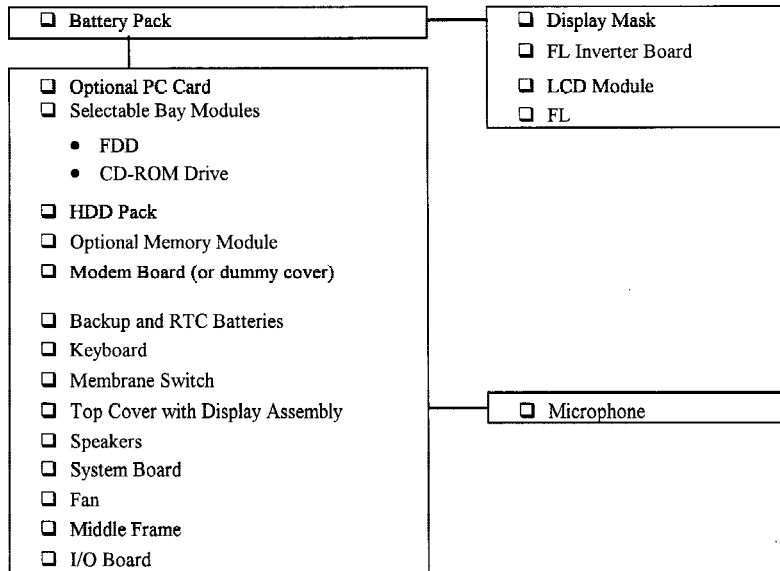


## Tecra 780CDM / 780DVD Disassembly Overview

The information offered in this section is an overview of the Maintenance Manual, Chapter 4, Replacement Procedures. If you have any questions or concerns regarding the proper procedure please refer to the Maintenance Manual through the Toshiba Service and Support Website *before* you proceed.



This section explains how to remove Field Replaceable Units (FRUs). It may not be necessary to remove all the FRUs in order to replace one.

The chart is a guide to which FRUs need to be removed in order to remove others. The section numbers on the chart refer to the sections in the Maintenance Manual, Chapter 4.

Always start by removing the battery pack, next, optional items such as the optional PC card and optional memory module, then follow the line on the chart to determine which FRU you must remove next in order to repair the one you think is causing the computer to operate improperly.

To remove the battery pack, follow the steps below.

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

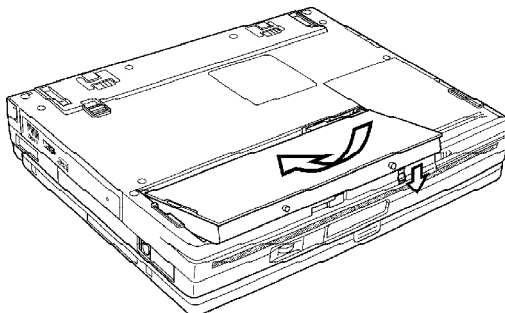
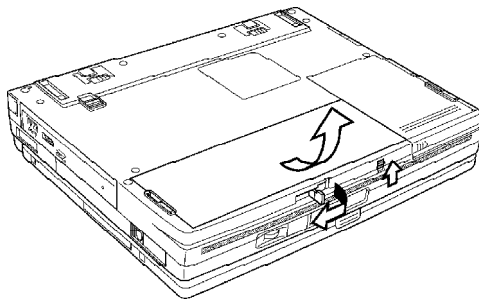
1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Turn the computer upside down with the front facing you and push the battery lock up to unlock it. A red dot shows when the lock is in the unlock position.
3. Pull out the battery release lever and slide it to the left to pop the battery up slightly.
4. Grasp the battery pack and lift it out.

To install the battery pack, follow the steps below.

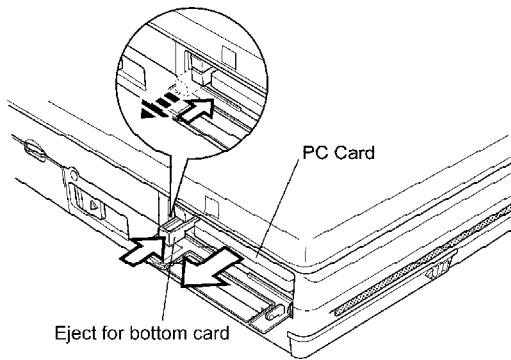
**WARNING:** The battery pack is a lithium ion battery which can explode if not replaced, used, handled or disposed of properly. Dispose of the battery as required by local ordinances or regulations. Use only batteries recommended by Toshiba as replacements.

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

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Make sure the battery release lever is pulled out then carefully insert the new or recharged battery pack.
3. Place your fingers just above two pins on the battery pack that fit into the locking mechanisms in the battery socket. Push the battery pack down carefully until it locks into place.
4. Push the battery lock down to secure it. The red dot will be covered.

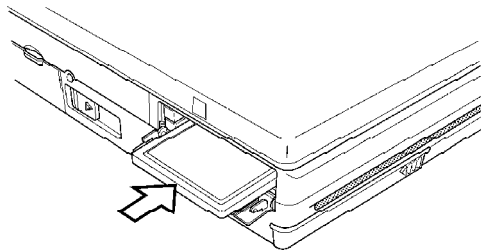


## Tecra 780CDM / 780DVD Disassembly Overview, (cont.)



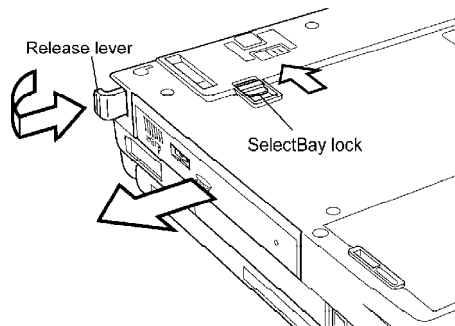
To remove the optional PC card, make sure the computer is in boot mode, then follow the steps below.

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack.
3. Open or remove the PC card slot cover.
4. Press in slightly on the eject button for the upper and/or lower card and the button will pop out fully.
5. Now, press the button firmly to pop the PC card out partially.
6. Grasp the PC card and remove it.
7. Close or replace the PC card slot cover.



To install the PC card, follow the steps below.

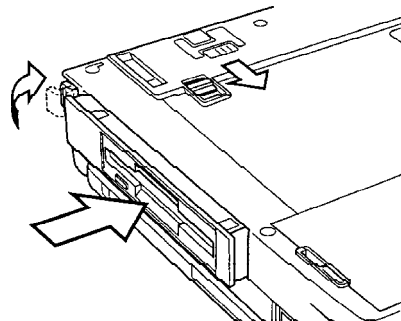
1. Open or remove the PC card slot cover.
2. Insert the PC card and press gently to ensure a firm connection.
3. Close the slot cover or replace the cover with an appropriate one.
4. Install the battery pack.



To remove the SelectBay module, follow the steps below.

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack.
3. Turn the computer upside down and slide the **SelectBay lock** to the unlock position, shown by a red box.
4. Pull out the **release lever**.
5. Push the release lever in firmly to pop the SelectBay module partially out of the bay.
6. Grasp the module and pull it out.

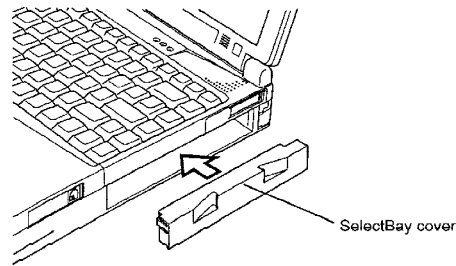
**CAUTION:** The SelectBay modules can become hot with use. Be careful when removing the module.



Install the SelectBay modules as described below.

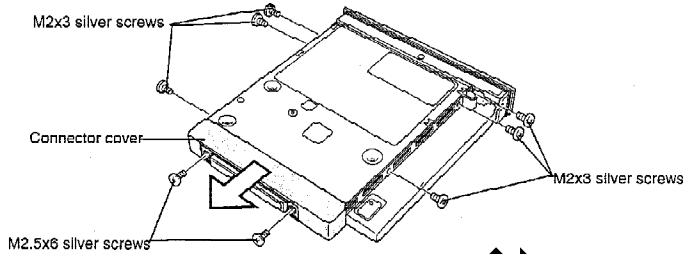
1. Insert the module in the computer and press until it locks into place.
2. Fold the release lever into the closed position.
3. Slide the SelectBay lock to the locked position. The red box should not be visible.
4. Install the battery pack.

## Tecra 780CDM / 780DVD Disassembly Overview, (cont.)



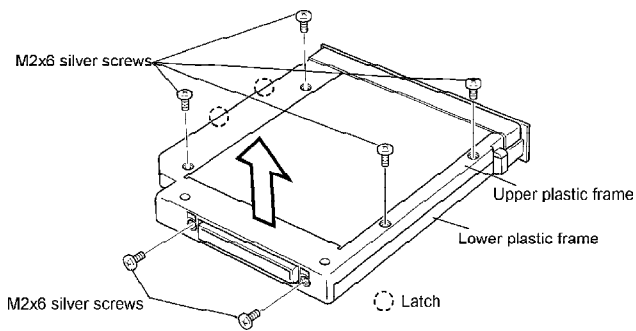
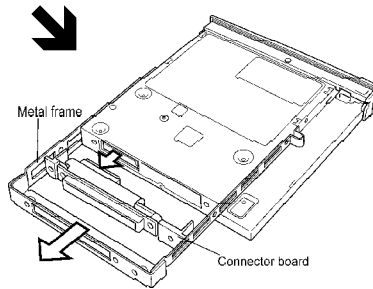
You can use the SelectBay cover when you do not need to use a SelectBay module.

1. To install the cover, first remove the SelectBay module then hold the cover by the two finger grips and push it into place until you hear the latches click.
2. To remove the cover, grasp the two finger grips and pull the cover out.



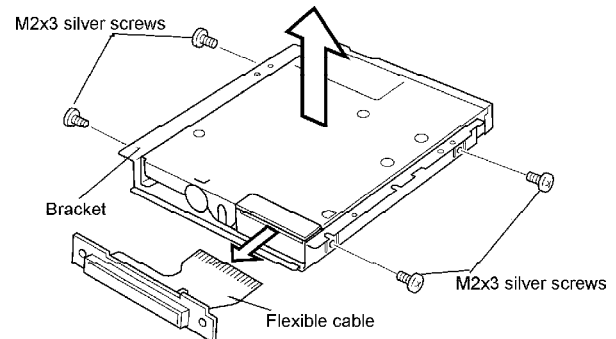
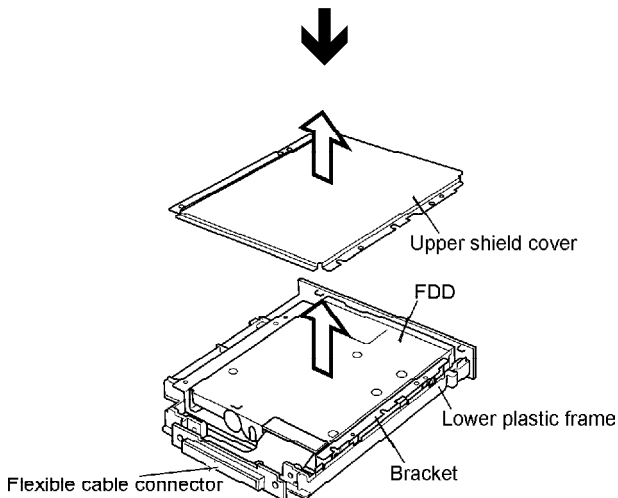
To disassemble the DVD-ROM drive, follow the steps below.

1. Remove **six M2x3 silver screws** and **two M2.5x6 silver screws** securing the frame to the DVD-ROM drive.
2. Remove the **connector cover**.
3. Remove the **metal frame, connector board**, and disconnect the flexible cable.

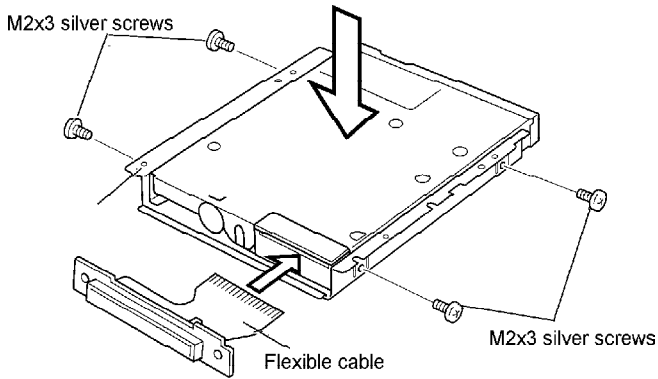


To disassemble the FDD, follow the steps below.

1. Remove **six M2x6 silver screws**.
2. Turn the FDD over and release two latches securing the **upper plastic frame** and **lower plastic frame**. Turn it back over and lift off the cover.
3. Lift off the **upper shield cover**, unseat the **flexible cable connector** from the **lower plastic frame**, then lift out the FDD.
4. Pull the **flexible cable** out of the **FDD connector**.
5. Remove **four M2x3 silver screws** and remove the **FDD** from the **bracket**.

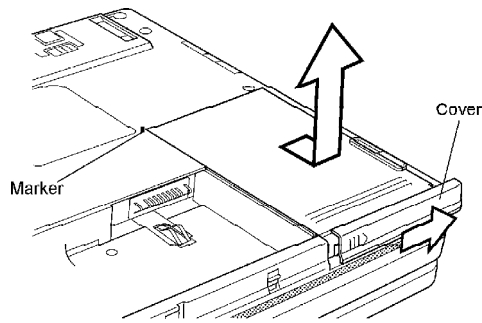


**Tecra 780CDM / 780DVD Disassembly Overview, (cont.)**



To assemble the FDD, follow the steps below.

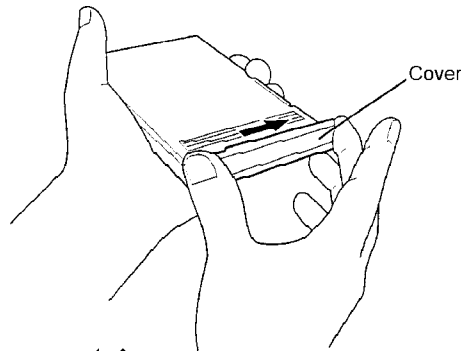
1. Seat the **FDD** in the **bracket** and secure the bracket with **four M2x3 silver screws**. Tighten screws to a torque of less than 2.2 kgfcm.
2. Insert the **flexible cable** into the **connector**. Press gently to assure a firm connection.
3. Seat the **FDD** in the **lower plastic frame** and set the **upper shield cover** in place.
4. Seat the **flexible cable connector** into the lower plastic frame.
5. Set the **upper plastic frame** in place, snap the two latches closed and secure **six M2x6 silver screws**.



**CAUTION:** Be very careful not to press on the top or bottom of the HDD. Pressure can destroy data or damage the drive.

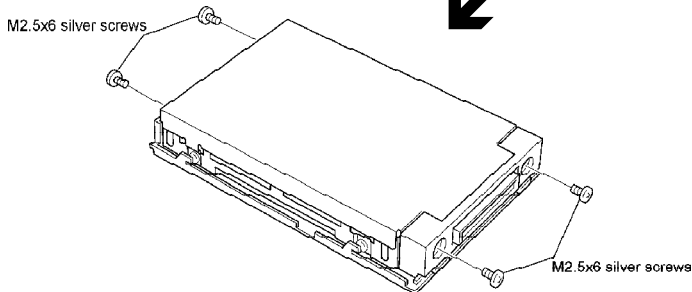
To remove the HDD pack, follow the steps below.

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack.
3. Turn the computer upside down.
4. Slide the **HDD cover** to the right and push the **HDD pack** forward until the back edge is aligned with a marker next to the HDD slot.
5. Lift up on the cover to remove the HDD pack.



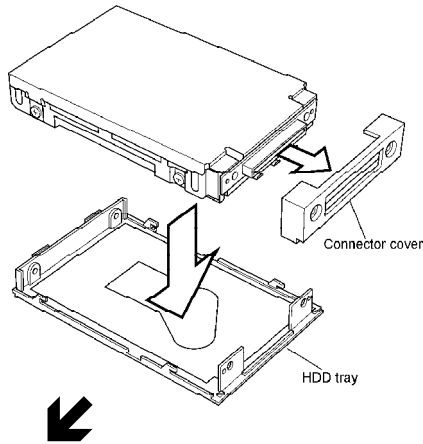
To disassemble the HDD Pack, follow the steps below.

1. Slide the **cover** firmly in the direction of the arrow and remove it.
2. Remove the **HDD tray** and **connector cover**.



Images / text continued on the next page

Tecra 780CDM / 780DVD Disassembly Overview, (cont.)

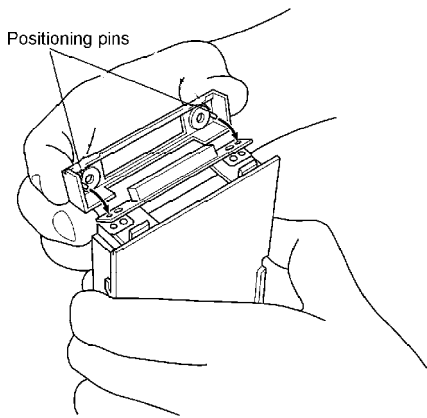
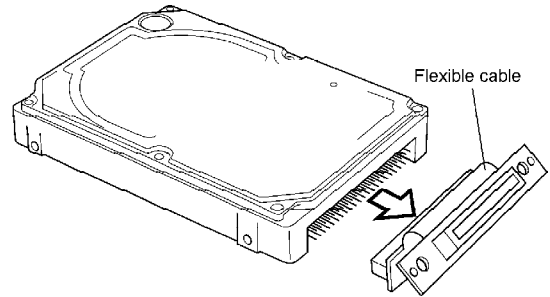
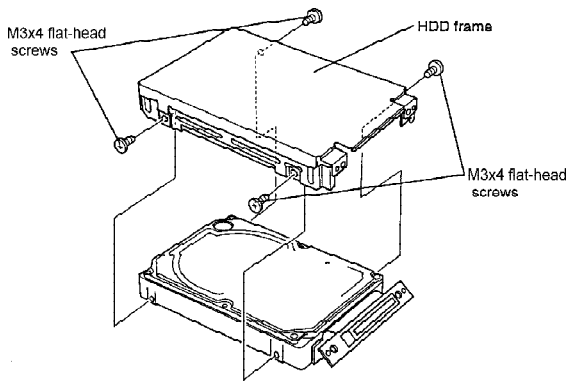


Disassembling the HDD Pack, continued.

3. Remove **four M2.5x6 silver screws** from HDD pack.
4. Remove **four M3x4 flat-head screws** and the **HDD frame**.
5. Remove the **flexible cable**.

**CAUTION:** Do not try to disconnect by pulling on the flexible cable.

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

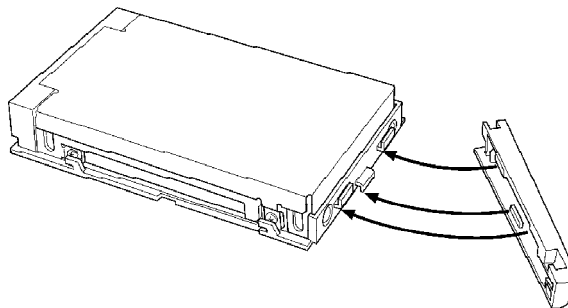


To assemble the HDD pack, follow the steps below.

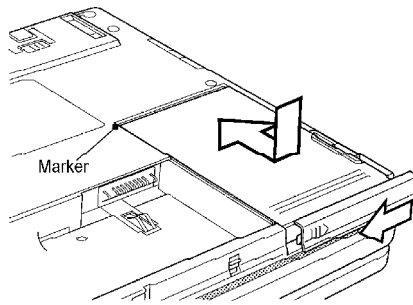
1. Connect the **flexible cable** connector to the HDD.
2. Seat the **HDD frame** on the HDD and secure it with **four M3x4 flat-head screws**.
3. Seat the connector cover on the flexible cable connector. Be sure to match the **positioning pins** to the holes on the flexible cable and metal cover.

**CAUTION:** Do not hold the HDD by its flat surfaces. It may damage the HDD.

4. Secure **four M2.5x6 silver screws**.
5. Seat the cover onto the HDD.



## Tecra 780CDM / 780DVD Disassembly Overview, (cont.)

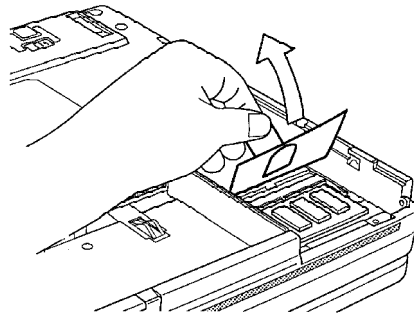


To install the HDD pack, follow the steps below.

1. Align the **HDD pack** with the marker on the computer and seat the HDD so that tabs on the HDD fit into notches on the computer.
2. Make sure the cover is pushed fully to the right and push the HDD back to ensure a firm connection.
3. Slide the cover to the left to lock the HDD into the slot.
4. Install the battery pack.

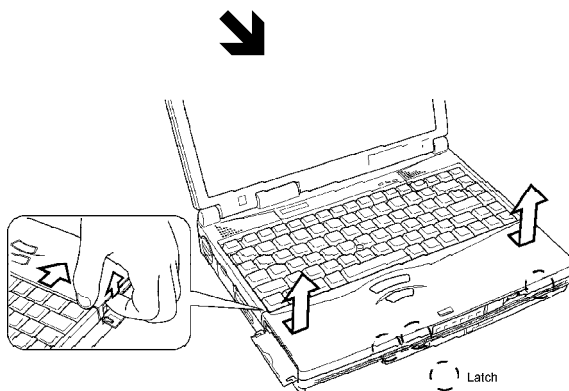
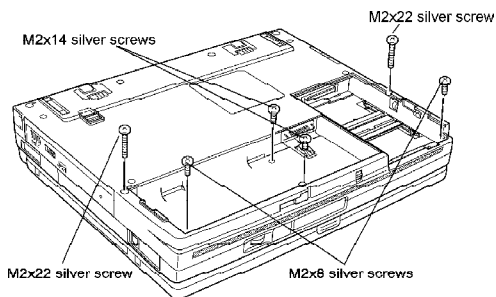
To remove the memory module(s), make sure the computer is in boot mode and follow the steps below.

**CAUTION:** Do not try to remove a memory module(s) with the computer turned on. You can damage the computer and the memory module(s).



1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack and HDD pack.
3. Lift up the mylar cover.
4. Use a slender object (plastic card) to press the latches on either side of the memory module(s) to the outside and the memory module will pop up.
5. Grasp the memory module(s) by the sides and pull it out.

**CAUTION:** Do not touch the connectors on the memory module(s) or on the computer. Debris on the connectors may cause memory access problems.

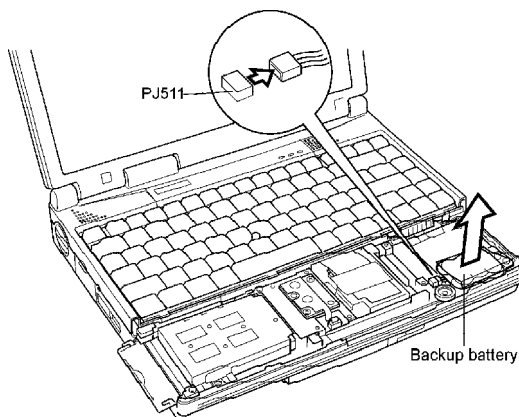
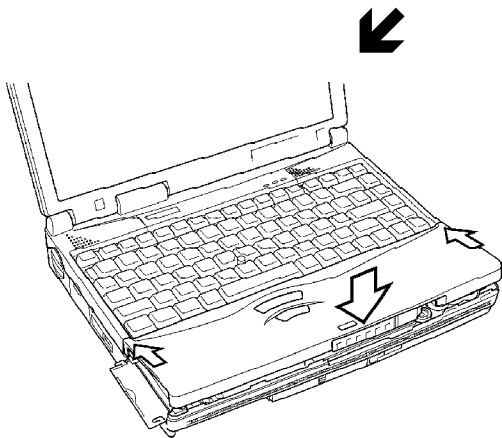
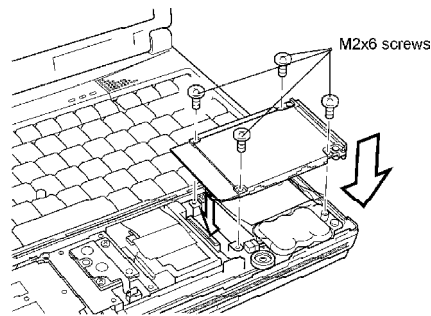
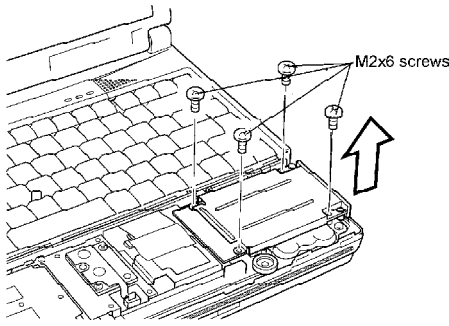


The modem board is located under the palmrest. To open the palmrest, follow the steps below.

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack, optional PC card, and HDD pack.
3. With the computer still upside down, remove **two M2x8 silver screws, two M2x22 silver screws and two M2x14 silver screws**.
4. Turn the computer right side up and open the display panel and PC card cover.
5. Grasp the sides of the palmrest and pull it forward until tabs on either side clear the holes on the top cover. Three latches are located under the palmrest as shown below.
6. Carefully lift the palmrest.

Images / text continued on the next page

## Tecra 780CDM / 780DVD Disassembly Overview, (cont.)



Opening the palmrest, continued.

7. Remove **four M2x6 screws** securing the modem board (or the dummy cover) and lift it out.

To install a modem board, follow the steps below.

1. Connect the modem board to the corresponding connector in the computer.

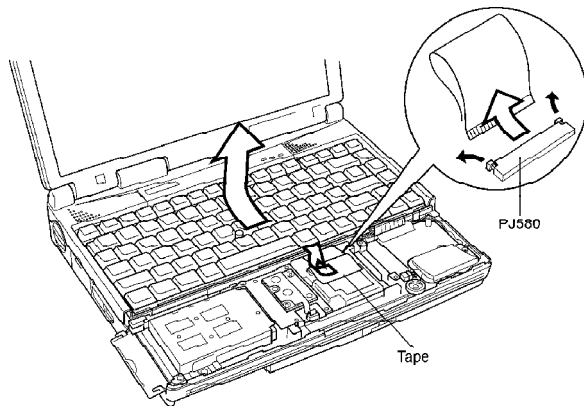
**NOTE:** Be sure a plastic insulator tab lies on top of the green backup battery, when you seat the modem board.

2. Make sure holes in the modem casing are aligned with screw holes on the computer, then secure the modem board module with **four M2x6 screws**.
3. Lay the palmrest in place and press down to seat it firmly.
4. Close the PC card slot cover and display panel.
5. Turn the computer upside down.
6. Secure two M2x22 silver screws, two M2x8 silver screws, and two M2x14 silver screws to the bottom of the computer.
7. Install the HDD pack, optional PC card, and battery pack.

To remove the backup and RTC batteries, follow the steps below.

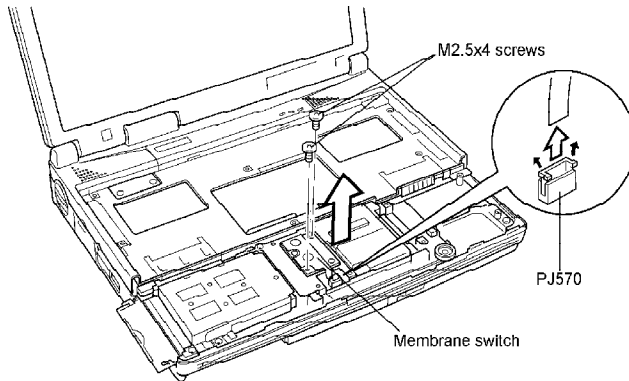
1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack, optional PC card, HDD pack, optional memory module and modem board.
3. Lift the backup battery mylar cover.
4. Disconnect the backup battery cable from **PJ511** on the system board, unthread the cables and lift out the **backup battery**.
5. Disconnect the RTC battery from PJ510 on the system board, unthread the cables and lift it out.

## Tecra 780CDM / 780DVD Disassembly Overview, (cont.)



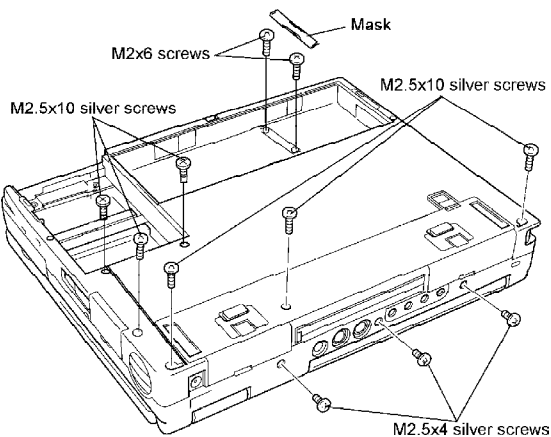
To remove the keyboard, follow the steps below.

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack, optional PC card, HDD pack, optional memory module, modem board and backup and RTC batteries.
3. Peel off the tape placed on the folded end of the keyboard flexible cable.
4. Disconnect the **flexible cable** from **PJ580** on the system board.
5. Lift up the front edge of the **keyboard** and lift out the keyboard.



To remove the membrane switch, follow the steps below.

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack, optional PC card, HDD pack, optional memory module, modem board, backup and RTC batteries, and keyboard.
3. Disconnect the **membrane switch cable** from **PJ570** on the system board.
4. Remove **two M2.5x4 screws** securing the membrane switch unit and lift out the unit.



To remove the top cover with display assembly, follow the steps below.

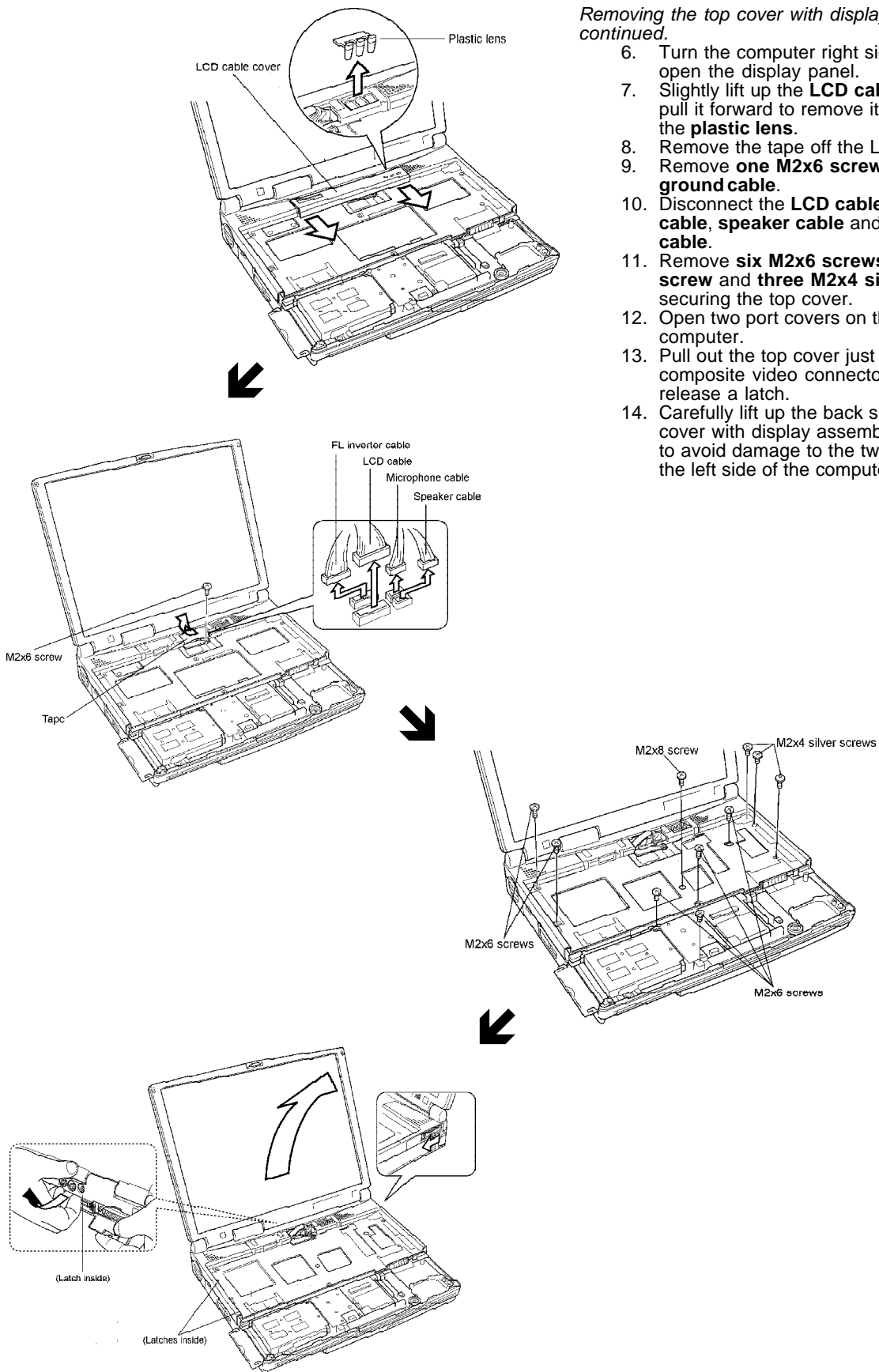
1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack, optional PC card, HDD pack, optional memory module, modem board, backup and RTC batteries, keyboard and membrane switch.
3. Remove **six M2.5x10 silver screws** from the bottom of the computer.
4. Remove the **mask** and **two M2x6 screws** from the position under the battery pack.
5. Remove **three M2.5x4 silver screws** from the back of the computer.



Images continued on the next page



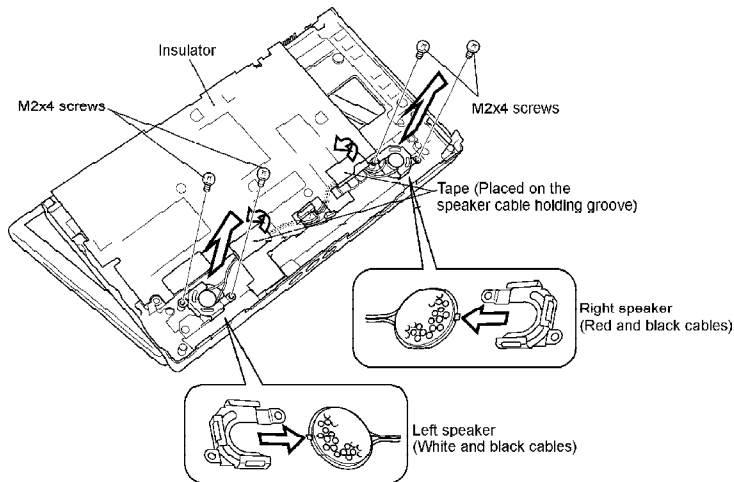
## Tecra 780CDM / 780DVD Disassembly Overview, (cont.)



*Removing the top cover with display assembly, continued.*

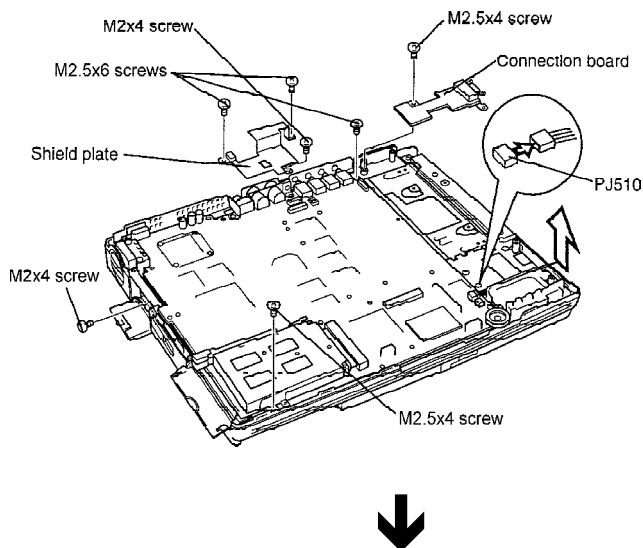
6. Turn the computer right side up and open the display panel.
7. Slightly lift up the **LCD cable cover** and pull it forward to remove it, then remove the **plastic lens**.
8. Remove the tape off the LCD cables.
9. Remove **one M2x6 screw** securing the **ground cable**.
10. Disconnect the **LCD cable, FL inverter cable, speaker cable and microphone cable**.
11. Remove **six M2x6 screws, one M2x8 screw and three M2x4 silver screws** securing the top cover.
12. Open two port covers on the back of the computer.
13. Pull out the top cover just below the composite video connector (yellow) to release a latch.
14. Carefully lift up the back side of the top cover with display assembly. Lift slowly to avoid damage to the two latches on the left side of the computer.

## Tecra 780CDM / 780DVD Disassembly Overview, (cont.)



To remove the speakers, follow the steps below.

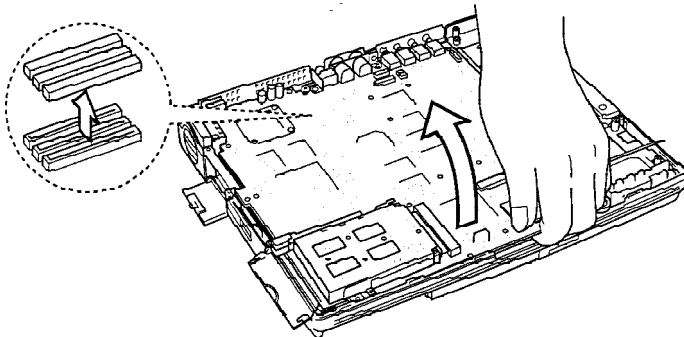
1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack, optional PC card, HDD pack, optional memory module, modem board, backup and RTC batteries, keyboard, membrane switch and top cover with display assembly.
3. Lay the display down. Partially lift the **insulator** covering the **speaker cables**.
4. Remove **four M2x4 screws** securing the **speaker holders**.
5. Observe how the cables are threaded, then lift out the speakers, cables and holders.
6. Pull the speakers out of the holders.



To remove the system board, follow the steps below.

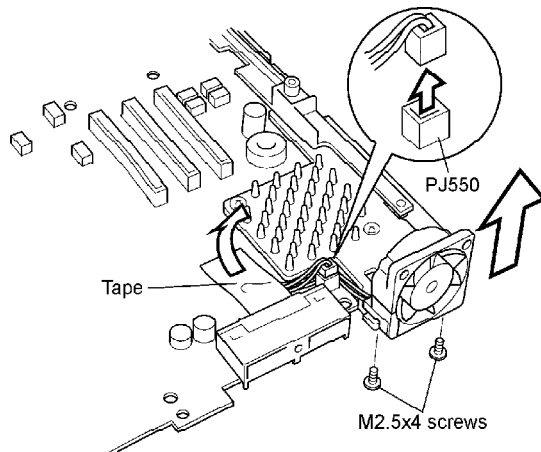
1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack, optional PC card, HDD pack, optional memory module, modem board, backup and RTC batteries, keyboard, membrane switch, top cover with display assembly.
3. Remove **one M2x4 silver screw** and **two M2.5x6 screws** securing the **shield plate** and remove it.
4. Remove **one M2.5x4 screw** near the PC card slot.
5. Remove **one M2.5x4 screw** securing the **connection board** and lift it out.
6. Remove **one M2.5x6 screw** under the connection board.
7. Remove **one M2x4 silver screw** securing the USB slot to the USB connector.

**CAUTION:** Do not remove the heat-sink on the CPU. The grease can dry out and cause damage to the CPU.



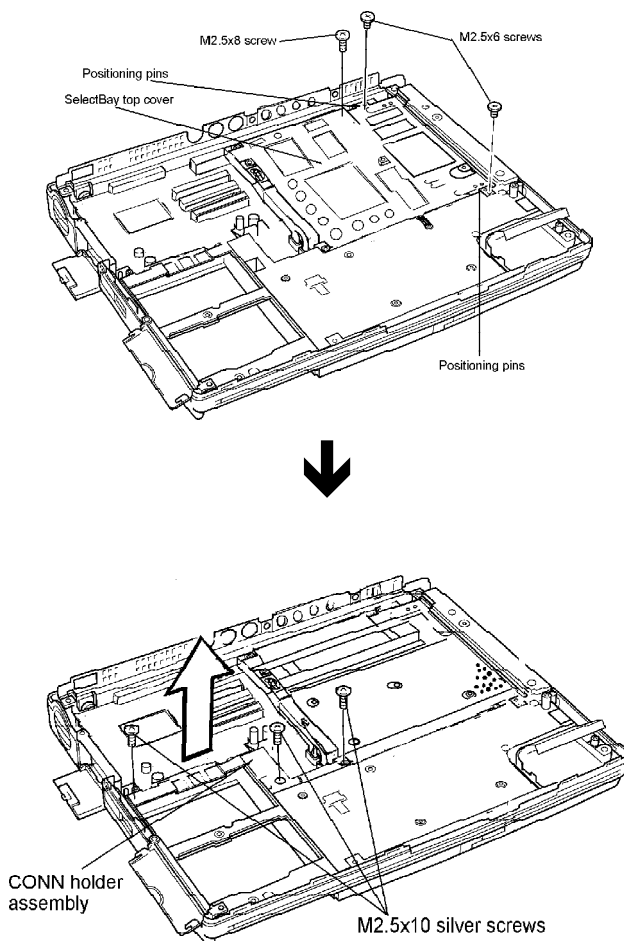
8. Lift up the system board to disconnect three connectors.

## Tecra 780CDM / 780DVD Disassembly Overview, (cont.)



To remove the fan, follow the steps below.

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack, optional PC card, HDD pack, optional memory module, modem board, backup and RTC batteries, keyboard, membrane switch, top cover with display assembly, and system board.
3. Turn the system board upside down and remove **tape** securing the **fan cable**.
4. Disconnect the **fan cable** from **PJ550** on the system board.
5. Turn the system board right side up and remove **two M2.5x4 screws**.
6. Lift out the fan.



To remove the middle frame, follow the steps below.

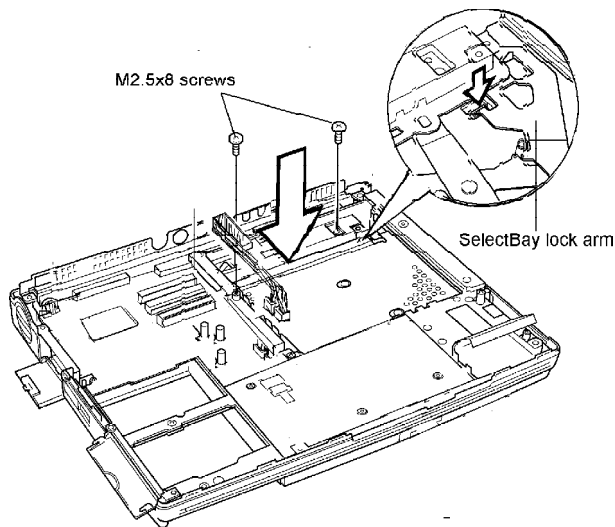
1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack, optional PC card, HDD PACK, optional memory module, modem board, backup and RTC batteries, keyboard, membrane switch, top cover with display assembly, and system board.
3. Remove **two M2.5x6 screws** and **one M2.5x8 screw** securing the **SelectBay top cover** to the middle frame.
4. **Two positioning pins** fit into holes on the SelectBay top cover, so lift the cover straight up to clear the pins.
5. Remove **three M2.5x10 silver screws** securing the **CONN holder assembly** and lift out the **CONN holder assembly**.
6. Disconnect **two secondary battery cables (PJ511 and PJ512)** from the I/O board and remove the cables with the protective metal plate.
7. Remove **two M2.5x8 screws** securing the middle frame to the bottom cover.
8. Pull out the **SelectBay release lever** and set the **SelectBay lock** to the lock position.

**CAUTION:** Make sure the **SelectBay lock** is locked before removing the middle frame from the bottom cover. If you remove the middle frame while the **SelectBay lock** is unlocked, the I/O board will be damaged.

**NOTE:** Make sure the screw in the memory slot has been removed.

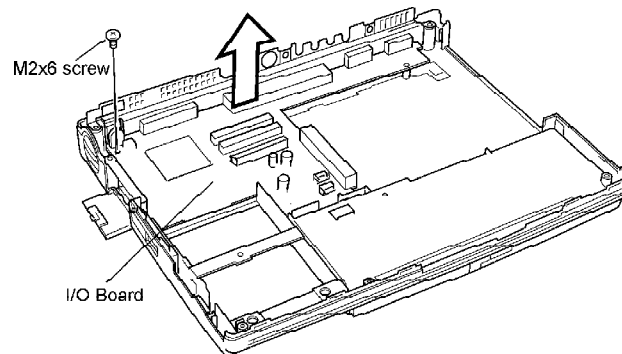
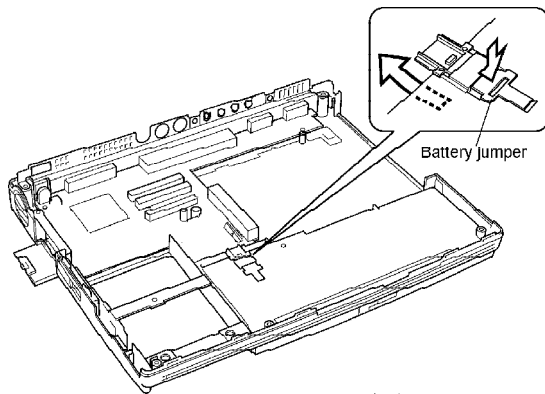
9. Remove the middle frame from the base of the computer.

## Tecra 780CDM / 780DVD Disassembly Overview, (cont.)



To install the middle frame, follow the steps below.

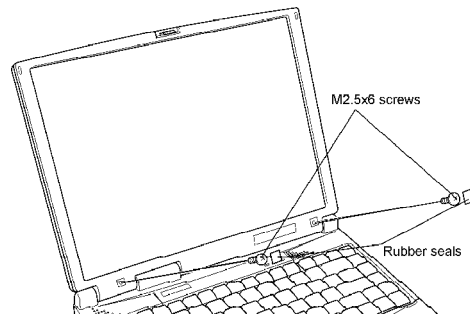
1. Make sure the SelectBay release lever is extended and the SelectBay lock is in the locked position.
2. Seat the middle frame and make sure a small tongue on the middle frame's SelectBay locking mechanism fits into a corresponding notch on the external SelectBay lock.
3. First secure **one M2.5x8 screw** next to the SelectBay lock arm, then secure the other **M2.5x8 screw**.
4. Place the **CONN holder assembly** and secure it with **three M2.5x10 silver screws**.
5. Connect two secondary battery cables to the I/O board.
6. Seat the protective metal plate.
7. Thread the battery cables in the groove and seat the cable holder.
8. Replace the tape.
9. Secure the SelectBay top cover with **two M2.5x6 screws** and **one M2.5x8 screw**.
10. Install the system board, top cover with display assembly, membrane switch, keyboard, backup and RTC batteries, modem board, optional memory module, HDD pack, optional PC card, and battery pack.



To remove the I/O board, follow the steps.

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack, optional PC card, HDD pack, optional memory module, modem board, backup and RTC batteries, keyboard, membrane switch, top cover with display assembly, system board, and middle frame.
3. From the bottom of the battery pack slot, push up on the battery jumper contact and slide it forward.
4. Press down on the **battery jumper** as shown in the figure below and slide the jumper out to remove it.
5. Remove **one M2x6 screw** securing the **I/O board** to the bottom cover.
6. Lift out the I/O board.
7. Lift out the base shield assembly (with rubber heat conductor).

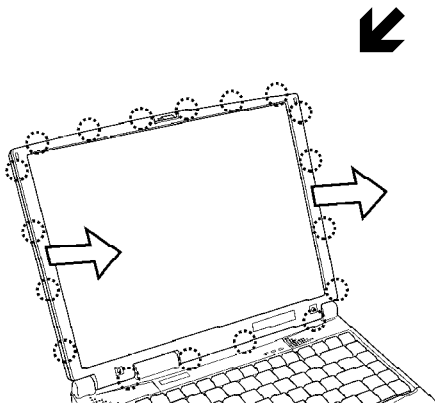
## Tecra 780CDM / 780DVD Disassembly Overview, (cont.)



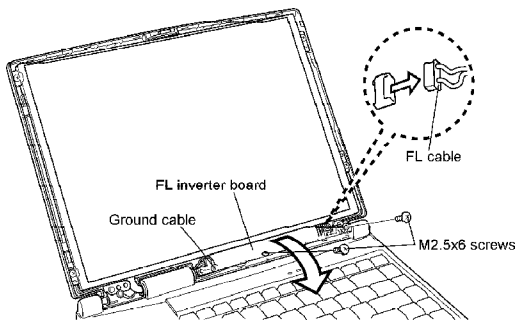
To remove the display mask, follow the steps below.

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack.
3. Remove **two rubber seals** at the bottom corners of the display assembly.
4. Remove **two M2.5x6 screws** that were covered by the rubber seals.

**NOTE:** Support the display with your hand when you remove the screws.

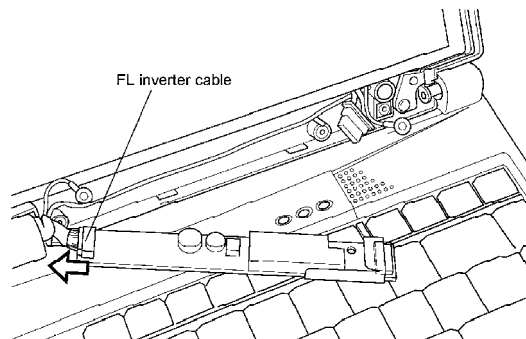


5. Using the fingers of both hands, carefully release the **18 latches** along the edges of the **display mask**. Begin at the top (six latches), continue along the sides (four latches on each side) and the bottom (four latches).

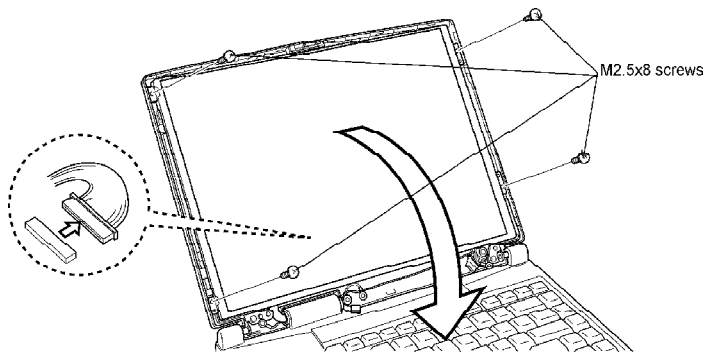


To remove the FL inverter board, follow the steps below.

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack and the display mask.
3. Lay the display panel on its back.
4. Remove **two M2.5x6 screws** securing the FL inverter board.
5. Lift up the **FL inverter board** and disconnect the **FL cable**.
6. Rotate out the top end of the **FL inverter board**. Disconnect the **FL inverter cable** and lift out the **FL inverter board**.



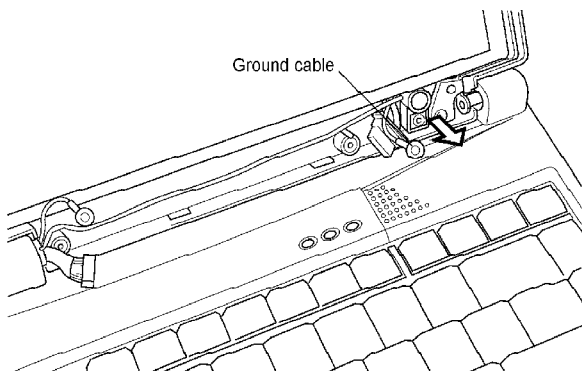
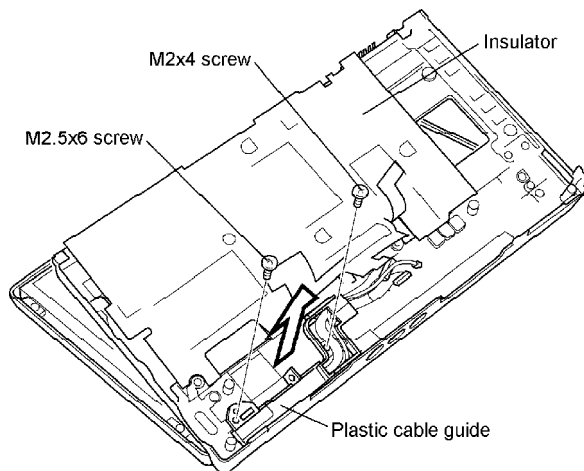
## Tecra 780CDM / 780DVD Disassembly Overview, (cont.)



**NOTE:** Be careful not to apply pressure to the ICs along the edge of the LCD module. The ICs are easily damaged.

To remove the LCD module, follow the steps below.

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack, display mask and FL inverter board as described in Sections 4.2, 4.19 and 4.20.
3. Remove **four M2.5x8 screws** securing the **LCD module** to the display assembly.
4. Carefully rotate out the top of the **LCD module** enough to access the **display cable**.
5. Peel off the tape securing the cable and disconnect the cable.



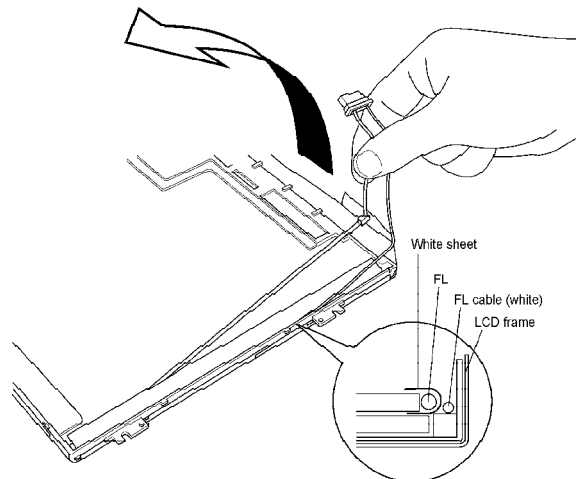
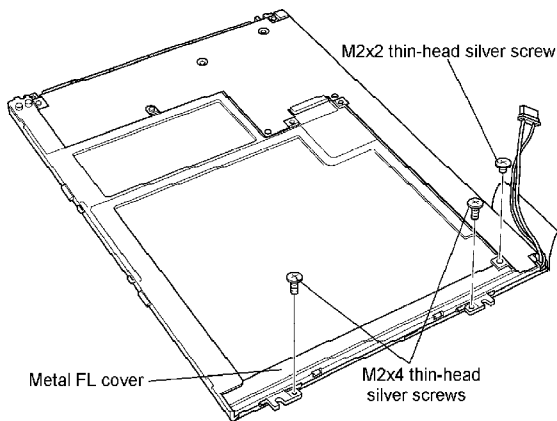
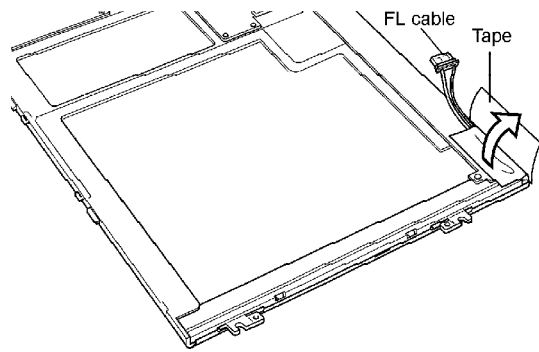
To remove the microphone, follow the steps below.

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack, optional PC card, HDD pack, optional memory module, modem board, backup and RTC batteries, keyboard, membrane switch, top cover with display assembly, and speakers.
3. Lay the top cover with display assembly down so that the bottom of the top cover lies flat and faces up.
4. Remove **one M2x4 screw** securing the hinge cover and **one M2.5x6 screw** securing a **plastic cable guide**.
5. Remove one M2.5x4 screw holding the microphone ground cable.
6. Release the cable guide from the top cover at the top right corner of the left speaker cable groove.
7. Lift the small end of the cable guide about 2.5 cm, then use tweezers to push down the LCD cable core to free the cable guide.
8. Lift the cable guide straight up and pull the microphone cable out of the cable guide.
9. Rotate the top cover up about 90 degrees.

**NOTE:** Grasp the top cover by the sides when you rotate it up. Do not pull at the center.

10. Lift out the microphone holder and cable and remove the microphone from the holder.

## Tecra 780CDM / 780DVD Disassembly Overview, (cont.)



**CAUTION:** When you remove the **FL**, be careful not to let any dust or other foreign matter contaminate the **LCD panel**. Any contamination can affect the performance of the unit.

To remove the FL, follow the steps below.

1. Turn off the power to the computer. Disconnect the AC adapter and all external cables connected to the computer.
2. Remove the battery pack, optional PC card, HDD pack, optional memory module, modem board, backup and RTC batteries, keyboard, membrane switch, top cover with display assembly, speakers, display mask, FL inverter board, LCD module, and microphone.
3. Remove **one strip of tape** securing the **FL cable** to the LCD frame and lift up the FL cable.
4. Remove **two M2x4 thin-head silver screws** and **one M2x2 thin-head silver screw** to remove the **metal FL cover**.
5. Carefully lift up the white sheet covering the FL.
6. Lift the yellow FL cable connector until one end is out of the groove.

**CAUTION:** Handle only the FL cable instead of the FL glass tube to minimize risk of damage or injury.

7. Lift the white FL cable out of its groove to remove the cable and FL.

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