3025 D
Service   Manual

SYSTEM VIEW & DISASSEMBLY

I. SYSTEM VIEW
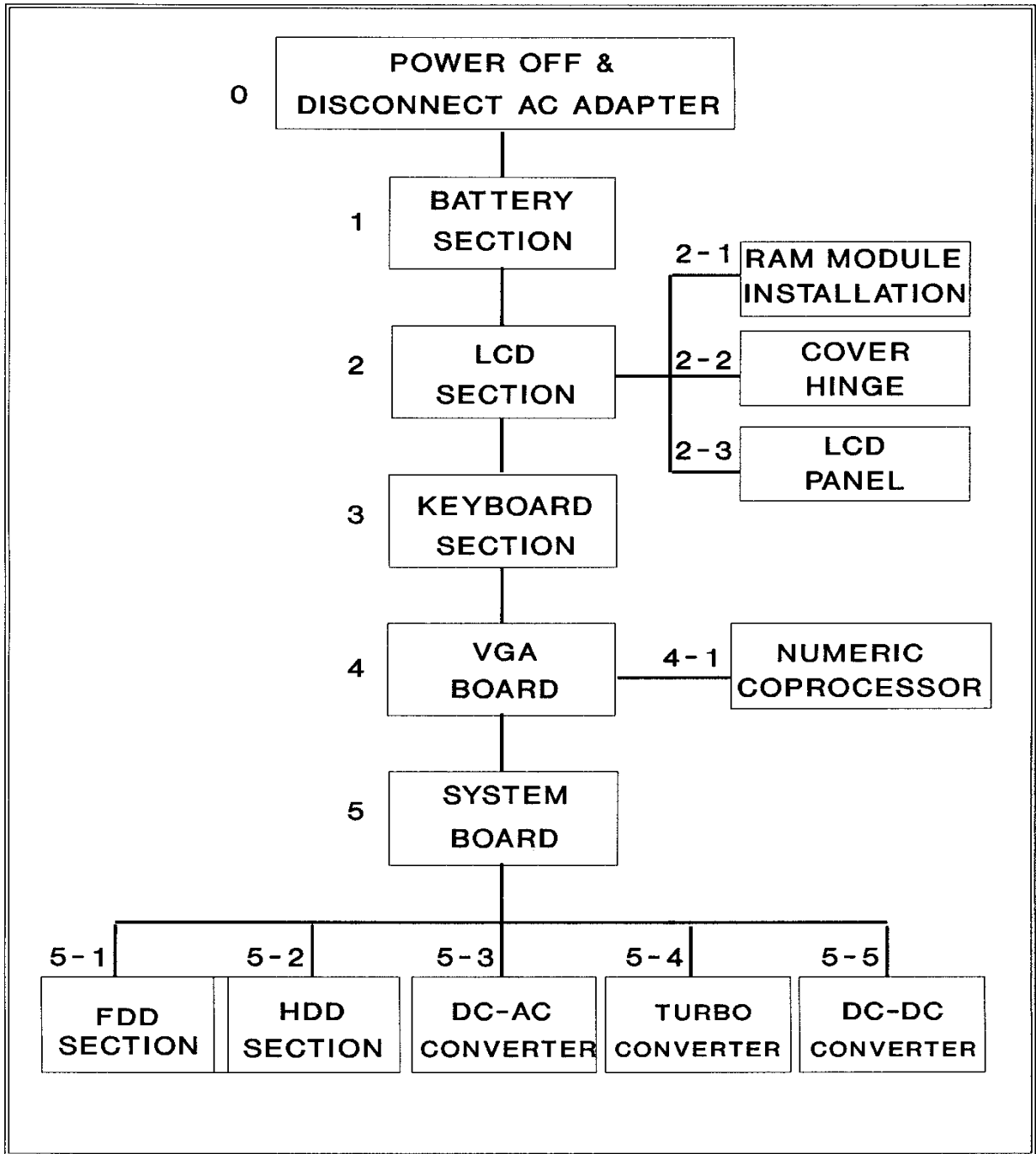
1. LEFT / FRONT PANEL
2. READ PANEL

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1. NO CHARGER
2. NO POWER
3. SYSTEM NO BOOT
4. LCD DISPLAY FAILURE
5. KEYBOARD FAILURE
6. FDD FAILURE
7. HDD FAILURE

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                    ┌─────────────────────┐
               0    │     POWER OFF &     │
                    │ DISCONNECT AC ADAPTER│
                    └─────────────────────┘
                              │
                    ┌─────────────────┐
               1    │    BATTERY      │
                    │    SECTION      │              ┌─────────────────┐
                    └─────────────────┘         2-1  │  RAM MODULE     │
                              │                       │  INSTALLATION   │
                    ┌─────────────────┐              └─────────────────┘
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                              │                       └─────────────────┘
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                    │    SECTION      │              │     PANEL       │
                    └─────────────────┘              └─────────────────┘
                              │
                    ┌─────────────────┐         4-1  ┌─────────────────┐
               4    │      VGA        │──────────────│    NUMERIC      │
                    │     BOARD       │              │  COPROCESSOR    │
                    └─────────────────┘              └─────────────────┘
                              │
                    ┌─────────────────┐
               5    │     SYSTEM      │
                    │     BOARD       │
                    └─────────────────┘
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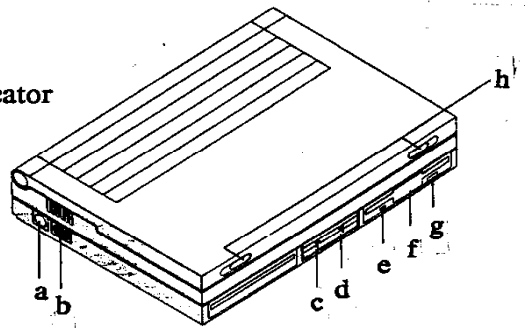| 5-1	5-2	5-3	5-4	5-5
FDD SECTION	HDD SECTION	DC-AC CONVERTER	TURBO CONVERTER	DC-DC CONVERTER

System View and Disassembly

I. System View

1.Left/Front Panel
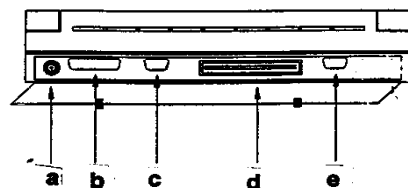
a.DC Power Socket
b.Power ON/OFF Button
c.Hard Disk Drive (HDD) In-Use Indicator
d.Power-On/Low Battery Indicator
e.Floppy Disk Drive (FDD) Indicator
f.3 1/2-inch Floppy Disk Drive
g.FDD Button
h.Display Cover Latches

Figer 1-1   Left/Front Side of the Computer

2.Rear Panel

a.External Keyboard
b.Printer
c.Eternal VGA Monitor
d.Expansion Chassis
e.Serial Port (COM 1)

Figer 1-2   Rear Side of Computer

II. Preparation

1.Tools Required

The following tools are needed for the assembly/disassembly work on the notebook computer:

- Phillips #1 screwdriver (small)
- Phillips #2 screwdriver (medium-sized)
- Slotted screwdriver (medium-sized = 4/32")
- Hex driver (5 mm)
- Awl, pocket-knife, or other sharp, pointed instrument

Some cases will require more specialized tools like the following:

- PLCC insertion removal tools (for installing a math coprocessor)
- Desoldering equipment for removing the DC-DC converter or replacing soldered ICs.

2.Anti-Static Precautions

Integrated circuits in the notebook computer are sensitive to static electricity. To avoid damaging chips caused by electrostatic discharge, observe the following precautions

- Do not remove a board or chip from its antistatic packaging until you are ready to install it.

- Before handling a board or chip, touch an unpainted metal surface for a few seconds to discharge any static electricity from your body.

- Wear a wrist grounding strap, available from most electronic stores, when handling boards and chips.

3.Power off and Disconnect AC Adapter
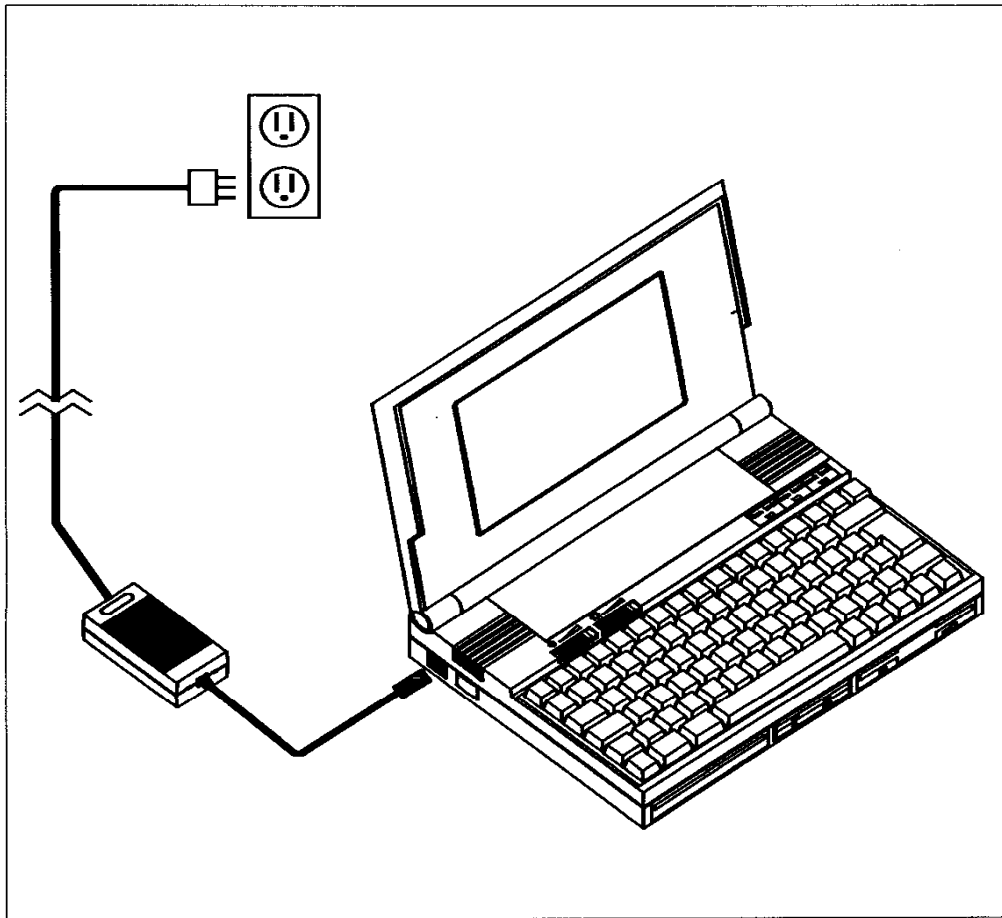
Figer 1-3   Disconnecting the AC Adapter

- Power-off the Notbook
- Disconnect AC power cord from the electrical outlet
- Diconnect the AC Adapter cable from the power connector at the left side of the computer
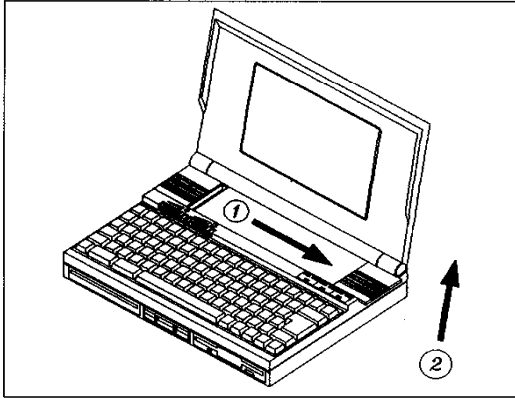
4.Assembly Overview

The figure below shows the exploded view of the computer when disassembled. Each part is represented by a number. The next sub-sections will discuss at length each major part for disassembly and show corresponding illustrations.
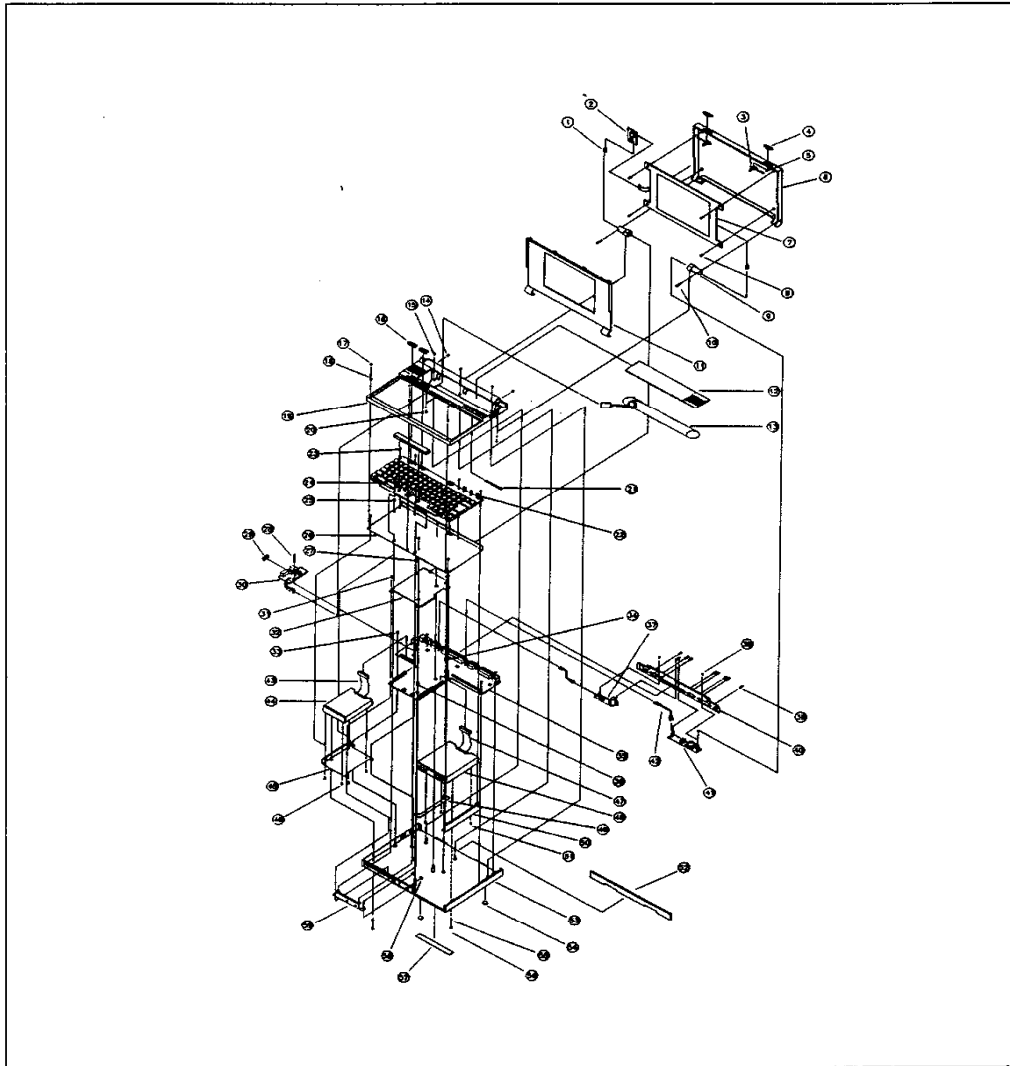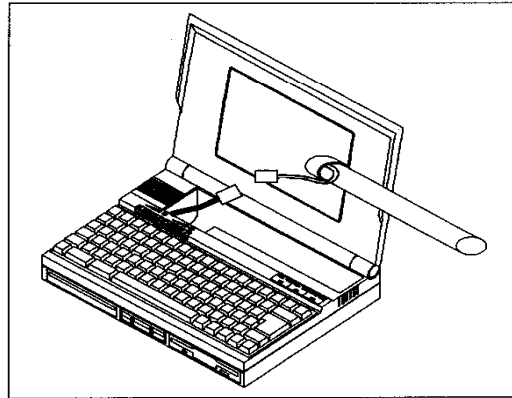

Figer 1-4   Assembly Overview

III. System Disassembly

1. Battery Section

Figer 1-5 Removing the Battery Cover Latch

Figer 1-6 Connecting Battery Pack
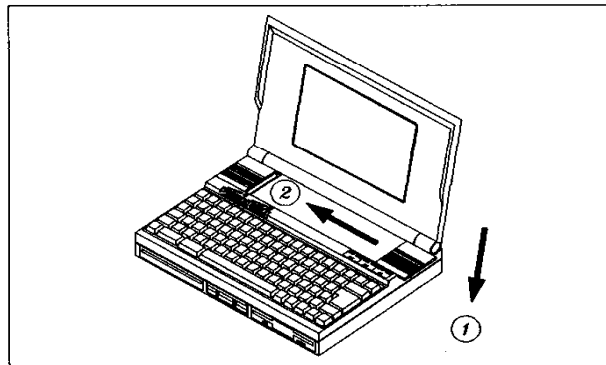
Figer 1-7 Replacing Battery Cover Latch

- Lift the display cover up to have access to the battery storage compartment
- Push the plastic cover latch to the right about one inch. Lift the cover up to expose the battery storage compartment.
- Remove the previously-installed battery pack for replacement.
- Connect the battery input connector at the left end of the compartment to the new battery pack.
- Lower the battery pack all the way into the compartment. Then replace the cover latch.

2. LCD Section

The top cover and the LCD section come off as a single unit, comprising the upper case of the computer. Eight screws attach the upper case to the lower case.
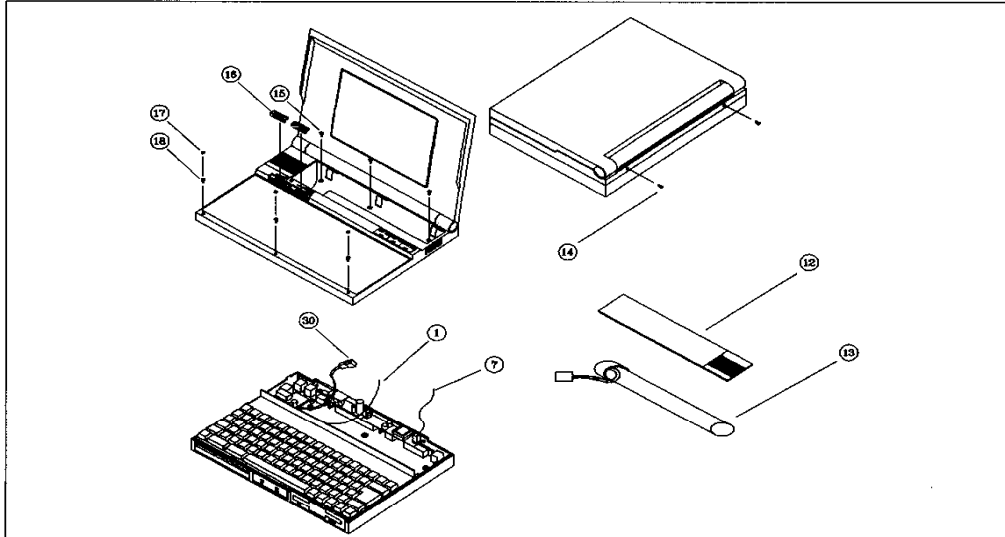
Figure 1-8. LCD Section Removal

- With the awl or knife point, remove the three rubber stoppers (17) to expose three fastening screws at the front of the unit
- Remove the three fastening screws (18 = M2L6).
- Remove the two fastening screws (14 = M2.6L5, Black, FLAT) at the back of the unit and the three screws (15 = M3L5) inside the battery compartment.
- Separate the upper case from the lower case starting from the left side at the rear of the unit (near the power switch).
- Pull the upper case up to separate it from the lower case. You need to push the battery connector (30) through its access hole to free the upper section.
- Detach the AC power cable (7) connected to the LCD panel from the connector at the back of the unit.

CAUTION:

Do not remove the LCD signal cable (1) yet. Remove it after the keyboard and EMI shield have been removed. Thus, at this point, the upper case is not yet completely detached from the lower case.

2 - 2. LCD Panel

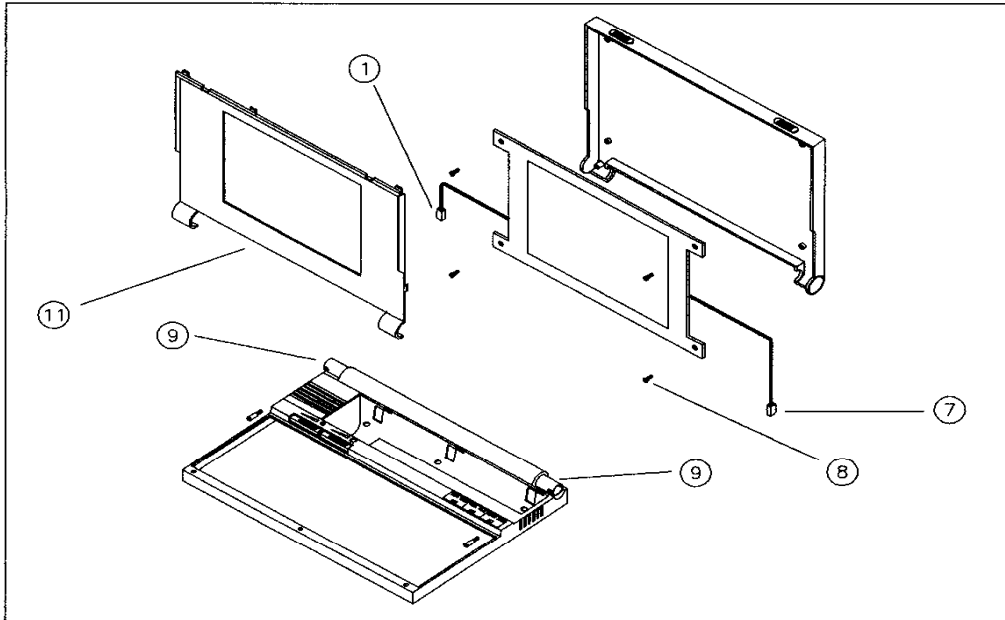The LCD panel is mounted on the back shell of the upper case.

Figure 1-9. LCD Panel Disassembly

— With your fingers, pry the plastic cover (11) away from the back shell of the LCD section. In order to disassamble the LCD Panel easily, the LCD Pannel must be open as large as it could be, then pull from the bottom of the cover

— Slide the cable lock out along the cable to free the LCD signal cable from the cable changer.

— Slide the AC Power Connector (7) out through the hinge.

— Slide the LCD Cable (1) out through the hinge (9).

— Remove the four mounting screws (8 = M3L5*3, M3L6*1 - for LCD cable GND) securing the LCD panel to the back shell.

— Carefully lift the LCD panel out.

CAUTION:

To avoide circuit short, After change the LCD Pannel, please isolate the cable connect area with TAPE.

2-3. Cover Hinge

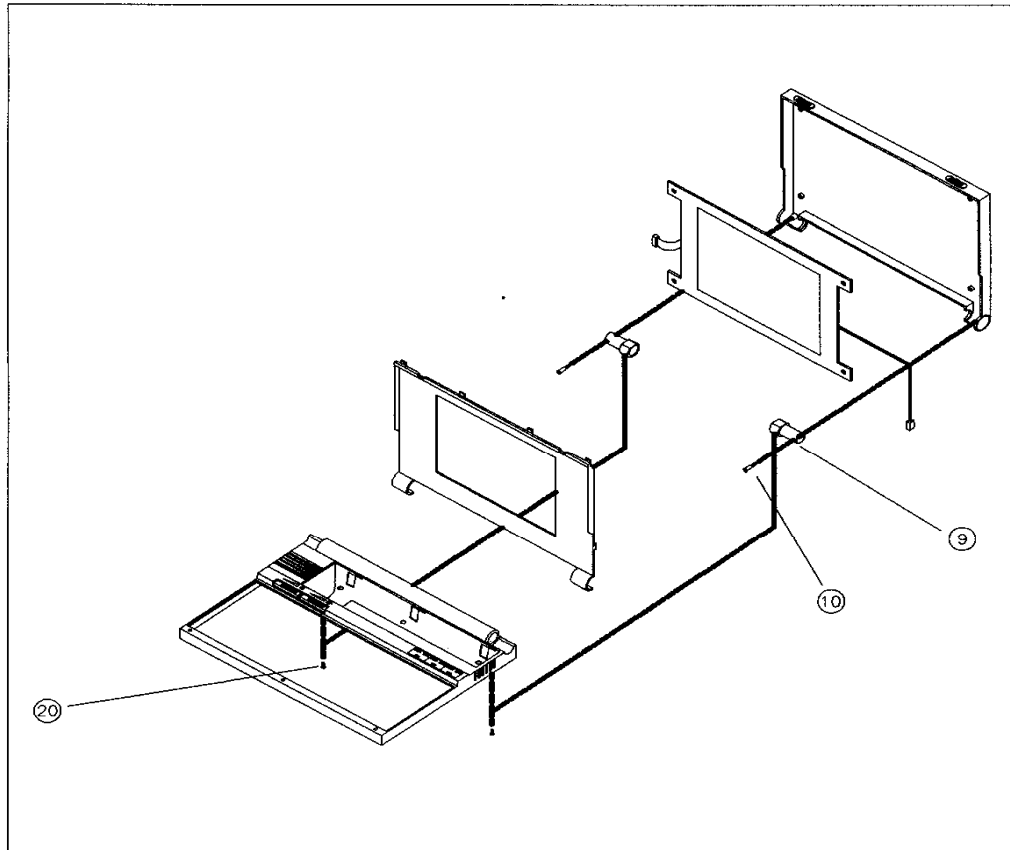The cover hinges are inside the upper case.

Figure 1-10. Cover Hinge Disassembly

- Close the LCD section. Lay the assembly down as shown. Two guide holes will be visible.
- Remove the hinge locking screws (20). They are inside the guide holes.
- Detach the upper case from the LCD back shell. Pull the cables through the hinge to completely detach it.

Remove the two screws (10) from the upper case.Slide the hinge (9) out of its compartment.

3. Keyboard Section

The keyboard section includes the keyboard itself and an EMI shield directly underneath. The keyboard, with the EMI shield, is attached to the unit with five screws.
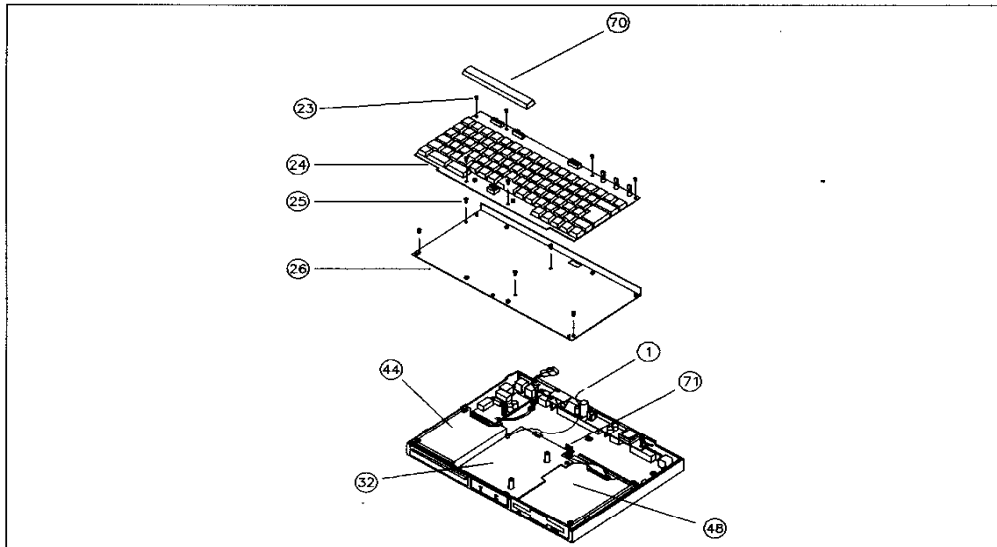
FFigure 1-12. Keyboard Section Removal

— Loosen the space bar (70) by carefully raising it straight up. It will break away from its mounting post and expose two of the screws underneath.
— Remove the six mounting screws (23 = M2L6).
— Pull the keyboard (24 = M3L10, black , FLAT) straight up away from the lower case until it is free of the keyboard connector (71). The EMI shield (26) will be exposed.
— Remove the five screws (25 = M3L4, FLAT) attaching the EMI shield to the lower case.
— Pull the EMI shield straight up. You will see the VGA display adapter (32) in the middle, and the HDD (44) and FDD (48) on the left and right, respectively.
— Remove the standoff which secures the grounding lug to the VGA board.
— Carefully, disconnect the LCD signal cable (1). The LCD section is now completely free of the lower case and you may set it aside.

CAUTION:

Never pull the LCD signal cable to disconnect it from the VGA board. Instead, use an awl or other sharp instrument to push the cable header out of the connector. Careles pulling may damage the LCD signal cable.

4. VGA Board

The VGA board, secured by 4 screws is connected to the system board via two connectors on the left and right. The main components on the VGA board are facing down — towards the system board.
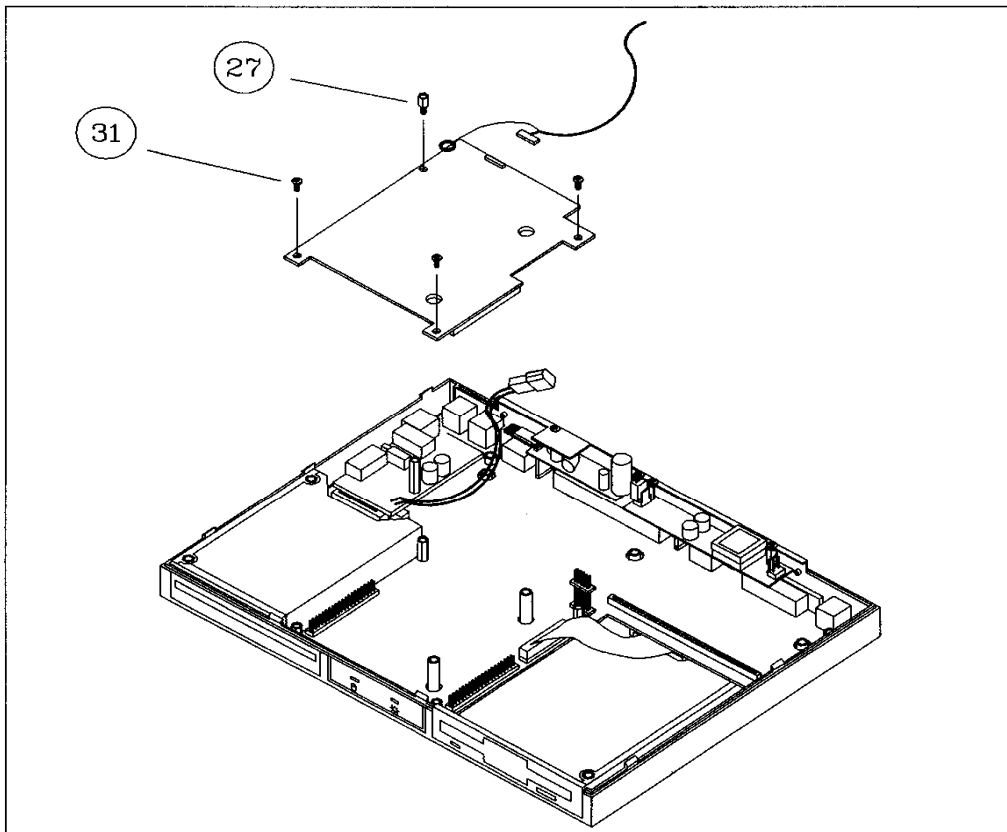

Figure 1-13. VGAboard Section Removal

- Remove the three mounting screws (31 = M3L5) that secure the VGA board in place.
- Remove the stand-off (27 = 5m/m) that secures the LCD cable ground. This step is part of removing the keyboard section.
- Pull the VGA board straight up, freeing it from the two connectors. (Note that the system board will then be exposed.

5. System Board

The system board is secured to the lower case with five stand-off fixtures.
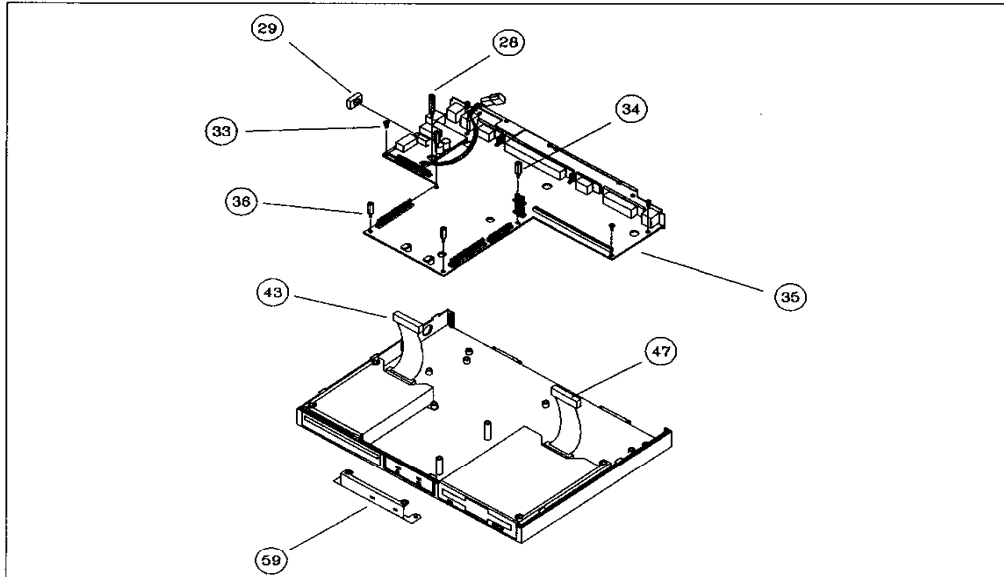

Figure 1-15. System Board Removal

- Remove the tall standoff (28 = 18 m/m)
- Remove the two short standoffs (36 = 10.5 m/m with mark)
- Remove the two medium standoffs (34 = 11.5 m/m)
- Remove the four screws (33 = M3L5).
- Remove the LED positioning bracket (59) from the front of the system board. This bracket protects the front panel LED leads.
- Remove the power switch cover (29). From the inside of the case, push it out to pop it off the switch.
- Disconnect the FDD signal cable (47).
- Disconnect the HDD signal cable (43).

CAUTION:

Never pull the HDD signal cable to disconnect it from the system board. Instead, use an awl or other sharp instrument to push the cable header out of the connector. Careless pulling may damage the HDD signal cable.

- Finally, lift the system board (35) out of the lower case.

4-1. Numeric Coprocessor

- To install the Coprocessor , You need to remove the VGA Board
- Install the 68 pin PLCC math coprocessor into the math Socket which was located at the midle of Systemboard.
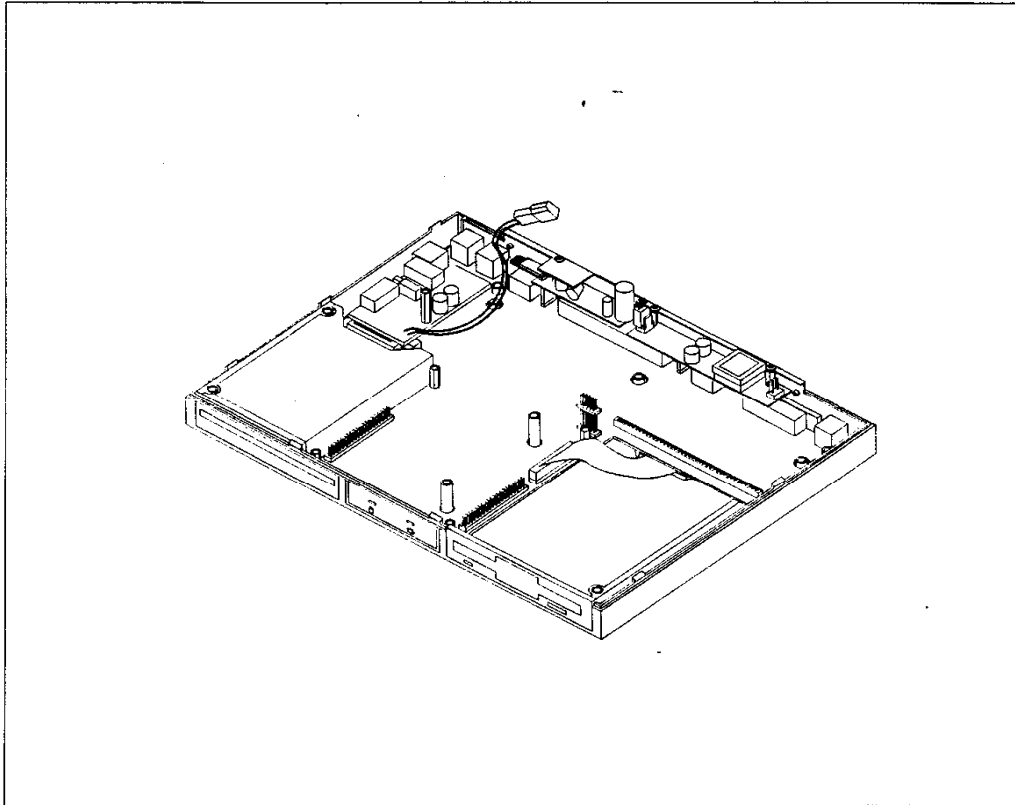
Figer 1-14. Numeric Coprocessor Socket.

5-1. Floppy Disk Drive (FDD)

The FDD has two mounting brackets securing it to the lower case.

- Turn the lower case upside down. Remove the rubber foot (56) to expose the FDD mounting screw.
- Remove the screw (55 = M3L4, FLAT).
- Carefully turn the lower case right side up, ensuring that THE FDD DOES NOT DROP in the process.
- Lift the FDD (48) out of the lower case.
- Remove the FDD from its mounting brackets (49), (50), by removing the three mounting screws (51 = M3L4, FLAT).
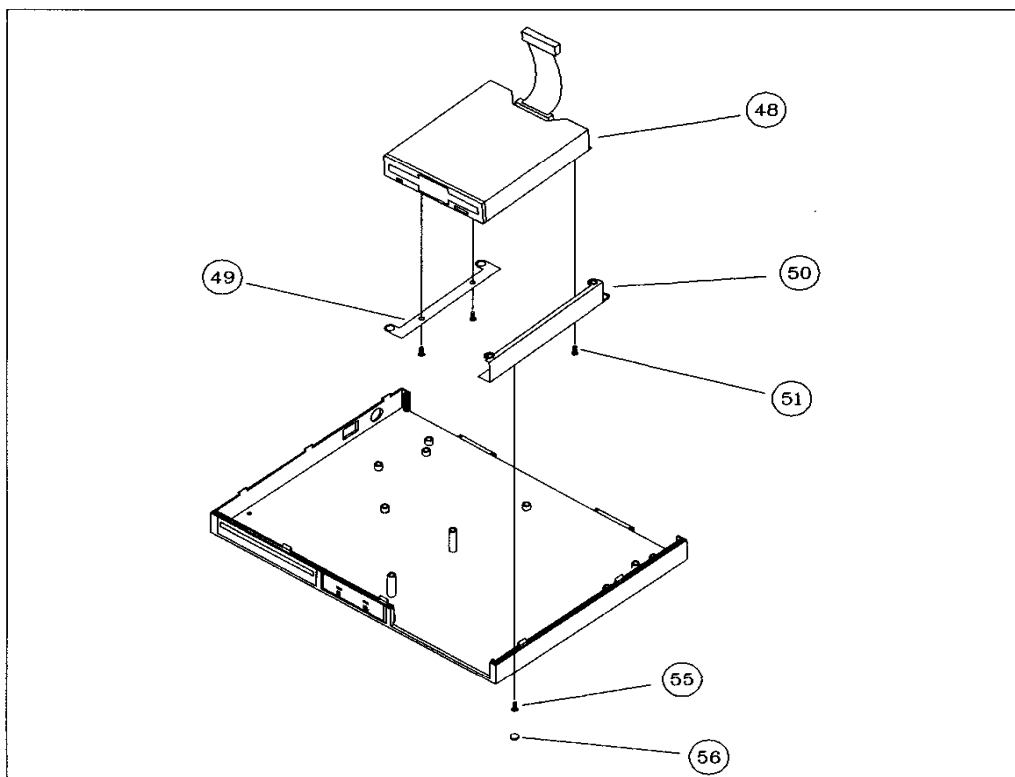- Lift the brackets off of the FDD.

Figure 1-16. Floppy Disk Drive Removal

5-2. Hard Disk Drive (HDD)

NOTE:

The system board must be removed before the HDD can be removed.

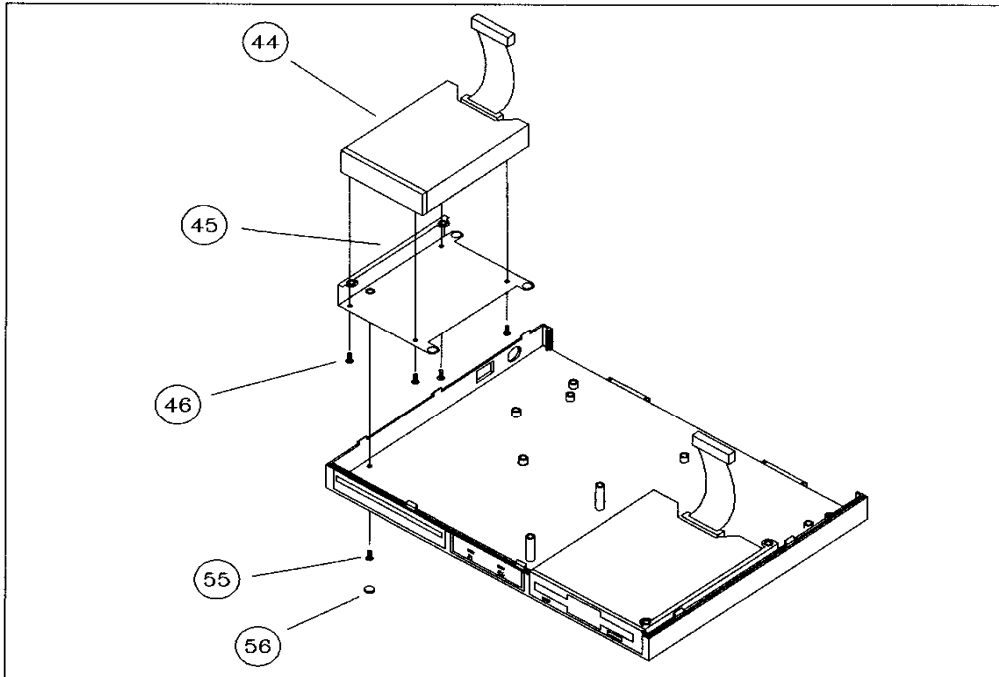The HDD is mounted on a bracket which sits on the lower case.

Figure 1-17. Hard Disk Removal

- Turn the lower case upside down. Remove the rubber foot (56) to expose the HDD mounting screw.
- Remove the screw (55 = M3L4, FLAT).
- Carefully turn the lower case right side up, ENSURING THAT THE HDD DOES NOT DROP in the process.
- Lift the HDD (44) out of the lower case.
- Remove the HDD from its mounting bracket (45) by removing the four mounting screws (46 #4-40 L1/4) securing it to the bracket.
- Detach the bracket from the HDD.

5-3. DC - AC Converter

WARNING:

NEVER attempt this procedure with the power on. High-voltage is present in the terminals.

The DC-AC converter supplies power to the LCD panel. It is mounted on the rear bracket of the system board (on the right).

- Detach the LCD power connector from the DC-AC converter.
- Remove the two mounting screws (38 = M3L5).
- Detach the DC-AC converter from the 3-wire cable (42) connecting it to the system board.
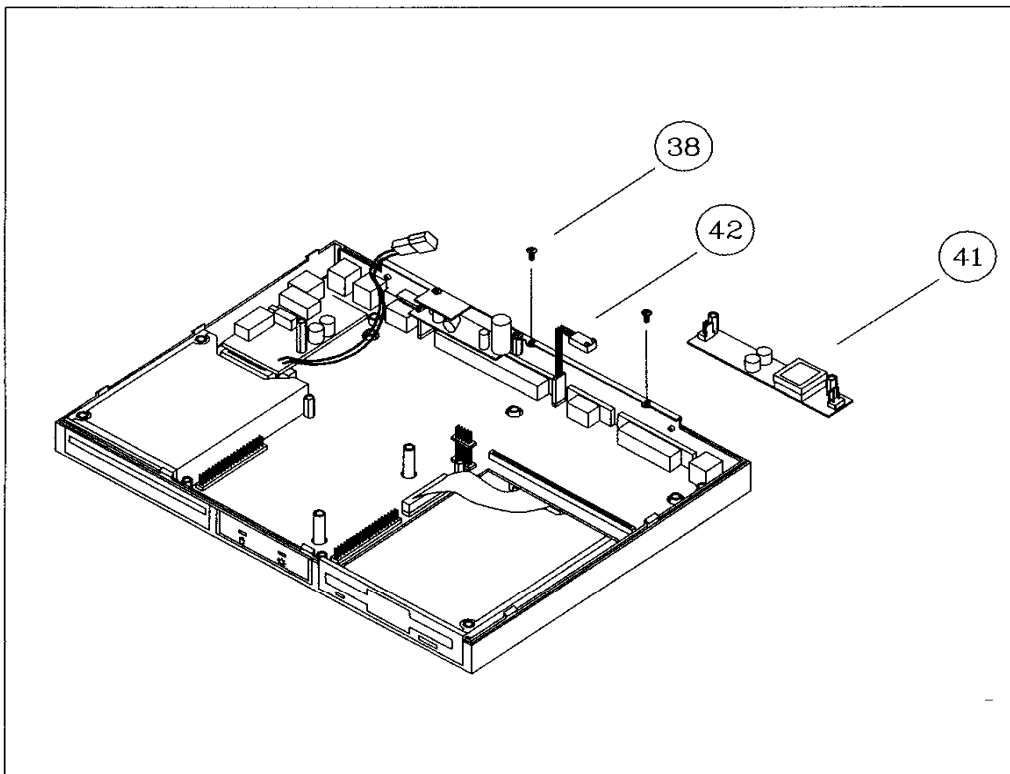- Lift the DC-AC converter (41) out of the case.

Figure 1-18. DC-AC Converter Disassembly

5-4. Turbo Converter

The Turbo converter supplies extra power to the HDD and RS-232C port. It is mounted on left side of the rear bracket of the system board.
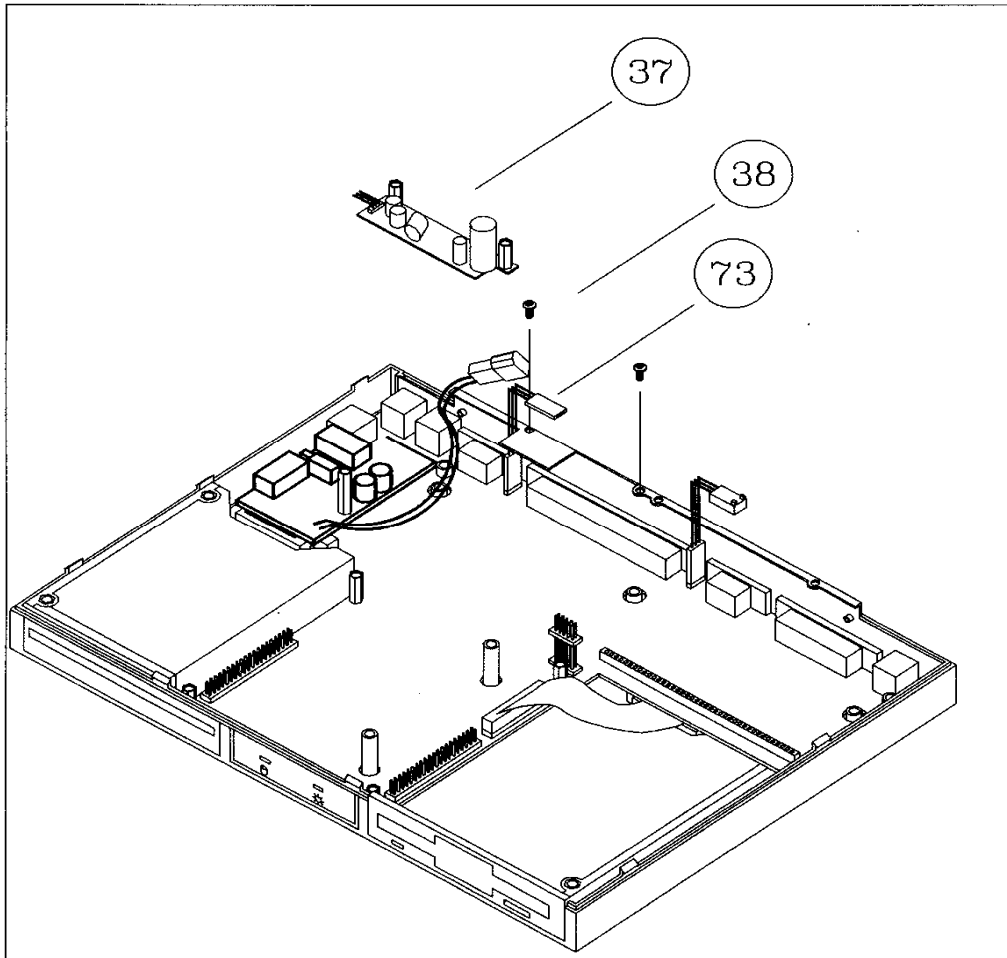

Figure 1-19. Turbo Converter Disassembly

- Detach the power cord connector (73) from the turbo converter.
- Remove the two mounting screws (38 = M3L5).
- Lift the turbo converter (37) out of the case.

5-5. DC - DC Converter

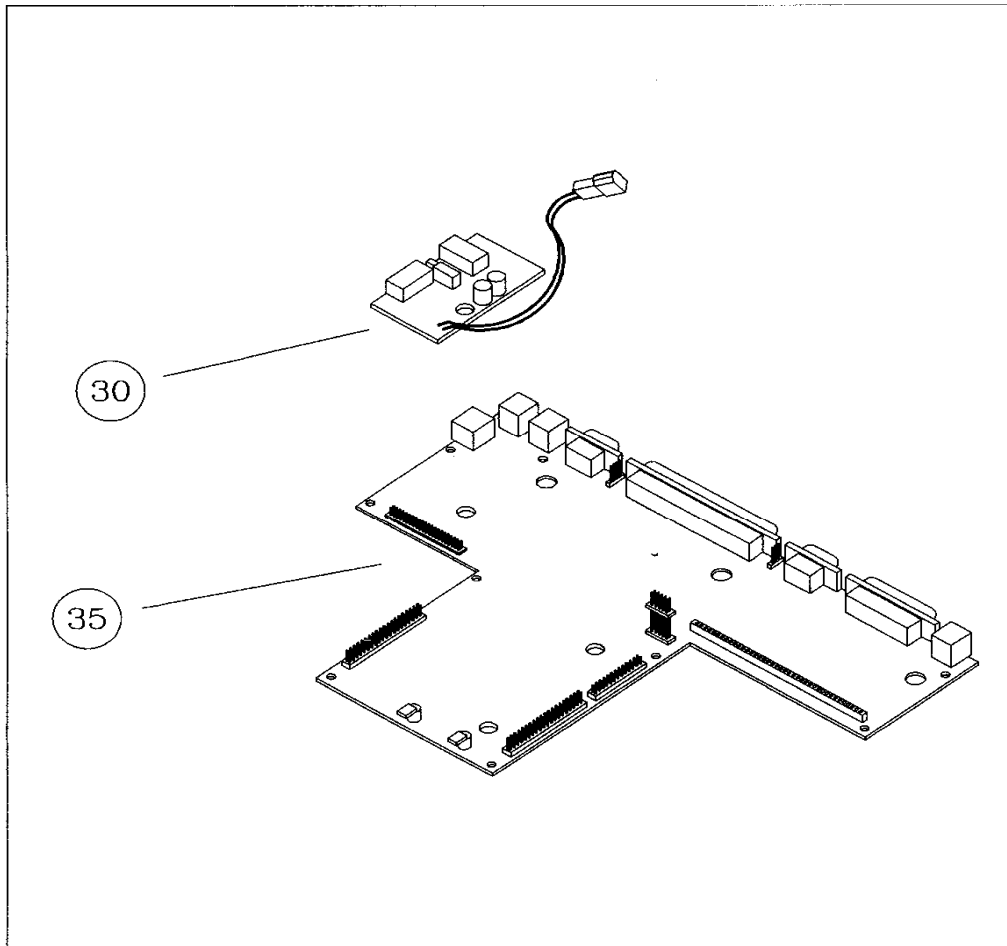The DC-DC Converter is soldered directly to the system board.

Figure 1-20.   DC-DC Converter Disassembly

- There are two rows of pins (35) on the DC-DC converter (30). These must be desoldered in order to remove the DC-DC connector.
- After desoldering the DC-DC converter, lift it away from the system board (35).

6. Re-assembly Notes

CAUTION:

Polarity of the AC power connector to the LCD panel is not critical. Connection to the system board is critical however.Ensure that the V + of the DC-AC Converter is connected to the VCC on the system board.

- The LED fixing bracket must be inserted before the system board is fastened to the lower case

- Since the system board uses different-sized standoffs for different mounting points, the location of each standoff is critical.The lower case cannot be properly assembled if the standoffs are in the wrong locations.

- The LCD signal cable must be connected before the EMI cover is replaced.

- The LCD signal cable must be routed away from the battery compartment.

If you need to attach the rear bracket to the system board, insert first the eight screws. DO NOT TIGHTEN THEM YET. After the computer has been reassembled, tighten the two screws at the back of the unit. Then tighten down the screws that hold the system board rear bracket.