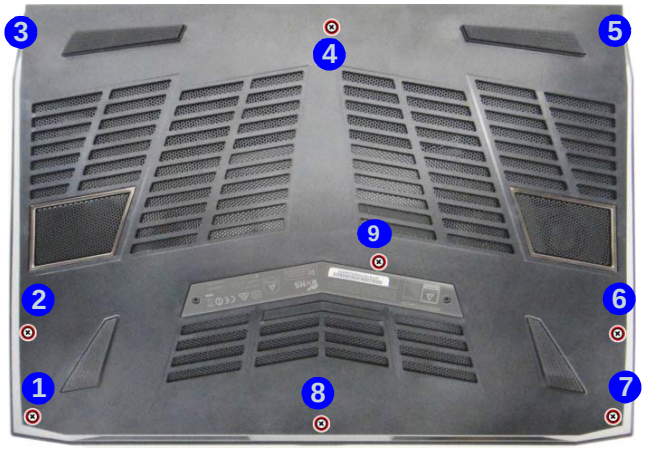
Removing the Battery

1. Turn the computer **off**, and turn it over.
2. Remove the screws 1 - 9 (*Figure 1a*).
3. Carefully lift the bottom case 10 up in the direction of the arrow 11 and remove it (*Figure 1b*).
4. The battery will be visible at point 12 on the computer (*Figure 1c*).

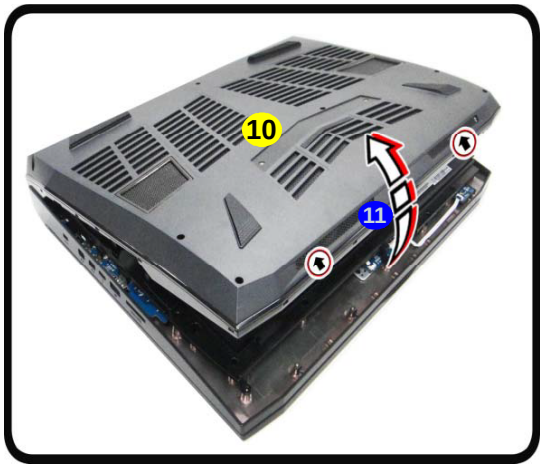
Figure 1
Battery Removal

a. Remove the screws.
b. Remove the bottom case.
c. Locate the battery.

a.



b.



c.

Powering the Computer On

After every disassembly, make sure that the bottom case's screws are all inserted and tightened before opening the Lid/LCD and turning the computer on.

10. Bottom Case

- 9 Screws

Figure 2
Battery Removal (cont'd.)

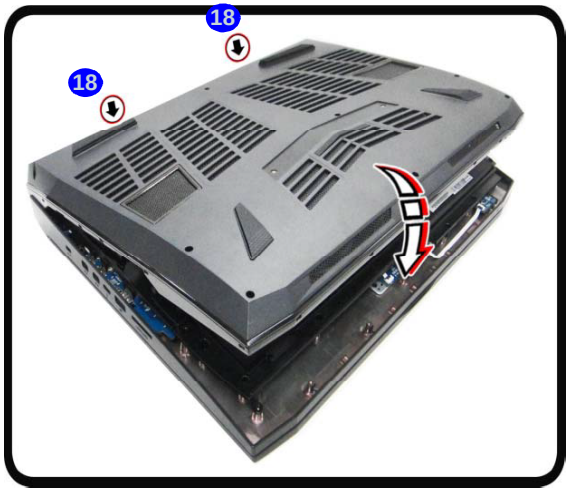
d. Remove the screws.
e. Lift the battery off the computer.
f. Reinsert the bottom case and tighten the screws.

5. Carefully remove screws 13 - 16 (***Figure 2b***).
6. Lift the battery 17 off the computer (***Figure 2e***).
7. Reinsert the bottom case starting from point 18 as shown (***Figure 2f***) to avoid damaging the rear eSATA/USB 3.0 port. Tighten the screws to secure the bottom case in place.

d.

e.

f.



17. Battery

- 4 Screws

Removing the Hard Disk Drive

The hard disk drive can be taken out to accommodate other 2.5" serial (SATA) hard disk drives with a height of 7mm/ 9.5mm (h). Follow your operating system's installation instructions, and install all necessary drivers and utilities (as outlined in **Chapter 4 of the User's Manual**) when setting up a new hard disk.

Hard Disk Removal Process

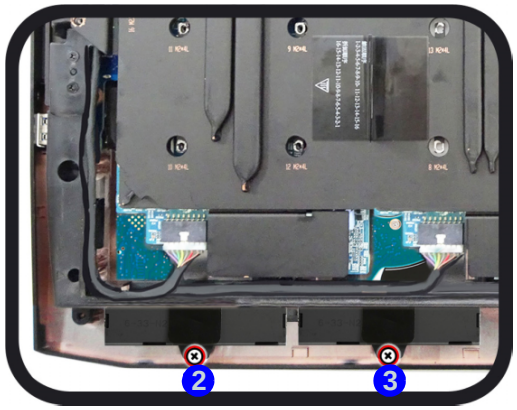
1. Turn **off** the computer, and remove the battery (***page 2 - 5***).
2. The HDD(s) will be visible at point 1 on the mainboard (***Figure 3a***).
3. Remove screws 2 / 3 from the HDD assembly (***Figure 3b***).

Figure 3
HDD Assembly Removal

a. Locate the HDD.
b. Remove the screws.

a.

b.



HDD System Warning

New HDD's are blank. Before you begin make sure:

You have backed up any data you want to keep from your old HDD.

You have all the CD-ROMs and FDDs required to install your operating system and programs.

If you have access to the internet, download the latest application and hardware driver updates for the operating system you plan to install. Copy these to a removable medium.

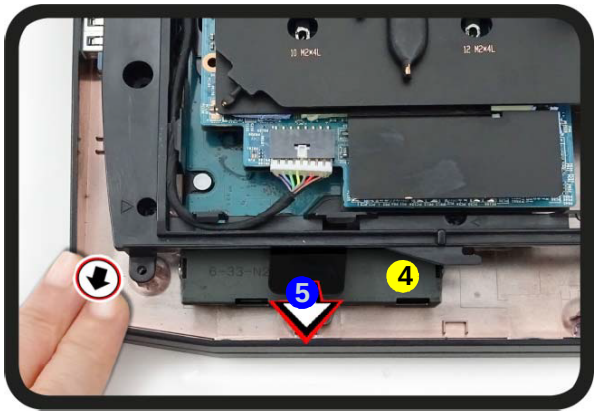
- 2 Screws

Figure 4
HDD Assembly Removal (cont'd.)

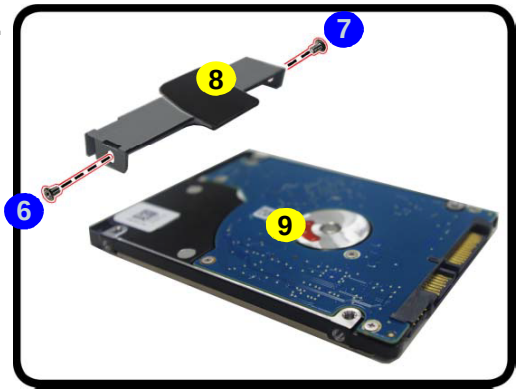
c. Slightly lift and pull the HDD in the direction of the arrow.
d. Remove the screws and bracket from the HDD.

4. Slightly lift the hard disk assembly 4 by the tab at an angle while holding the notebook in place and pull it in the direction of arrow 5 to release (***Figure 4c***).
5. Remove the hard disk assembly out of the bay.
6. Remove screws 6 - 7 and bracket 8 from the hard disk 9 (***Figure 4d***).
7. Reverse the process to install a new hard disk (do not forget to replace the screws and take care when inserting the new hard disk by lifting the mylar underneath the video card for smooth insertion).

c.



d.



4. HDD Assembly
8. HDD Bracket
9. HDD

- 2 Screws

Installing 9.5mm or 7mm HDD

Note that the hard disks pictured on the following pages are all 7mm(h) hard disk drive.

There are two hard disk drive options:

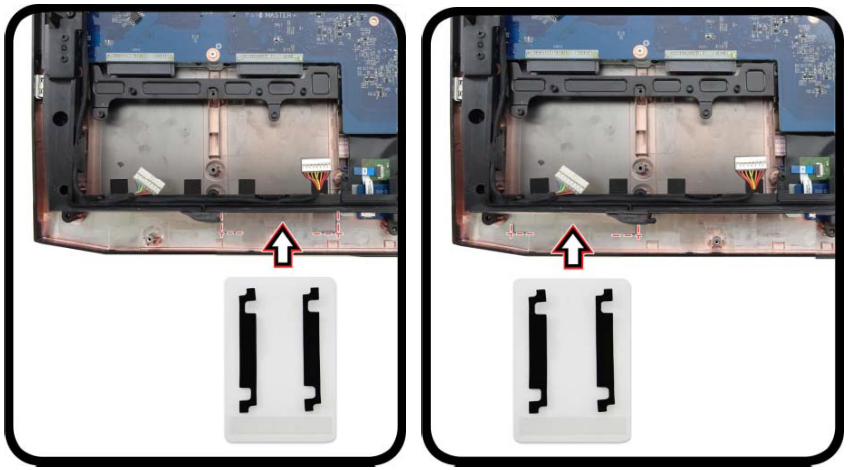
Two changeable 2.5" (6cm) **7.0mm** (h) **SATA** (Serial) Hard Disk Drives/Solid State Drives (SSD) supporting RAID level 0/1
Or
One changeable 2.5" (6cm) **9.5mm** (h) **SATA** (Serial) Hard Disk Drive/Solid State Drive (SSD)

For more information, contact your distributor/supplier, and bear in mind your warranty terms.

Hard Disk Size Note (Foam Rubber Insert)

Note that the hard disks pictured on these pages are all 9.5mm(H) hard disk drives. In some cases 7mm(H) hard disk drives will be installed.

- If you are replacing a 9.5mm(H) HDD with a 7mm(H) HDD then insert the foam rubber insert.
- If you are replacing a 7mm(H) HDD with a 9.5mm(H) HDD then remove the foam rubber insert.



HDD-1 HDD-2

Figure 5
Foam Rubber Insert for 7mm(H) HDDs

Figure 7
Keyboard Removal

a. Remove the screw.
b. Eject the keyboard using a special eject stick to push the keyboard out while releasing the keyboard as shown.

Removing the System Memory (RAM) from Under the Keyboard

The computer has **four** memory sockets for 260 pin Small Outline Dual In-line (SO-DIMM) **DDR 4** type memory modules. The total memory size is automatically detected by the POST routine once you turn on your computer.

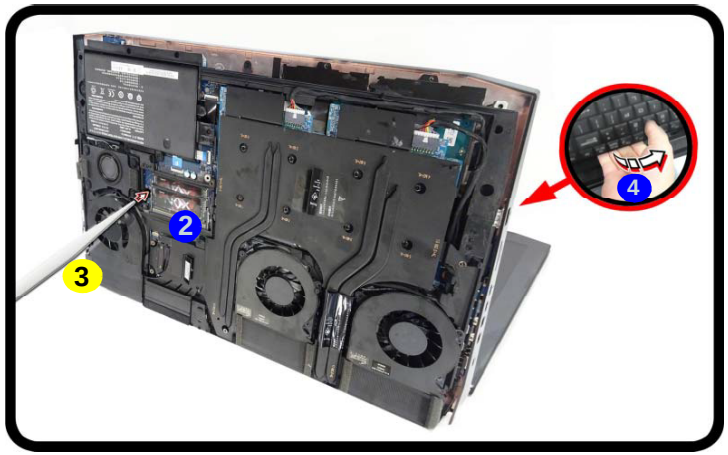
Two primary memory sockets are located under component bay cover (the bottom case cover), and two secondary memory sockets are located under the keyboard. If you are installing only two RAM modules then they should be installed in the primary memory sockets under the component bay cover.

Memory Upgrade Process

1. Turn **off** the computer, and turn it over, remove the battery (*page 2 - 5*).
2. Remove the screw 1 (*Figure 7a*).
3. Open it up with the LCD on a flat surface before pressing at point 2 to release the keyboard module (use an eject stick 3 with a diameter no bigger than 2.5mm) to do this while releasing the keyboard in the direction of the arrow 4 as shown (*Figure 7b*).

a.

b.



3. Eject Stick

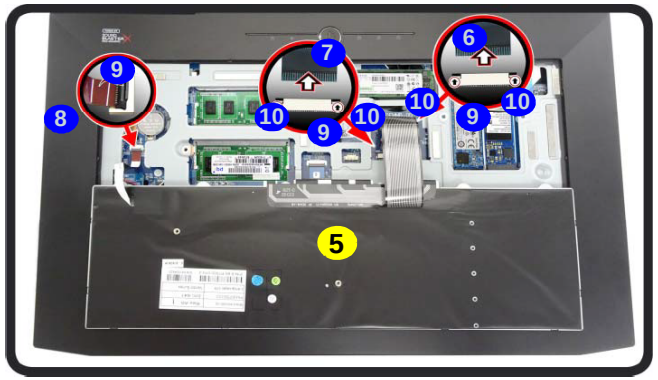
- 1 Screw

4. Carefully lift the keyboard 5 up, being careful not to bend the keyboard ribbon cables 6 - 8.
5. Disconnect the keyboard ribbon cables 6 - 8 from the locking collar socket 9 by using a small flat-head screwdriver to pry the locking collar pins 10 away from the base (***Figure 8c***).
6. Remove the keyboard and the memory sockets 11 & 12 will be visible (***Figure 8d***).
7. Gently pull the two release latches (13 & 14) on the sides of the memory socket(s) in the direction indicated below.
8. The RAM module 15 will pop-up, and you can remove it (***Figure 8e***).
9. Pull the latches to release the second module if necessary.
10. Insert a new module holding it at about a 30° angle and fit the connectors firmly into the memory slot.
11. The module's pin alignment will allow it to only fit one way. Make sure the module is seated as far into the slot as it will go. DO NOT FORCE the module; it should fit without much pressure.
12. Press the module in and down towards the mainboard until the slot levers click into place to secure the module.
13. Replace the keyboard, bay cover and screws.
14. Restart the computer to allow the BIOS to register the new memory configuration as it starts up.

Figure 8
KB & RAM Module Removal

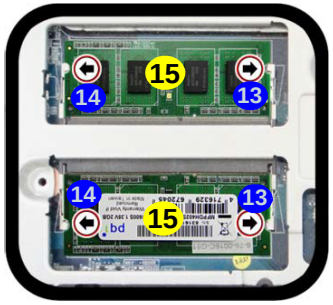
c. Lift the keyboard up, and disconnect the keyboard ribbon cable from the locking collar socket.
d. Remove the keyboard and the memory sockets will be visible.
e. Pull the two release latches on the sides of the memory socket(s) in the direction indicated.

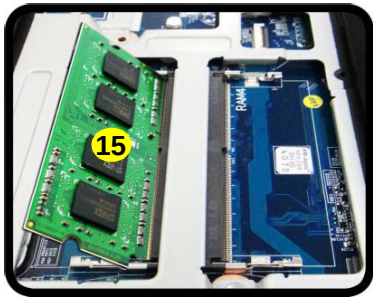
c.



d.

e.





Contact Warning

Be careful not to touch the metal pins on the module's connecting edge. Even the cleanest hands have oils which can attract particles, and degrade the module's performance.

5. Keyboard
15. RAM Modules

Removing the M.2 SSD Module

Removing the M.2 SSD-1 Module

1. Turn **off** the computer, remove the battery (***page 2 - 5***), and component bay cover (***page 2 - 10***).
2. Locate the module; it is visible at point 1 (***Figure 16a***).
3. Carefully remove the screw 2 from the module (***Figure 16b***).
4. The M.2 SSD module 3 will pop-up (***Figure 16c***).
5. Lift the M.2 SSD module 3 up and off the computer (***Figure 16d***).
6. Reverse the process to install a new module (make sure that the hexagonal screw 4 is in the correct location).

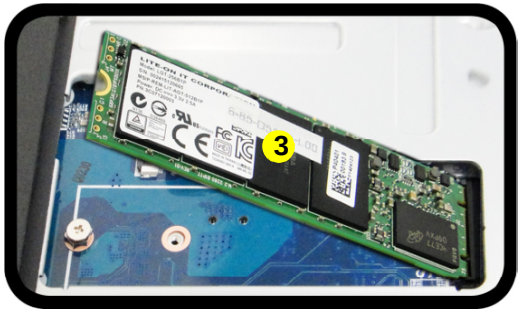
Figure 16
M.2 SSD-1 Module Removal

a. Locate the module.
b. Remove the screw.
c. The module will pop-up.
d. Lift the module up off the socket.

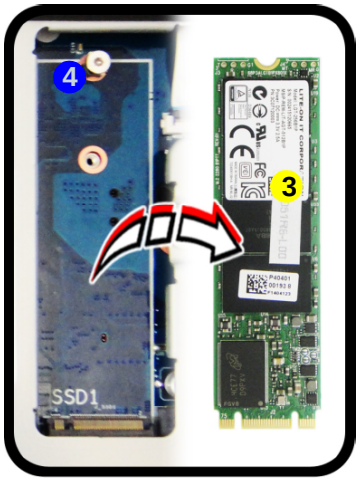
a.

b.

c.



d.



3. M.2 SSD Module

- 1 Screw

Removing the M.2 SSD-2 Module

1. Turn **off** the computer, and turn it over, remove the battery (*page 2 - 5*).
2. Locate the module; it is visible at point 1 (*Figure 17a*).
3. Remove the screw 2 from the SSD (*Figure 17a*).
4. The M.2 SSD module 3 will pop-up (*Figure 17b*).
5. Lift the M.2 SSD module 3 up and off the computer (*Figure 17c*).
6. Reverse the process to install a new module (make sure that the hexagonal screw 3 is in the correct location depending upon the size of the module).

Figure 17
M.2 SSD-2 Module Removal

a. Locate the module.
b. Remove the screws.
c. The module will pop up.
d. Lift the module out.

a.

b.

c.

d.

3. M.2 SSD Module

- 1 Screw

Figure 18
M.2 SSD Module Installation

a. Insert the module.
b. Tighten the screw.
c. Place the thermal pad.

M.2 SSD Installation Procedure

1. Insert the module 1 in the computer (***Figure 18a***).
2. Tighten the screw 2 to secure it in place (***Figure 18b***).
3. Only place the thermal pad 3 on the module as shown when using specific module (***Figure 18c***).

Caution

The thermal pad is only required when using Samsung PM951 M.2 SSD module. Make sure you place the thermal pad's adhesive side down on the module surface as illustrated.

1. M.2 SSD Module
3. Thermal Pad

- 1 Screw

a.

b.

SDD-1

SDD-2

c.