

ASUS ROG Zephyrus G16 (GU603V) series

Service Guide



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Disclaimer

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

Safety precautions

- Keep liquids or moisture away from your Notebook PC before installing or removing any components.
- Ensure to place your Notebook PC on a stable surface before installing or removing any components.
- Detach the clip or flap before removing the signal cables to prevent damage.
- Disconnect the power plug by pulling the plug evenly to avoid damage. Ensure to connect the signal cables in the correct orientation.
- Disconnect all power cables and remove the battery pack (if applicable) before cleaning your Notebook PC with liquid detergent to avoid risk of electric shock.
- Disconnect all power cables and remove the battery pack (if applicable) before installing or removing any components. Ensure to read and follow the instructions in the manual.
- 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 Notebook PC to avoid short circuits.
- Hold components by the edges to avoid touching the ICs.
- Ensure to properly install all the 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.
- Ensure to install the correct screw models on your Notebook PC to prevent damage.



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- Carefully read through this Service Guide for a look at various components of the device before performing any service and repairs.
- To provide the best service, we have provided the below information for technicians from distributors and resellers to perform the complete device disassembly and assembly. Before performing the procedures, please be sure to read through the overview in this service guide for component overview to avoid any unwarranted damages to the device hardware.
- The following contents include all part numbers mentioned in the service guide are **used for reference only**, if you need the exact part number for ordering, please refer to the OrderBook.
- Due to sales policy difference, the components might have different specifications on the same series product, please refer to E-manual by model.

Due to sales policy difference, the components may have different specifications on the same model. If you have any operational issues, please contact the service hotline.



ASUS ROG Zephyrus G16 (GU603V) series Overview





Components Top View





Components Top View



♦ CABLE TAPE





♦ KB TAPE





Components Bottom View



♦ BOTTOM CASE

♦ KEYBOARD MODULE





Repair Overview

This chapter describes disassembly and assembly (Assemble document please look up from the last page), please follow the information provided in this section to perform the complete disassembly procedure.

♦ Precautions:

Before you perform any service or repair on the notebook, please pay special attention to the cautions prevent any damages to the notebook.

- 1. Be sure that the notebook is powered down.
- 2. Before disassembling any part, please disconnect all power source. ex: AC plug/Battery connector/Power protect screw etc.
- 3. Remove all rings, watches and any other metal objects from your hands.



- 4. Always wear a ground strap on your hand to protect the notebook from static discharge.
- 5. Please refer to "ANSI ESD S20.20" about ESD protection measure.
- 6. Put the disassembled parts in the functional PE BAG to avoid any damages of the

A/B/C/D part.



7. The maintenance environment temperature is 20-30 °C and humidity is 40% - 70%.

8. To avoid scratching on the surface of machine; please use anti-static and soft materials

to put on desk in repair environment as below photo.



9. Screw Appearance Criteria:

If the screws have the following damaged appearance, please do not use.

- a. Shape deformed.
- b. Damaged head unable to drive in or the stripped screw.
- c. Damaged unable to securely tighten.
- d. Paint scratched off.
- e. Rusty



- 10. The following chapter includes all part numbers mentioned in service guide are used for reference only, actual part name depends on different SKU, if you need the exact part number for ordering, please refer to the Orderbook.
- 11. Due to sales policy difference, the components may have different specifications on the same model. Please note that all pictures and components shown on Service Guide are for disassembly/assembly description purpose only, so please refer to the actual product for disassemble/assemble.



Appropriate Tools

Please prepare and select the appropriate tools to disassemble/assemble for the ASUS ROG Zephyrus G16 (GU603V) series notebook.









Appropriate Tools

Please prepare and select the appropriate tools to disassemble/assemble for the ASUS ROG Zephyrus G16 (GU603V) series notebook.



A Warning! When the tool is with Liquid Metal residue, please clean tools with dust free cloth and 95% alcohol.

Tooling Type	ltem	Part Name	Memo
		Silicone scraping pen	
For Liquid metal use	2	Conductonaut 1g (Liquid Metal)	 Please store it in the environment of 10 ~ 40 °C. Please keep cover tightly closed until ready for next time use. Shipping category : Dangerous Goods.
	3	2023 Intel Raptor Lake H45 steel plate	
	4	Stainless steel plate (60mm*20mm*0.2t)	
	5	Dust-free cotton swab//class 100 (100pcs)	
For Clean use	6	95% alcohol	
	7	Dust-free cloth	



BOTTOM CASE

The device has an Ambient Light Sensor (ALS) for power-off protection function.

Step 1 : Remove rubbers *3pcs.

Step 2 : Remove screws *12pcs.

Disassembly Notice

Step 3 : Use plastic blade to pry the bottom case.



	Screws	QTY	Spec	Torque (kgf-cm)
n case.	IO	4	M2*11L (4.5,0.8) (K) #1	2.0±0.2
	10	3	M2*8L(4.5,0.8) (K)#1	2.0±0.2
		3	M2*8L(4.5,0.8) (K)#1	2.8±0.2
		2	M2*11.5L (4.5,0.8) (K) #1	2.0±0.2
(*3 PCS)	10	1	Retention Screw	2.0±0.2



Ambient Light Sensor (ALS):

- 1. After removing the BOTTOM CASE, the ambient light sensor detects light, system will automatically power off for protection.
- 2. Make sure assemble bottom case back and plug in AC adapter, then you can power on normally.







The screw is unable to remove from bottom case, so please always loosen it last, and lock it at first.



To avoid the bottom case hook, don't insert plastic blade in each red circle.



Please follow above arrow direction with using plastic blade to pry bottom case in each blue circle location.(To avoid the bottom case hook, please prying at each blue circle location.)



2



Disassembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

QTY

2

Screws

10

A Please be sure to pull out adapter and disconnect the battery.

Step 1 : Disconnect the battery connector.

Step 2 : Remove the Thermal PAD upon the SSD.

Step 3 : Remove screws *2pcs and SSD *2pcs then remove absorbers *4pcs.

Step 4 : Remove BOT THERMAL PAD.



▲① Disconnect





Spec

M2*4.5L(4.5,0.8) (K)#1

Assembly Notice

Torque(kgf-cm)

2.0±0.2

When installing the SSD, please keep the SSD less than 15 degrees with motherboard, and then insert the SSD.





Remove









Assembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

Please be sure to pull out adapter and disconnect the battery.

A Please use SSD1 slot as first priority.



B Follow the illustrations to paste absorbers on SSD.



Follow the steps below to assemble SSDs.











When installing the SSD, please keep the SSD less then 15 degrees with motherboard, and then insert the SSD.







Disassembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

DDR

A Please be sure to pull out adapter and disconnect the battery.

- $\label{eq:step1} Step1: Tear off DIMM CONN ABSORBER.$
- Step 2 : Unlock and remove the DDR.
- Step 3 : Tear off DIMM BOT ABSORBER *1pc from DDR.
- Step 4 : Please check and remove the PN label from the ABSORBER, and paste it back to the RAM module.



1 Tear off



2 Unlock and Remove







 \Rightarrow

Turn over and tear off



4 Tear off























The device has an Ambient Light Sensor (ALS) for power-off protection function.

Please be sure to pull out adapter and disconnect the battery.

A Follow below steps to paste absorber on DDR.





B) Follow below steps to assemble DDR.













BATTERY





The device has an Ambient Light Sensor (ALS) for power-off protection function.

A Please be sure to pull out adapter and disconnect the battery.

- Step 1 : Remove screws *4pcs.
- Step 2 : Remove BATTERY.
- Step 3 : Disconnect battery cable.







Screws	QTY	Spec	Torque(kgf-cm)
ĨO	2	M2*8.0L (4,0.8) (K) #1	2.0±0.2
10	2	M2*4.5L (4.5,0.8) (K) #1	2.0±0.2

Assembly Notice

For BATTERY RIB RUBBER assembly, please follow below location to paste.

* The BATTERY RIB Rubber need to be attached on the rib.



When replacing new battery, please follow illustration (red mark) to paste GU603VV KB TAPE *1pc.





WIFI CARD

Disassembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

A Please be sure to pull out adapter and disconnect the battery.

- Step 1 : Tear off the TAPE and MYLAR. Step 2 : Disconnect RF cable *2pcs. Step 3 : Remove the screw *1pc.
- Step 4 : Remove the WLAN CARD.















3 Unscrew



Screws	QTY	Spec	Torque(kgf-cm)
10	1	M2*4.5L(4.5,0.8) (K)#1	2.0±0.2

Assembly Notice

A Please assemble RF cable according to below image.



After the WIFI card is assembled, please paste the CABLE TAPE and Mylar according to the following positions.





CABLE TAPE

MB WIFI MODULE MYLAR

J ₁₉ Back



HALL SENSOR BD

Disassembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

A Please be sure to pull out adapter and disconnect the battery.

Step 1 : Disconnect the HALL SENSOR FFC connector.

Step 2 : Remove HALL SENSOR FFC.

Step 3 : Remove HALL SENSOR BD.



1 Disconnect



2 Remove









Assembly Notice

If FFC is damage during disassembly, please replace new one. Here are some samples of FFC damage:





For HALL SENSOR BD assembly, please paste HALLSENSOR PCB ADH (1pc) as below.

FIRST ADHESIVE SIDE







WOOFER

Disassembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

A Please be sure to pull out adapter and disconnect the battery.

Step 1 : Disconnect the SPEAKER connector (green mark) and release tape *1pc (yellow mark). Step 2 : Remove the WOFFER.







2 Remove



Assembly Notice







Paste tape *1pc to fix speaker cable then connect the speaker connector.







THERMAL MODULE

Disassembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

A Please be sure to pull out adapter and disconnect the battery

Step 1 : Disconnect cables (yellow mark) and release tapes/sponges in green area.

Step 2 : Please follow the reverse screws numbers to remove and release screws *7pcs.

Step 3 : Remove the THERMAL MODULE.

Screws	QTY	Spec	Torque (kgf-cm)
TO	4	M2*4.5L (4.5,0.8) (K) #1	2.0±0.2
\$0	3	Retention screw	2.0±0.2

Disconnect and remove







Recommend that the force point is at green block, and pull up thermal module to take it out. Do not pull up at red block and also notice the thermal pipe should not have deformation.

2 Unscrew





Assembly Notice

Step-1

To prevent a short circuit resulting from the Thermal module deforming and contact with the components below, please paste a TAPE to the motherboard as illustrated. For Model : GU603VI/VU/VV/ZI/ZU/ZV





Step-2

Please follow the screws numbers to lock screws *7pcs. Step-3

Please follow the mark below to tidy up cable.



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.

WARNING! The heat sink contains liquid metal and should only be removed by 22 authorized service personnel. Significant damage may occur to motherboard Back components if the heat sink is improperly removed.



Disassembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

FAN

A Please be sure to pull out adapter and disconnect the battery.

- Step 1 : Disconnect connectors *2pcs. (Yellow mark)
- Step 2 : Remove screws *4pcs. (Green mark)
- Step 3 : Remove the FAN *2pcs.

Screws	QTY	Spec	Torque (kgf-cm)
	4	M2*4.5L (4.5,0.8) (K) #1	2.0±0.2



3 Remove





Assembly Notice

Please use the correct technique to take fans off to avoid getting out of shape.







Disassembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

A Please be sure to pull out adapter and disconnect the battery.

Step 1 : Disconnect connectors (yellow mark).

- Step 2 : Remove screws *2pcs (green mark).
- Step 3 : Remove the MAIN BOARD.

Screws	QTY	Spec	Torque (kgf-cm)
TO	2	M2*4.5L (4.5,0.8) (K) #1	2.0±0.2





Assembly Notice

Step-1

thermal module before.

- THERMAL MODULE Location:[VRAM/CHOKE/MOS] Material: FCR-AS Grease
- MB Location:[GPU] Material: TH PAD PTM7958)

Step-2

Please refer <u>Repair Notice SOP</u> for Liquid metal rework when reassemble thermal module before.MB Location:[CPU]















BUTTON BD

Disassembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

Step 1 : Remove screws *2pcs and remove BUTTON BD with FP PW FFC. Step 2 : Disconnect connector and remove FP PW FFC from BUTTON BD. Step 3 : Remove POWER KEY from top case.

Screws QTY Torque (kgf-cm) Spec TO M2*3L(K) B-ZN #1 NY 2 2.0±0.2



1 Unscrew





2 Disconnect



B Remove





Assembly Notice

If FFC is damage during disassembly, please replace new one. Here are some samples of FFC damage:





Important Repair Notice : RN202301101

Module(L2) or Main-Board(L3) repair, if require a device or Main-Board power on, please must assembly POWER BUTTON Board, then connect power (Battery/ AC Adapter). After that, you can start up it. *Notice: If POWER BUTTON Board is not assembled, the power key will be unable to work.





TWEETER

Disassembly Notice The device has an Ambient Light Sensor (ALS) for power-off protection function.

Step 1 : Release TWEETER TAPE *6pcs (red mark).

Step 2 : Insert plastic blade from upper side of tweeter and lift it up to remove from KB module.











Assembly Notice

When assemble TWEETER SPEAKER, please follow below mark to tidy up cable and paste TWEETER TAPE *6pcs.



29 Back



TOUCHPAD MODULE

Disassembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

Step 1 : Disconnect and remove the FFC. Step 2 : Flip up the KB FPC and remove screws *3pcs. Step 3 : Remove TOUCHPAD module.

Screws	QTY	Spec	Torque (kgf-cm)
0	3	M2*2.5L (4.5,0.5) (K) #1	2.0±0.2





2 Flip up and unscrew





3 Remove







30 Back



KEYBOARD MODULE

Disassembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

Step 1 : Remove hinge's screws *6pcs. Step 2 : Flip up and remove KB module.

Screws	QTY	Spec	Torque (kgf-cm)
	6	M2*4.5L (4.5,0.8) (K) #1	2.0±0.2

1 Unscrew



2 Flip up and remove









LCD BEZEL

The device has an Ambient Light Sensor (ALS) for power-off protection function.

Step 1 : Remove LCD BEZEL.

Disassembly Notice

1

Step 1-1~1-3

3 Start from the middle area of each side of bezel,

Using the forefinger to hold the outer edge firmly and the thumb flipping the bezel inner edge outward to release the hooks as indicated in the diagram shown. (It can be helpful, if holding the bezel outer edge firmly with forefinger.)

Step 1-4

Use plastic blade to pry the bezel from hinge side (green mark).



Step 1-1~1-3 Thumb flipping the inner edge outward.





Step 1-5 Due to some tapes behind the lower edge of bezel, please using plastic blade to teardown the bezel.

Please follow the direction shown in the red arrow, to move plastic blade from left to right and peel the bezel away slowly. While peeling, please move the blade in the parallel direction to the panel and **pressing the black Mylar downward** (As circled in green) to ensure the black Mylar and the tape behind the bezel are well separated.

Please move blade slowly to separate the bezel away, and must press the black Mylar downward with panel parallel direction..



Assembly Notice

When reuse the LCD BEZEL:

Please paste new <u>LCD BEZEL ADHESIVE</u> before assembly BEZEL. (New LCD BEZEL already contains LCD BEZEL ADHESIVE *1pc, BEZEL ADHESIVE TOP*1pc, BEZEL ADHESIVE L/R*2pcs.)



32 Back



LCD PANEL



vertical direction!



The device has an Ambient Light Sensor (ALS) for power-off protection function.

Step 1 : Pull out LCD adhesive *2pcs.

- Step 2 : Flip up the panel and disconnect the EDP cable.
- Step 3 : Remove screws *6pcs then remove HINGE module R & L.
- Step 4 : Remove screws *4pcs then remove caps and deco rubbers from HINGE.

1 A Please pull the adhesive up about 30 degree slowly, and don't pull out the tape in

Screws	QTY	Spec	Torque (kgf-cm)
	6	M2.5*2.3L(7.5,0.6)(K) #1	2.3±0.2 kgf-cm
	4	M1.4*2.5L(3.4,0.5) (K)#0	1.3±0.2 kgf-cm













LCD PANEL

Assembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

When reuse the LCD PANEL or BEZEL:

Please use the fingertip to clean the residual glue on PANEL or BEZEL.



Before assembly the NEW LCD PANEL :

Please make sure paste <u>GRAPHITE</u> and <u>CU FOIL</u> at panel back side.





Please confirm the position to be paste according to different panel.(Green line).

With Position line panel

Without Position line panel















LCD PANEL

Assembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

C When assembly the LCD PANEL: (The following is an operation example)

Step 1~2 : Paste NB LCD MYLAR *6pcs on LCD COVER.

(Positions are as below)



Step 3 : Remove release paper of LCD Adhesive *2pcs.

Step 4 : Assembly and align the LCD to the upper side of the LCD Cover.

Step 5 : Remove Mylar *6pcs and complete the Panel assembly.





Step-5 Pull out Mylar *6pcs.



▲ Please stick LCD MYLAR on the plastic bag save after used, and repeatedly use until lose stickiness.





Disassembly Notice

LCD COVER MODULE

The device has an Ambient Light Sensor (ALS) for power-off protection function.

Step 1 : Release GASKET and disconnect MIC FPC connectors. Step 2 : Remove MIC FPC and EDP CABLE. Step 3 : Remove CAMERA. Step 4 : Remove MIC RUBBER *2pcs.







2 Remove

1



3 Remove











LCD COVER

Assembly Notice



The device has an Ambient Light Sensor (ALS) for power-off protection function.

Please follow the green mark to tidy up MIC FPC and EDP CABLE. A



 \leftarrow



LCD COVER





The device has an Ambient Light Sensor (ALS) for power-off protection function.

Please follow the green mark to tidy up ANTENNA CABLE. В





When reuse the LCD COVER:

C

Please paste new PANEL ADHESIVE *2pcs. (New LCD COVER already contains PANEL ADHESIVE *2pcs)

