

5.17 Lithium Disc Cell Battery

The lithium disc cell battery is located underneath the audio assembly bracket. The battery attaches to the system board inside a clip.

1. Prepare the computer for disassembly (Section 5.3).
2. Remove all battery packs (Section 5.6).
3. Remove the keyboard assembly (Section 5.10).
4. Remove the audio/USB board (Section 5.14).
5. Remove the modem board (on modem models, Section 5.15).
6. Remove the audio assembly bracket (Section 5.16).
7. Use the connector removal tool to push the left edge of the battery to the right and lift it out of the clip (Figure 5-44).

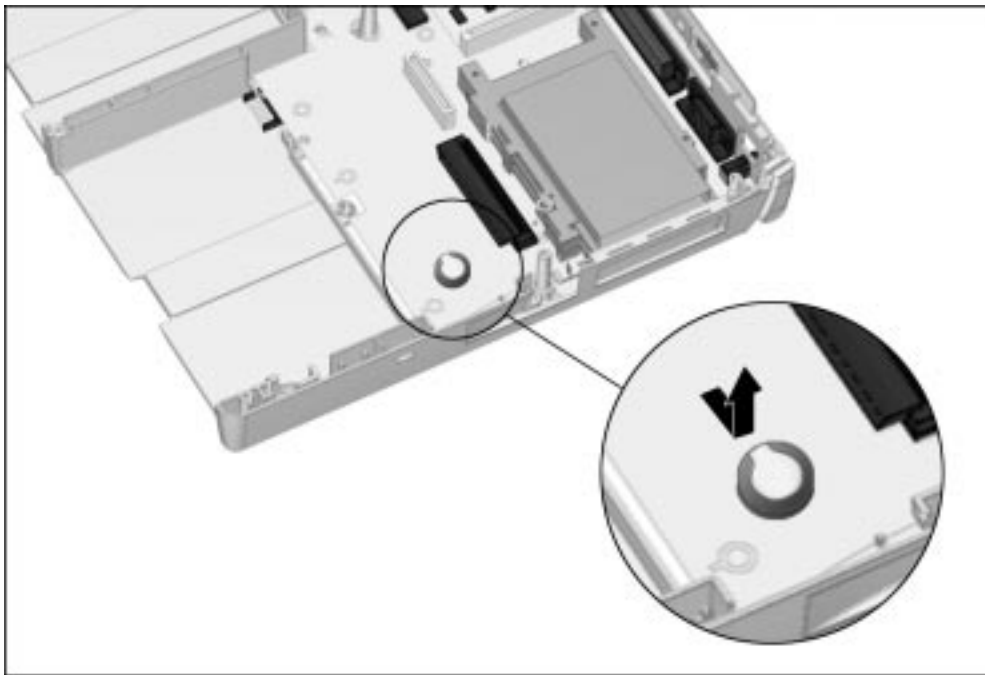


Figure 5-44. Removing the Lithium Disc Cell Battery

Reverse the above procedure to install the lithium disc cell battery.

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5.18 Processor Module Assembly

The processor module assembly is located in the center of the computer. It consists of the processor board, the interposer board (with memory), a heat sink, a heat spreader, and two ground clips. The assembly attaches to the system board by two multipin connectors and two screws.

1. Prepare the computer for disassembly (Section 5.3).
2. Remove all battery packs (Section 5.6).
3. Remove the keyboard assembly (Section 5.10).
4. Remove the audio/USB board (Section 5.14).
5. Remove the modem board (on modem models, Section 5.15).
6. Remove the audio assembly bracket (Section 5.16)

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7. Remove the two screws ❶ that secure the processor module assembly to the system board (Figure 5-45).
 8. Lift up on the front of the processor module assembly until the connection to the system board disconnects ❷. Once disconnected, lift up on the back of the processor module assembly to remove it.

IMPORTANT: When removing and replacing the processor module assembly, make sure the power supply cables are clear from the front left side of the assembly ❸.

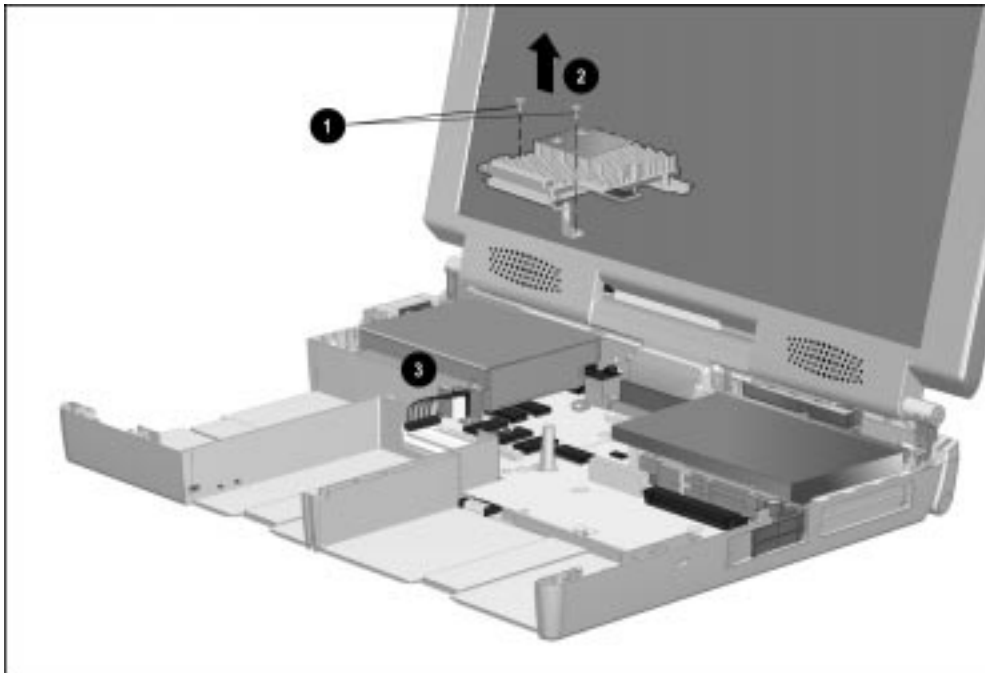


Figure 5-45. Removing the Processor Module Assembly

Reverse the removal procedure to install the processor module assembly. Before installing the two screws on the processor module assembly, make sure the connectors are properly seated.

NOTE: The following ground clip information applies only to computer models with config. codes beginning with “BS”, “BZ”, and “CB”.

When replacing the processor module assembly, remove the two ground clips ❶ and ❷ that are attached to the assembly and retain them for use with the new processor module assembly (Figure 5-46).

IMPORTANT: Make note of the alignment and orientation of each ground clip when replacing the processor module assembly.



CAUTION: The screws used to secure the ground clips to the processor module assembly are shorter than the screws used to secure the processor module assembly to the system board. Do **not** interchange these screws. Failure to follow this caution can result in damage to the computer.

Refer to Tables C-5 and C-6 in Appendix C, “Screw Matrix,” for part number and specification information on these screws.

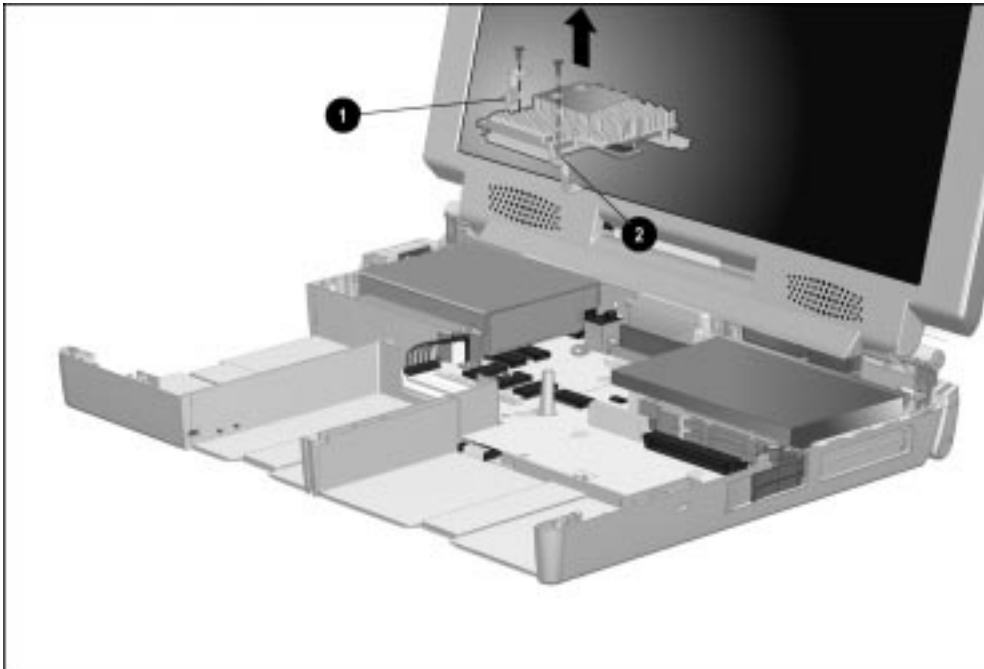


Figure 5-46. Processor Module Assembly Ground Clip Locations and Alignment

NOTE: Refer to Section 5.16, “Audio Assembly Bracket,” for information on replacing the thermal pad when servicing the processor module assembly.

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5.19 Display Assembly and Auxiliary Battery

IMPORTANT: The instructions provided in this section for removing and installing the auxiliary battery apply only to computer models with config. codes beginning with “BS”, “BZ”, and “CB”. Refer to Section 5.11, “Auxiliary Battery”, for instructions on removing and installing the auxiliary battery on computer models with other config. codes.

Removing the Display Assembly

1. Prepare the computer for disassembly (Section 5.3).
2. Remove all battery packs (Section 5.6).
3. Remove the keyboard assembly (Section 5.10).
4. Remove the audio/USB board (Section 5.14).
5. Remove the modem board (on modem models, Section 5.15).
6. Remove the audio assembly bracket (Section 5.16)
7. Remove the processor module assembly (Section 5.18).
8. Position the computer so the front faces forward.

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9. Remove the screw that secures the display video cable connector to the system board (Figure 5-47).

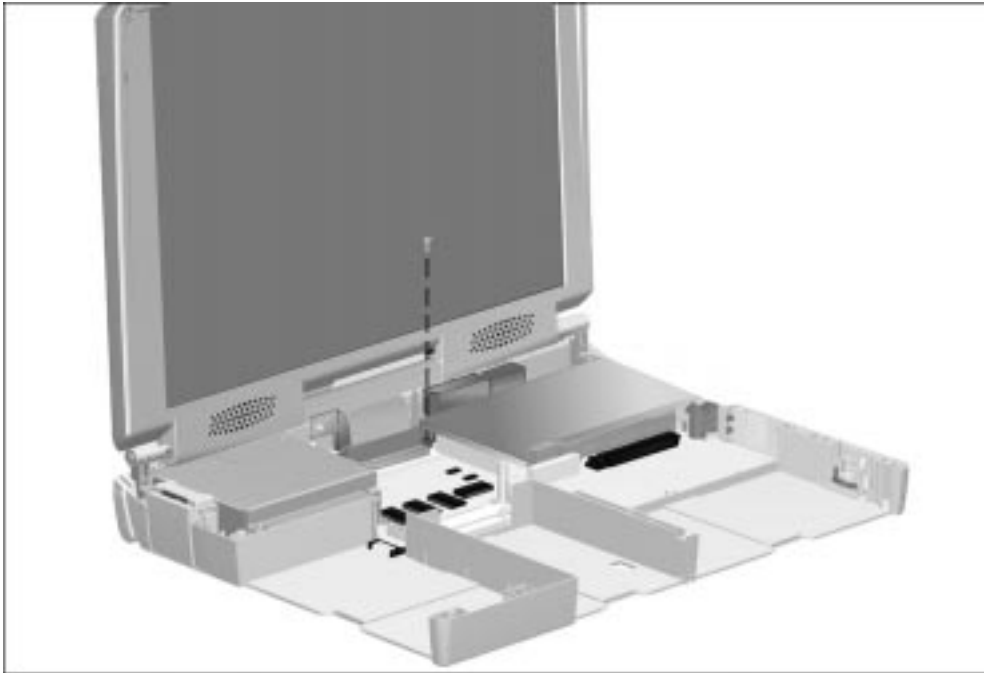


Figure 5-47. *Removing the Display Video Cable Connector Screws*

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10. Grasp the tabs on the display video connector ❶ and disconnect the connector from the system board ❷ (Figure 5-48).

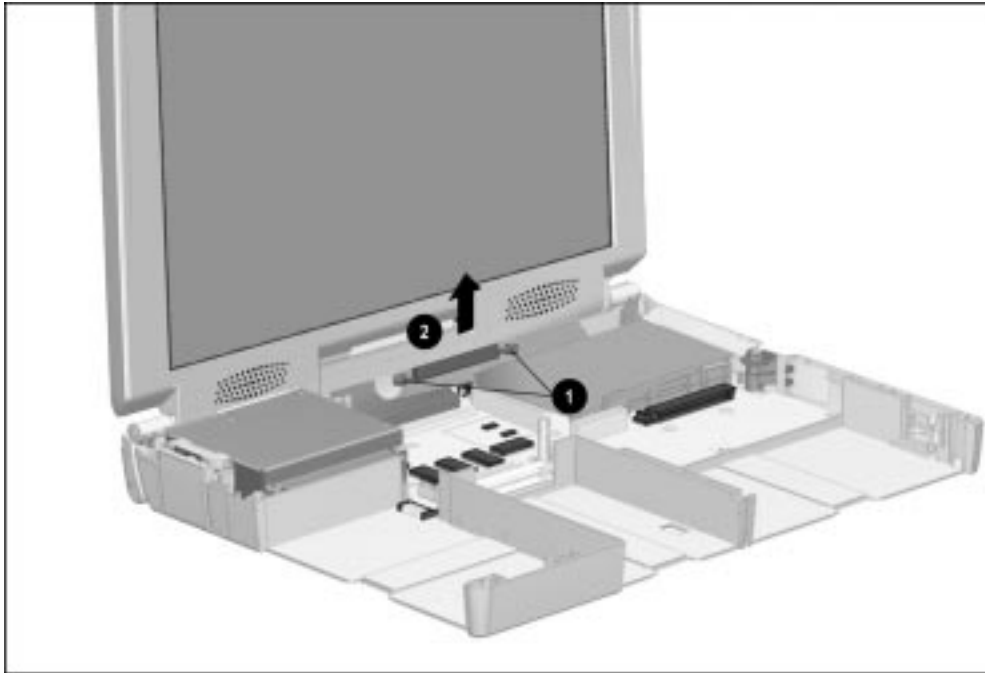


Figure 5-48. *Disconnecting the Display Video Cable*

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11. Disconnect the auxiliary battery cable from the system board (Figure 5-49).

NOTE: This step applies only to computer models with config. codes beginning with “BS”, “BZ”, and “CB”. Refer to Section 5.11, “Auxiliary Battery”, for instructions on disconnecting the auxiliary battery cable on computer models with other config. codes.

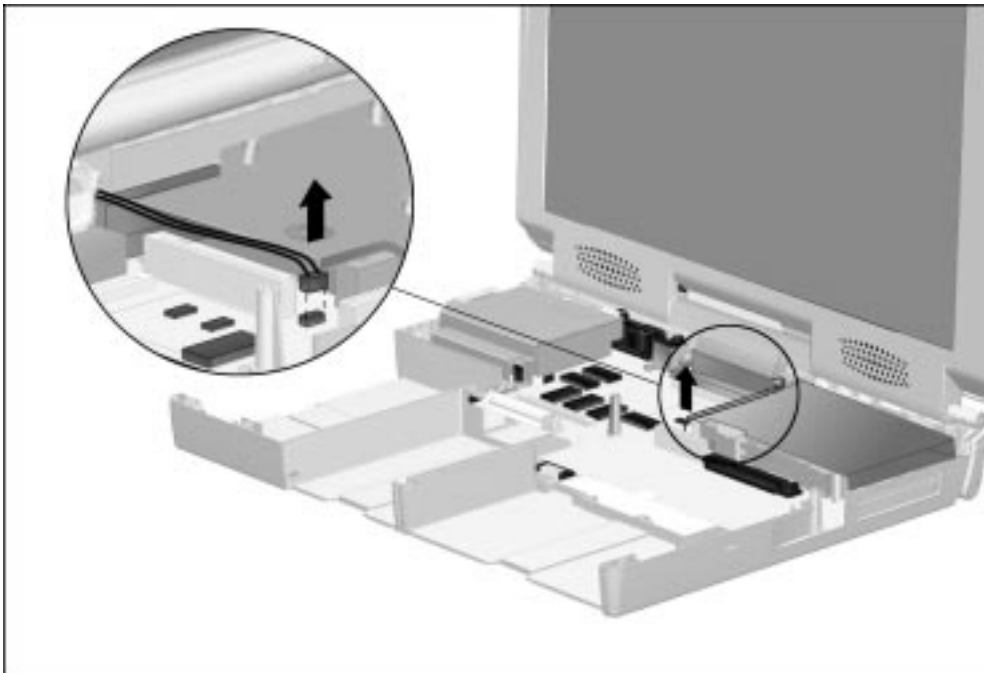


Figure 5-49. *Disconnecting the Auxiliary Battery Cable*

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12. Position the computer so the rear panel faces forward.
 13. Remove the six screws from the rear panel (Figure 5-50). The four screws on the far left and right sides of the computer ❶ secure the display assembly to the computer. The two screws in the middle ❷ secure the display ground cable and auxiliary battery assembly (only on computer models with config. codes beginning with “BS”, “BZ”, and “CB”) to the computer.

NOTE: The screws that secure the auxiliary battery assembly to the computer base assembly are shorter than the four screws that secure the display assembly to the base assembly.



Figure 5-50. Removing the Display Assembly and Auxiliary Battery Assembly Screws

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14. Position the computer so the front faces forward.
 15. Lift the display assembly straight up from the computer (Figure 5-51).

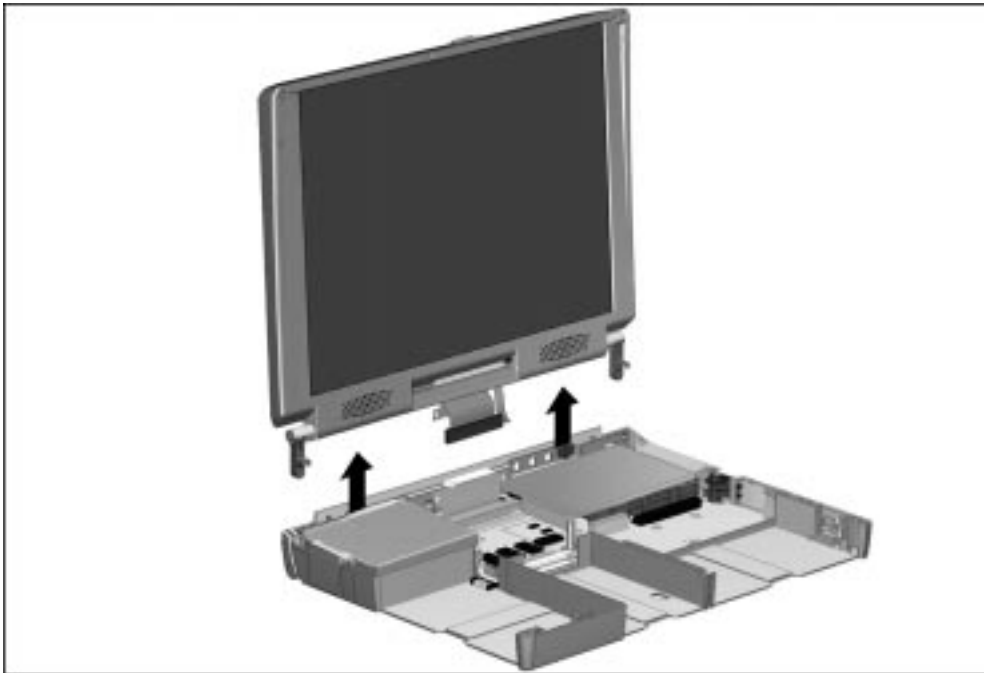


Figure 5-51. *Removing the Display Assembly*

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16. Disconnect the auxiliary battery assembly from the display ground cable (Figure 5-52).

NOTE: This step applies only to computer models with config. codes beginning with “BS”, “BZ”, and “CB”. Refer to Section 5.11, “Auxiliary Battery”, for instructions on removing the auxiliary battery from computer models with other config. codes.

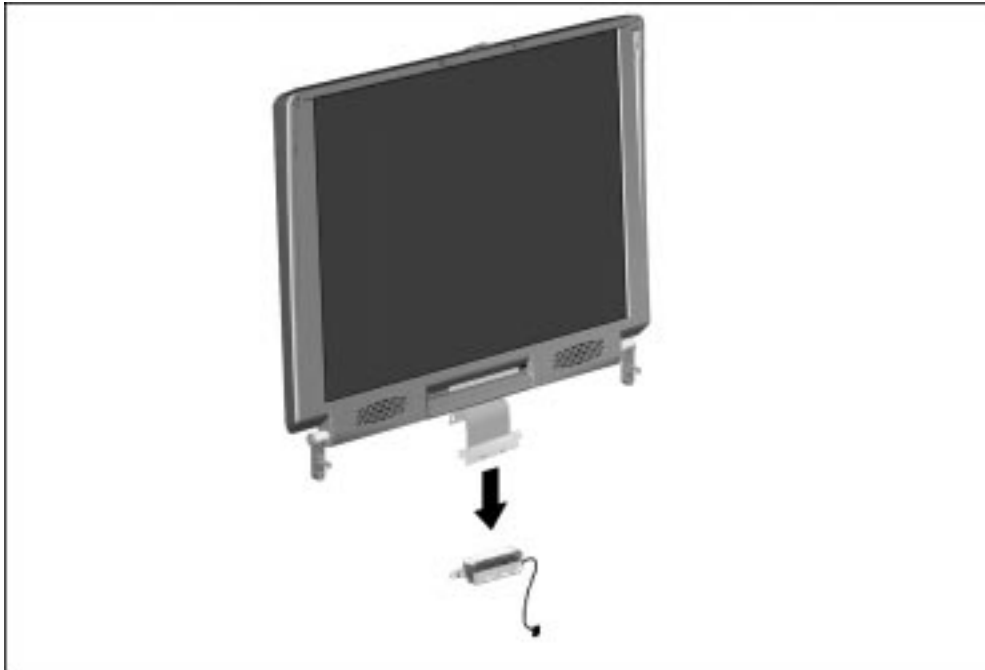


Figure 5-52. Disconnecting the Auxiliary Battery Assembly from the Display Ground Cable

Installing the Display Assembly

1. Attach the auxiliary battery assembly to the display ground cable. The tabs on the ends of the ground cable ❶ fit into the slots on the end of the auxiliary battery bracket ❷; the pins on the bottom of the bracket ❸ fit into the holes on the bottom of the ground cable ❹ (Figure 5-53).

NOTE: This step applies only to computer models with config. codes beginning with “BS”, “BZ”, and “CB”. Refer to Section 5.11, “Auxiliary Battery”, for instructions on installing the auxiliary battery on computer models with other config. codes.

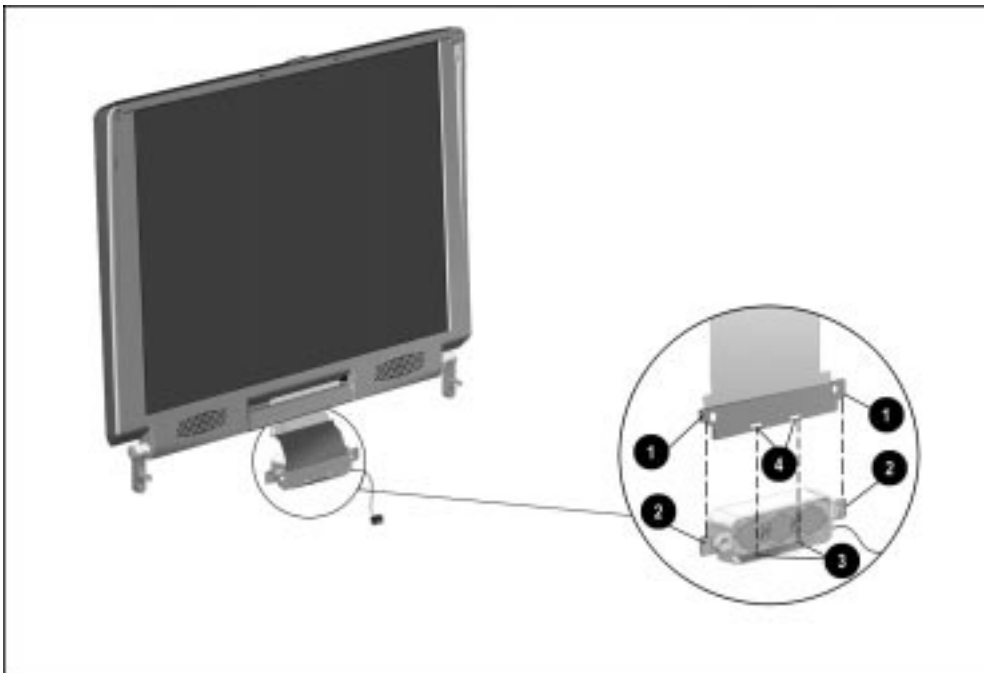


Figure 5-53. Attaching the Display Ground Cable to the Auxiliary Battery Assembly

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2. Position the display clutches so the display assembly is fully upright when it is installed in the computer (Figure 5-54).



Figure 5-54. *Proper Position of the Display Clutches*

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3. Hold the display assembly approximately one to two inches above the base assembly, parallel to the computer ❶ (Figure 5-55).
 4. Roll the auxiliary battery assembly and display ground cable counterclockwise toward the computer ❷ and place the tabs on the auxiliary battery bracket on the hooks on the base assembly ❸.

NOTE: This step applies only to computer models with config. codes beginning with “BS”, “BZ”, and “CB”. Refer to Section 5.11, “Auxiliary Battery”, for instructions on installing the auxiliary battery on computer models with other config. codes.

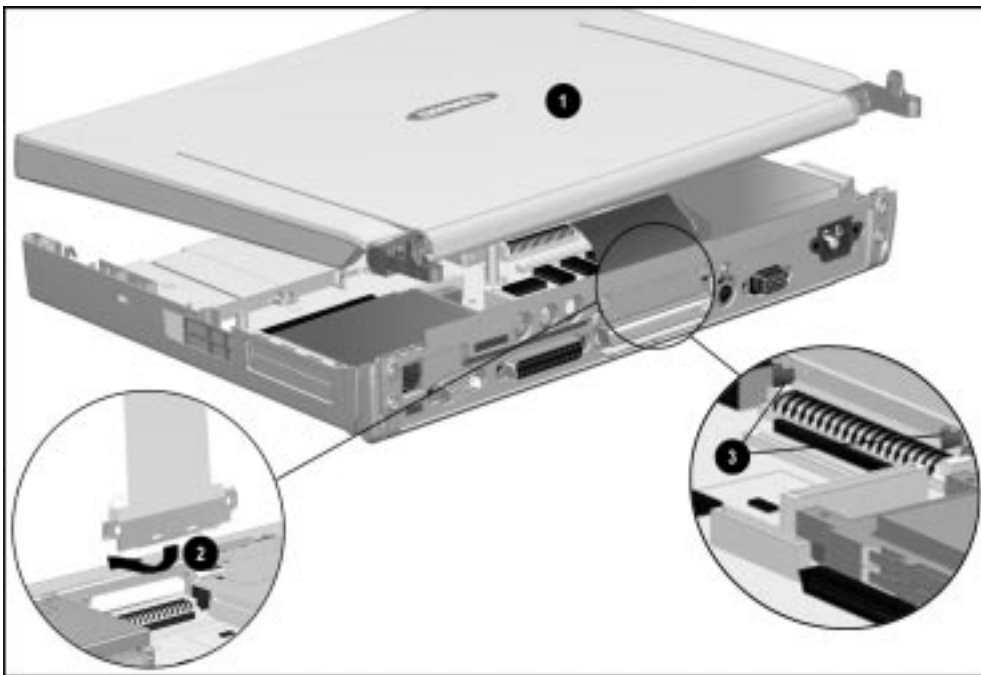


Figure 5-55. Attaching the Display Ground Cable/Auxiliary Battery Assembly to the Computer Base Assembly

5. Tilt the display assembly upright and position the display clutches in the proper locations in the base assembly.
6. Position the computer so the rear panel faces forward.
7. Install the two screws that secure the display ground cable and auxiliary battery assembly (only on computer models with config. codes beginning with “BS”, “BZ”, and “CB”) to the computer.
8. Install the four screws that secure the display assembly to the base assembly.

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9. Connect the display video cable ❶ to the system board and install the screw ❷ that secures the cable to the system board (Figure 5-56).

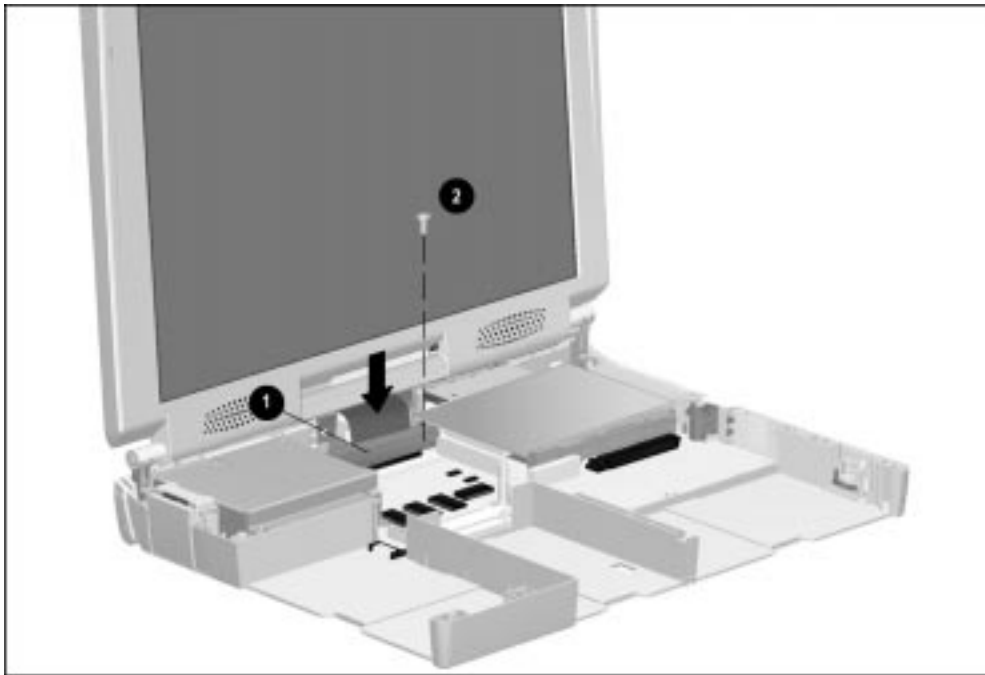


Figure 5-56. *Connecting the Display Video Cable*

10. Position the computer so the front of the computer faces forward.

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11. Route the auxiliary battery cable between the modem connector ❶ and the audio assembly bracket ❷ (Figure 5-57).

NOTE: Steps 11 and 12 apply only to computer models with config. codes beginning with “BS”, “BZ”, and “CB”. Refer to Section 5.11, “Auxiliary Battery”, for instructions on disconnecting the auxiliary battery cable on computer models with other config. codes.

12. Connect the auxiliary battery cable to the system board.

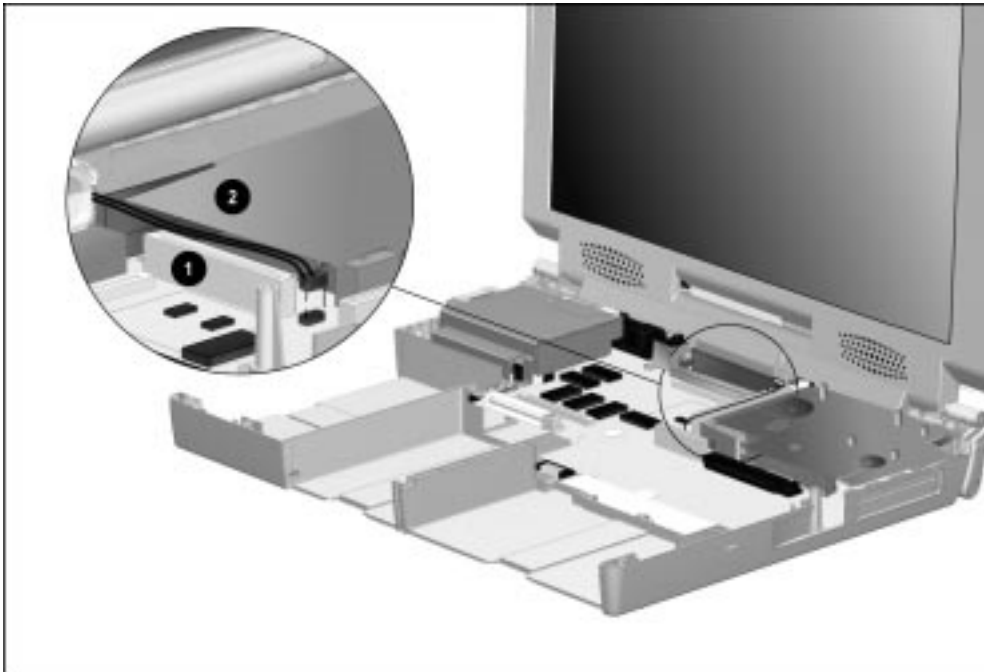


Figure 5-57. Connecting the Auxiliary Battery Cable to the System Board

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Display Bezel

NOTE: There are some differences in the disassembly of the 14.1- and 13.3-inch display assemblies. These differences are pointed out in the following sections.

1. Prepare the computer for disassembly (Section 5.3).
2. Remove the keyboard assembly (Section 5.10).
3. Remove the audio/USB board (Section 5.14).
4. Remove the modem board (on modem models, Section 5.15).
5. Remove the processor module assembly (Section 5.18).
6. Remove the display assembly (Section 5.19).
7. Remove the four screw covers and screws (13.3-inch display only, Figure 5-58).

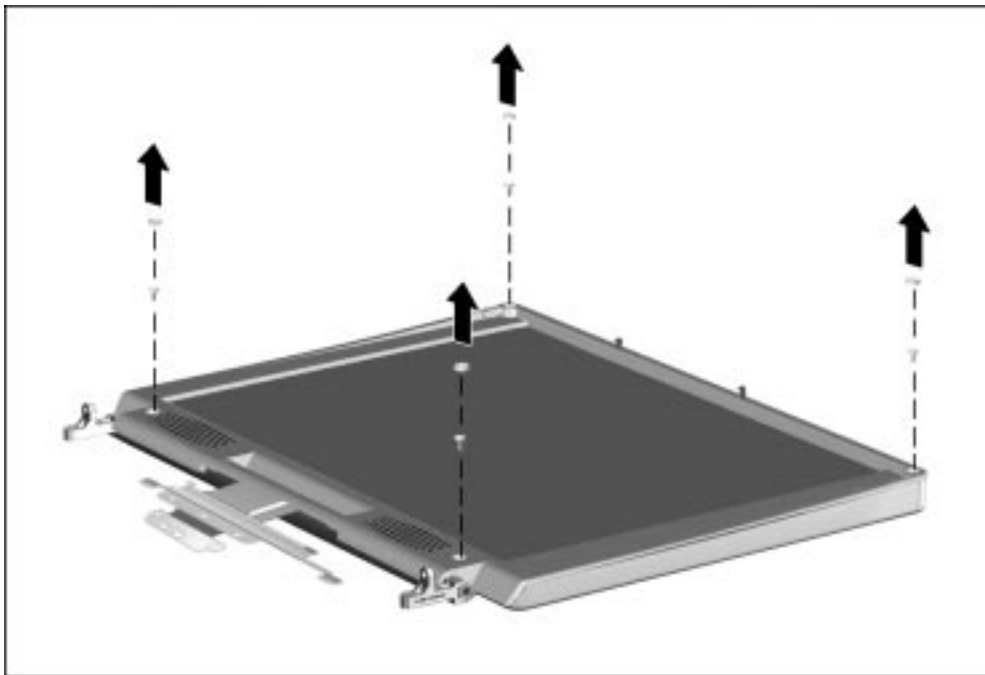


Figure 5-58. Removing the Display Bezel Screw Covers and Screws on the 13.3-inch Display

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8. Remove the three screw covers and screws (14.1-inch display only, Figure 5-59).

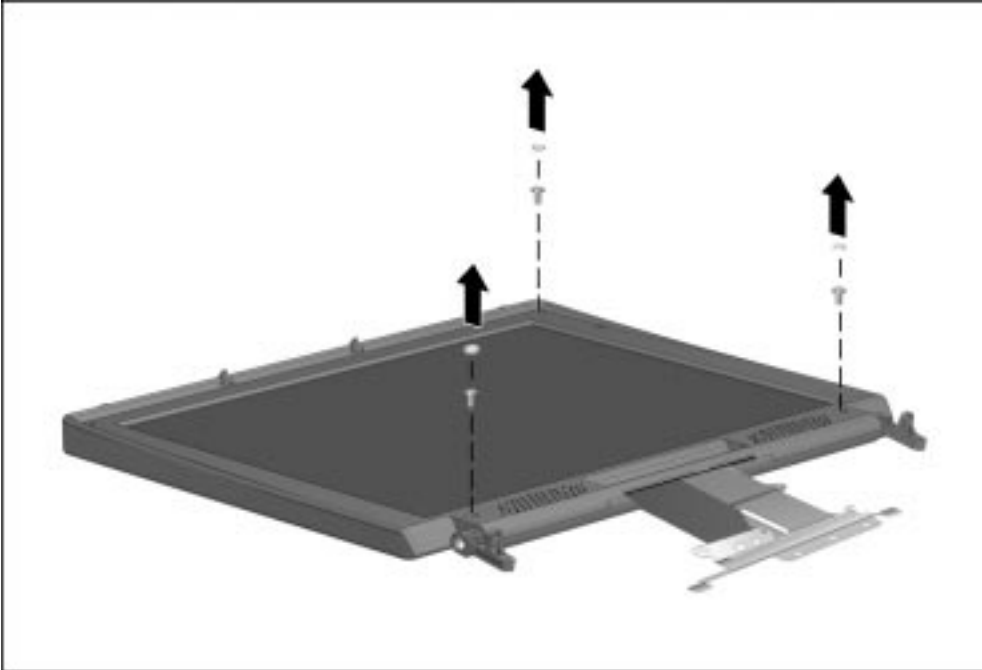


Figure 5-59. Removing the Display Bezel Screw Covers and Screws on the 14.1-inch Display

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9. Beginning at the bottom inside edge of the display bezel, pry the bezel loose (Figure 5-60). Continue separating the bezel from the enclosure along the inside edges of the two sides and then slide the bezel off the top of the display enclosure.

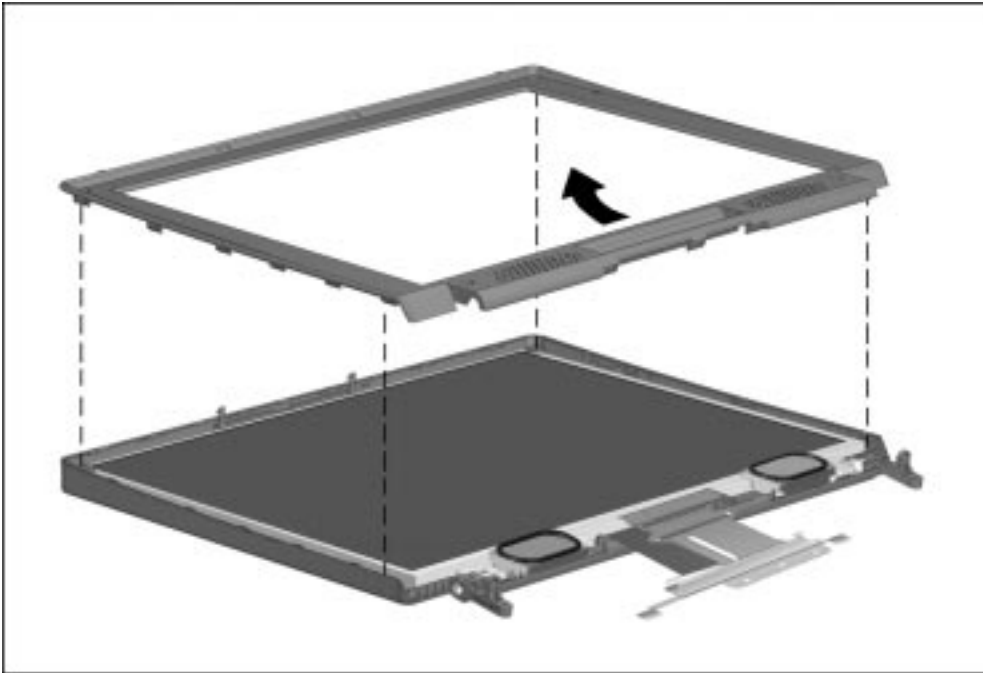


Figure 5-60. *Removing the Display Bezel*

Reverse the above procedure to install the display bezel.

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Display Panel

1. Prepare the computer for disassembly (Section 5.3).
2. Remove the keyboard assembly (Section 5.10).
3. Remove the audio/USB board (Section 5.14).
4. Remove the modem board (on modem models, Section 5.15).
5. Remove the processor module assembly (Section 5.18).
6. Remove the display assembly (Section 5.19).
7. Remove the display bezel.
8. Remove the four screws that secure the display panel to the display enclosure (13.3-inch display only, Figure 5-61).

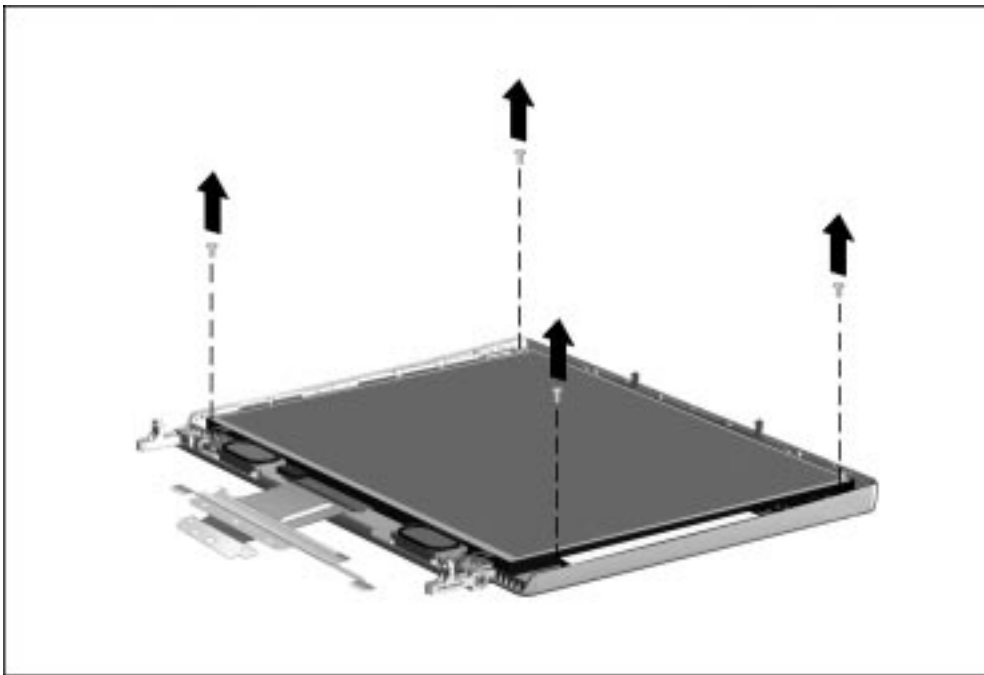


Figure 5-61. Removing the Display Panel Screws on the 13.3-inch Display

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9. Remove the two screw covers on the left side of the display bezel and the four screws that secure the display panel to the display enclosure (14.1-inch display only, Figure 5-62).

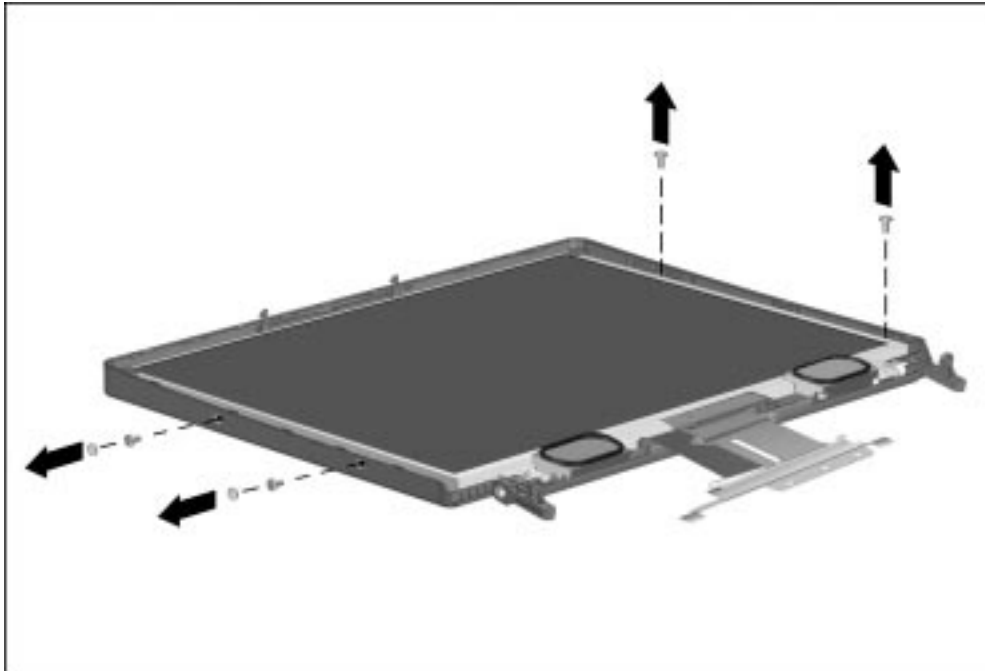


Figure 5-62. Removing the Display Panel Screws on the 14.1-inch Display

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10. Lift the inverter shield to uncover the inverter ❶. Disconnect the power cable from the inverter ❷ (Figure 5-63).

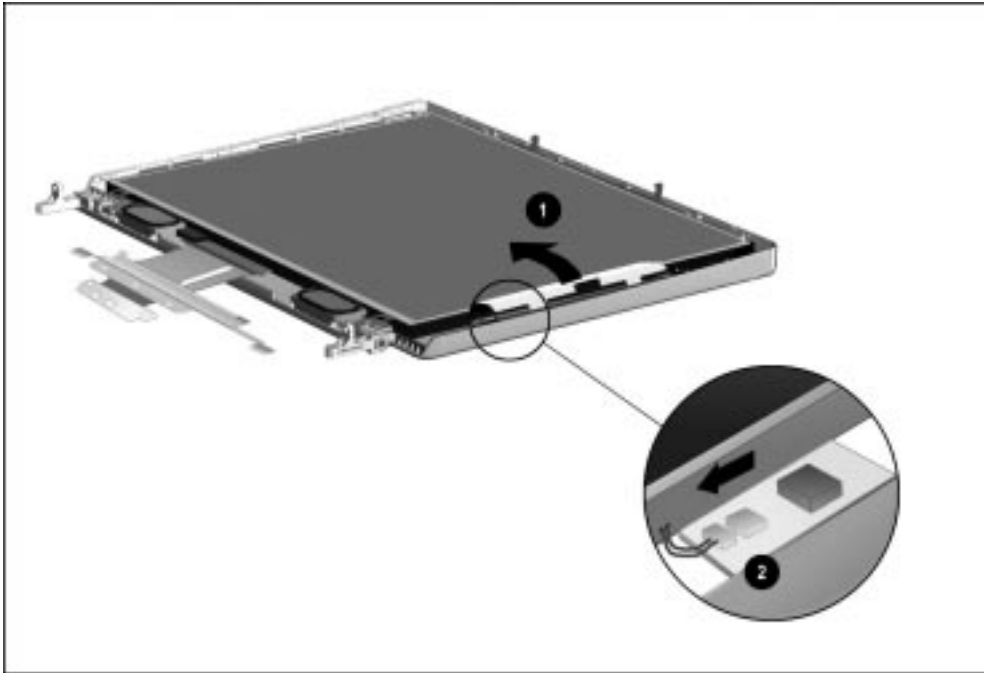


Figure 5-63. *Disconnecting the Inverter Power Cable*

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11. Partially lift the left side of the display panel out of the display enclosure ❶ (13.3-inch display only, Figure 5-64).
 12. Disconnect the display video cable ❷ from the side of the display panel (13.3-inch display only).

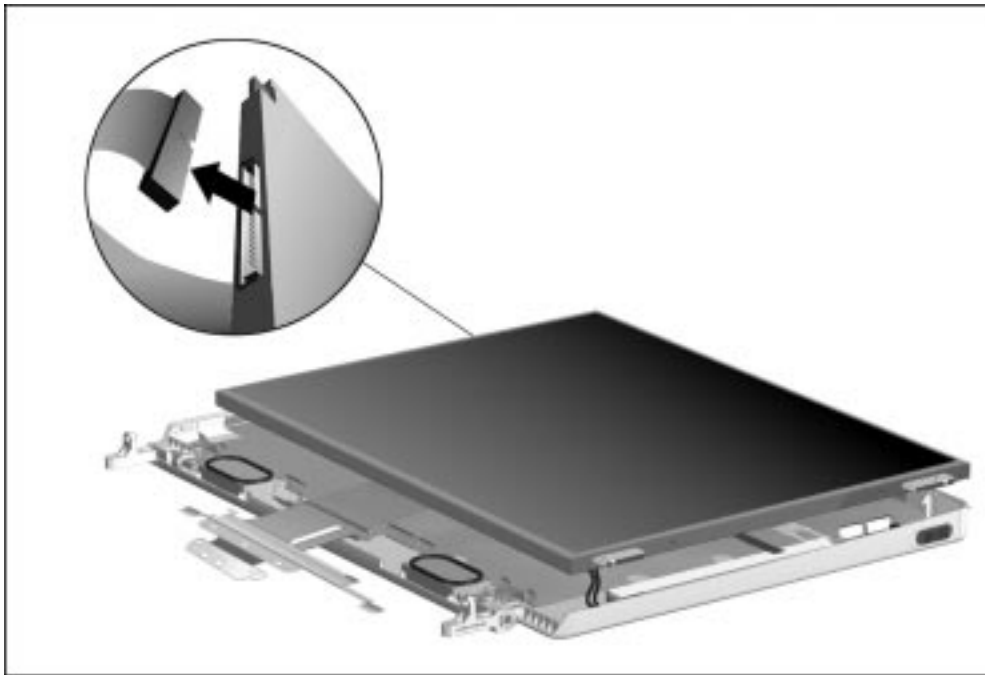


Figure 5-64. Disconnecting the Display Video Cable on the 13.3-inch Display

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13. Lift the display panel away from of the display enclosure and disconnect the display video cable from the back-center area of the display panel (14.1-inch display only, Figure 5-65).

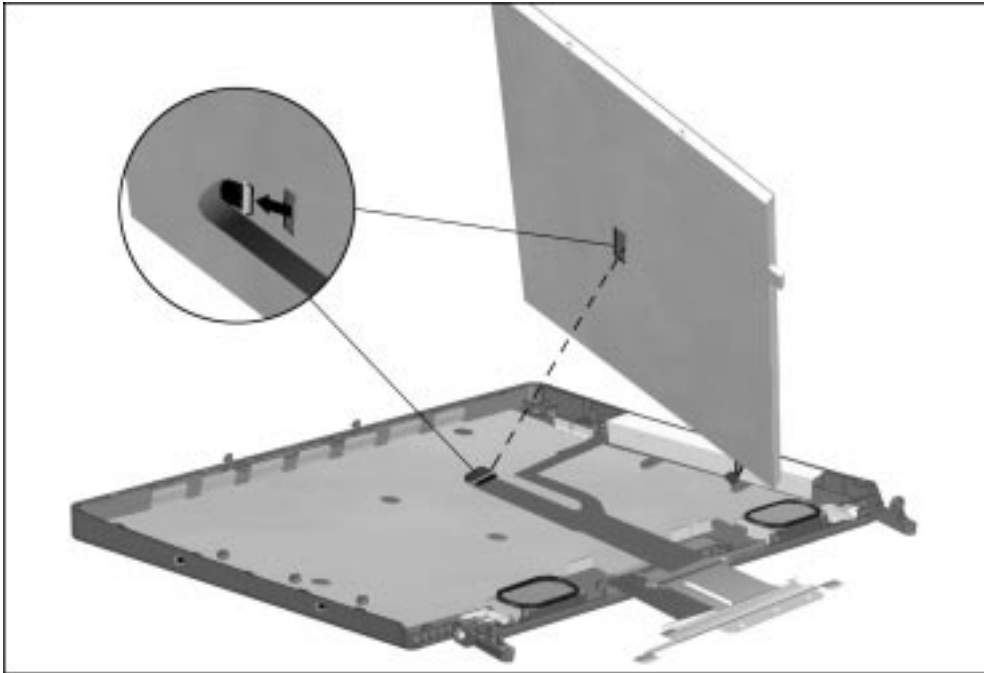


Figure 5-65. *Disconnecting the Display Video Cable on the 14.1-inch Display*

14. Remove the display panel and set it aside.



CAUTION: When installing the display panel, make sure the tabs on the inverter shield ❶ are inserted between the sheet metal ❷ and the outside plastic edge ❸ of the display enclosure (Figure 5-66). Failure to properly insert the inverter shield can result in damage to the display assembly.

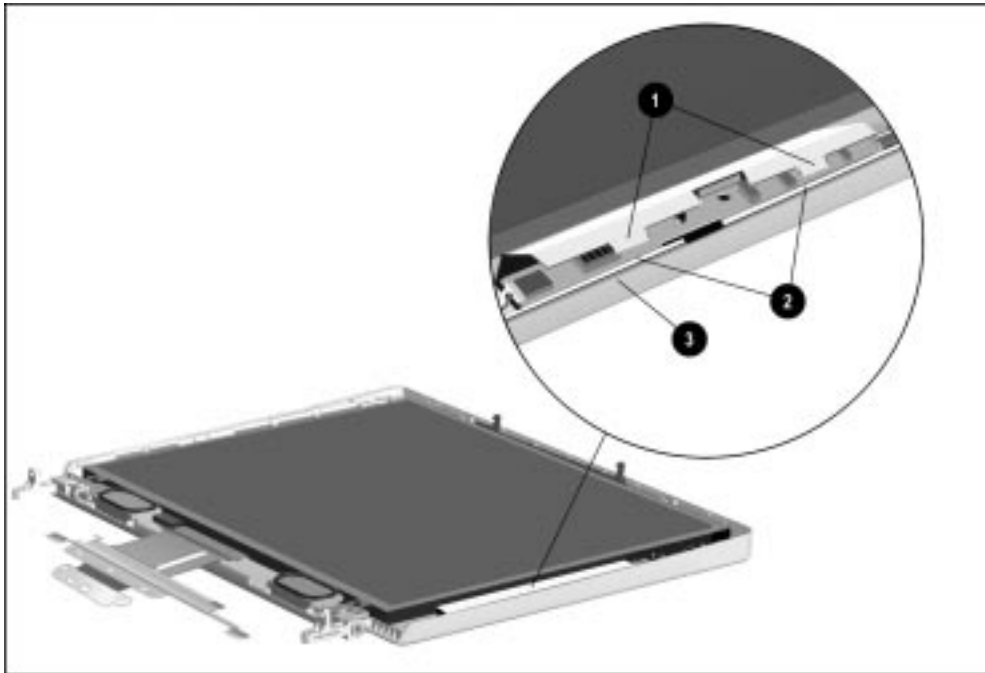


Figure 5-66. *Replacing the Inverter Shield*

Reverse the above procedure to install the display panel. Be sure to first install the top of the panel under the display latch at the top of the display enclosure.

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Speaker Assemblies

1. Prepare the computer for disassembly (Section 5.3).
2. Remove the keyboard assembly (Section 5.10).
3. Remove the audio/USB board (Section 5.14).
4. Remove the modem board (on modem models, Section 5.15).
5. Remove the processor module assembly (Section 5.18).
6. Remove the display assembly (Section 5.19).
7. Remove the display bezel.
8. Disconnect the speaker cable ❶ from the display audio cable and remove the speaker from the display enclosure ❷ (Figure 5-67).

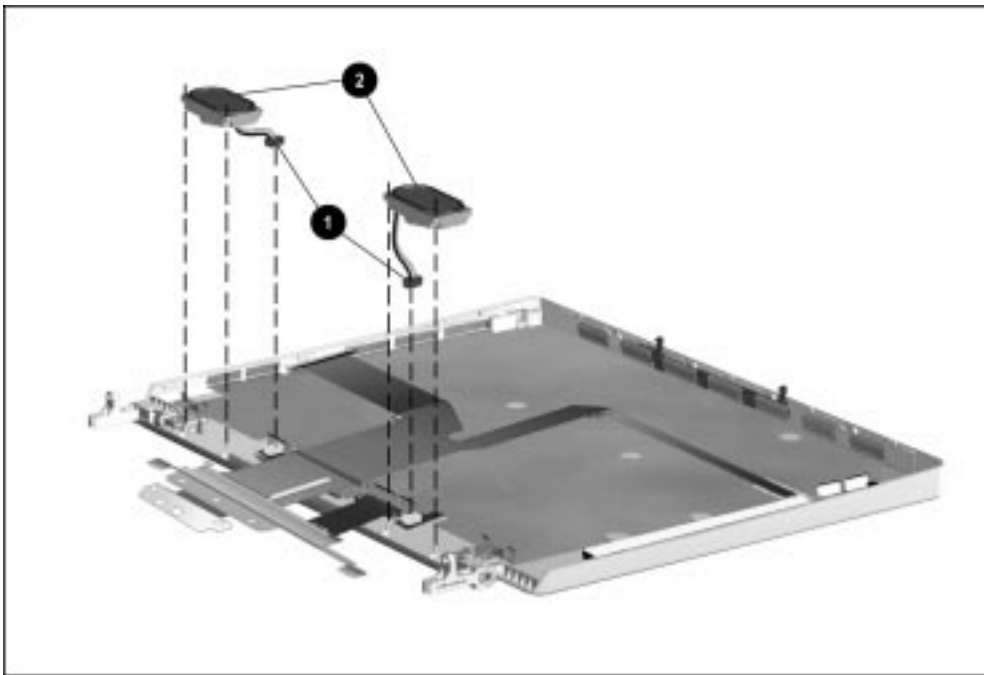


Figure 5-67. *Removing the Speaker Assemblies*

Reverse the above procedure to install the speaker assemblies.

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Inverter

NOTE: The inverter shield is attached to the display enclosure by an adhesive backing. Pull firmly on the shield when removing it. The shield must be replaced if the display enclosure is damaged.

1. Prepare the computer for disassembly (Section 5.3).
2. Remove the keyboard assembly (Section 5.10).
3. Remove the audio/USB board (Section 5.14).
4. Remove the modem board (on modem models, Section 5.15).
5. Remove the processor module assembly (Section 5.18).
6. Remove the display assembly (Section 5.19).
7. Remove the display bezel.
8. Remove the display panel.

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9. Remove the screw ❶ that secures the inverter to the display enclosure (Figure 5-68).
 10. Lift the inverter ❷ out of the display enclosure. Disconnect the display video cable from the inverter ❸.
 11. Remove the inverter and set it aside.

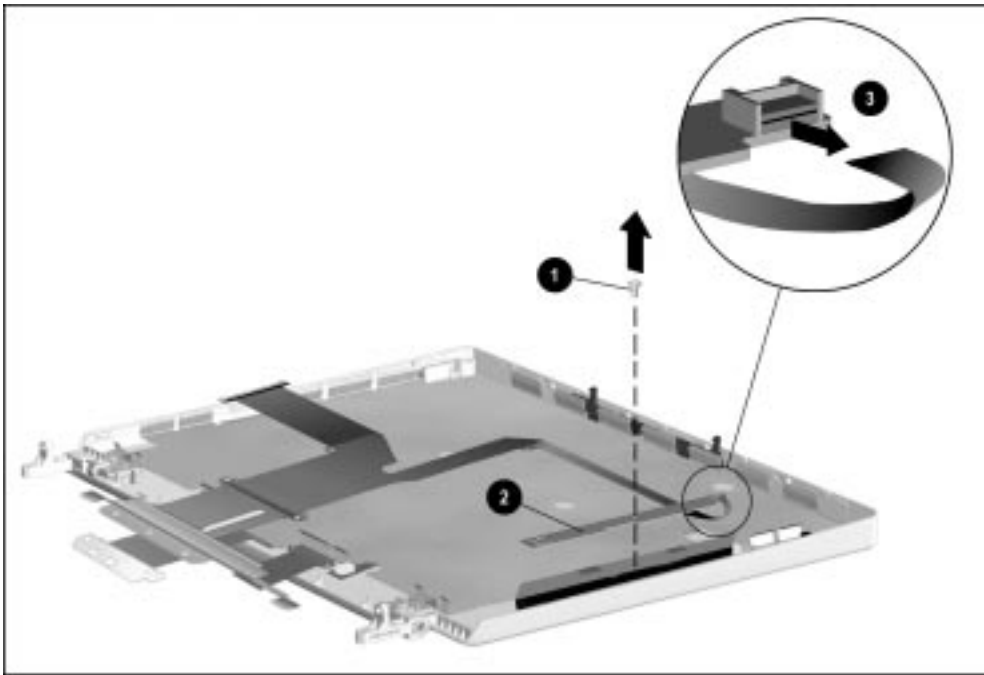


Figure 5-68. *Removing the Inverter*

Reverse the above procedure to install the inverter. Be sure to connect the display cable to the connector on the inverter before securing the inverter to the display enclosure.

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Display Video Cable

IMPORTANT: Make note of the routing of the display video cable in the display assembly to ensure proper routing at reassembly.

1. Prepare the computer for disassembly (Section 5.3).
2. Remove the keyboard assembly (Section 5.10).
3. Remove the audio/USB board (Section 5.14).
4. Remove the modem board (on modem models, Section 5.15).
5. Remove the processor module assembly (Section 5.18).
6. Remove the display assembly (Section 5.19).
7. Remove the display bezel.
8. Remove the display panel.
9. Remove the inverter.
10. Lift the display video cable out of the display enclosure (Figure 5-69).

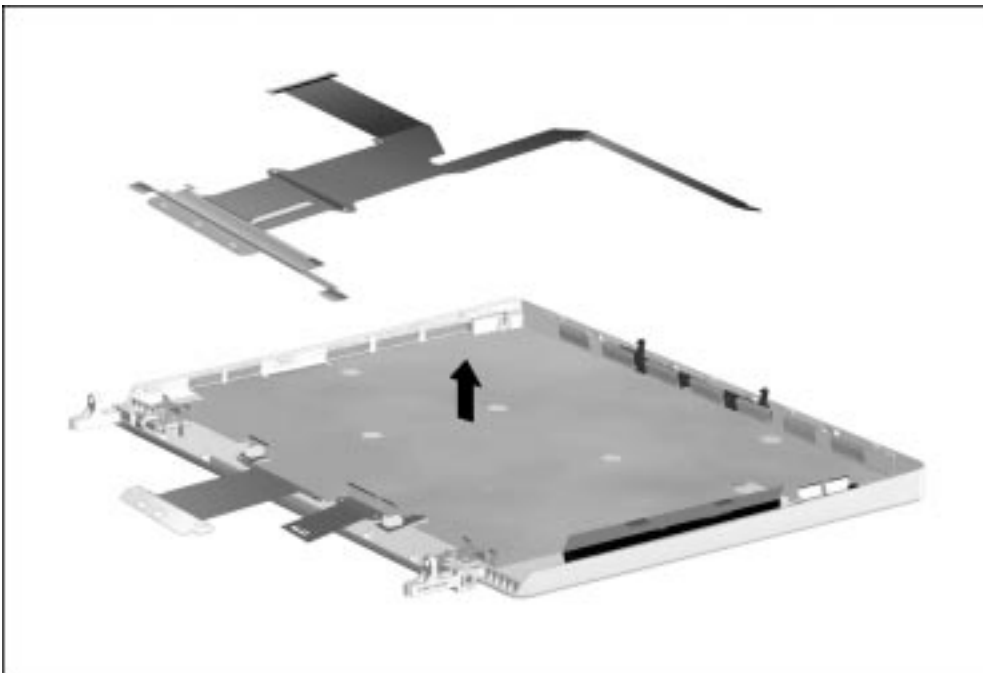


Figure 5-69. Removing the Display Video Cable

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Reverse the above procedure to install the display video cable.

NOTE: When installing the display video cable, make sure the pinholes ❶ in the cable fit over the alignment pins in the display enclosure ❷ (Figure 5-70).

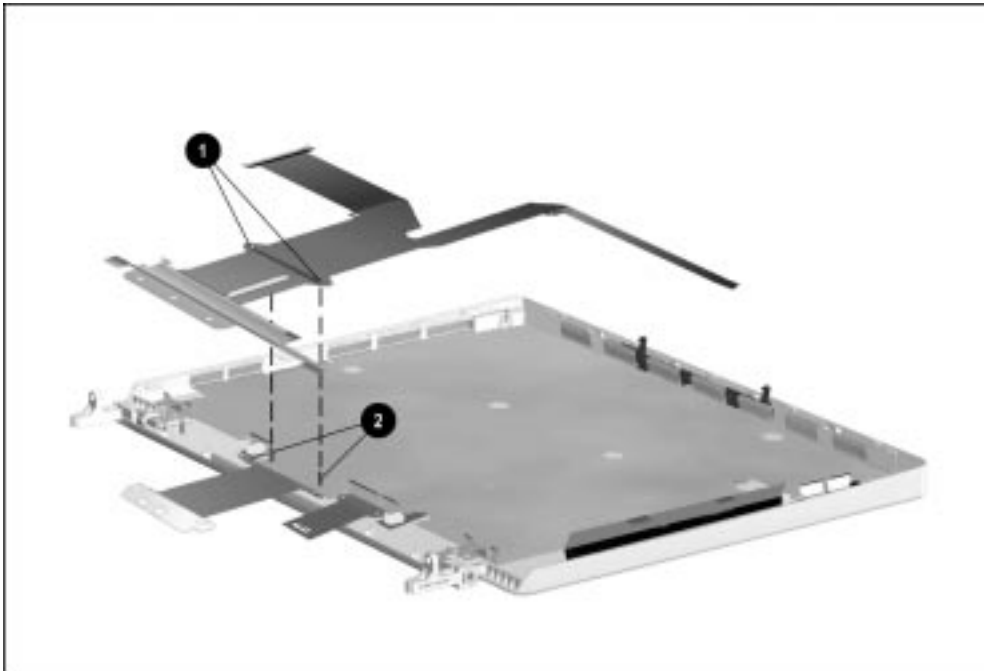


Figure 5-70. *Installing the Display Video Cable*

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Display Audio Cable/Microphone Assembly

IMPORTANT: Make note of the routing of the display audio cable in the display assembly to ensure proper routing at reassembly.

1. Prepare the computer for disassembly (Section 5.3).
2. Remove the keyboard assembly (Section 5.10).
3. Remove the audio/USB board (Section 5.14).
4. Remove the modem board (on modem models, Section 5.15).
5. Remove the processor module assembly (Section 5.18).
6. Remove the display assembly (Section 5.19).
7. Remove the display bezel.
8. Remove the display panel.
9. Remove the speaker assemblies.
10. Remove the inverter.
11. Remove the display video cable.
12. Remove the display shield and ground cable from the display enclosure (Figure 5-71).

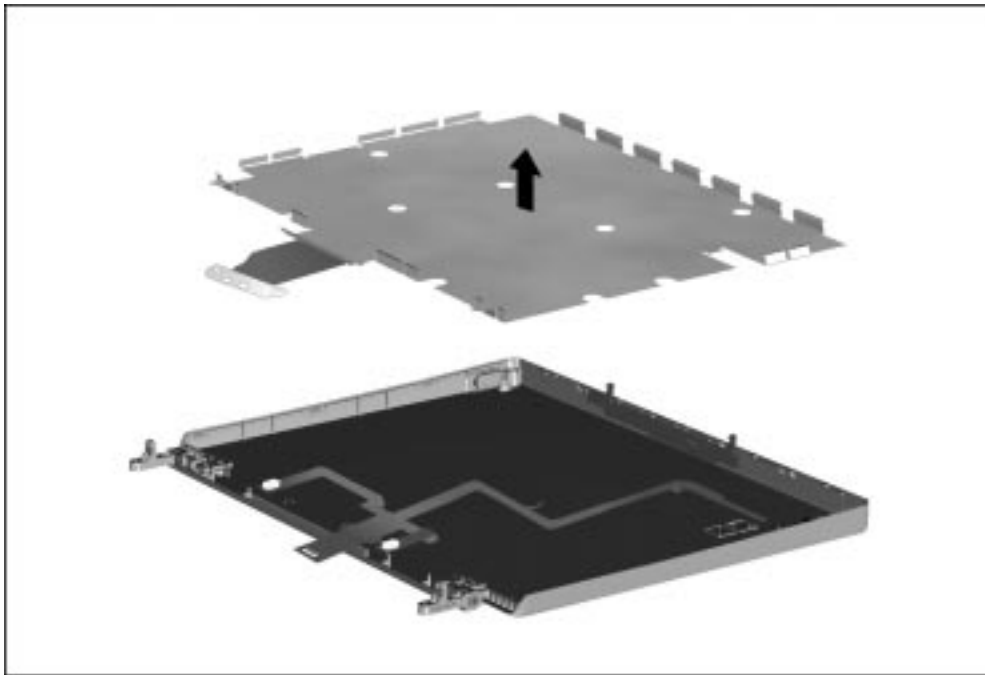


Figure 5-71. Removing the Display Shield and Ground Cable

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13. Remove the screw securing the microphone assembly to the display enclosure ❶ (Figure 5-72).
 14. Remove the microphone assembly ❷ from the display enclosure.
 15. Disconnect the display audio cable from the microphone assembly ❸.
 16. Remove the display audio cable from the display enclosure ❹.

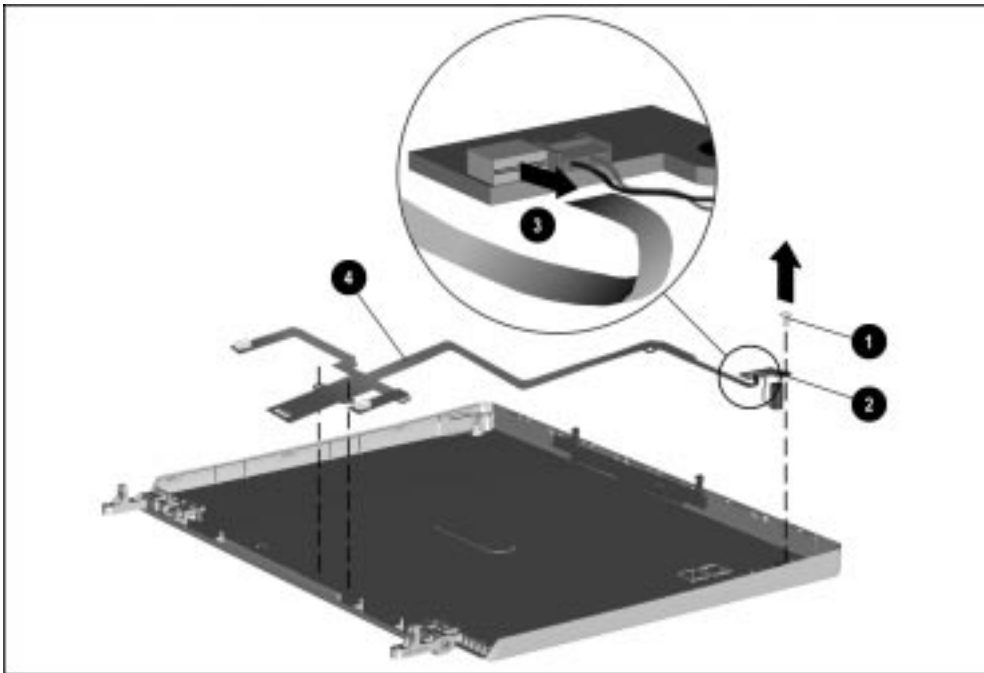


Figure 5-72. Removing the Display Audio Cable and Microphone Assembly

Reverse the above procedure to install the display audio cable and microphone assembly. Be sure the eight alignment pins on the display enclosure align with the holes in the audio cable.

5.20 PC Card Eject Levers

The PC Card eject levers are located on the right side of the computer.

1. Prepare the computer for disassembly (Section 5.3).
2. Remove all battery packs (Section 5.6).
3. Remove the keyboard assembly (Section 5.10).
4. Remove the audio/USB board (Section 5.14).
5. Remove the modem board (on modem models, Section 5.15).
6. Remove the audio assembly bracket (Section 5.16).
7. Pull out both PC Card eject levers ❶ (Figure 5-73).
8. Lift the PC Card eject levers off their mounting post ❷.

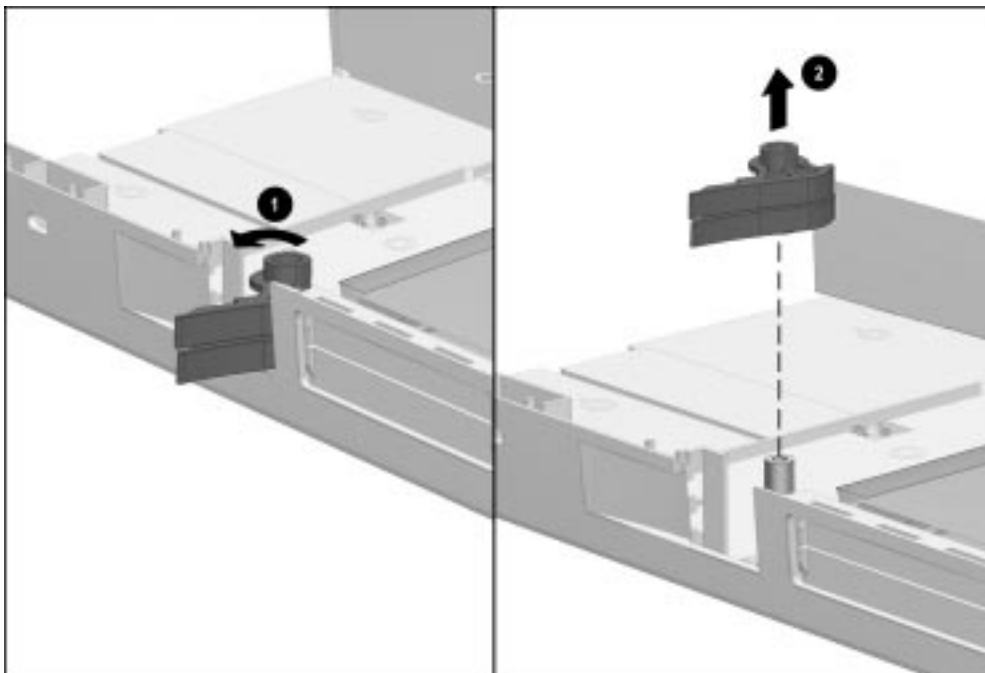


Figure 5-73. Removing the PC Card Eject Levers

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Installing the PC Card Eject Levers

NOTE: The top and bottom eject levers are not interchangeable. Take special precautions to note the proper position of each lever when installing the PC Card eject levers.

1. Use a narrow flat tool, such as a small flat-blade screwdriver or a “spoojer,” to hold back the PC Card eject buttons ❶ (Figure 5-74).
2. Align the PC Card eject levers with the flush edges of each lever located on the inside ❷.
3. Place the PC Card eject levers on the mounting post ❸.

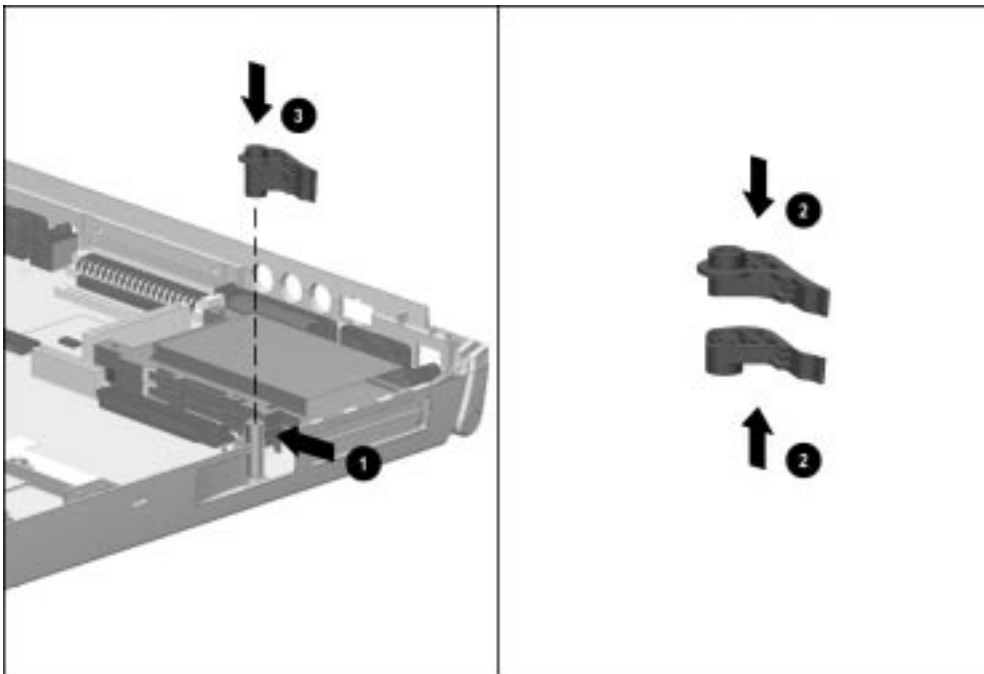


Figure 5-74. Installing the PC Card Eject Levers

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5.21 System Board

1. Prepare the computer for disassembly (Section 5.3).
2. Remove all battery packs (Section 5.6).
3. Remove the keyboard assembly (Section 5.10).
4. Remove the auxiliary battery (Section 5.11; this step applies only to computer models with config. codes beginning with “CD”, “CH”, and “CZ”).
5. Remove the power supply (Section 5.12).
6. Remove the fan assembly (Section 5.13).
7. Remove the audio/USB board (Section 5.14).
8. Remove the modem board (on modem models, Section 5.15).
9. Remove the audio assembly bracket (Section 5.16).
10. Remove the processor module assembly (Section 5.18).
11. Remove the display assembly (Section 5.19).
12. Remove the hard drive (Section 5.7).
13. Remove any MultiBay devices (Section 5.8).

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14. Remove the expansion connector shield by lifting it from the computer base assembly (Figure 5-75). This step applies only to computer models with config. codes beginning with “BS”, “BZ”, and “CB”.

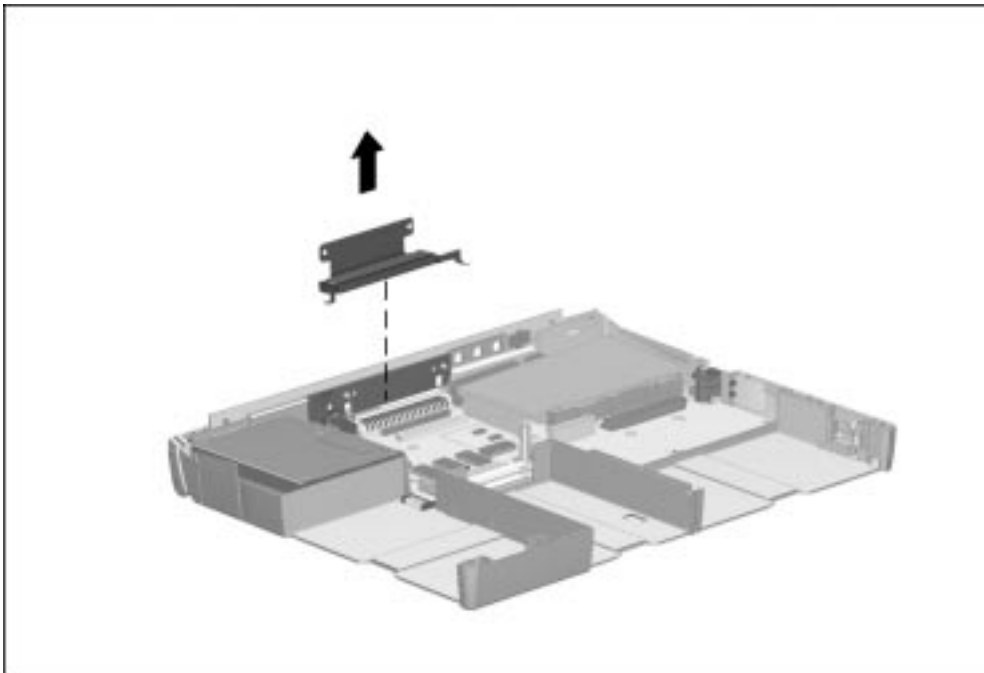


Figure 5-75. *Removing the Expansion Connector Shield*

Reverse the above procedure to install the expansion connector shield.



CAUTION: The connector shield must be present to prevent short circuits. Failure to install the connector shield can result in damage to the computer.

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15. The keyboard connector insulator is attached to the back of the keyboard connector (Figure 5-76). If a new insulator must be installed, remove the old insulator, remove the tape backing from the new insulator, and attach the new insulator to the back of the keyboard connector.

NOTE: This step is not necessary if a new expansion connector shield is used. This shield is available in the Miscellaneous Hardware Kit, spare part number 314959-001.

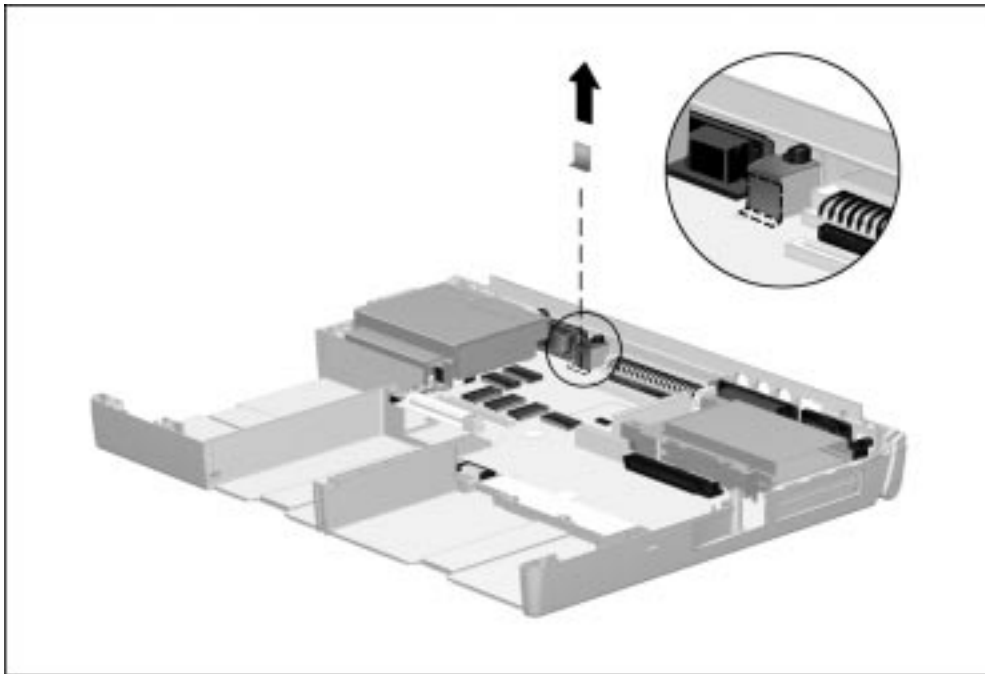


Figure 5-76. *Removing the Keyboard Connector Insulator*

Reverse the above procedure to install the keyboard connector insulator.



CAUTION: The keyboard connector insulator must be present to prevent short circuits. Failure to install the keyboard connector insulator can result in damage to the computer.

16. Remove the PC Card eject levers (Section 5.20).

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17. Remove the four screws ❶ and ❷ that secure the system board to the computer base assembly (Figure 5-77).
 18. **NOTE:** Two of the four screws removed in this step are flathead screws ❷. When installing the system board, these flathead screws must be installed in the front/right section of the system board.
 19. Remove the standoff ❸ that secures the system board to the computer base.

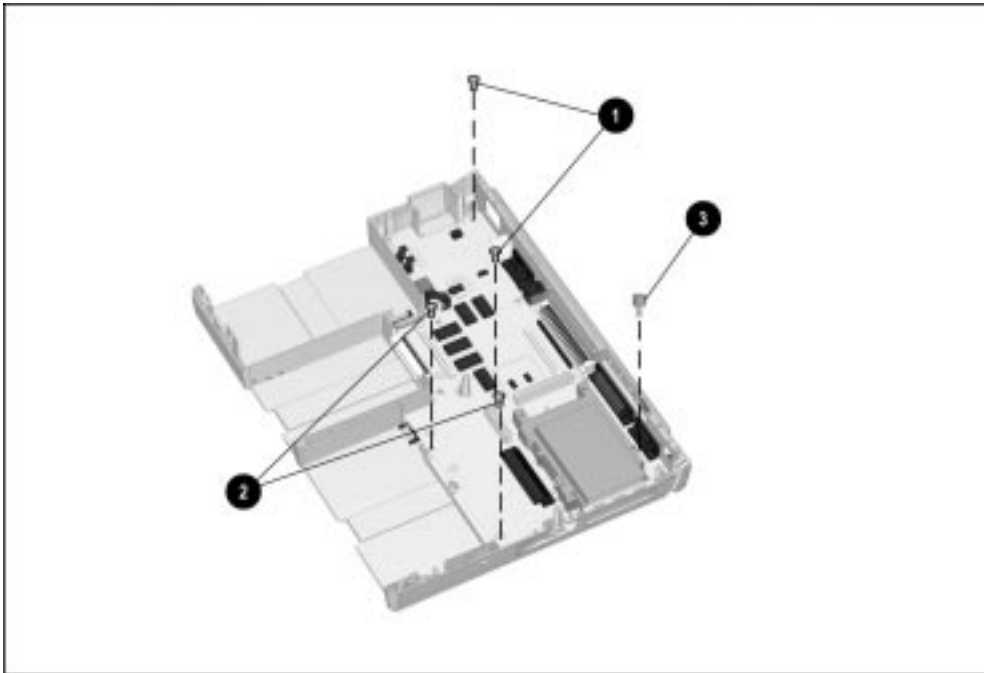


Figure 5-77. Removing the System Board Screws

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20. Position the computer so the rear panel faces forward.
 21. Remove the six 3/16-inch screwlocks ❶ that secure the system board and I/O bracket to the CPU base assembly (Figure 5-78).
 22. Remove the two 7-millimeter guide bushings ❷ that secure the the system board and I/O bracket to the CPU base assembly.
 23. Remove the screw located above the external keyboard/mouse connector ❸.

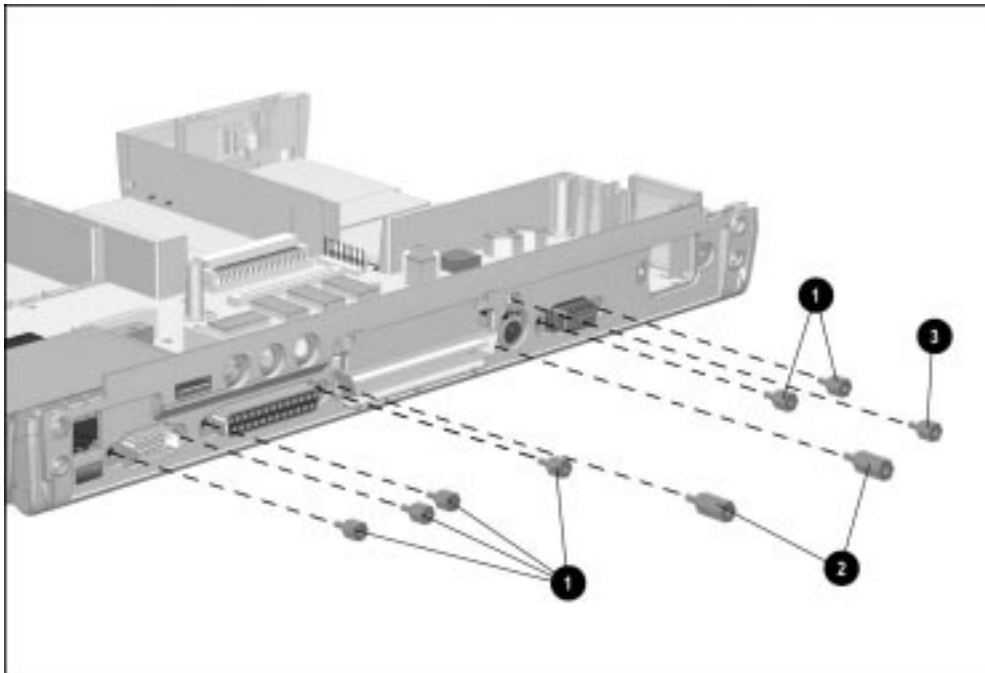


Figure 5-78. Removing the System Board Screwlocks and Keyboard/Mouse Connector Screw

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24. Position the computer so the front faces forward.
 25. Lift the front of the system board. When the front edge of the system board clears the base assembly, lift the system board out of the base assembly (Figure 5-79).
 26. Remove the system board insulator from the base assembly.

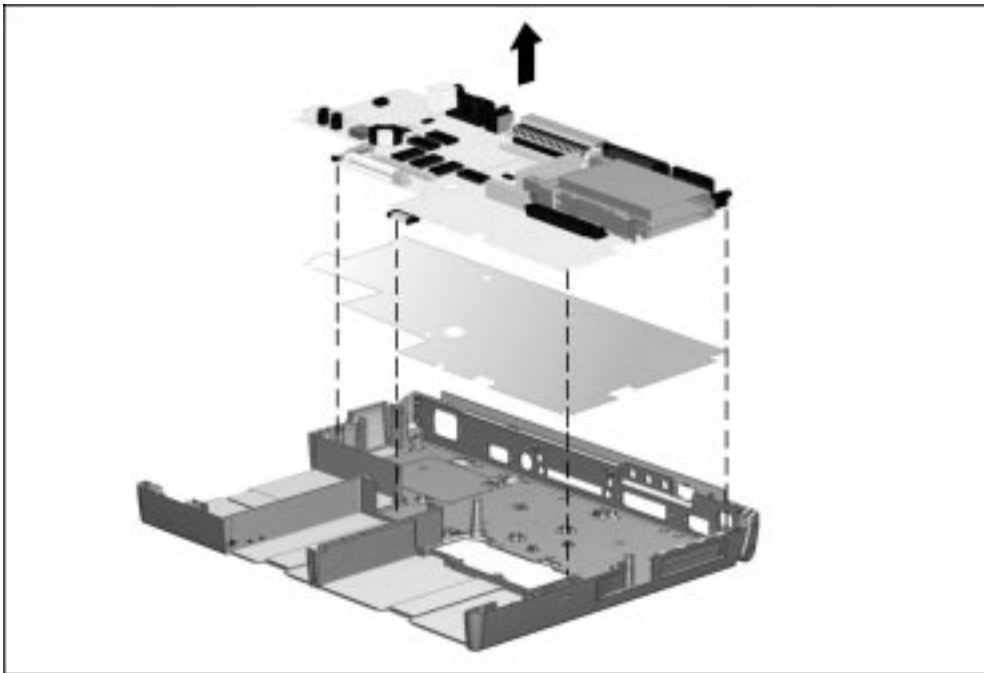


Figure 5-79. *Removing the System Board and Insulator*

Reverse the above procedure to install the system board and insulator.

IMPORTANT: When installing the system board, install and tighten the screwlock on the left side of the expansion connector first. This aligns the system board to the I/O bracket. Next, install and tighten the remaining screwlocks and screws. This procedure ensures proper alignment of the system board and I/O bracket in the computer base assembly.

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5.22 PC Card Assembly

1. Prepare the computer for disassembly (Section 5.3).
2. Remove all battery packs (Section 5.6).
3. Remove the keyboard assembly (Section 5.10).
4. Remove the auxiliary battery (Section 5.11; this step applies only to computer models with config. codes beginning with “CD”, “CH”, and “CZ”).
5. Remove the power supply (Section 5.12).
6. Remove the fan assembly (Section 5.13).
7. Remove the audio/USB board (Section 5.14).
8. Remove the modem board (on modem models, Section 5.15).
9. Remove the audio assembly bracket (Section 5.16).
10. Remove the processor module assembly (Section 5.18).
11. Remove the display assembly (Section 5.19).
12. Remove the PC Card eject levers (Section 5.20).
13. Remove the system board (Section 5.21).

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14. Turn the system board upside down.
 15. Remove the two screws ❶ that secure the PC Card assembly to the system board (Figure 5-80).
 16. Lift the left side of the PC Card assembly to disconnect it from the system board ❷.

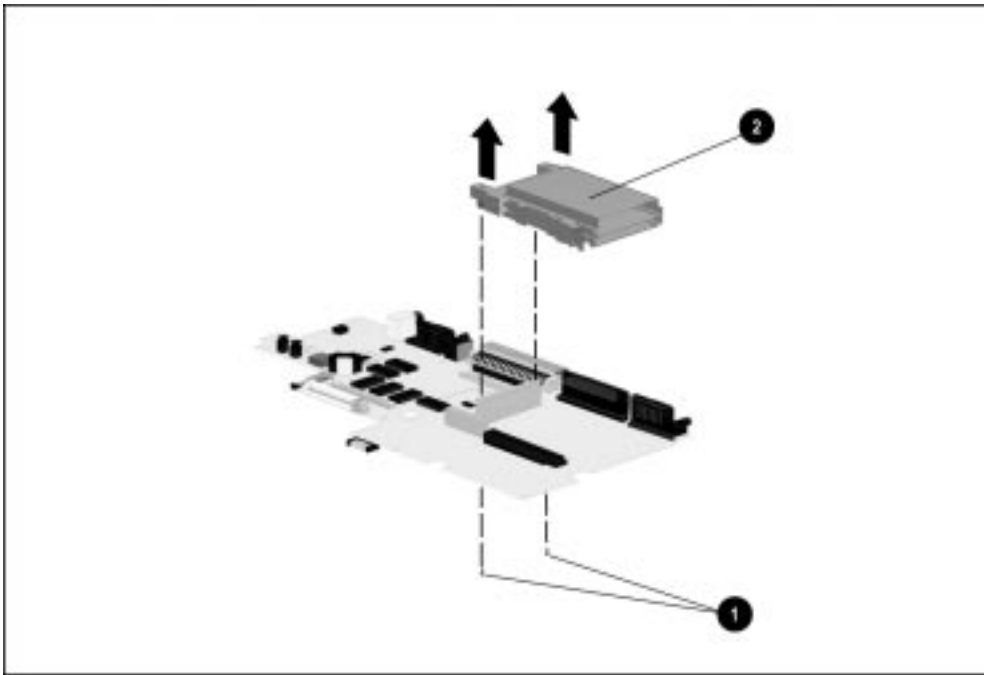


Figure 5-80. Removing the PC Card Assembly

Reverse the above procedure to install the PC Card assembly.

5.23 I/O Bracket

The I/O bracket provides support for the connectors on the rear panel of the computer and serves as a shield.

1. Prepare the computer for disassembly (Section 5.3).
2. Remove all battery packs (Section 5.6).
3. Remove the keyboard assembly (Section 5.10).
4. Remove the auxiliary battery (Section 5.11; this step applies only to computer models with config. codes beginning with “CD”, “CH”, and “CZ”).
5. Remove the power supply (Section 5.12).
6. Remove the fan assembly (Section 5.13).
7. Remove the audio/USB board (Section 5.14).
8. Remove the modem board (on modem models, Section 5.15).
9. Remove the audio assembly bracket (Section 5.16).
10. Remove the processor module assembly (Section 5.18).
11. Remove the display assembly (Section 5.19).
12. Remove the PC Card eject levers (Section 5.20).
13. Remove the system board and insulator (Section 5.21).
14. Remove the PC Card assembly (section 5.22).

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15. Lift the back edge of the I/O bracket. When the bracket clears the computer base assembly, lift it out of the base assembly (Figure 5-81).

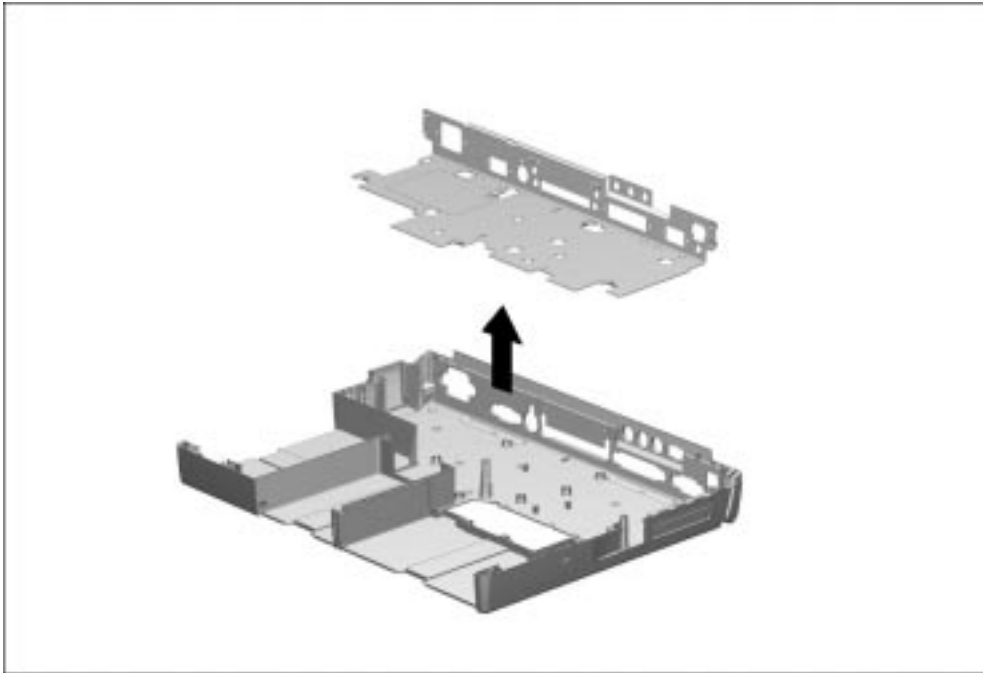


Figure 5-81. *Removing the I/O Bracket*

Reverse the above procedure to install the I/O bracket.