

Hardware Removal and Installation Instructions

In all cases when removing an FRU (field replaceable unit), shut down the computer and the battery pack (bridge media, smart card, SIM card and BASE ASSY) must be removed.

Safety Precautions

Please read the following safety instructions before disassembling the computer and always follow the instructions while working on the computer.

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 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.*

Safety Precautions

Please read the following safety instructions before disassembling the computer and always follow the instructions while working on the computer.

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.

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. Do not perform any unnecessary work. Always work in accordance with the disassembly and re-assembly procedures in this manual.
5. 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.
6. 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.
7. When re-assembling, ensure that you use the correct screws and fit parts in the correct position. Screw sizes are noted in the text and figures.
8. As all parts have sharp edges and corners, take care not to cut yourself.
9. When disassembling, ensure that not to put the excessive power to avoid breaking the parts and latches.
10. Be careful that not to break the computer casing and harnesses by the removed parts.
11. After replacing an FRU, check that the computer and replaced part operate correctly.

Disassembly Procedures

Four main types of cable connector are used:

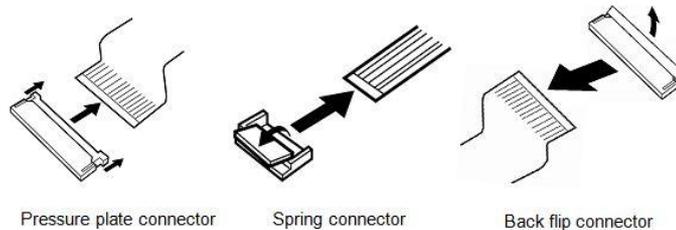
- Pressure plate connector
- Spring connector
- Back flip connector
- Normal pin connector

For pressure plate connectors, slide the pressure plate holding tags on both sides of the plastic pressure plate on the connector and pull the cable out from the connector. When reconnecting the cable to the pressure plate connector, slide the pressure plate holding tags on both sides of the plastic pressure plate on the connector and insert the cable into the connector. Push both tags of the pressure plate such that the cable is fixed in the correct position. Pull the cable to ensure that it is securely connected.

For spring connectors, lift up the stopper frees the cable and allow 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. Pull the cable to ensure that it is securely connected.

For back flip connectors, lift up the flip plate frees the cable and allow it to be pulled out. To reconnect, hold the flip plate in the up position and insert the cable, then lower the flip plate to secure the cable. Pull the cable to ensure that it is securely connected.

Normal pin connectors are used for all other cables. Simply pull out or push in these connectors to disconnect or reconnect.



Assembly Procedures

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.
- When re-assembling, ensure that not to put the excessive power to avoid breaking the pins and latches.
- 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.
- When re-assembling, ensure that not to break the computer casing and harnesses by the tools and equipment.
- When checking the computer moved correctly, do not put the excessive power on the hinges and computer itself.

After installing FRUs, check that the computer operates correctly.

Tools and Equipment

The use of Electrostatic Discharge (ESD) equipment is very important for your safety and the safety of those around you. Proper use of these devices will increase the success rate of your repairs and lower the cost for damaged or destroyed parts. The following equipment is necessary to disassemble and reassemble the computer:

- One Philips screwdriver with type 0 bit (for S-THIN HEAD screws)
- One Philips screwdriver with type 1 bit (for screws other than above)
- Tweezers (for lifting screws)
- ESD mats (lay on work table or floor)
- An ESD wrist strap and heel grounder
- Anti-static carpet or flooring
- Air-ionizers in highly static sensitive areas
- Antenna coaxial cable disconnecter

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