Centris 660AV/Quadra 660AV
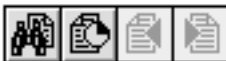
Basic Navigation Within Service Source

Plug-Ins:

Find	Search	Service Source Main Menu	Service Source Parts Database	Web Link
Searches the current document only	Searches across all Acrobat documents			

Product Name
▷ BASICS
▷ SPECIFICATIONS
▷ TROUBLESHOOTING
▷ TAKE APART
EXPLODED VIEW

When viewing Service Source Acrobat procedures with bookmarks active (the default setting), you can click a chapter title to go directly to that chapter. You can also click the triangle to reveal and directly access topics within the chapters.

When printing pages from Acrobat, use these numbers to specify the page range you wish to print. The page numbers at the top of procedure pages are relative to each chapter, not to the whole document.

Go to Next page

Go to Previous page

Indicates the end of a topic

Indicates a topic that is two or more pages

13 of 448   🔍 100% ▼   6.

Basics

Centris 660AV/Quadra 660AV

Figure: Centris 660AV and Quadra 660AV

Overview

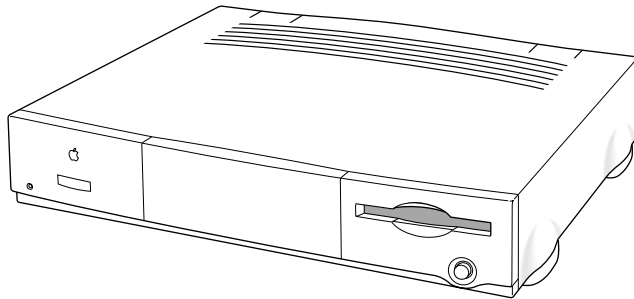This manual includes complete repair procedures for the Centris 660AV and Quadra 660AV shown at left.

Specifications

Centris 660AV/Quadra 660AV

Processors

Processor   Motorola 68040
                      25 MHz
                      Built-in paged memory management unit (PMMU), floating point
                          unit (FPU), and 8K memory cache

Addressing   32-bit registers
                      32-bit address/data bus

Direct Memory   A Peripheral Subsystem Controller (PSC) provides direct
Access (DMA)   memory access (DMA) between the 68040 buses and
                          peripheral devices

Digital Signal Processor (DSP)   AT&T DSP3210 32-bit floating-point digital signal processor
Supports real-time tasks such as speech recognition, audio
compression, and analog modem signal processing.

Memory

RAM   8 MB (4 MB soldered DRAM plus 4 MB SIMM) standard,
              expandable to 68 MB
              72-pin SIMMs
              70 ns access time

ROM   1 MB soldered on logic board

PRAM   256 bytes of parameter memory

VRAM   1 MB (two banks of 512K VRAM soldered on board)

Clock/Calendar   Maximum pixel depths for graphics:
Calendar
- 12-inch RGB (512 x 384) 24 bits per pixel
- 13/14-inch RGB (640 x 480) 16 bits per pixel
- 12-inch monochrome (640 x 480) 8 bits per pixel
- 15-inch portrait (640 x 870) - 8 bits per pixel
- 16-inch RGB (832 x 624) - 16 bits per pixel
- 19-inch RGB (1024 x 768) - 8 bits per pixel
- 21-inch monochrome (1152 x 870) - 8 bits per pixel
- 21-inch RGB (1152 x 870) - 8 bits per pixel
- VGA (640 x 480) - 16 bits per pixel
- SVGA (800 x 600) - 16 bits per pixel

CMOS custom chip with long-life lithium battery

Disk Storage

Floppy Drive   1.4 MB Apple SuperDrive

Hard Drive   3.5 in., internal 80 or 500 MB hard drive

CD-ROM   Optional internal 5.25 in. CD-ROM drive

I/O Interfaces

Expansion Slot   Internal expansion slot supports either NuBus, processor-direct slot (PDS) card, or digital audio/video expansion (DAVE) card (with appropriate adapter)

SCSI   One SCSI port; DB-25 connector
                        Supports a maximum of six external devices (internal SCSI devices include the computer, which is always device 7)

Apple Desktop Bus   Two Apple Desktop Bus (ADB) ports for keyboard, mouse, and low-speed input devices; mini DIN-4 connectors

Expansion Slot   Internal expansion slot supports either a processor-direct slot card or 7-inch NuBus card (with appropriate adapter)

Serial   Two RS-232/RS-422 serial ports
                        One mini DIN-8 port
                        One mini DIN-9 high performance modem port
                        230.4 Kbps maximum

High-Performance   Supports connection to analog, PBX, ISDN, facsimile (FAX), and
Serial Port (Modem   data telephone lines
Port)   Provides full-duplex telephone I/O at up to 14.4 Kbps
                        AppleTalk and V.22, V22.bis, V.29, and V.32 modem protocols
                            supported
                        Supports Apple HiPPort protocols
                        0.92 Mbps maximum, clocked externally

Ethernet   One Ethernet port; AUI-15 connector

Audio   One 16-bit stereo output port; one 16-bit stereo input port;
                     stereo mini phone jack connectors
                     Sample rates up to 48 kHz (44.1 kHz standard rate)
                     Uses the digital signal processor (DSP) chip
                     Supports stereo audio from internal CD drive

Video   Video monitor port; DB-15 connector
                     Supports Apple monitors (up to 16 bits), NTSC, and PAL monitors
                     Supports VGA and SVGA monitors (with adapter cables)

Composite Video Input port; RCA phono connector
                     Output port; RCA phono connector

S-video   Input port; DIN-7 connector
                     Output port; DIN-4 connector

I/O Devices

Keyboard   Standard, extended, or adjustable keyboard connected through two
                        ADB ports
                     Maximum power draw for all ADB devices: 500 mA
                     Keyboard draws 25-80 mA

Mouse   ADB Mouse II; mechanical tracking optical shaft or contact
                        encoding (low power)
                     Draws up to 80 mA

Microphone   Optional electret, omnidirectional microphone
                     Microphone output voltage is 4 mV peak to peak at normal value
                     Mini phone plug connector

Sound and Video

Sound Generator   Enhanced Apple sound chip (EASC), including four-voice wave
                        table synthesis and stereo sampling generator capable of
                        driving stereo mini phone-jack headphones or stereo
                        equipment

Video   Built-in VRAM video support for all Apple monitors (requires an
                        adapter for 21 in. monitors)
                        Supports many types of NTSC, PAL, VGA

Electrical

A/C Line Voltage   100-240 VAC

Frequency   50-60 Hz
                         86 W

Power   CMOS custom chip with long-life lithium battery

Physical

Dimensions   Height: 3.4 in. (8.5 cm)
Width: 16.3 in. (41.5cm)
Depth: 15.6 in (39.7 cm)

Weight   14.0 lbs (6.4 kg) (weight varies based on internal devices
installed)

Environmental

Operating Temperature   10-40° C (50-104 ° F)

Storage Temperature   -40 to 47° C (-40 F to 116.6° F)

Relative Humidity   Operating: 10-90% (noncondensing)

Altitude   0-10,000 ft. (3,048 m)

Troubleshooting

Centris 660AV/Quadra 660AV

General

The Symptom Charts included in this chapter will help you diagnose specific symptoms related to your product. Because cures are listed on the charts in the order of most likely solution, try the first cure first. Verify whether or not the product continues to exhibit the symptom. If the symptom persists, try the next cure. (Note: If you have replaced a module, reinstall the original module before you proceed to the next cure.)

If you are not sure what the problem is, or if the Symptom Charts do not resolve the problem, refer to the Flowchart for the product family.

For additional assistance, contact Apple Technical Support.

Symptom Charts

Error Chords

One-part error chord sounds during startup sequence

1. Disconnect SCSI data cable and hard drive power cable. Reboot system. If startup sequence is normal, run Macintosh Hard Disk Test and replace hard drive, if necessary.
2. Disconnect floppy drive cable connector and reboot system. If startup sequence is normal, replace floppy drive.
3. Replace logic board. Retain customer's SIMMs.

Two-part error chord sounds during startup sequence

1. Replace DRAM SIMMs.
2. Replace logic board. Retain customer's SIMMs.
3. Perform DRAM SIMM verification on replacement logic board.

System

Does not power on, screen is black, fan is not running, and LED isnotlit

1 Check cables.
2 Plug monitor directly into wall socket and verify that monitor has power.
3 Replace power cord.
4 Replace power supply.
5 Replace logic board. Retain customer's SIMMs.

Clicking, Chirping, or thumping

1 Replace power supply.
2 Replace logic board. Retain customer's SIMMs.

System (Continued)

System shuts down
intermittently

1 Make sure air vents are clear. Thermal protection circuitry
   may shut down system. After 30 to 40 minutes, system
   should be OK.
2 Replace power cord.
3 Check battery. Refer to "Battery
4 Verification" in Additional Procedures.
5 Replace power supply.
6 Replace logic board. Retain customer's SIMMs.

System
intermittently
crashes or locks up

1 Verify that system software is correct version.
2 Verify that application software is known-good.
3 Replace SIMMs.
4 Replace logic board. Retain customer's SIMMs.
5 Replace power supply.

Floppy Drive

Audio and video present, but internal floppy drive does not operate

1 Replace disk with known-good.
2 Verify that all external SCSI devices
3 are disconnected.
4 Replace floppy drive cable.
5 Replace floppy drive.
6 Replace logic board. Retain customer's SIMMs.
7 Replace power supply.

Disk ejects, display shows icon with blinking "X"

1 Replace disk with known-good system disk.
2 Replace internal floppy drive cable.
3 Replace internal floppy drive.
4 Replace logic board. Retain customer's SIMMs

Floppy Drive (Continued)

Does not eject disk

1 Switch off computer. Hold mouse ∑∑button down while you switch computer on.
2 Replace floppy drive cable
3 Replace internal floppy drive.
4 Replace logic board. Retain customer's SIMMs

Attempt to eject disk, but doesn't

1 Push disk completely in.
2 Reseat floppy drive bezel and drive so bezel slot aligns correctly with drive.
3 Eject disk manually.
4 Replace floppy drive.

Internal floppy drive runs continuously

1 Replace disk with known-good system disk.
2 Replace internal floppy drive cable.
3 Replace internal floppy drive.
4 Replace logic board. Retain customer's SIMMs.

Floppy Drive (Continued)

MS-DOS drive does not recognize disk formatted on 1.4 MB drive

To read and write files with either MS-DOS or 1.4 MB drive, format all disks with MS-DOS drive first.

Video

Screen is black, audio
and at least one drive
operate, fan is
running, and LED is
lit

1 Adjust brightness. See Adjustments chapter in appropriate
   monitor manual.
2 Verify that monitor is switched on.
3 Clear parameter RAM. Hold down <Shift> <Option> <P> <R>
   during startup but before "Welcome To Macintosh" appears.
4 Replace video cable.
5 Replace monitor. Refer to appropriate monitor manual to
   troubleshoot defective monitor.
6 Replace video card, if present
7 Replace SIMMs. See ∑∑Memory manual.
8 Replace logic board. Retain customer's SIMMs.
9 Replace power supply.

Video (Continued)

Screen is black, audio
and drive do not
operate, but fan is
running and LED is lit

1   Remove peripherals.
2   Remove expansion card.
3   Replace DRAM SIMMs. See Memory
4   manual.
5   Replace power supply.
6   Replace logic board.

Partial or whole
screen is bright and
audio is present, but
no video information
is visible

1   Replace monitor. Refer to appropriate monitor manual to
    troubleshoot defective monitor.
2   Replace video cable.
3   Replace video card, if installed.
4   Clear parameter RAM. Hold down <Shift> <Option> <P> <R>
    during startup but before "Welcome To Macintosh" appears.
5   Replace logic board. Retain customer's SIMMs.

Hard Drive

Internal hard drive
will not operate;
drive doesn't spin

1 Replace SCSI data cable.
2 Replace hard drive.
3 Replace power supply.
4 Replace logic board. Retain customer's SIMMs.

Drive does not appear
on the desktop

1 Verify that there are no duplicate SCSI device addresses.
2 Clear parameter RAM. Hold down <Shift> <Option> <P> <R>
   during startup but before "Welcome To Macintosh" appears.
3 Verify that drive is initialized. If it isn't, use "HD SC Setup"
   to initialize drive.
4 Replace SCSI data cable.
5 Replace hard drive.

Hard Drive (Continued)

Works with internal
or external SCSI
devices but not with
both

1 Verify that there are no duplicate SCSI device addresses.
2 Replace terminator on external device.
3 Replace external SCSI data cables.
4 Refer to appropriate manual to troubleshoot defective
   external device.

CD-ROM drive

CD-ROM drive does not accept a compact disc

1 Exchange disc (if disc is dirty or damaged).
2 Verify that CD-ROM carrier is installed properly.
3 Replace CD-ROM drive mechanism.

Macintosh does not display CD-ROM drive icon

1 Verify that CD-ROM extension is in System Folder.
2 Replace SCSI data cable.
3 Replace CD-ROM drive mechanism.
4 Replace logic board.

Compact disc won't eject from the drive

1 Manually eject the compact disc.
2 Press the eject ∑∑button behind the front bezel (if it is accessible).
3 Replace the CD-ROM drive mechanism.

Peripheral

Cursor does not move
1. Check mouse connection.
2. Inspect inside of mouse for buildup of dirt or other contaminants. Clean mouse if necessary.
3. If mouse was connected to keyboard, connect it to computer ADB port instead. If mouse works, replace keyboard or ADB cable.
4. If mouse does not work in any ADB port on computer, replace mouse.
5. Replace logic board. Retain customer's SIMMs.

Cursor moves, but ∑∑clicking mouse ∑∑button has no effect
1. Replace mouse.
2. Replace logic board. Retain customer's SIMMs.

Peripheral (Continued)

Cannot double-∑∑click to open application, disk, or server

1. Remove duplicate System files from
2. hard drive.
3. Clear parameter RAM. Hold down <Shift> <Option> <P> <R> during startup but before "Welcome to Macintosh" appears.
4. If mouse was connected to keyboard, connect mouse to computer ADB port instead. If mouse works, replace keyboard or ADB cable.
5. If mouse does not work in any ADB port on computer, replace mouse.
6. Replace logic board. Retain customer's SIMMs.

No response to any key on keyboard

1. Check keyboard connection to ADB port.
2. Replace keyboard cable.
3. Replace keyboard.
4. Replace logic board. Retain customer's SIMMs.

Peripheral (Continued)

Known-good serial printer will not print

1 Verify that system software is correct version.
2 Make sure Chooser and Control Panel settings are correct.
3 Replace printer interface cable.
4 Replace logic board. Retain customer's SIMMs.

Known-good printer on a network will not print

1 Verify that system software is correct version.
2 Make sure Chooser and Control Panel settings are correct.
3 Refer to Networks manual.
4 Replace logic board. Retain customer's SIMMs.

Miscellaneous

No sound from
speaker

1 Verify that volume setting in Control Panel is 1 or above.
2 Check speaker cable.
3 Replace speaker.
4 Replace logic board. Retain customer's SIMMs.

Sound from external
video source does not
record or play
through speakers

1 Verify that audio cable connects sound source to sound input
   port when using S-video.
2 Check speaker cable.
3 Replace speaker.
4 Replace logic board. Retain customer's SIMMs.

Take Apart

Centris 660AV/Quadra 660AV

Top Cover

No preliminary steps are required before you begin this procedure.

1. Press up on the tabs at the back of the top cover.

2. Tilt the back of the top cover and remove the top cover.

Tab

Tab

Top Cover

Power Supply
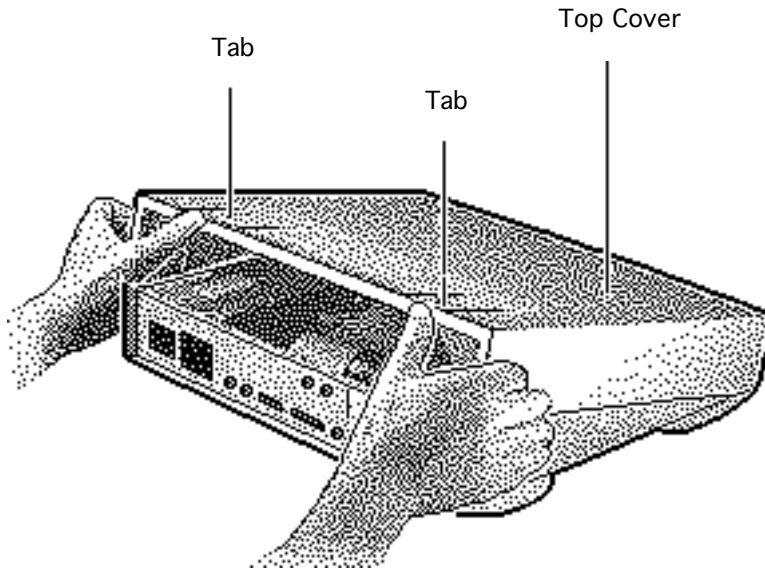
Power Supply

Power Supply

Before you begin, do the following:

- remove the top cover.
- Review the ESD precautions in Bulletins/Safety.
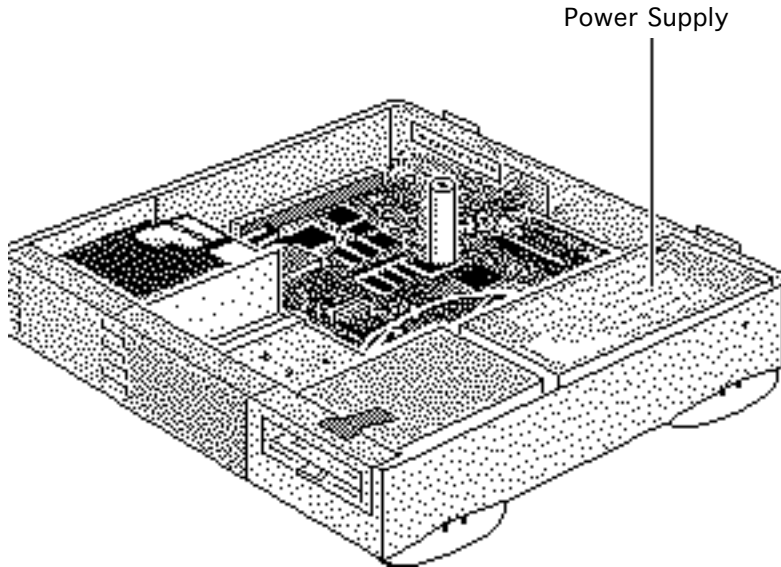
1 Remove the screw that
secures the power
supply.

Power Supply

Power Supply

Tab
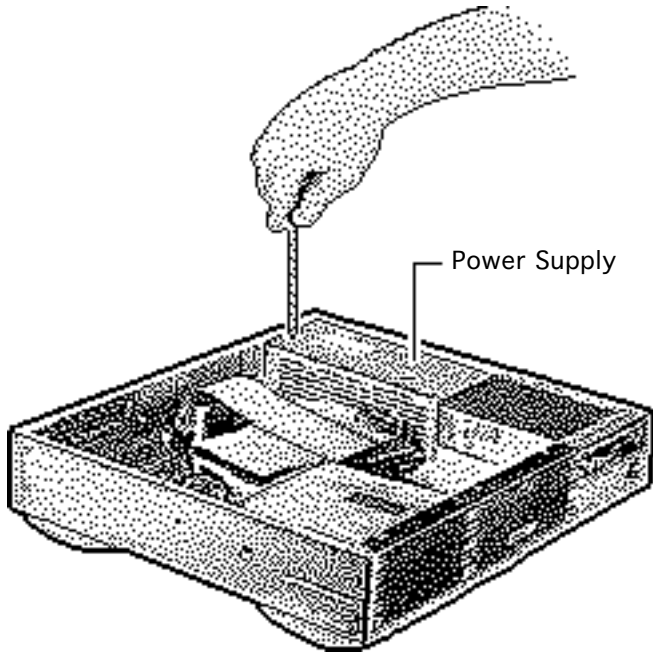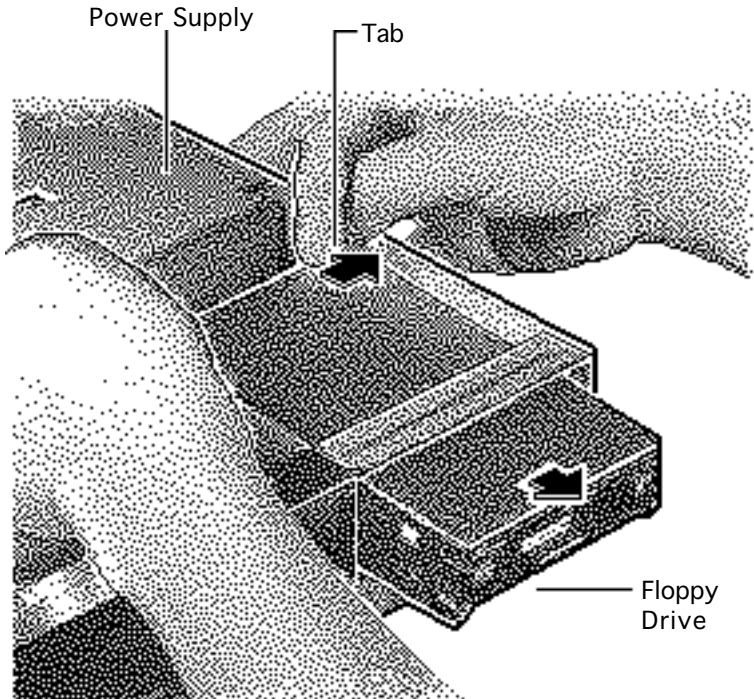
Floppy Drive

2 For easier access to the power supply, release the floppy drive mounting tabs. Slide the floppy drive forward a few inches.

CD-ROM Audio Cable
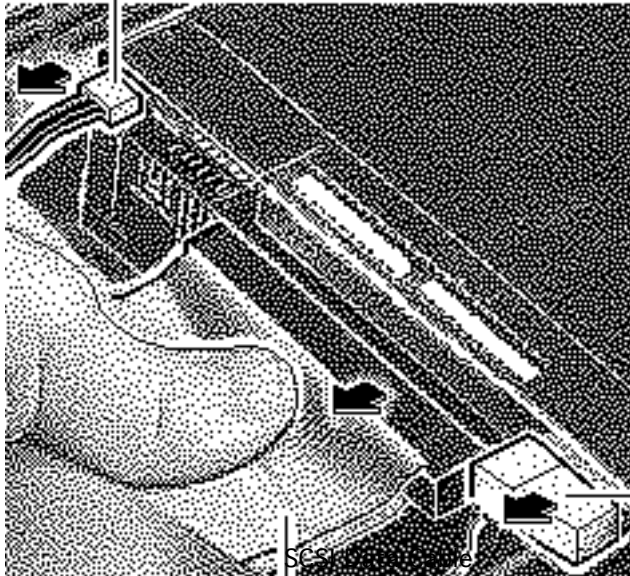
SCSI Data Cable

CD-ROM Drive Power Cable

3 If a CD-ROM drive is present, disconnect the SCSI data cable and CD-ROM drive power cable from the CD-ROM drive.

4 Disconnect the CD-ROM audio cable.

5 Remove the CD-ROM drive EMI shield.

CD-ROM EMI Shield

6 Press up on the tab and slide out the CD-ROM drive.

Tab
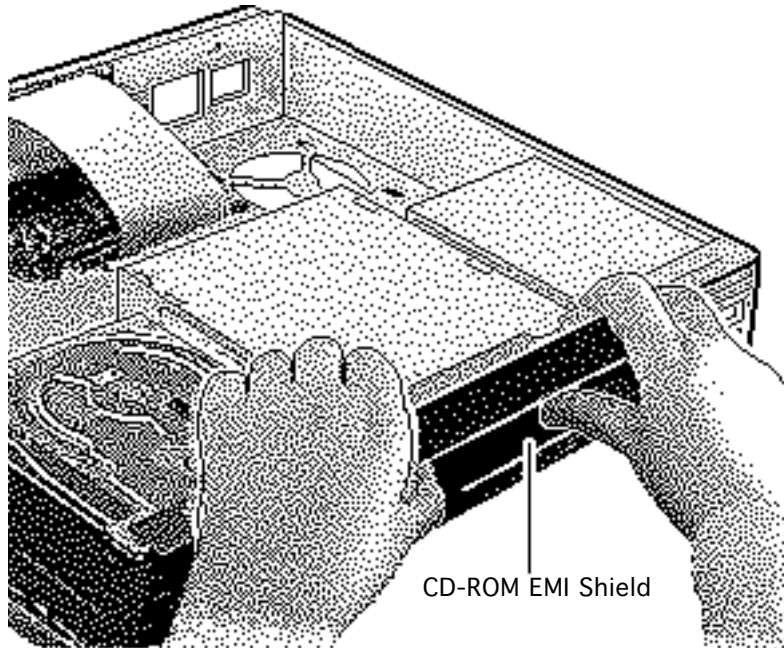
Main Power Cable

CD-ROM Drive Power

Hard Drive Power Cable
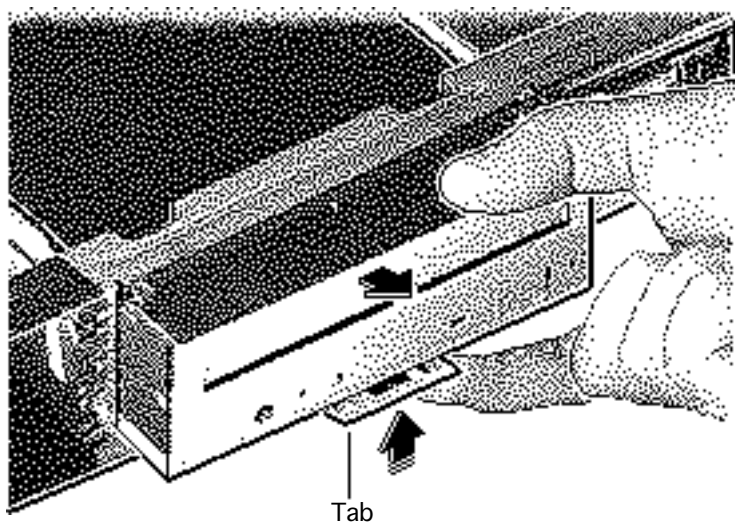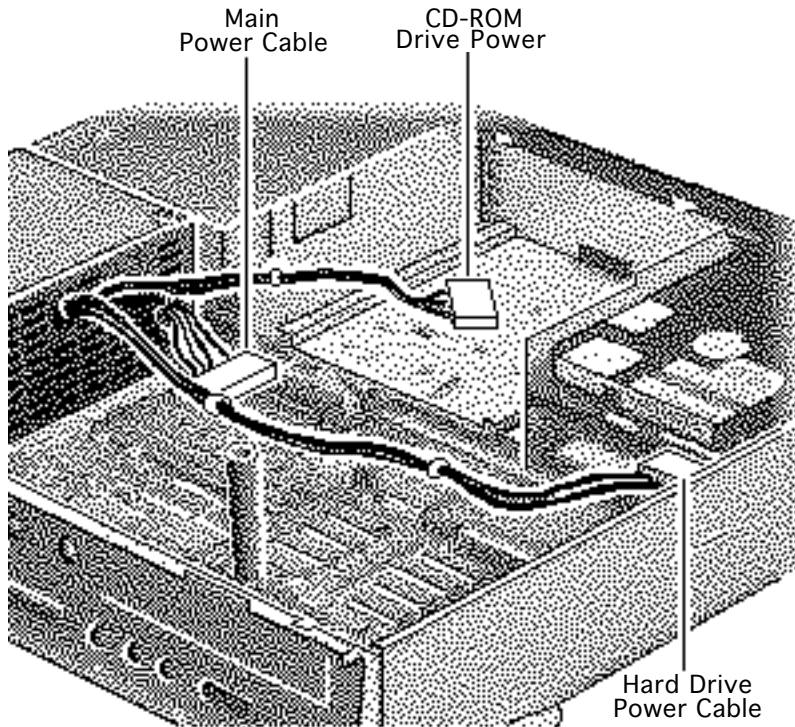
7 Disconnect these power supply cables:
- Main power cable from the logic board
- Hard drive power cable from the hard drive
- CD-ROM drive power cable from the CD-ROM drive (if installed)

8   Slide the power supply
     forward slightly.

Power Supply
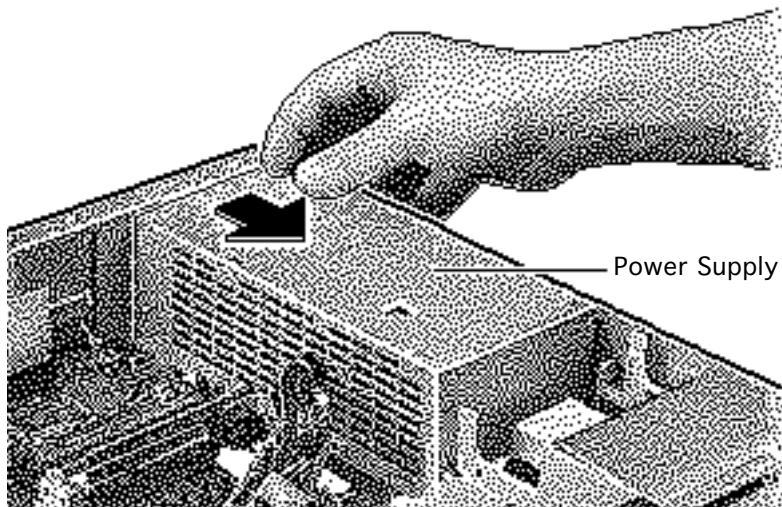
Power Switch

9 Tilt the front of the power supply and lift it out of the computer.

Replacement Note: Move the floppy drive forward. Press the actuator toward the back of the computer to properly seat the power switch in the actuator.
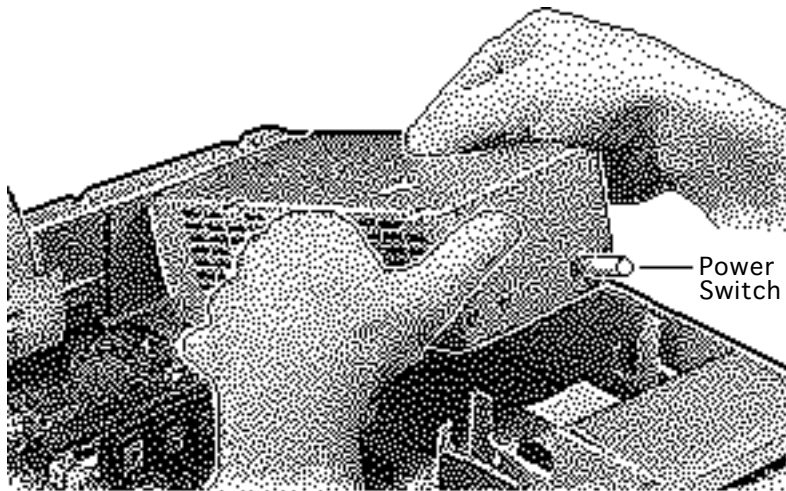
Logic Board

Logic Board

Before you begin, do the following:

- Remove the top cover
- Remove the Power supply
- Review the ESD precautions in Bulletins/ Safety.
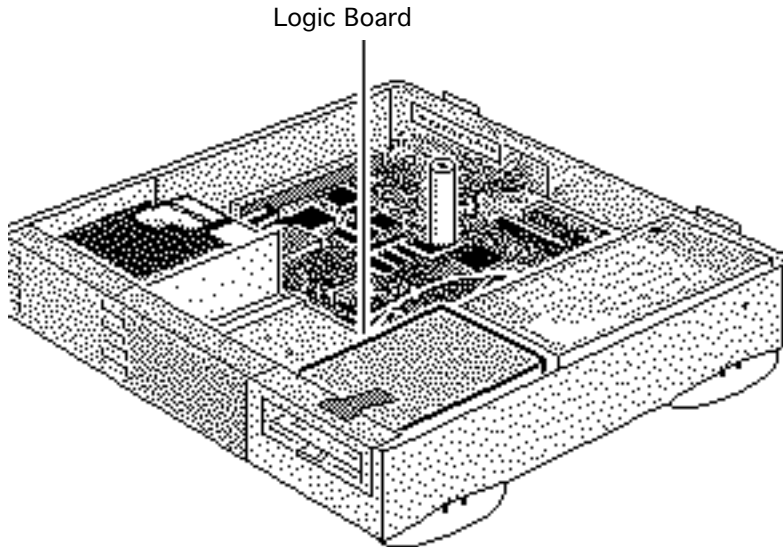
Standoff with Internal Screw —
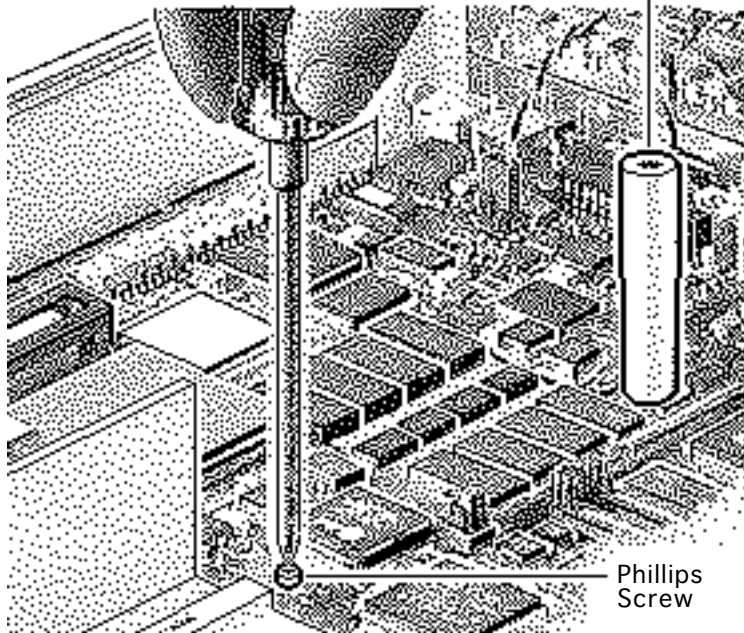
Phillips
Screw

Note: The logic board is secured with two screws.

1 Using a long Phillips screwdriver, remove the screw from the center of the standoff.

2 Remove the standoff.

3 Remove the Phillips screw from the front edge of the logic board.

LED Cable

Floppy Drive Cable
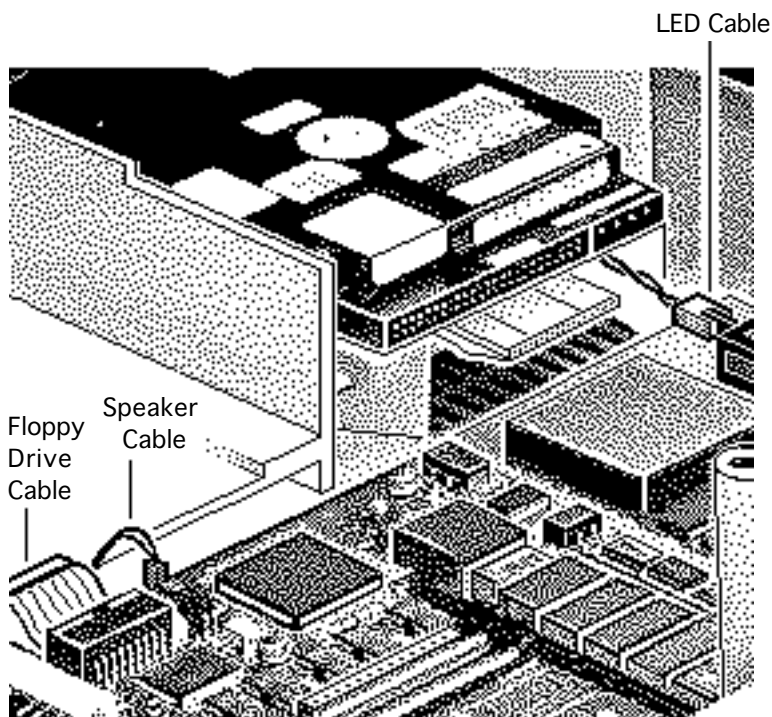
Speaker Cable

4 Disconnect these cables from the front edge of the logic board:
  - Floppy drive cable
  - Speaker cable
  - LED cable
  - CD-ROM audio cable (if present)

5 **Note:** Lift the front edge of the logic board to make removing the floppy drive cable easier.

Video-in cable

Video-out cable
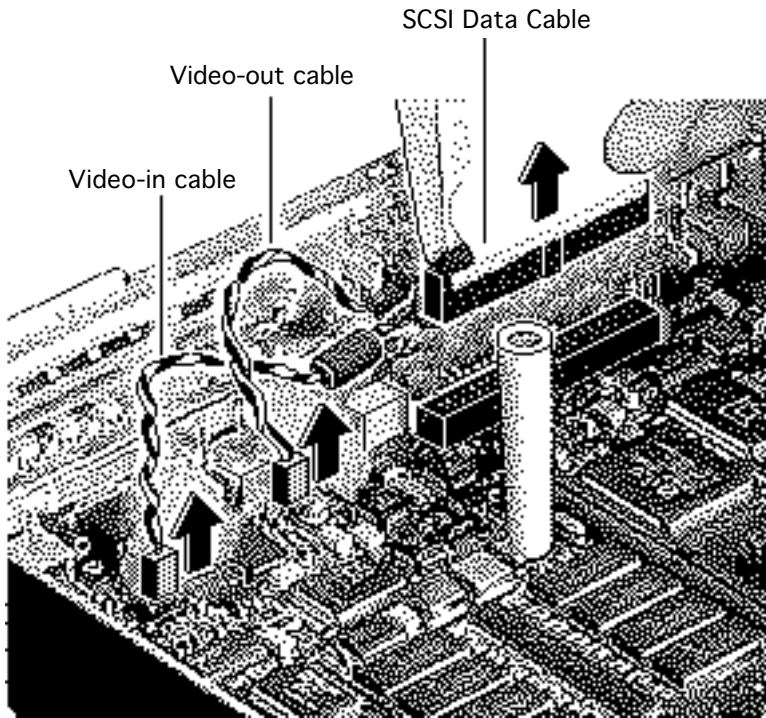
SCSI Data Cable

6 Disconnect these cables from the back edge of the logic board:
- Video-out cable
- Video-in cable
- SCSI data cable

CD-ROM Drive
EMI Shield

Hard Drive EMI Shield

7   Remove the EMI shield
    from the hard drive bay
    and from the CD-ROM
    bay, if the CD-ROM
    drive is installed.

Tab
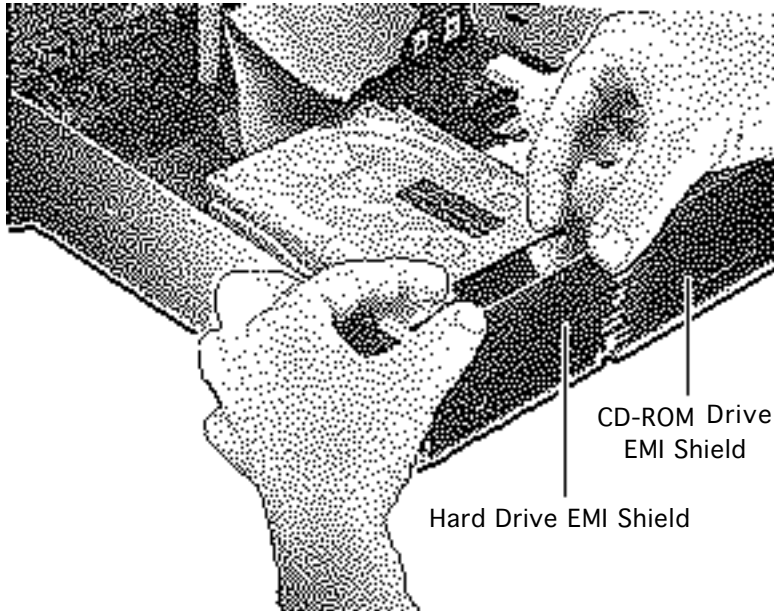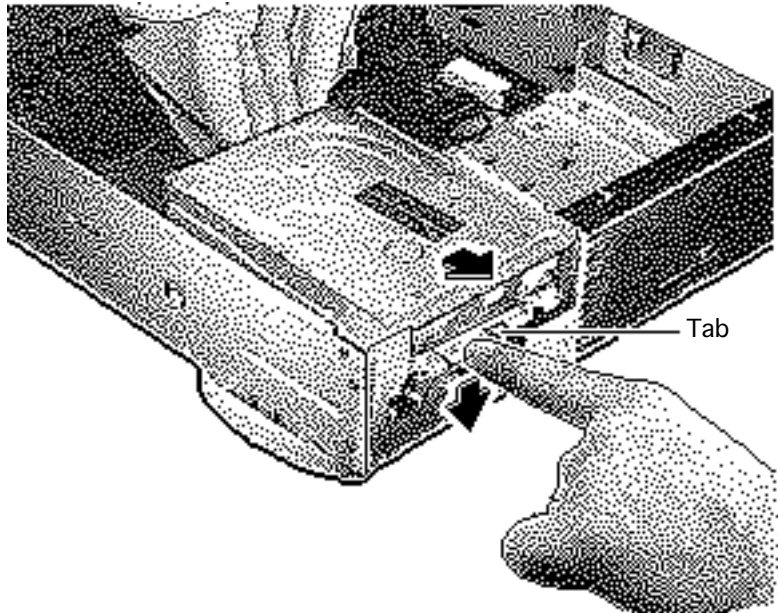
8 Release the tab to unlock the hard drive or CD-ROM, if installed.

9 Slide forward the hard drive and CD-ROM drive, if installed.

Logic Board
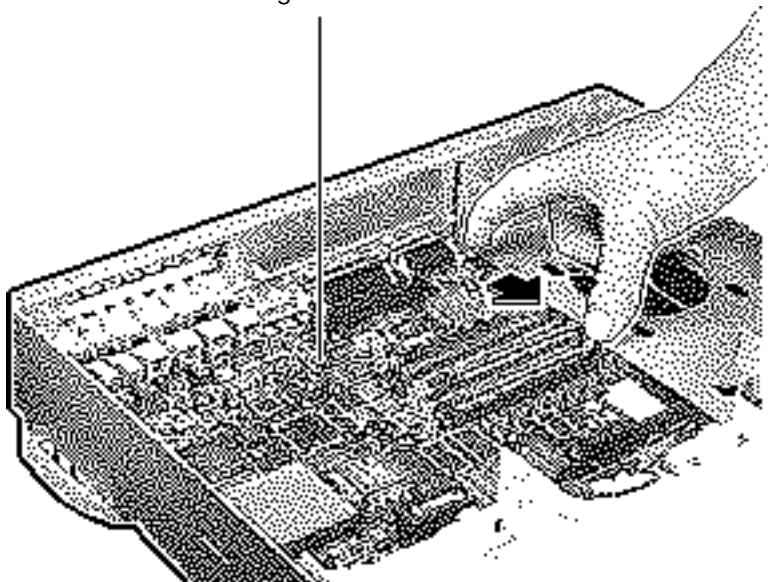
10 Slide the logic board about 1/2 inch toward the front of the computer.
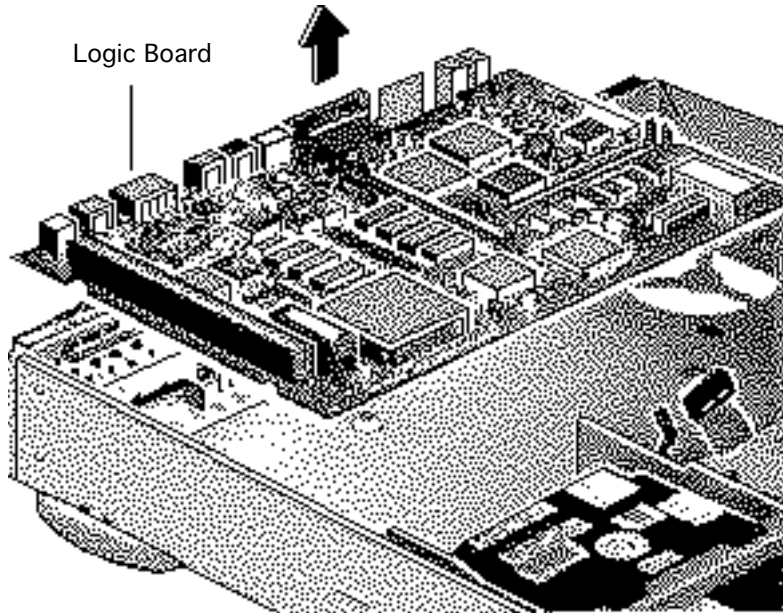
Logic Board

11 Remove the logic board.

12 **Replacement Note:** Slide
    the hard drive and
    optional CD-ROM drive
    forward a bit to allow
    room for the logic
    board. Connect the floppy
    drive cable before
    securing the logic board.

Floppy Drive

Floppy Drive
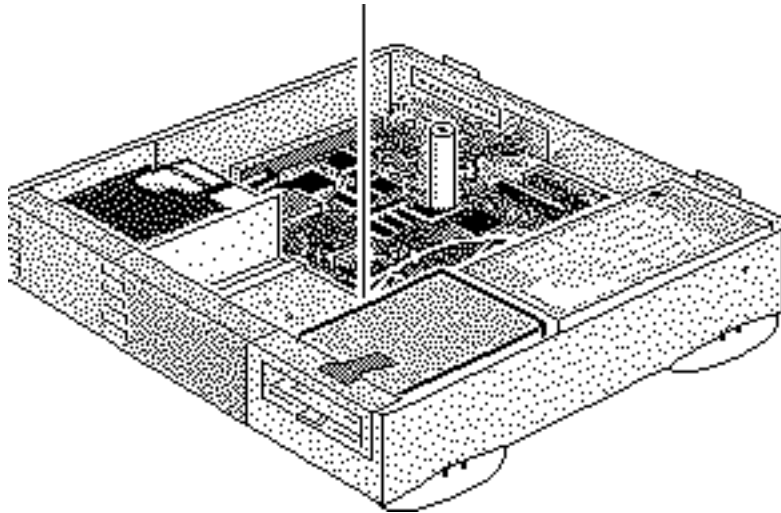
Before you begin:

- remove top cover.
- Review the ESD precautions in Bulletins/Safety.

Floppy
Drive

Tab

Tab
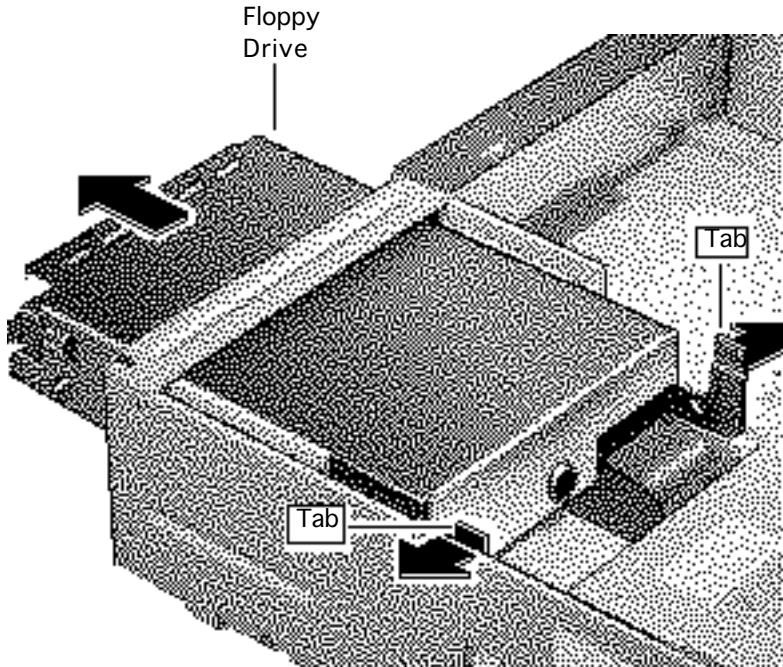
1   Press the tabs outwards
    and slide the floppy
    drive forward a few
    inches.
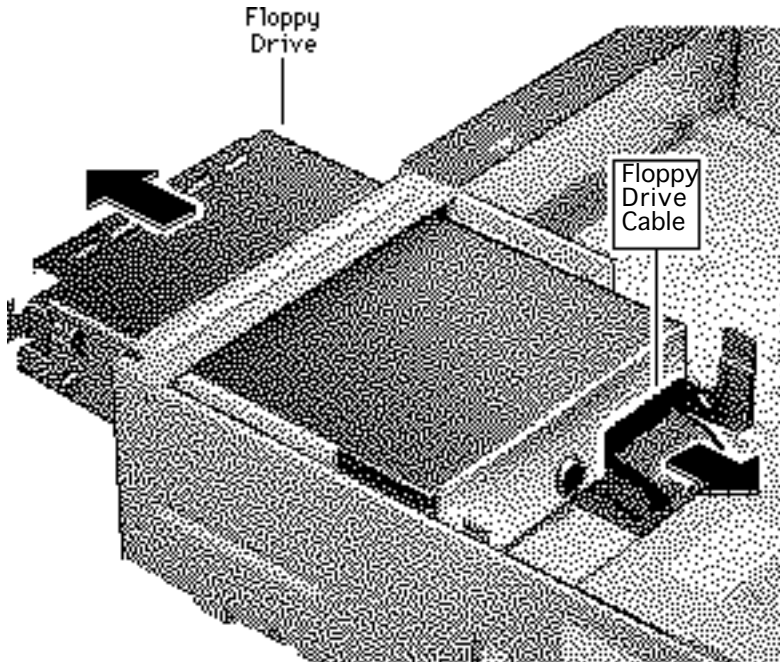
2 Disconnect the floppy drive cable.

Note: You can easily reach the floppy drive cable connector when the floppy drive is forward.

3 Slide out the floppy drive.

Hard Drive
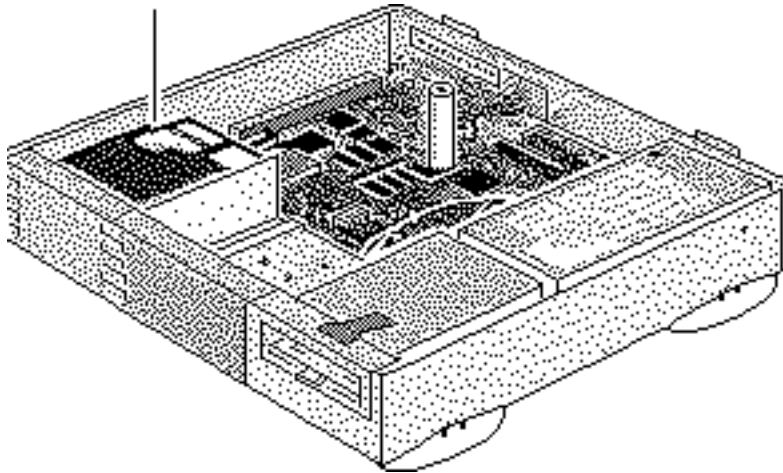
Before you begin:
- remove top cover.
- Review the ESD precautions in Bulletins/Safety.

Hard Drive

SCSI Data Cable

Hard Drive
Power Cable
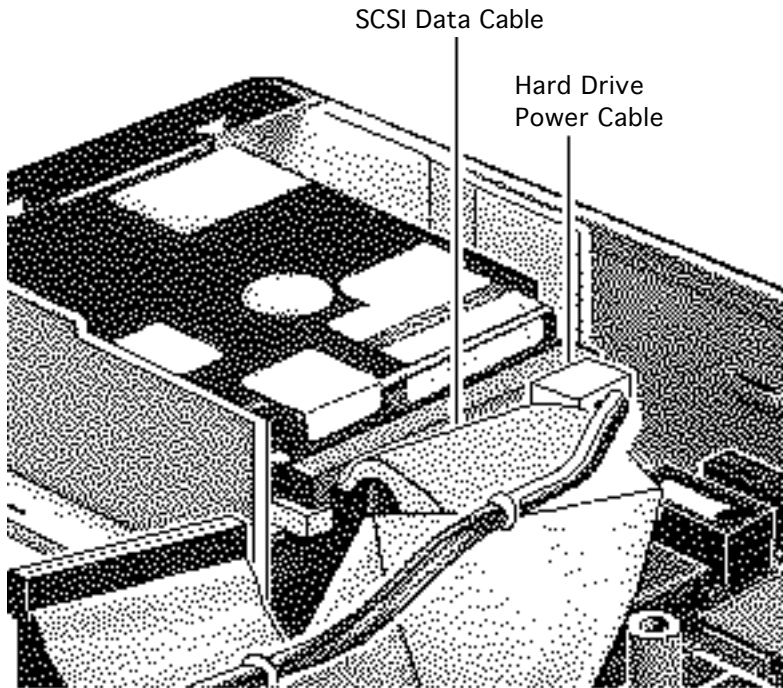
1   Disconnect the SCSI data
    and hard drive power
    cables from the hard
    drive.

2 Remove the hard drive EMI shield.

Hard Drive EMI Shield

Tab
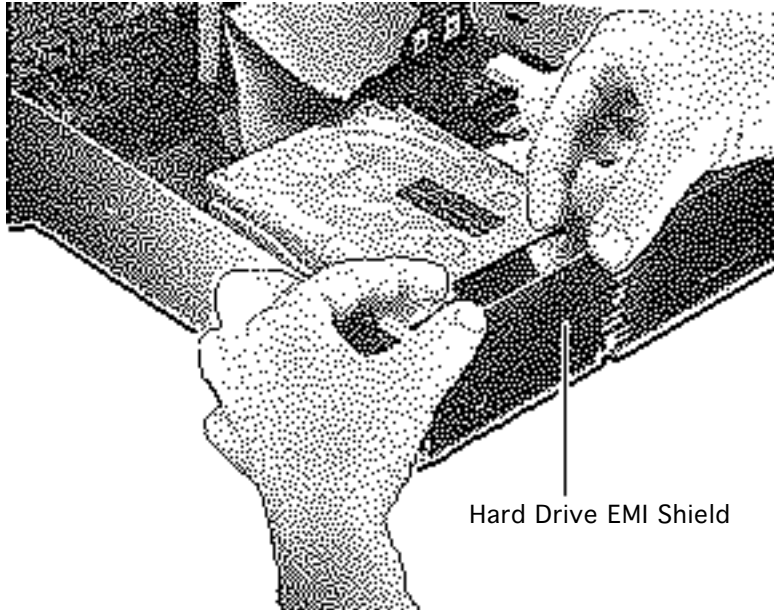
3 Press down on the tab
   and slide out the hard
   drive.
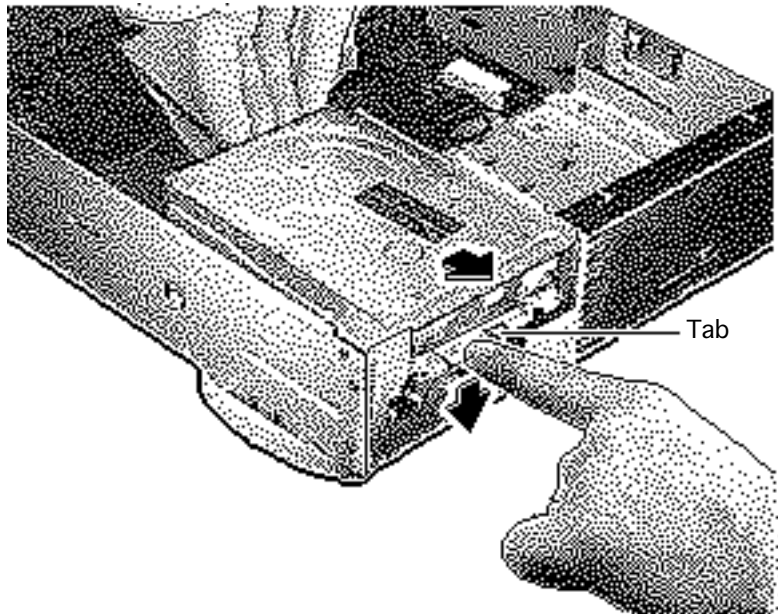
CD-ROM Drive

CD-ROM Drive

Before you begin:

- remove the top cover.
- Review the ESD precautions in Bulletins/Safety.

CD-ROM Audio Cable

1 Disconnect the SCSI data cable and CD-ROM drive power cable from the CD-ROM drive.
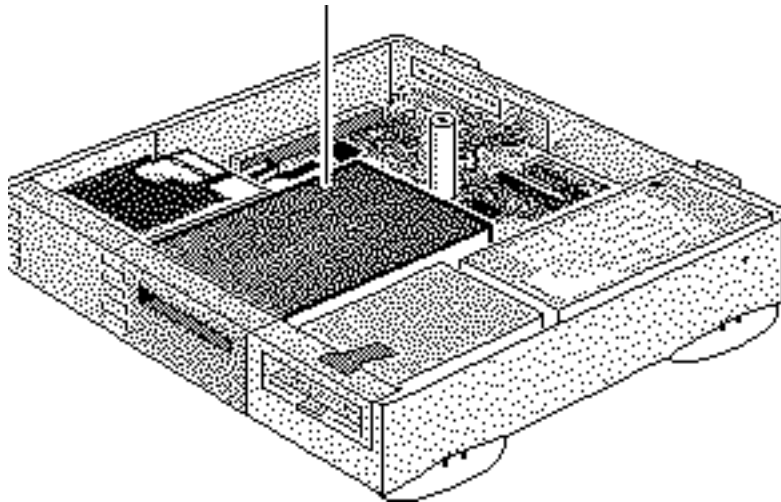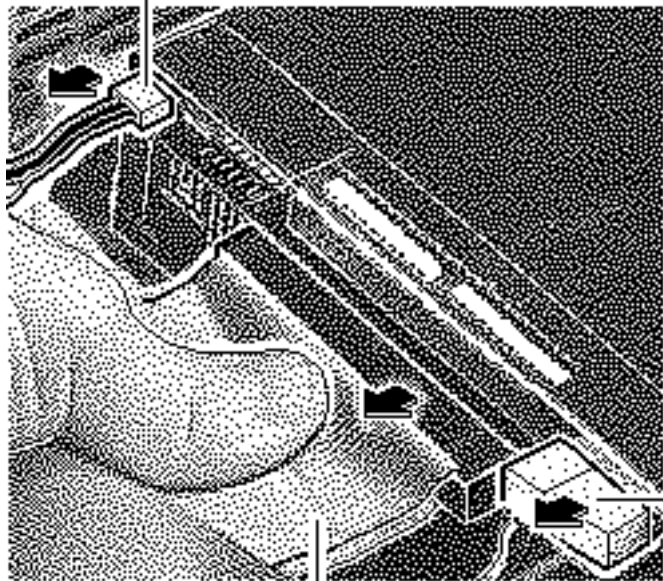
2 Disconnect the CD-ROM audio cable.

CD-ROM Power Cable

SCSI Data Cable

3 Remove the CD-ROM drive EMI shield.

CD-ROM EMI Shield
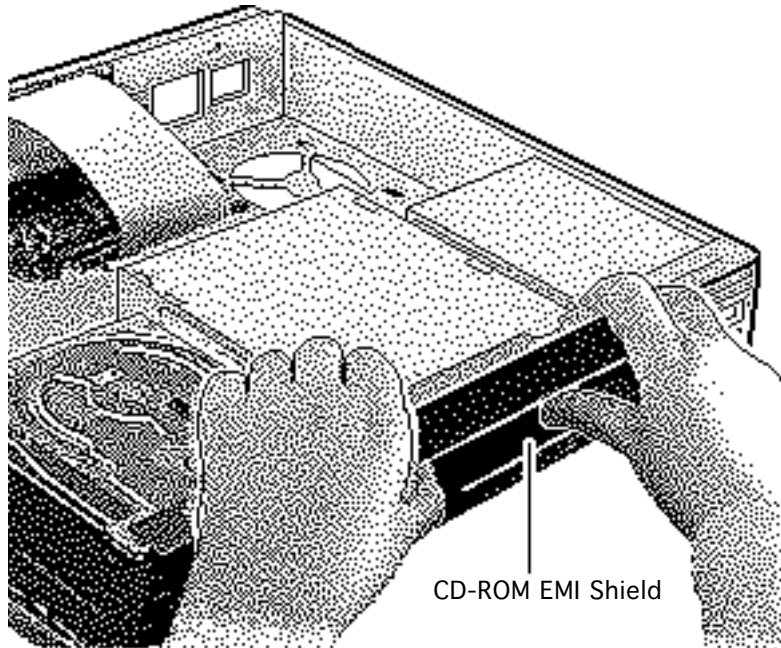
4 Press up on the tab and slide out the CD-ROM drive.

Replacement Note: Be sure to remove the CD-ROM drive from the carrier prior to returning the drive to Apple.

Tab

Internal Chassis · · · · · Chassis   Rail and Metal Tab

Support Post   Tab
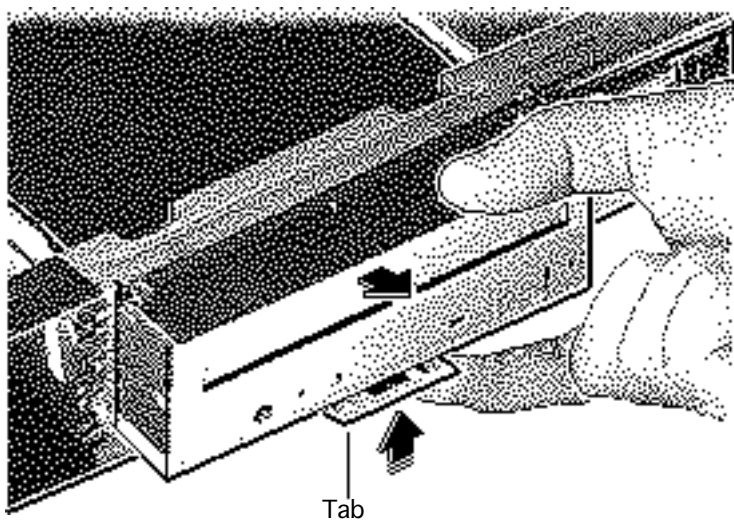
Internal Chassis and Speaker
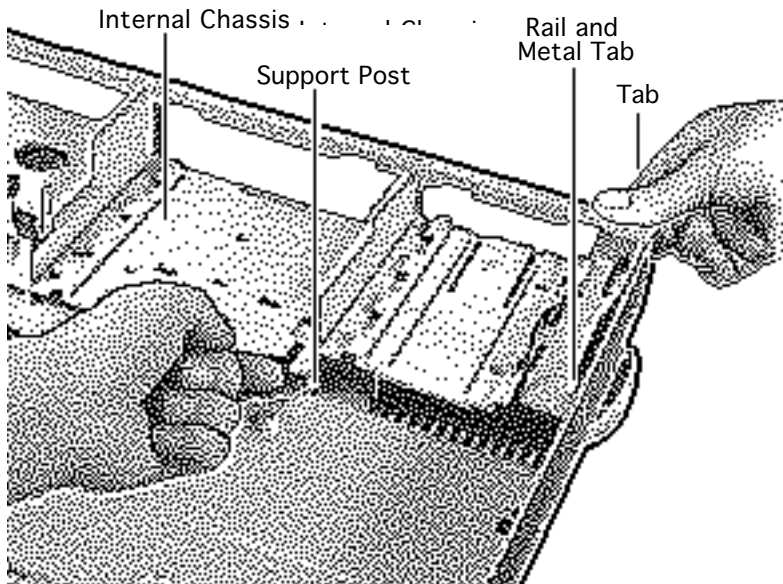
Before you begin: remove the following:

- Remove the top cover
- Remove the power supply
- Remove the floppy drive
- Remove the hard drive
- Remove the CD-ROM drive (if installed)
- Remove the logic board
- Review the ESD precautions in Bulletins/Safety.

**Note:** The chassis is secured to the bottom cover by two

Internal Chassis
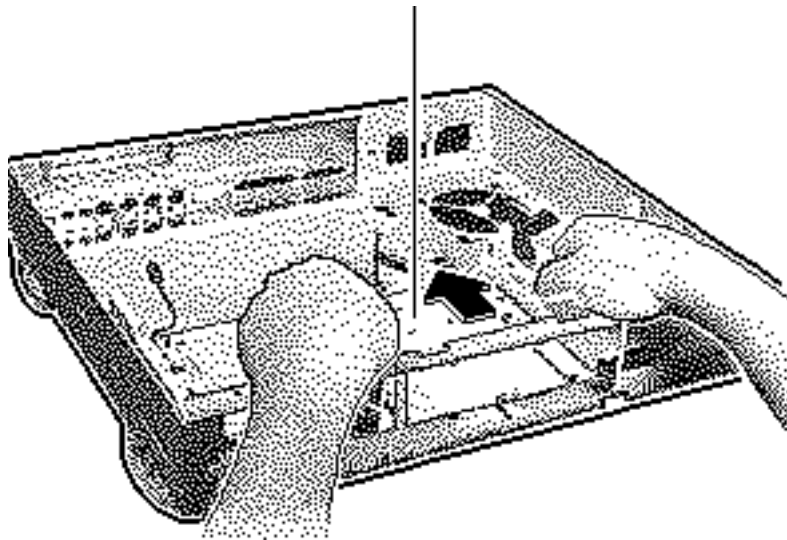
tabs at the front of the unit, two rail and tab sets at the sides of the unit, support posts at the back of the chassis, and hidden brackets that slide into the bottom cover.

1 Press up on one of the front tabs while lifting the support post.

2 Repeat this step on the other side until the internal chassis slides easily toward the back of the computer.

3 Press down and slide the chassis toward the back

of the computer.

4   Remove the chassis.

Note: The LED cable, floppy drive cable, speaker and speaker cable are not shipped with the replacement internal chassis.

Speaker Cable

LED Cable
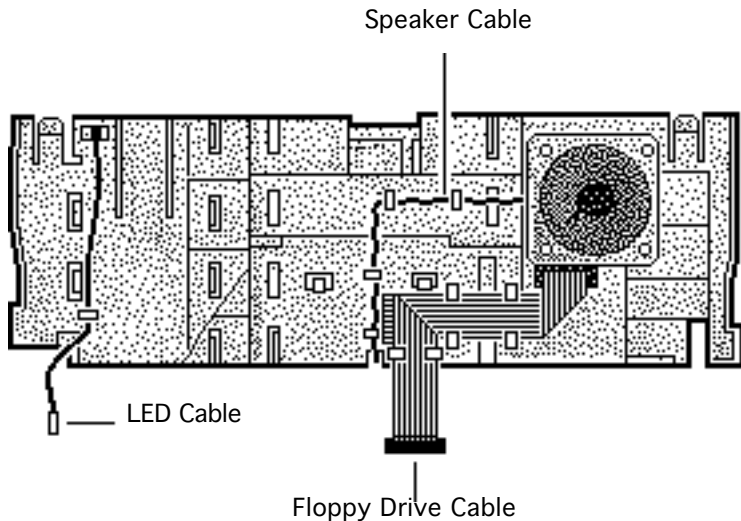
Floppy Drive Cable

5 Turn the chassis over.

6 Remove the floppy drive cable and the LED cable.

7 Remove the speaker cable from its routing guides.
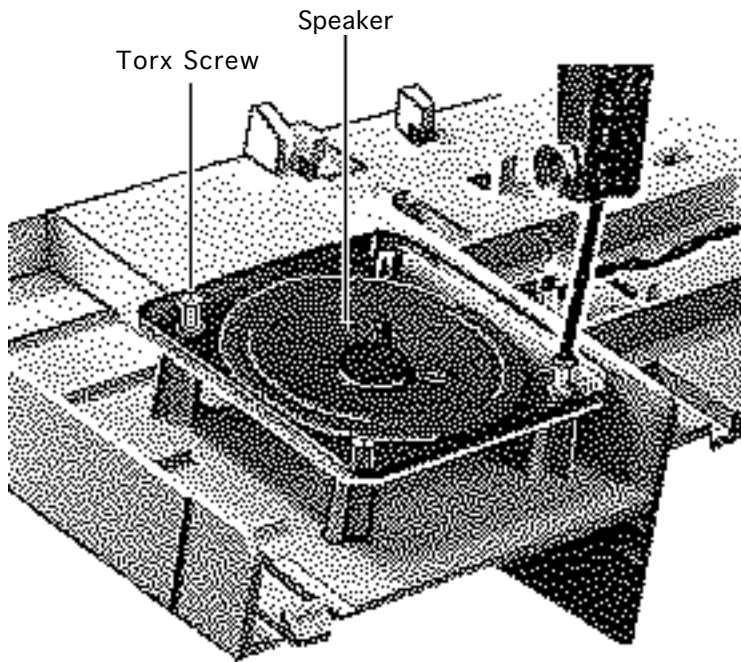
Torx Screw   Speaker

8   Remove the two torx
    screws from the
    speaker.

9   Lift out the speaker.

Bottom Cover
Internal Chassis
Metal Tab
Rail
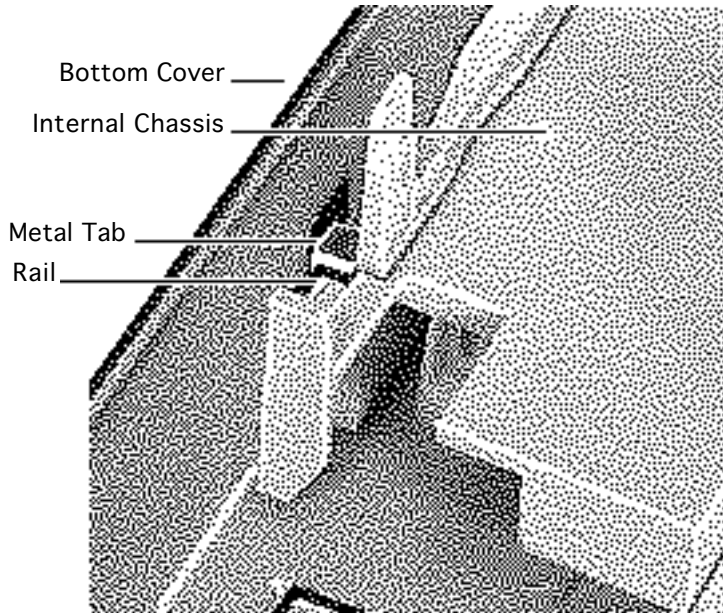
Replacement Note: Place the internal chassis on the floor of the bottom cover with the front of the chassis about 3/4 inch from the front of the cover. Align the side rails with the metal tabs and slide the rails under the metal tabs.

Replacement Note: After carefully aligning the side rails, push down firmly on the chassis and slide it toward the front of the unit. The tabs will snap into place.

Bottom Cover

Bottom Cover
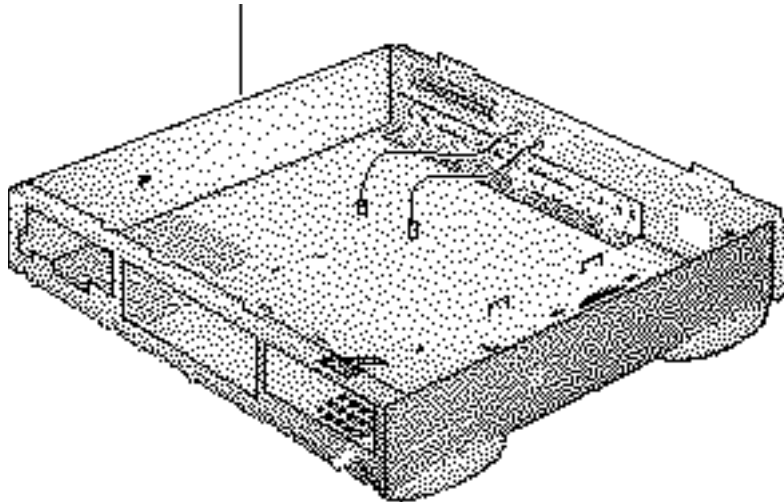
Before you begin: remove the following:

- Remove the top cover
- Remove the power supply
- Remove the floppy drive
- Remove the hard drive
- Remove the CD-ROM drive (if installed)
- Remove the logic board
- Remove the internal chassis
- Review the ESD precautions in Bulletins/ Safety
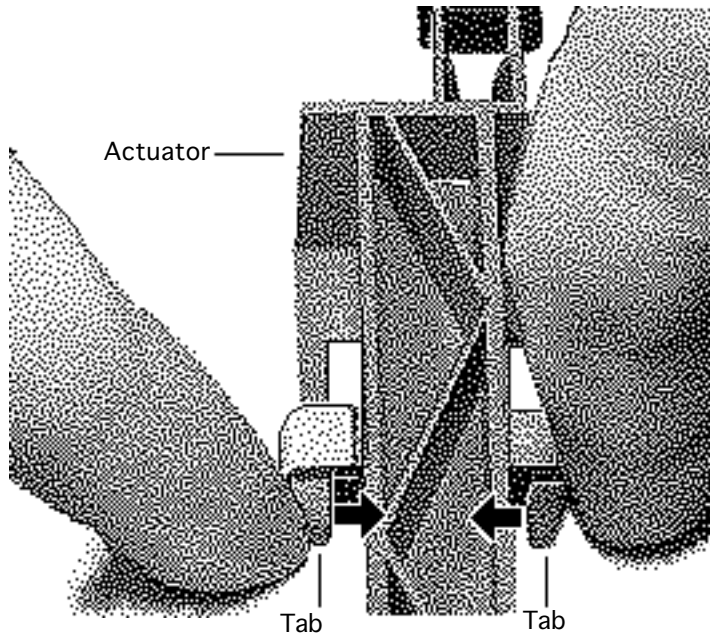
1 Shift the actuator toward the back of the unit.

2 Squeeze together the tabs on the shaft of the actuator.

3 Remove the actuator.

Insulator Sheet
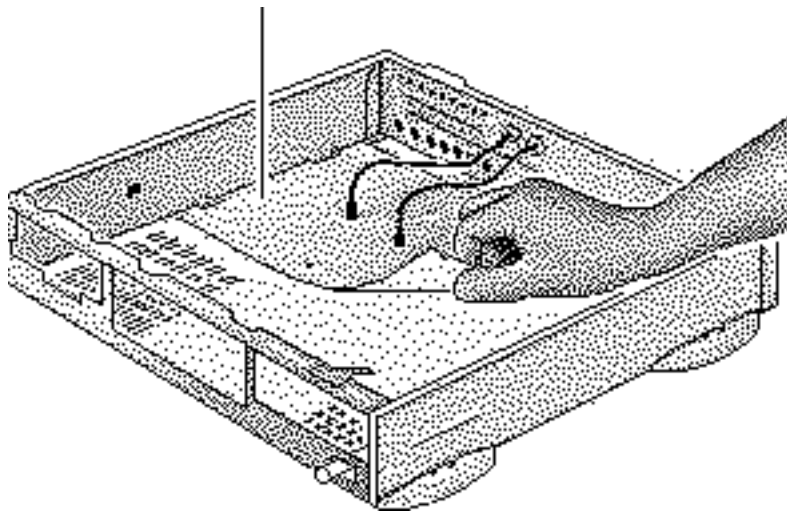
4 Lift out the insulator
sheet.

Replacement Note:
There is only one correct
position for the
insulator sheet. Match
the notches on the sides
of the insulator sheet
with the corresponding
metal stops.
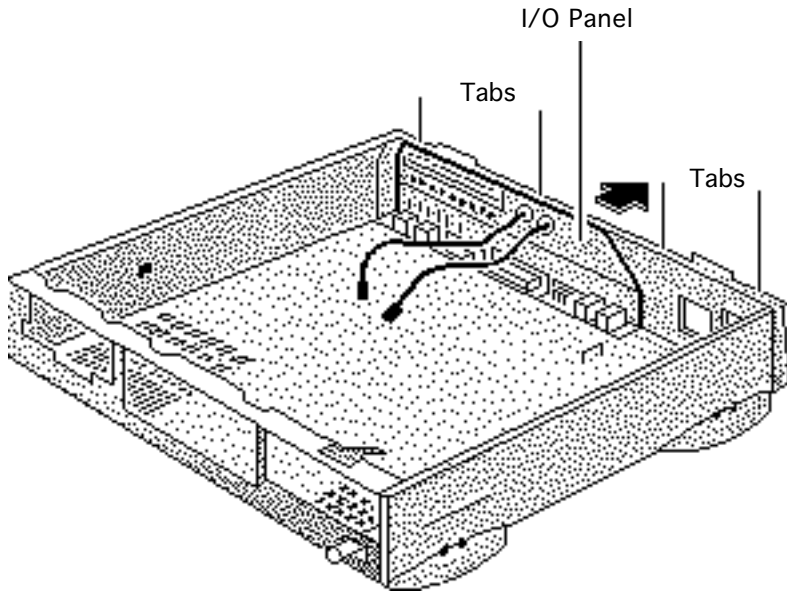
5 Using a screwdriver, release the tabs on the upper-rear edge of the bottom cover.

6 Push out the I/O panel.

I/O Panel

Tabs

Tabs

Additional Procedures

Centris 660 AV/Quadra 660AV

Battery

Battery Verification

Before you begin do the following:
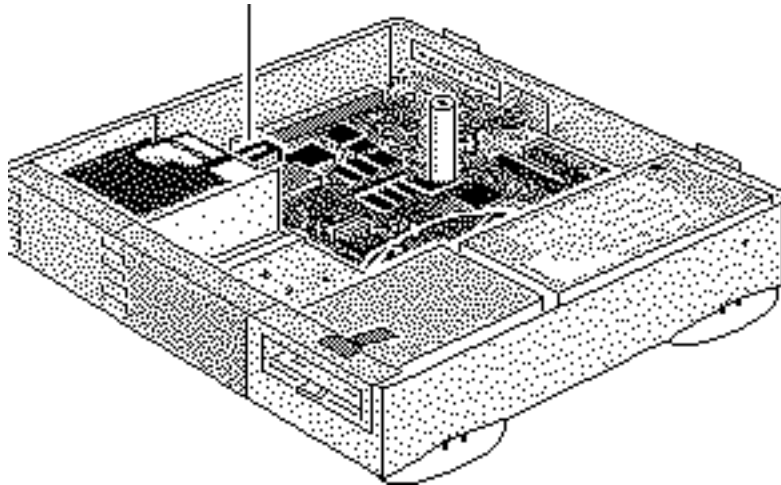
• Remove the top cover.

  Warning: If handled or discarded improperly, the lithium battery in the computer could explode. Review battery-handling and disposal instructions in Bulletins/Safety.

• Review the ESD precautions in Bulletins/Safety.

Negative Probe

Positive Probe

✕ —— "+"
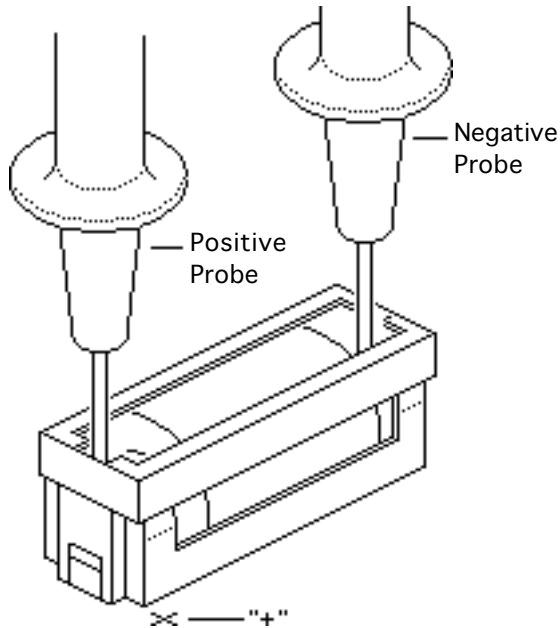
1 Set the voltmeter to the 10 volts DC scale.

2 Hold the positive probe of the voltmeter to the positive end of the battery (marked "+" on the logic board) and the negative probe to the negative end of the battery.

3 If the battery voltage is below 3.2 volts, replace the battery. Refer to "Battery Replacement" in this chapter.

Battery

Battery Replacement

Before you begin do the following:
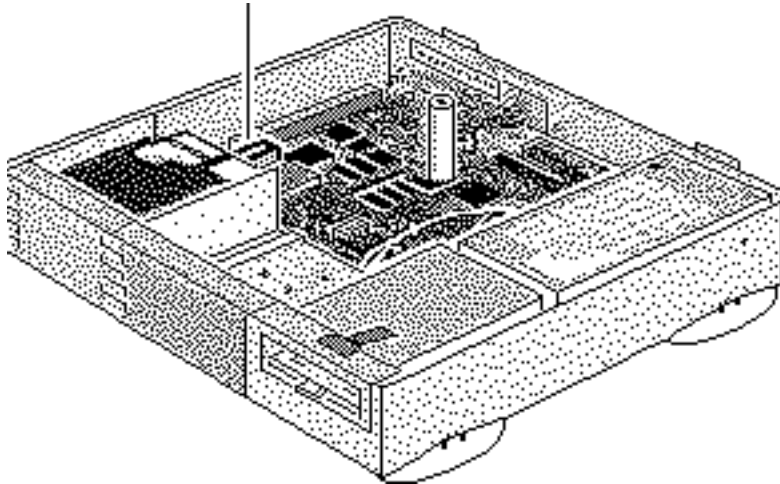
- Remove the top cover.

  Warning: If handled or discarded improperly, the lithium battery in the computer could explode. Review battery-handling and disposal instructions in Bulletins/Safety.

- Review the ESD precautions in Bulletins/Safety.

1 Using a small flat-blade screwdriver, pry open the latch at the end of the battery holder and lift off the cover.
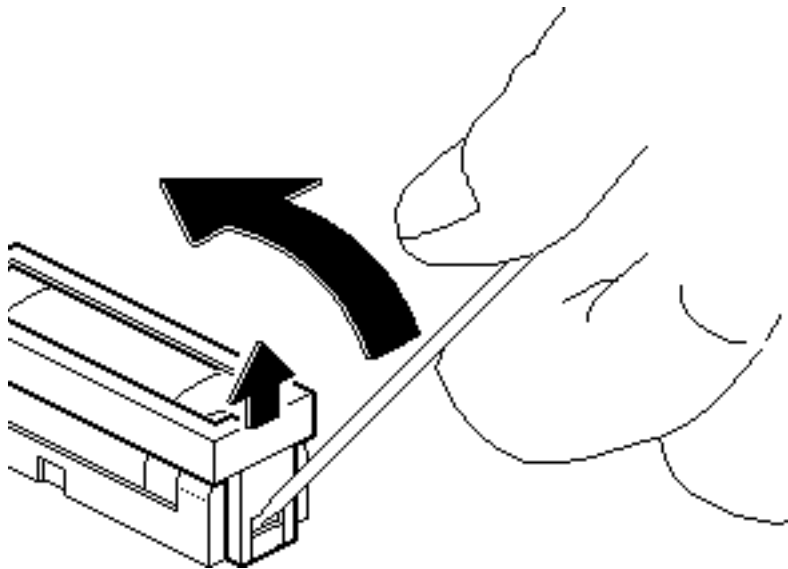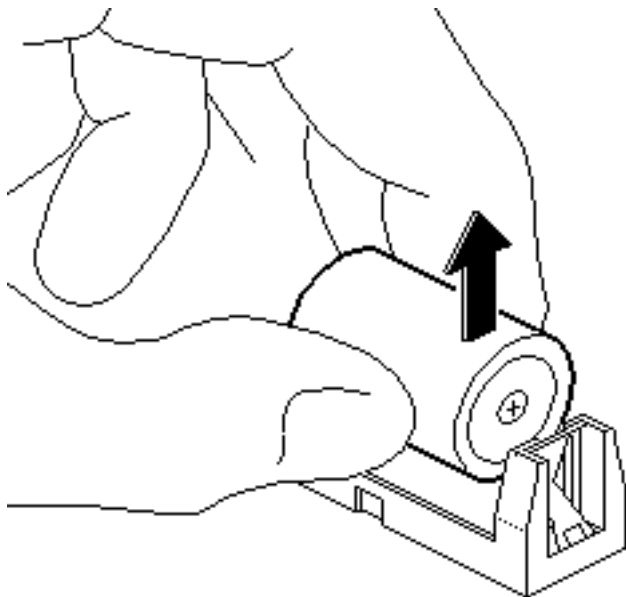
2 Grasp the battery and remove it from the holder.

3 Return the battery to Apple for proper disposal. For battery packaging and labeling instructions, refer to the safety information in Bulletins/Safety.

Upgrades

Centris 660AV/Quadra 660AV

Expansion Card Slot
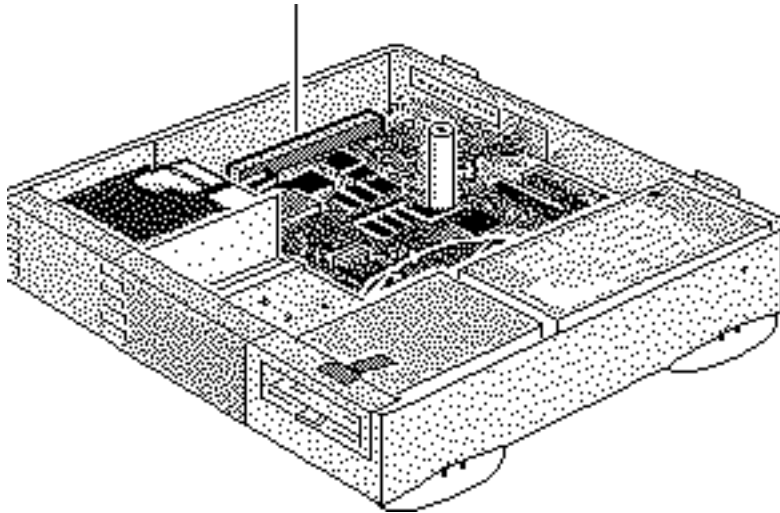
Expansion Cards

Before you begin, do the following:

- Remove the top cover.
- Review the ESD precautions in Bulletins/ Safety.

Expansion Port Cover
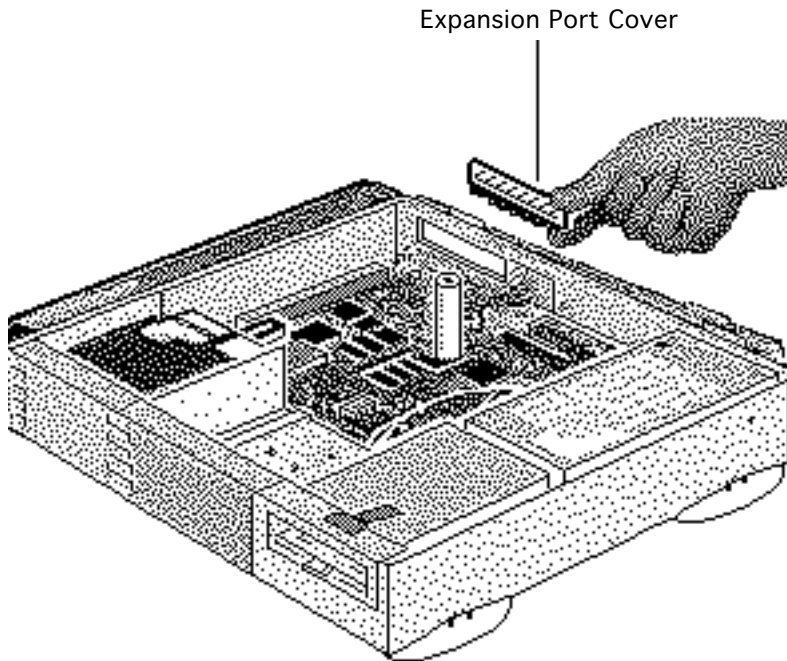
1 Remove the expansion port cover from the back panel.

Expansion Card
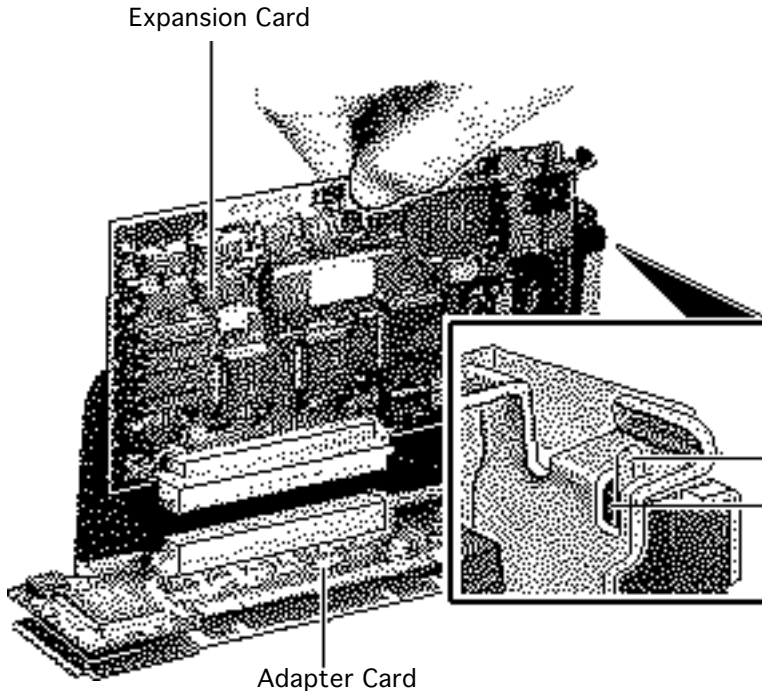
Adapter Card

2 Loosely connect the expansion card connector to the adapter card connector.

Note: Be sure to fit the adapter card pin into the expansion card hole.

3 Gently press the connectors together.
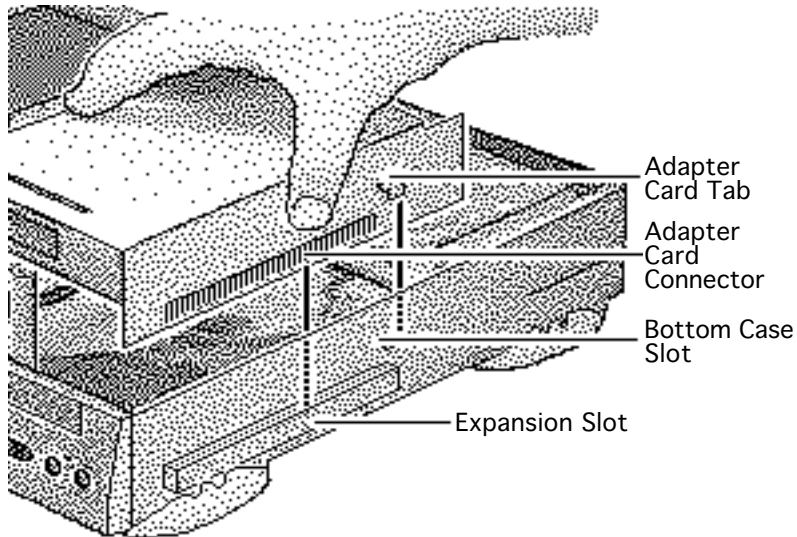
4 Insert the connector on the bottom of the adapter card into the expansion slot.

   Note: Make sure that the tab on the side of the adapter card slides into the slot on the side of the bottom case.

Adapter Card Tab

Adapter Card Connector

Bottom Case Slot

Expansion Slot

5   Attach the thumbscrews.

Thumbscrews
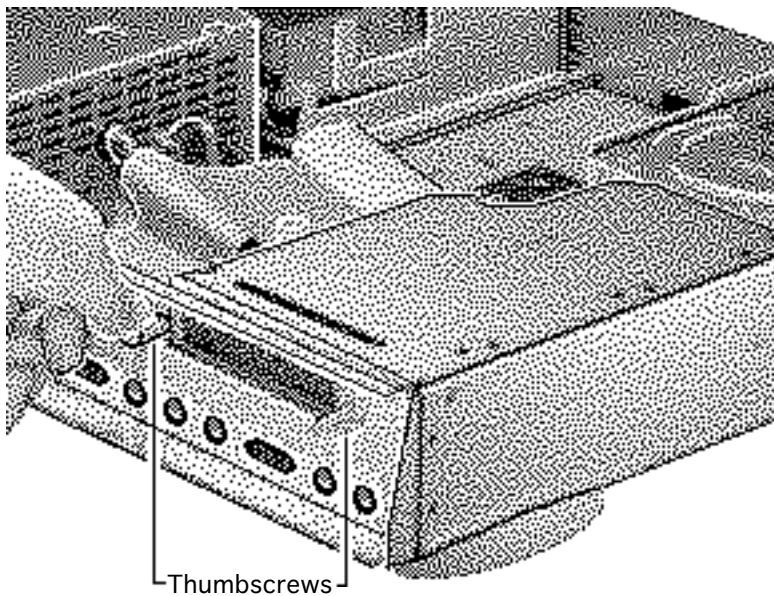
CD-ROM Drive Bay

CD-ROM Drive Upgrade

Before you begin, do the following:

- Remove the top cover.
- Review the ESD precautions in Bulletins/ Safety.
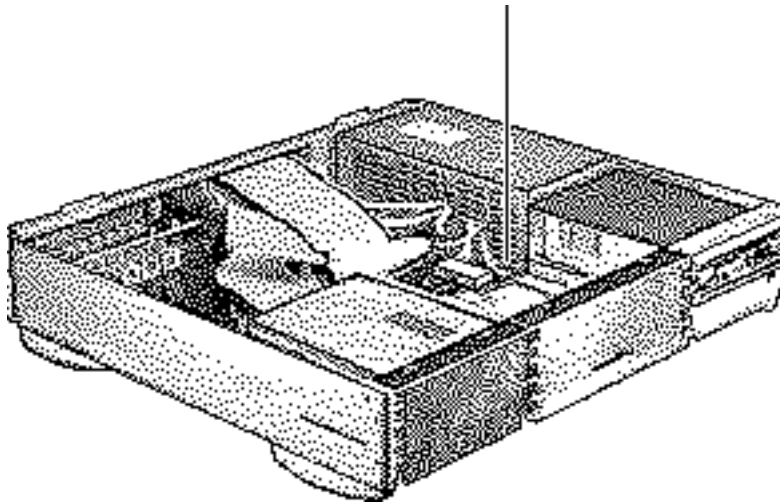
1 Remove the blank CD-ROM drive bezel from the top cover.

2 Install the slotted CD-ROM drive bezel in the top cover.

Slotted CD-ROM Drive Bezel
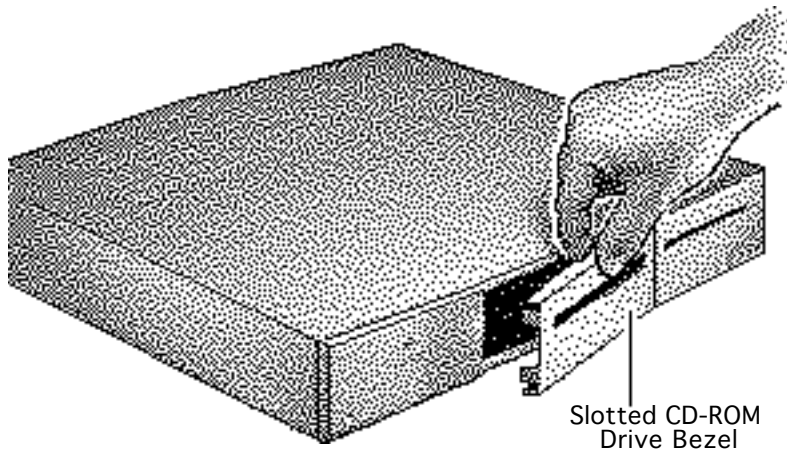
3 Pry off the metal 5.25"
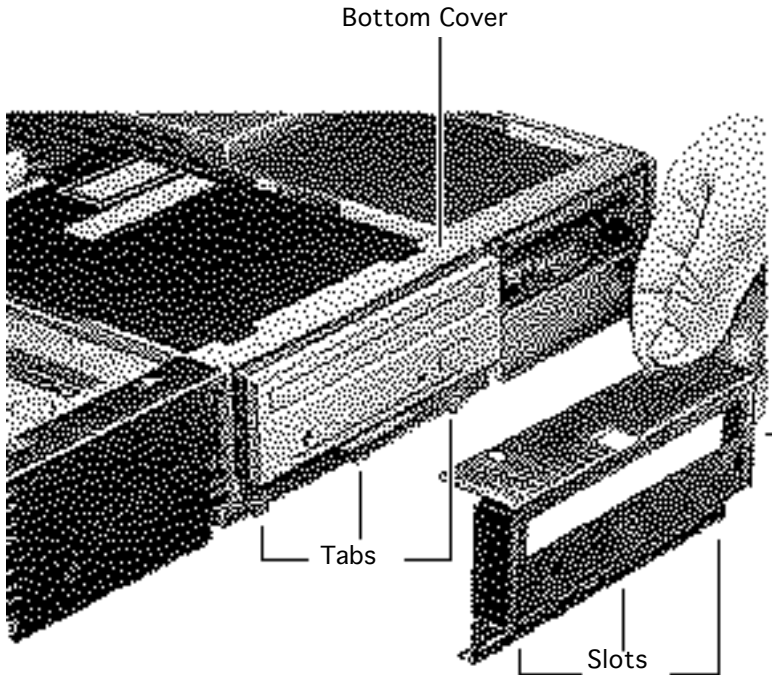drive bay shield.
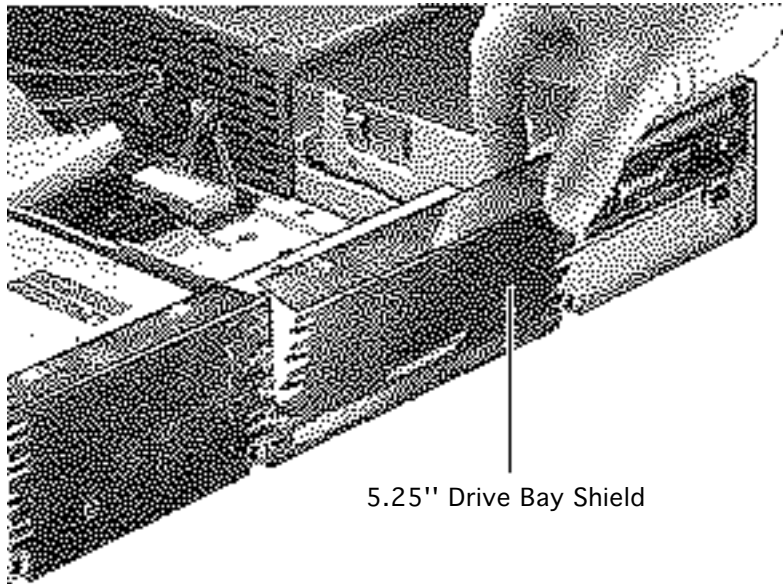
5.25'' Drive Bay Shield

CD-ROM Drive Carrier
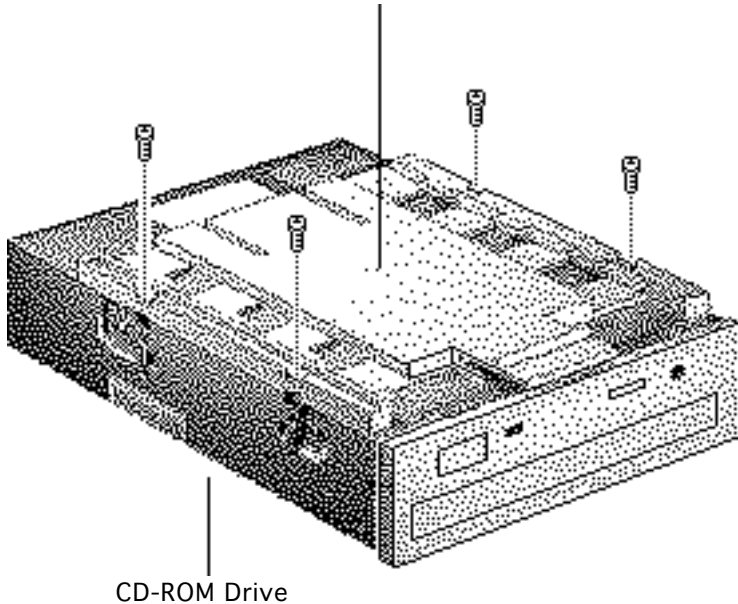
4 Attach the CD-ROM drive carrier to the CD-ROM drive with four Phillips screws.

CD-ROM Drive
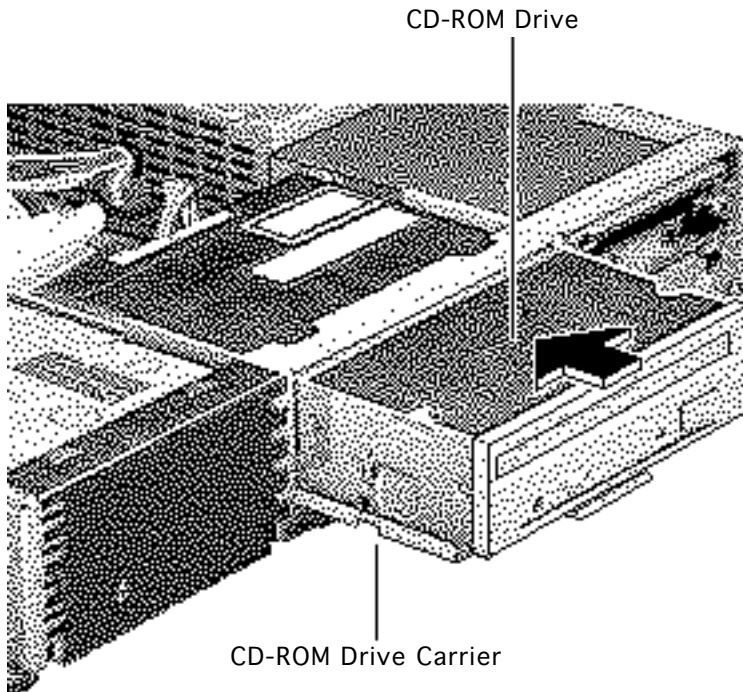
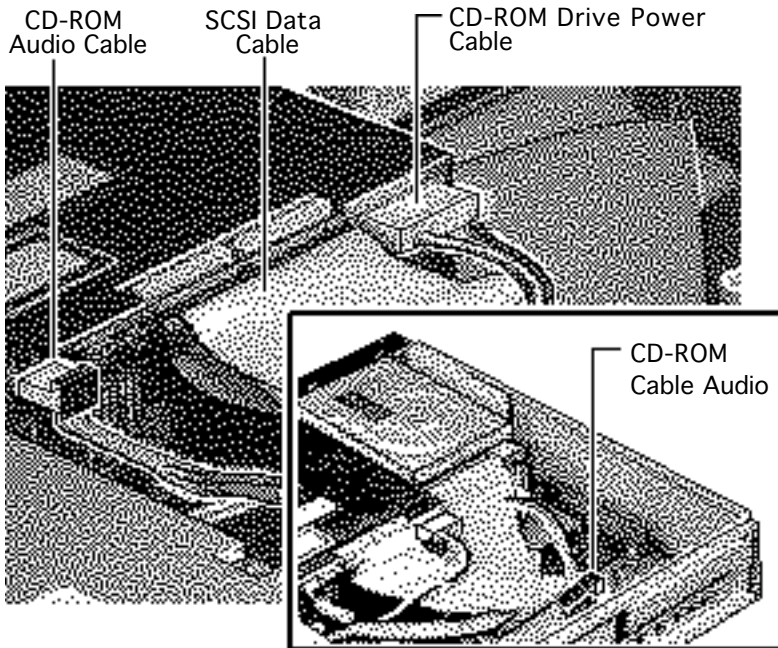CD-ROM Drive

5   Push in the CD-ROM
     drive and carrier.

CD-ROM Drive Carrier

Bottom Cover

Tabs

Slots

6　Align the slots at the lower edge of the CD-ROM shield with the tabs on the bottom cover.

7　Swing up the CD-ROM shield until it snaps securely onto the bottom cover.

CD-ROM Audio Cable

SCSI Data Cable

CD-ROM Drive Power Cable

CD-ROM Cable Audio

8 Connect these cables from the power supply to the CD-ROM drive:
   • CD-ROM audio cable
   • SCSI data cable
   • CD-ROM drive power cable

9 Connect the other end of the CD-ROM audio cable to the logic board.

Power Mac Upgrade

No preliminary steps are required before you begin this procedure.

The Centris 660AV and Quadra 660AV can be upgraded to a Power Macintosh 6100/60 or Power Macintosh 6100/60AV. For upgrade instructions, refer to Additional Procedures in the Power Macintosh 6100 manual.
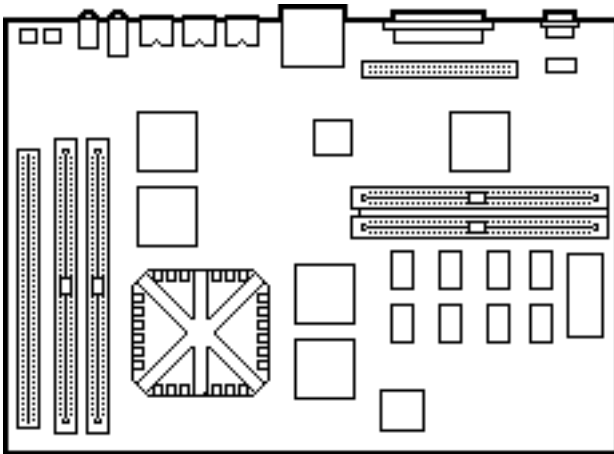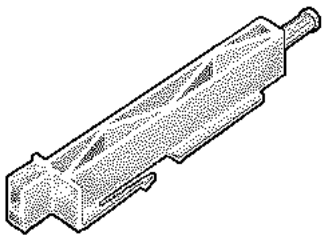
Centris 660AV/Quadra 660AV

Parts

Actuator, On/Off **922-0357**
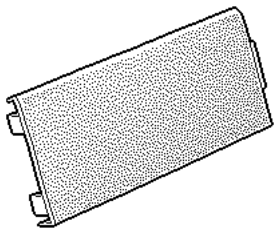
Battery, Lithium, without Leads **742-0011**

Bezel, Blank **922-0358**

Bezel, CD, ROM Drive **922-0355**
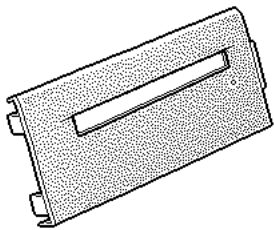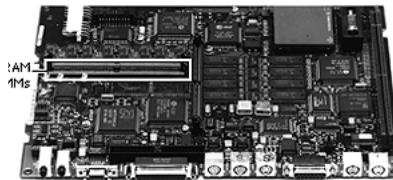
Board, Logic, 4 MB, 25 MHz, Centris/Quadra 660AV **661-1704**

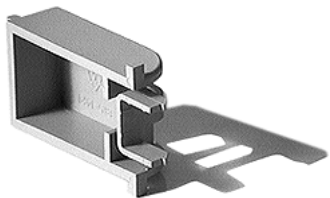**Brace, Chassis Support**   **922-0396**

Cable, British Power Cord **590-0091**

Cable, AC Power Cord, International **590-0094**

Cable, AC Power Cord **590-0760**

Cable, CD-ROM, Audio **922-0842**

Cable, Composite Video **922-0870**

Cable, Floppy Drive **922-0351**
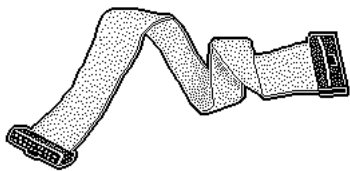
Cable Kit, SCSI Select **076-0130**

Cable, LED, Power **922-0354**
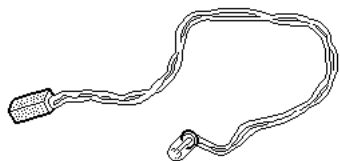
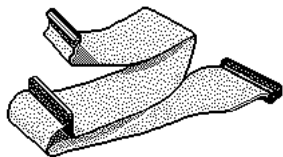**Cable, Power, 110 V, Smoke** **590-0380**

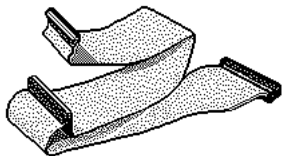**Cable, SCSI Drive (Replaced by 922-0804)** **922-0352**

Cable, SCSI Drive, Pkg. of 5 **922-0804**

Carrier, 1.4 MB Apple SuperDrive **805-0961**
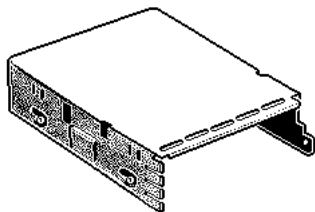
Carrier, CD-ROM Drive **922-0850**
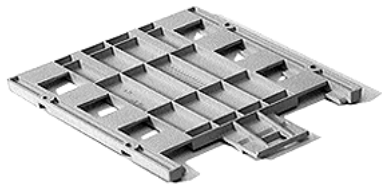
Carrier, Hard Drive **922-1806**
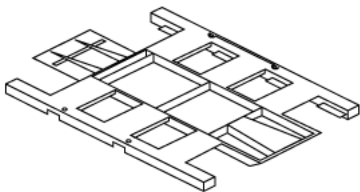
CD-ROM Drive, Apple CD 300+, Trayloading **661-0222**

CD-ROM Drive, Apple CD 300, Caddy Loading **661-0023**

Chassis, Drive Assembly **922-0359**
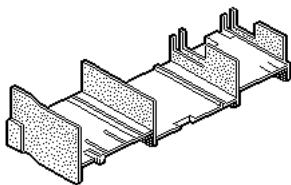
Clip, ESD Floppy (Bag of 10), Macintosh Centris 660AV **922-0879**

Column (Top Cover Support) **922-0356**
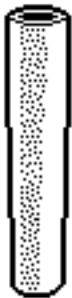
Cover, Top, Manual Insert Floppy **922-0545**
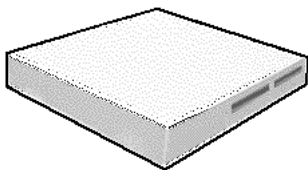
Feet, Enclosure, Pkg. of 4 **922-0862**

Floppy Drive, Apple SuperDrive, 1.4 MB, Manual Insert **661-0121**
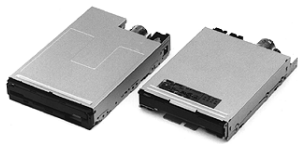
Hard Drive, 230 MB, SCSI, 3.5" (Discontinued) **661-1637**

This part has been discontinued. For replacement of parts covered under warranty or AppleCare®, order 661-1750. For replacement of out-of-warranty parts, refer to the parts list in the Service Source manual for the product you are repairing.

Hard Drive, 250 MB, SCSI, 3.5" **661-0890**

Top
Bottom

This drive is one of the recommended replacement choices for an out-of-warranty hard drive that's been discontinued. This drive may not be exchanged for the failed, out-of-warranty drive, but must be ordered as stock.

Hard Drive, 350 MB, SCSI, 3.5" **661-0182**

This drive is one of the recommended replacement choices for an out-of-warranty hard drive that's been discontinued. This drive may not be exchanged for the failed, out-of-warranty drive, but must be ordered as stock.

Hard Drive, 500 MB, SCSI, 3.5"   **661-0219**

This drive is one of the recommended replacement choices for an out-of-warranty hard drive that's been discontinued. This drive may not be exchanged for the failed, out-of-warranty drive, but must be ordered as stock. All replacement drives will be shipped without carriers.

Cable Return Requirements: Return the defective drive without cables.
Carrier Return Requirements: Return the drive without a carrier.
Special Packaging Requirements: Pkg: #602-0282
Surcharge: $150.00
Failure to comply with these requirements may result in a packaging noncompliance surcharge. Please refer to Service Price Pages for ordering and pricing information.

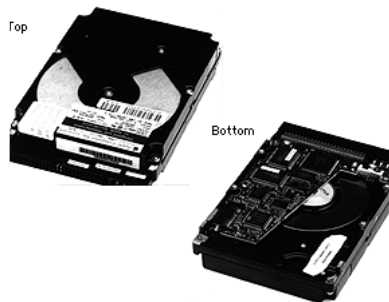**Hard Drive, 500 MB, SCSI, 3.5"** **661-0974**

This drive is one of the recommended replacement choices for an out-of-warranty hard drive that's been discontinued. This drive may not be exchanged for the failed, out-of-warranty drive, but must be ordered as stock.

Hard Drive, 800 MB, SCSI, 3.5" **661-1102**

This drive is one of the recommended replacement choices for an out-of-warranty hard drive that's been discontinued. This drive may not be exchanged for the failed, out-of-warranty drive, but must be ordered as stock.

Hard Drive, 80 MB, SCSI, 3.5" (Discontinued) **661-0212**

This part has been discontinued. For replacement of parts covered under warranty or AppleCare®, order 661-1750. For replacement of out-of-warranty parts, refer to the parts list in the Service Source manual for the product you are repairing.

Hard Drive, 500 MB, SCSI, 3.5", In-Warranty Exchange ONLY **661-1750**

Only order this part number when exchanging a failed hard drive that meets both of the following conditions: 1) the failed hard drive is covered under warranty or AppleCare®, and 2) the like-for-like replacement hard drive has been discontinued.

Apple has made every effort to maintain LED support in its exchange program; however, some drives no longer support an LED. We regret any inconvenience this may cause.

Hard Drive, 160 MB, SCSI, 3.5" (Discontinued) **661-0214**

This part has been discontinued. For replacement of parts covered under warranty or AppleCare®, order 661-1750. For replacement of out-of-warranty parts, refer to the parts list in the Service Source manual for the product you are repairing.

Hard Drive, 80 MB, SCSI, 3.5" (Discontinued) **661-0111**

This part has been discontinued. For replacement of parts covered under warranty or AppleCare®, order 661-1750. For replacement of out-of-warranty parts, refer to the parts list in the Service Source manual for the product you are repairing.

Hard Drive, 1 GB, SCSI, 3.5" **661-0228**

This drive is one of the recommended replacement choices for an out-of-warranty hard drive that's been discontinued. This drive may not be exchanged for the failed, out-of-warranty drive, but must be ordered as stock.

All replacement drives will be shipped without carriers. Return the defective drive without cables, carrier, hard drive frame, LED cable, or SCSI select cable. Special Packaging Requirements: Pkg: #602-0282 Surcharge: $150.00.

Failure to comply with these requirements may result in a packaging noncompliance surcharge. The drive warranty will be void and Apple will return the module to the service provider without repair if the drive bar code label, manufacturer identification label, Apple capacity or EPROM label, or labels that say "Warranty Void if Seal Broken" have been tampered with or removed.
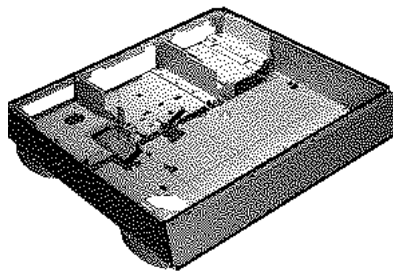
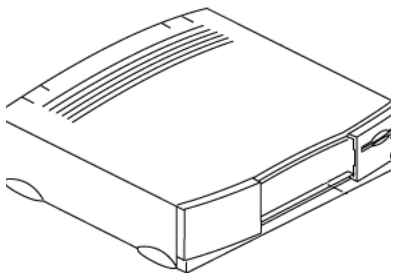**Housing, Bottom (replaced by 922-0806)** **922-0360**
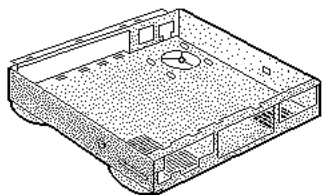
Housing, Bottom **922-0806**
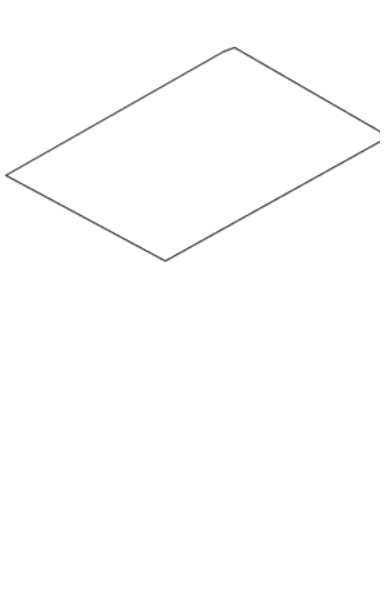
Housing, Top Cover Assembly **922-0368**

Insulator Sheet **922-0866**

Keyboard, Apple Adjustable **661-0731**

Keyboard, AppleDesign (Discontinued and Replaced by 922-2832) **661-0310**

The US version of this keyboard must now be ordered as 922-2832. Orders are no longer accepted for 661-0310. Do not return this keyboard to Apple. The international versions of this keyboard (661-0310 B/D/F/E/S/T) are still valid part numbers and should be returned to Apple for replacement.

Keyboard, AppleDesign **922-2832**

Keyboard, AppleDesign, British **B661-0310**

Keyboard, AppleDesign, French Canadian **C661-0310**

Keyboard, AppleDesign, French **F661-0310**

Keyboard, AppleDesign, German **D661-0310**

Keyboard, AppleDesign, Italian **T661-0310**

Keyboard, AppleDesign, Spanish **E661-0310**

Keyboard, Apple Desktop Bus (replaced by 661-0603) 661-0337

Internationally localized versions of this module may be ordered by utilizing P/Ns 661-0337B/D/F/T.
Keyboard is to be returned to Apple without the cable.

Keyboard, Apple Extended (Replaced by 661-0543) **661-0384**

§

Keyboard II, Apple Extended **661-0543**

Keyboard II, Apple **661-0603**

Keypad, Apple Adjustable Int'l, w/Decimal Point (,) **661-0816**

Keypad, Apple Adjustable Int'l, w/Decimal Point (.) **661-0817**

Keypad, Apple Adjustable **661-0762**

Label, Name Plate, Macintosh Quadra 660AV (Bag of 10) **922-0865**

Label, Product ID (Bag of 10) Macintosh Centris 660AV, Europe **922-0878**

Label, Product ID (Bag of 10) Macintosh Centris 660AV **922-0868**

Label, Product ID, Quadra 660AV (Bag of 10) **922-0741**

Microphone, Apple PlainTalk **922-0867**

Use this microphone with Macintosh LC 475.

Mouse II, Apple Desktop Bus, Version A **661-0763**

This module is replaced by part number 661-0104.

Mouse II, Apple Desktop Bus, Version B **661-0104**

P/N 661-0104 and P/N 661-0763 are similar. To differentiate the two, check the connector at the end of the cable. P/N 661-0763 has a number printed on the connector; P/N 661-0104 has no number. The retainer for P/N 661-0104 is available with or without a small locking hole. There are two versions of the retainers with holes: version M, P/N 922-1242, and version L, P/N 922-1109. If the product label on the bottom of the mouse begins with "M," and the retainer has a hole, order P/N 922-1242; if the product label begins with "L," and the retainer has a hole, order P/N 922-1109. Note: The retainers are not interchangeable; be sure to order like for like.

Mouse, Apple DeskTop Bus (Replaced by 661-0763) **661-0338**

Note: This module is replaced by Apple P/N 661-0104.

Mouse, Apple Desktop Bus (replaced by 661-0763) **661-0479**

Note: This module is replaced by Apple P/N 661-0104.
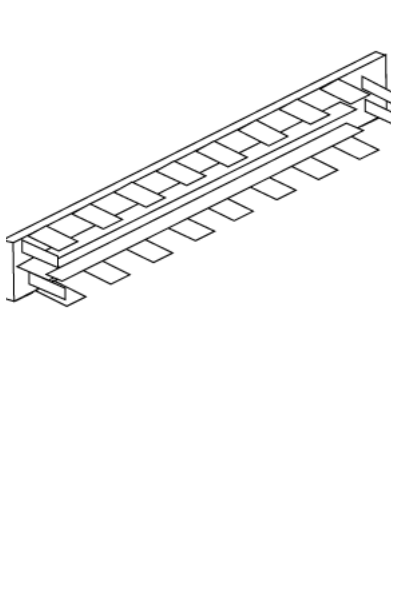
NuBus Adapter, Macintosh Centris 660AV **661-1719**

Panel, Rear, Macintosh Centris 660AV **922-0864**

Plug, Expansion, Pkg. of 5 **922-0902**
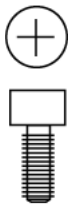
Power Supply, 86 W 661-1688

The Macintosh 86 watt power supply has the assembly part number 614-0022 on the module label.

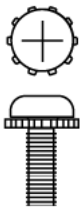**Screw, Floppy Drive** **844-0018**

Screw, M3X.5x8mm **410-1308**

Screw, M3x8mm, Pan Head, Philips, Pkg. of 10 **922-0401**
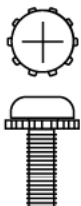
Screw, Nubus Adapter Bracket **450-0032**

Screw, Sems 6-32x.313 PN CRS (Replaced by 922-1381) **440-6105**

Screw, Sems 6-32x.313 PN CRS **922-1381**
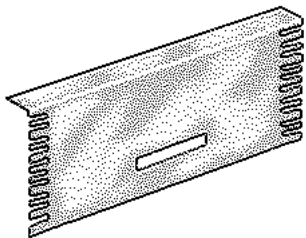
Shield, 5.25 Drive Bay **922-0366**
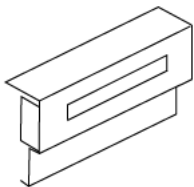
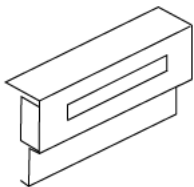**Shield, CD-ROM (replaced by 922-0826)**   **922-0400**
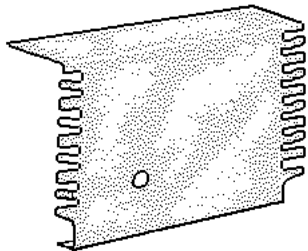
Shield, CD-ROM Drive, Trayloading, Pkg. of 10 **922-0826**
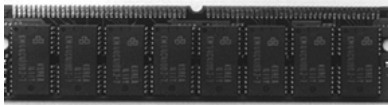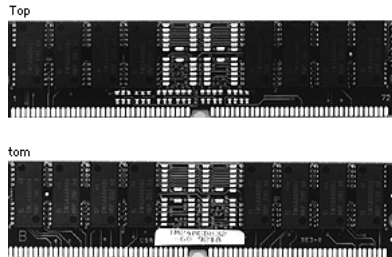
Shield, Hard Drive **922-0367**

SIMM, DRAM, 16 MB, 80ns, 72-Pin **661-0087**

SIMM, DRAM, 8 MB, 60ns, 72 Pin 661-1702

Top
tom

This board has ICs on both sides. The RAM speed is usually indicated by a number after a dash or after a letter at the end of the manufacturer's part number. For example, -80, -8 or S8 indicates 80ns, where as -60, -6, or S6 indicates 60 ns. These numbers are located on the surface of the chip or on the back side of the SIMM board. Apple accepts only 60 ns or faster RAM SIMMs of this 8 MB variety for return. These SIMMs can be used in the following computers and printers:

•Power Macintosh 6100/60, 6100/60AV, and WGS 6150
•Power Macintosh 7100/66 and 7100/66AV
•Power Macintosh 8100/80, 8100/80AV, and WGS 8150
•Workgroup Server 9150
•Macintosh LC 520
•Mac TV
•Macintosh Quadra 605

- Macintosh Quadra 800 and Apple Workgroup Server 80
- Macintosh Quadra 840AV
- Macintosh Quadra/Centris 610
- Macintosh Quadra/Centris 650
- Macintosh Quadra/Centris 660AV
- Macintosh LC III/Performa 450, 460, 466, and 467
- Macintosh LC 475/Quadra 605/Performa 475 and 476
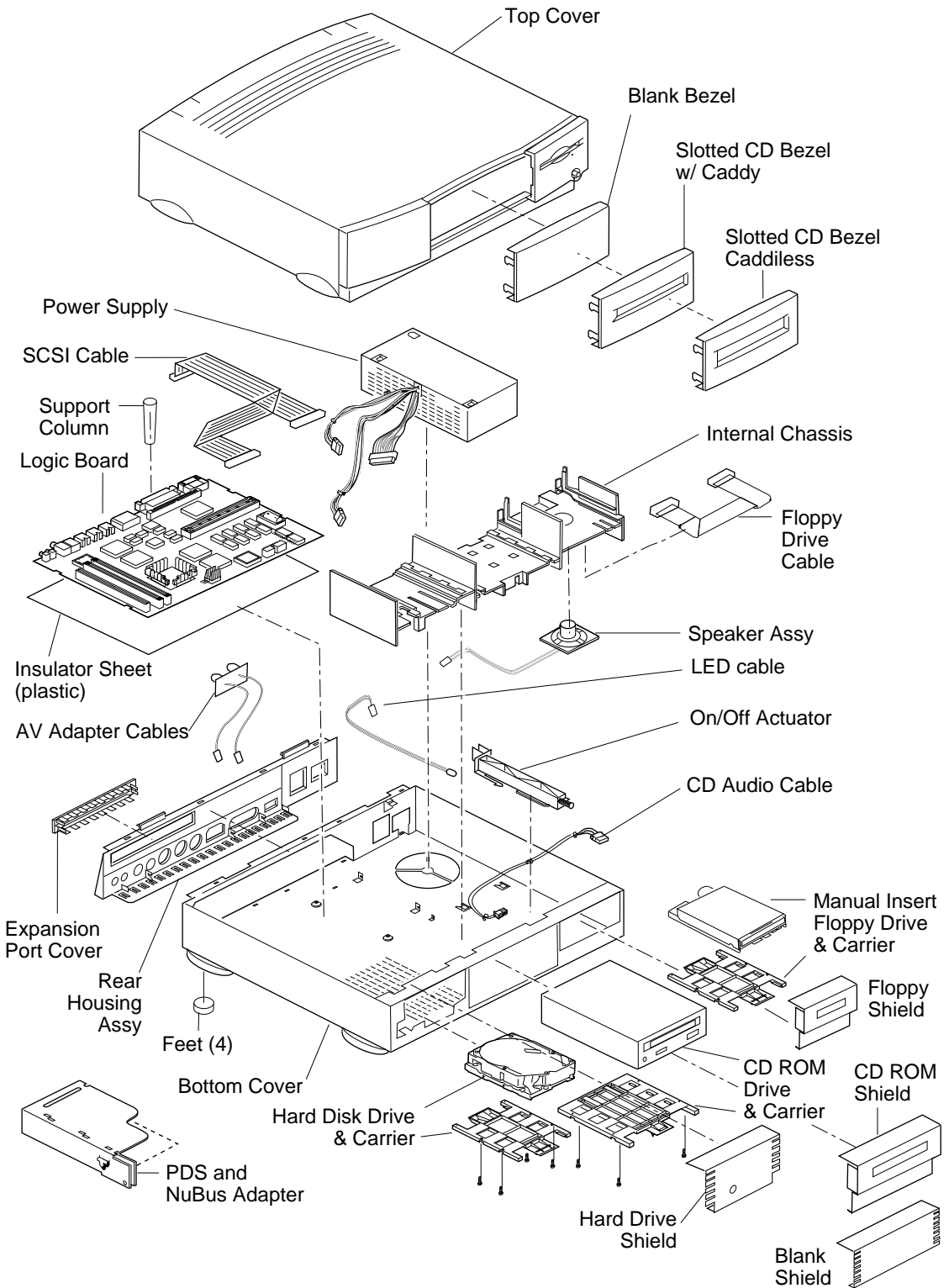- LaserWriter Pro 600 and 630
- LaserWriter Select 310

Speaker **922-0353**

Exploded View

Centris 660AV/Quadra 660AV

Exploded View
Quadra 660AV, Centris 660AV

Top Cover

Blank Bezel

Slotted CD Bezel
w/ Caddy

Slotted CD Bezel
Caddiless

Power Supply

SCSI Cable

Support
Column

Logic Board

Internal Chassis

Floppy
Drive
Cable

Speaker Assy

LED cable

On/Off Actuator

Insulator Sheet
(plastic)

AV Adapter Cables

CD Audio Cable

Manual Insert
Floppy Drive
& Carrier

Floppy
Shield

Expansion
Port Cover

Rear
Housing
Assy

Feet (4)

Bottom Cover

Hard Disk Drive
& Carrier

CD ROM
Drive
& Carrier

CD ROM
Shield

PDS and
NuBus Adapter

Hard Drive
Shield

Blank
Shield

This is a generic representation of a product family. Configurations may vary.