

Machine Maintenance

Machine Disassembly and Replacement

This chapter contains step-by-step procedures on how to disassemble the notebook computer for maintenance and troubleshooting.

Cable paths and positioning may not represent the actual model. During the removal and installation of the components, ensure all available cable channels and clips are used and that the cables are replaced in the same position.

The screws for the different components vary in size. During the disassembly process, group the screws with the corresponding components to avoid mismatch when putting back the components.

The product previews seen in the disassembly procedures may not represent the final product color or configuration.

Recommended Equipment

To disassemble the computer, the following tools are suggested:

- Wrist grounding strap and conductive mat for preventing electrostatic discharge
- Non-marring scribe
- Phillips screwdriver
- Flat-blade screwdriver
- Plastic flat screwdriver
- Plastic tweezers
- Cyanoacrylate glue

Replacement Requirements

⇒ NOTE:

Cabling and components require adhesive to be applied during the replacement and reassembly process.

Pre-disassembly Instructions

Before proceeding with the disassembly procedure, make sure that you do the following:

1. Turn off the power to the system and all peripherals.
2. Unplug the AC adapter and all power and signal cables from the system.



Figure 3-1. AC Adapter

3. Remove any dummy cards that are present.
4. Place the system on a flat, stable surface.

Disassembly Process

The disassembly process is divided into the following stages:

- External module disassembly
- Main unit disassembly
- LCD module disassembly

The flowcharts provided in the succeeding disassembly sections illustrate the entire disassembly sequence. Observe the order of the sequence to avoid damage to any of the hardware components. For example, if you want to remove the main board, you must first remove the keyboard, then disassemble the inside assembly frame in that order.

Table 3-1. Main Screw List

Screw	Quantity	Acer Part Number
M2.5 × L7	19	86.00E72.637
M2 × L3	13	86.00F80.723
M2 × L3	8	86.9A552.3R0
M2 × L4	6	86.00E91.724
M2 × L2.5	6	86.9A562.2R5
M2.5 × L2.5	6	86.00K60.630
M2.5 × L4	2	86.9AL53.4R0
M2 × L7	2	86.DA352.7R0
M2.5 × 3.5	2	86.00F98.733

External Module Disassembly Process

External Modules Disassembly Flowchart

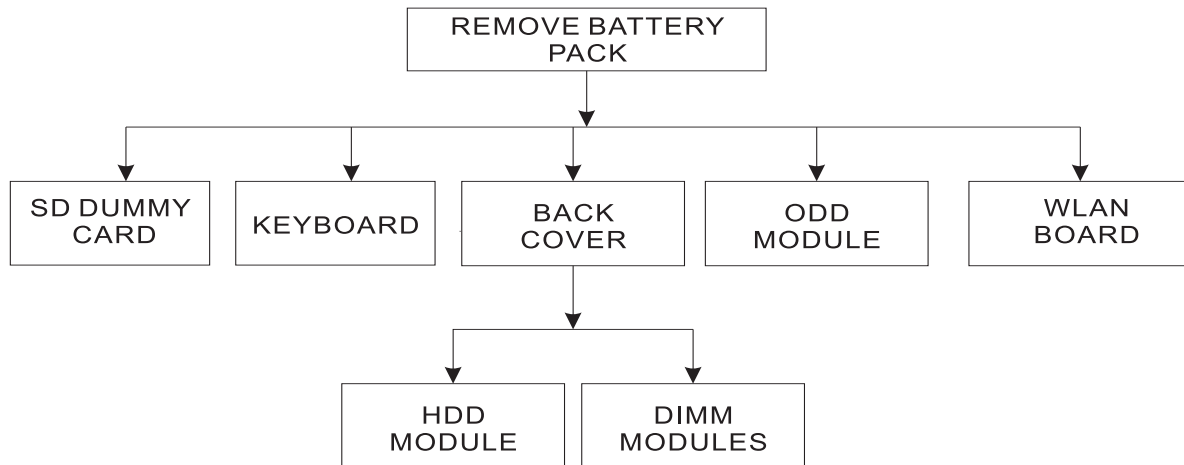


Figure 3-2. External Modules Disassembly Flowchart

Table 3-2. Screw List

Step	Screw	Quantity	Acer Part Number
ODD Bracket Disassembly	M2 × L3	3	86.00F80.723
WLAN Module Door	M2 × L4	1	86.00E91.724
WLAN Module Disassembly	M2 × L3	1	86.00F80.723
Keyboard Disassembly	M2.5 × L7	2	86.00E72.637
Base Door Disassembly	M2 × L4	5	86.00E91.724

Removing the Battery Pack

1. Turn the computer over so that the base is facing up.
2. Slide the battery lock to the unlock position (1).
3. Slide and hold the battery release latch  all the way through to release the battery pack (2).
4. Remove the battery pack from its bay (3).

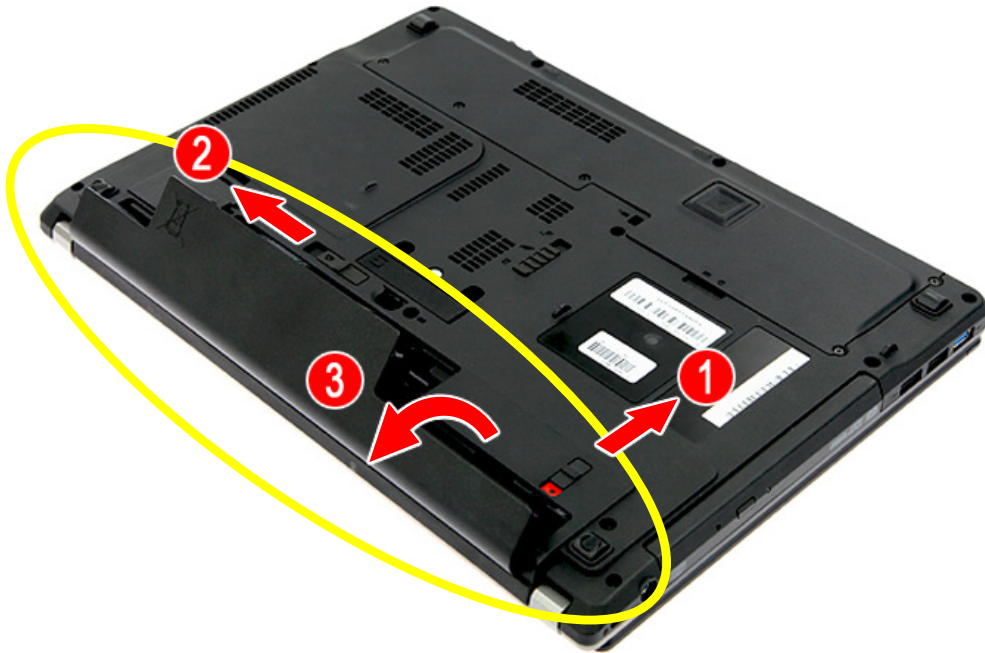


Figure 3-3. Battery Pack

⇒ NOTE:

The battery has been highlighted with the yellow oval in [Figure 3-3](#). Disconnect the battery and follow local regulations for disposal.

Removing the ODD Module

- 1. Perform the “[Removing the Battery Pack](#)” procedure described on page 3-9.
- 2. Slide the ODD lock to the unlock position and slide out the ODD assembly from its bay.

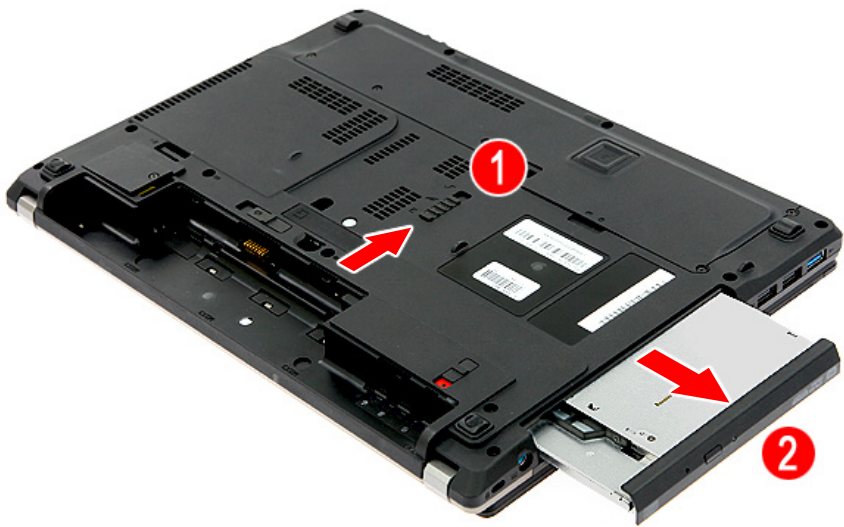


Figure 3-4. Removing the ODD Module

- 3. Remove the screws securing the ODD bracket.

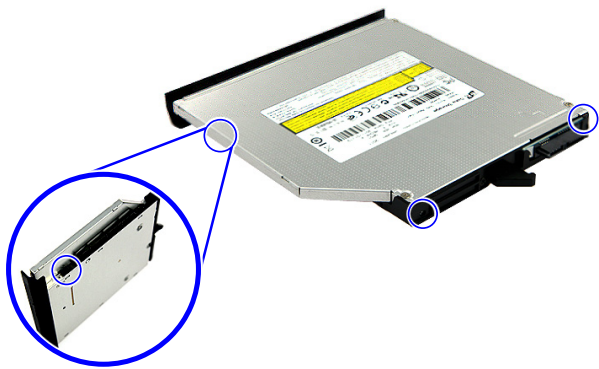


Figure 3-5. ODD Bracket Screw

Table 3-3. Screw

Step	Screw	Quantity	Screw Type
ODD Bracket Disassembly	M2 × L3	3	

4. Detach the bracket from the module.

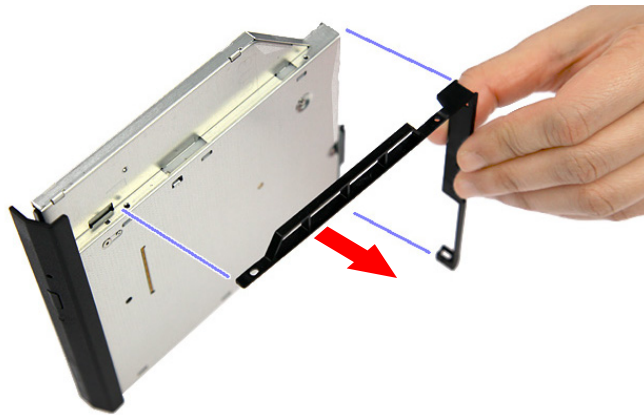


Figure 3-6. ODD Bracket

5. Pry the ODD bezel off the module.



Figure 3-7. ODD Bezel

Removing the WLAN Module

1. Perform the “[Removing the Battery Pack](#)” procedure described on page [3-9](#).
2. Remove the screw securing the WLAN module cover.

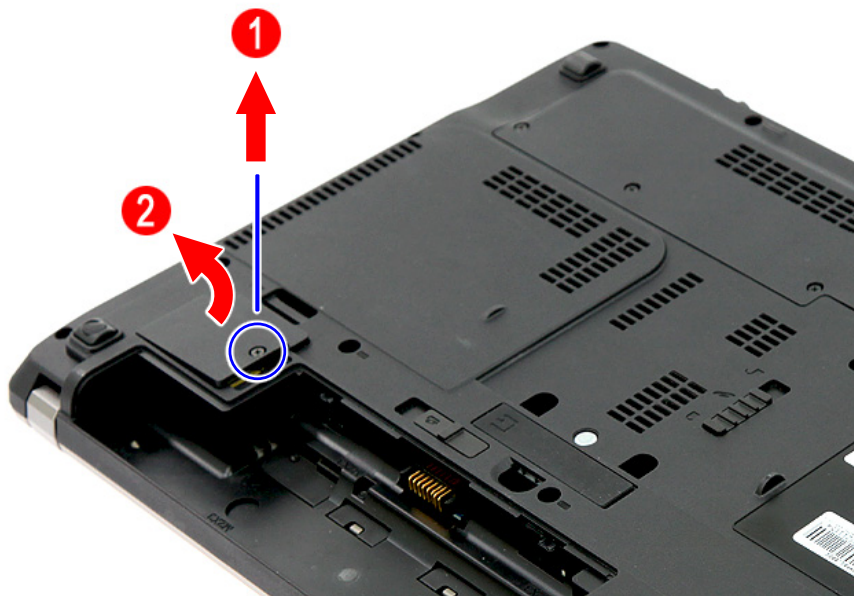


Figure 3-8. WLAN Module Cover

Table 3-4. Screw

Step	Screw	Quantity	Screw Type
WLAN Module Cover Disassembly	M2 × L4	1	

3. Unplug the two (2) antenna cables from the WLAN module.



Figure 3-9. WLAN Module Antennas

 IMPORTANT:

For reference during machine reassembly, note which cable color corresponds to the main (black) and auxiliary (white) connectors.

4. Remove the screw securing the WLAN module.

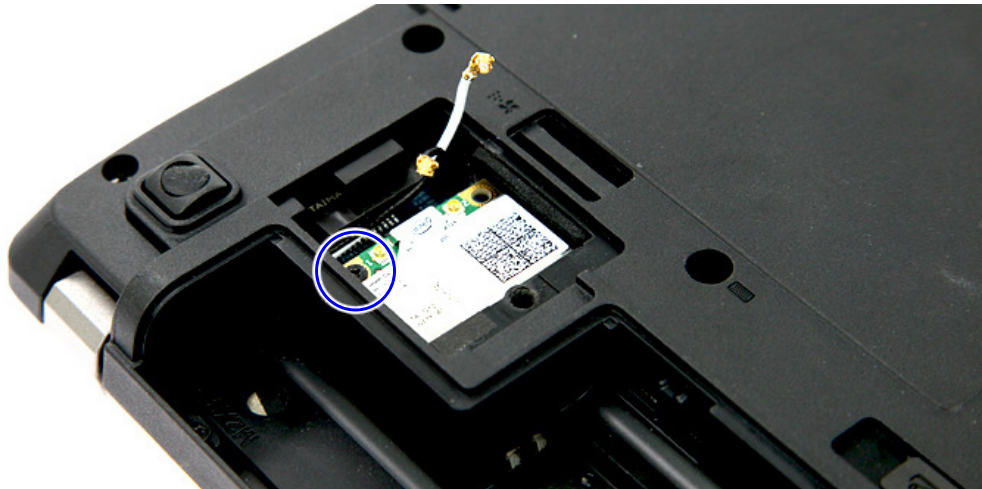


Figure 3-10. WLAN Module Screw

Table 3-5. Screw

Step	Screw	Quantity	Screw Type
WLAN Module Disassembly	M2 × L3	1	

5. Remove the WLAN module from the slot.



Figure 3-11. WLAN Module

Removing the Keyboard

 IMPORTANT:

The keyboard is easily warped or damaged during the removal process. Take care not to use excessive force when removing.

- 1. Perform the “[Removing the Battery Pack](#)” procedure described on page [3-9](#).
- 2. Remove the screws securing the keyboard.

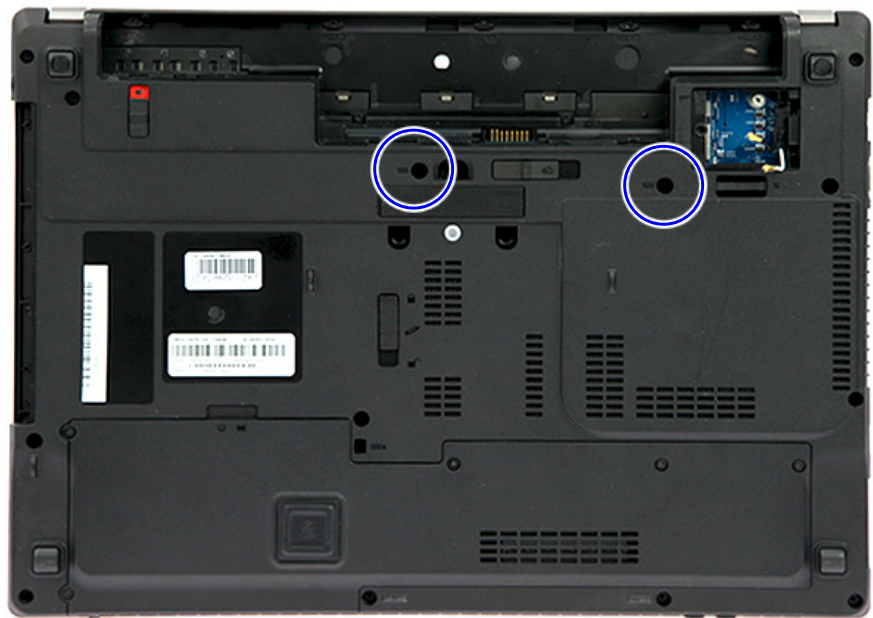


Figure 3-12. Keyboard Screws

Table 3-6. Screws

Step	Screw	Quantity	Screw Type
Keyboard Disassembly	M2.5 × L7	2	

- 3. Turn the computer over and open the LCD panel.

4. Use a non-marring plastic flat-blade screwdriver to push the latches on the top side of the keyboard.

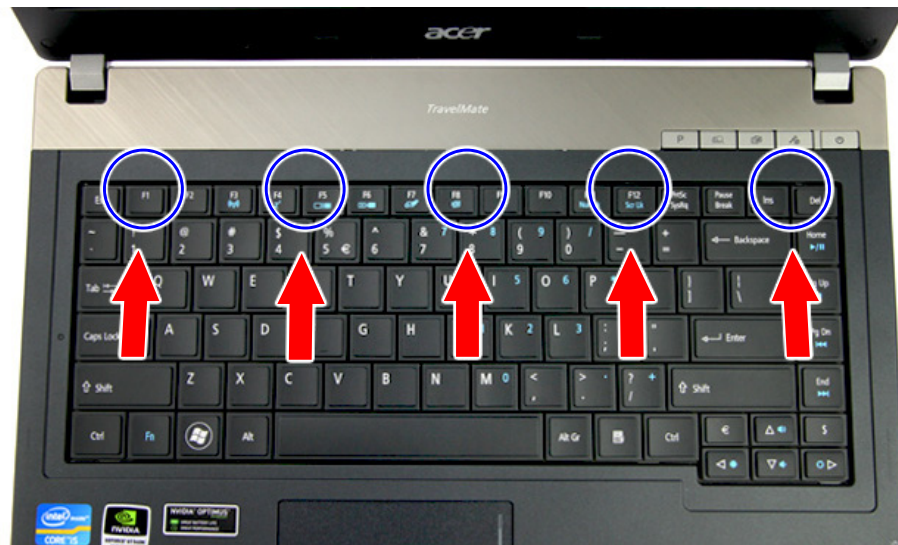


Figure 3-13. Keyboard Latches

5. Flip up the keyboard (1) and place it on top below the LCD screen (2). Release the connector latch (3), and then disconnect the cable (4).

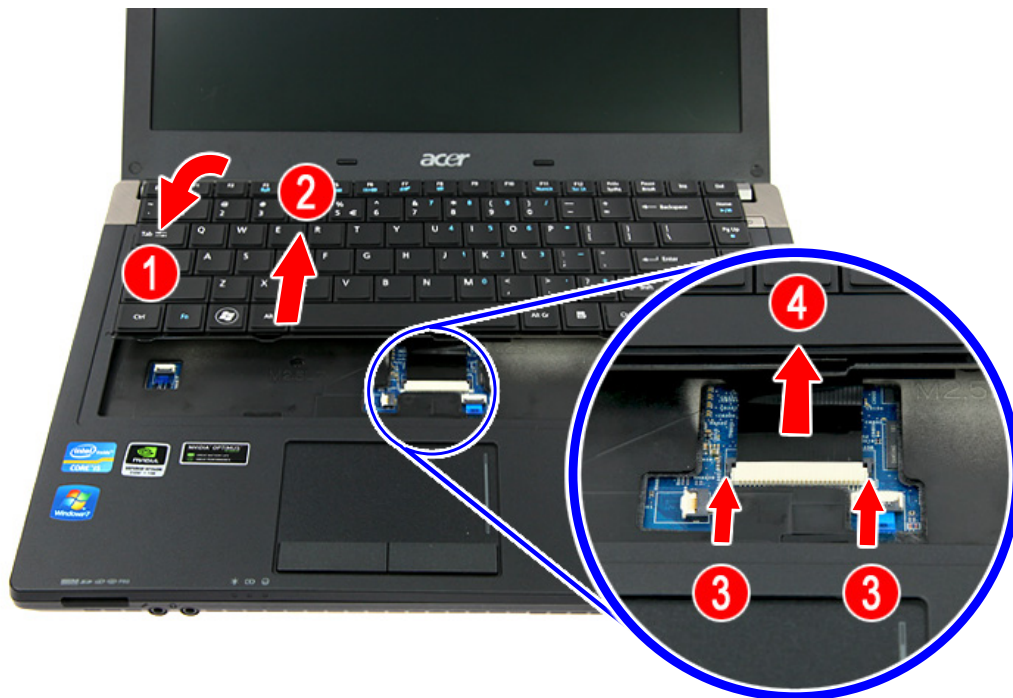


Figure 3-14. Keyboard

Removing the Base Door

- 1. Perform the “[Removing the Battery Pack](#)” procedure described on page 3-9.
- 2. Remove the screws securing the base door.

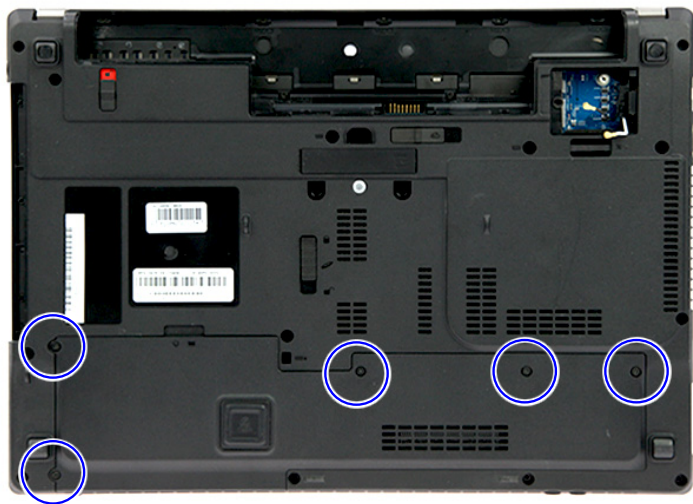


Figure 3-15. Base Door Screws

Table 3-7. Screws

Step	Screw	Quantity	Screw Type
Base Door Disassembly	M2 × L4	5	

- 3. Insert a non-marring plastic scribe on the base door’s notch to release the base door, and then remove the door from the computer.

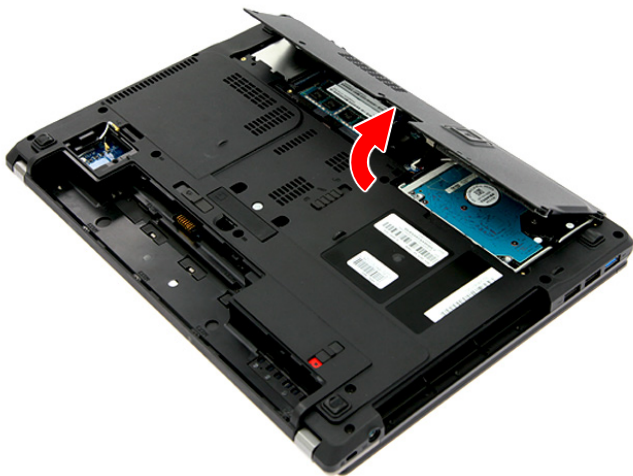


Figure 3-16. Base Door

Removing the HDD Module

1. Perform the “[Removing the Base Door](#)” procedure described on the preceding section.
2. Lift the tab to disconnect the cable from the system.

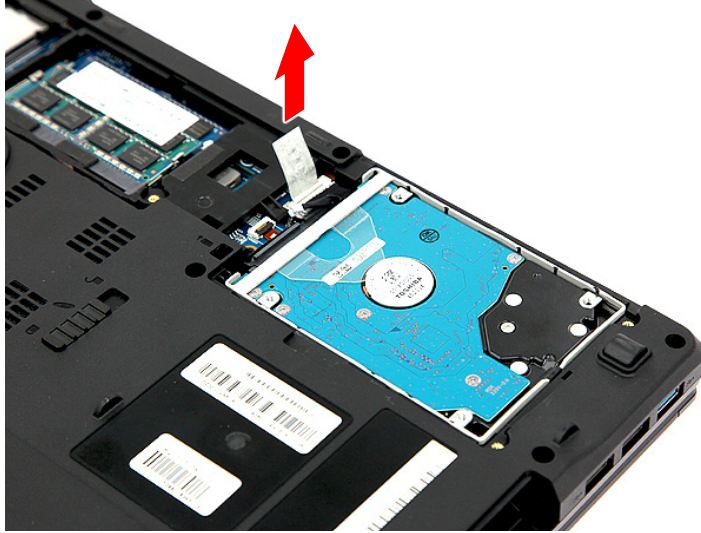


Figure 3-17. HDD Cable

3. Carefully lift the tab to remove the HDD from its bay.

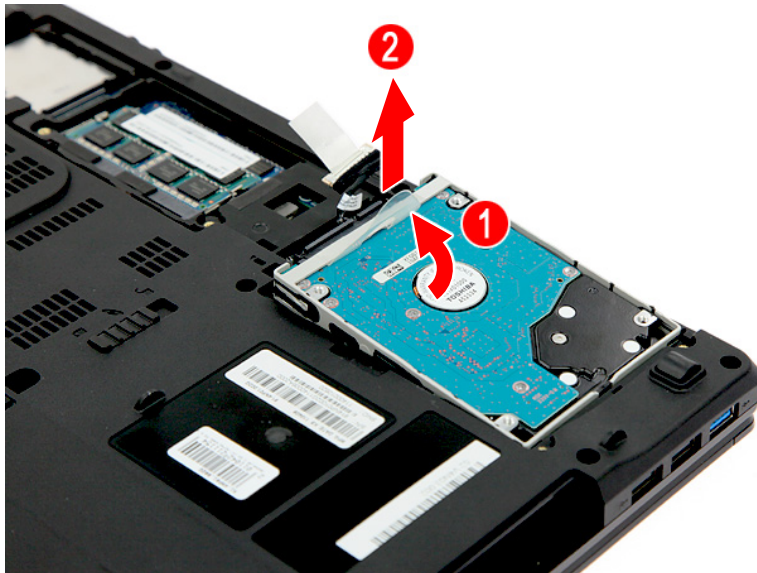


Figure 3-18. HDD Module

4. Grasp the plastic bracket on both sides to release the plastic notches on the front (a).



Figure 3-19. HDD Bracket

5. Grasp the plastic bracket on both sides to release the plastic notches on the back (b); then remove the hard drive (c).



Figure 3-20. HDD Bracket

6. Disconnect the cable from the hard drive.



Figure 3-21. HDD Cable

Removing the Memory Modules

1. Perform the “[Removing the Base Door](#)” procedure described on page [3-16](#).
2. Push out the latches on both sides of the memory slot until the module tilts upward (a), and then remove the DM2 slot module (b).

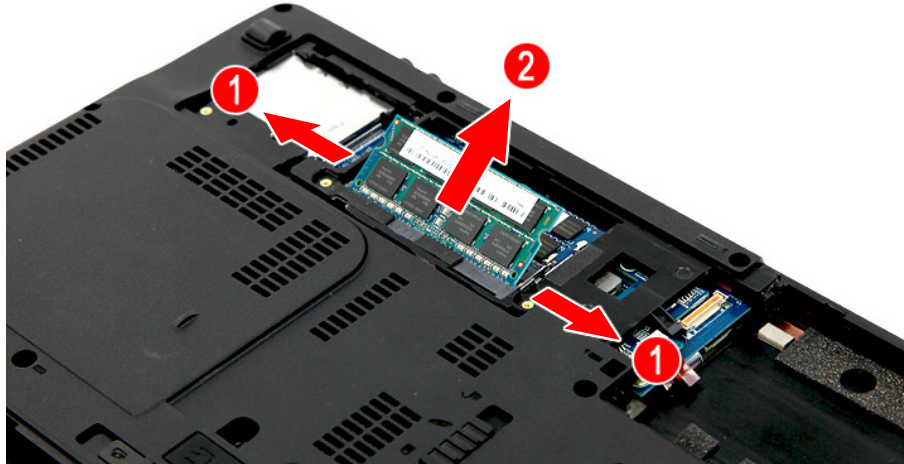


Figure 3-22. DM2 Slot Module

3. Repeat step 2 to remove the DM1 slot module.

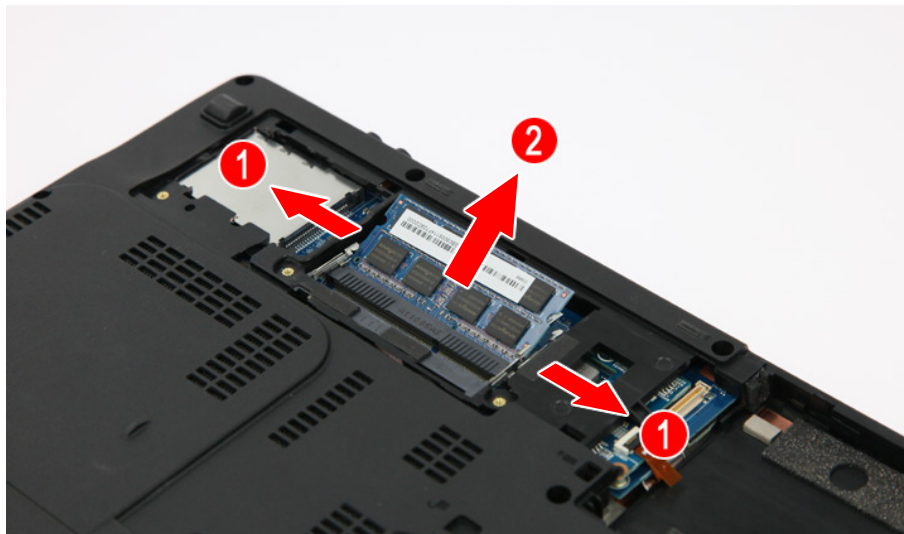


Figure 3-23. DM1 Slot Module

Main Unit Disassembly Process

Main Unit Disassembly Flowchart

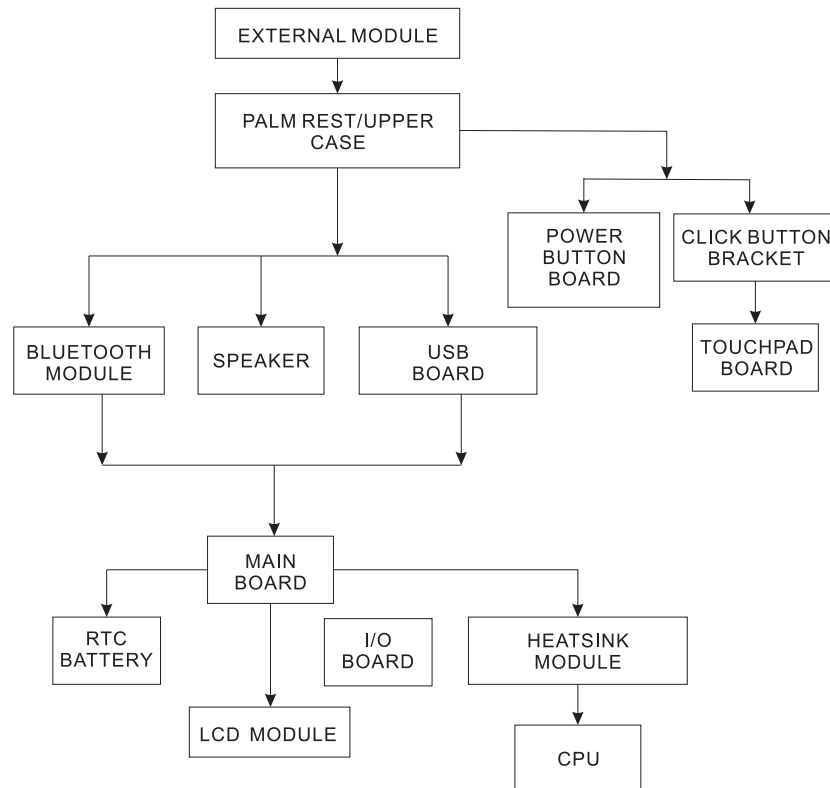


Figure 3-24. Main Unit Disassembly Flowchart

Table 3-8. Screw List

Step	Screw	Quantity	Acer Part Number
Palmrest Module/Upper Cover Disassembly	M2 × L3	7	86.9A552.3R0
	M2.5 × L7	15	86.00E72.637
	M2.5 × L2.5	2	86.00K60.630
Power Button Board Disassembly	M2 × L3	2	86.9A552.3R0
Click Button Bracket	M2 × L3	3	86.9A552.3R0
Speakers Disassembly	M2.5 × L7	2	86.00E72.637
Mainboard Disassembly	M2 × L3	1	86.9A552.3R0
Thermal Module Disassembly	—	5	—
LCD Module Disassembly	M2.5 × L7	2	86.00E72.637

Removing the Palmrest Module/Upper Cover

- 1. Perform the “[External Module Disassembly Process](#)” procedures described on pages [3-8](#) to [3-20](#).
- 2. Use a non-marring plastic scribe to remove the rubber pads from the left and right foot stands.



Figure 3-25. Rubber Pads for the Top Corner Screws

- 3. Remove the base side screws securing the upper cover.

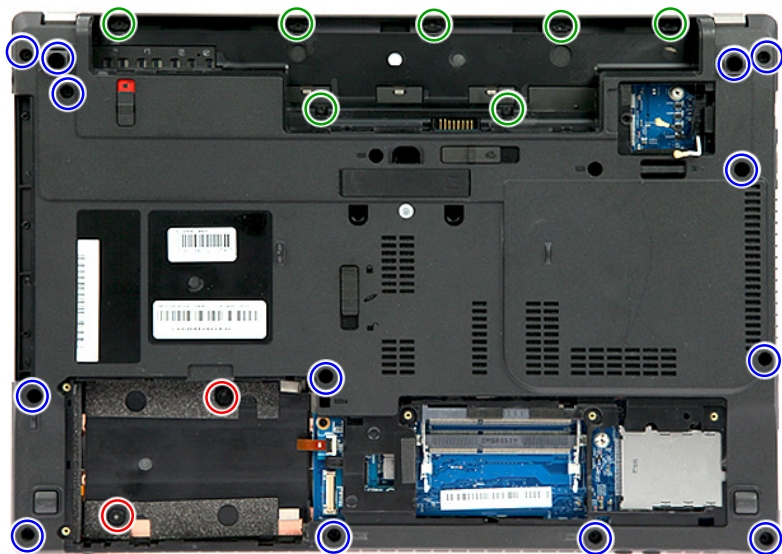


Figure 3-26. Upper Cover Screws – Base Side

Table 3-9. Screw

Step	Screw	Quantity	Screw Type
Upper Cover Disassembly	M2 × L3 (Green)	7	
	M2.5 × L7 (Blue)	13	
	M2.5 x 2.5 (Red)	2	

4. Turn the computer over and open the LCD panel.
5. Remove the screws securing the upper cover.

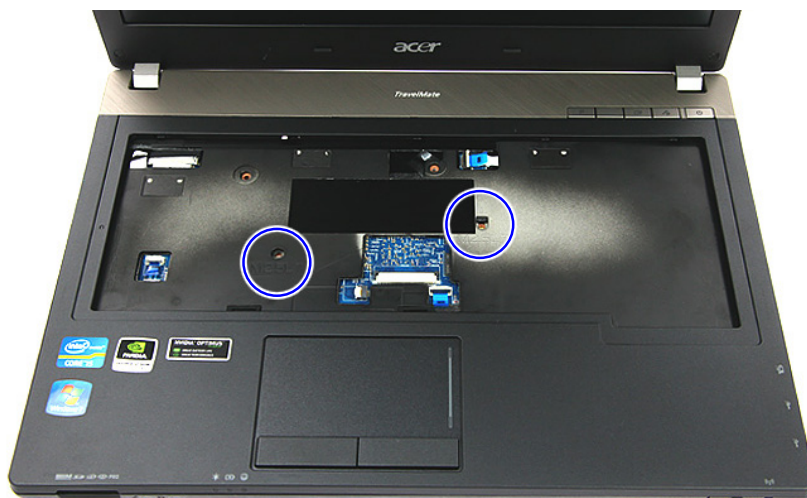


Figure 3-27. Upper Cover Screw – Top Side

Table 3-10. Screw

Step	Screw	Quantity	Screw Type
Upper Cover Disassembly	M2.5 × L7	2	

6. Open the connector latches for the power button board, touchpad board and touchpad button board cables (1) and then disconnect the cables (2).

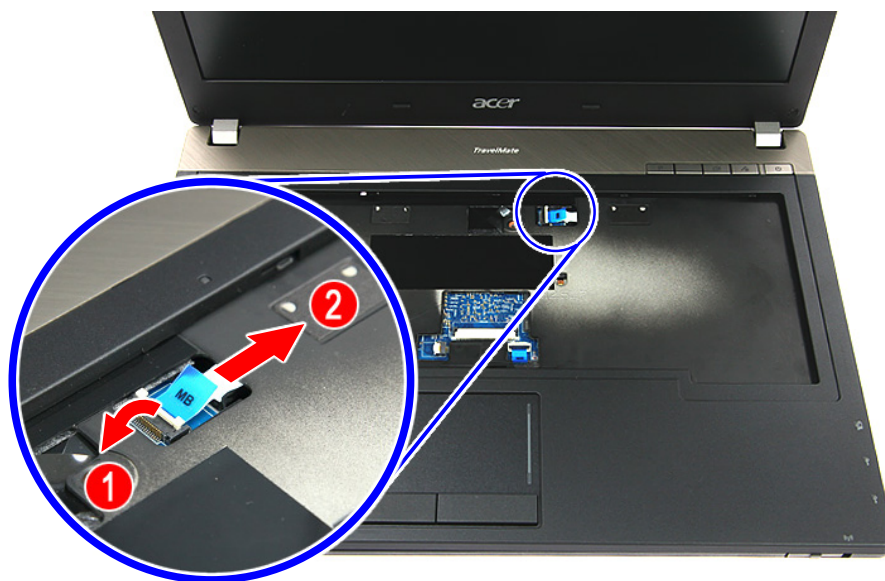


Figure 3-28. Power Button Board Cable

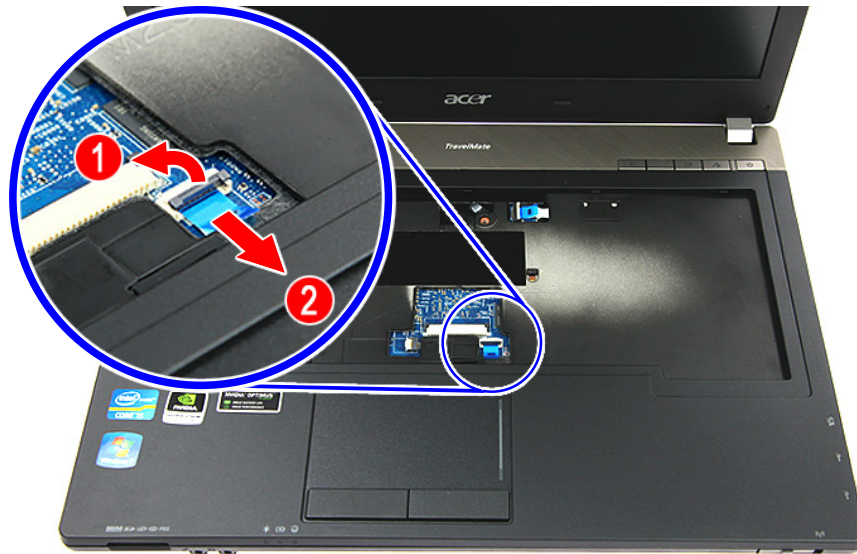


Figure 3-29. Touchpad Cable

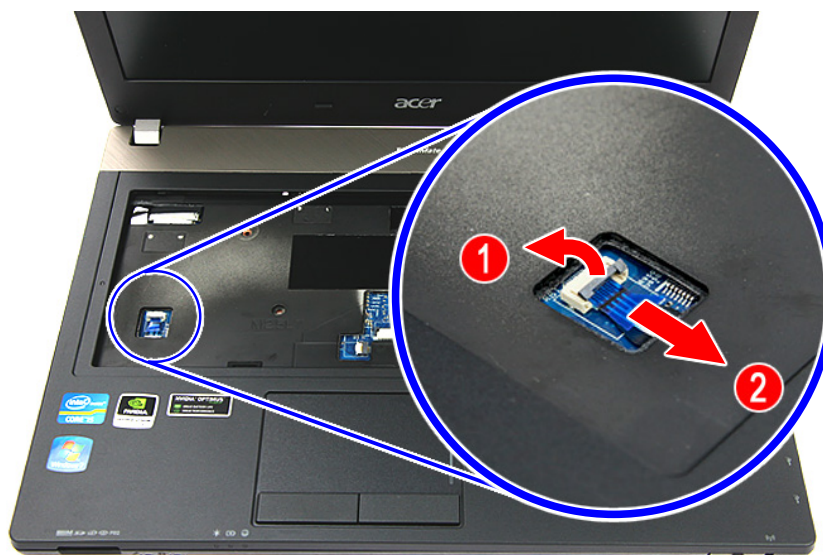


Figure 3-30. Touchpad Button Cable

7. Carefully lift the upper case from the lower case.



Figure 3-31. Upper Cover

Removing the Power Button Board

- 1. Perform the “[Removing the Palmrest Module/Upper Cover](#)” procedure described on page 3-22.
- 2. Open the connector latch (1) and then disconnect the power button cable (2).

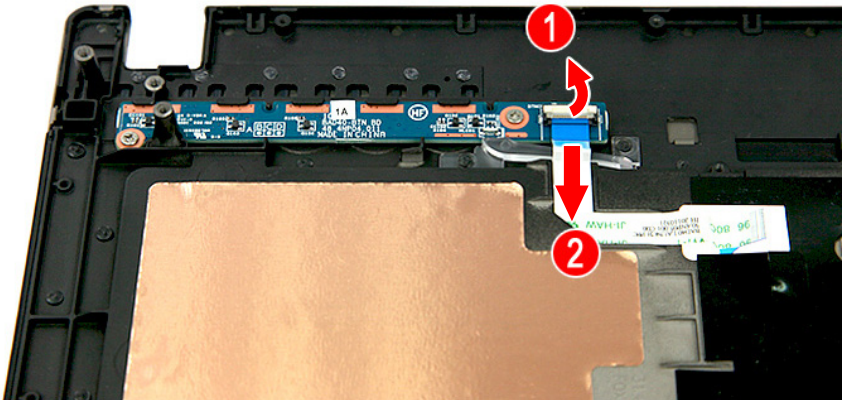


Figure 3-32. Power Button Cable

- 3. Remove the screws securing the power button board.

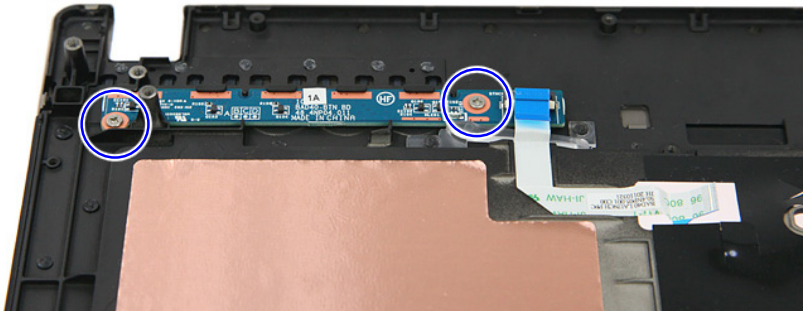


Figure 3-33. Power Button Board Screw

Table 3-11. Screw

Step	Screw	Quantity	Screw Type
Power Button Board Disassembly	M2 × L3	2	

4. Remove the power button board from the upper cover.

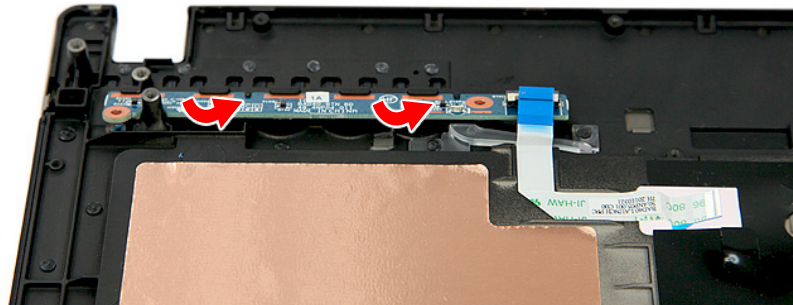


Figure 3-34. Power Button Board

Removing the Click Button with Bracket

1. Perform the “[Removing the Palmrest Module/Upper Cover](#)” procedure described on page 3-22.
2. Open the connector latch (1) and then disconnect the touchpad cable (2).

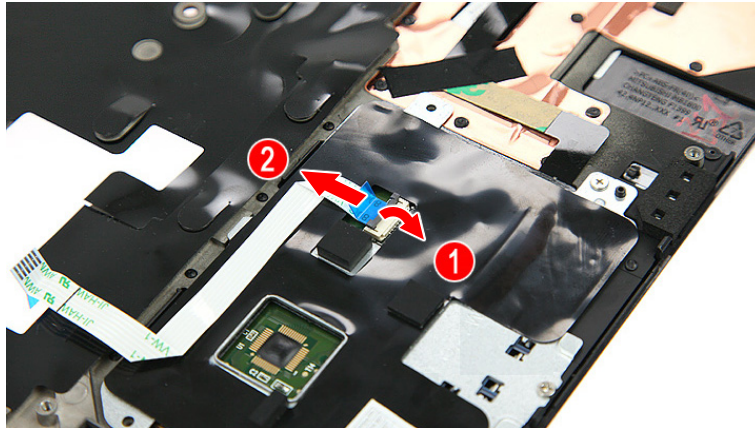


Figure 3-35. Click Button Cable

3. Remove the adhesive tape securing the touchpad button cable to the upper cover.

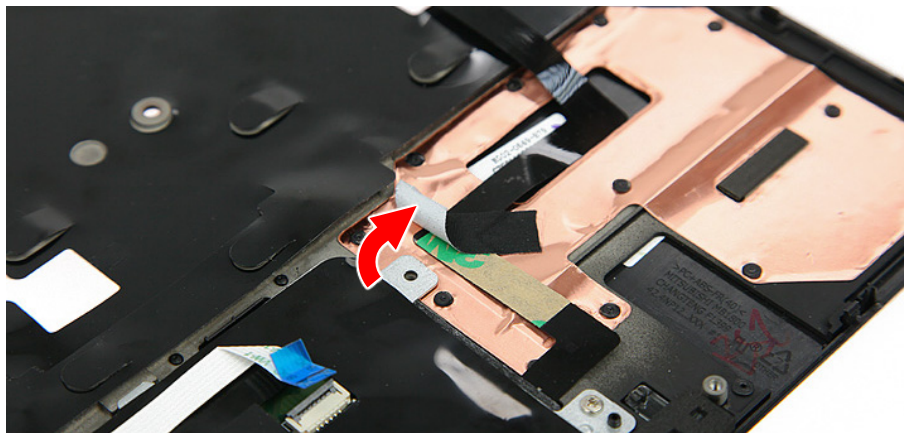


Figure 3-36. Remove Adhesive Tape

4. Remove the screws securing the click button with bracket.

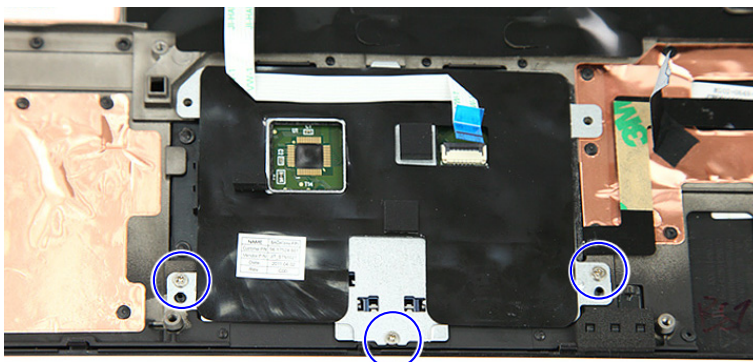


Figure 3-37. Click Button Bracket Screw

Table 3-12. Screw

Step	Screw	Quantity	Screw Type
Click Button Bracket Disassembly	M2 × L3	3	

5. Remove the click button with bracket from the upper cover.

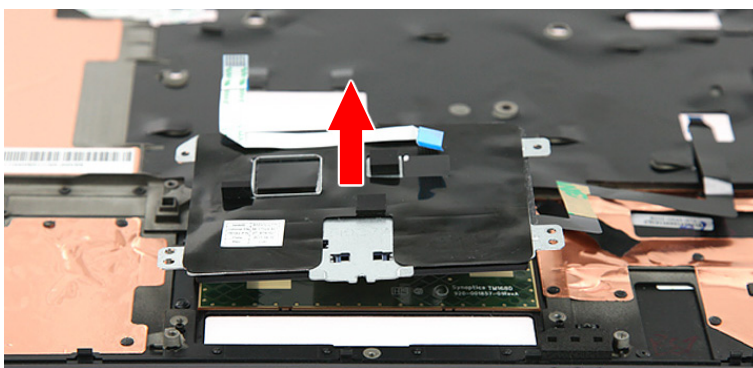


Figure 3-38. Click Button Bracket Remove

Removing the Touchpad Board

1. Perform the “[Removing the Palmrest Module/Upper Cover](#)” procedure described on page [3-22](#).
2. Perform the “[Removing the Click Button with Bracket](#)” procedure described on page [3-28](#).
3. Insert a small flat-blade screwdriver between the touchpad board and the upper cover, and carefully pry the board loose. Remove the touchpad board from the palm rest.

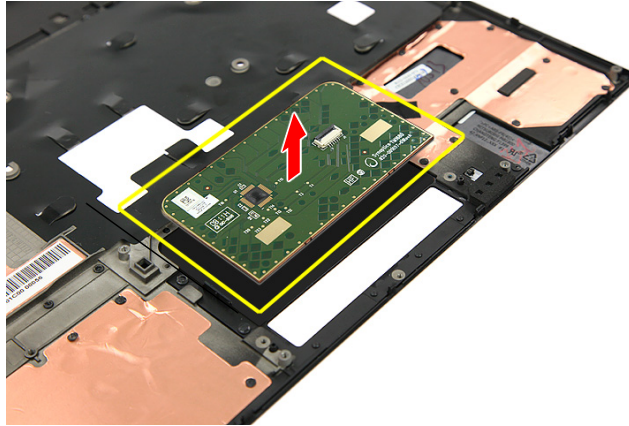


Figure 3-39. Touchpad Board Remove

⇒ NOTE:

A circuit board that is $> 10\text{cm}^2$ has been highlighted with a yellow rectangle in [Figure 3-39](#). Follow the local regulations for disposing this type of circuit board.

Removing the Speaker

- 1. Perform the “[Removing the Palmrest Module/Upper Cover](#)” procedure described on the preceding section.
- 2. Disconnect the speaker cable from the power button board.

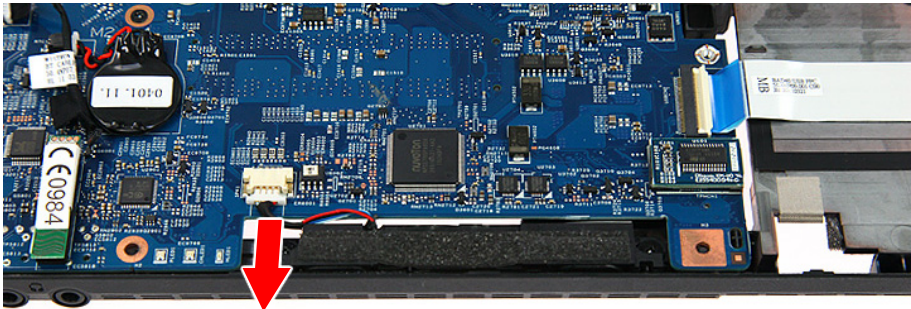


Figure 3-40. Speaker Cable

- 3. Remove the screws securing the speaker and lift to remove the speaker from the system.

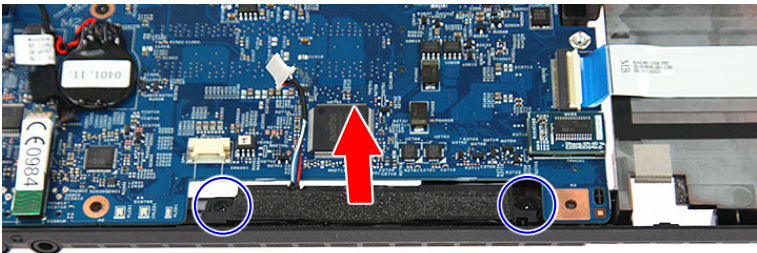


Figure 3-41. Speaker Screws

Table 3-13. Screws

Step	Screw	Quantity	Screw Type
Speakers Disassembly	M2.5 x L7	2	

Figure 3-42. Speaker Screws

Removing the USB Board

1. Perform the “[Removing the Palmrest Module/Upper Cover](#)” procedure described on page 3-22.
2. Release the latches (1) and disconnect the two USB cables (2).

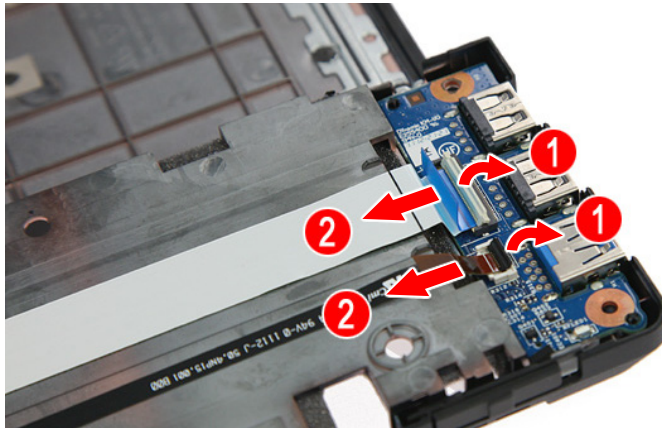


Figure 3-43. USB Board Cable

3. Remove the USB board from the lower case.

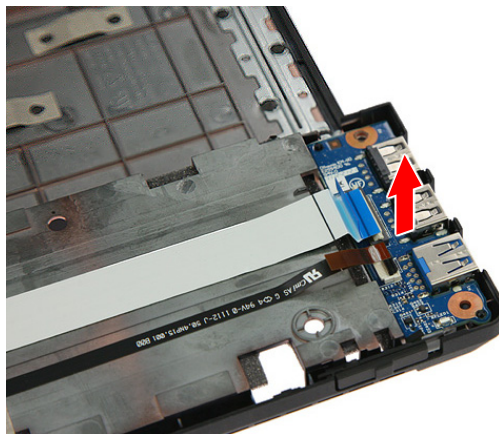


Figure 3-44. USB Board

Removing the Bluetooth Module

1. Perform the “[Removing the Palmrest Module/Upper Cover](#)” procedure described on page 3-22.
2. Disconnect the Bluetooth cable from the mainboard.

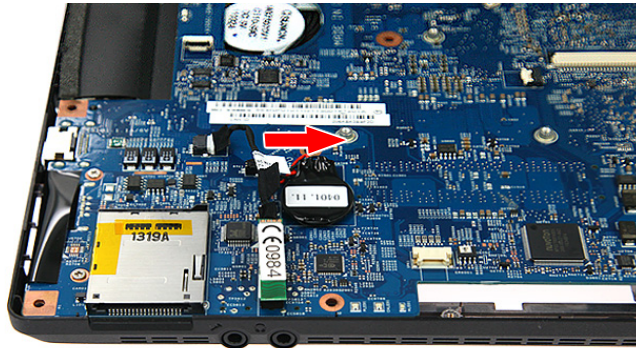


Figure 3-45. Bluetooth Cable – Mainboard Connection

3. Detach the Bluetooth module from the mainboard.

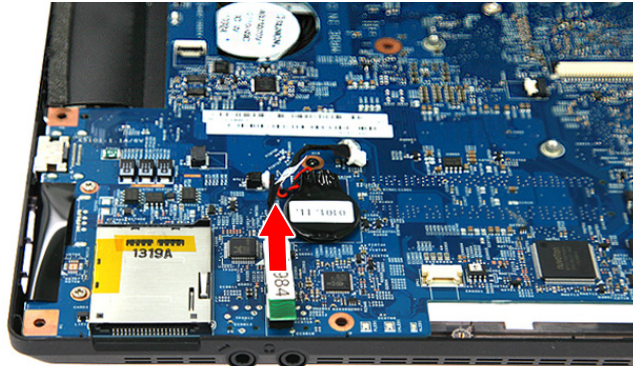


Figure 3-46. Bluetooth Module

4. Disconnect the Bluetooth cable from the module.



Figure 3-47. Bluetooth Cable – Module Connection

Removing the Mainboard

1. Perform the “[External Module Disassembly Process](#)” procedures described on pages [3-8](#) to [3-20](#).
2. Perform the “[Removing the Palmrest Module/Upper Cover](#)” procedure described on page [3-22](#).
3. Perform the “[Removing the Speaker](#)” procedure described on page [3-31](#).
4. Perform the “[Removing the USB Board](#)” procedure described on page [3-32](#).
5. If a Bluetooth module is present, perform the “[Removing the Bluetooth Module](#)” procedure described on page [3-33](#).
6. Turn the unit over on its base and disconnect the small USB cable from the connector on the mother board by releasing the latch.

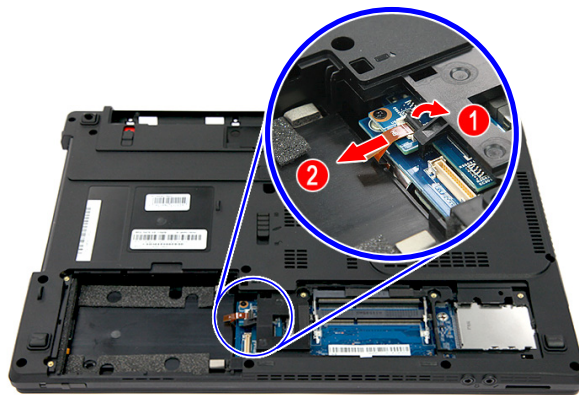


Figure 3-48. Small USB Cable

7. Turn the unit over and open the LCD screen. Disconnect the big USB cable from the mainboard by releasing the latch.

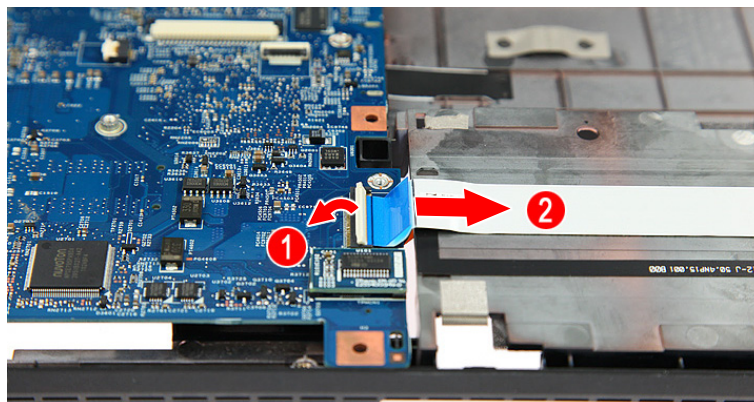


Figure 3-49. Big USB Cable

8. Remove the screw securing the mainboard.

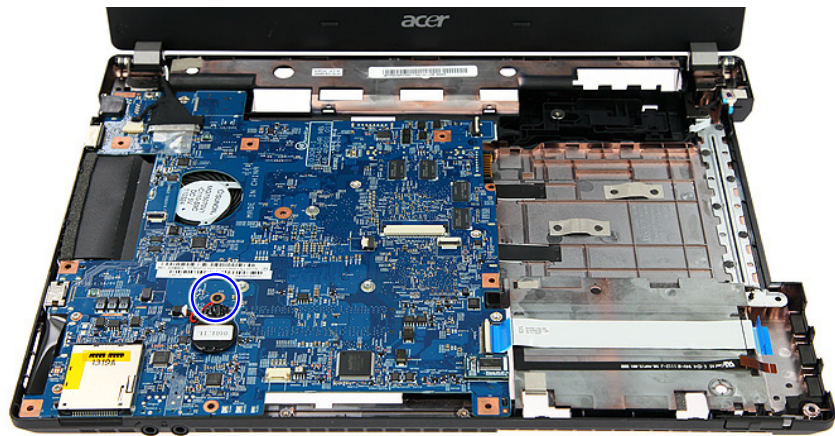


Figure 3-50. Mainboard Screw

Table 3-14. Screw

Step	Screw	Quantity	Screw Type
Mainboard Disassembly	M2 × L3	1	

9. Remove the adhesive tape (1) and disconnect the LCD (2) and the webcam cables (3) from the mainboard.

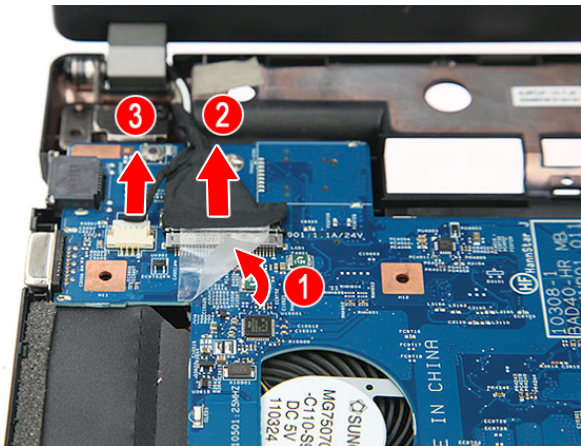


Figure 3-51. LCD Cable

10. Disconnect the DC input cable from the mainboard.

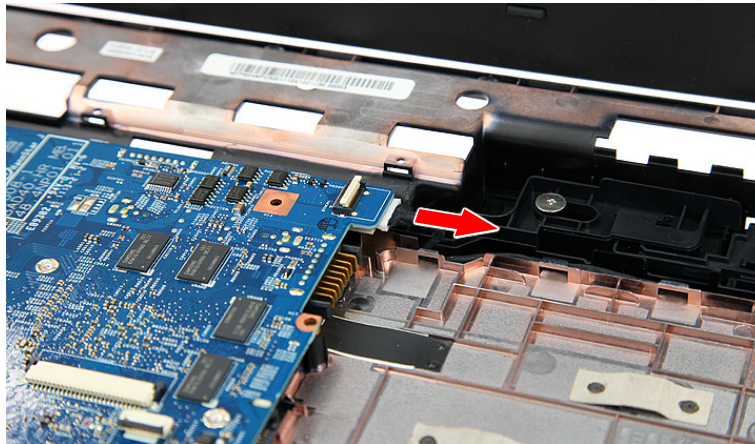


Figure 3-52. DC Input Cable

11. Carefully remove the mainboard out of the lower case and make sure the DC input cable is remove as well.

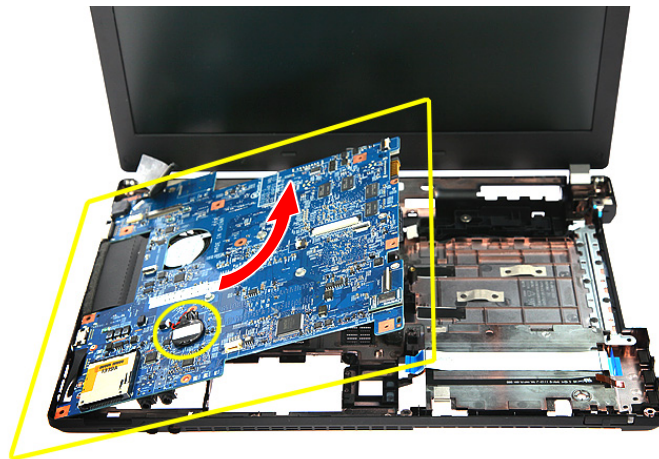


Figure 3-53. Mainboard Remove

⇒ NOTE:

A circuit board that is >10 cm² has been highlighted with a yellow rectangle in [Figure 3-53](#). Follow the local regulations for disposing this type of circuit board.

⇒ NOTE:

The RTC battery has been highlighted with a yellow circle in [Figure 3-53](#). Detach the RTC battery and follow the local regulations for disposing it.

Removing the Thermal Module

- 1. Perform the “[Removing the Mainboard](#)” procedure described on the preceding section.
- 2. Disconnect the thermal module fan cable from the mainboard.

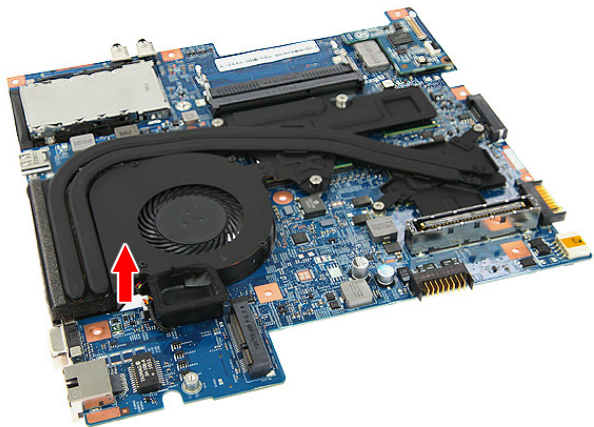


Figure 3-54. Fan Cable

- 3. Loosen the spring-loaded captive screws securing the thermal module. Follow the screw sequence indicated on [Figure 3-55](#).

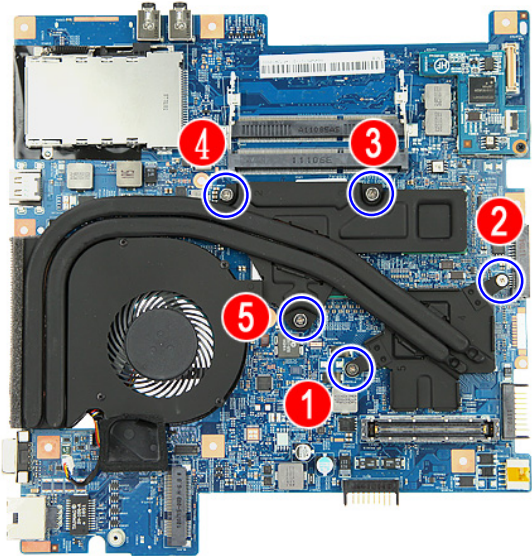


Figure 3-55. Thermal Module Screws

Table 3-15. Screws

Step	Screw	Quantity	Screw Type
Thermal Module Disassembly	—	5	—

4. Remove the thermal module from the mainboard.

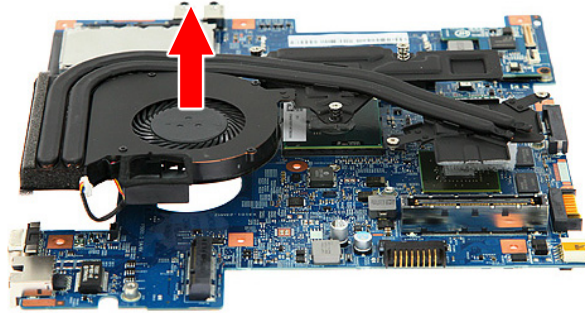


Figure 3-56. Thermal Module

Removing the CPU

1. Perform the “[Removing the Mainboard](#)” procedure described on page [3-34](#).
2. Perform the “[Removing the Thermal Module](#)” procedure described on page [3-37](#).
3. Use a flat-blade screwdriver to turn the CPU socket lock screw counter-clockwise.

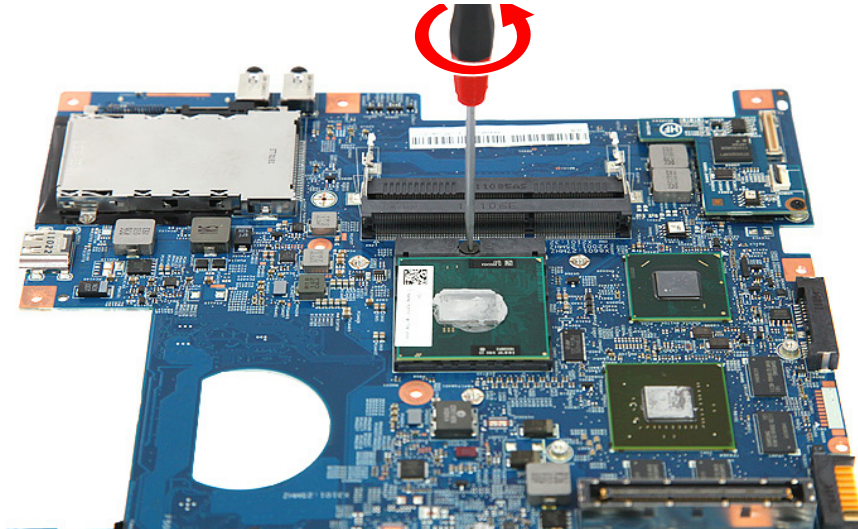


Figure 3-57. CPU Socket Screw

4. Remove the CPU from the mainboard.

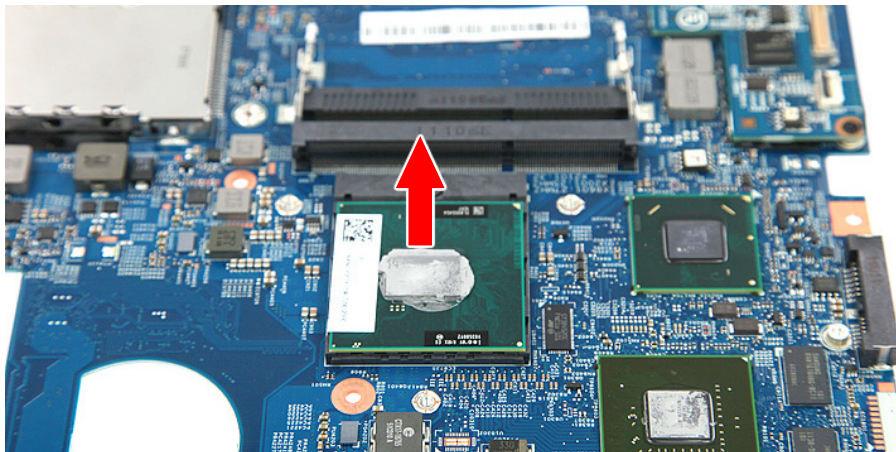


Figure 3-58. CPU

Removing the I/O Board

1. Perform the “[Removing the Mainboard](#)” procedure described on page [3-34](#).
2. Carefully lift to remove the I/O board from the mainboard.

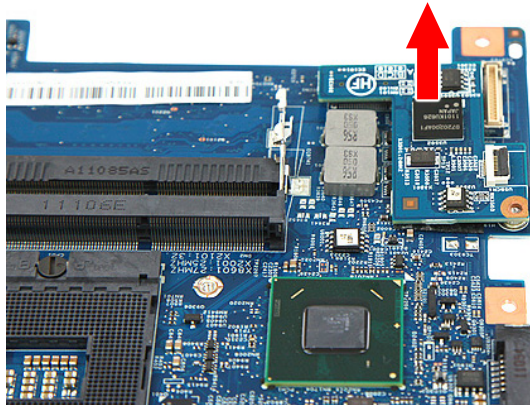


Figure 3-59. I/O Board Remove

Removing the LCD Module

- 1. Perform the “[Removing the Mainboard](#)” procedure described on page 3-34.
- 2. Remove the adhesive tapes securing the LCD cable to the lower case.

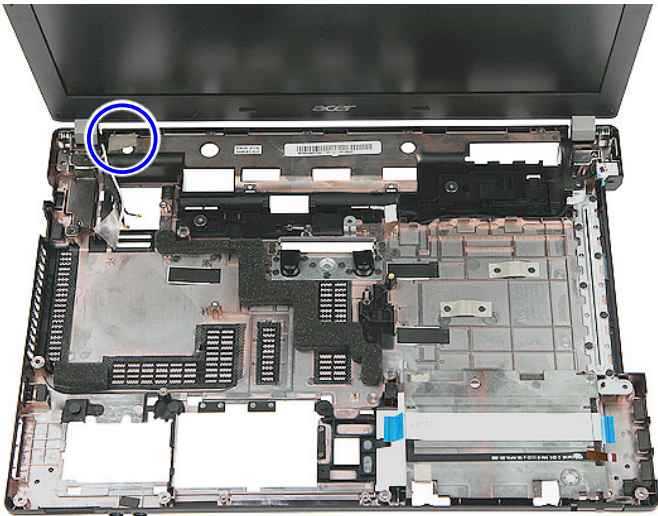


Figure 3-60. LCD and Webcam Cables' Tape

- 3. Remove the screws securing the LCD module.

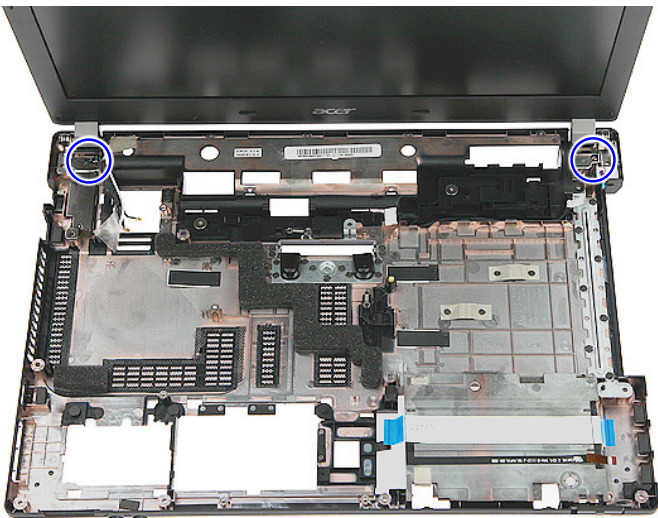


Figure 3-61. LCD Module Hinge Screws

Table 3-16. Screws

Step	Screw	Quantity	Screw Type
LCD Module Disassembly	M2.5 × L7	2	

- 4. Remove the LCD module from the lower cover.

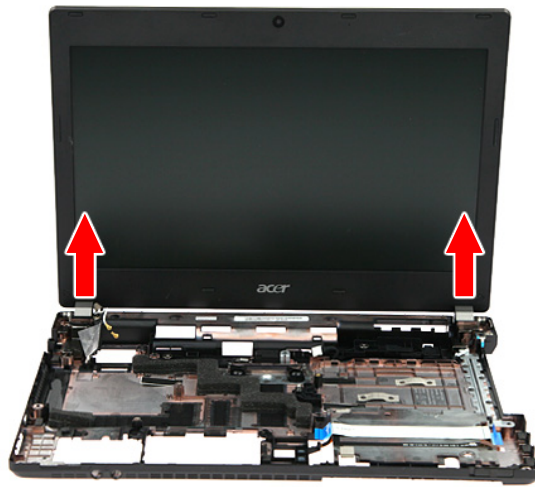


Figure 3-62. LCD Module