

---

## **Chapter 4**

# **Replacement Procedures**

---



---

## Chapter 4 Contents

---

4.1	General .....	4-1
4.2	Battery pack.....	4-8
4.3	PC card/SD card.....	4-10
	4.3.1    PC card.....	4-10
	4.3.2    SD card .....	4-11
4.4	Memory module .....	4-12
4.5	Keyboard .....	4-14
4.6	Top cover assembly.....	4-17
4.7	Bluetooth module .....	4-21
4.8	FP Board.....	4-23
4.9	Accupoint .....	4-24
4.10	MDC/SD board .....	4-26
4.11	Kill switch cover/Wireless LAN card .....	4-29
4.12	System board/DC-IN jack .....	4-31
4.13	RTC battery .....	4-34
4.14	Fan heat sink.....	4-36
4.15	HDD .....	4-38
4.16	LAN•Modem jack/DK board .....	4-42
4.17	PC board.....	4-44
4.18	LCD mask/LCD unit/BL board.....	4-45
4.19	Harness assembly/Hinge .....	4-50
4.20	libretto DVD Dock.....	4-56
	4.20.1    Dock cover.....	4-56
	4.20.2    Optical drive .....	4-59
	4.20.3    Fan .....	4-62
	4.20.4    DS board .....	4-63
	4.20.5    DM board.....	4-65
	4.20.6    DD board .....	4-66
	4.20.7    Cover parts.....	4-67

## Figures

Figure 4-1	Removing the battery pack.....	4-8
Figure 4-2	Removing the PC card.....	4-10
Figure 4-3	Removing the SD card .....	4-11
Figure 4-4	Removing the memory module .....	4-12
Figure 4-5	Removing the keyboard holder/keyboard hold plate.....	4-15
Figure 4-6	Removing the keyboard.....	4-16
Figure 4-7	Removing the top cover assembly (1).....	4-17
Figure 4-8	Removing the top cover assembly (2).....	4-18
Figure 4-9	Removing the top cover assembly (3).....	4-19
Figure 4-10	Removing the Bluetooth module.....	4-21
Figure 4-11	Removing the FP board.....	4-23
Figure 4-12	Removing the Accupoint.....	4-24
Figure 4-13	Removing the MDC .....	4-26
Figure 4-14	Removing the SD board .....	4-27
Figure 4-15	Removing the kill switch cover.....	4-29
Figure 4-16	Removing the wireless LAN card .....	4-30
Figure 4-17	Removing the system board .....	4-32
Figure 4-18	Removing the RTC battery.....	4-35
Figure 4-19	Removing the fan heat sink.....	4-36
Figure 4-20	Removing the HDD cover.....	4-38
Figure 4-21	Removing the HDD assembly.....	4-39
Figure 4-22	Separating the HDD and HDD cushion rubber .....	4-40
Figure 4-23	Installing the LAN/Modem jack cable .....	4-41
Figure 4-24	Removing the LAN•Modem jack/DK board.....	4-42
Figure 4-25	Removing the PC board .....	4-44
Figure 4-26	Removing the hinge cover/punching sheet .....	4-45
Figure 4-27	Removing the LCD mask.....	4-46
Figure 4-28	Removing the LCD unit .....	4-47
Figure 4-29	Removing the BL board .....	4-48
Figure 4-30	Removing the LCD harness holder .....	4-50

Figure 4-31 Removing the speaker/wireless antenna/Bluetooth antenna ..... 4-51

Figure 4-32 Removing the palm rest portion ..... 4-52

Figure 4-33 Removing the HNS duct ..... 4-53

Figure 4-34 Separating the speaker and speaker holder..... 4-53

Figure 4-35 Removing the hinge..... 4-54

Figure 4-36 Removing the lever and stand ..... 4-56

Figure 4-37 Removing the dock cover (1) ..... 4-57

Figure 4-38 Removing the dock cover (2) ..... 4-58

Figure 4-39 Removing the optical drive ..... 4-59

Figure 4-40 Removing the brackets ..... 4-60

Figure 4-41 Removing the fan ..... 4-62

Figure 4-42 Removing the DS board ..... 4-63

Figure 4-43 Removing the DM board..... 4-65

Figure 4-44 Removing the DD board..... 4-66

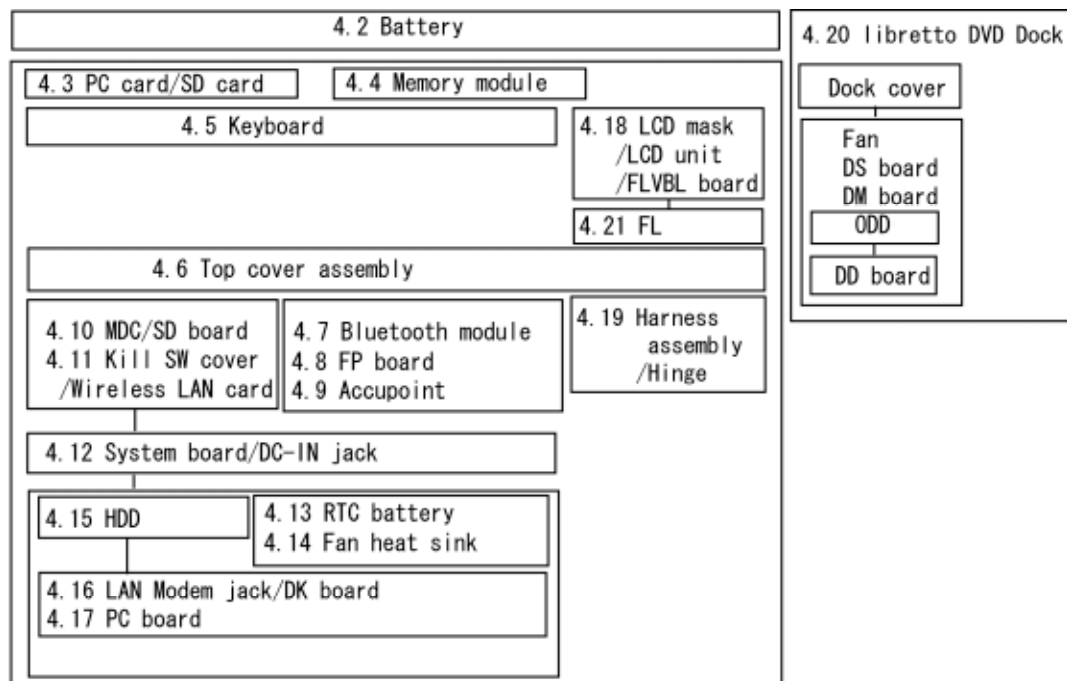
Figure 4-45 Removing the cover parts..... 4-67



## 4.1 General

This chapter describes the procedure for removing and replacing the field replaceable units (FRUs) in the PC. It may not be necessary to remove all the FRUs in order to replace one. The chart below provides a guide as to which other FRUs must be removed before a particular FRU can be removed. The numbers in the chart indicate the relevant section numbers in this manual.

In all cases when removing an FRU, the battery pack must also be removed. When repairing an FRU that is the potential cause of a computer fault, use the chart to determine the order in which FRUs need to be removed.

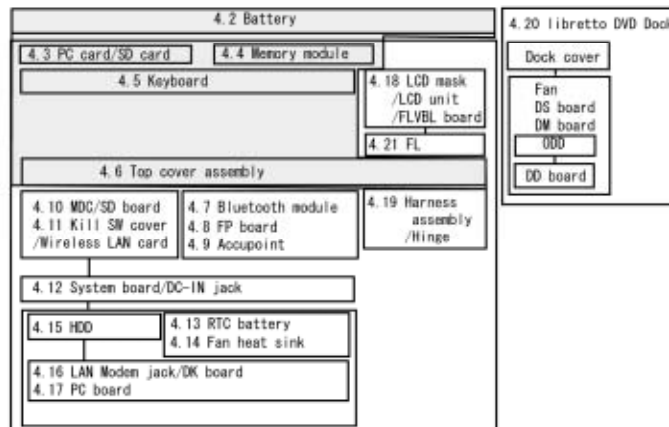


### How to See the Chart

An example of referring to the chart is shown below.

#### •Removing the Bluetooth module

4.2 Battery to 4.6 Top cover assembly directly above the Bluetooth must be removed.



## Safety Precautions

Before you begin disassembly, read the following safety precautions and observe them carefully as you work.

- DANGER:**
- 1) *Always use the genuine battery that is authorized by Toshiba or compatible with the unit. Since other battery packs have different specifications, they may be incompatible with the unit, and may burst or explode.  
Never heat or disassemble the battery pack, as that could cause leakage of alkaline solution. Never throw the battery pack into a fire, as that could cause the battery pack to explode.*
  - 2) *The power supply, FL inverter and other components carry high voltages. If you need to turn on the power of a partially disassembled computer to check its operation, be very careful not to touch connectors or components, in order to avoid the risk of electric shock.  
Also, do not disassemble individual components in first-level maintenance.*

- WARNING:**
- 1) *Turn off the power and disconnect the AC adaptor from the power source, to avoid exposure to electric shock.*
  - 2) *Batteries in the computer retain an electrical charge, so there is danger of electrical shock even when the computer is disconnected from an AC power source. Remove any metal jewelry or accessories such as necklaces, bracelets or rings, in order to reduce the risk of electric shock. Never work with wet or damp hands.*
  - 3) *Be careful of edges and corners as these may cut.*

- CAUTION:**
- 1) *When you change a component, be sure the replacement component meets the required specifications. Never use foreign parts, to avoid any risk of damage to the computer.*
  - 2) *To avoid any risk of short-circuit, fire or other internal damage, never allow any metal objects such as screws or paper clips to fall into the unit. Be sure to replace screws with the same size as those removed. Make sure all screws are securely fastened. Loose screws can cause short circuits, resulting in heat, smoke or fire.*
  - 3) *Before lifting out an FRU or other component, make sure all cables to the component have been disconnected, in order to reduce the risk of accidental electric shock.*
  - 4) *If you use AC power, be sure to use the cable that came with the computer or one recommended by Toshiba.*
  - 5) *Make sure that all replacement components meet the specifications for the computer and that all cables and connectors are securely fastened, in order to avoid the risk of electric shock.*
  - 6) *Some parts inside the computer, such as the CPU and cooling module, become very hot during operation. Conduct repair work after they have cooled. Be careful around the CPU and cooling module to avoid burns.*

**Before You Begin**

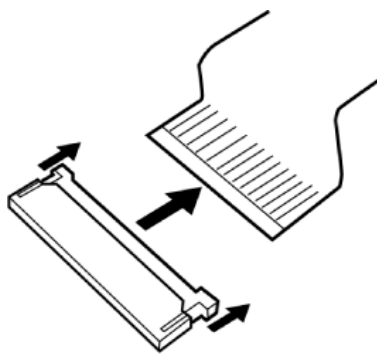
Take note of the following points before starting work. Always remove the AC adapter and battery pack before commencing any of the procedures. The procedure for removing the battery pack is described in section “4.2 Battery Pack”.

1. Do not disassemble the computer unless it is operating abnormally.
2. Use the designated tools.
3. Ensure that the environment for working on and storing parts does not contain any of the following.
  - Dust or dirt
  - Static electricity
  - Extremely hot, cold, or humid conditions
4. Perform the diagnostic tests described in Chapter 2 to determine which FRU is the cause of the fault.
5. Do not perform any unnecessary work. Always work in accordance with the disassembly and re-assembly procedures in this manual.
6. Keep parts removed from the computer in a safe place away from the computer where they will not be damaged or interfere with your work.
7. Disassembling requires the removal of a large number of screws. Keep removed screws in a safe place such that you can determine which screws belong to which part.
8. When reassembling, ensure that you use the correct screws and fit parts in the correct position. Screw sizes are noted in the text and figures.
9. As all parts have sharp edges and corners, take care not to cut yourself.
10. After replacing an FRU, check that the computer and replaced part operate correctly.

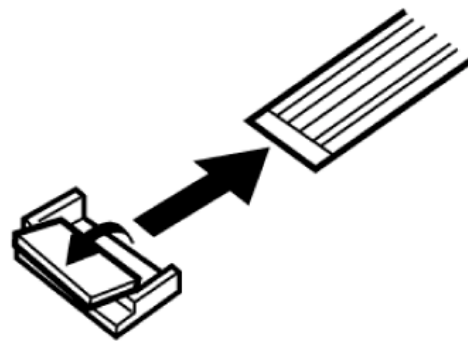
## Disassembly Procedures

Three main types of cable connector are used.

- Pressure plate connector
  - Spring connector
  - Normal pin connector
1. When disconnecting a pressure plate connector, draw the tab on one side of the plastic pressure plate on the connector and pull the cable out from the connector. When reconnecting a cable to a pressure plate connector, draw enough the pressure plate and insert the cable into the connector. Press both sides of the pressure plate such that both sides of the plate and connector are at the same height and that the cable is fixed in the correct position. Pull the cable to ensure that it is securely connected. If the cable is disconnected from the connector, reconnect it making sure that you draw enough the pressure plate to insert fully the cable.
  2. For spring connectors, lifting up the stopper frees the cable and allows it to be pulled out. To reconnect, hold the stopper in the up position and insert the cable, then lower the stopper to secure the cable.
  3. Normal pin connectors are used for all other cables. Simply pull out or push in these connectors to disconnect or reconnect.



Pressure plate connector



Spring connector

## Assembly Procedure

After the computer has been disassembled and the part that caused the fault has been repaired or replaced, the computer must be reassembled.

Take note of the following general points when assembling the computer.

- Take your time and follow the instructions carefully. Hurrying the assembly work will only introduce new problems.
- Check that all cables and connectors are securely connected.
- Before fastening FRUs or other parts in place, ensure that no cables are caught on screws or the FRU.
- Check that all latches are securely closed.
- Ensure that you have installed all FRUs correctly and do not have any screws left over. Using an incorrect screw may damage the thread or screw head and result in the FRU not being securely fastened in place.

After installing FRUs, check that the computer operates correctly.

## Tools and Equipment

For your safety and the safety of the people around you, it is important that you use Electrostatic Discharge (ESD) equipment. Correctly utilizing of the equipment increases the percentage of successful repairs and saves on the cost of damaged or destroyed parts. The following equipment is required for disassembly and assembly.

- One Philips screwdriver with type 0 bit (for S-FLAT HEAD screws)
- One Philips screwdriver with type 1 bit (for screws other than above)
- One screwdriver for LH sticks (for Mini PCI card cover)
- Tweezers (for lifting screws)
- ESD mats (lay on work table or floor)
- An ESD wrist strap and heel grounder
- Anti-static carpet or flooring
- A pair of needle-nose pliers

## Screw Tightening Torque

Use the following torque when tightening screws.

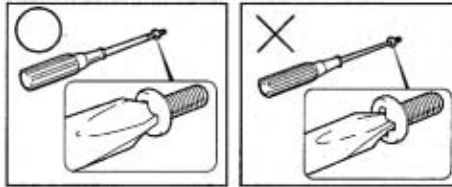
**CAUTION:** *Overtightening may damage screws or parts. Undertightening may allow screws to loosen (and possibly fall out) causing a short circuit or other damage.*

**NOTE:** *To tighten screws quickly and accurately, an electric screwdriver is recommended.*

M2 (2mm) 0.167 N·m (1.7 kgf·cm)

M2.5 (2.5mm) 0.294 N·m (3.0 kgf·cm)

**NOTE:** *The computer contains several flat head screws. These screws have less contact area with the screwdriver, so be careful to press firmly enough to prevent the screwdriver from slipping out and damaging the screw head.*



## Grip Color

Some screws have a colored grip area to help you determine the length of the screw.

- Even numbered length screws: Brown
- Odd numbered length screws: White
- Special length screw: Blue

“Special length screw” means screws whose length is indicated in an integral number to the first decimal places such as 2.5 mm, 2.8 mm and so on.



## Screw Notation

To make maintenance of the computer easier, markings of the kinds of the screws including the types and lengths of the screws are indicated on the computer body.

Format:

Screw shape + Screw length (mm)

Screw shape

- B: Bind screw
- F: Flat head screw
- S: Super flat head screw
- T: Tapping screw
- U: Other screws (Unique screws: pan head, stud, etc.)

Example: B6 ... 6mm bind screw

## 4.2 Battery pack

### Removing the battery pack

To remove the battery pack, follow the steps below and refer to Figure 4-1.

**CAUTION:** When handling battery packs, be careful not to short circuit the terminals. Also do not drop, hit or apply impact; do not scratch, break, twist or bend the battery pack.

1. Turn off the computer.
2. Disconnect the AC adaptor and other external devices from the computer.
3. Turn the computer face down.
4. Release the **battery lock** and pull out the **battery pack** to the arrow direction in the Figure below while sliding the **battery latch**.

**NOTE:** Dispose of the used battery pack in accordance with the laws and ordinances of your local authority.

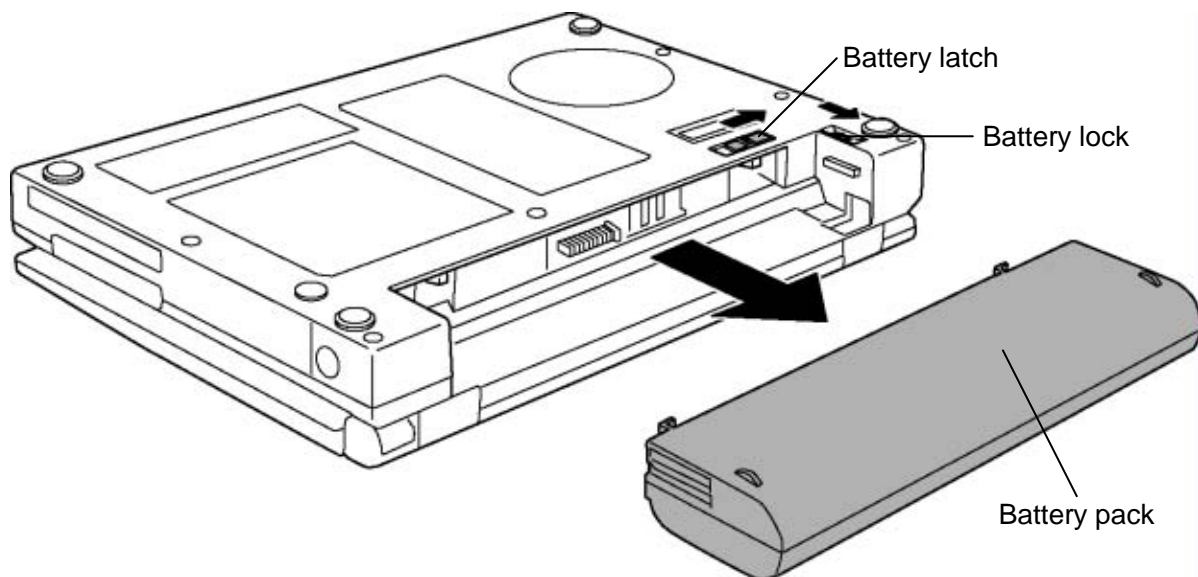


Figure 4-1 Removing the battery pack

## Installing the battery pack

To install the battery pack, follow the steps below and refer to Figure 4-1.

**CAUTION:** *The battery pack is a lithium ion battery, which can explode if not properly replaced, used, handled or disposed of. For environmental reasons, collect the spent battery packs. Use only batteries recommended by Toshiba as replacements.*

**NOTE:** *Check the battery's terminals visually. If they are dirty, wipe them clean with a dry cloth.*

1. Turn off the computer.
2. Disconnect the AC adaptor and other external devices from the computer.
3. Push **the battery pack** into the battery slot. Make sure the battery pack is installed securely.
4. Slide the **battery lock** into the lock position.

## 4.3 PC card/SD card

### 4.3.1 PC card

#### Removing the PC card

To remove the PC card, follow the steps below and refer to Figure 4-2.

**CAUTION:** Before you remove a PC card, refer to the card's documentation and your operating system documentation for proper procedures and precautions.

1. Turn the computer face up.
2. Slide the **PC card latch** and pull out the **PC card** to the direction indicated in the Figure below.

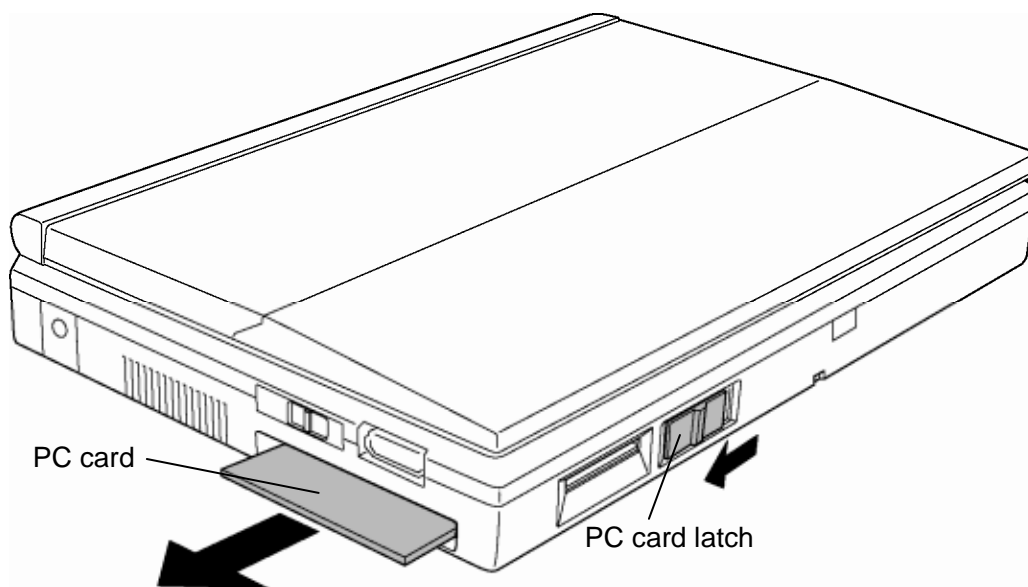


Figure 4-2 Removing the PC card

#### Installing the PC card

To install the PC card, follow the steps below and refer to Figure 4-2.

1. Insert the **PC card** and press it until it is securely connected.

### 4.3.2 SD card

#### Removing the SD card

To remove the SD card, follow the steps below and refer to Figure 4-3.

**CAUTION:** Before you remove the SD card, refer to the card's documentation and to your operating system documentation for proper procedures and precautions.

1. Push the **SD card** to the direction indicated in the Figure below. It will pop out partly when you release, so pull out the card.

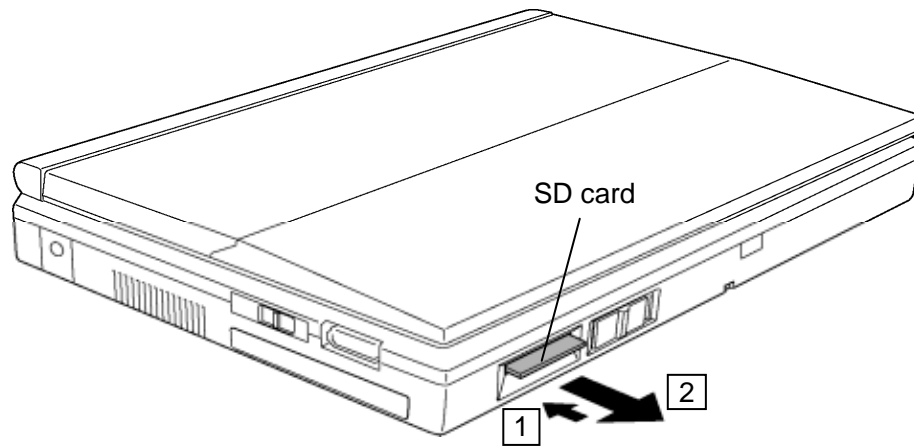


Figure 4-3 Removing the SD card

#### Installing the SD Card

To install the SD card, follow the steps below and refer to Figure 4-3.

1. Insert the **SD card** and press it until it is securely connected.

## 4.4 Memory module

**CAUTION:** *The power of the computer must be turned off when you remove the memory module. Removing a memory module with the power on risks damaging the module or the computer itself.*

*Do not touch the memory module terminals. Any dirt on the terminals may cause memory access problems.*

*Never press hard or bend the memory module.*

### Removing the Memory module

To remove the memory module, confirm that the computer is in boot mode. Then perform the following procedures and refer to Figure 4-4.

1. Turn the computer upside down.
2. Loosen the **screw** (with e-ring) and remove the **memory slot cover**.
3. Open the left and right **latches** and remove the **memory module**.

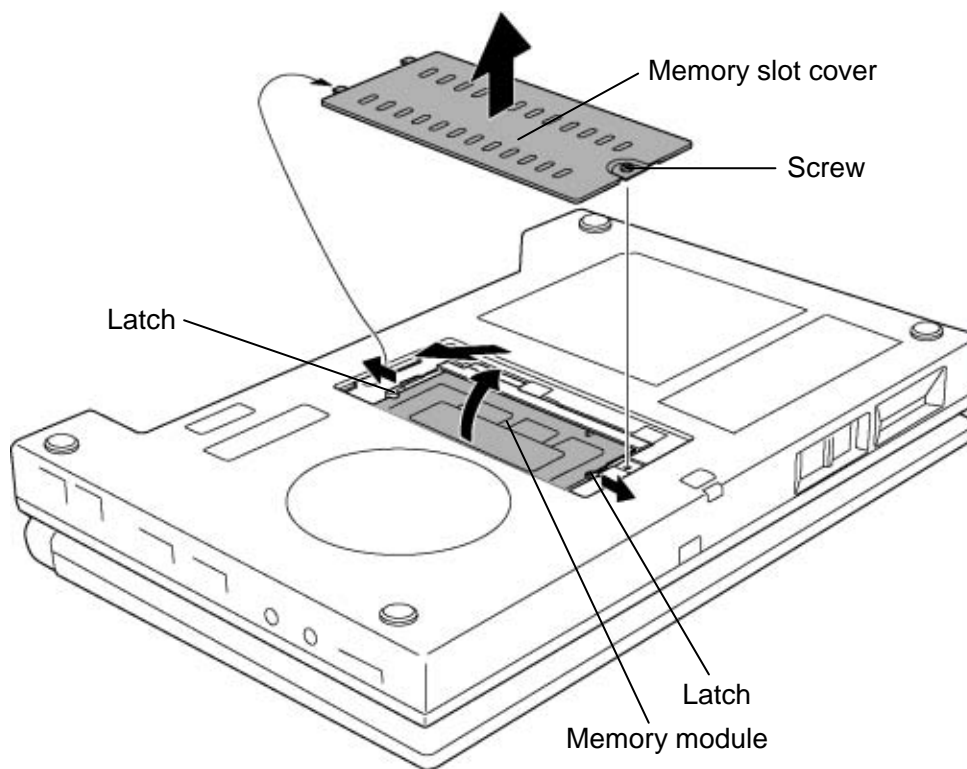


Figure 4-4 Removing the memory module

### Installing the memory module

To install the memory module, confirm that the computer is in boot mode. Then follow the steps below and refer to Figure 4-4.

**CAUTION:** *The power must be turned off when you insert the memory module. Inserting a memory module with the power on might damage the module or the computer itself.*

*Never press hard or bend the memory module.*

1. Insert the **memory module** into the connector of the computer slantwise (terminal side first) and press it to connect firmly.

**CAUTION:** *After installing the memory module, confirm that the memory module is fixed with the left and right latches.*

2. Install the **memory slot cover** and secure it with the **screw** (with e-ring).
3. When the power of the computer is turned on, the computer checks automatically the memory size. Confirm that the new memory is detected correctly.
4. If the memory is not detected, check that it is connected correctly.

## 4.5 Keyboard

### Removing the Keyboard

To remove the keyboard, follow the steps below and refer to Figure 4-5 and 4-6.

**CAUTION:** *When removing the keyboard, hold the edge of it. Do not touch the key top. Otherwise, the key top may drop.*

1. Remove the following **screw** from the bottom of the computer.
  - M2×14B BIND screw ×1
2. Turn the computer face up and open the display.
3. Insert your fingers into the slot on both sides of the **keyboard holder** and lift it up.
4. Remove the following **screw** and **keyboard hold plate**.
  - M2×4B BIND screw ×1
5. Remove the following **screws** and lift the upper side of the keyboard and turn it face down on the palm rest.
  - M2×3S S-FLAT HEAD screw ×2

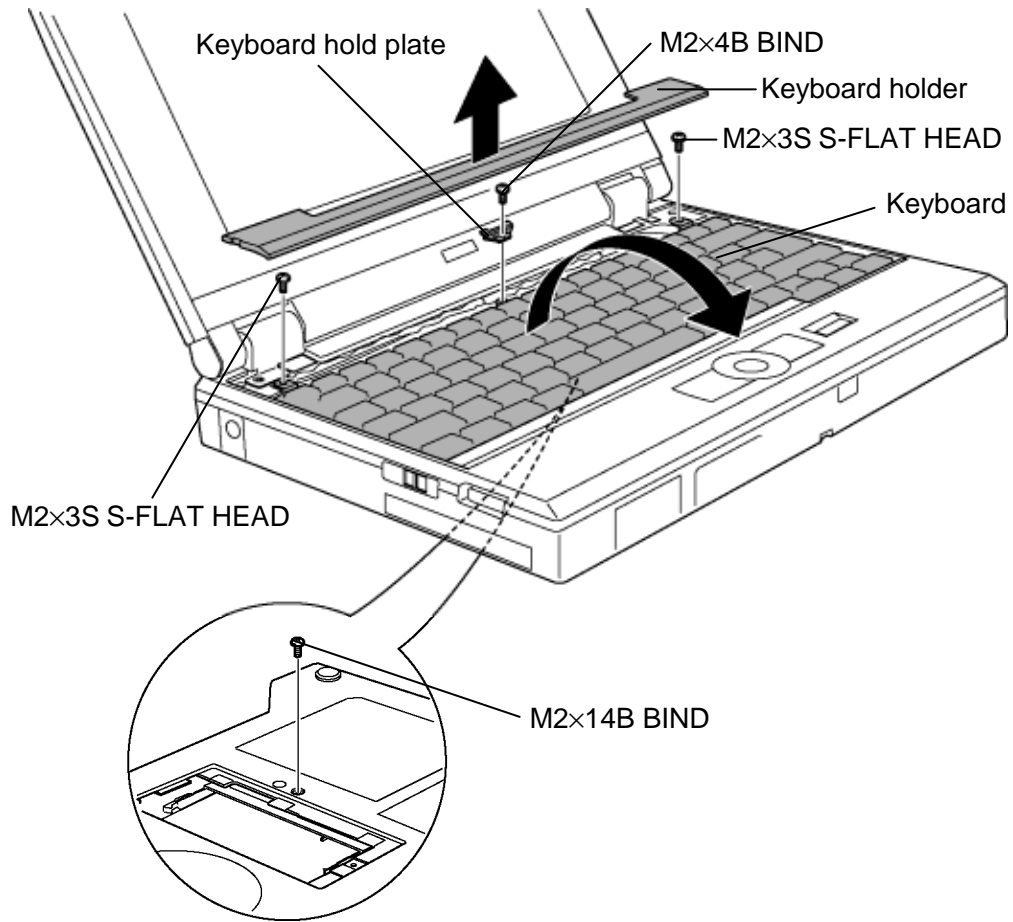


Figure 4-5 Removing the keyboard holder/keyboard hold plate

6. Disconnect the **keyboard flexible cable** from the connector **CN3230** on the system board and remove the **keyboard**.

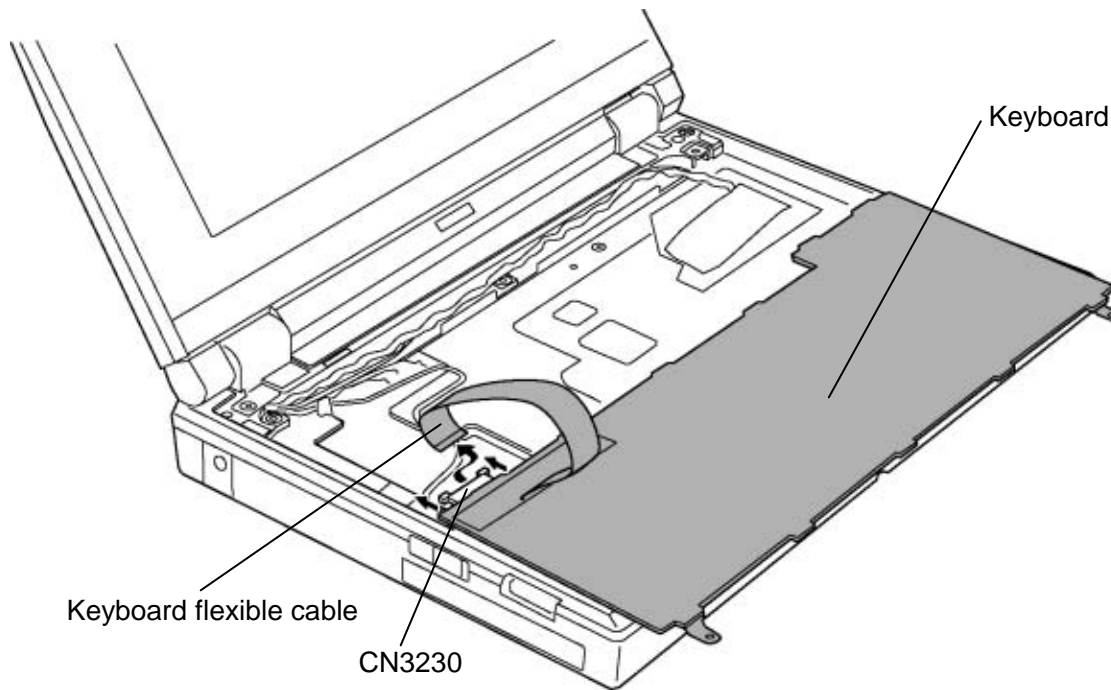


Figure 4-6 Removing the keyboard

### Installing the Keyboard

To install the keyboard, follow the steps below and refer to Figure 4-5 and 4-6.

1. Place the keyboard face down on the palm rest and connect the **keyboard flexible cable** to the connector **CN3230** on the system board.
2. Turn the keyboard face up and put it on the computer. Make sure that there is no gap between the keyboard and the computer.
3. Secure the keyboard with the following **screws**.
  - M2×3S S-FLAT HEAD screw ×2
4. Install the **keyboard hold plate** and secure it with the following **screw**.
  - M2×4B BIND screw ×1
5. Install the **keyboard holder** while inserting it to the slot on both sides.
6. Turn the computer upside down and secure the **keyboard** with the following **screw**.
  - M2×14B BIND screw ×1

## 4.6 Top cover assembly

### Removing the Top cover assembly

To remove the top cover assembly, follow the steps below and refer to Figure 4-7 to 4-9.

1. Peel off the **glass tape** and disconnect the **speaker cable** from the connector **CN6350** on the SD board.
2. Disconnect the **Bluetooth antenna cable** from the Bluetooth module.
3. Disconnect the **LCD cable**, **FL cable**, **FP cable** and **Accupoint cable** from the connectors **CN5600**, **CN9650**, **CN9700** and **CN3240** on the system board.

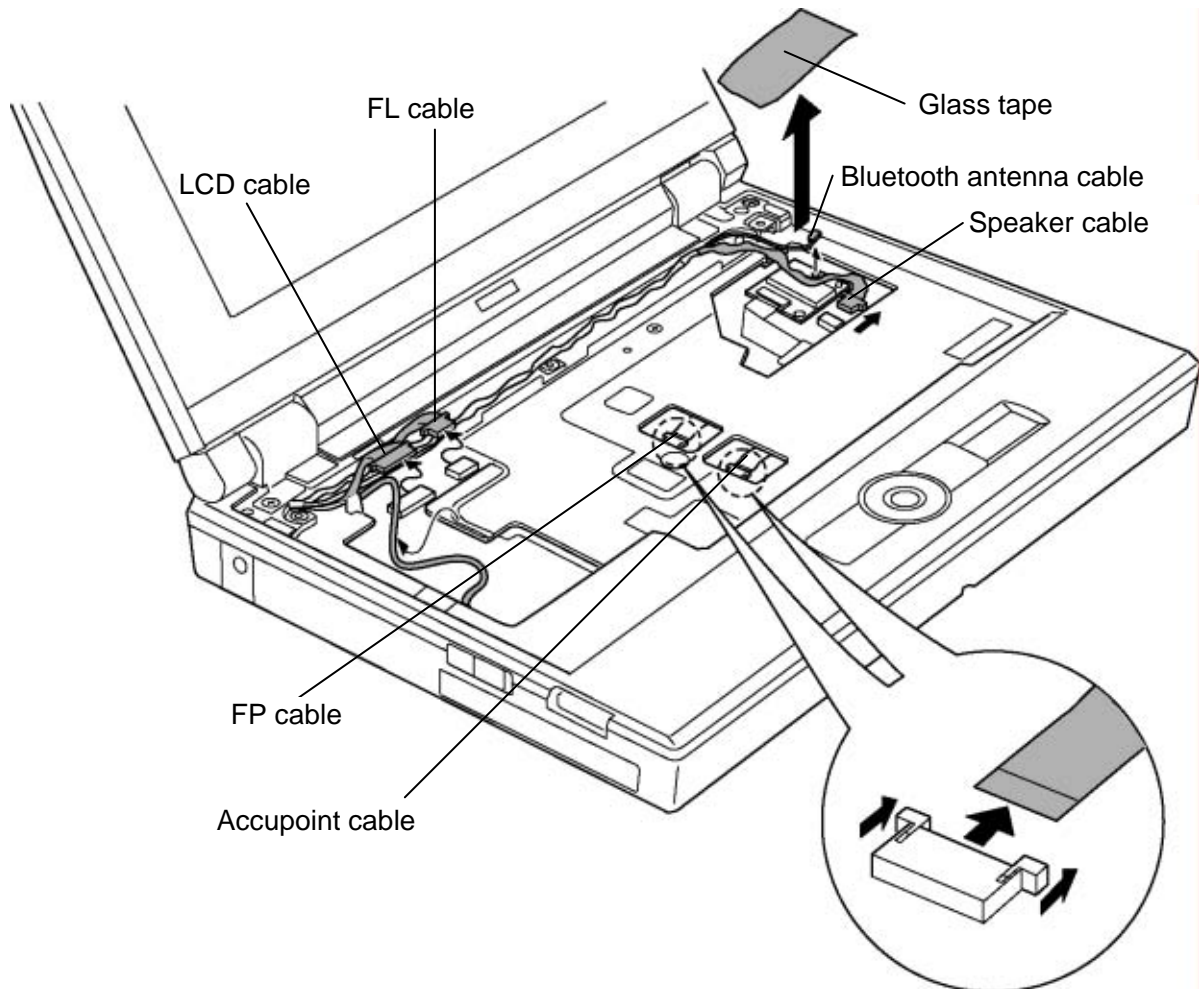


Figure 4-7 Removing the top cover assembly (1)

4. Close the display and turn over the computer.
5. Remove the following **screws** from the bottom of the computer.
  - M2×14B BIND screw ×9

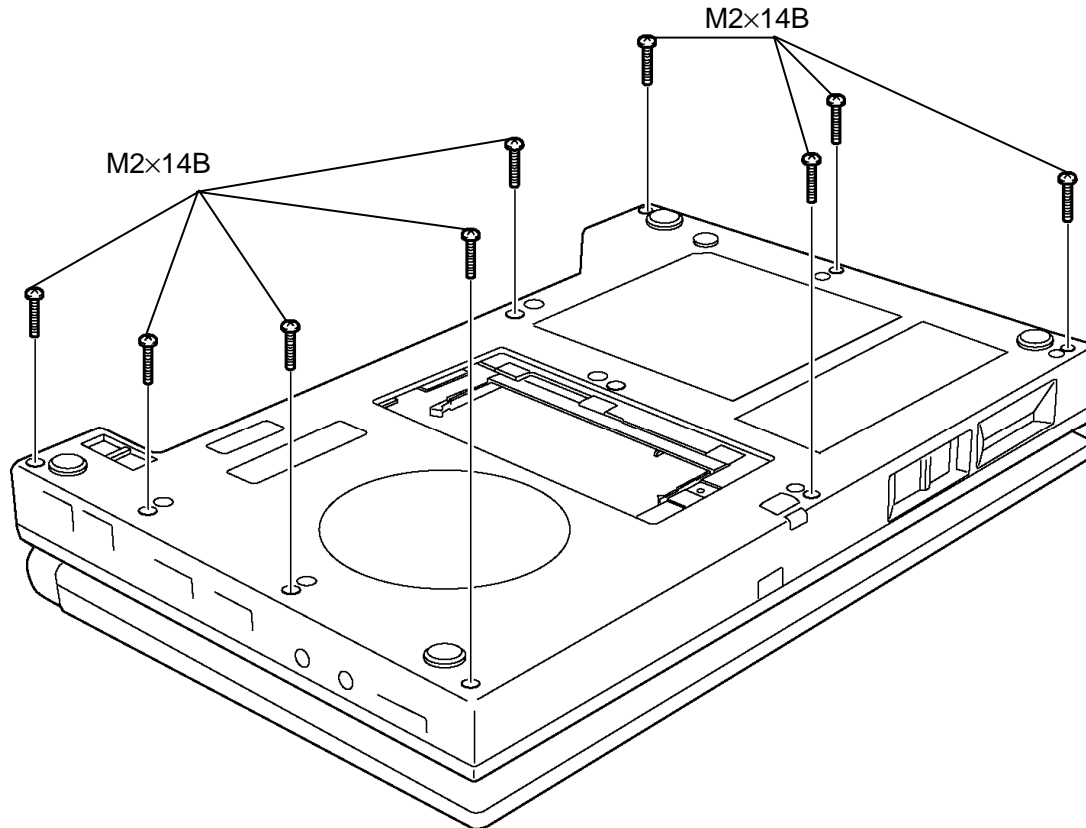


Figure 4-8 Removing the top cover assembly (2)

- Remove the following **screw** and lift up the **top cover assembly** from the base assembly.

- M2×4S S-FLAT HEAD screw ×1

**CAUTION:** When lifting up the top cover assembly from the base assembly, be careful that wireless LAN antenna cable is connected to the wireless LAN card on the base assembly.

- Disconnect the **wireless LAN antenna cable** from the wireless LAN card.

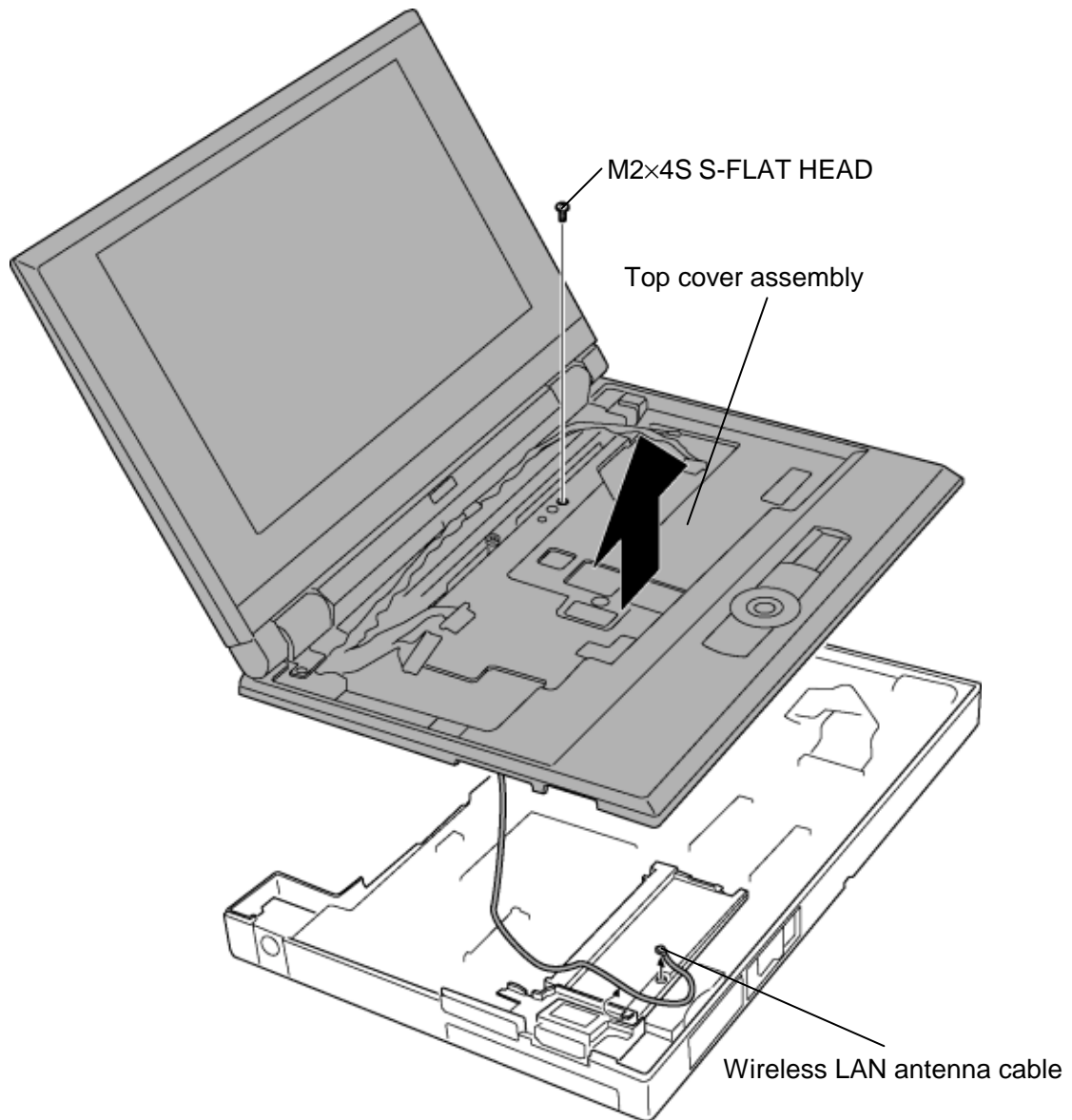


Figure 4-9 Removing the top cover assembly (3)

## Installing the Top cover assembly

To install the top cover assembly, follow the steps below and refer to Figure 4-7 to 4-9.

1. Connect the **wireless LAN antenna cable** to the wireless LAN card.

**CAUTION:** *Place the wireless LAN antenna cable connected according to the guide.*

2. Install the **top cover assembly** to the base assembly in place.
3. Connect the **LCD cable, FL cable, FP cable** and **Accupoint cable** to the connectors **CN5600, CN9650, CN9700** and **CN3240** on the system board.
4. Connect the **Bluetooth antenna cable** to the Bluetooth module.
5. Connect the **speaker cable** to the connector **CN6350** on the SD board and stick the **glass tape**.
6. Secure the top cover assembly (front) with the following **screw**.
  - M2×4S S-FLAT HEAD screw ×1
7. Close the display and turn the computer face down.
8. Secure the top cover assembly (back) with the following **screws**.
  - M2×14B BIND screw ×9

## 4.7 Bluetooth module

### Removing the Bluetooth module

To remove the Bluetooth module, follow the steps below and refer to Figure 4-10.

1. Disconnect the **Bluetooth cable** from the connector **CN4400** on the system board.
2. Remove the following **screw** and **Bluetooth module**.
  - M2×3S S-FLAT HEAD screw ×1
3. Disconnect the **Bluetooth cable** from the connector on the Bluetooth module.

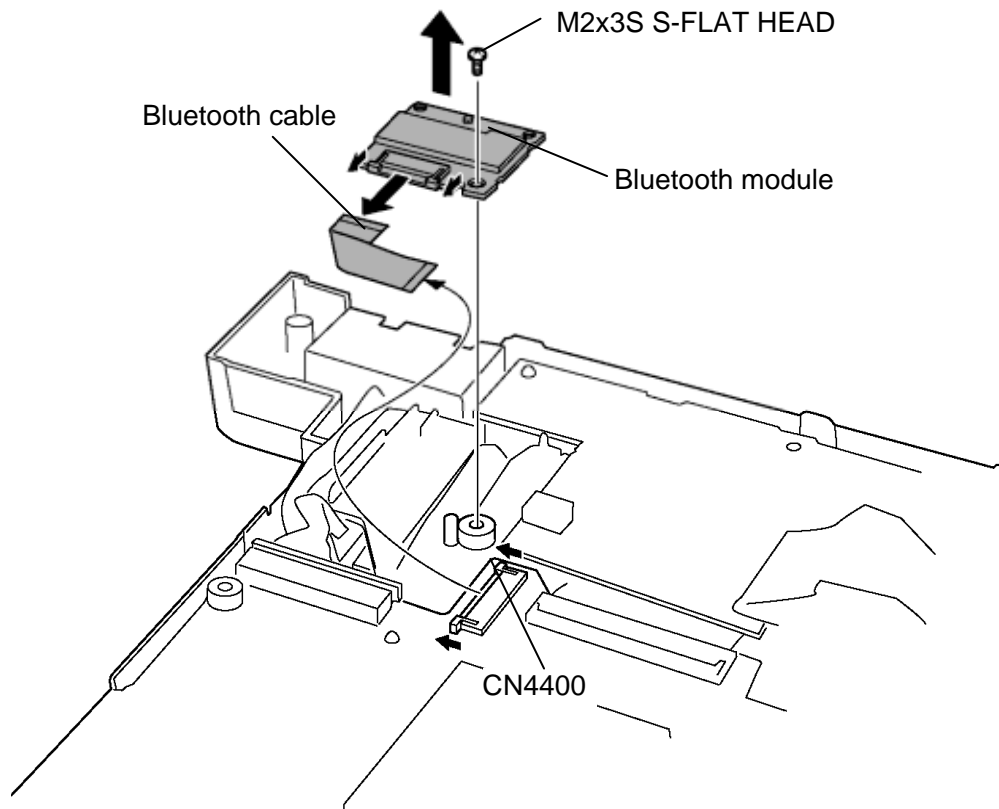


Figure4-10 Removing the Bluetooth module

## Installing the Bluetooth module

To install the Bluetooth module, follow the steps below and refer to Figure 4-10.

1. Connect the **Bluetooth cable** to the connector **CN4400** on the system board and connector on the Bluetooth module.
2. Install the **Bluetooth module** fitting to the guide and secure it with the following **screw**.
  - M2×3S      S-FLAT HEAD screw      ×1

## 4.8 FP Board

### Removing the FP Board

To remove the FP board, follow the steps below and refer to Figure 4-11.

1. Disconnect the **FP cable** from the connector **CN9710** on the FP board.
2. Remove the following **screws** and **FP board** from the cover assembly.
  - M2×4S S-FLAT HEAD screw ×2

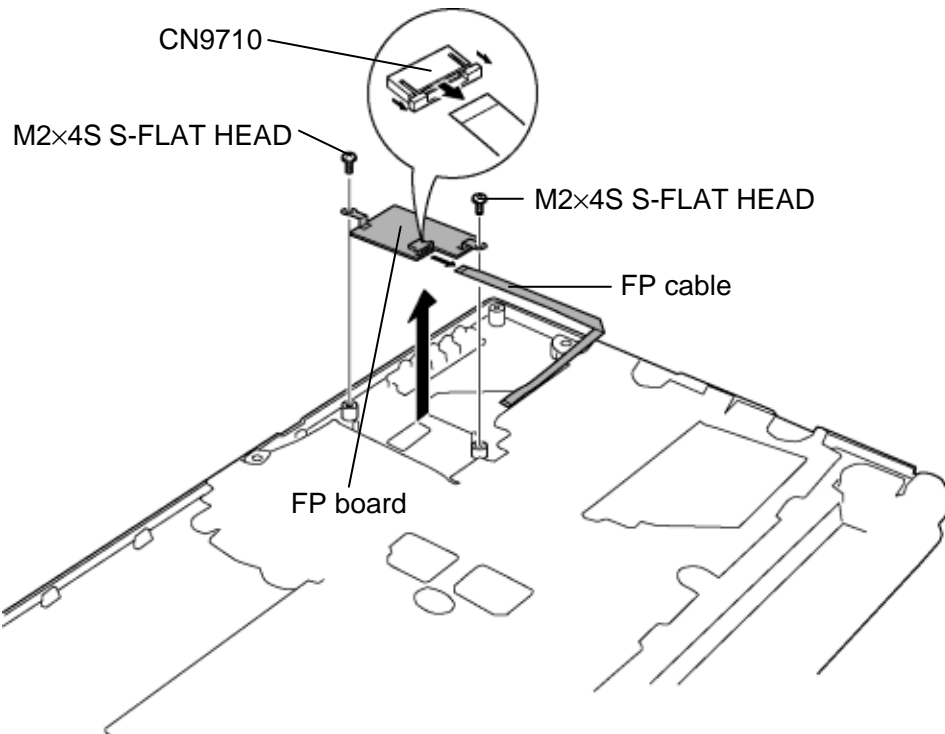


Figure 4-11 Removing the FP board

### Installing the FP Board

To install the FP board, follow the steps below and refer to Figure 4-11.

1. Connect the **FP cable** to the connector **CN9710** on the FP board.
2. Install the **FP board** to the cover assembly and secure it with the following **screws**.
  - M2×4S S-FLAT HEAD screw ×2

## 4.9 Accupoint

### Removing the Accupoint

To remove the Accupoint, follow the steps below and refer to Figure 4-12.

1. Turn up the **insulator** and disconnect the **Accupoint cable** from the connector on the Accupoint assembly.
2. Turn up the **insulator** and remove the following **screws** and **Accupoint assembly**.
  - M2×4S S-FLAT HEAD screw ×2

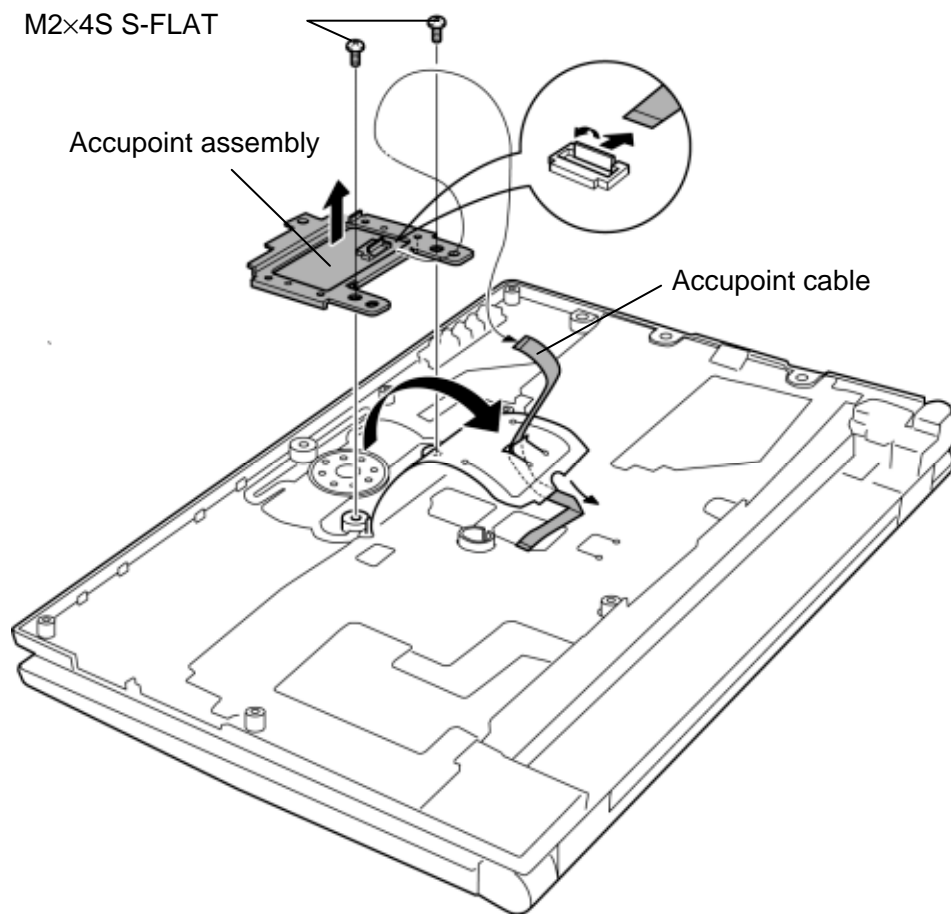


Figure 4-12 Removing the Accupoint

### Installing the Accupoint

To install the Accupoint, follow the steps below and refer to Figure 4-12.

1. Turn up the **insulator** and connect the **Accupoint cable** to the connector on the Accupoint assembly.
2. Turn up the **insulator** and set the **Accupoint assembly** in place.
3. Secure the Accupoint assembly with the following **screws**.
  - M2×4S      S-FLAT HEAD screw      ×2

## 4.10 MDC/SD board

### Removing the MDC/SD board

To remove the MDC/SD board, follow the steps below and refer to Figure 4-13 and 4-14.

1. Disconnect the **SD cable** from the connector **CN9560** on the SD board and connector **CN9550** on the system board.
2. Remove the following **screws** and disconnect the **MDC** from the connector **CN3010** on the SD board
  - M2×4B BIND screw ×2
3. Disconnect the **Modem cable** from the connector on the MDC.

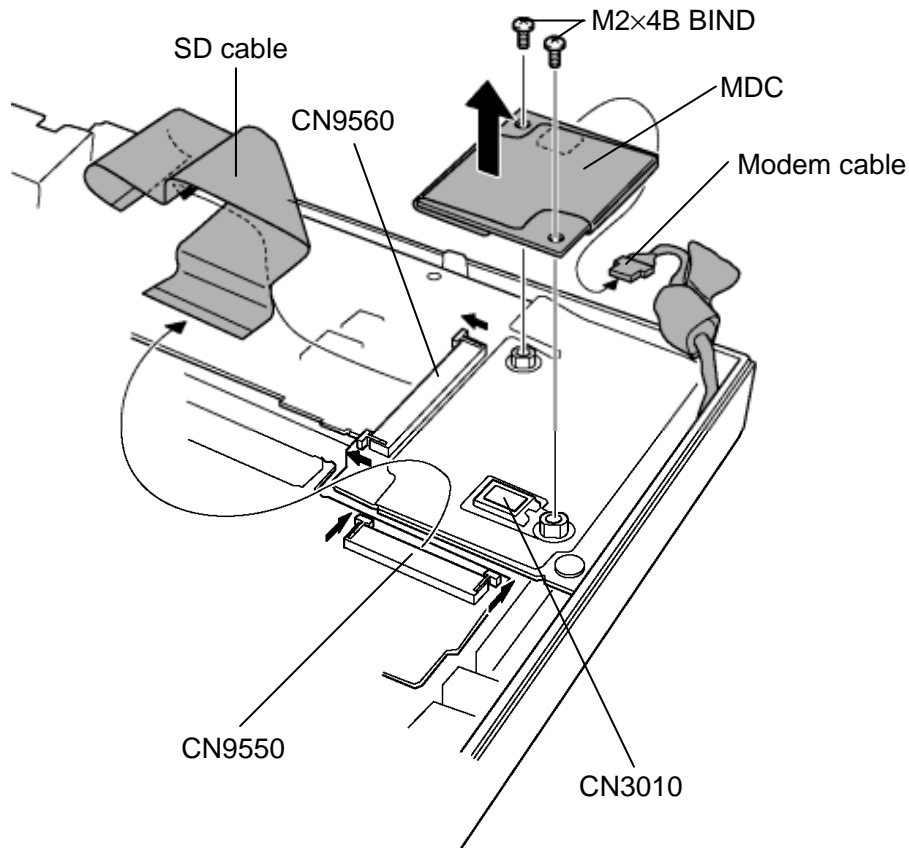


Figure 4-13 Removing the MDC

4. Remove the following **screw** and lift up the **SD board** from the base assembly.
  - M2×4B BIND screw ×1
5. Disconnect the **USB cable** from the connector **CN4622** on the SD board.

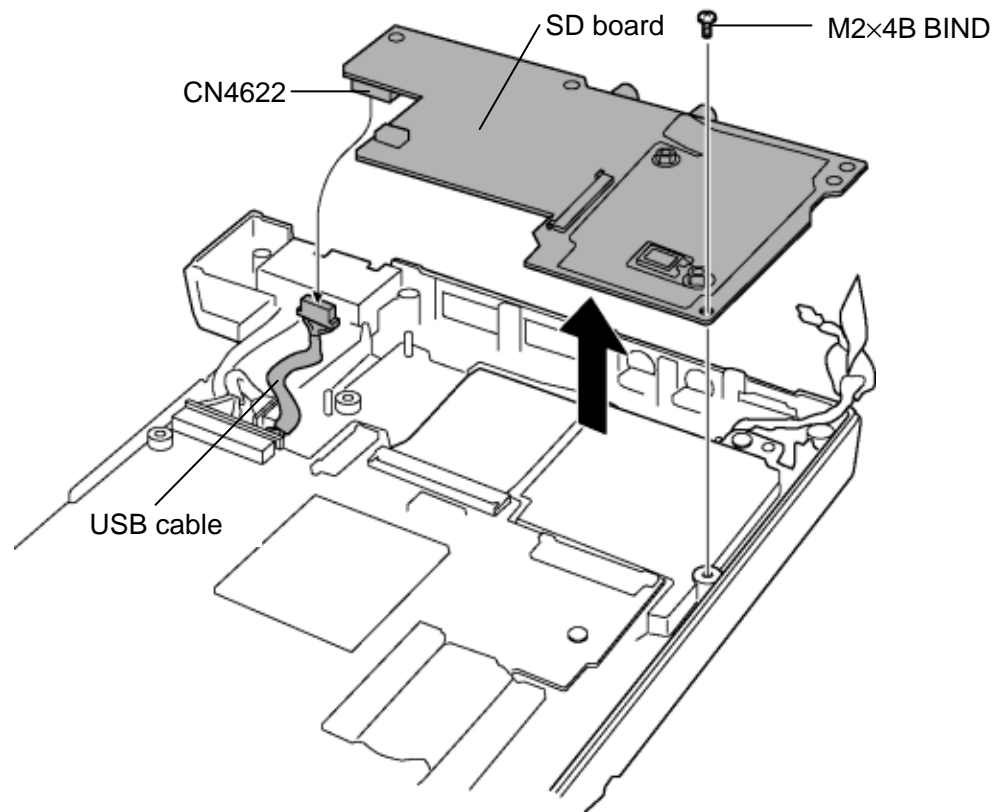


Figure 4-14 Removing the SD board

### Installing the MDC/SD board

To install the MDC/SD board, follow the steps below and refer to Figure 4-13 and 4-14.

1. Connect the **USB cable** to the connector **CN4622** on the SD board.
2. Install the **SD board** to the base assembly and secure it with the following **screw**.
  - M2×4B BIND screw ×1
3. Connect the **Modem cable** to the connector on the MDC.
4. Connect the **MDC** to the connector **CN3010** on the SD board.

**CAUTION:** *Be careful not to damage the card or connector.*

5. Secure the MDC with the following **screws**.
  - M2×4B BIND screw ×2
6. Connect the **SD cable** to the connector **CN9560** on the SD board and connector **CN9550** on the system board.

## 4.11 Kill switch cover/Wireless LAN card

**CAUTION:** The power must be turned off when you remove the Wireless LAN card. Removing the Wireless LAN card with the power on risks damaging the card or the computer itself.

Never press hard or bend the Wireless LAN card.

### Removing the Kill switch cover/Wireless LAN card

To remove the kill switch cover/wireless LAN card, follow the steps below and refer to Figure 4-15 and 4-16.

1. Remove the following screw and kill switch cover.

- M2×4B BIND screw ×1

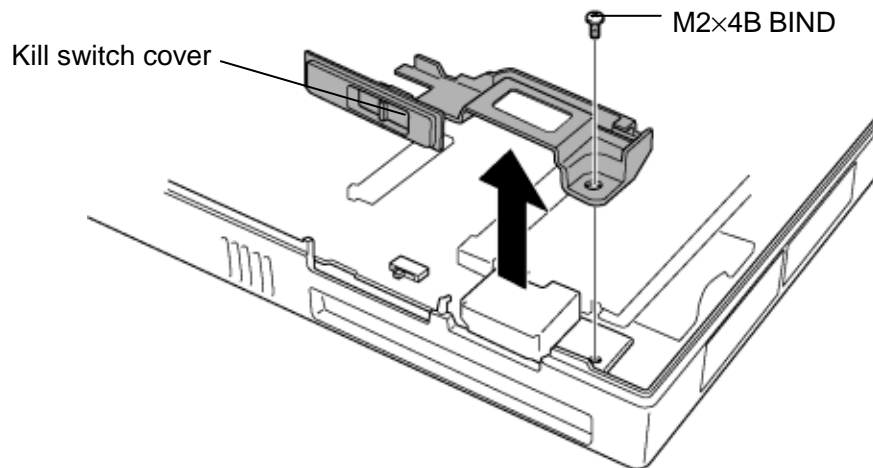
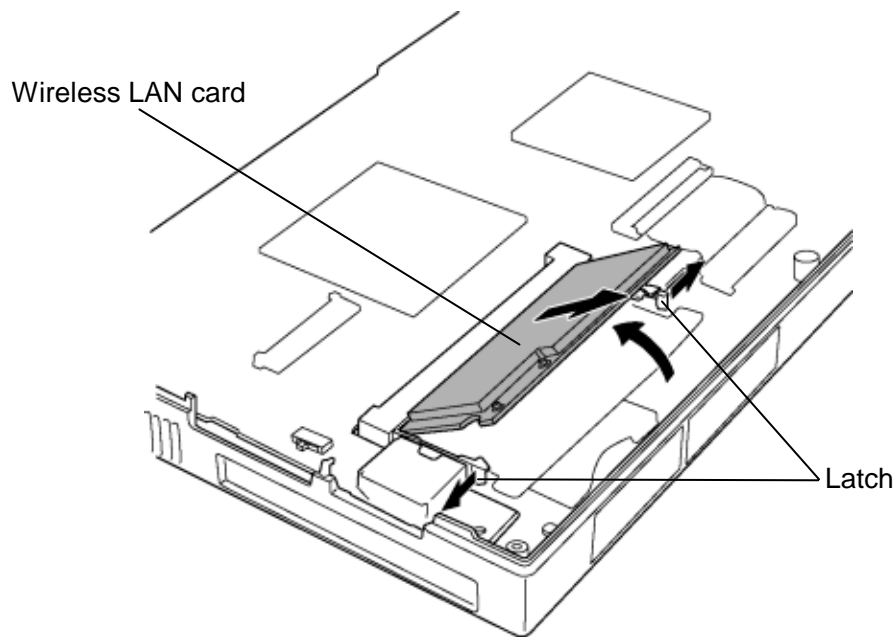


Figure 4-15 Removing the kill switch cover

2. Open the left and right **latches** and remove the **Wireless LAN card**.



*Figure 4-16 Removing the wireless LAN card*

### **Installing the Kill switch cover/Wireless LAN card**

To install the kill switch cover/wireless LAN card, follow the steps below and refer to Figure 4-15 and 4-16.

1. Insert the **Wireless LAN card** terminals into the connector on the computer slantwise and press the Wireless LAN card until it is securely in connected.
2. Install the **kill switch cover** and secure it with the following **screw**.
  - M2×4B BIND screw ×1

## 4.12 System board/DC-IN jack

**CAUTION:** 1. When handling the system board, hold the edges.

2. When replacing with a new system board, be sure to follow the procedures below.

(1) Execute the *subtest03 DMI information save* of 3.3 Setting of the hardware configuration in Chapter 3.

(2) Copy the DMI data to a new system board by executing *subtest04 DMI information recovery* and *subtest08 System configuration display*.

### Removing the System board/DC-IN jack

To remove the system board/DC-IN jack, follow the steps below and refer to Figure 4-17.

1. Remove the following **screws** and disconnect the **HD FPC**, **DK cable** and **PC cable** from the connectors, **CN9600**, **CN9750** and **CN9500** on the system board.
  - M2×4B BIND screw ×3
2. Lift up the **system board**.

**CAUTION:** Be careful that the LAN cable/DC-IN cable are connected to the back of the system board.

3. Disconnect the **DC-IN cable** from the connector **CN8800** on the back of the system board and remove the **DC-IN jack** from the slot.
4. Disconnect the **LAN cable** from the connector **CN4100** on the back of the system board.

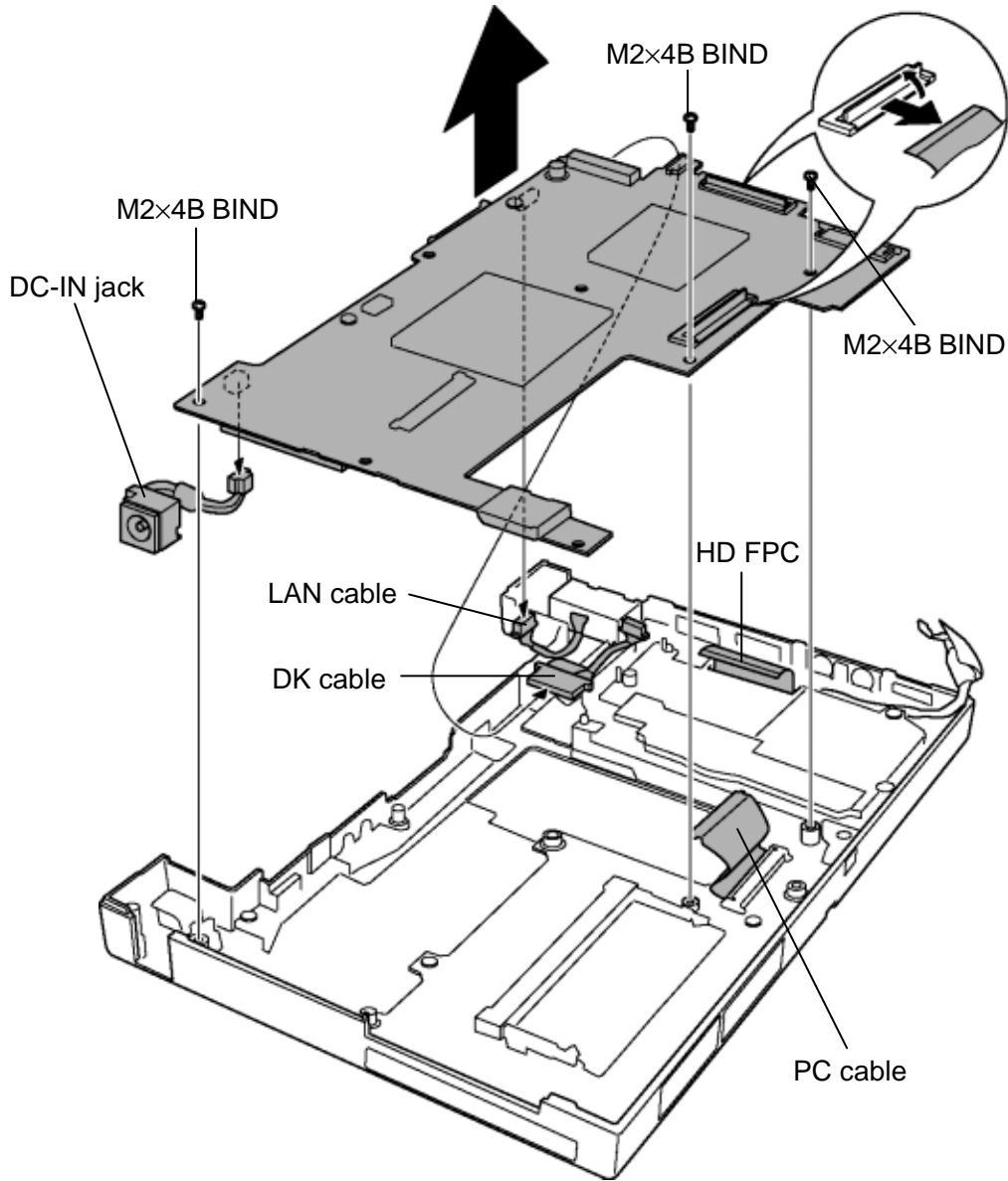


Figure 4-17 Removing the system board

**Installing the System board/DC-IN jack**

To install the system board/DC-IN jack, follow the steps below and refer to Figure 4-17.

1. Connect the **LAN cable** to the connector **CN4100** on the back of the system board.
2. Connect the **DC-IN cable** to the connector **CN8800** on the back of the system board.
3. Set the **system board** in place.
4. Install the **DC-IN jack** to the slot.
5. Connect the **HD FPC**, **DK cable** and **PC cable** to the connectors, **CN9600**, **CN9750** and **CN9500** on the system board and secure the system board with the following **screws**.

- M2×4B BIND screw ×3

## 4.13 RTC battery

**WARNING:** *When replacing the RTC battery, be sure to use genuine batteries or replacement batteries authorized by Toshiba. Installing the wrong battery could cause a battery explosion or other damage.*

*If the RTC battery is found abnormal, it must not be installed. Replace it with a new battery, and dispose of the old one according to the local regulations.*

*Check for any of the following signs of damage:*

- 1) *Electrolyte leakage*
  - *Corrosion (greenish color) on the battery connector or cable*
  - *Corrosion on the computer's battery connector*
  - *White powder on any part of the battery*
  - *White powder in the battery tray*
  - *Clear liquid on the battery*
  - *Clear liquid in the battery tray*
  - *Clear liquid on any board near the battery*
- 2) *Damage to the connection cable*
- 3) *Damage to the connector housing*

*If any powder or liquid is found in or around the battery tray, clean it. Be careful not to let any leaked material contact your eyes or mouth. Do not inhale fumes from leaked material.*

*If leaked material contacts your skin, eyes or mouth, wash the affected area thoroughly with clean water.*

### Removing the RTC battery

To remove the RTC battery, follow the steps below and refer to Figure 4-18.

1. Turn up the **insulator** and disconnect the **RTC battery cable** from the connector **CN8760** on the system board.
2. Remove the **RTC battery**.

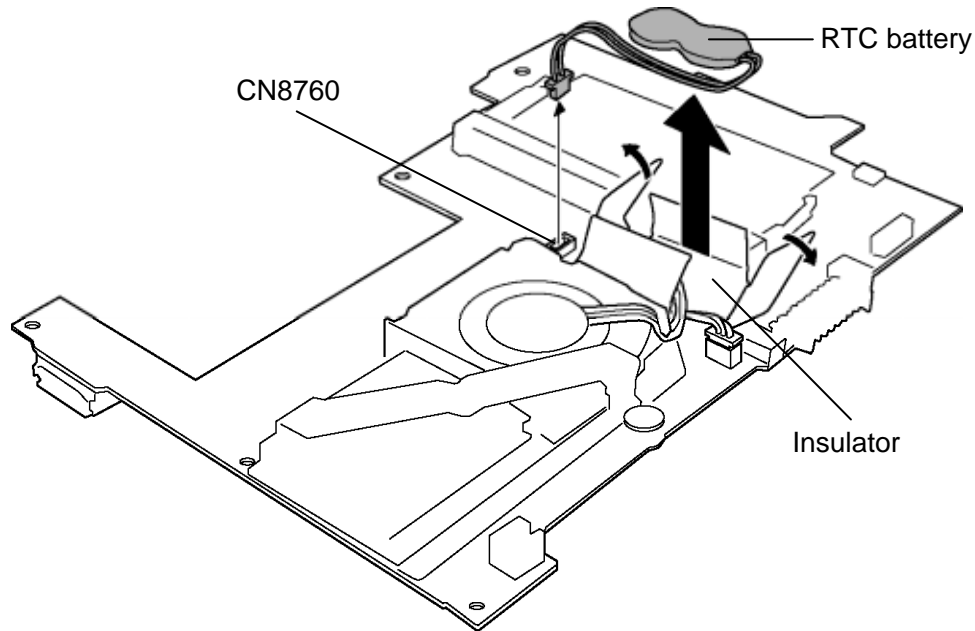


Figure 4-18 Removing the RTC battery

### Installing the RTC battery

To install the RTC battery, follow the steps below and refer to Figure 4-18.

1. Connect the **RTC battery cable** to the connector **CN8760** on the system board.
2. Place the **RTC battery** in place and wrap it with the **insulator**.

## 4.14 Fan heat sink

### Removing the Fan heat sink

To remove the fan heat sink, follow the steps below and refer to Figure 4-19.

1. Remove the following **screws** from the back of the system board.
  - M2×4S S-FLAT HEAD screw ×2
2. Disconnect the **fan cable** from the connector **CN8770** on the system board and remove the **fan heat sink**.

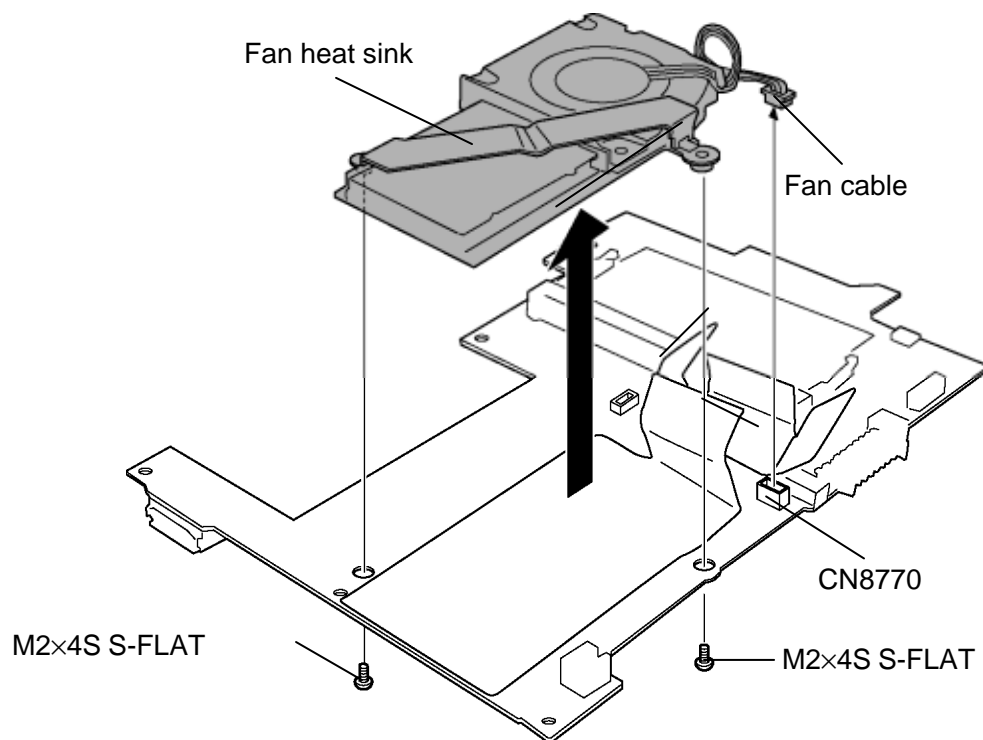


Figure 4-19 Removing the fan heat sink

**Installing the Fan heat sink**

To install the fan heat sink, follow the steps below and refer to Figure 4-19.

1. Connect the **fan cable** to the connector **CN8770** on the system board.
2. Install the **fan heat sink** and secure it with the following **screws**.
  - M2×4S          S-FLAT HEAD screw          ×2

**NOTE:** Wrap the fan cable connected with the insulator wrapping the RTC battery.

## 4.15 HDD

**CAUTION:** Take care not to press on the top or bottom of the HDD. Pressure may cause data loss or damage to the device.

### Removing the HDD

To remove the HDD, follow the steps below and refer to Figure 4-20 to 4-22.

1. Remove the following **screws** and **HDD cover**.
  - M2×6B BIND screw ×3
2. Take the **LAN/Modem jack cable** out from the guide of the HDD cover.

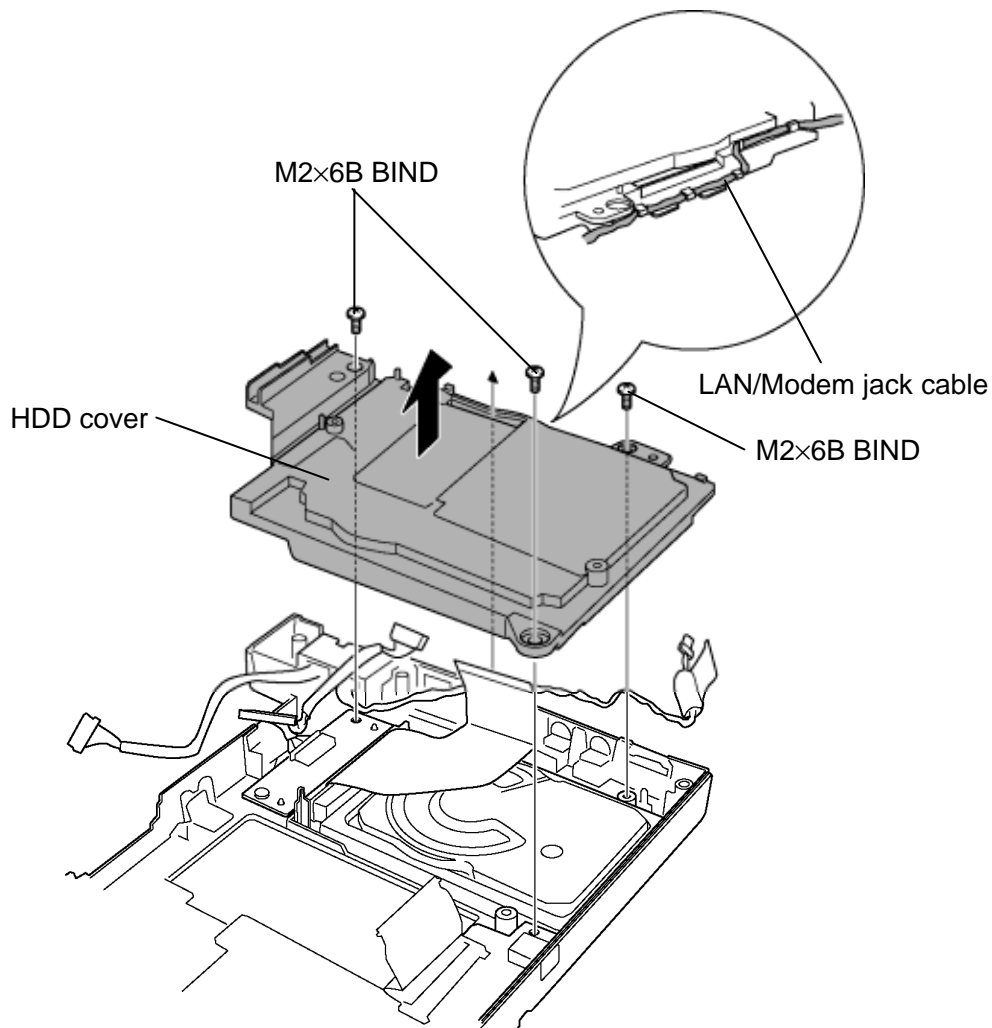
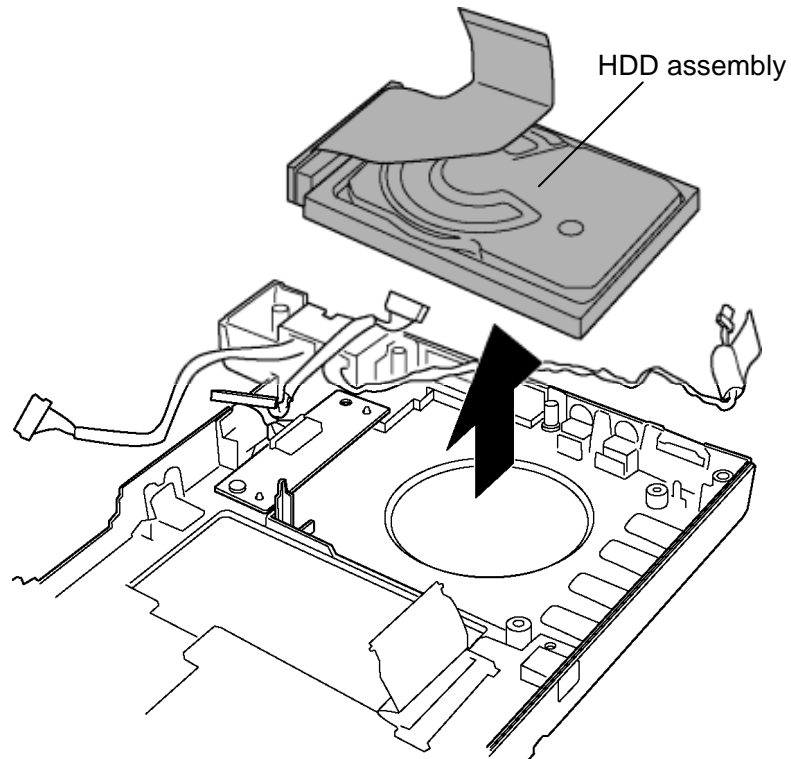


Figure 4-20 Removing the HDD cover

3. Remove the **HDD assembly** from the slot.



*Figure 4-21 Removing the HDD assembly*

4. Disconnect the **HDD assembly** from the connector of the HD FPC.

**CAUTION:** Do not apply pressure to the top or bottom of the HDD.

5. Separate the **HDD** and **HDD cushion rubber**.

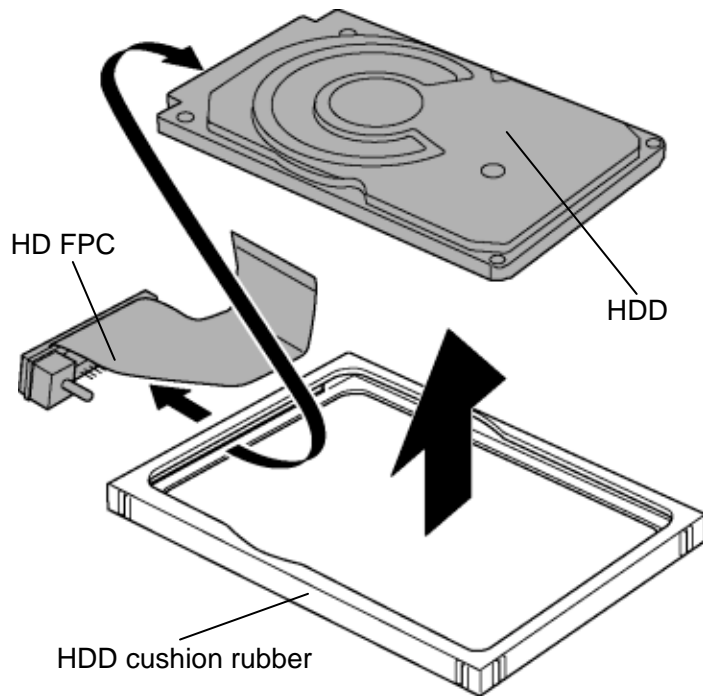


Figure 4-22 Separating the HDD and HDD cushion rubber

## Installing the HDD

To install the HDD, follow the steps below and refer to Figure 4-20 to 4-23.

1. Install the **HDD** to the **HDD cushion rubber**.

**CAUTION:** Do not apply pressure to the middle of the HDD pack. It may damage the HDD pack. Hold the HDD pack by its corners.

2. Connect the **HDD assembly** to the connector on the **HD FPC**.
3. Set the **HDD assembly** to the slot
4. Install the **HDD cover** and secure it with the following screws.
  - M2×6B BIND screw ×3
5. Install the **LAN/Modem jack cable** according to the **guide** of the HDD cover.

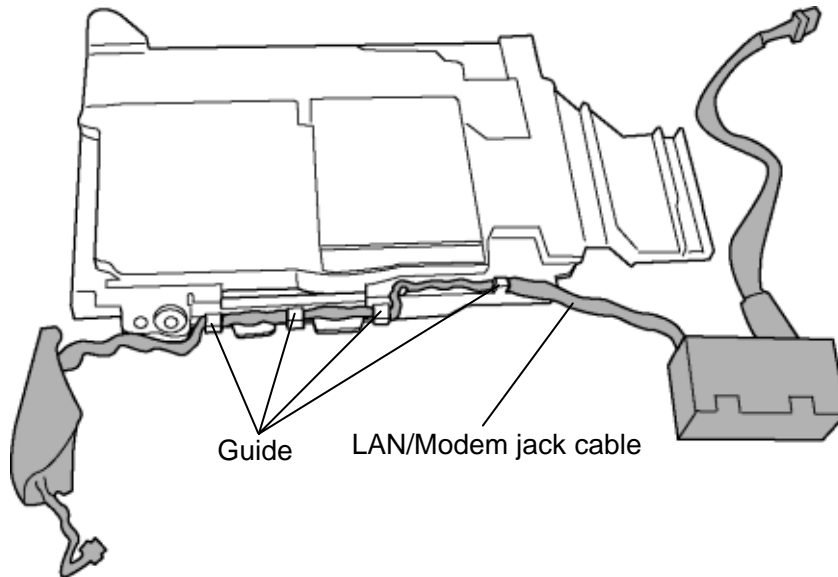


Figure 4-23 Installing the LAN/Modem jack cable

## 4.16 LAN•Modem jack/DK board

### Removing the LAN•Modem jack/DK board

To remove the LAN•Modem jack/DK board, follow the steps below and refer to Figure 4-24.

1. Remove the **LAN•Modem jack** from the slot.
2. Remove the following **screw** and **DK board**.
  - M2×4B BIND screw ×1
3. Disconnect the **DK cable** from the connector **CN9760** on the DK board.

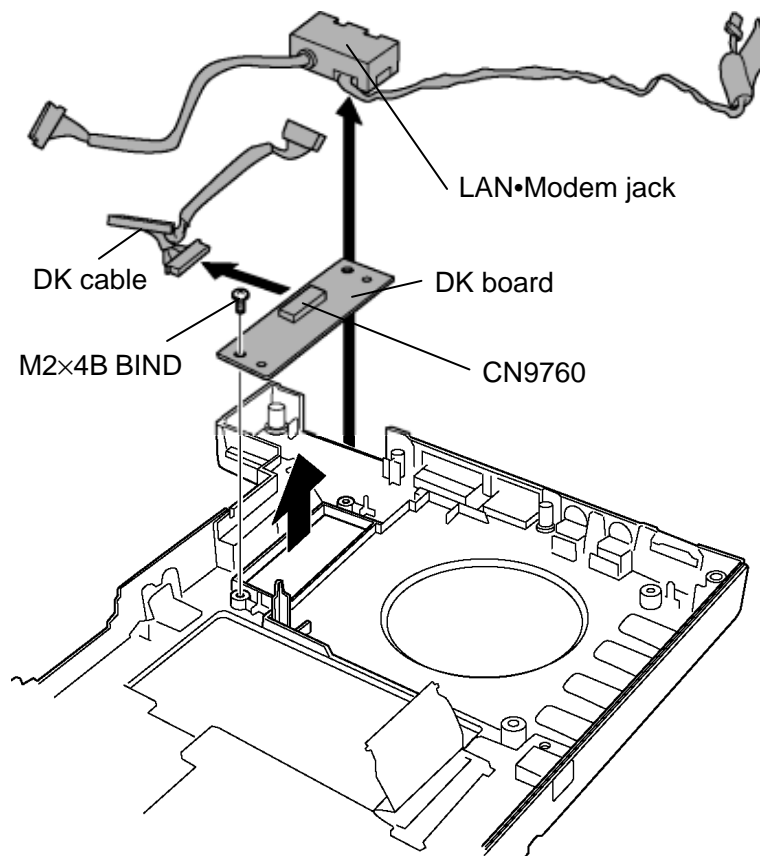


Figure 4-24 Removing the LAN•Modem jack/DK board

**Installing the LAN•Modem jack/DK board**

To install the LAN•Modem jack/DK board, follow the steps below and refer to Figure 4-24.

1. Connect the **DK cable** to the connector **CN9760** on the DK board.
2. Install the **DK board** and secure it with the following **screw**.
  - M2×4B BIND screw ×1
3. Install the **LAN•Modem jack** to the slot.

## 4.17 PC board

### Removing the PC board

To remove the PC board, follow the steps below and refer to Figure 4-25.

1. Remove the **PC board** from the base assembly.
2. Disconnect the **PC cable** from the connector **CN9510** on the PC board.

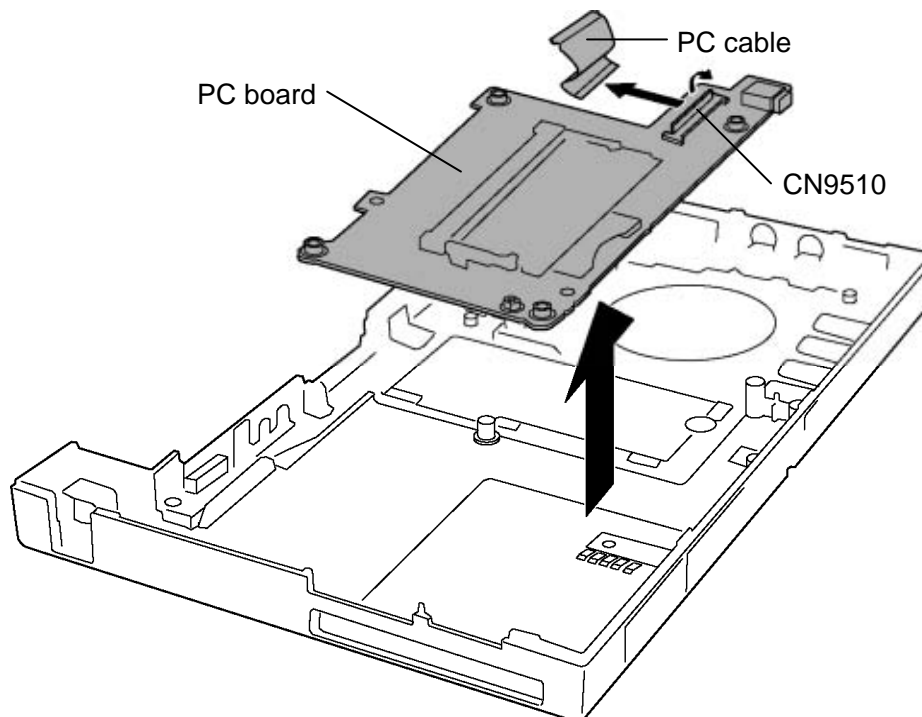


Figure 4-25 Removing the PC board

### Installing the PC board

To install the PC board, follow the steps below and refer to Figure 4-25.

1. Connect the **PC cable** to the connector **CN9510** on the PC board.
2. Install the **PC board** to the base assembly in place.

## 4.18 LCD mask/LCD unit/BL board

**CAUTION:** Never scratch the surface of the LCD.

### Removing the LCD mask/LCD unit/BL board

To remove the LCD mask/LCD unit/BL board, follow the steps below and refer to Figure 4-26 to 4-29

1. Remove the following screw and **hinge cover**.
  - M2×3S S-FLAT HEAD screw ×1
2. Peel off the **punching sheet**.

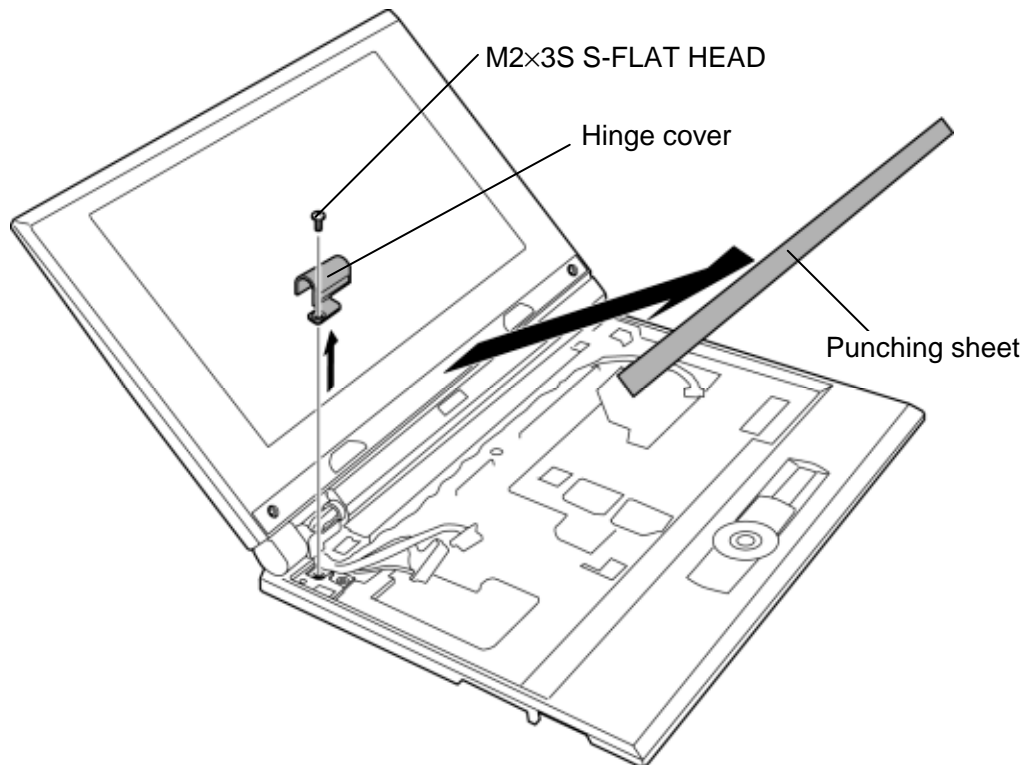


Figure 4-26 Removing the hinge cover/punching sheet

3. Remove the following **screws** and detach the **LCD mask** while releasing the latches.
  - M2.5×6B      FLAT HEAD screw      ×2

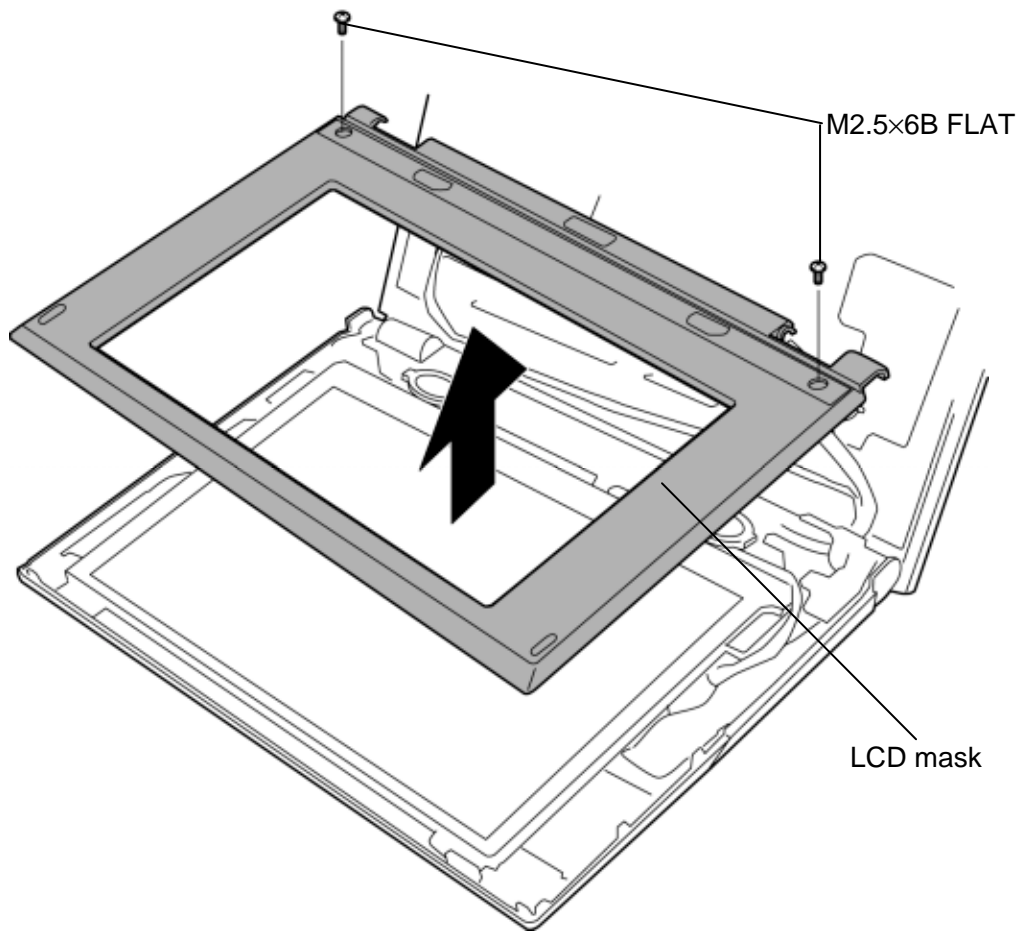


Figure 4-27 Removing the LCD mask

4. Remove the following **screws** and take out the **LCD unit** to the front.
  - M2×4B BIND screw ×2
5. Disconnect the **LCD cable** and **FL cable B** from the back of the LCD unit.

**CAUTION:** Be careful not to break the cables. If the cable B is strongly pulled out, it might be broken.

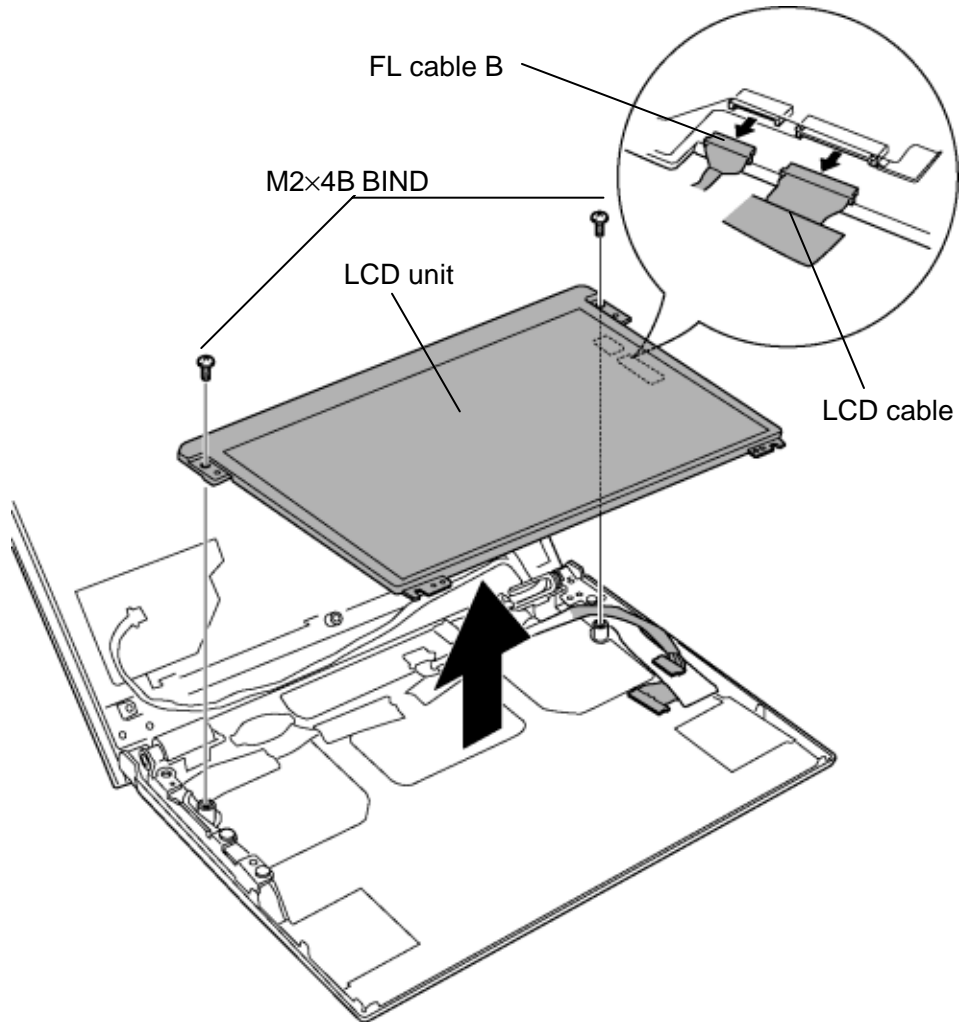


Figure 4-28 Removing the LCD unit

6. Disconnect the **FL cable B** from the connector **CN5350** on the BL board.
7. Disconnect the **FL cable A** from the connector **CN9660** on the BL board.
8. Remove the following **screws** and **BL board**.
  - M2×4B BIND screw ×2

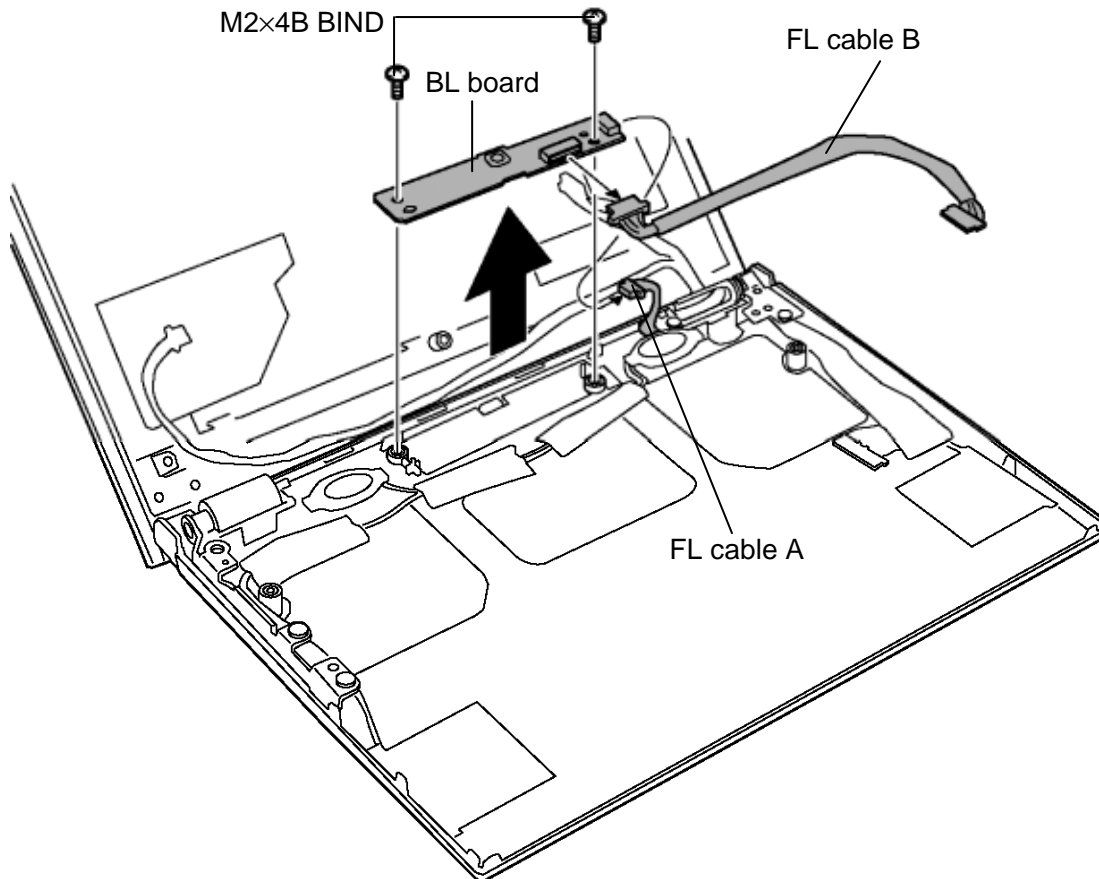


Figure 4-29 Removing the BL board

### Installing the LCD mask/LCD unit/BL board

To install the LCD mask/LCD unit/BL board, follow the steps below and refer to Figure 4-26 to 4-29.

1. Install the **BL board** in place and secure it with the following **screws**.
  - M2×4B BIND screw ×2
2. Connect the **FL cable A** to the connector **CN9660** on the BL board.
3. Connect the **FL cable B** to the connector **CN5350** on the BL board.
4. Connect the **LCD cable** and **FL cable B** to the LCD unit.
5. Install the **LCD unit** according to the guide and secure it with the following **screws**.
  - M2×4B BIND screw ×2
6. Install the **LCD mask** while engaging the **latches**.

**CAUTION:** When installing the LCD mask, make sure there is no gap between the LCD mask and LCD cover.

7. Secure the LCD mask with the following **screws**.
  - M2.5×6B FLAT HEAD screw ×2
8. Stick the **punching sheet** to the LCD mask.
9. Install the **hinge cover** and secure it with the following **screw**.
  - M2×3S S-FLAT HEAD screw ×1

## 4.19 Harness assembly/Hinge

### Removing the Harness assembly/Hinge

To remove the harness assembly/hinge, follow the steps below and refer to Figure 4-30 to 4-35.

1. Remove the following **screw** and **LCD harness holder B**.
  - M2.5×6S Tapping screw ×1
2. Remove the following **screw** and **LCD harness holder A** (plastic).
  - M2.5×6S Tapping screw ×1

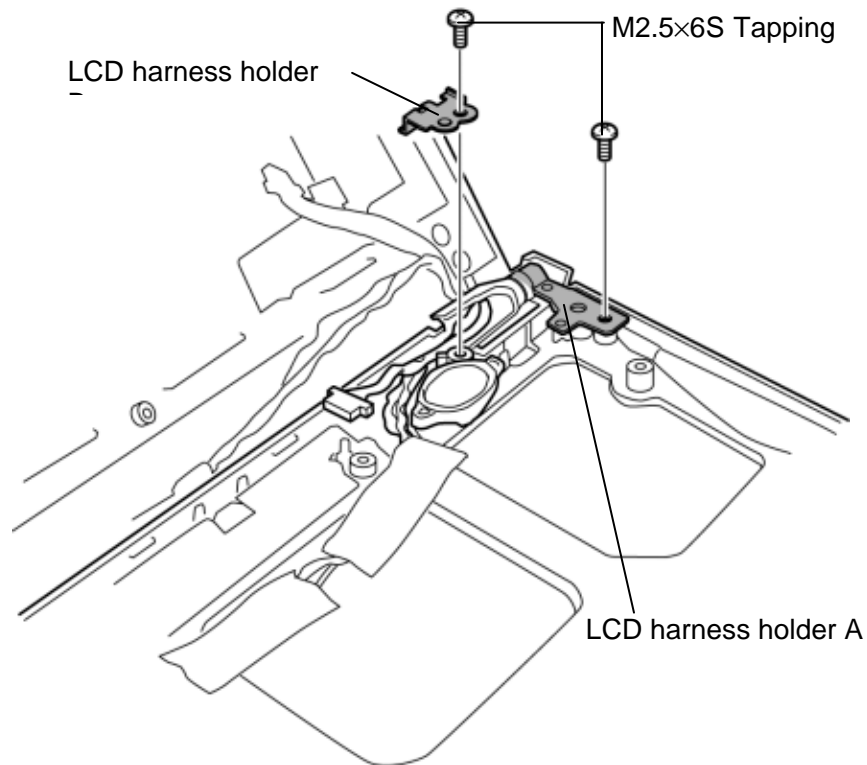


Figure 4-30 Removing the LCD harness holder

3. Take the **speaker** (with holder) out from the slot.
4. Peel off the three **acetate tapes**, **wireless LAN antenna** and **Bluetooth antenna**.
5. Remove the following **screw** and **earth cable** (drain line) from the back.
  - M2×3S S-FLAT HEAD screw ×1

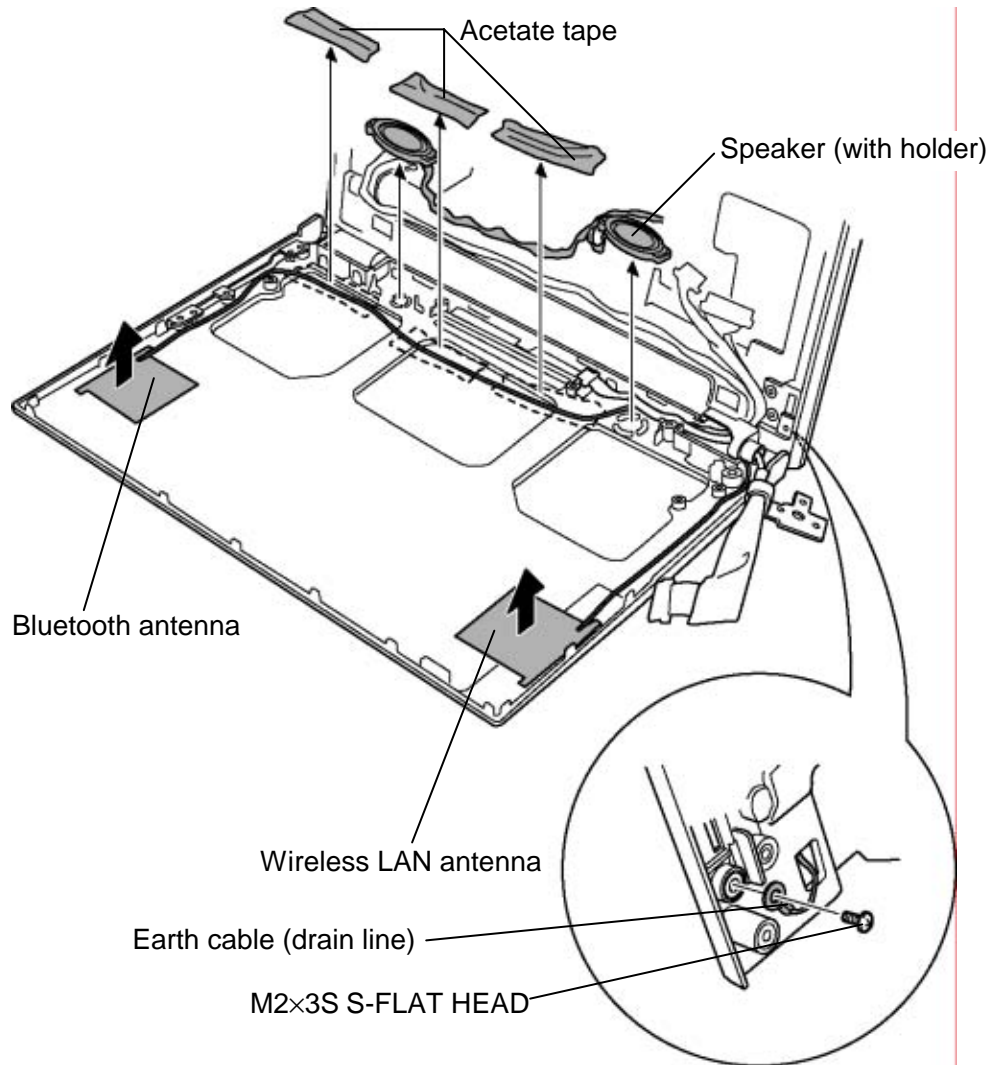


Figure 4-31 Removing the speaker/wireless antenna/Bluetooth antenna

6. Remove the following **screws** fixing the hinge and detach the **palm rest portion** and LCD cover.

- M2.5×6S Tapping screw ×2

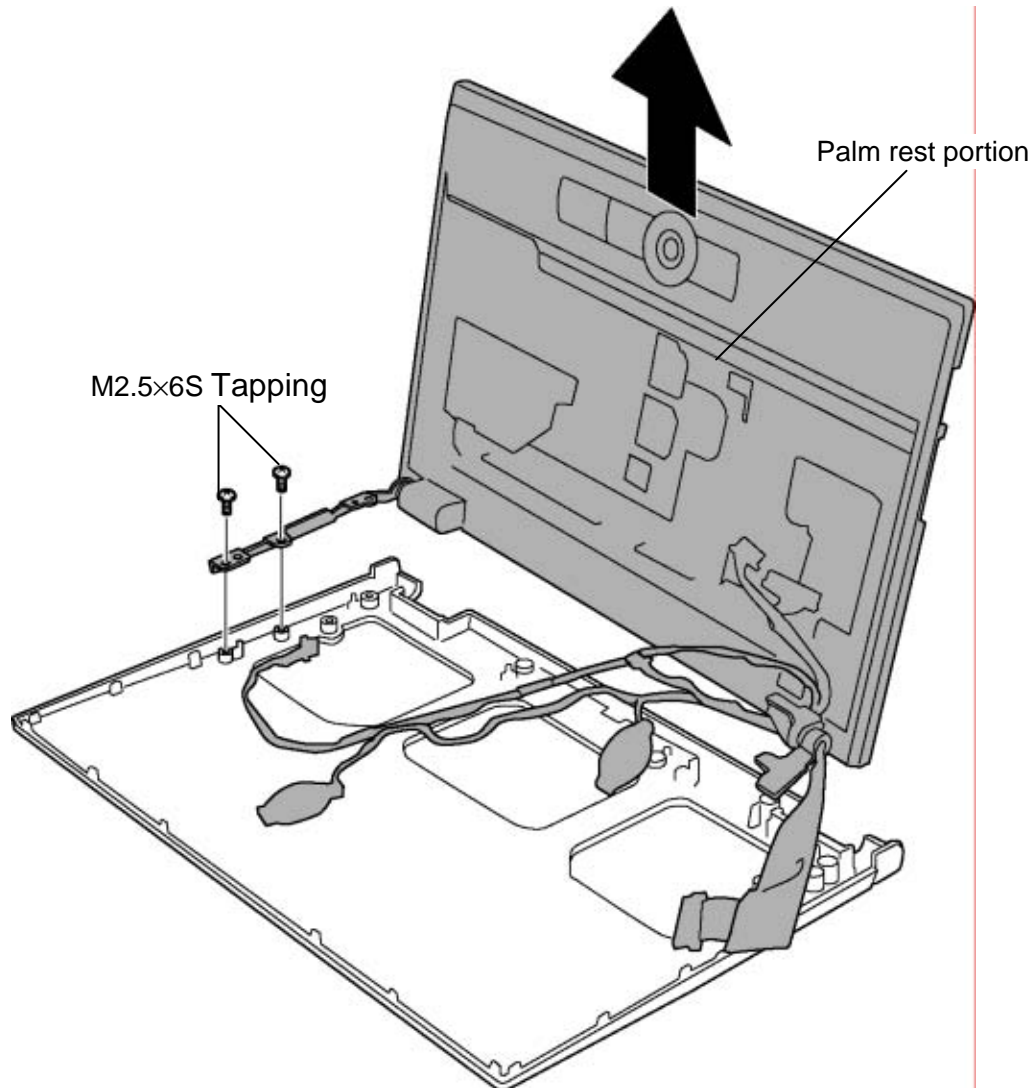


Figure 4-32 Removing the palm rest portion

7. Remove the following **screw** and **HNS duct** from the slot.
  - M2×4S S-FLAT HEAD screw ×1
8. Take the **harness assembly** out from the HNS duct.

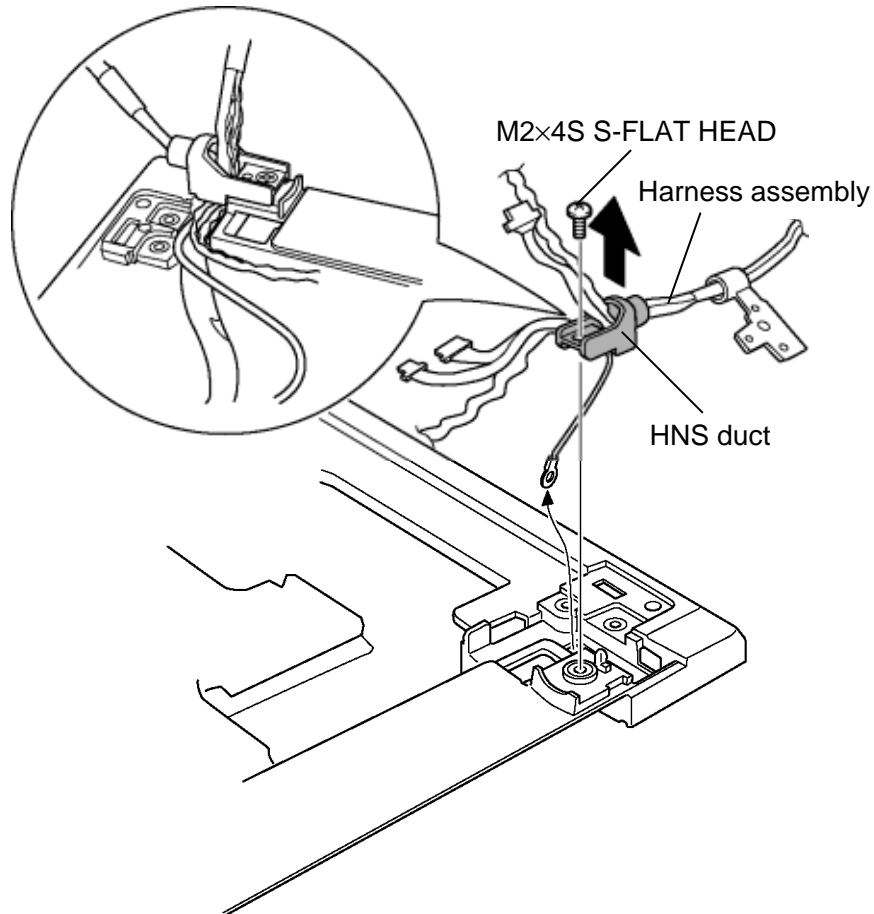


Figure 4-33 Removing the HNS duct

9. Separate the **speaker** and the **speaker holder**.

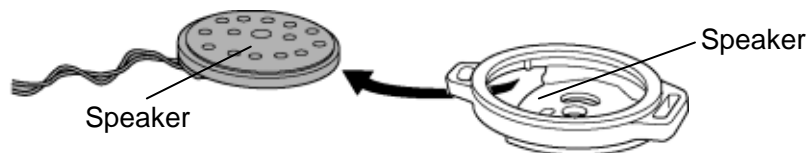


Figure 4-34 Separating the speaker and speaker holder

10. Remove the following **screws** and **hinge**.

- M2.5×5B FLAT HEAD screw ×2

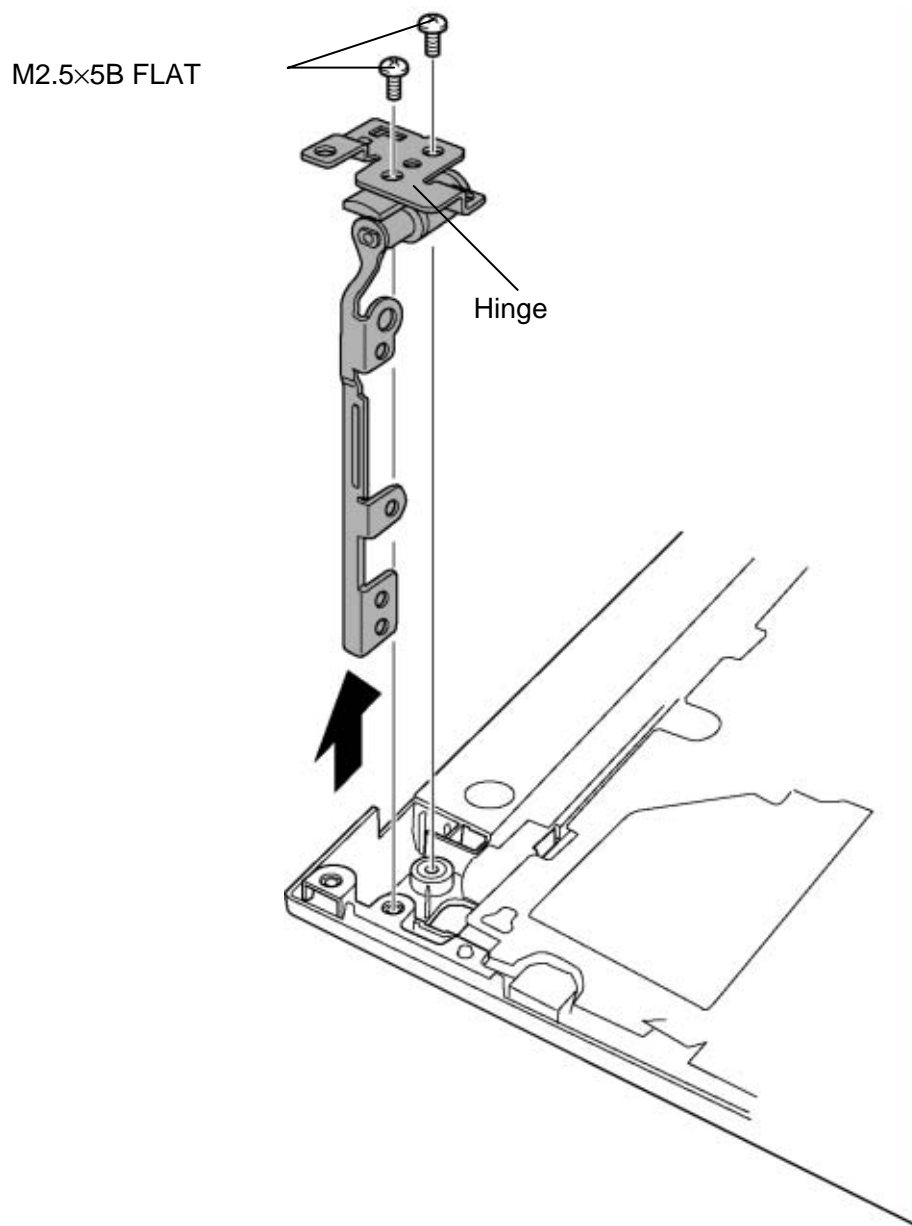


Figure 4-35 Removing the hinge

## Installing the Harness assembly/Hinge

To install the harness assembly/hinge, follow the steps below and refer to Figure 4-30 to 4-35.

1. Install the **hinge** to the palm rest portion and secure it with following **screws**.
  - M2.5×5B FLAT HEAD screw ×2
2. Install the **speaker** to the **speaker holder**.
3. Install the **harness assembly** to the HNS duct.
4. Install the **HNS duct** to the slot and secure it with following **screw**.
  - M2×4S S-FLAT HEAD screw ×1
5. Install the **palm rest portion** to LCD cover and secure it with following **screws**.
  - M2.5×6S Tapping screw ×2
6. Install the **earth cable** (drain line) in place and secure it with the following **screw**.
  - M2×3S S-FLAT HEAD screw ×1

**NOTE:** When installing, the crimped part of the earth cable (drain line) must make outside.

7. Stick the **wireless LAN antenna** and **Bluetooth antenna** in place on the LCD cover.
8. Place the **cables** in place on the LCD cover and stick the three **acetate tapes**.
9. Install the **speaker** (with rubber holder) to the slot.
10. Install the **LCD harness holder A** (plastic) and secure it with the following **screw**.
  - M2.5×6S Tapping screw ×1
11. Install the **LCD harness holder B** and secure it with the following **screw**.
  - M2.5×6S Tapping screw ×1

**CAUTION:** When installing the LCD harness holder, be careful not to pinch the LCD harness.

## 4.20 libretto DVD Dock

### 4.20.1 Dock cover

#### Removing the Dock cover

To remove the dock cover, follow the steps below and refer to Figure 4-36 to 4-38.

1. Remove the following **screws, levers** and **stands** on both sides from the dock cover.

- M2×6B BIND screw ×2

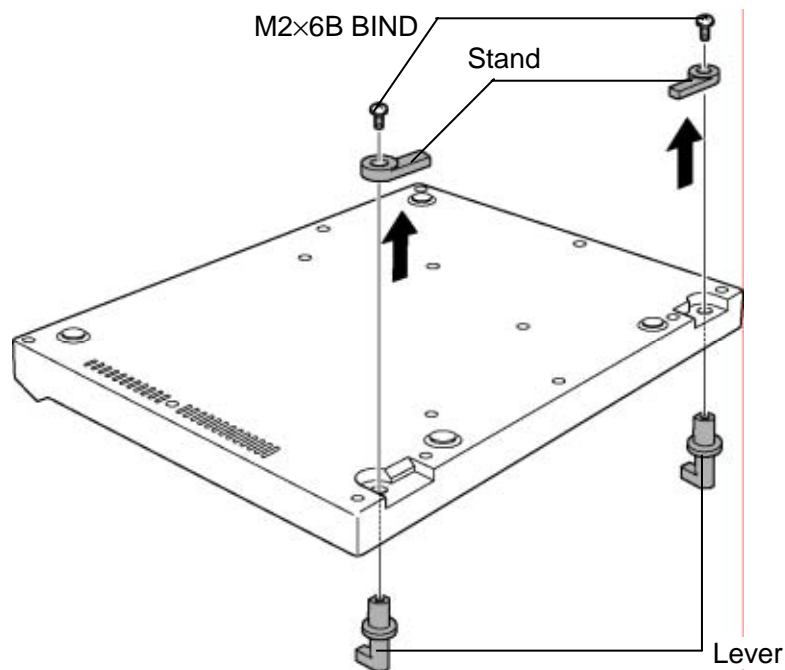


Figure 4-36 Removing the lever and stand

## 2. Remove the following screws.

- M2×6B BIND screw ×13 (“6” in the figure below)
- M2×4B BIND screw ×1 (“4” in the figure below)

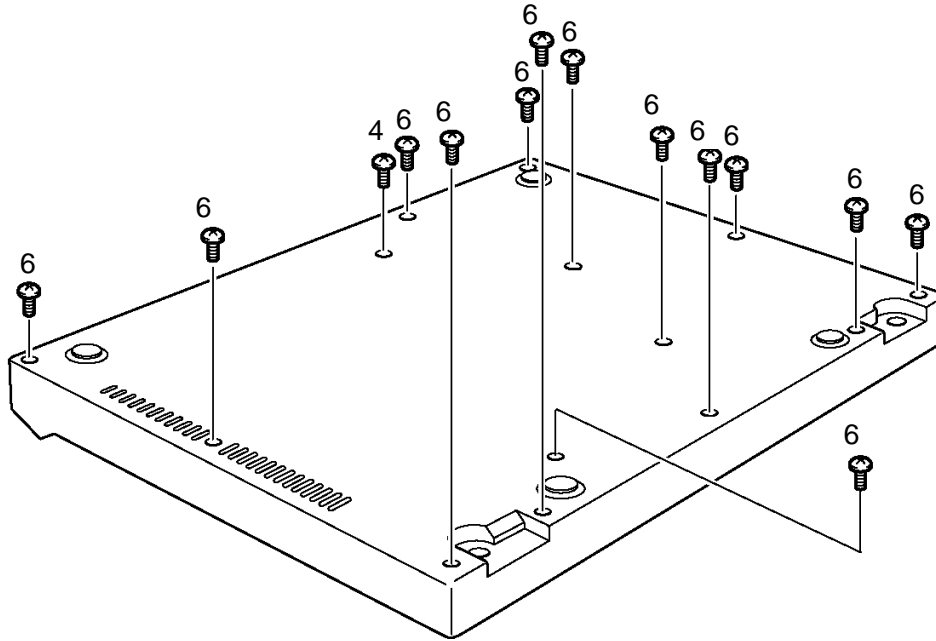


Figure 4-37 Removing the dock cover (1)

3. Turn over the libretto DVD dock and remove the **dock cover**.

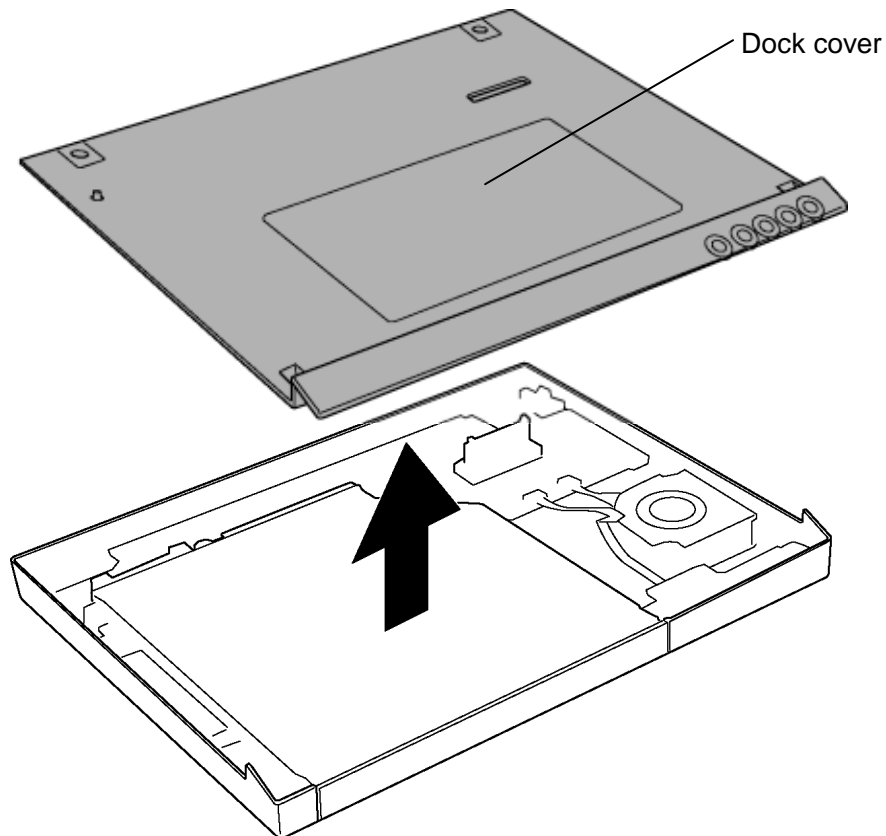


Figure 4-38 Removing the dock cover (2)

### Installing the Dock cover

To install the dock cover, follow the steps below and refer to Figure 4-36 to 4-38.

1. Set the **dock cover** in place to the dock base and turn it face down.
2. Secure the dock cover with the following **screws**.
  - M2×6B BIND screw ×13 (“6” in the figure 4-37)
  - M2×4B BIND screw ×1 (“4” in the figure 4-37)
3. Install the **levers** and **stands** on both sides to the dock cover and secure them with the following **screws**.
  - M2×6B BIND screw ×2

## 4.20.2 Optical drive

### Removing the Optical drive

To remove the optical drive, follow the steps below and refer to Figure 4-39 and 4-40.

1. Remove the following **screw** fixing the optical drive.
  - M2×4B BIND screw ×1
2. Remove the **optical drive** from the slot of the dock base (connector **CN1810** on the DD board).

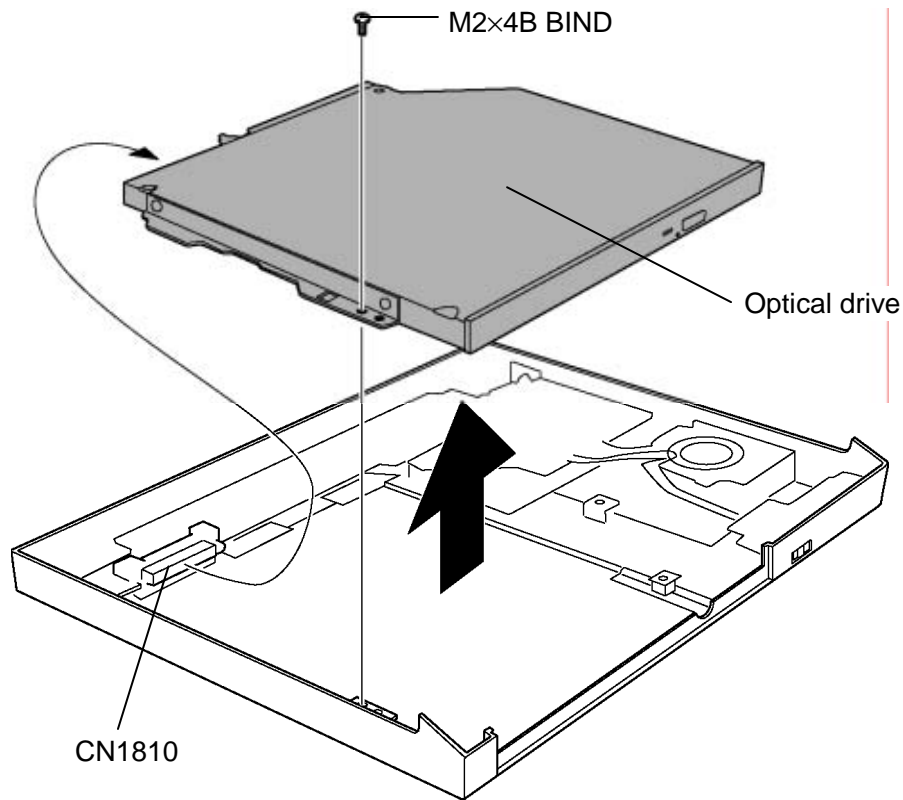


Figure 4-39 Removing the optical drive

3. Remove the following **screws** and **rear bracket** from the optical drive.
  - M2×3S S-FLAT HEAD screw ×2
4. Remove the following **screws** and **side bracket A** from the optical drive.
  - M2×2.7 UNIQUE screw ×2
5. Remove the following **screws** and **side bracket B** from the optical drive.
  - M2×3S BIND screw ×2

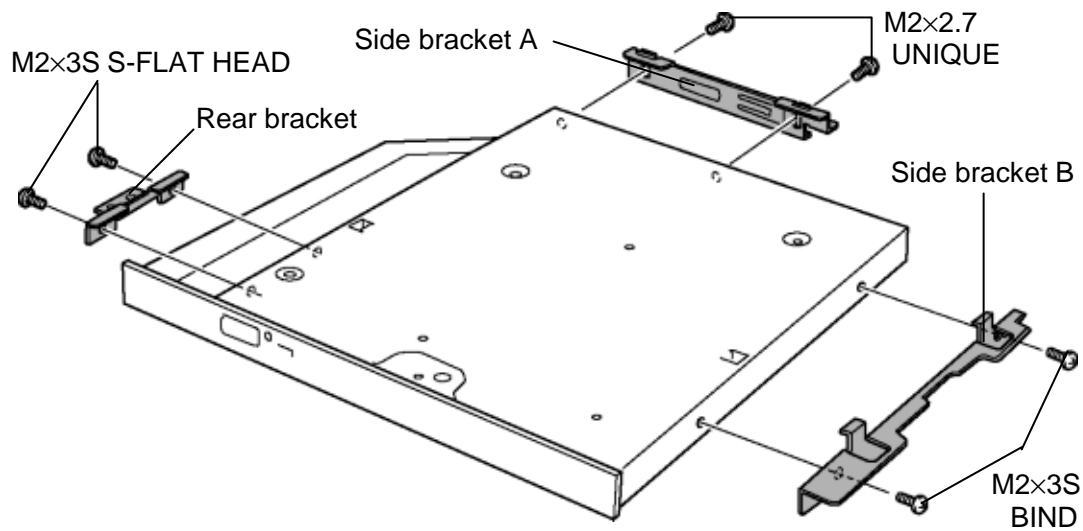


Figure 4-40 Removing the brackets

## Installing the Optical drive

To install the optical drive, follow the steps below and refer to Figure 4-39 and 4-40.

1. Install the **side bracket B** to the optical drive and secure it with the following **screws**.
  - M2×3S      BIND screw      ×2
2. Install the **side bracket A** to the optical drive and secure it with the following **screws**.
  - M2×2.7      UNIQUE screw      ×2
3. Install the **rear bracket** to the optical drive and secure it with the following **screws**.
  - M2×3S      S-FLAT HEAD screw      ×2
4. Install the **optical drive** to the slot of the dock base and connect it to the connector **CN1810** on the DD board.

**CAUTION:** *Insert carefully the optical drive to the slot. Be careful of the direction of the drive.*

5. Secure the optical drive with the following **screw**.
  - M2×4B      BIND screw      ×1

### 4.20.3 Fan

#### Removing the Fan

To remove the fan, follow the steps below and refer to Figure 4-41.

1. Remove the following **screws** and disconnect the **fan cable** from the connector **CN8270** on the DM board.
  - M2×4B BIND screw ×2
2. Remove the **fan** from the slot.

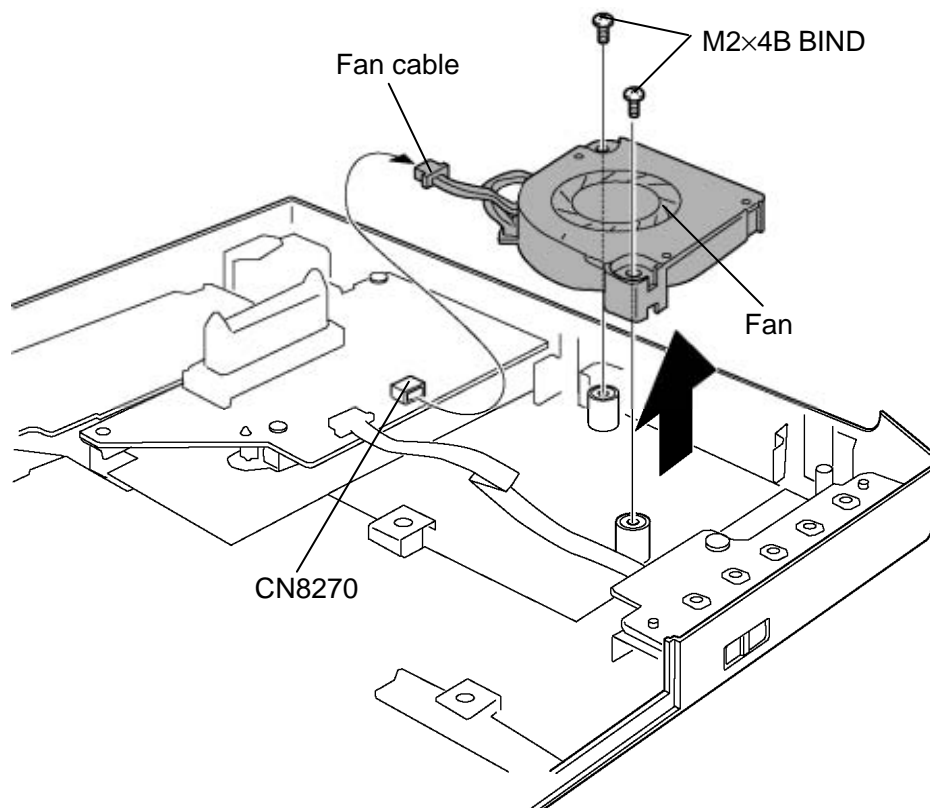


Figure 4-41 Removing the fan

#### Installing the Fan

To install the fan, follow the steps below and refer to Figure 4-41.

1. Install the **fan** to the slot and secure it with the following **screws**.
  - M2×4B BIND screw ×2
2. Connect the **fan cable** to the connector **CN8270** on the DM board.

#### 4.20.4 DS board

##### Removing the DS board

To remove the DS board, follow the steps below and refer to Figure 4-42.

1. Disconnect the **DS cable** from the connector **CN9850** on the DM board.
2. Remove the following **screw** and **DS board** from the dock base.
  - M2×4B BIND screw ×1
3. Disconnect the **DS cable** from the connector **CN9860** on the DS board (back).

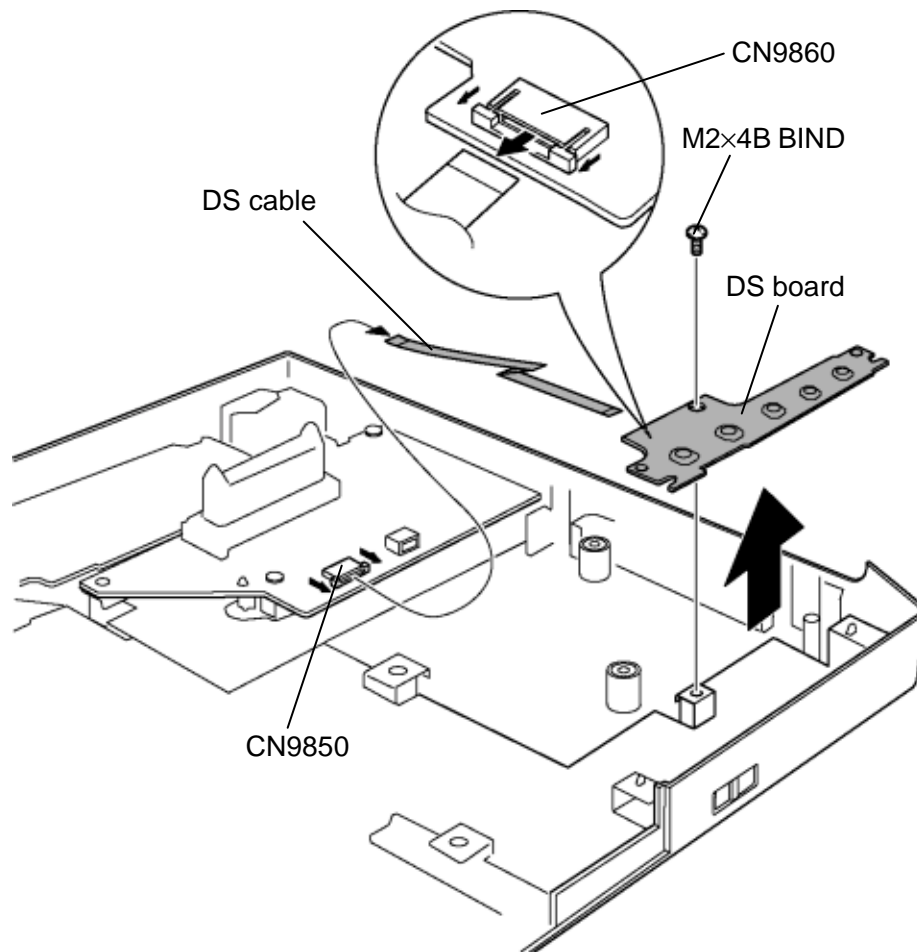


Figure 4-42 Removing the DS board

### Installing the DS board

To install the DS board, follow the steps below and refer to Figure 4-42.

1. Connect the **DS cable** to the connector **CN9860** on the DS board (back).
2. Install the **DS board** to the slot and secure it with the following **screw**.
  - M2×4B BIND screw ×1
3. Connect the **DS cable** to the connector **CN9850** on the DM board.

### 4.20.5 DM board

#### Removing the DM board

To remove the DM board, follow the steps below and refer to Figure 4-43.

1. Disconnect the **Dock cable** from the connector **CN9800** on the DM board.
2. Remove the following **screws** and **DM board** from the dock base.
  - M2×4B BIND screw ×2

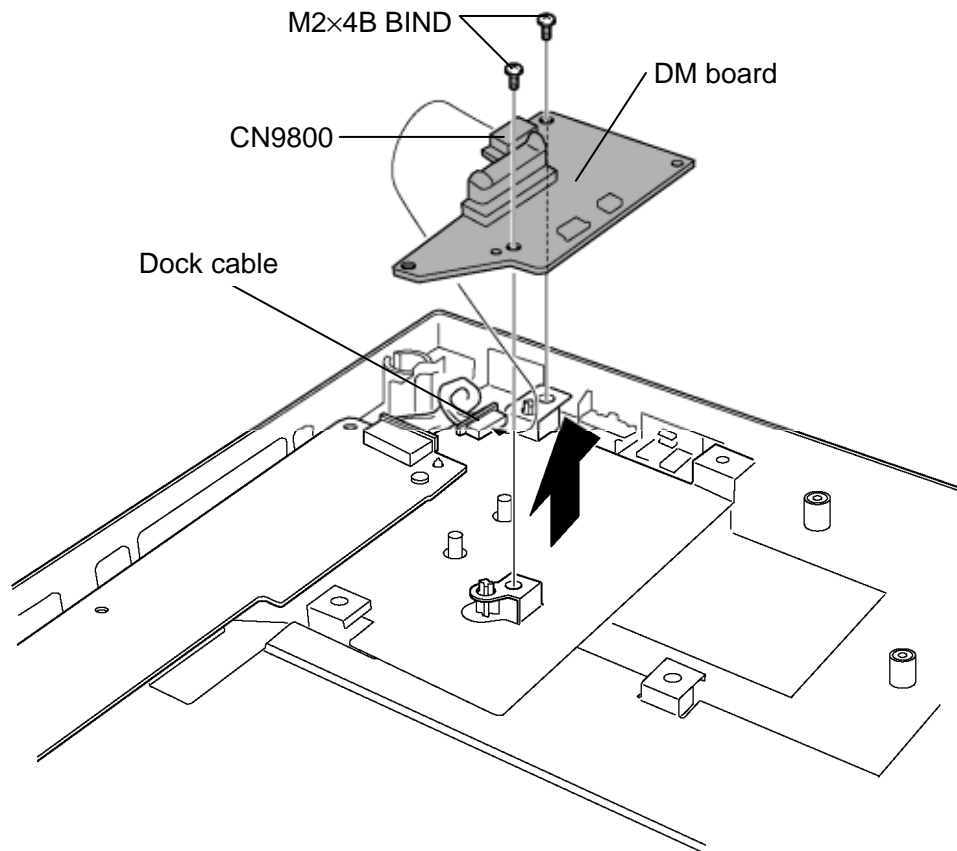


Figure 4-43 Removing the DM board

#### Installing the DM board

To install the DM board, follow the steps below and refer to Figure 4-43.

1. Install the **DM board** to the slot and secure it with the following **screws**.
  - M2×4B BIND screw ×2
2. Connect the **Dock cable** to the connector **CN9800** on the DM board.

### 4.20.6 DD board

#### Removing the DD board

To remove the DD board, follow the steps below and refer to Figure 4-44.

1. Disconnect the **Dock cable** from the connector **CN9810** on the DD board.
2. Remove the following **screws** and **DD board** from the dock base.

- M2×4B BIND screw ×2

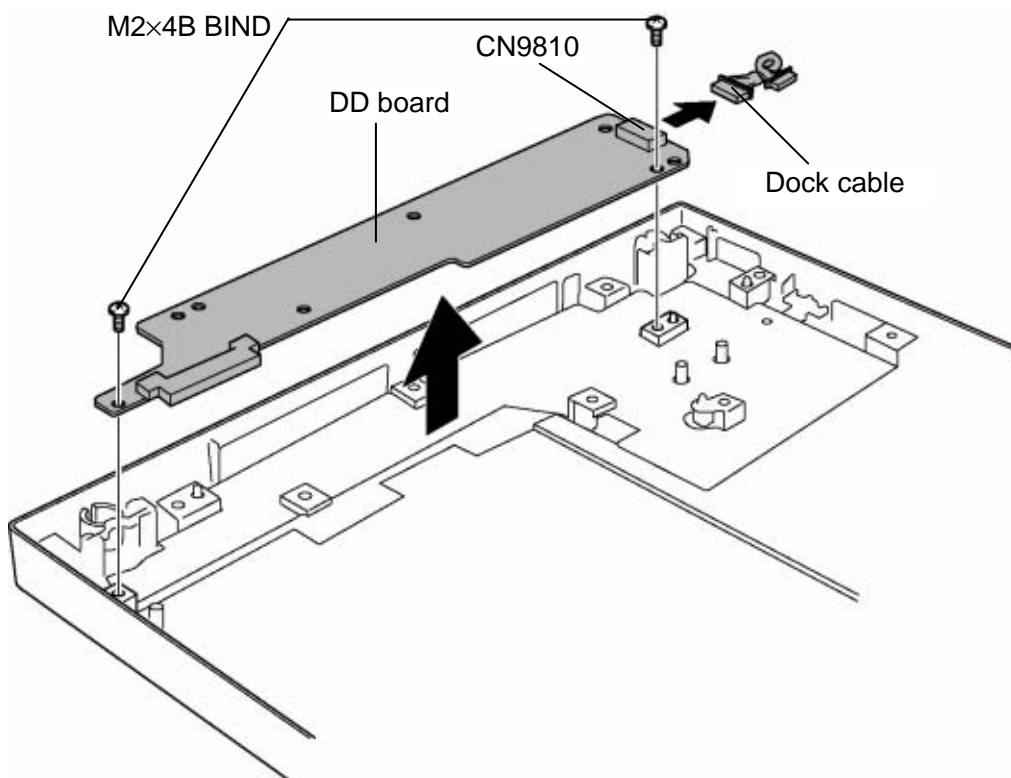


Figure 4-44 Removing the DD board

#### Installing the DD board

To install the DD board, follow the steps below and refer to Figure 4-44.

1. Connect the **Dock cable** to the connector **CN9810** on the DD board.
2. Install the **DD board** to the slot and secure it with the following **screws**.

- M2×4B BIND screw ×2

## 4.20.7 Cover parts

### Removing the Cover parts

To remove the cover parts, follow the steps below and refer to Figure 4-45.

1. Remove the following **screw** and **cover parts A** from the dock base.
  - M2×4B BIND screw ×1
2. Remove the following **screw** and **cover parts B** from the dock base.
  - M2×4B BIND screw ×1
3. Remove the following **screw** and **cover parts C** from the dock base.
  - M2×4B BIND screw ×1
4. Remove the following **screws** and **cover parts D** from the dock base.
  - M2×4S Tapping screw ×2
  - M2×3S S-FLAT screw ×1

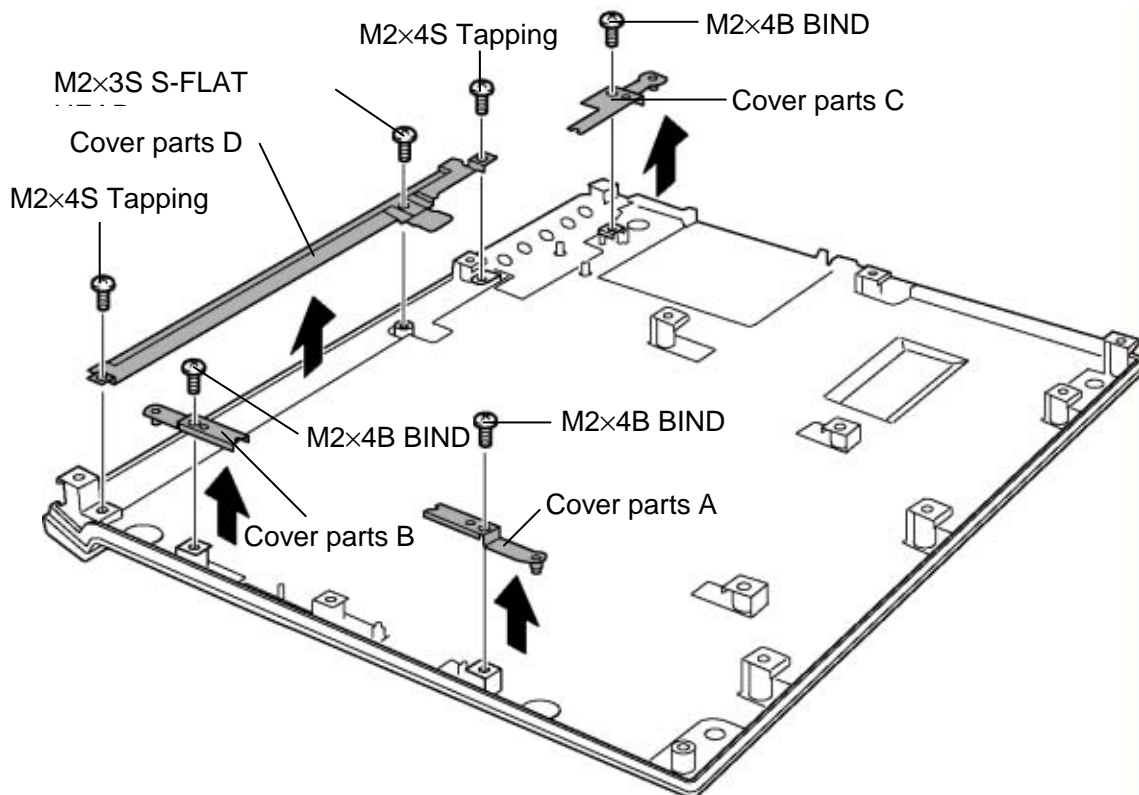


Figure 4-45 Removing the cover parts

## Installing the Cover parts

To install the cover parts, follow the steps below and refer to Figure 4-45.

1. Install the **cover parts D** and secure it with the following **screws**.
  - M2×4S Tapping screw ×2
  - M2×3S S-FLAT HEAD screw ×1
2. Install the **cover parts C** and secure it with the following **screw**.
  - M2×4B BIND screw ×1
3. Install the **cover parts B** and secure it with the following **screw**.
  - M2×4B BIND screw ×1
4. Install the **cover parts A** and secure it with the following **screw**.
  - M2×4B BIND screw ×1