Dell™ Vostro™ 1520 Service Manual

Working on Your Computer
Adding and Replacing Parts
Specifications
Diagnostics
System Setup

Notes, Cautions, and Warnings

NOTE: A NOTE indicates important information that helps you make better use of your computer.

CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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System Setup

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- Entering System Setup
- <F12> Menu

Your computer's BIOS, or System Setup program allows you to do the following:

- Access System Setup by pressing <F2>
- Bring up a one-time boot menu by pressing <F12>

Entering System Setup

Press <F2> to enter System Setup and make changes to the user-definable settings. If you are having trouble entering Setup using this key, reboot and press the <F2> key when the keyboard LEDs first flash.

<F12> Menu

Press <F12> when the Dell logo appears to initiate a one-time boot menu with a list of the valid boot devices for the computer. The devices listed on the boot menu depend on the bootable devices installed in the computer.

- Internal HDD
- CD/DVD/CD-RW Drive
- Onboard NIC
- BIOS Setup
- Diagnostics (starts the Pre-boot System Assessment (PSA) diagnostics)

This menu is useful when attempting to boot to a particular device or to bring up the diagnostics for the computer. Using the boot menu does not make any changes to the boot order stored in the BIOS.

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Diagnostics

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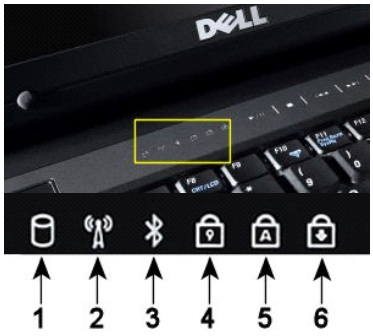
- Device Status Lights
- LED Error Codes
- Power Button Light Codes

Device Status Lights



Device status lights located in the center of the hinge cover.

1—Turns on when your computer reads or writes data to the hard drive. **NOTE:** To avoid loss of data, never turn off your computer while the **Hard Drive** light is flashing.
2—Turns on when wireless networking is enabled.
3—Turns on when a card with Bluetooth® wireless technology is enabled. **NOTE:** The card with Bluetooth wireless technology is an optional feature, so the light turns on only if you ordered the card with your computer. For more information, see the documentation that came with your card. To turn off only the Bluetooth wireless technology functionality, right-click the icon in the system tray and click **Disable Bluetooth Radio**.
4—Turns on when the numeric keypad is enabled.
5—Turns on when the uppercase letter function is enabled.
6—Turns on when the scroll lock function is enabled.

If your computer is connected to an electrical outlet, the light operates as follows:

- **Solid blue**—The battery is charging.
- **Flashing blue**—The battery is almost fully charged.

If your computer is running on a battery, the light operates as follows:

- **Off**—The battery is adequately charged, or the computer is turned off.
- **Flashing orange**—The battery charge is low.
- **Solid orange**—The battery charge is critically low.

LED Error Codes

If your computer does not perform a Power-On Self-Test upon boot up, there are various things to look for:

1. Check that the computer power light is on.
2. If the power light is not on, ensure that your computer is plugged into AC power. Remove the battery.
3. If your computer is powered on but is not performing a POST, check to see whether or not the keyboard status lights flash to indicate a successful POST but no video or if the keyboard status lights are lit in a sequence indicating a system problem.

The following table shows the possible LED codes that may display in a no-POST situation.

Appearance	Description	Next Step
ON-FLASH-FLASH 	No SODIMMs are installed	1. Install supported memory modules. 2. If memory is already present, reseat the module(s) one at time in each slot. 3. Try known good memory from another computer or replace the memory. 4. Replace the system board.
FLASH-ON-ON 	System board error	1. Reseat the processor. 2. Replace the system board. 3. Replace the processor.
FLASH-ON-FLASH 	LCD Panel Error	1. Reseat the LCD cable. 2. Replace the LCD panel. 3. Replace the video card / system board.
OFF-FLASH-OFF		1. Install compatible memory modules.

	Memory compatibility error	2. If two modules are installed remove one and test. Try the other module in the same slot and test. Test the other slot with both modules. 3. Replace the memory. 4. Replace the system board.
ON-FLASH-ON 	Memory is detected but has errors	1. Reseat the memory. 2. If two modules are installed remove one and test. Try the other module in the same slot and test. Test the other slot with both modules. 3. Replace the memory 4. Replace the system board.
OFF-FLASH-FLASH 	Modem Error	1. Reseat the modem. 2. Replace the modem. 3. Replace the system board.
FLASH-FLASH-FLASH 	System board error	1. Replace the system board.
FLASH-FLASH-OFF 	Option ROM Error	1. Reseat the device. 2. Replace the device. 3. Replace the system board.
OFF-ON-OFF 	Storage device error	1. Reseat the hard drive and optical drive. 2. Test the computer with just the hard drive and just the optical drive. 3. Replace the device that is causing the failure. 4. Replace the system board.
FLASH-FLASH-ON 	Video card error	1. Replace the system board.

Power Button Light Codes

The power LED located in the power button on the front of the computer illuminates and blinks or remains solid to indicate five different states:

- No light—System is in the off state (S5, or mechanical (AC power not applied) OFF).
- Solid Amber—System fault, but power supply is good—normal operating state (S0).
- Blinking Amber—System fault error condition including Power Supply (only +5VSB working), Vreg failure, missing or bad CPU.
- Blinking Green—System is in power saving states S1, S3 or S4. (Blink rate is 1Hz). No fault/error condition.
- Solid Green—System is fully functional and is in S0 (ON) state.

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Adding and Replacing Parts

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- Battery
- Hard Drive
- Wireless Local Area Network (WLAN) Card
- Optical Drive
- Processor and Memory Access Panel
- Heat Sink and Processork
- Display Assembly
- Camera
- LCD Display Panel
- Keyboard
- USB/IEEE 1394 Board
- Speaker Assembly
- Coin-Cell Battery
- Hard Drive and Mini-Card Access Panel
- Wireless Wide Area Network (WWAN) Card
- Internal Card With Bluetooth® Wireless Technology
- Fan
- Memory
- Hinge Cover
- Display Bezel
- Display Assembly Hinges
- Display Inverter
- Palm Rest
- Fingerprint Reader
- System Board

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Specifications

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- Processor
- System Information
- ExpressCard™
- 8-in-1 Memory Card Reader
- Memory
- Connectors
- Communications
- Video
- Audio
- Display
- Keyboard
- Touch Pad
- Fingerprint Reader
- Camera
- Battery
- AC Adapter
- Physical
- Environmental

NOTE: Offerings may vary by region. For more information regarding the configuration of your Tablet-PC, click **Start** (or **Start** in Windows XP)→ **Help and Support**, and then select the option to view information about your Tablet-PC.

Processor	
Processor type	Intel® Core™ 2 Duo processors
L1 cache	32 KB per instruction, 32 KB data cache per core
L2 cache	Shared 3 MB or 6 MB
External bus frequency	1067 MHz

System Information	
System chipset	Intel GM45 or Intel PM45 chipset
Data bus width	64 bits
DRAM bus width	64 bits
Processor address bus width	36 bits
Flash EPROM	SPI 32 Mbit
PCI bus (discrete graphics only)	x16 PCI Express

ExpressCard™ (optional)	
NOTE: The ExpressCard slot is designed only for ExpressCards. It does NOT support PC cards.	
ExpressCard connector	ExpressCard slot (USB and PCI Express-based interfaces)
Cards supported	34-mm and 54-mm ExpressCards

Secure Digital (SD) Memory Card Reader	
Cards supported	SD, SDIO, SD HC, Mini SD (with adapter) MMC, MMC+, Mini MMC (with adapter)

Memory	
Memory module connector	Two DIMM sockets
Memory module capacities	1 GB (one DIMM), 2 GB (one DIMM or two DIMMs), 3 GB (2 DIMMs), 4 GB (2 DIMMs)
Memory type	DDR2 800 MHz non-ECC memory only.
Minimum memory	1024 MB (1 GB)
Maximum memory	4096 MB (4 GB)

Connectors	
Audio	Microphone connector and stereo headphone/speakers

	connector
IEEE 1394	One 4-pin -connector
Dock	Optional USB Port Replicator only
Mini-card support (internal expansion slots)	One dedicated half Mini-Card slot for WLAN One dedicated full Mini-Card slot for WPAN (Bluetooth® or ultra wideband [UWB]) WPAN full Mini-Card slot can also be used for the Intel Flash Cache
Modem	Optional USB external modem
Network adapter	RJ-45 connector
USB, USB PowerShare, eSATA	Four 4-pin USB 2.0-compliant connectors
Video	VGA

Communications	
Modem	External (optional)
Network adapter	10/100/1000 Ethernet LAN on system board
Wireless	WLAN half Mini-Card, WPAN full Mini-Cards, Bluetooth® wireless support, and UWB technology
Mobile Broadband	None
GPS	None

Video	
Video type	Integrated Discrete on system board, hardware accelerated
Video controller	Integrated video: Mobile Intel GMA X4500 Discrete video: NVIDIA GeForce 9300M GS
Data bus	Integrated video or PCI-Express video x16
Video memory	Integrated video: up to 256 MB shared Discrete video: 256 MB dedicated memory
Video output	Video connector and multimode DisplayPort

Audio	
Audio type	Two-channel high-definition audio codec
Audio controller	IDT 92HD71B5
Stereo conversion	24-Bit (stereo digital-to-analog) 24-Bit (stereo analog-to-digital)
Interfaces:	
Internal	Internal High Definition Audio
External	Microphone-in connector, stereo headphones/speakers mini-connector
Speaker	One 2-watt, 4-ohm speakers
Internal speaker amplifier	1-Watt channel into 4 ohms
Internal microphone	Single digital microphone
Volume controls	Volume control buttons

Display	
Type (active-matrix TFT)	15.4" WXGA w/anti-glare CCFL or WLED 15.4" WXGA+ w/anti-glare CCFL or WLED 15.4" WUXGA TrueLife!" CCFL
Dimensions	
Height	225.5 mm (8.8 inches)
Width	344.5 mm (13.6 inches)
Diagonal	391.16 mm (15.4 inches)
Maximum Resolutions	
WXGA w/anti-glare	1280x800 at 262 K colors
WXGA+ w/anti-glare	1440x900 at 262 K colors
WUXGA with TrueLife	1920X1200 at 262 K colors
Operating angle	0° (closed) to 160°
Refresh rate	60 Hz

Viewing angles	
Horizontal	±40° (WXGA) typical ±40° (WXGA with TrueLife)
Pixel pitch	WXGA –.258 mm (.010 inch) WXGA with TrueLife –.23 mm (.009 inch)
Controls	Brightness can be controlled through keyboard shortcuts

Keyboard	
Number of keys	84 (U.S. and Canada); 85 (Europe); 88 (Japan)
Layout	QWERTY/AZERTY/Kanji
Size	full sized (19-mm key pitch)

Touch Pad	
X/Y position resolution (graphics table mode)	240 CPI
Size	
Width	73.0-mm (2.9-inch) sensor-active area
Height	42.9-mm (1.7-inch) rectangle

Fingerprint Reader (Optional)	
Type	UPEK TCS3 TouchStrip™ strip sensor with CMOS active capacitive pixel-sensing technology

Camera (Optional)	
Resolution	640 x 480 pixels (VGA)

Battery	
Type	
12-cell lithium-ion prismatic slice battery	84 WHr
9-cell lithium-ion battery	85 WHr
6-cell lithium-ion battery	56 WHr
4-cell lithium-ion battery	35 WHr
Dimensions:	
Depth	
4- or 6-cell lithium-ion battery	206 mm (8.11 inches)
9-cell lithium-ion battery	93.3 mm (3.67 inches)
12-cell lithium-ion battery	14.48 mm (0.57 inches)
Height	
4- or 6-cell lithium-ion battery	19.8 mm (0.78 inch)
9-cell lithium-ion battery	22.3 mm (0.88 inch)
12-cell lithium-ion battery	217.24 mm (8.55 inch)
Width	
4- or 6-cell lithium-ion battery	47.0 mm (1.85 inches)
9-cell lithium-ion battery	68.98 mm (2.70 inches)
12-cell lithium-ion battery	322.17 mm (12.68 inches)
Weight	
4-cell lithium-ion battery	0.24 kg (0.53 lb)
6-cell lithium-ion battery	0.33 kg (0.73 lb)
9-cell lithium-ion battery	0.51 kg (1.12 lb)
12-cell lithium-ion battery	0.85 kg (1.87 lb)
Voltage	
4-cell lithium-ion battery	14.8 VDC
6- or 9-cell lithium-ion battery	11.1 VDC
12-cell lithium-ion battery	14.8 VDC

Charge time (approximate)	
Computer off	
6-cell lithium-ion battery	Approximately 1 hour to 80% capacity Approximately 2 hours to 100% capacity
Operating Time	Varies depending on operating conditions and can be significantly reduced under certain power-intensive conditions
Life span (approximate)	1 year
Temperature range	
Operating	0°C to 40°C (32°F to 104°F)
Storage	–10° to 65°C (14° to 149°F)
Coin-cell battery	CR-2032

AC Adapter	
Input voltage	100–240 VAC
Input current (maximum)	1.5 A
Input frequency	50–60 Hz
Temperature range:	
Operating	0°C to 35°C (32° to 95°F)
Storage	–40°C to 65°C (–40° to 149°F)
PA-12 65-W Travel AC adapter:	
Output voltage	19.5 V DC
Output current	3.34 A
Height	15 mm (0.6 inches)
Width	66 mm (2.6 inches)
Depth	127 mm (5.0 inches)
Weight	0.29 kg (0.64 lb)
PA-10 90-W D-Series AC adapter:	
Output voltage	19.5 V DC
Output current	4.62 A
Height	32 mm (1.3 inches)
Width	60 mm (2.4 inches)
Depth	140 mm (5.5 inches)
Weight	0.425 kg (0.9 lb)
PA-3E 90 E-Series AC adapter:	
Output voltage	19.5 V DC
Output current	4.62 A
Height	15 mm (0.6 inches)
Width	70 mm (2.8 inches)
Depth	147 mm (5.8 inches)
Weight	0.345 kg (0.76 lb)

Physical	
Height	Front: 26.2 (1.031 inches) Back: 38 mm (1.496 inches)
Width	357 mm (14.055 inches)
Depth	258 mm (10.157 inches)
Weight (with 6-cell battery)	2.8 kg (6.173 lb)

Environmental	
Temperature range:	
Operating	0° to 35° C (32° to 95° F)
Storage	–40° to 65° C (–40° to 149° F)
Relative humidity (maximum):	
Operating	10% to 90% (non-condensing)
Storage	5% to 95% (non-condensing)
Maximum vibration (using a random-vibration spectrum that simulates user environment):	

Operating	0.66 GRMS
Storage	1.30 GRMS
Maximum shock (measured with hard drive in head-parked position and a 2-ms half-sine pulse):	
Operating	143 G
Storage	163 G
Altitude (maximum):	
Operating	−15.2 to 3048 m (−50 to 10,000 ft)
Storage	−15.2 to 3048 m (−50 to 10,000 ft)

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Battery

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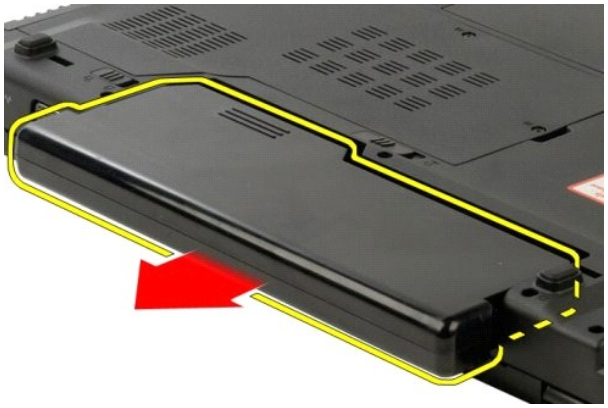
Removing the Battery

1. Follow the procedures in Before Working Inside Your Computer.

2. Slide the battery lock latch on the left away from the battery.

3. Slide the battery latch at the center toward the right..

4. Slide the battery itself toward the back of the computer and remove.



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Coin-Cell Battery

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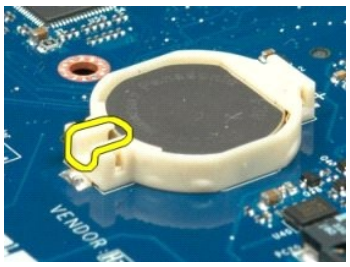
Removing the Coin-Cell Battery

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the processor and memory access panel from the computer.
4. Remove the fan from the computer.
5. Remove the heat sink and processor from the computer.
6. Remove the memory modules from the computer.
7. Remove the coin-cell battery from the computer.
8. Remove the hard drive and mini-card access panel from the computer.
9. Remove the hard drive from the computer.
10. Remove the optical drive from the computer.
11. Remove the Bluetooth module from the computer.
12. Remove any WLAN and WWAN cards from the computer.
13. Remove the hinge cover from the computer.
14. Remove the keyboard from the computer.
15. Remove the display assembly from the computer.
16. Remove the palm rest from the computer.
17. Remove the system board from the computer.

18. Set aside the chassis, and place the systemboard on a clean work surface.
19. Insert a plastic scribe into slot and gently pry up the coin-cell battery.



20. Remove the coin-cell battery.

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Display Bezel

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Removing the Display Bezel

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the display assembly from the computer.

3. Remove the six rubber screw covers from the display bezel.

4. Remove the six screws that secure the bezel to the display assembly.

5. Remove the bezel from the display assembly.

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Camera

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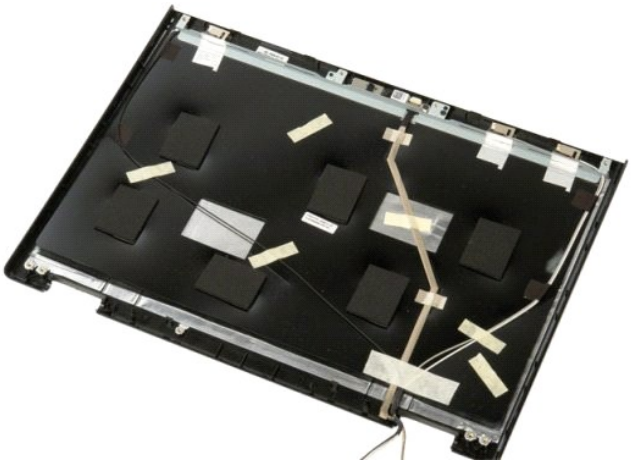
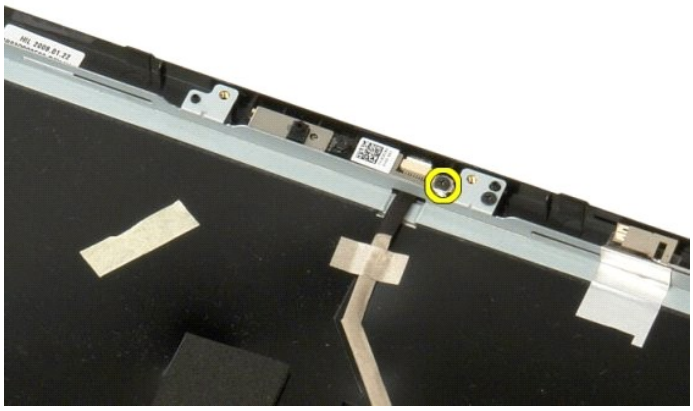
Removing the Camera

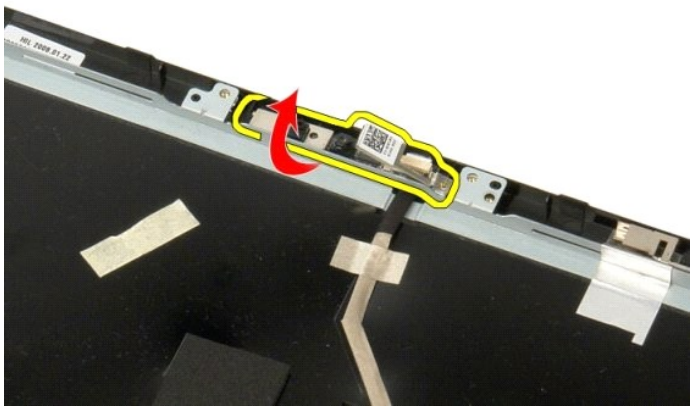
1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the display assembly from the computer.
3. Remove the display bezel from the display assembly.
4. Remove the LCD display panel from the display assembly.



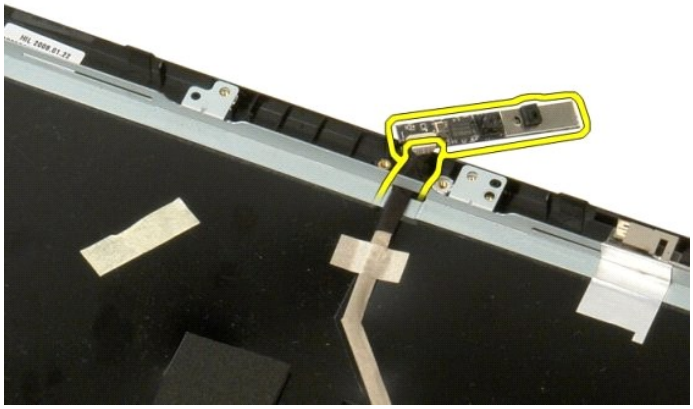
5. Loosen the captive screw that secures the display camera in place.



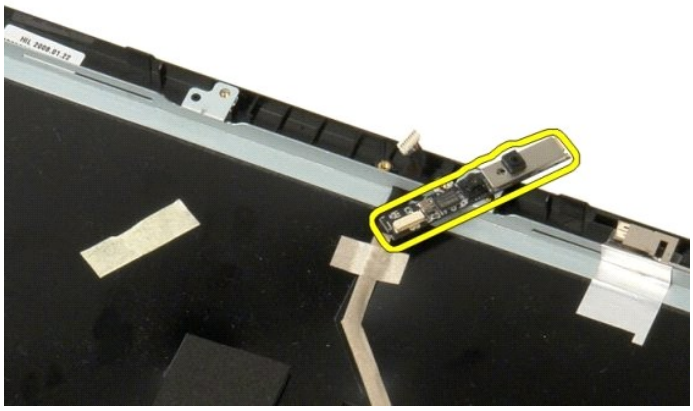
6. Lift the camera from its slot.

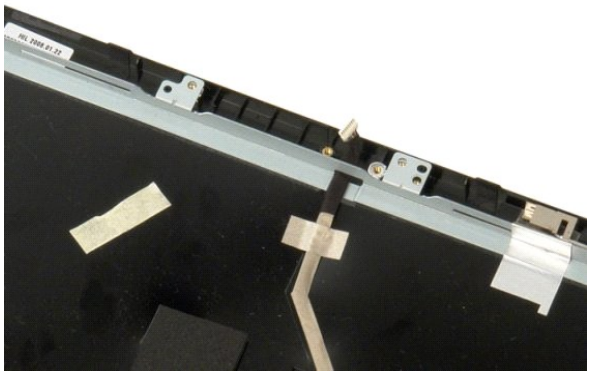


6. Release the display camera data cable from its clip and disconnect the display camera data cable.



7. Remove the display camera from the display assembly.





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Display Assembly Hinges

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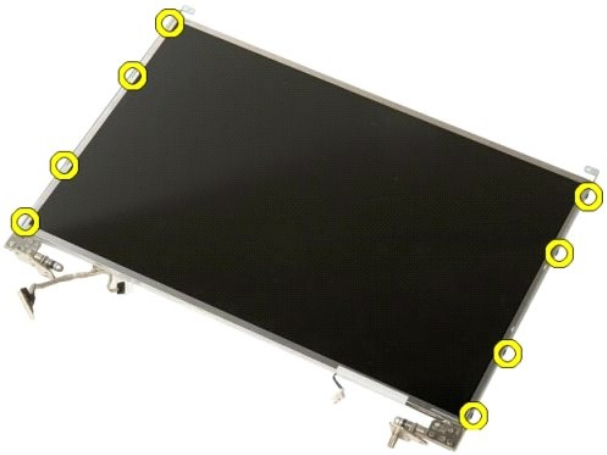
Removing the Display Assembly Hinges

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the display assembly from the computer.
3. Remove the display bezel from the display assembly.
4. Remove the display inverter from the display assembly.
5. Remove the LCD display panel from the display assembly.

6. Remove the eight screws securing the hinges to the display panel assembly.



7. Slide the hinges away from the display panel assembly.

8. Remove the display panel hinges from the display panel assembly.

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Display Inverter

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Removing the Display Inverter

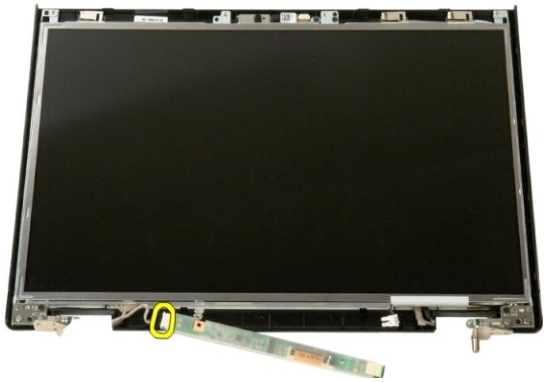
1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the display assembly from the computer.

3. Remove the screw that secures the display inverter to the display assembly.

4. Open the display inverter data cable clip.

5. Remove the display inverter data cable from the clip.

6. Disconnect the data cable from the display inverter.



7. Remove the display inverter from the display assembly.

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LCD Display Panel

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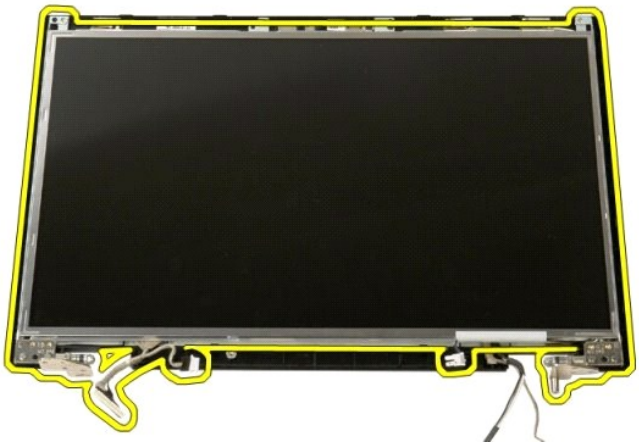
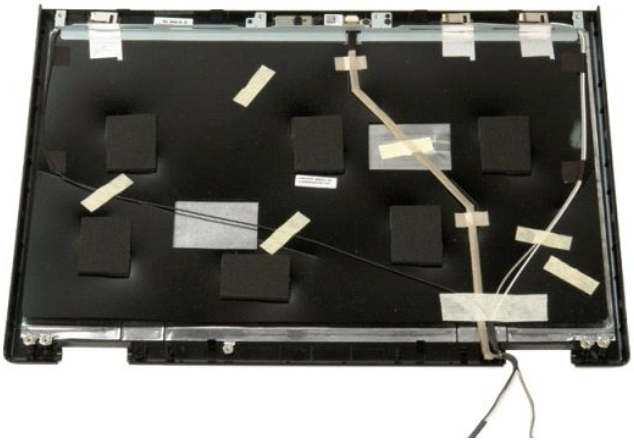
Removing the LCD Display Panel

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the display assembly from the computer.
3. Remove the display bezel from the display assembly.

4. Remove the two screws that secure the LCD display panel to the display assembly.

5. Remove the LCD display panel from the display assembly.





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Display Assembly

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Removing the Display Assembly

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hard drive and mini-card access panel from the computer.
4. Remove the hinge cover from the computer.
5. Remove the keyboard from the computer.
6. Remove the hard drive from the computer.
7. Remove the optical drive from the computer.

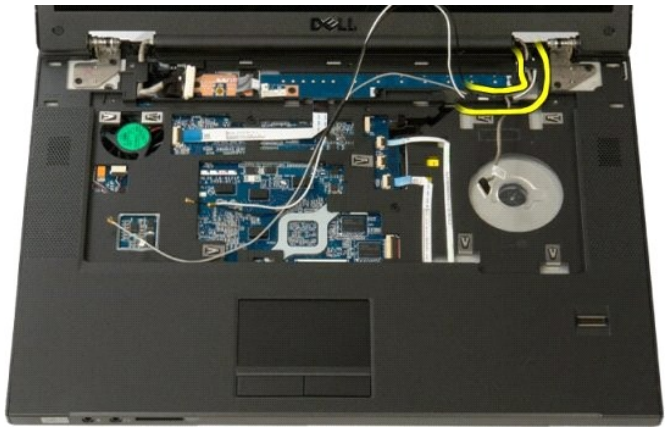
8. Disconnect the antenna cables from the WLAN card.

9. Disconnect the camera cable from the system board.

10. Disconnect the display data cable from the system board.

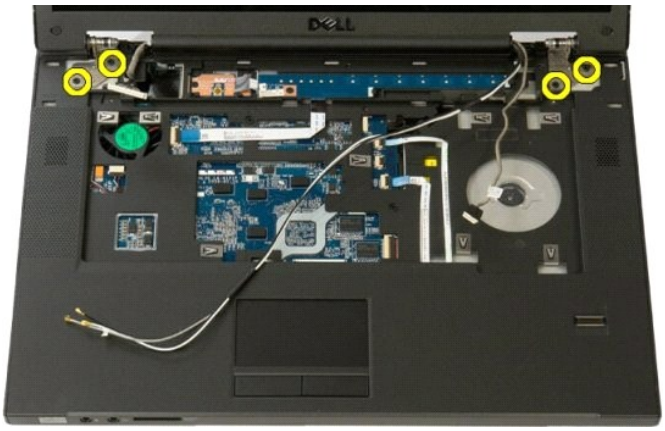
11. Carefully draw the antenna cables through the system board.

12. Remove the antenna cables from their routing slots.

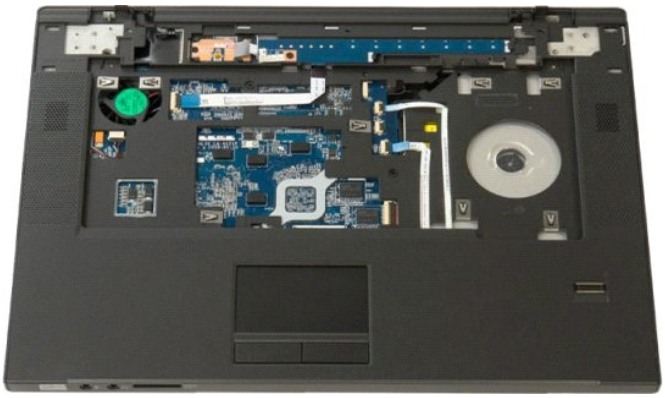


13. Remove the display data cable from its routing slot.

14. Remove the four screws that secure the display assembly to the base of the computer.



15. Remove the four screws that secure the display assembly to the base of the computer.



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Fan

Dell™ Vostro™ 1520 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the Fan

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the processor and memory access panel from the computer.

4. Disconnect the fan cable from the system board.

5. Remove the three screws that secure the fan to the computer.

6. Lift the fan and remove it from the computer.

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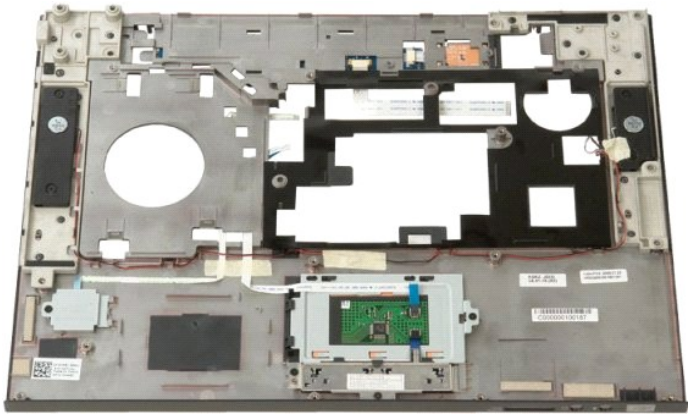
Fingerprint Reader

Dell™ Vostro™ 1520 Service Manual

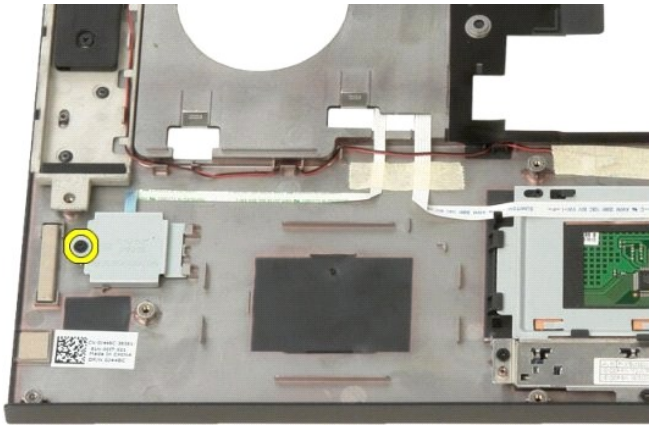
WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the Fingerprint Reader

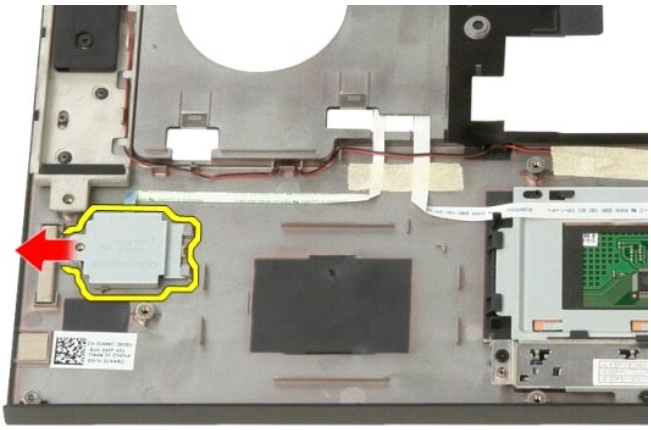
1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hard drive and mini-card access panel from the computer.
4. Remove the hard drive from the computer.
5. Remove the WLAN card from the computer.
6. Remove the hinge cover from the computer
7. Remove the keyboard from the computer.
8. Remove the display assembly from the computer.
9. Remove the palm rest from the computer.



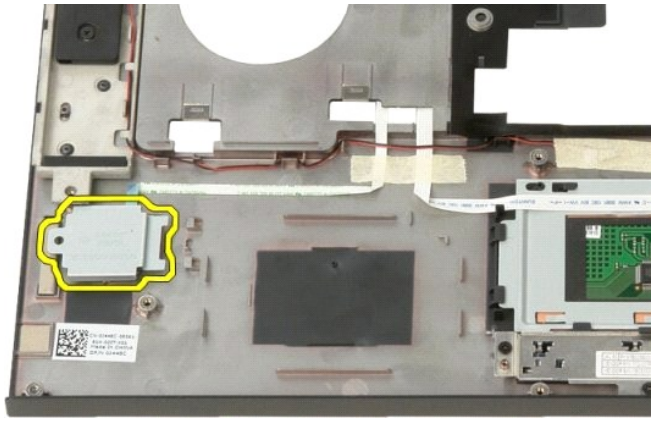
10. Remove the screw that secures the fingerprint reader retention plate to the computer chassis.



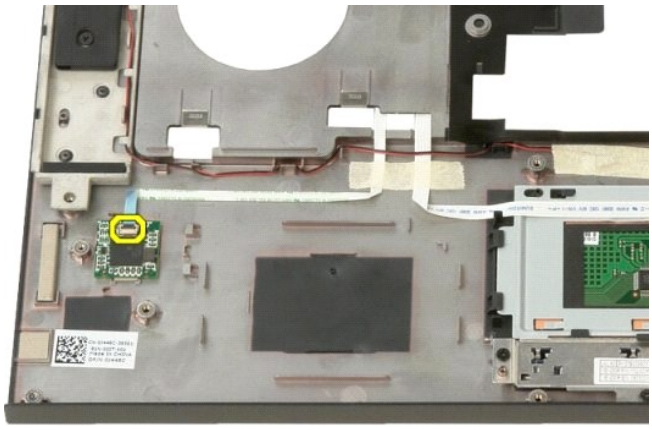
11. Slide the fingerprint reader retention plate to the left.



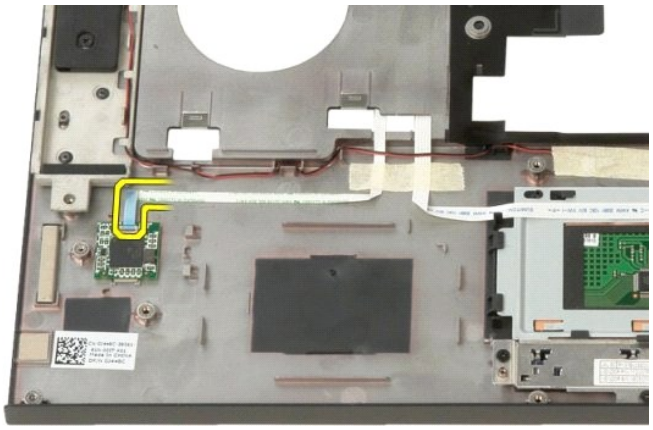
12. Remove the fingerprint reader retention plate.



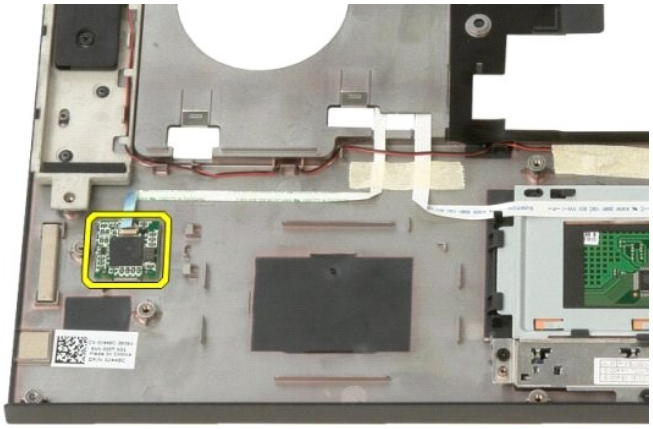
13. Open the fingerprint cable retention clip.

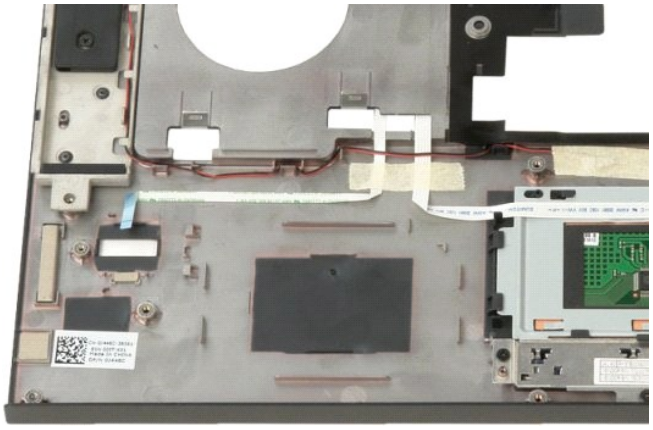


14. Remove the fingerprint cable from the retention clip.



15. Remove the fingerprint reader from the palm rest.





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Hinge Cover

Dell™ Vostro™ 1520 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the Hinge Cover

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.

3. Use a plastic scribe gently to pry the back side of the hinge cover away from the base of the computer.

4. Starting on the right side, separate the hinge cover from the base of the computer.

5. Continue to separate the hinge cover from the computer working from right to left, then remove the hinge cover.

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Hard Drive

Dell™ Vostro™ 1520 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the Hard Drive

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hard drive and mini-card access panel from the computer.

4. Slide the hard drive toward the side of the computer.

5. Lift and remove the hard drive from the computer.

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Hard Drive and Mini-Card Access Panel

Dell™ Vostro™ 1520 Service Manual

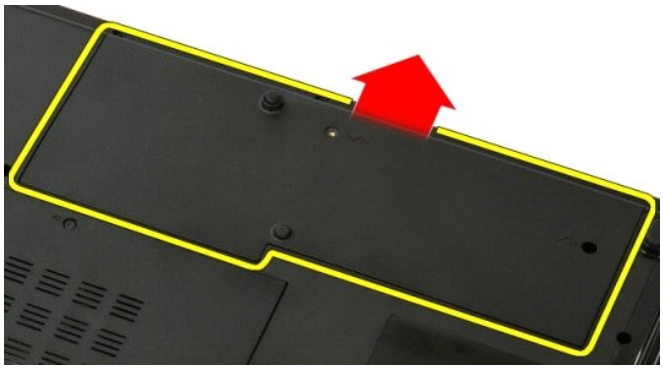
WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the Hard Drive and Mini-Card Access Panel

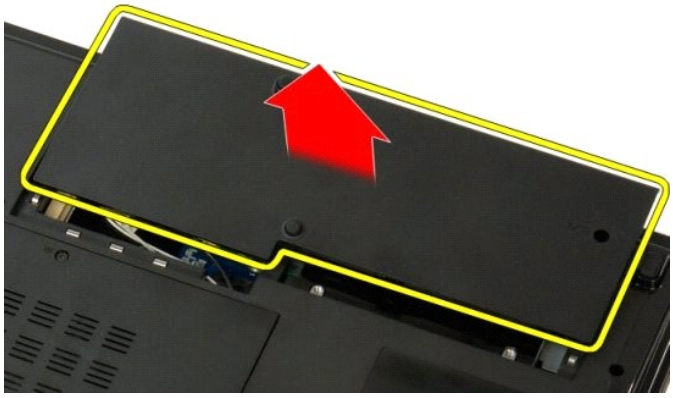
1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.

3. Remove the two screws that secure the hard drive and mini-card access panel to the computer.

4. Slide the panel toward the rear of the computer.



5. Remove the hard drive and mini-card access panel.



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Keyboard

Dell™ Vostro™ 1520 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the Keyboard

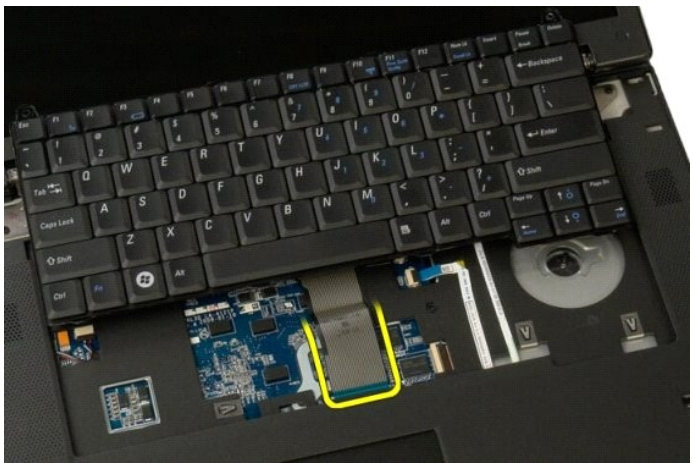
1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hinge cover from the computer.

4. Remove the two screws that secure the keyboard to the computer.

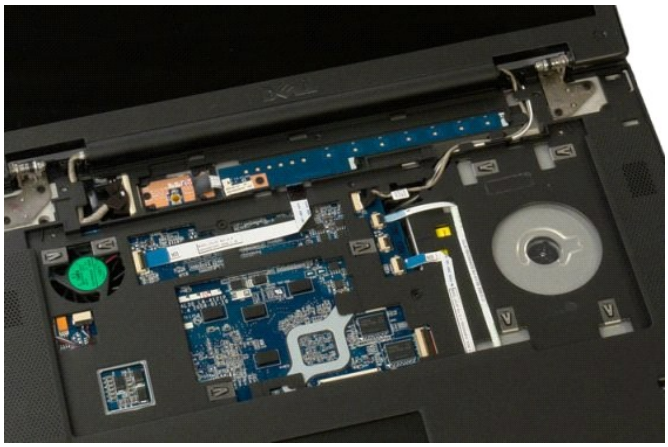
5. Lift the back edge of the keyboard slightly and slide the keyboard toward the back of the computer.

6. Open the keyboard data cable clip to free the ribbon cable.

7. Remove the keyboard data cable from the clip.



8. Remove the keyboard from the computer.



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Memory

Dell™ Vostro™ 1520 Service Manual

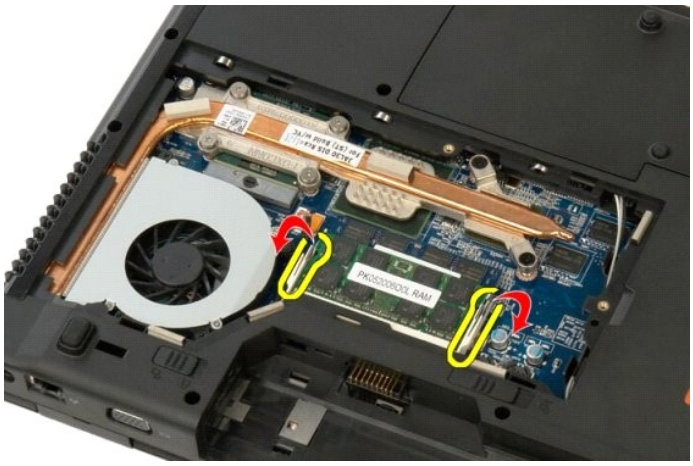
WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing Memory Modules

NOTE: DIMM A is the module closest to the system board. You cannot remove DIMM A until DIMM B is removed. If only 1 DIMM is installed, it should always be installed in the DIMM A slot. If only 1 DIMM is installed, moving memory from DIMM A to DIMM B will disable AMT (if currently enabled).

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the processor and memory access panel from the computer.

4. Using your fingertips, carefully spread apart the securing clips on each end of the memory module connector until the memory module pops up.



5. Remove the memory module from the socket.

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Optical Drive

Dell™ Vostro™ 1520 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the Optical Drive

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the processor and memory access panel from the computer.

4. Remove the screw that secures the optical drive in place.

5. Insert a plastic scribe into the notch and slide the optical drive slightly out of the computer.

6. Remove the optical drive from the computer.

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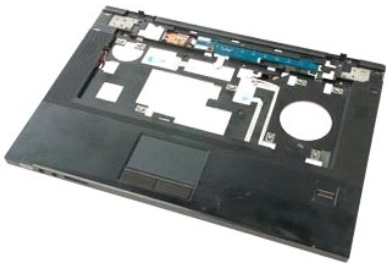
Palm Rest

Dell™ Vostro™ 1520 Service Manual

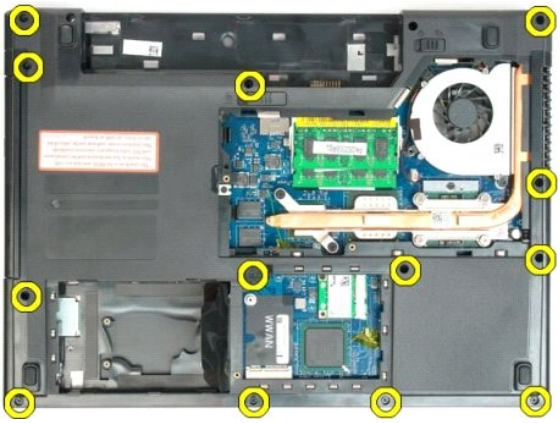
WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the Palm Rest

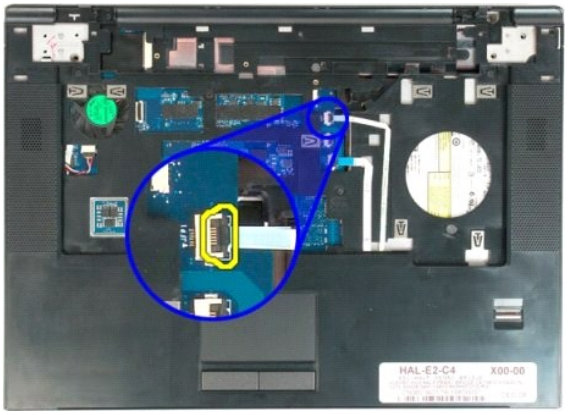


1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hard drive and mini-card access panel from the computer.
4. Remove the hard drive from the computer.
5. Remove the optical drive from the computer.
6. Remove the keyboard from the computer.
7. Remove the display assembly from the computer.
8. Remove the processor and memory access panel from the computer.

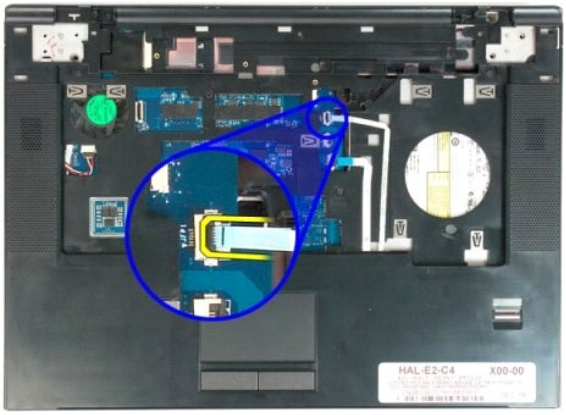
9. Remove the thirteen screws that secure the palm rest to the bottom of the computer.



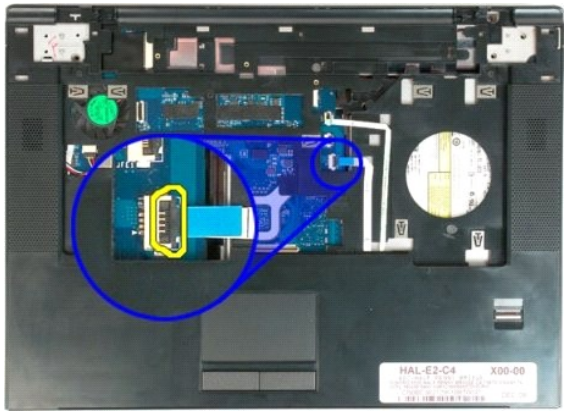
10. Turn over the computer and release the fingerprint reader data cable clip.



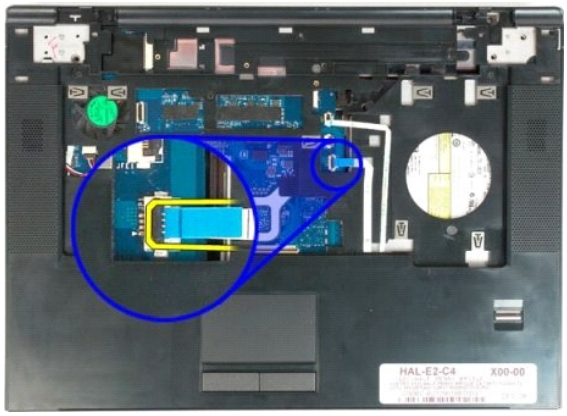
11. Remove the fingerprint reader data cable from the clip.



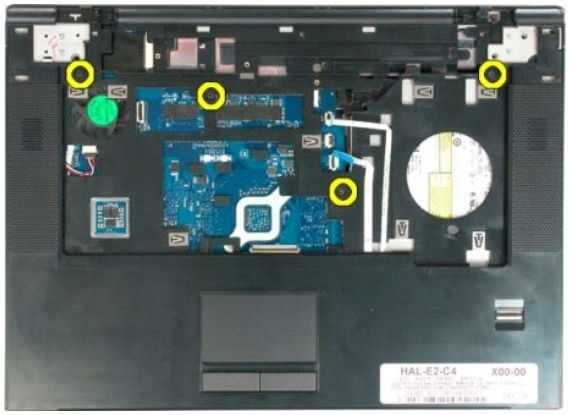
12. Release the touch pad data cable clip.



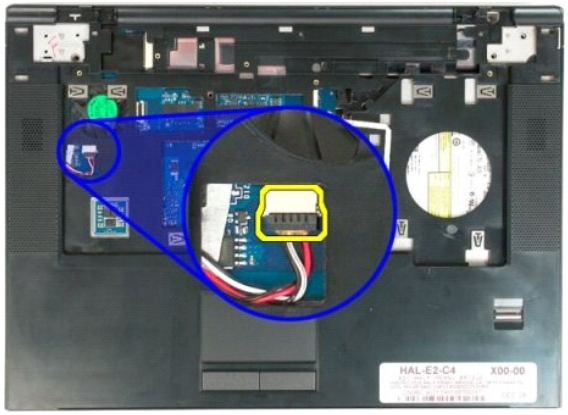
13. Remove the touch pad data cable from the clip.



14. Remove the four screws that secure the palm rest to the top of the computer.



15. Disconnect the speaker cable from the system board.



16. Remove the palm rest from the computer.

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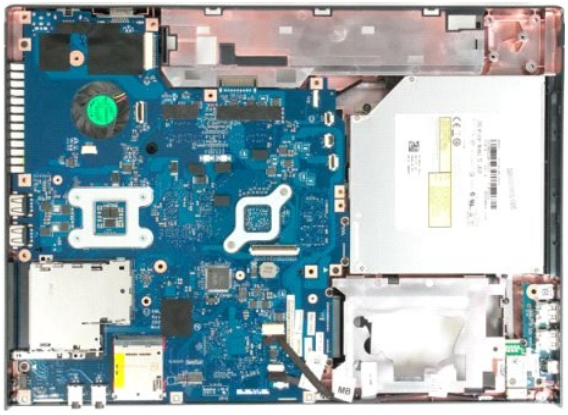

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Processor and Memory Access Panel

Dell™ Vostro™ 1520 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the Processor and Memory Access Panel

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.

3. Loosen the two captive screws on the access panel.

4. Lift the right side of the access panel.

5. Remove the access panel.

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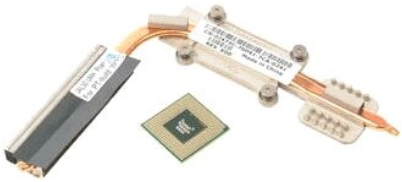
Heat Sink and Processor

Dell™ Vostro™ 1520 Service Manual

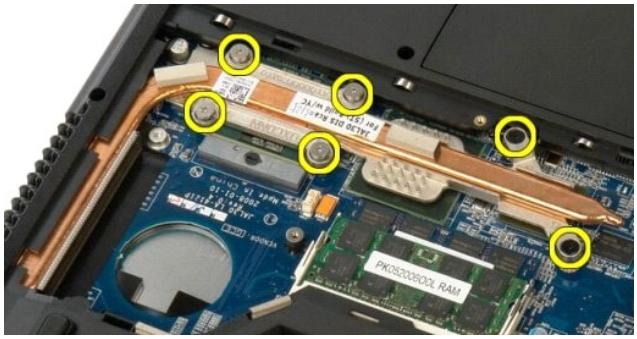
WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the Heat Sink and Processor



1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the processor and memory access panel from the computer.
4. Remove the fan from the computer.

5. Loosen the six captive screws that secure the heat sink to the system board.



6. Lift the edge of the heat sink that is closest to the center of the computer.

7. Slide the heat sink toward the center of the computer, then lift up the heat sink and remove it from the computer.

8. Rotate the processor cam counterclockwise.

9. Lift the processor straight up from its socket, taking care not to bend any of the processor pins.

PK052006O0L RAM

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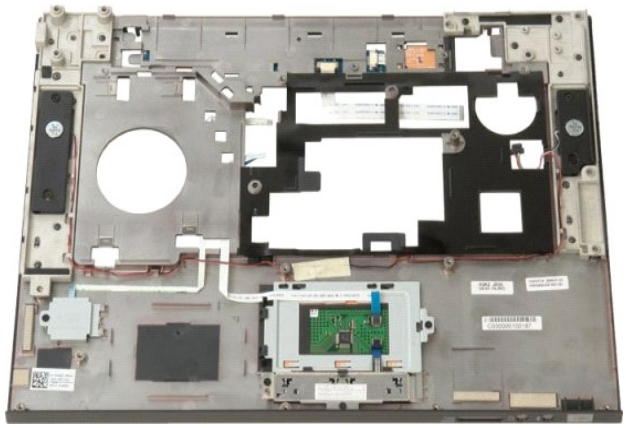
Speaker Assembly

Dell™ Vostro™ 1520 Service Manual

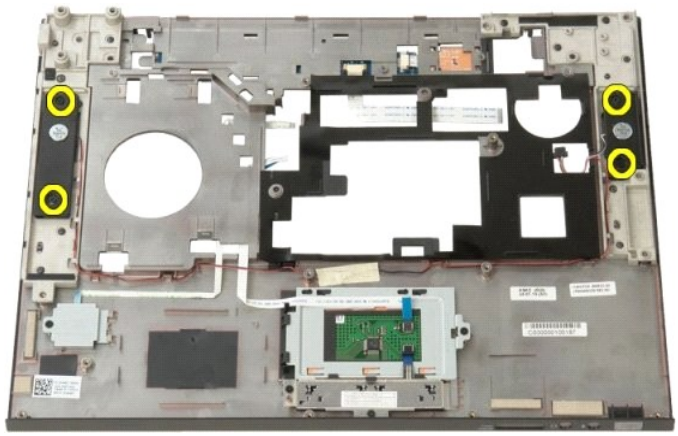
WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the Speaker Assembly

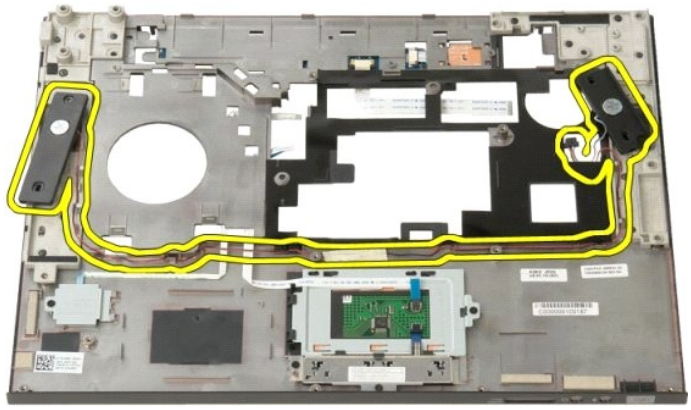
1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hard drive and mini-card access panel from the computer.
4. Remove the hard drive from the computer.
5. Remove the optical drive from the computer.
6. Remove the WLAN card from the computer.
7. Remove the hinge cover from the computer.
8. Remove the keyboard from the computer.
9. Remove the display assembly from the computer.
10. Remove the palm rest from the computer and place it on a clean work surface.

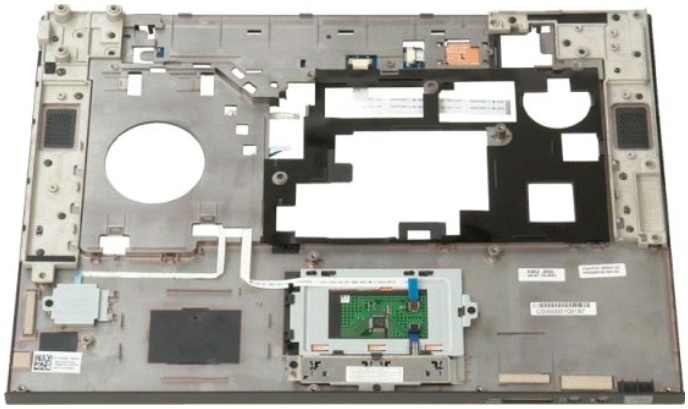


12. Remove the four screws that secure the speaker assembly to the palm rest.



13. Lift the speakers from their slots, then remove the speaker assembly from the computer.





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System Board

Dell™ Vostro™ 1520 Service Manual

WARNING: Before working inside your Tablet-PC, read the safety information that shipped with your Tablet-PC. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

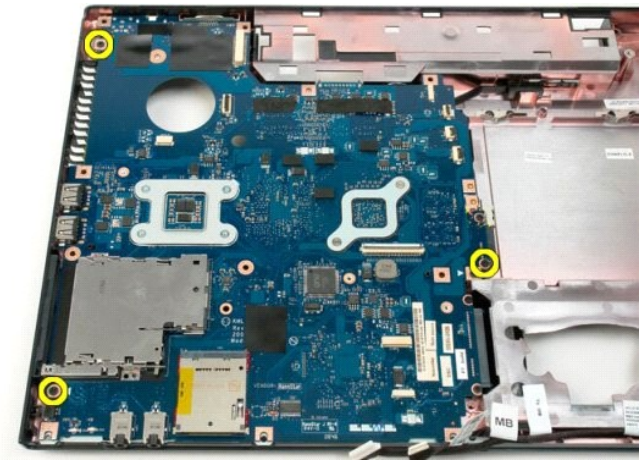
Removing the System Board

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove any ExpressCards and SD cards from the computer.
3. Remove the battery from the computer.
4. Remove the processor and memory access panel from the computer.
5. Remove the fan from the computer.
6. Remove the heat sink and processor from the computer.
7. Remove the memory modules from the computer.
8. Remove the coin-cell battery from the computer.
9. Remove the hard drive and mini-card access panel from the computer.
10. Remove the hard drive from the computer.
11. Remove the optical drive from the computer.
12. Remove the Bluetooth module from the computer.
13. Remove any WLAN and WWAN cards from the computer.
14. Remove the hinge cover from the computer.
15. Remove the keyboard from the computer.
16. Remove the display assembly from the computer.
17. Remove the palm rest from the computer.

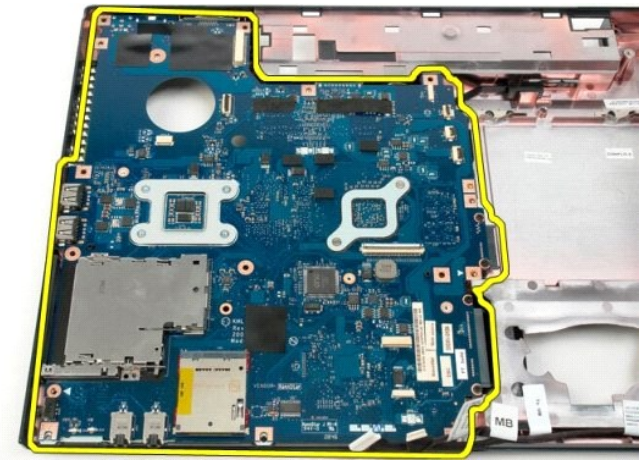
18. Disconnect the first data cable from the system board.

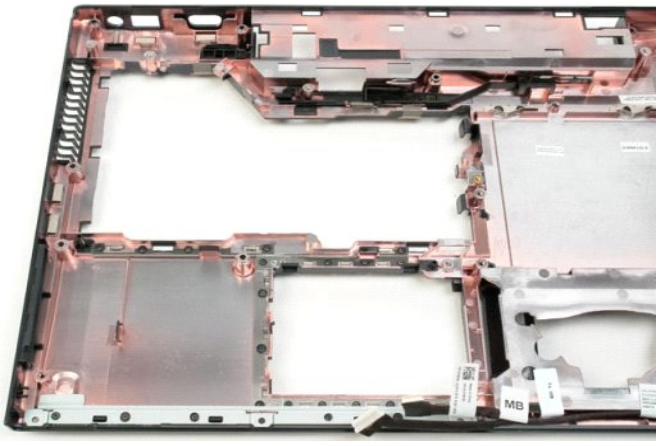
19. Disconnect the second data cable from the system board.

20. Remove the three screws that secure the system board to the computer chassis.



21. Remove the system board from the computer chassis.

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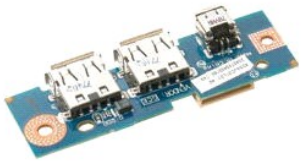
USB/IEEE 1394 Board

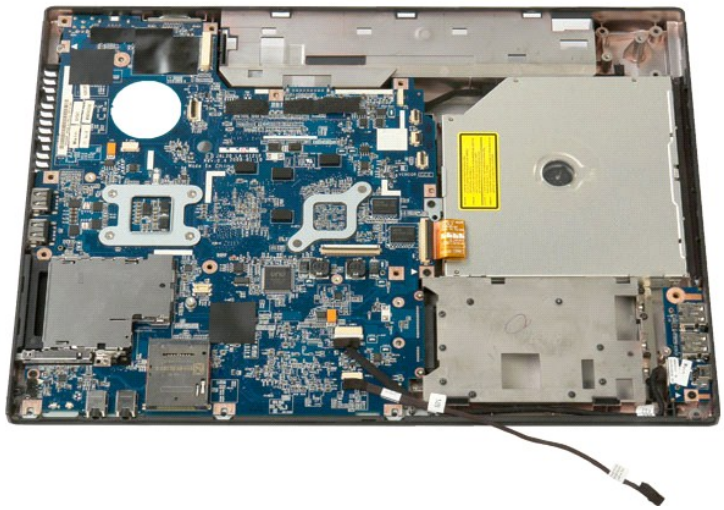
Dell™ Vostro™ 1520 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

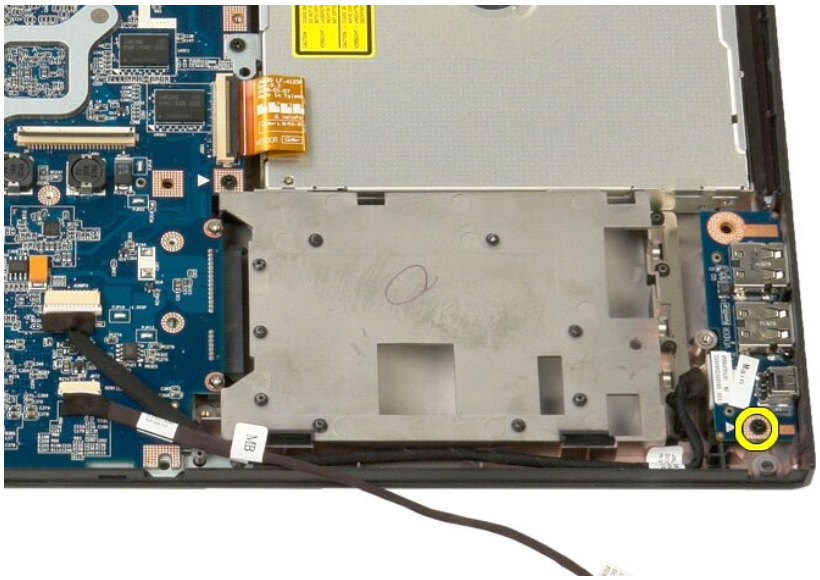
Removing the USB/IEEE 1394 Board



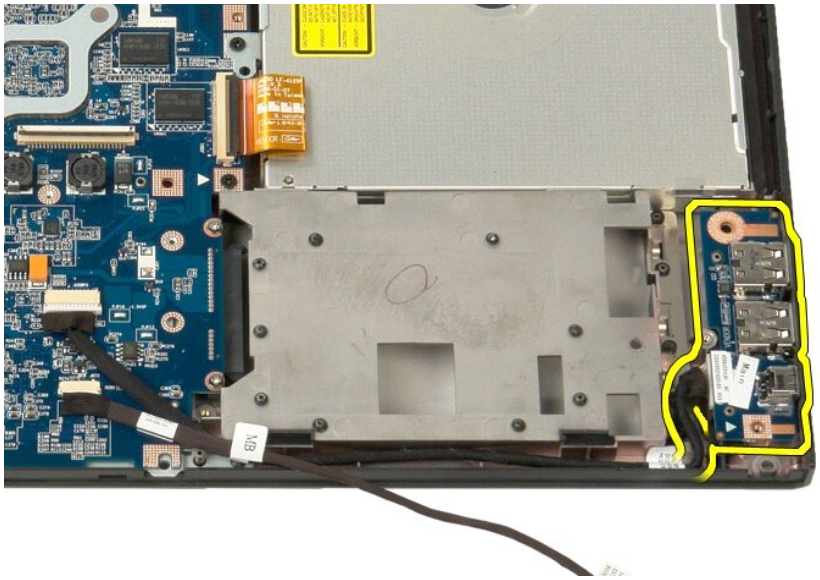
1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the processor and memory access panel from the computer.
4. Remove the fan from the computer.
5. Remove the hard drive and mini-card access panel from the computer.
6. Remove the hard drive from the computer.
7. Remove the optical drive from the computer.
8. Remove the hinge cover from the computer.
9. Remove the keyboard from the computer.
10. Remove the display assembly from the computer.
11. Remove the palm rest from the computer.



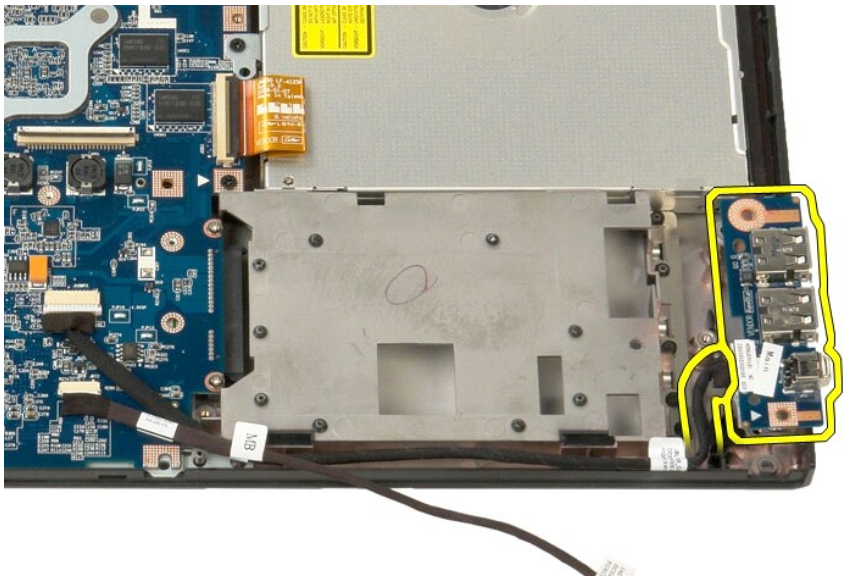
12. Remove the screw that secures the USB/1394 connector board to the computer chassis.



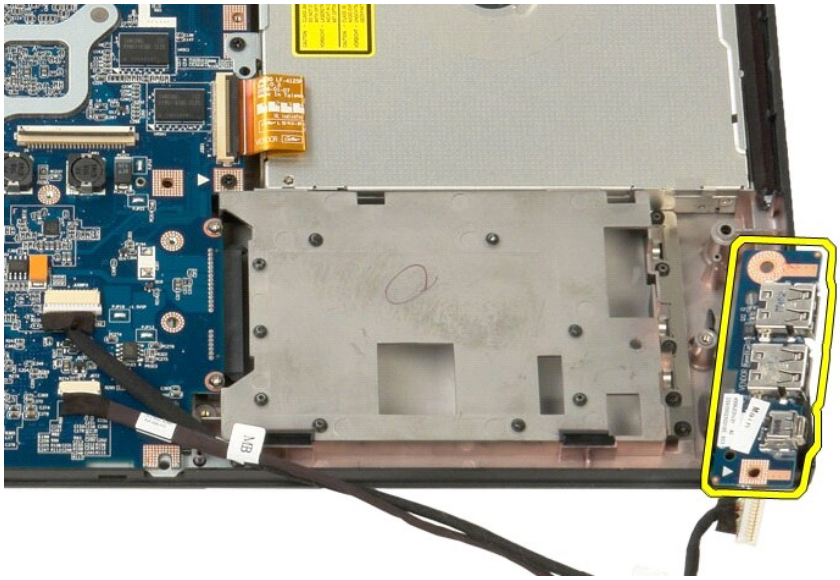
13. Lift the USB/1394 connector board from its slot.

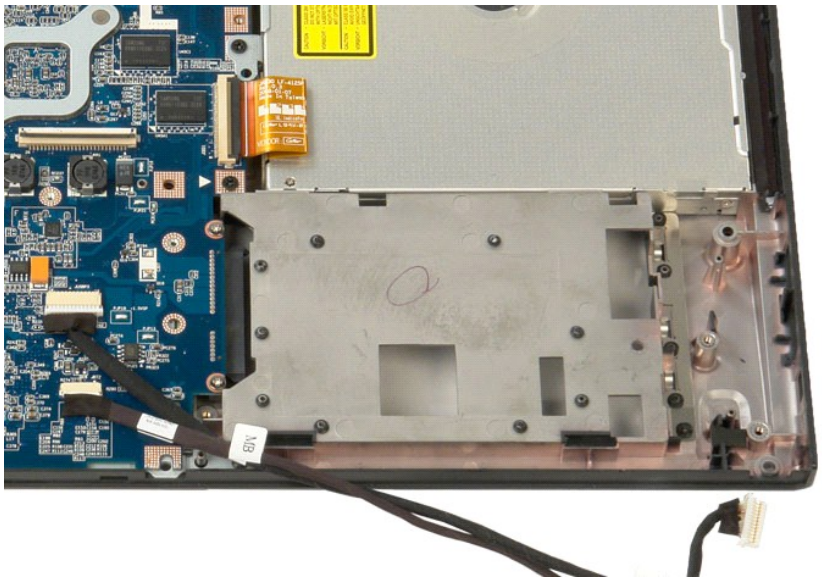


14. Disconnect the data cable from the USB/1394 connector board.



15. Lift the inside edge of the USB board and remove the board from the computer.

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Wireless Local Area Network (WLAN) Card

Dell™ Vostro™ 1520 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the WLAN Card

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hard drive and mini-card access panel from the computer.
4. Disconnect the antenna cables from the WLAN card.

5. Remove the screw that secures the WLAN card to the system board.

6. Remove the WLAN card from the computer.

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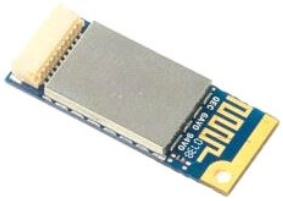
Internal Card With Bluetooth® Wireless Technology

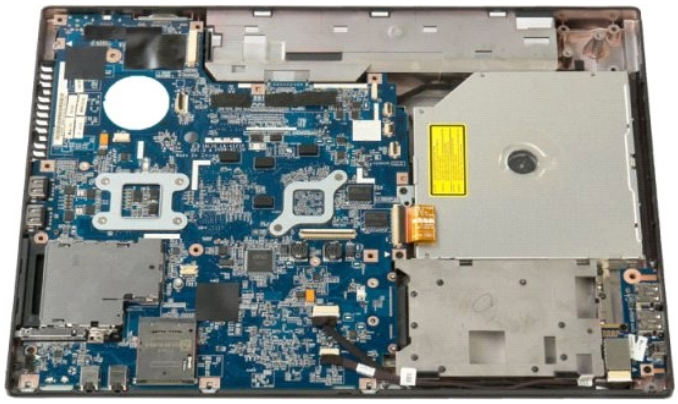
Dell™ Vostro™ 1520 Service Manual

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

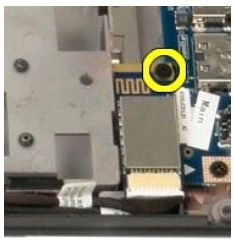
Removing the Internal Card With Bluetooth Wireless Technology



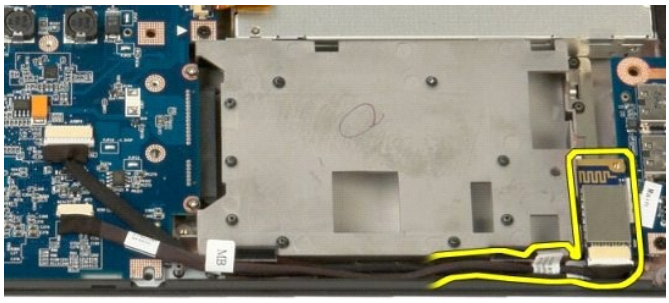
1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hard drive and mini-card access panel from the computer.
4. Remove the hard drive from the computer.
5. Remove the WLAN card from the computer.
6. Remove the hinge cover from the computer.
7. Remove the keyboard from the computer.
8. Remove the display assembly from the computer.
9. Remove the palm rest from the computer.



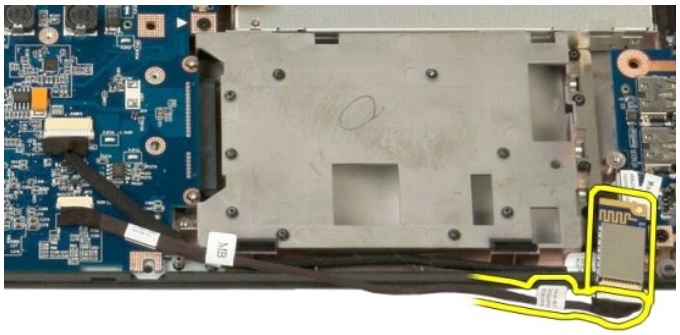
10. Remove the screw that secures the Bluetooth module to the system board.



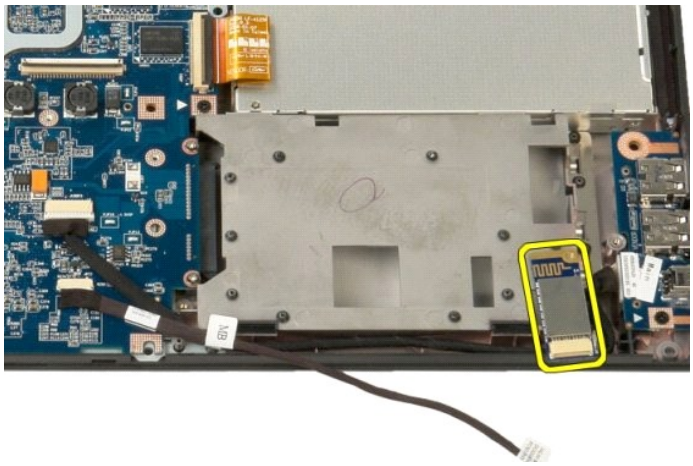
11. Lift the edge of the Bluetooth module closest to the front of the computer and lift the module from its slot.

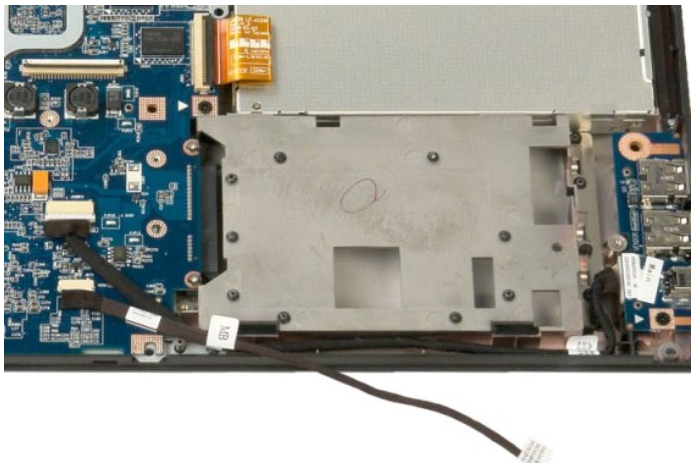


12. Disconnect the data cable from the Bluetooth module.



13. Remove the Bluetooth module from the computer.





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Wireless Wide Area Network (WWAN) Card

Dell™ Vostro™ 1520 Service Manual

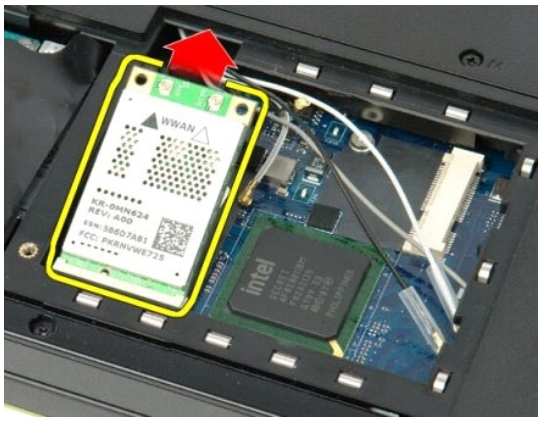
WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

Removing the WWAN Card

1. Follow the procedures in Before Working Inside Your Computer.
2. Remove the battery from the computer.
3. Remove the hard drive and mini-card access panel from the computer.
4. Disconnect the antenna cables from the WWAN card.

5. Remove the screw that secures the WWAN card to the system board.

6. Remove the WWAN card from the computer.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Working on Your Computer

Dell™ Vostro™ 1520 Service Manual

- Before Working Inside Your Computer
- Recommended Tools
- Turning Off Your Computer
- After Working Inside Your Computer

Before Working Inside Your Computer

Use the following safety guidelines to help protect your computer from potential damage and to help to ensure your personal safety. Unless otherwise noted, each procedure included in this document assumes that the following conditions exist:

- You have performed the steps in Working on Your Computer.
- You have read the safety information that shipped with your computer.
- A component can be replaced or—if purchased separately—installed by performing the removal procedure in reverse order.

WARNING: Before working inside your computer, read the safety information that shipped with your computer. For additional safety best practices information, see the Regulatory Compliance Homepage at www.dell.com/regulatory_compliance.

CAUTION: Only a certified service technician should perform repairs on your computer. Damage due to servicing that is not authorized by Dell is not covered by your warranty.

CAUTION: To avoid electrostatic discharge, ground yourself by using a wrist grounding strap or by periodically touching an unpainted metal surface, such as a connector on the back of the computer.

CAUTION: Handle components and cards with care. Do not touch the components or contacts on a card. Hold a card by its edges or by its metal mounting bracket. Hold a component such as a processor by its edges, not by its pins.

CAUTION: When you disconnect a cable, pull on its connector or on its pull-tab, not on the cable itself. Some cables have connectors with locking tabs; if you are disconnecting this type of cable, press in on the locking tabs before you disconnect the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before you connect a cable, ensure that both connectors are correctly oriented and aligned.

NOTE: The color of your computer and certain components may appear differently than shown in this document.

To avoid damaging your computer, perform the following steps before you begin working inside the computer.

1. Ensure that your work surface is flat and clean to prevent the computer cover from being scratched.
2. Turn off your computer (see Turning Off Your Computer).
3. If the computer is connected to a docking device (docked) such as the optional Media Base or Battery Slice, undock it.

CAUTION: To disconnect a network cable, first unplug the cable from your computer and then unplug the cable from the network device.

4. Disconnect all network cables from the computer.
5. Disconnect your computer and all attached devices from their electrical outlets.
6. Close the display and turn the computer upside-down on a flat work surface.

CAUTION: To avoid damaging the system board, you must remove the main battery before you service the computer.

7. Remove the main battery (see Removing the Battery).
8. Turn the computer top-side up.
9. Open the display.
10. Press the power button to ground the system board.

CAUTION: To guard against electrical shock, always unplug your computer from the electrical outlet before opening the display.

CAUTION: Before touching anything inside your computer, ground yourself by touching an unpainted metal surface, such as the metal at the back of the computer. While you work, periodically touch an unpainted metal surface to dissipate static electricity, which could harm internal components.

11. Remove any installed ExpressCards or Smart Cards from the appropriate slots.
12. Remove the hard drive (see Removing the Hard Drive).

Recommended Tools

The procedures in this document may require the following tools:

- Small flat-blade screwdriver
- #0 Phillips screwdriver
- #1 Phillips screwdriver
- Small plastic scribe
- Flash BIOS update program CD

Turning Off Your Computer

CAUTION: To avoid losing data, save and close all open files and exit all open programs before you turn off your computer.

1. Shut down the operating system:
   - **In Windows Vista:**

     Click **Start** , then click the arrow in the lower-right corner of the **Start** menu as shown below, and then click **Shut Down**.

   - **In Windows XP:**

     Click **Start**→ **Turn Off Computer**→ **Turn Off**.

     The computer turns off after the operating system shutdown process is complete.
2. Ensure that the computer and all attached devices are turned off. If your computer and attached devices did not automatically turn off when you shut down your operating system, press and hold the power button for about 4 seconds to turn them off.

After Working Inside Your Computer

After you complete any replacement procedure, ensure you connect any external devices, cards, and cables before turning on your computer.

△ **CAUTION: To avoid damage to the computer, use only the battery designed for this particular Dell computer. Do not use batteries designed for other Dell computers.**

1. Connect any external devices, such as a port replicator, battery slice, or media base, and replace any cards, such as an ExpressCard.
2. Connect any telephone or network cables to your computer.

△ **CAUTION: To connect a network cable, first plug the cable into the network device and then plug it into the computer.**

3. Replace the battery.
4. Connect your computer and all attached devices to their electrical outlets.
5. Turn on your computer.