the household waste. They must be disposed of in accordance with the local regulations (as hazardous waste).



- Undo the screws (1).
- Remove the cable (2).
- Remove the battery (3).

Make sure the screws are tightly fastened and cannot be removed.

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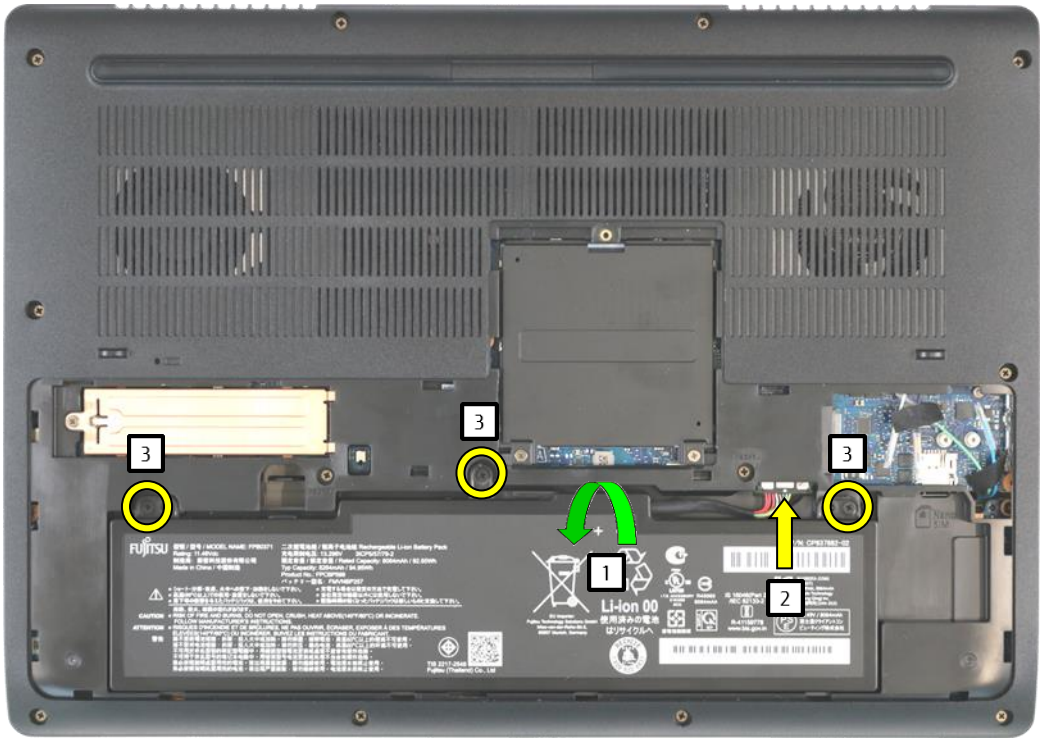
Insert the battery

Required work steps:

- Remove the service door
- Remove the battery

Required tools:

- Screwdriver: Phillips PH00



- Insert the battery (1).
- Plug in the cable (2).
- Tighten the screws (3).

Once the battery has been replaced, the AC adapter needs to be connected to the device so the battery is once again ready for use.

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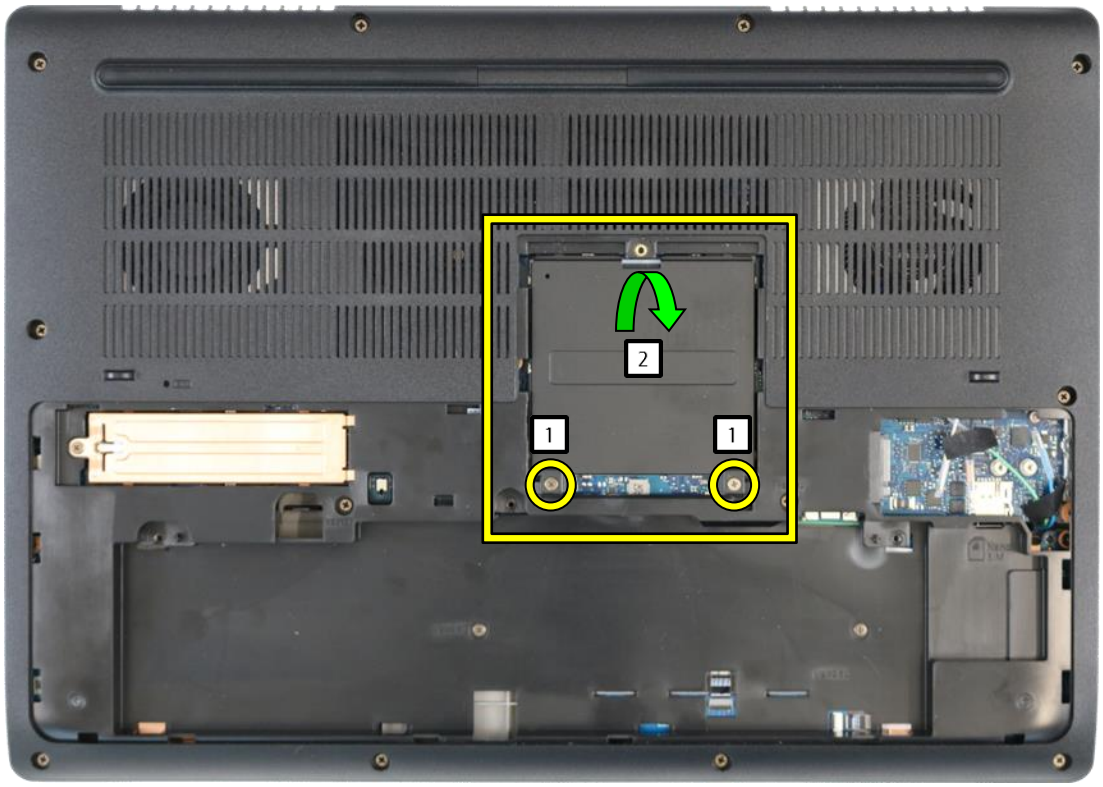
Remove the 3rd and 4th memory

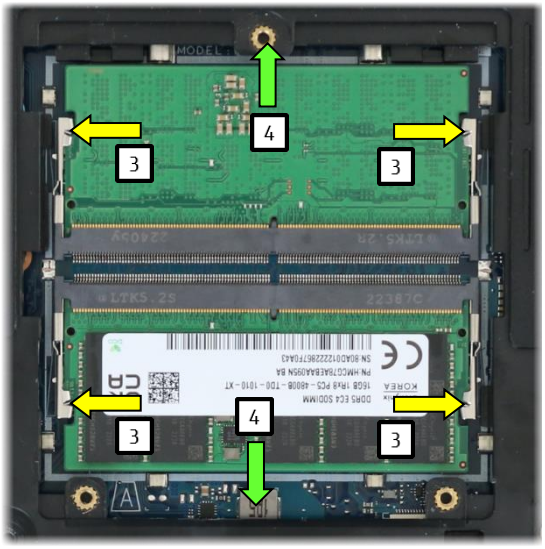
Required work steps:
- Remove the service door
- Remove the battery

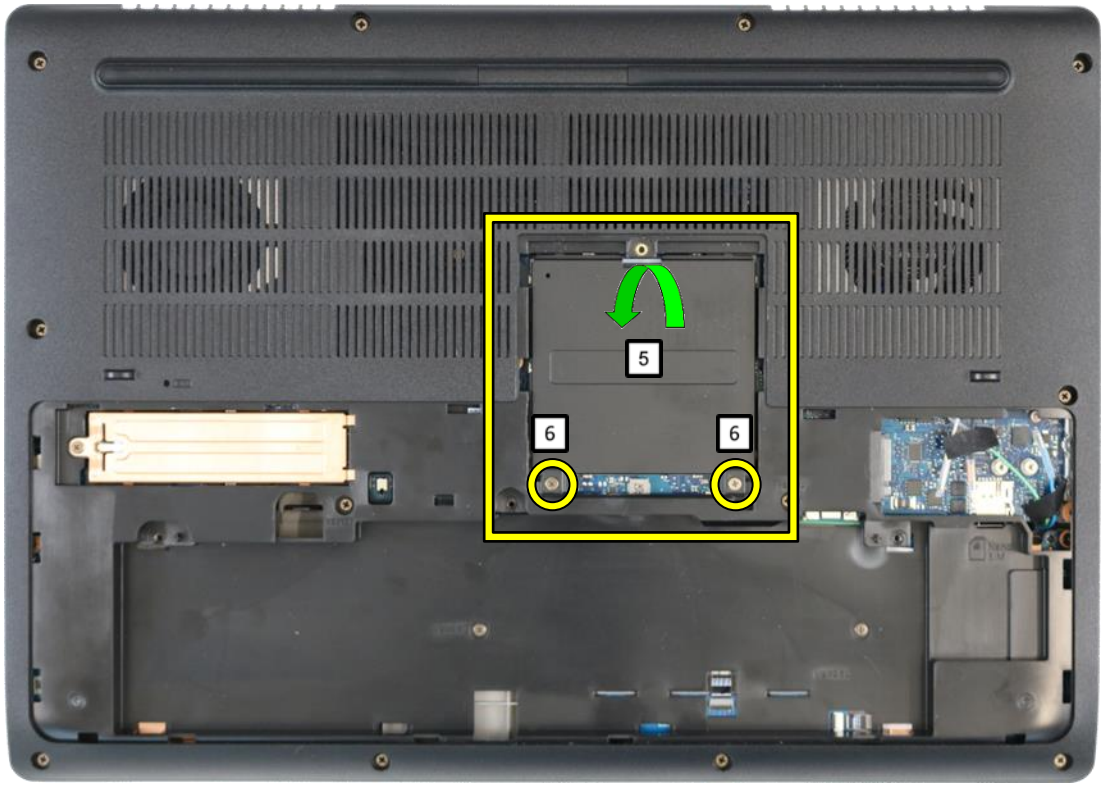
Required tools:
- Screwdriver: Phillips PH00



Make sure the screws are tightly fastened and cannot be removed.

- Undo the screws (1).
- Remove the cover (2).
- Press the latch in the direction of the arrow (3).
- Remove the memory (4).





- Attach the cover (5).
- Tighten the screw (6).

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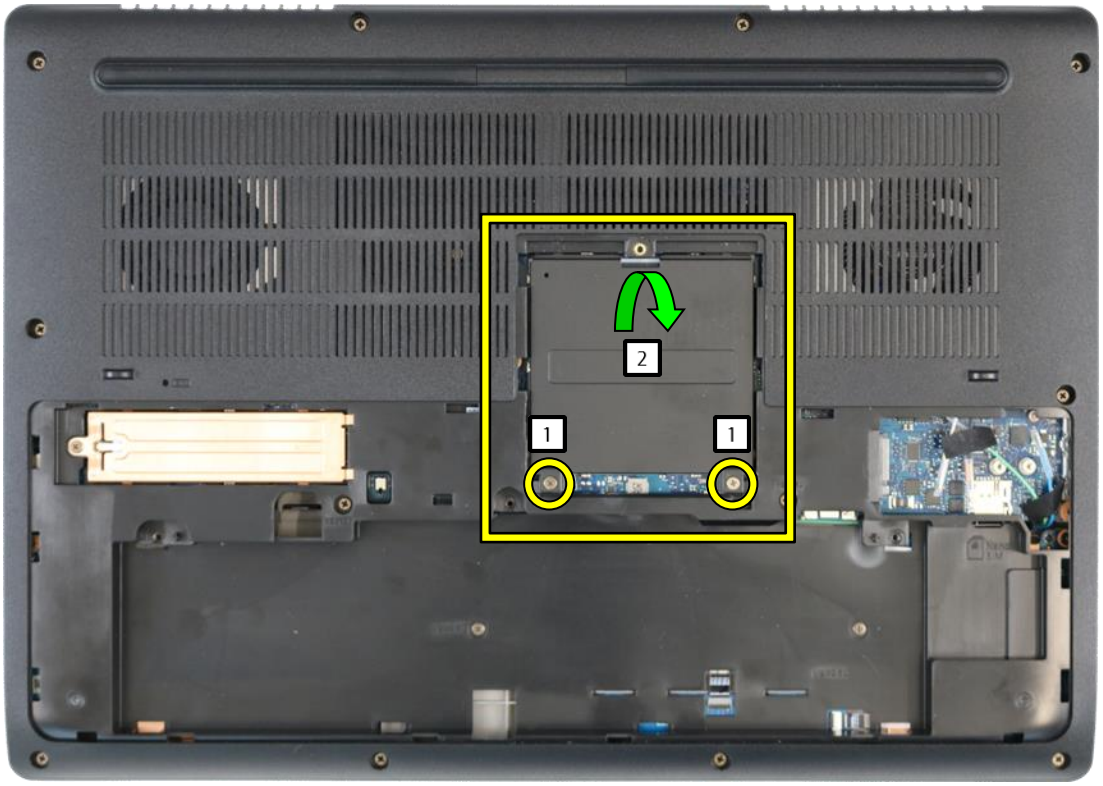
Insert the 3rd and 4th memory

Required work steps:
- Remove the service door
- Remove the battery

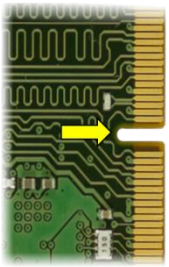
Required tools:
- none

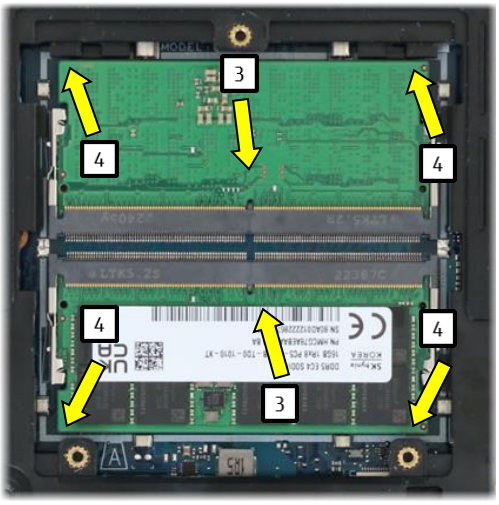


Make sure the screws are tightly fastened and cannot be removed.

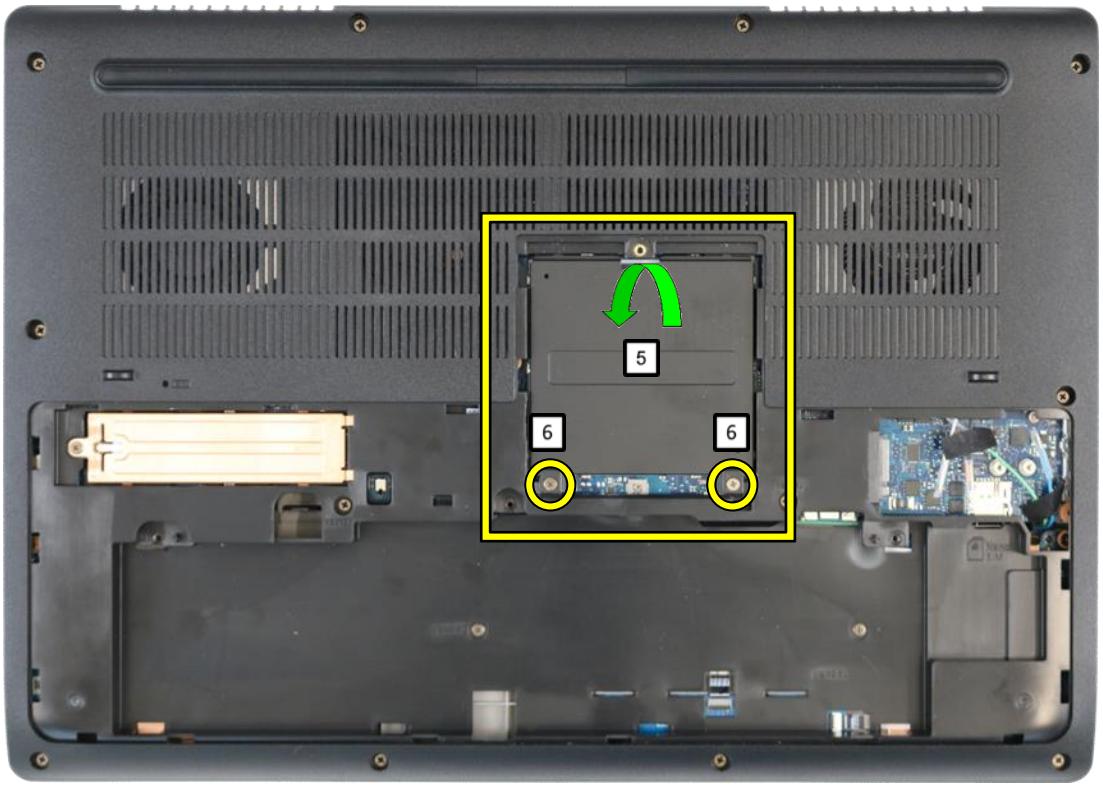
- Undo the screws (1).
- Remove the cover (2).

Please note the coding. Only two identical memories may be installed at a time.
The memory is initiated after insertion and the scroll lock LED will flash.





- Insert the memory (3).
- Push the memory in the direction of the arrow (4), until it snaps into place.



- Attach the cover (5).
- Tighten the screws (6).

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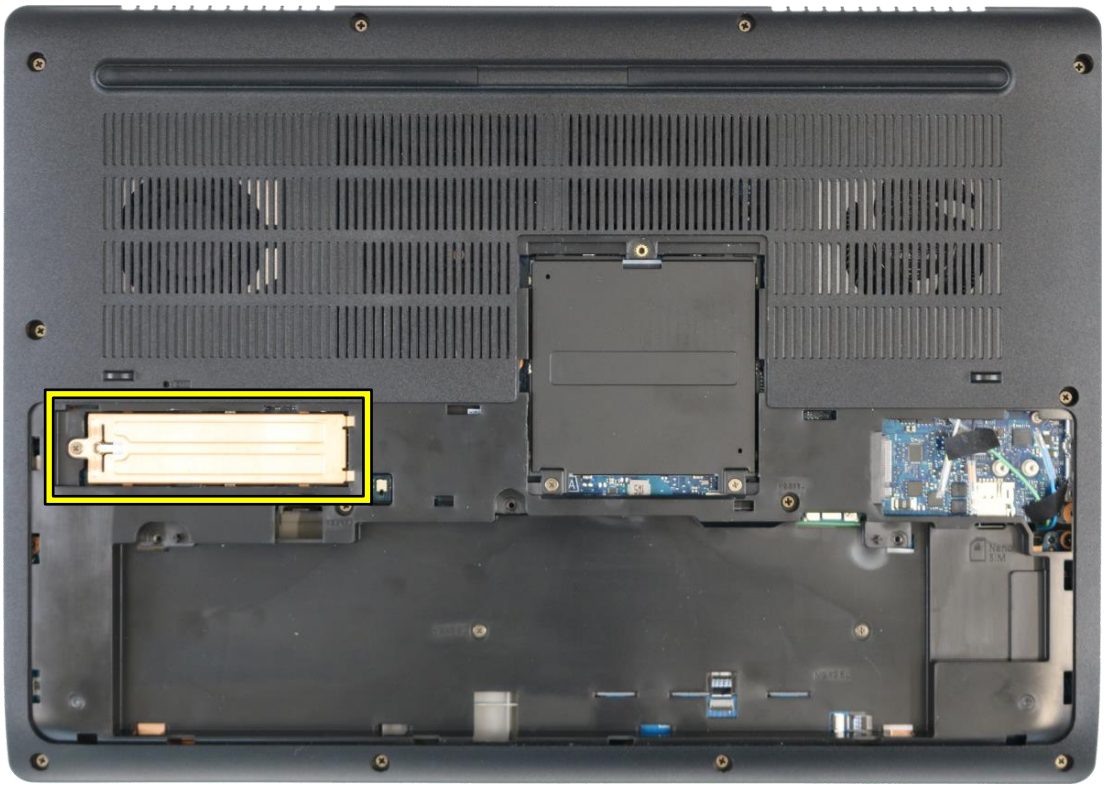
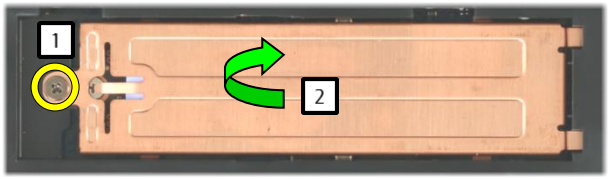
Remove the 3rd M.2 module

Required work steps:
- Remove the service door
- Remove the battery

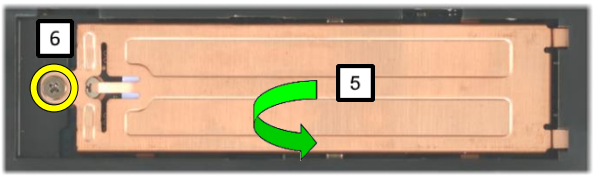
Required tools:
- Screwdriver: Phillips PH00



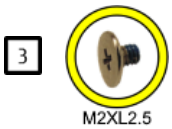
The model can be provided with three M.2 modules.



- Undo the screw (1).
- Remove the cover (2).
- Remove the screw (3).
- Remove the module (4).
- Attach the cover (5).
- Tighten the screw (6).



Please note that the screw (1) is firmly anchored and cannot be removed.



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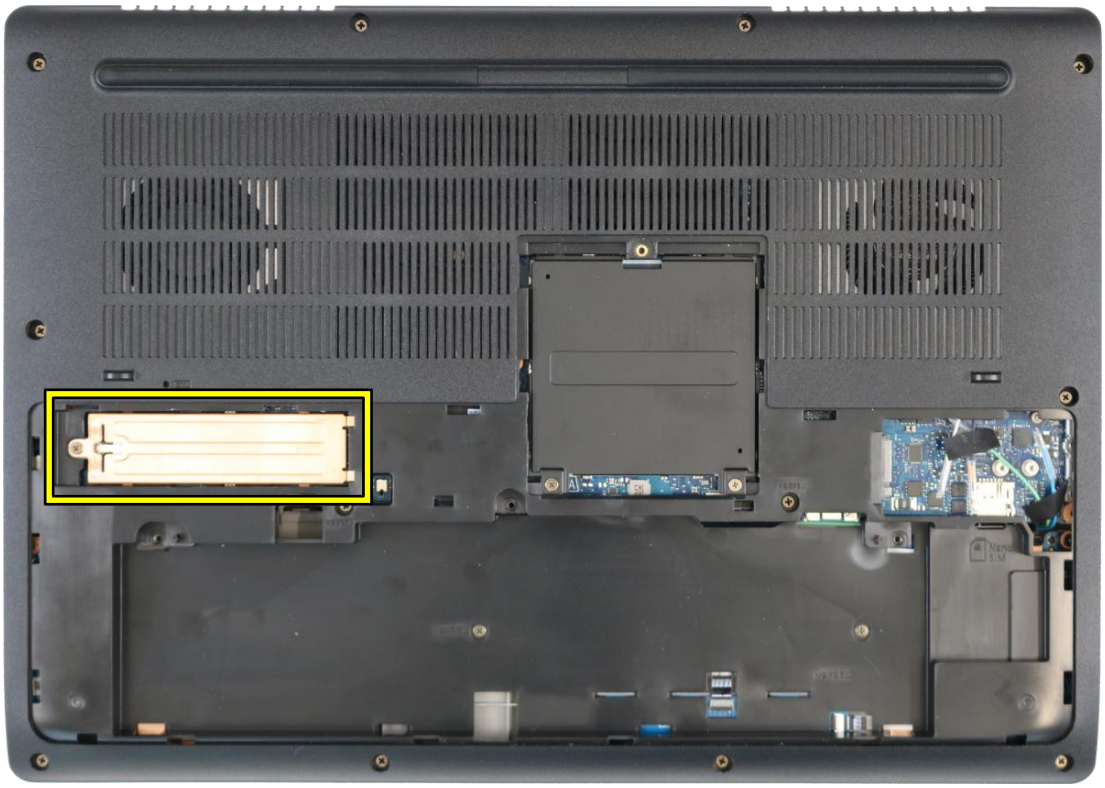
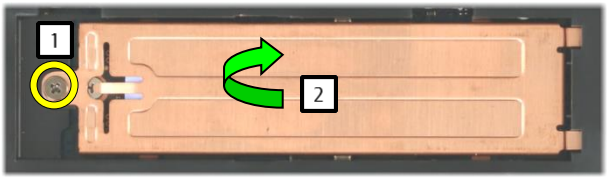
Insert the 3rd M.2 module

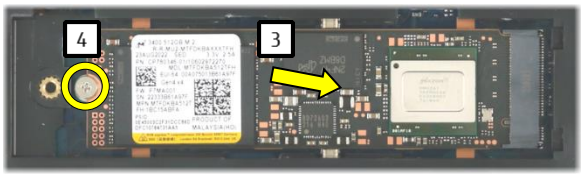
Required work steps:
- Remove the service door
- Remove the battery

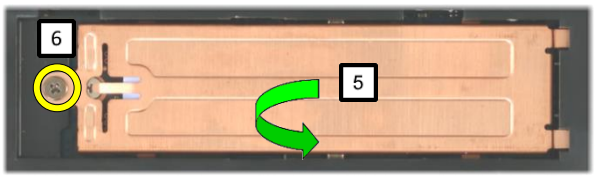
Required tools:
- Screwdriver: Phillips PH00



The model can be provided with three M.2 modules.

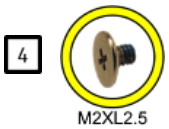






- Undo the screw (1).
- Remove the cover (2).
- Insert the module (3).
- Tighten the screw (4).
- Attach the cover (5).
- Tighten the screw (6).

Please note that the screw (1) is firmly anchored and cannot be removed.



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Mandatory Support Bulletins

SB-M-10030
Minimum requirements to properly finalise hardware repairs on mobile systems

SB-M-15007
WIN8x & WIN10 - Spare product key for repaired devices

For any information about ESD, please refer to the web-based training course “ESD in electronics“

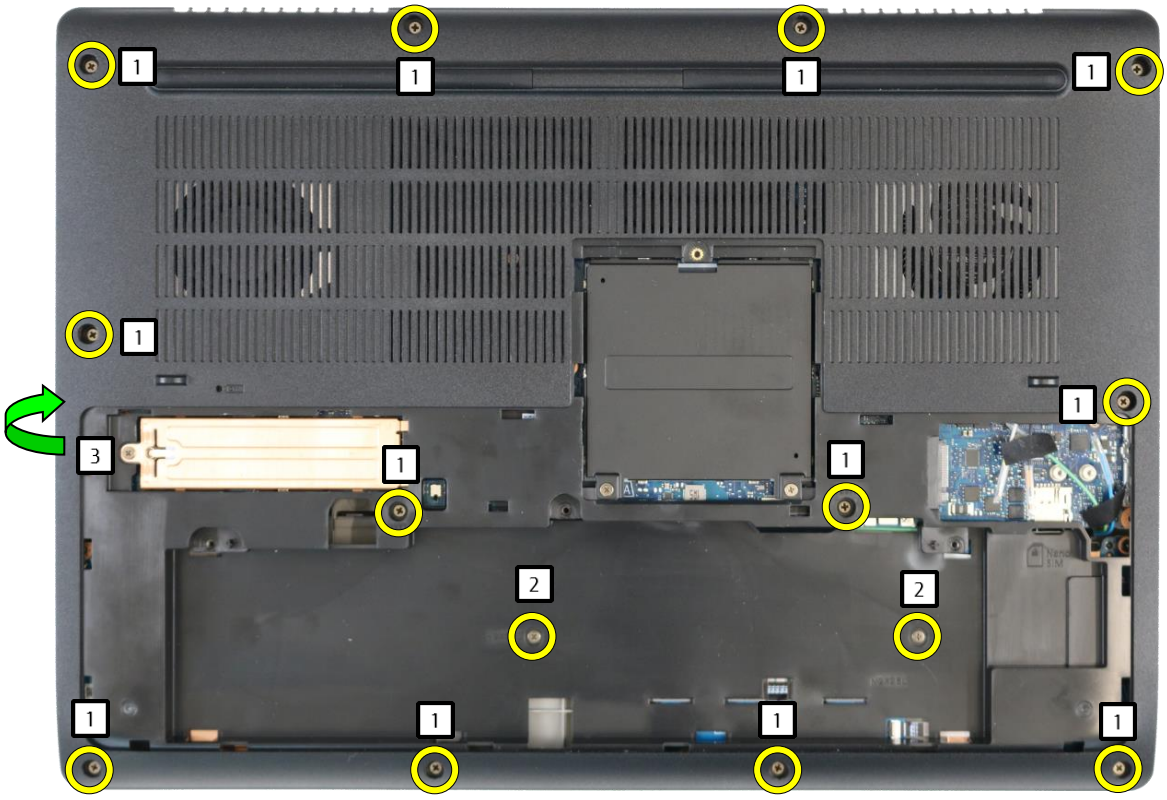
SB-M-22005
Creating a new Maintenance USB Stick FjAHDT.

SB-M-22009
Instructions for using the FjAHDT tool.

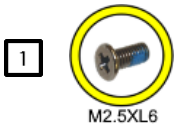
Remove the lower assy

Required work steps:
- Remove the service door
- Remove the battery

Required tools:
- Screwdriver: Phillips PH00
- Plastic tool



- Remove the screws (1, 2).
- Remove the cover (3).



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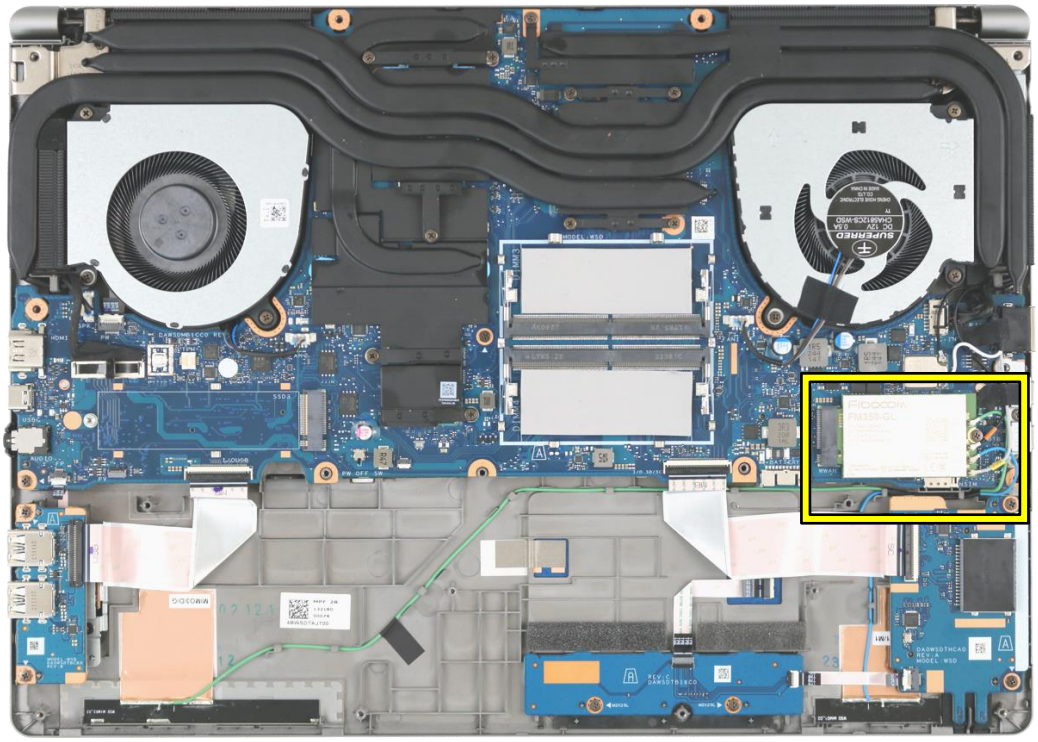
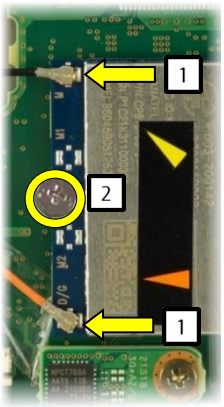
Remove the WWAN module

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy

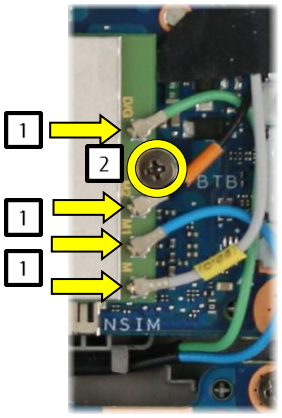
Required tools:
- Screwdriver: Phillips PH00
- Plastic tool

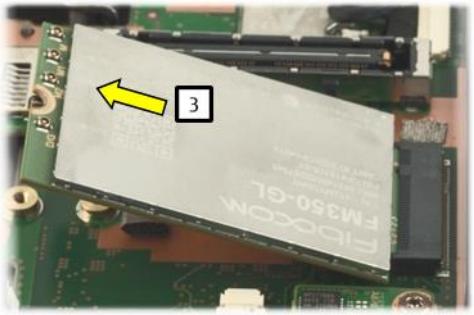


(Example picture for 4G WWAN)



(Example picture for 5G WWAN)





- Remove the cables (1).
- Remove the screw (2).
- Remove the module (3).

Antenna colour	4G	5G
yellow	MAIN	MAIN
orange	AUX	AUX or M2
blue		M1
green		D/G

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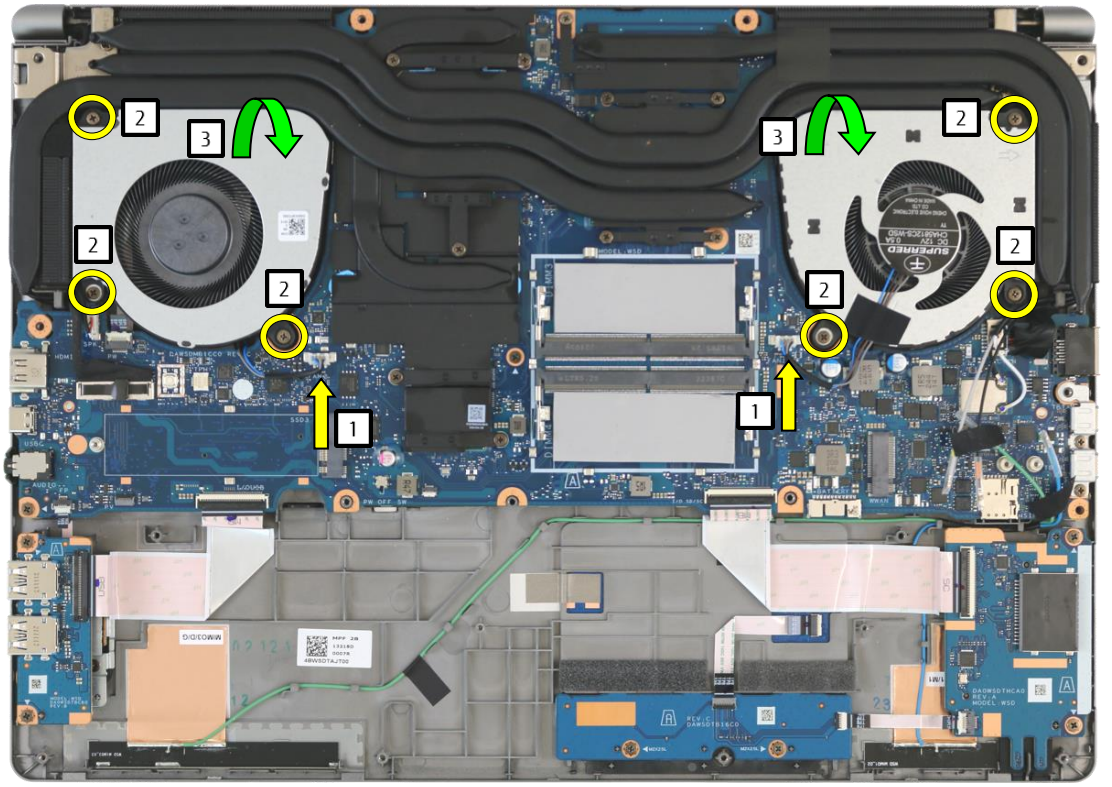
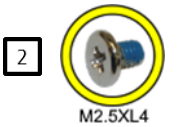
Remove the fan

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy

Required tools:
- Screwdriver: Phillips PH00



- Remove the cables (1).
- Remove the screws (2).
- Remove the fans (3).



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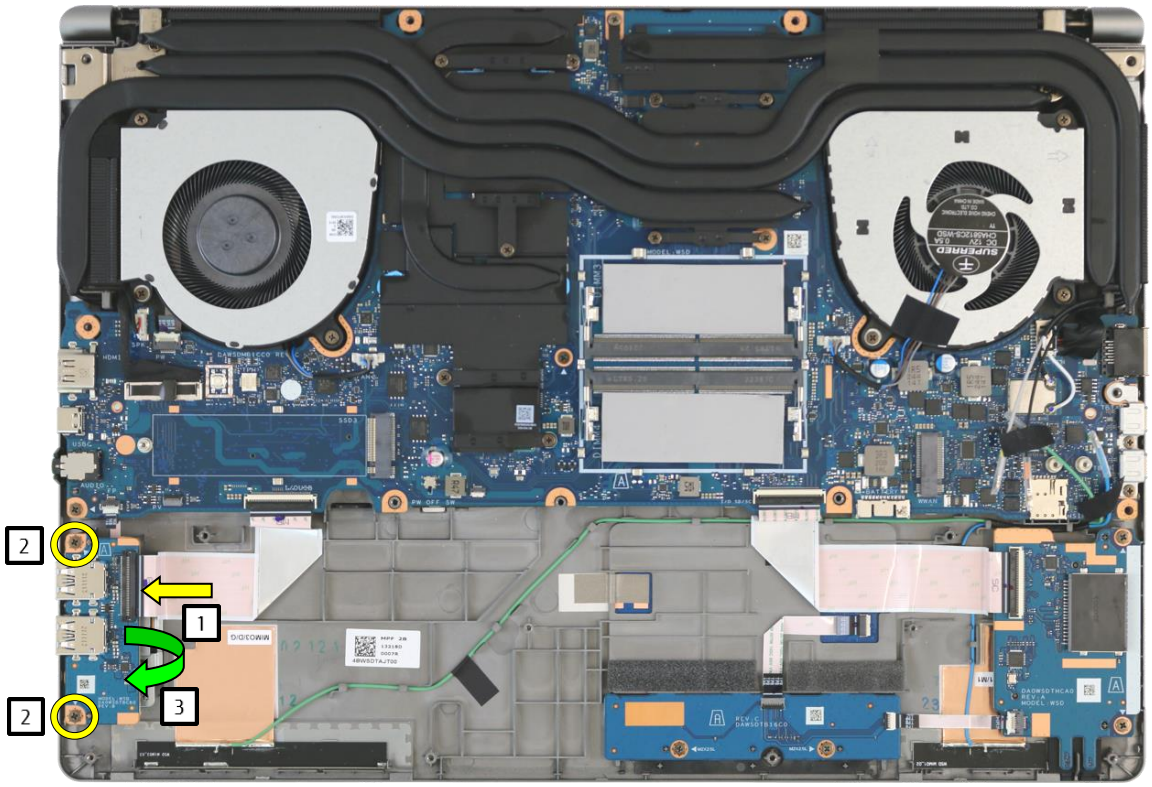
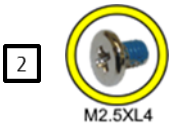
Remove the USB sub board

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy

Required tools:
- Screwdriver: Phillips PH00



- Open the connector lock and remove the cable (1).
- Remove the screws (2).
- Remove the sub board (3).



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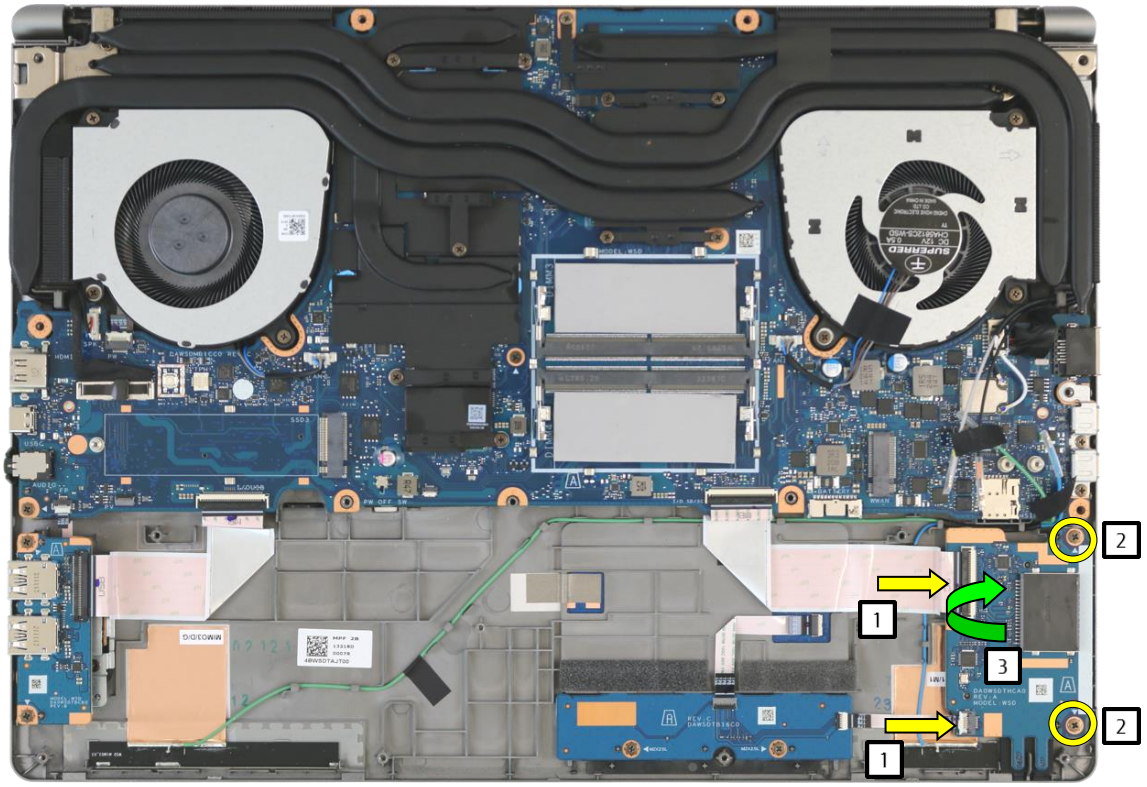
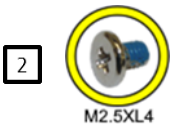
Remove the SD card/SmartCard reader sub board

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy

Required tools:
- Screwdriver: Phillips PH00



- Open the connector lock and remove the cable (1).
- Remove the screws (2).
- Remove the sub board (3).



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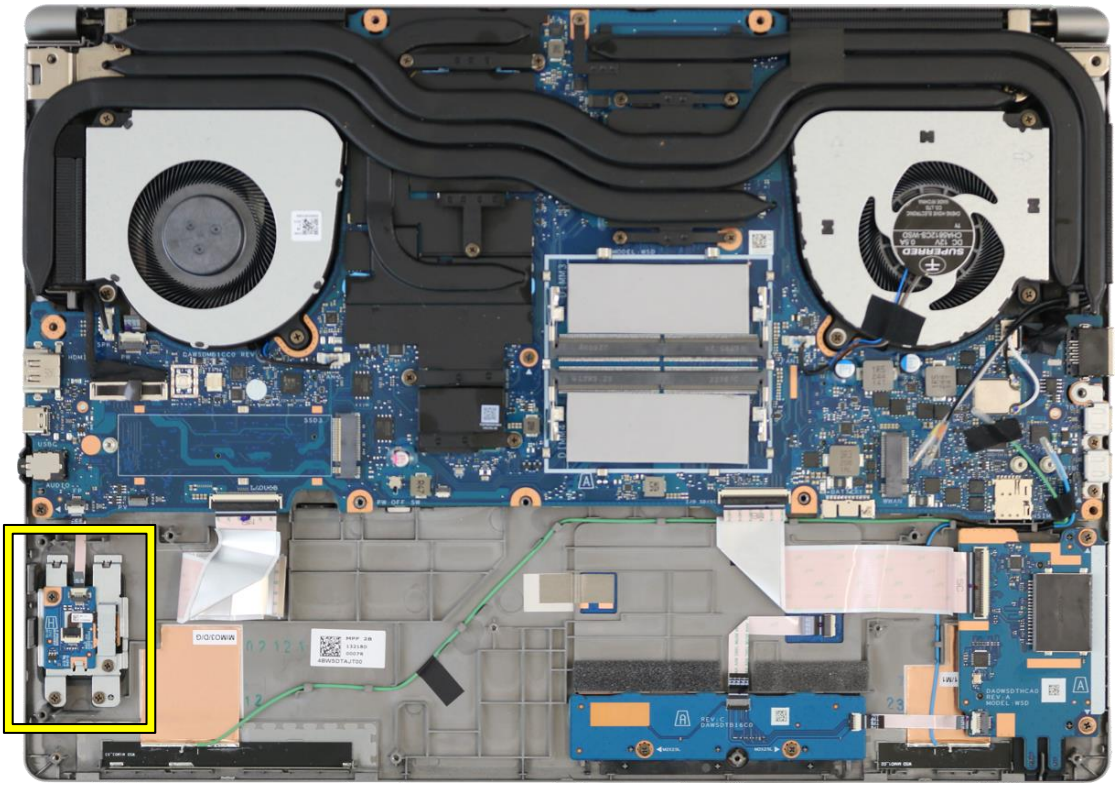
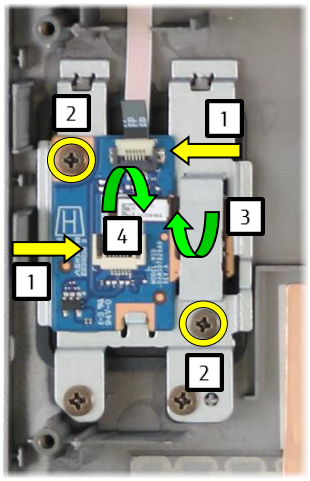
Remove the Bio Secure fingerprint sensor

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove the USB sub board

Required tools:
- Screwdriver: Phillips PH00



- Open the connector lock and remove the cable (1).
- Remove the screws (2).
- Remove the bracket (3).
- Remove the sub board (4).



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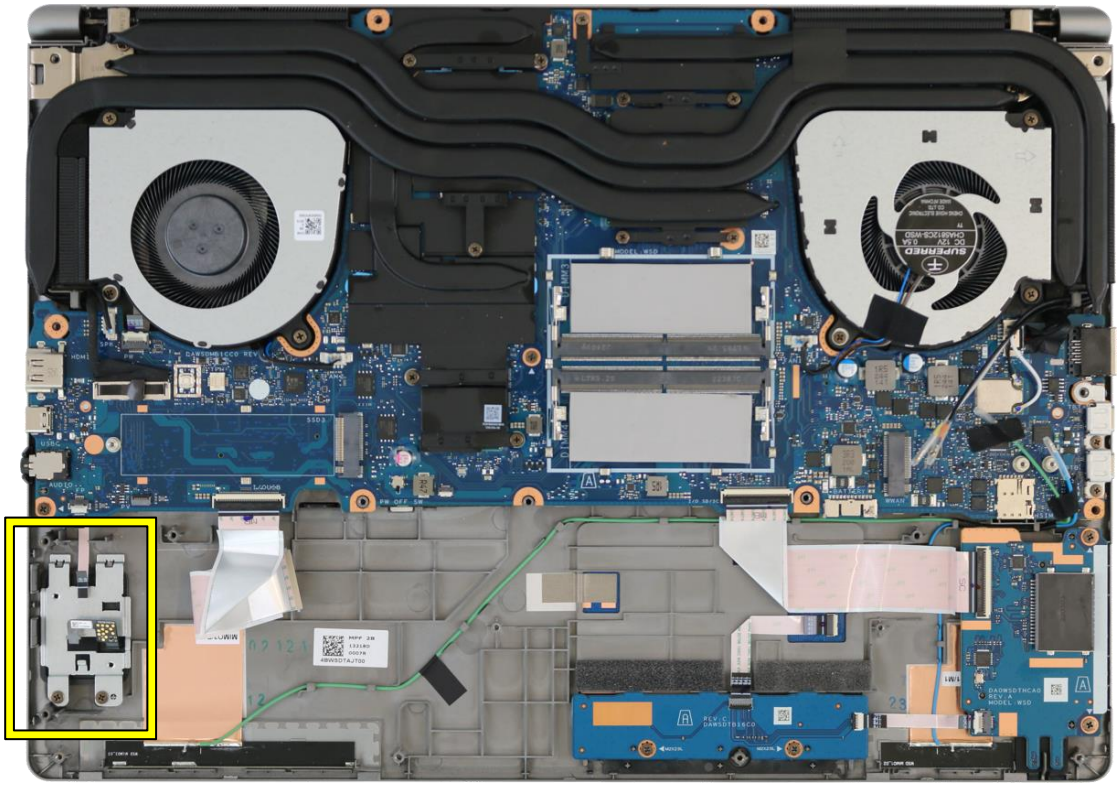
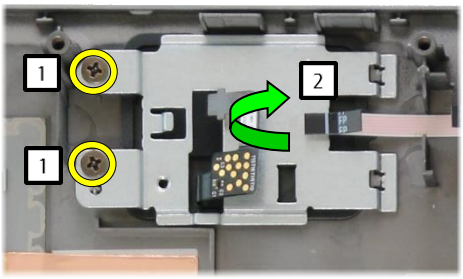
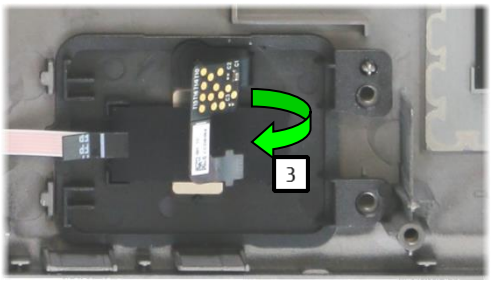
Remove the fingerprint sensor

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove the USB sub board
- Remove the Bio Secure fingerprint sensor

Required tools:
- Screwdriver: Phillips PH00







- Remove the screws (1).
- Remove the bracket (2).
- Remove the module (3).

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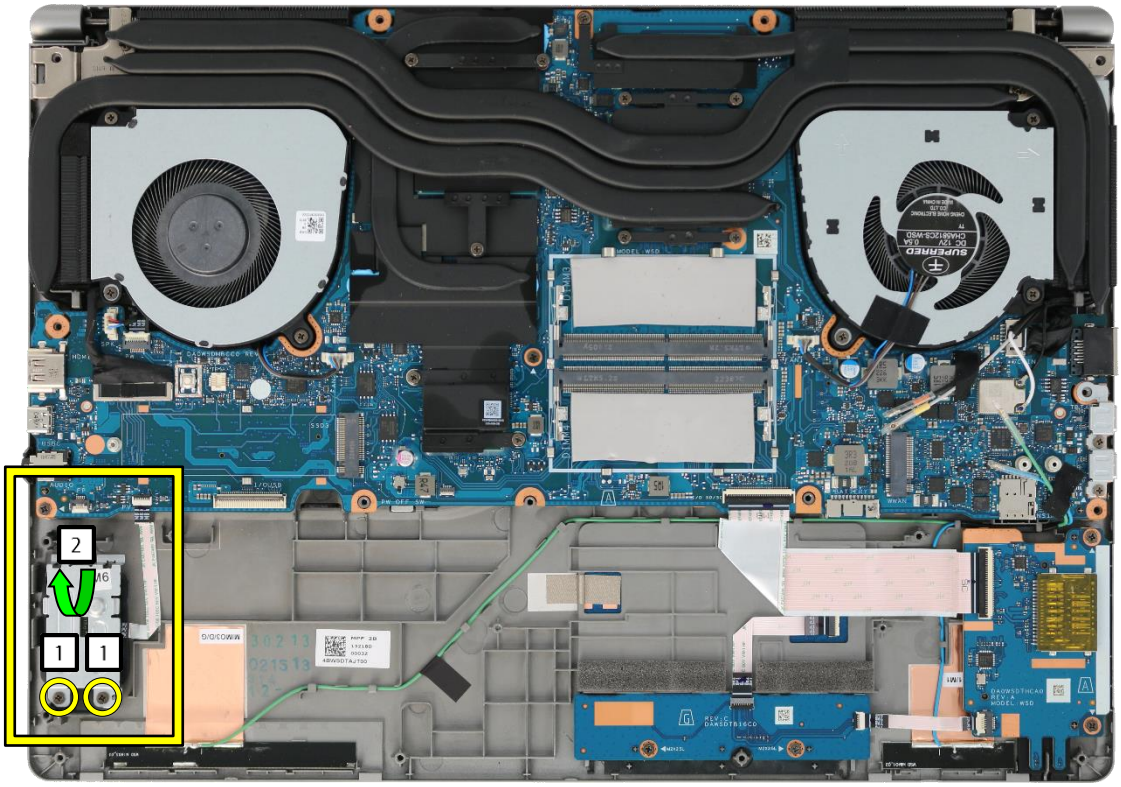
Remove the palm vein sensor

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy

Required tools:
- Screwdriver: Phillips PH00



- Remove the screws (1).
- Remove the cover (2).
- Open the connector lock and remove the cable (3).
- Remove the module (4).

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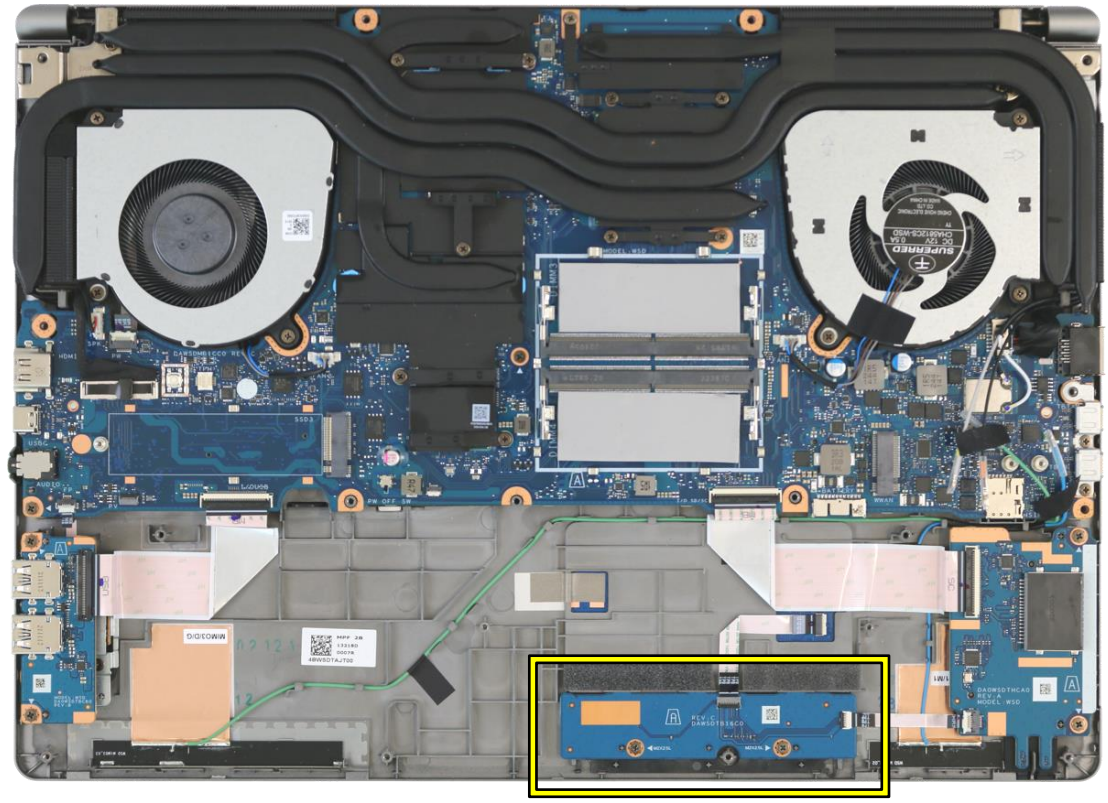
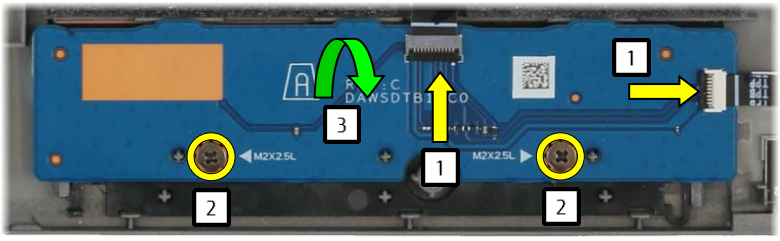
For authorised service technicians only

Remove the touchpad button sub board

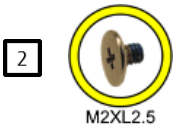
Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy

Required tools:
- Screwdriver: Phillips PH00





- Open the connector locks and remove the cables (1).
- Remove the screws (2).
- Remove the sub board (3).



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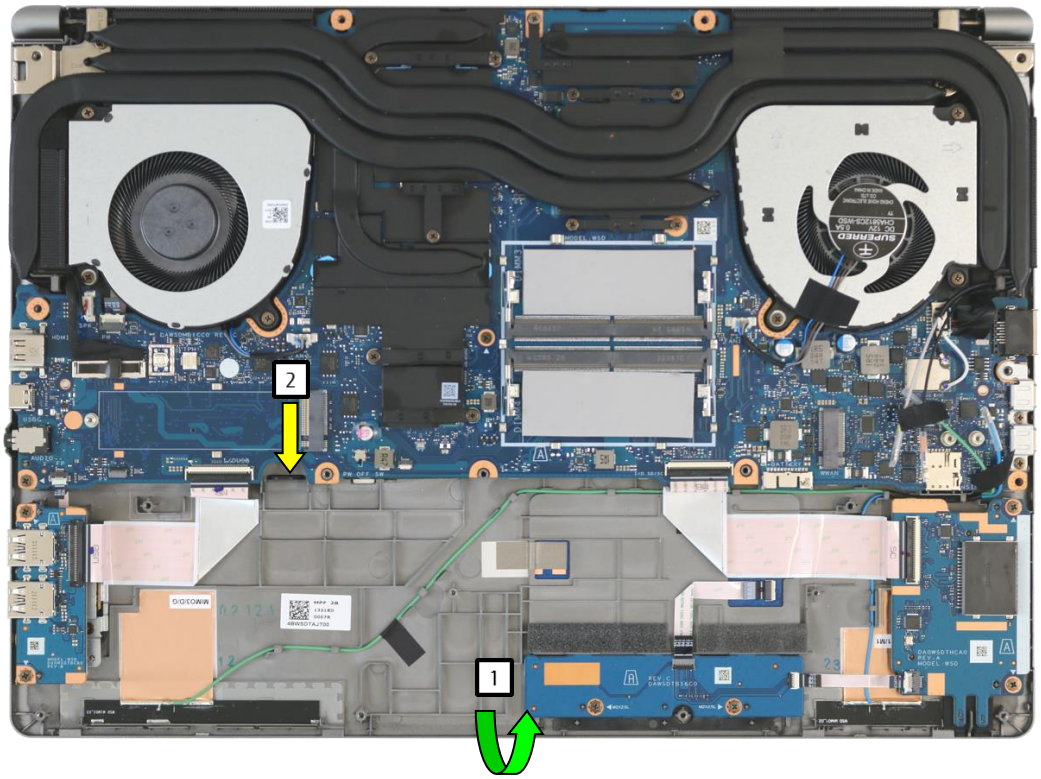
For authorised service technicians only

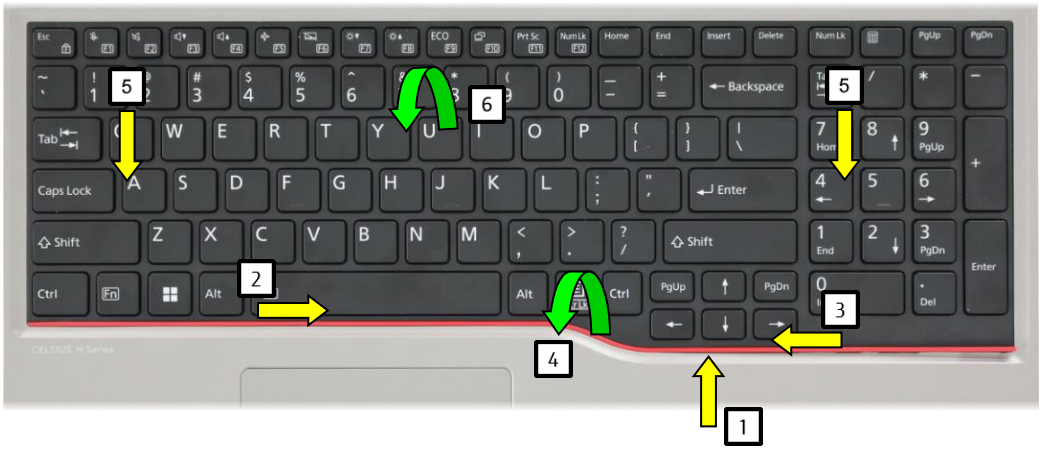
Remove the keyboard

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy

Required tools:
- none



- Lift the upper assy (1), and press the catch down (2).
- Turn the device over.



- Lift the plastic strip (1).
- Slide the plastic strip in the direction of the arrow (2, 3).
- Remove the plastic strip (4).
- Slide the keyboard in the direction of the arrow (5).
- Turn the keyboard over (6).

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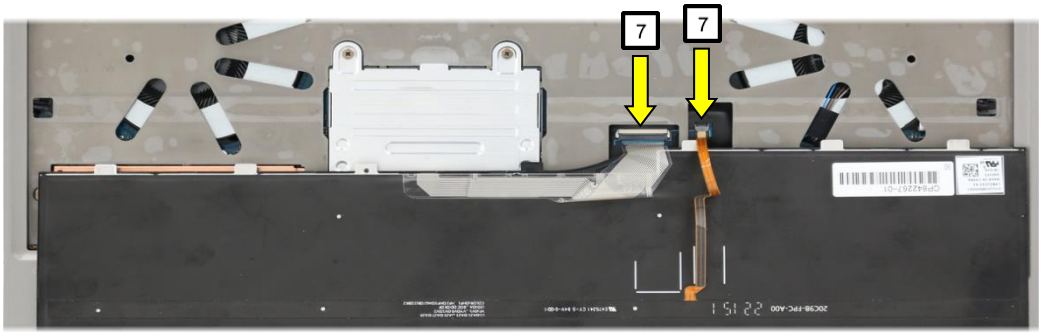

- Open the connector locks and remove the cables (7).
- Remove the keyboard.

For authorised service technicians only

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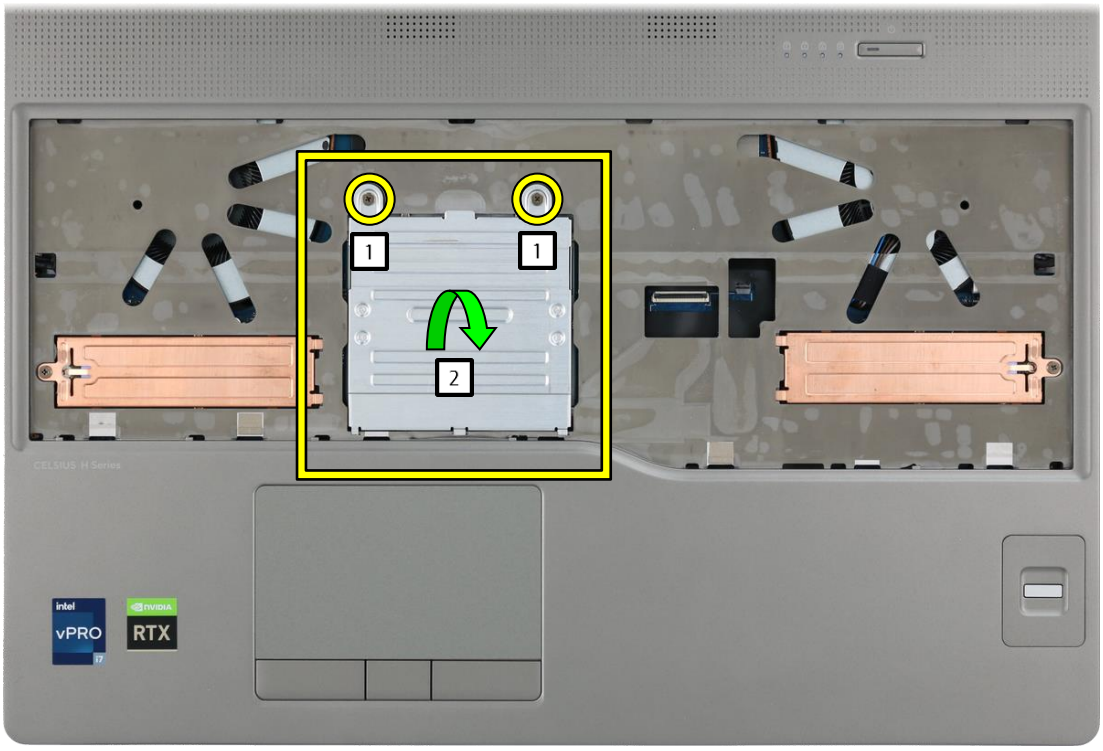
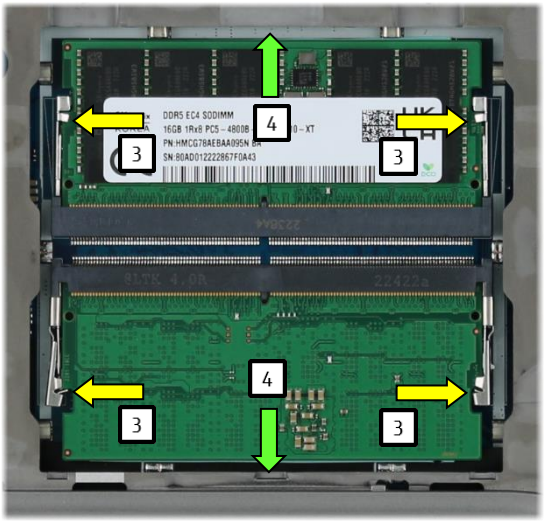
Remove the 1st and 2nd memory

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove keyboard

Required tools:
- none



- Undo the screws (1).
- Remove the cover (2).
- Press the latch in the direction of the arrow (3).
- Remove the module (4).



For authorised service technicians only

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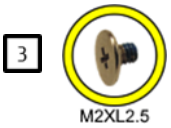
Remove the 1st and 2nd M.2 module

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove keyboard

Required tools:
- none

- Undo the screws (1).
- Remove the cover (2).

- Remove the screw (3).
- Remove the module (4).



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For authorised service technicians only

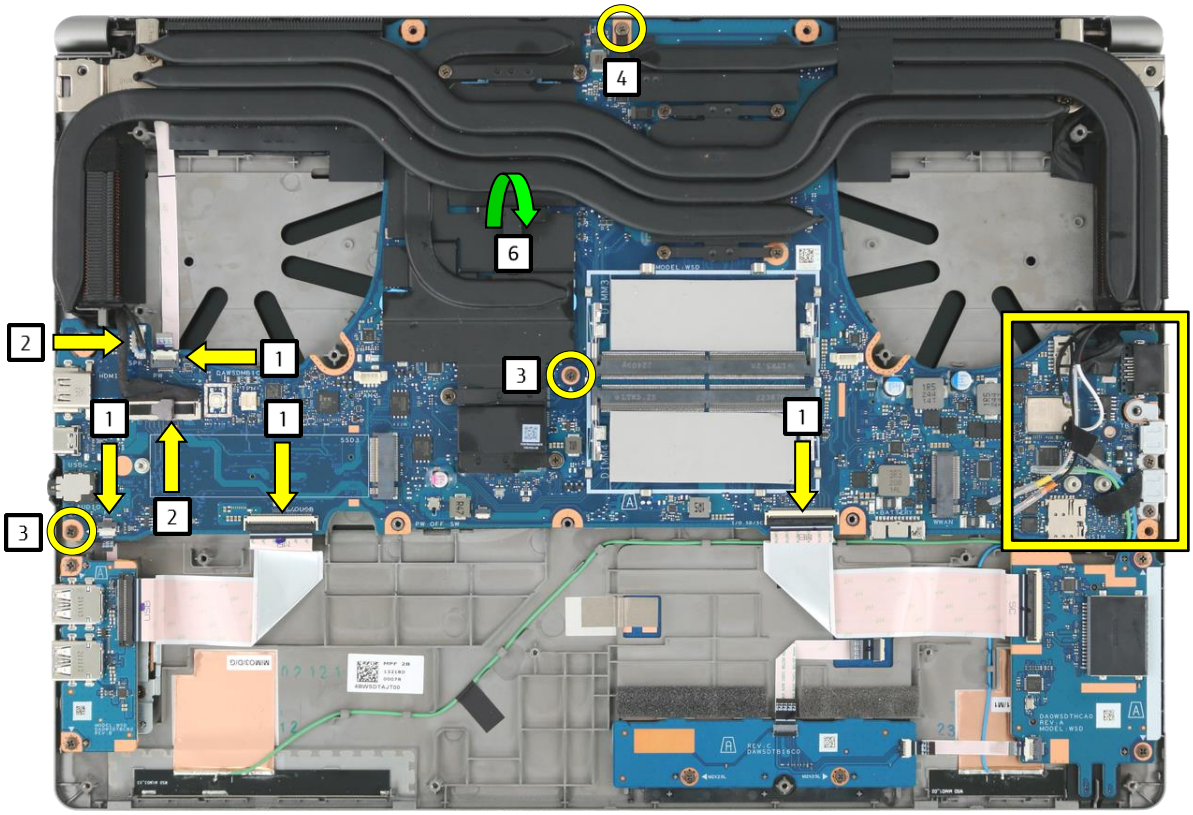
Remove the mainboard/WLAN

Required work steps:

- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove the fans
- Remove keyboard
- Remove the 1st and 2nd memory
- Remove the 3rd and 4th memory
- Remove the 1st and 2nd M.2 module
- Remove the 3rd M.2 module

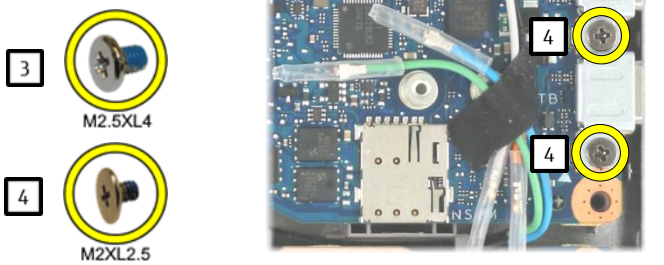
Required tools:

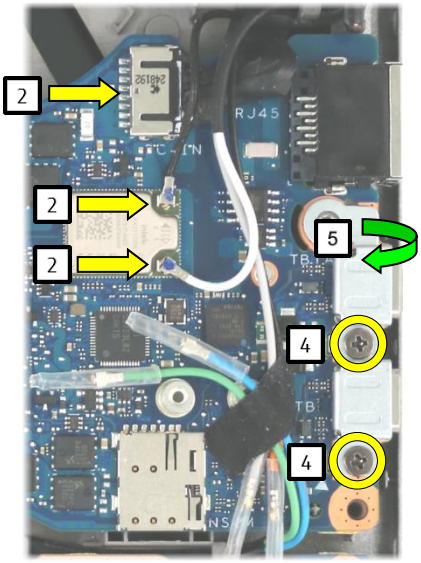
- Screwdriver: Phillips PH00



Please observe the information in SB-M-22009.

- Open the connector locks and remove the cables (1).
- Remove the cables (2).
- Remove the screws (3, 4).
- Remove the USB Type-C bracket (5) (image on the right).
- Remove the sub board (6).





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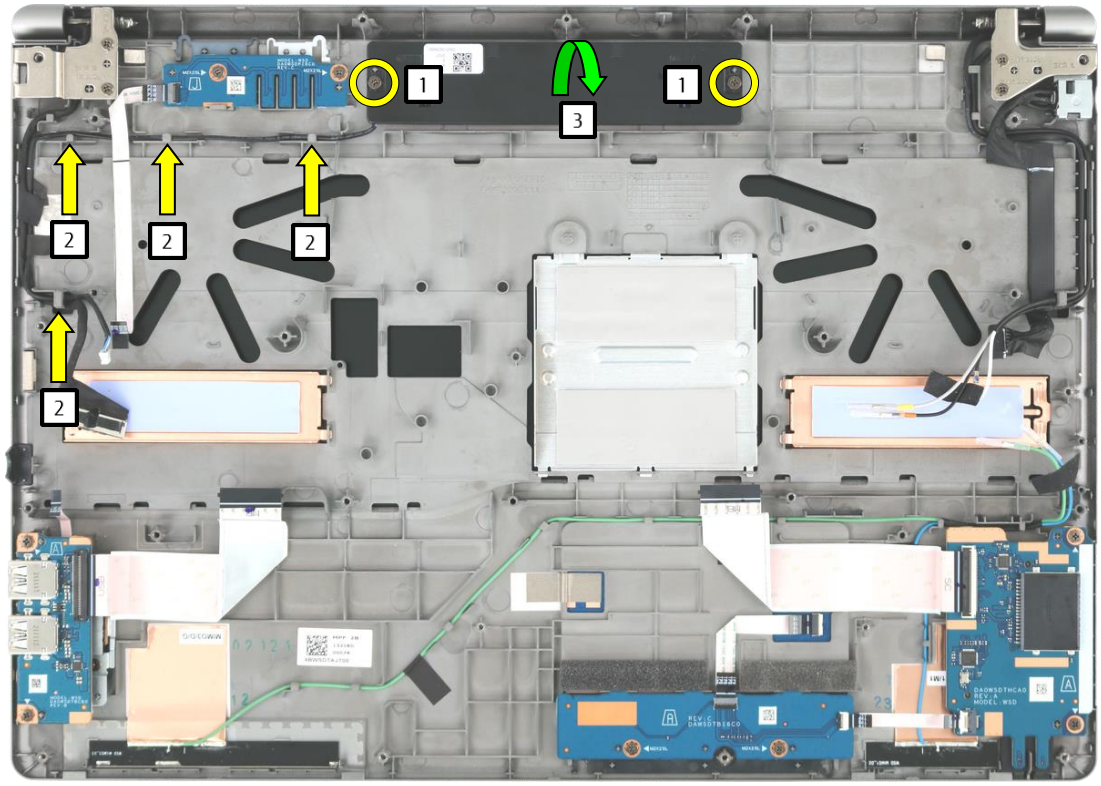
For authorised service technicians only

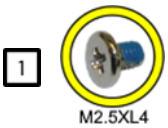
Remove the speaker

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove keyboard
- Remove the fans
- Remove the mainboard/WLAN

Required tools:
- Screwdriver: Phillips PH00



- Remove the screws (1).
- Remove the cable (2).
- Remove the speaker (3).



For authorised service technicians only

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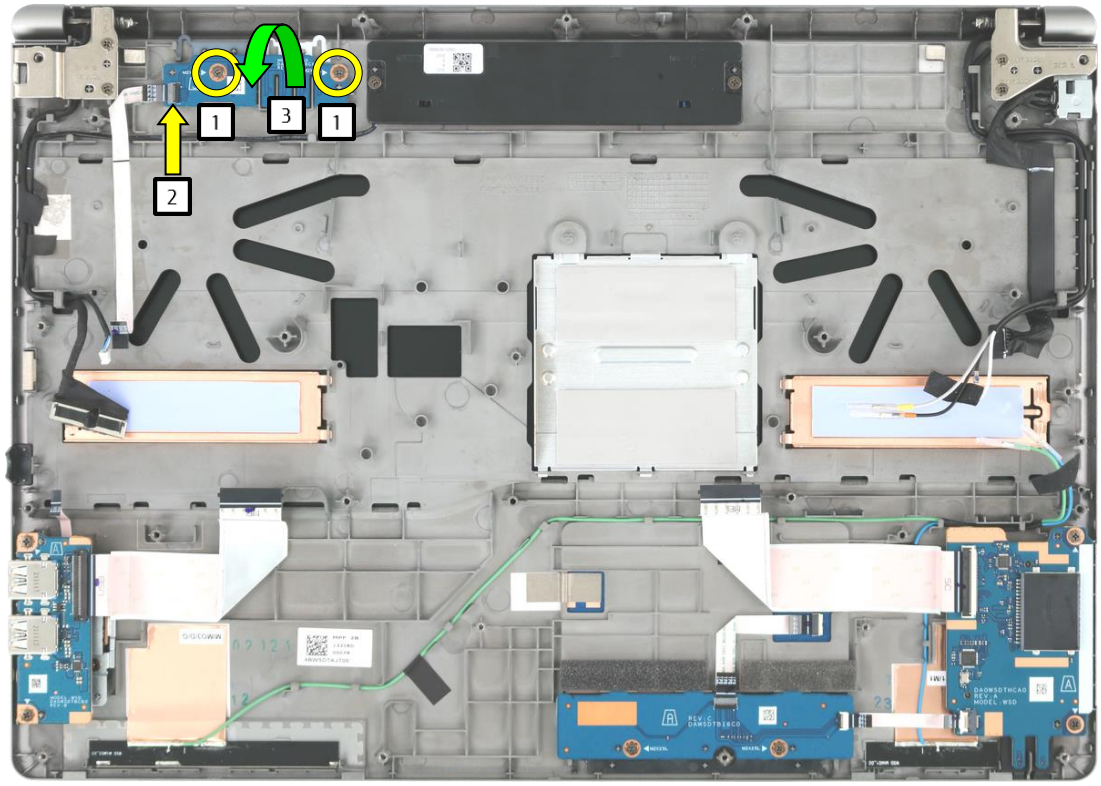
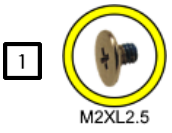
Remove the sub board switch

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove keyboard
- Remove the fans
- Remove the mainboard/WLAN

Required tools:
- Screwdriver: Phillips PH00



- Remove the screws (1).
- Open the connector locks and remove the cables (2).
- Remove the sub board (3).



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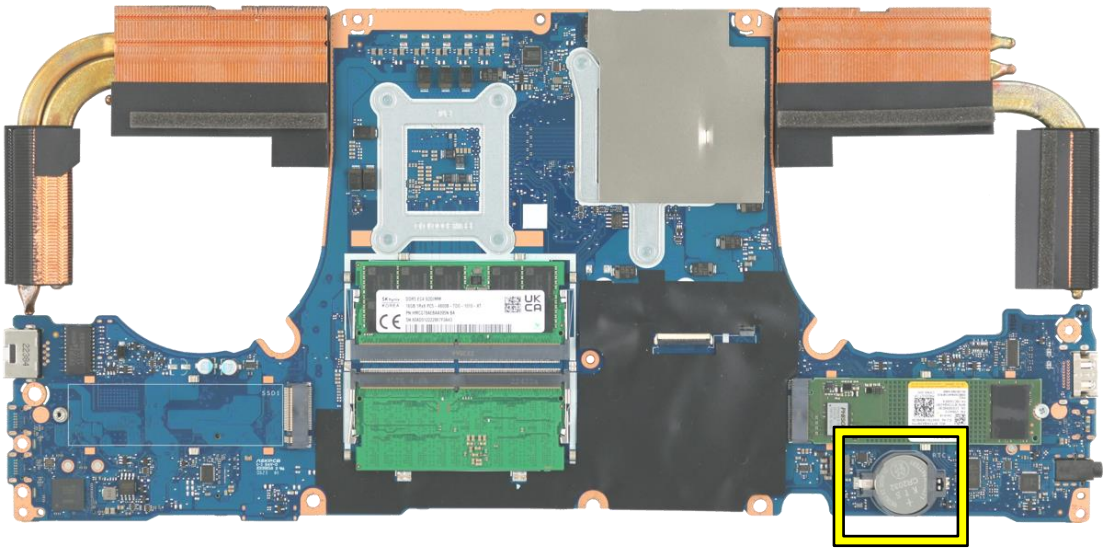
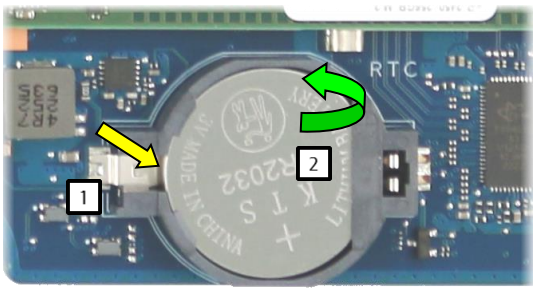
Remove the CMOS battery

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove keyboard
- Remove the fans
- Remove the mainboard/WLAN

Required tools:
- Plastic tool





- Press the battery in the direction of the arrow (1).
- Remove the battery (2).

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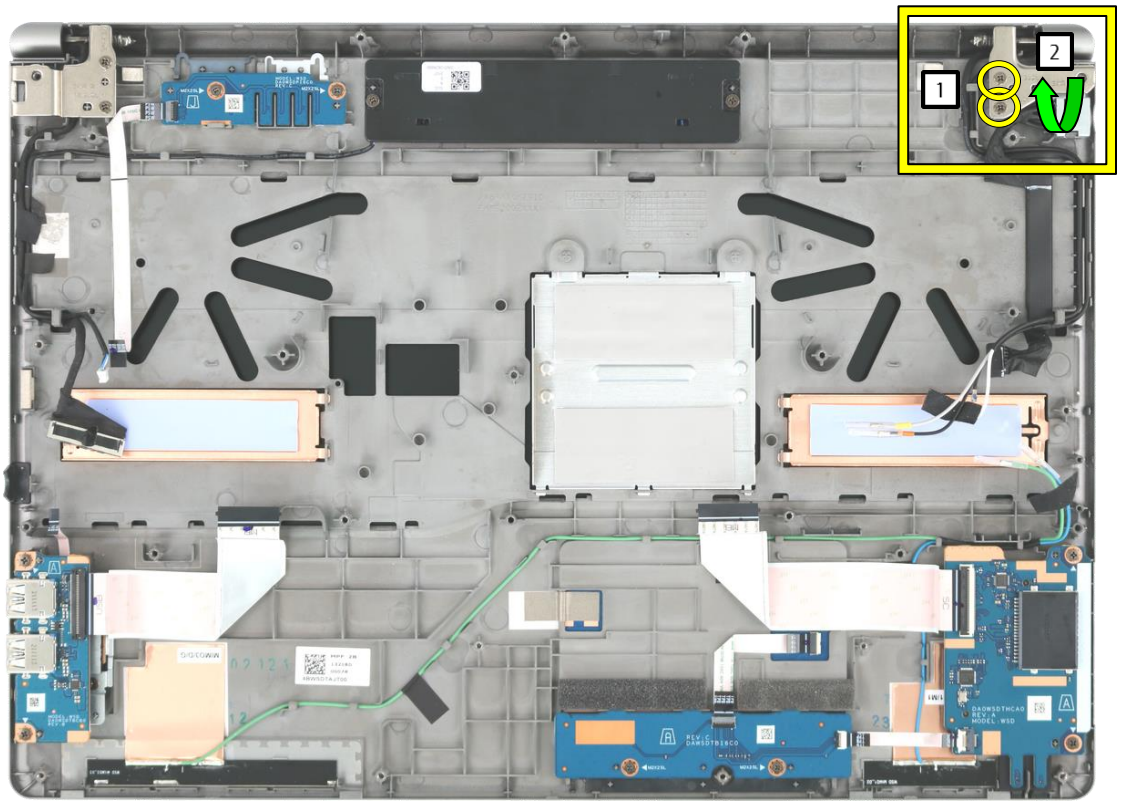
For authorised service technicians only

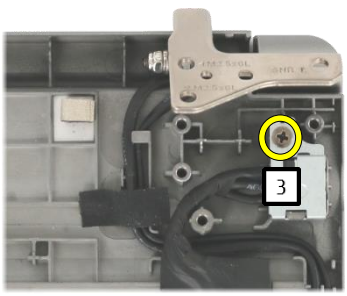
Remove the DC-in connector

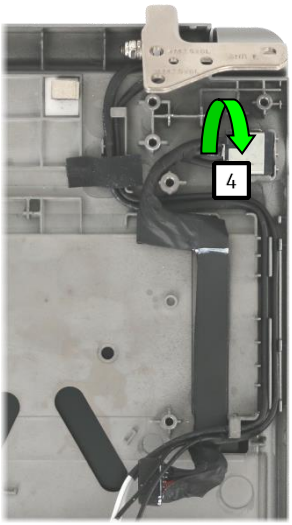
Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove keyboard
- Remove the fans
- Remove the mainboard/WLAN

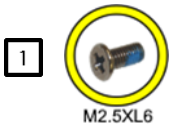
Required tools:
- Screwdriver: Phillips PH00



- Remove the screws (1).
- Lift up the hinge (2).
- Remove the screw (3).
- Remove the cable (4).







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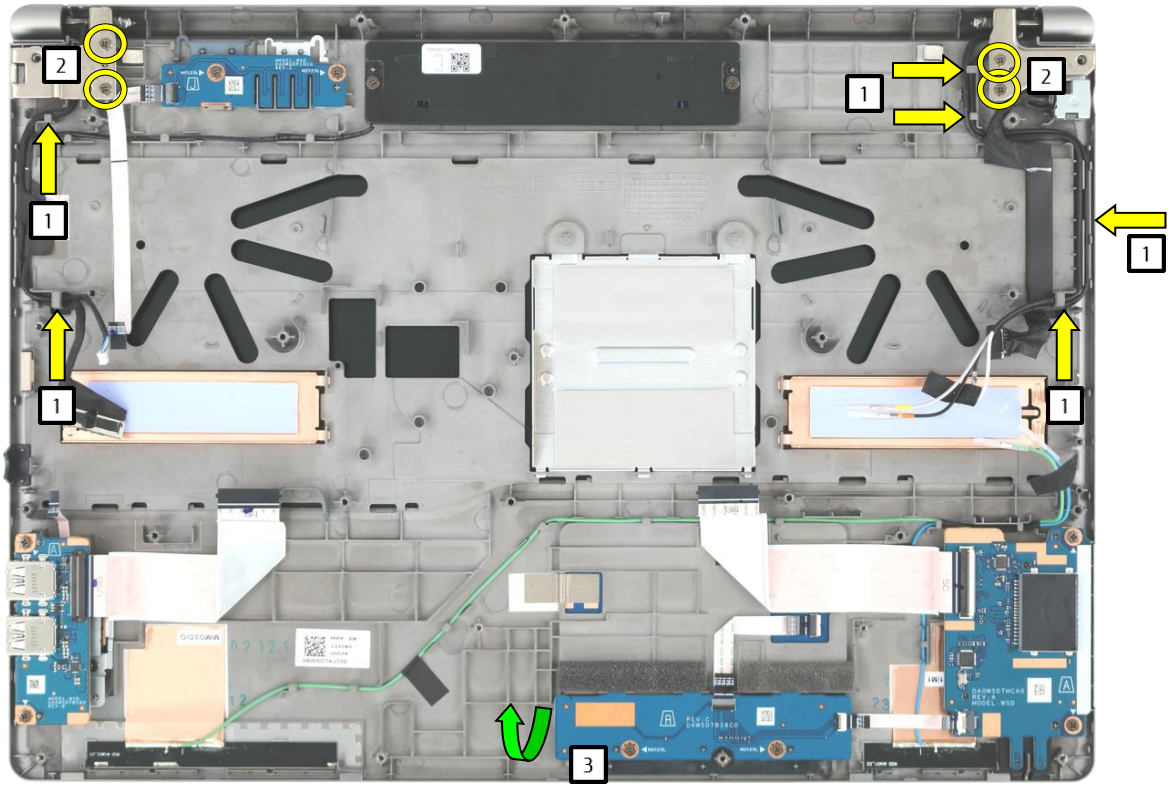
For authorised service technicians only

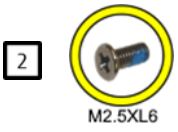
Remove the LCD assy

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove keyboard
- Remove the fans
- Remove the mainboard/WLAN

Required tools:
- Screwdriver: Phillips PH00



- Remove the cables (1).
- Remove the screws (2).
- Lift the upper assy until you can disconnect the LCD assy from the upper assy (3).



For authorised service technicians only

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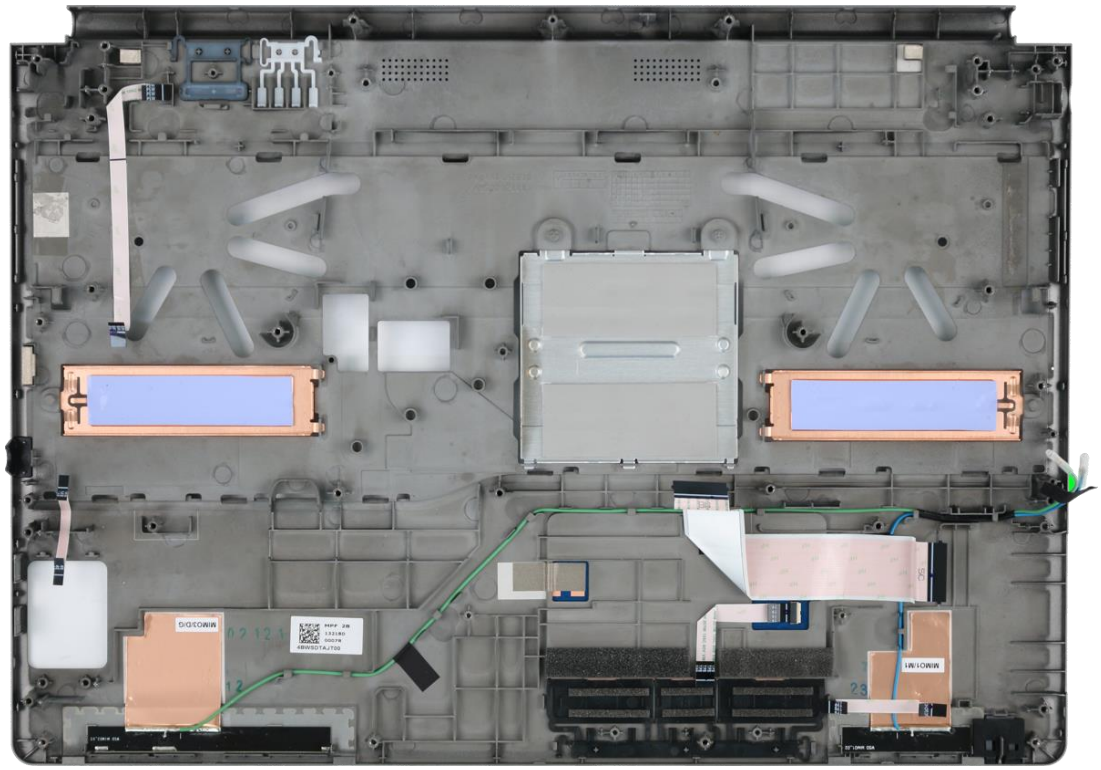
Remove the upper assy

Required work steps:

- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove keyboard
- Remove the fans
- Remove the mainboard/WLAN
- Remove the USB sub board
- Remove the SD card/SmartCard reader sub board
- Remove the Bio Secure fingerprint sensor
- Remove the fingerprint sensor
- Remove the palm vein sensor
- Remove the touchpad button sub board
- Remove speaker
- Remove the sub board switch
- Remove the DC-in connector
- Remove LCD assy

Required tools:

- none



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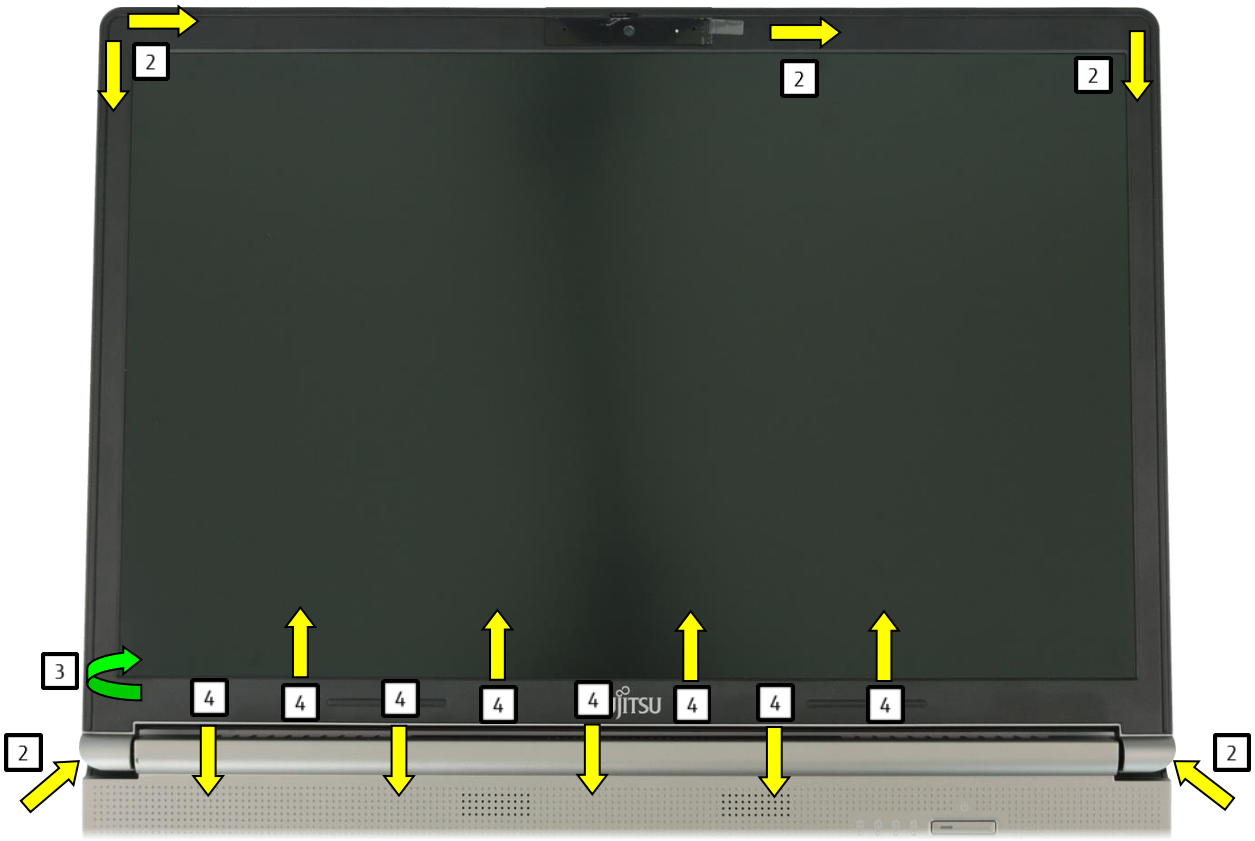
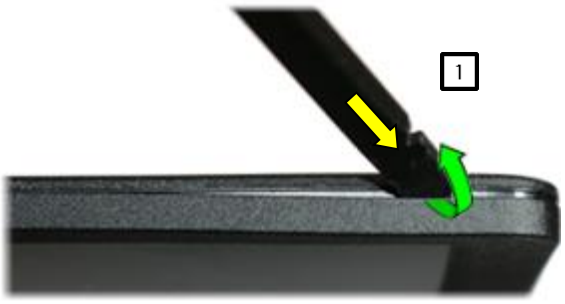
Remove the LCD cover

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy

Required tools:
- Plastic tool



- Open the LCD assy (1).
- Disconnect the covers in the direction of the arrow (2).
- Lift the cover (3).
- Move the cover alternately in the direction of the arrow (4) to release it from the locks.



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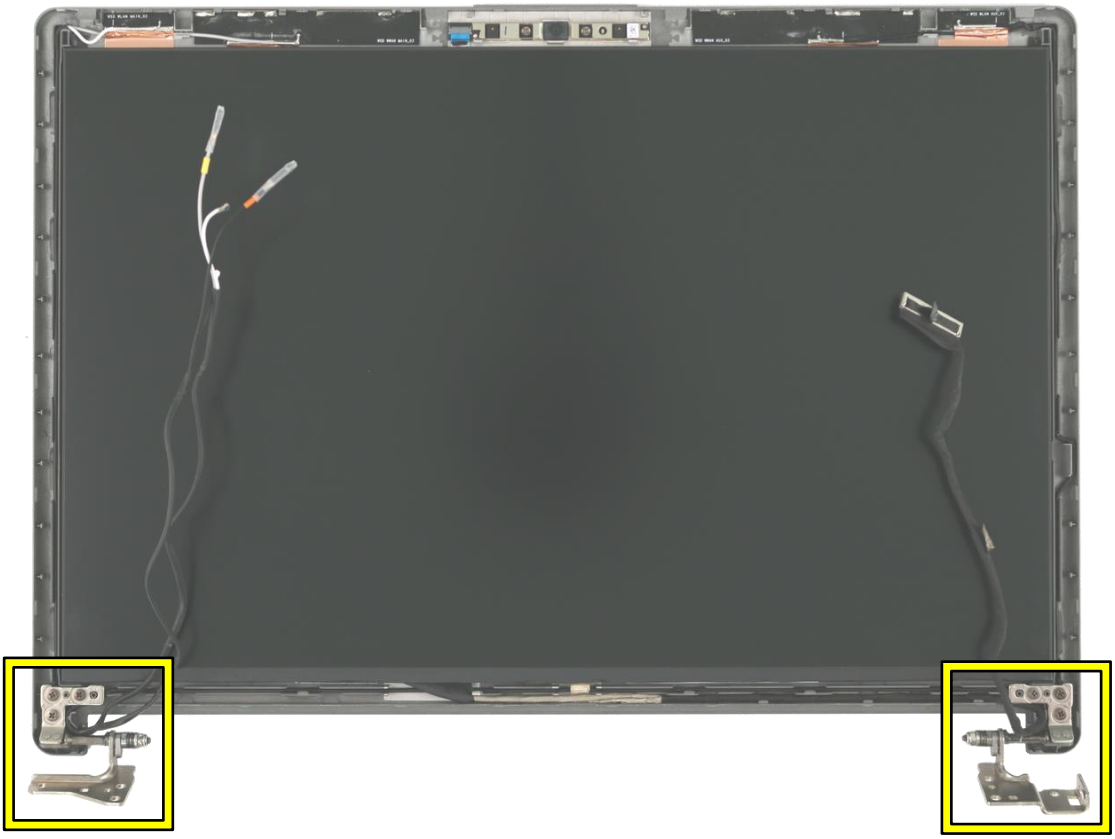
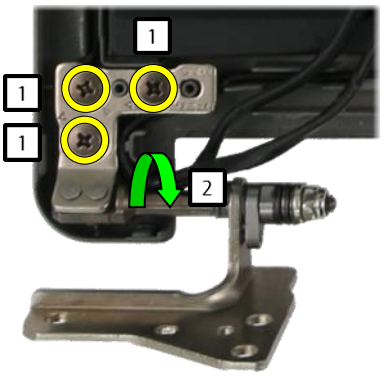
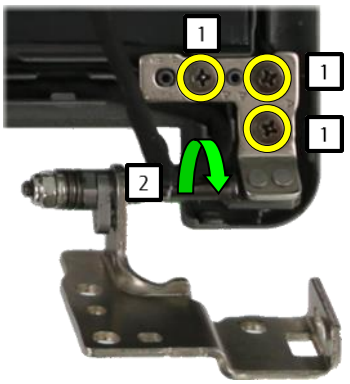
Remove the hinges

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove keyboard
- Remove the fans
- Remove the mainboard/WLAN
- Remove LCD assy

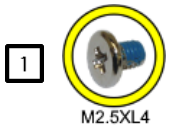
Required tools:
- Screwdriver: Phillips PH00







- Remove the screws (1).
- Remove the hinges (2).



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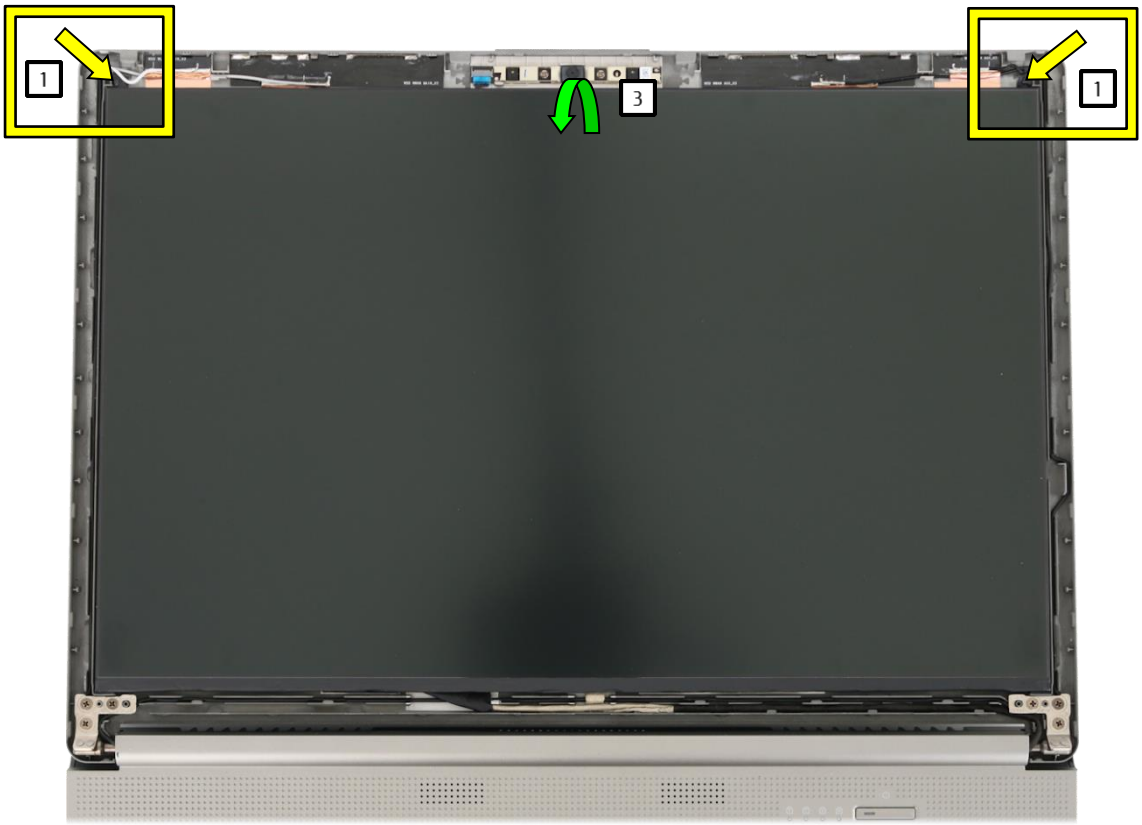
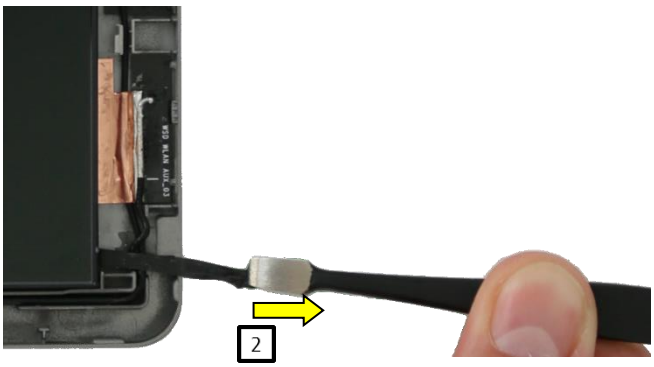
For authorised service technicians only

Remove the LCD panel

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove the LCD front cover

Required tools:
- Tweezers





- Lift the adhesive foil (1).
- Pull the adhesive foil in the direction of the arrow (2).
- Please constantly alter your grip to ensure that the adhesive foil does not rip.
- Turn the LCD panel over (3).

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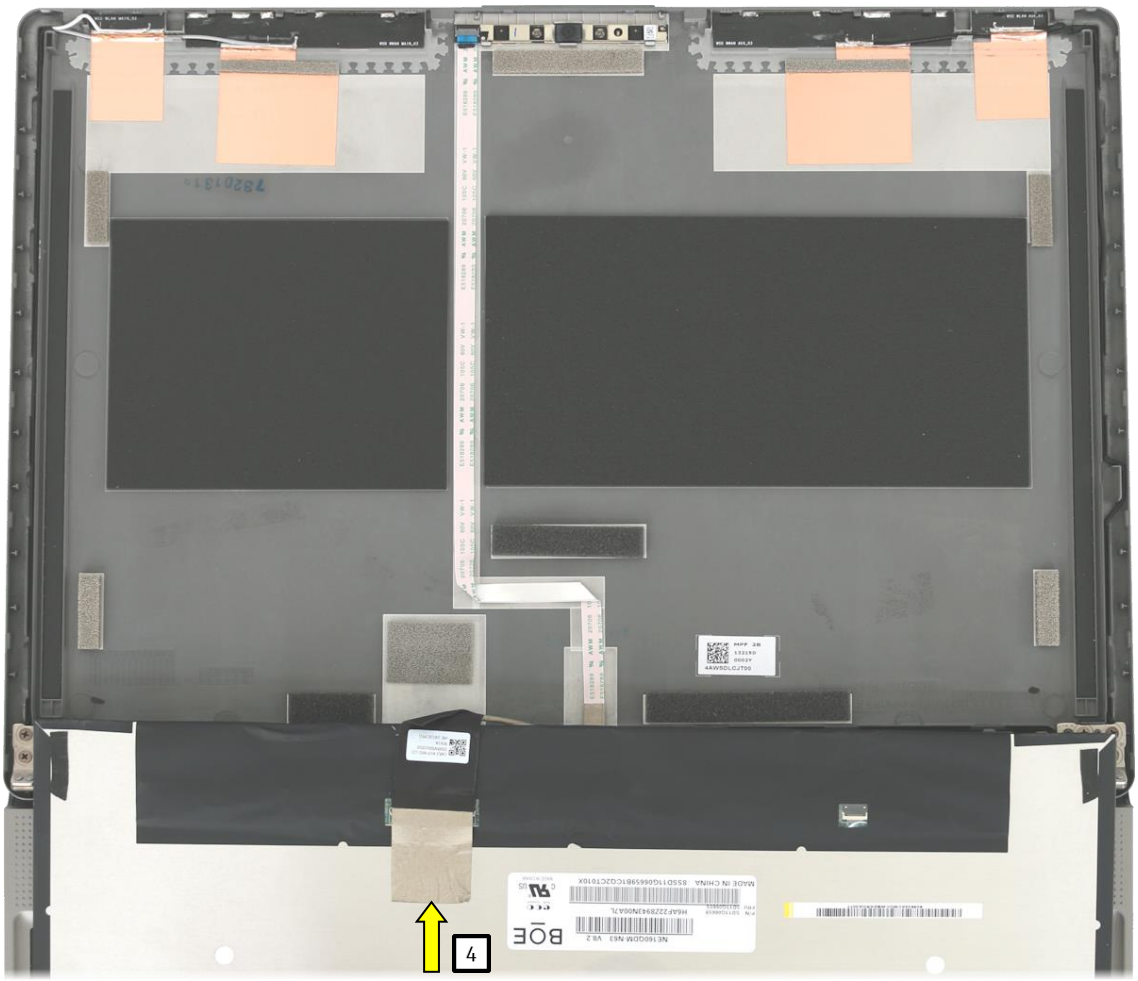
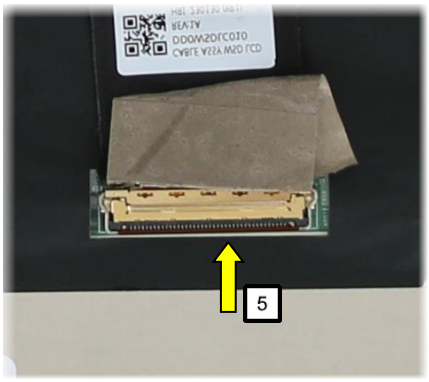


- Loosen the adhesive tape (4).
- Open the connector lock and remove the cable (5).
- Remove the panel.



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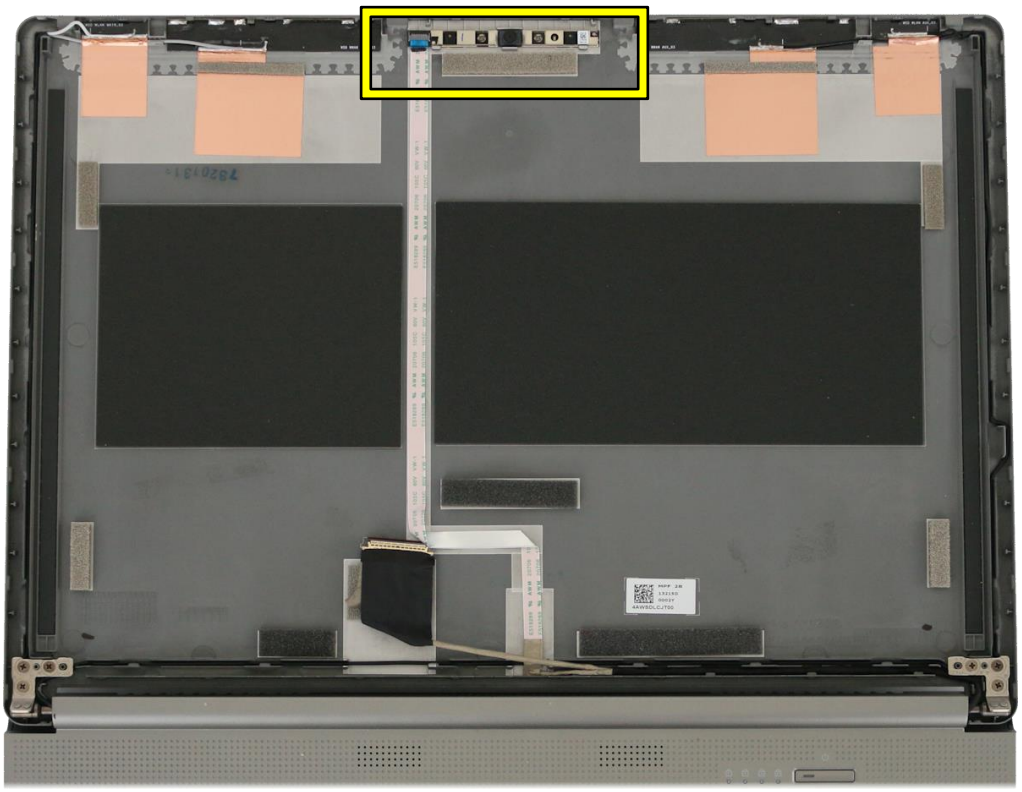
Remove the webcam

Required work steps:
- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove the LCD front cover
- Remove the LCD panel

Required tools:
- Plastic tool



- Open the connector lock and remove the cable (1).
- Remove the module (2).

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For authorised service technicians only

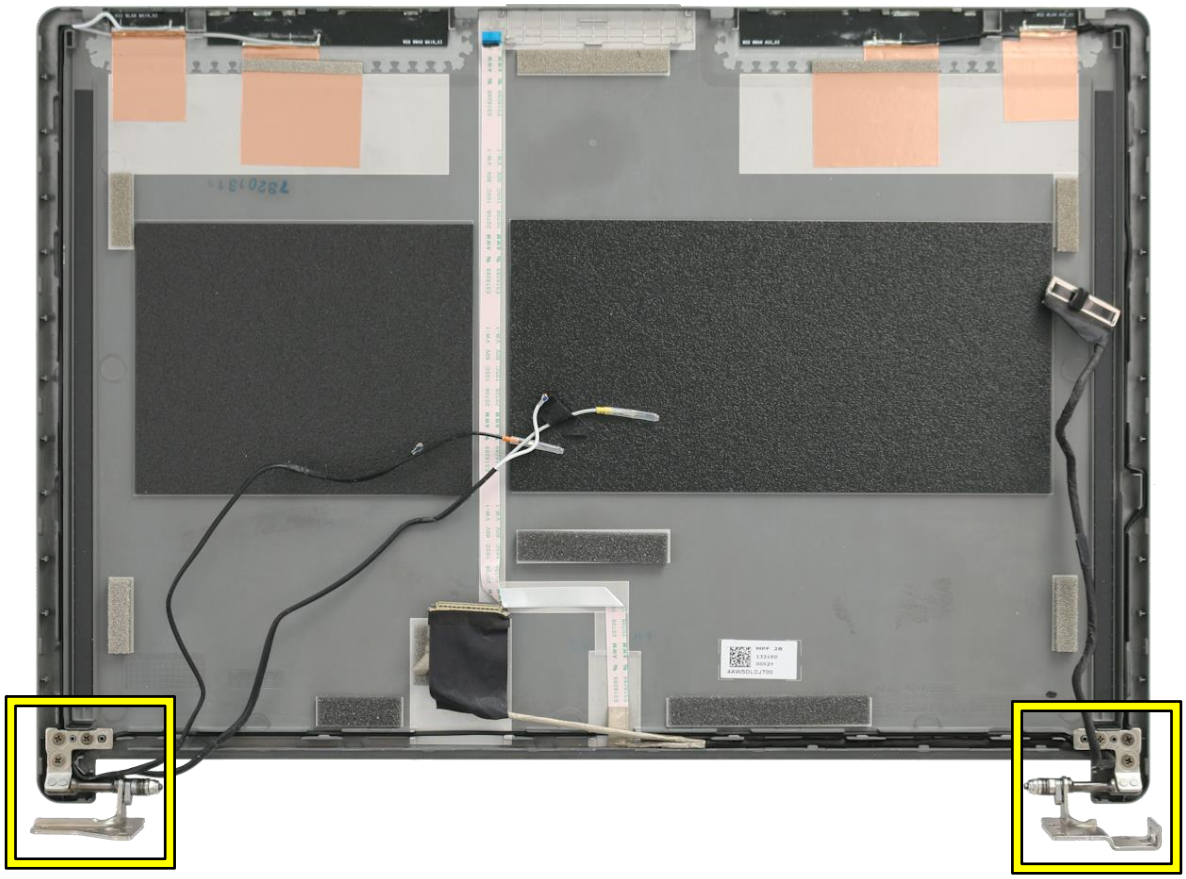
Remove LCD back cover

Required work steps:

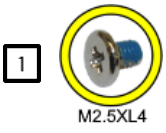
- Remove the service door
- Remove the battery
- Remove the lower assy
- Remove keyboard
- Remove the fans
- Remove the mainboard/WLAN
- Remove LCD assy
- Remove the LCD front cover
- Remove the LCD panel
- Remove the webcam

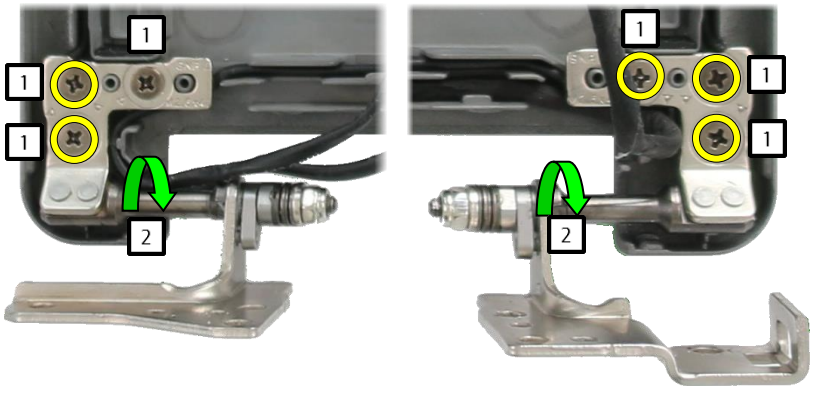
Required tools:

- Screwdriver: Phillips PH00



► Remove the screws (1).
► Remove the hinges (2).





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For authorised service technicians only

Spare parts CELSIUS H7613

Pos.	Spare part	Internal designation	Customer Replaceable Parts	Service Partner Replaceable Parts	Upgradeable	Repairable
	Mechanical parts:					
22	Service door			x		
	Case:					
21	Lower assy	lower assy		x		
20	Upper assy	upper assy		x		
19	LCD back cover	LCD back cover assy		x		
18	LCD front cover	LCD front cover		x		
13	SSD cover			x		
14.15	Memory cover			x		
25.26	Hinges			x		
7.8 / 1	Fingerprint / palm sensor bracket			x		
9 / 2	Fingerprint / palm sensor frame			x		
	AC adapter		x			
500	Battery		x			
105	CMOS battery			x		
33	DC-in connector			x		
220	Memory / RAM (Slot 3+4)	Depending on the device configuration	x		x	
210	Storage media (M.2) (Slot3)	Depending on the device configuration	x		x	
220	Memory / RAM (Slot 1+2)	Depending on the device configuration		x	x	
210	Storage media (M.2) (Slot 1+2)	Depending on the device configuration		x	x	
	Cooling:					
31	Fans			x		
100	Mainboard	Depending on the device configuration		x	x	x
170.18	WWAN module	Depending on the device configuration		x		
17	Speaker			x		
150	LCD display	Depending on the device configuration		x	x	
240	Keyboard	Depending on the device configuration		x	x	
205	Palm sensor			x		
160	Webcam	Depending on the device configuration		x		
39/40/41/42/11/195	Sub board (e.g. smart card reader/touchpad buttons/sub board switch/USB/ for BIO fingerprint/fingerprint)	Depending on the device configuration		x		
	Cables, flexprint cables, antennae	Depending on the device configuration		x		
	Touchpad: only if the upper assy is replaced					

	Processor - only by replacing the mainboard					
	Graphics card: integrated in the main processor - only by replacing the mainboard					
	WLAN module - can be replaced by replacing the mainboard					

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Additional information CELSIUS H7613

Spare part availability:
5 years after end of product life

Spare parts can be obtained from our approved and certified service partners:
Spare parts - Fujitsu Technical Support pages from Fujitsu EMEA

The exploded diagram is available at the following link:
Exploded diagram - Fujitsu Technical Support pages from Fujitsu EMEA

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Disposal information for recycling companies

These instructions are for the complete dismantling of a Fujitsu product. All materials can thereby be disposed of according to their provision in the EC directive 2012/19/EC (Waste Electrical and Electronic Equipment (WEEE)).

Product group: **Mobile PC**
Model: **CELSIUS H7613 ESTAR**

Materials which must be disposed of in a special manner		
Designation	**Remarks**	**Quantity**
Printed circuit boards with a surface area greater than 10 cm²	Mainboard AC adapter LCD SSD Memory Touch Pad Depending on system configuration: WWAN Port replicator Mouse	1 1 1 1-3 2-4 1 1 1 1
Batteries	Lithium-ion battery - Method of attachment: Detachable - How to remove: Open the cover - Special tool for removal: None Lithium button batteries CR2032 - Included on the mainboard	1 1
Components containing mercury	Not contained	
Liquid crystal displays (if applicable, together with the casing) with a surface area greater than 100 square centimetres and backlit displays with gas discharge lamps	> 100 cm2 display: Yes, for its display Gas discharge lamps: No	1
Cathode ray tubes	Not contained	
Capacitors containing PCBs (PolyChlorinated Biphenyls)	Not contained	
Electrolytic capacitors which contain critical substances (height > 25 mm; diameter: > 25 mm or proportional similar volumes).	Not contained	0
External electrical cables	AC adapter cable	1
Gas discharge lamps	Not contained	
Chlorofluorocarbons (CFC), hydrochlorofluorocarbons (HCFC) or hydrofluorocarbons (HFC), hydrocarbons (HC)	Not contained	

Materials which must be disposed of in a special manner		
Designation	**Remarks**	**Quantity**
Plastics which contain brominated flame retardant	This product may contain plastic parts with Brominated flame retardants but to the best of our knowledge we provide this information to sort them out. Plastic parts location can be visually identified by their typical design function for the product (also shown in the disassembly manual). Many of these parts (Greater than 25 grams) are bromine free. Regardless, these parts are labeled (usually molded directly into the plastic) per ISO 11469. A typical label would look like: > Polymer Abbreviation - FR(xx) < i.e. > PC+ABS FR(40) < Flame retardant codes (FR(xx)) are given in ISO 1043-4. Codes for some Brominated flame retardants: 14 aliphatic/alicyclic Brominated compounds 15 aliphatic/alicyclic Brominated compounds in combination with antimony compounds 16 aromatic Brominated compounds (excluding Brominated diphenyl ether and biphenyls) 17 aromatic Brominated compounds (excluding Brominated diphenyl ether and biphenyls) in combination with antimony compounds 22 aliphatic/alicyclic chlorinated and Brominated compounds 42 Brominated organic phosphorus compounds - Plastics parts weighing less than 25 grams may or may not contain brominated flame retardants. These smaller plastics parts may to be finding all over the PC system. It may especially include: fan, speaker.	
Toner cartridges, liquid and paste-like, and colour toner	Not contained	
Asbestos waste and components which contain asbestos	Not contained	
Components which contain fire-proof ceramic fibres	Not contained	
Components which contain radioactive substances	Not contained	
Mass storage device(s)		
Does the product contain mass storage devices? If so, is any of them soldered to a circuit board?	Mass storage devices are contained, and they are not soldered to a circuit board.	1 - 3
Required tools		
Philips Screwdriver		

Version history

Version	Date	Name	Change
1.0	05.06.2023	Bielichen	