



HP Pavilion dv7-6c90us Cooling fan Replacement

This guide will walk you through the process of replacing the cooling fan in an HP Pavilion dv7 laptop.

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INTRODUCTION

Replacing any component in a laptop requires patience, strong organization skills, and a good work space. With enough patience and perseverance anyone can do it!

In order to successfully replace the dv7 cooling fan you need to work on a flat surface with good lighting and plenty of room to keep small parts organized so that the computer can be put back together without issue.

Make sure enough time is set aside to complete the process in one sitting. This project's estimated time frame is 4 to 6 hours.

WARNING: Before touching electronic computer components, such as the motherboard, CPU, or RAM, discharge all static electricity by touching a grounded metal object.

WARNING: Disassembling a laptop and replacing components by yourself often voids the warranty. Handle all computer parts with care, and be patient.



TOOLS:

- [Phillips #0 Screwdriver](#) (1)
- [Phillips #1 Screwdriver](#) (1)
- [Micro Phillips Screwdriver](#) (1)
- [Flathead 3/32" or 2.5 mm Screwdriver](#) (1)
- [Small Needle Nose Pliers](#) (1)
- [Pencil](#) (1)
- [Blank paper](#) (1)
- [High Content Rubbing Alcohol](#) (1)
- [Compressed Air](#) (1)
- [Cotton Swabs](#) (1)
- [Paper Towels](#) (1)
- [thermal compound](#) (1)



PARTS:

- [HP Pavilion DV7 Replacement Fan](#) (1)

Step 1 — Cooling fan



- Place the laptop on a large flat surface, and turn it over.

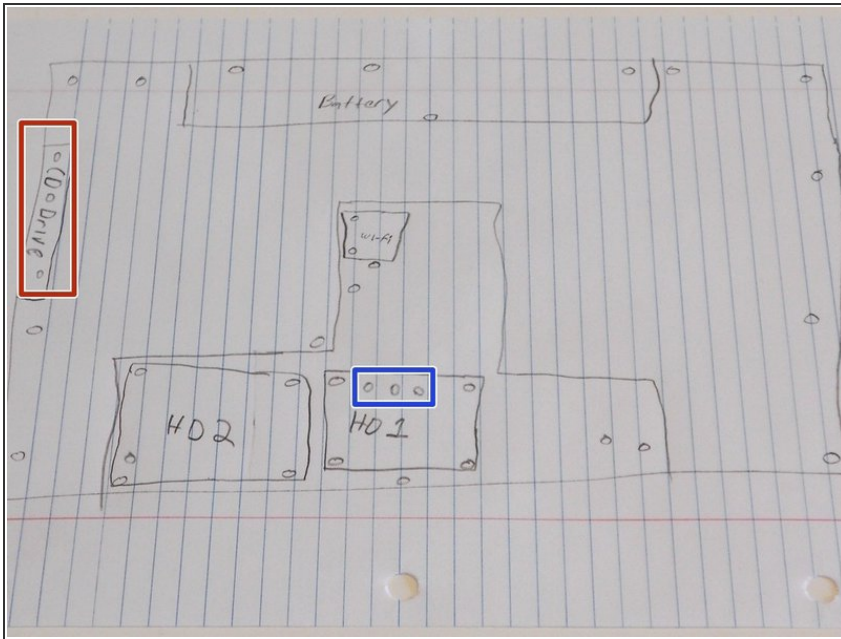
Step 2



- The latch pictured on the bottom of the laptop holds the battery in place. Slide the latch to the left to remove the battery.
- Slide the latch to the right to release the t-shaped plastic cover.
- Lift the cover up and gently remove it.

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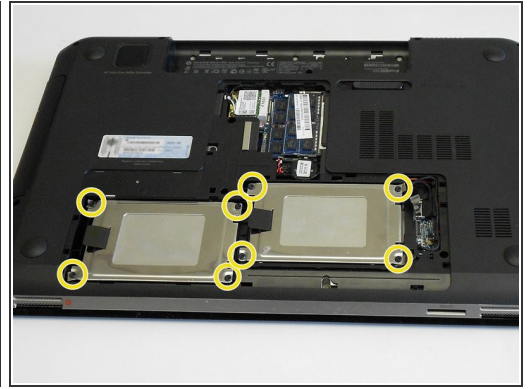
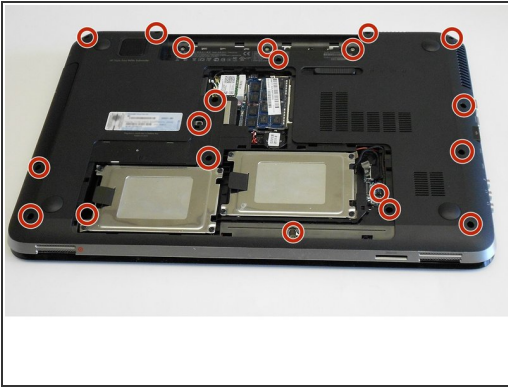
Step 3



- Sketch a diagram of the bottom of the laptop. Make sure to mark all of the screw holes.

- ⓘ Note: This step is optional, but it is highly recommended. The diagram is used exclusively for keeping track of the screws on the bottom of the laptop.
- ⓘ Note: The three screws in the blue box are under the hard drive and are not immediately visible. The three screws in the red box are under the CD drive and are also not visible at this point in disassembly.

Step 4



- Carefully remove all twenty screws from the external laptop case.
- Remove the eight Phillips PM2.5x5.0 screws from both hard drive compartments, and place them on the diagram.
- ⓘ Note: If a screw is too tight, use pliers for additional grip and torque.
- Carefully place all screws in the correct spot on the diagram. Many screws are different sizes and lengths. It is extremely important that all screws go back into the same screw hole they came out of during re-assembly.
- ⓘ The screw sizes and types are: Phillips PM2.0x4.0, PM2.5x5.0, PM3.0x4.0, PM 2.5x7.0, PM 2.5x3.0, PM 2.5x9.0, PM 2.0x2.0, and PM 2.0x7.0.

Step 5



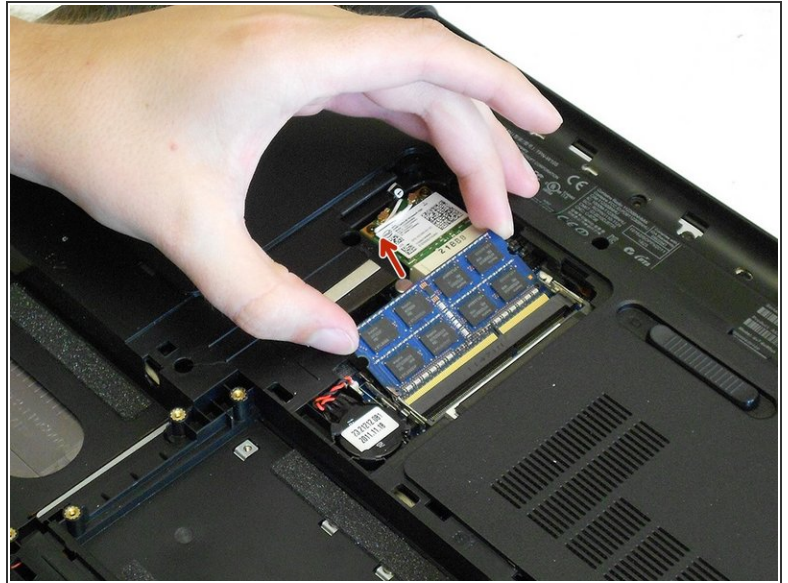
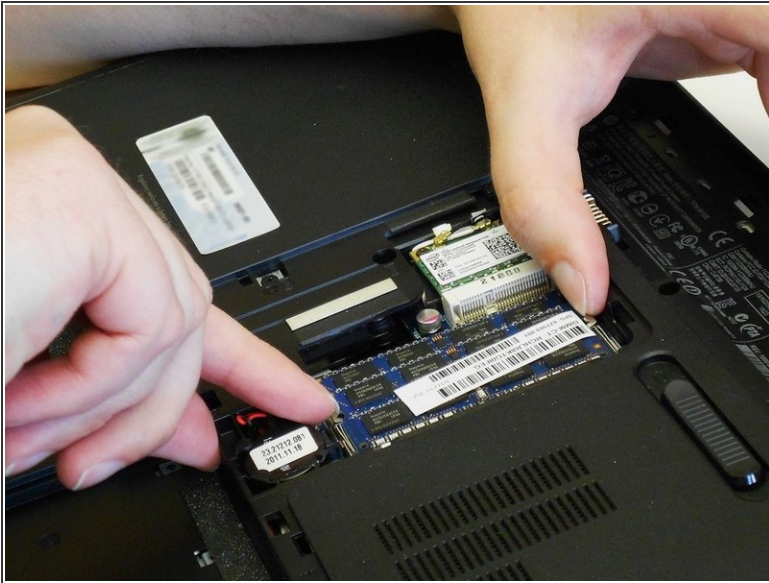
- Disconnect the hard drive by gently pulling the plastic tab connector from the motherboard port.
- Remove the empty hard drive bracket and hard drive. Set them aside until re-assembly.

Step 6



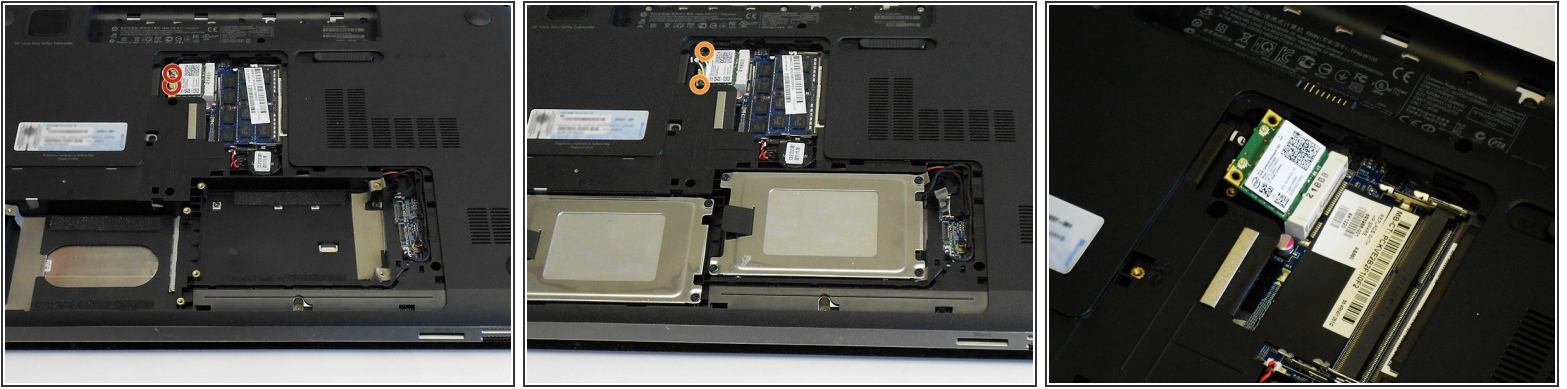
- Remove the screws from the hard drive compartments, and place them in the matching places on the diagram.

Step 7



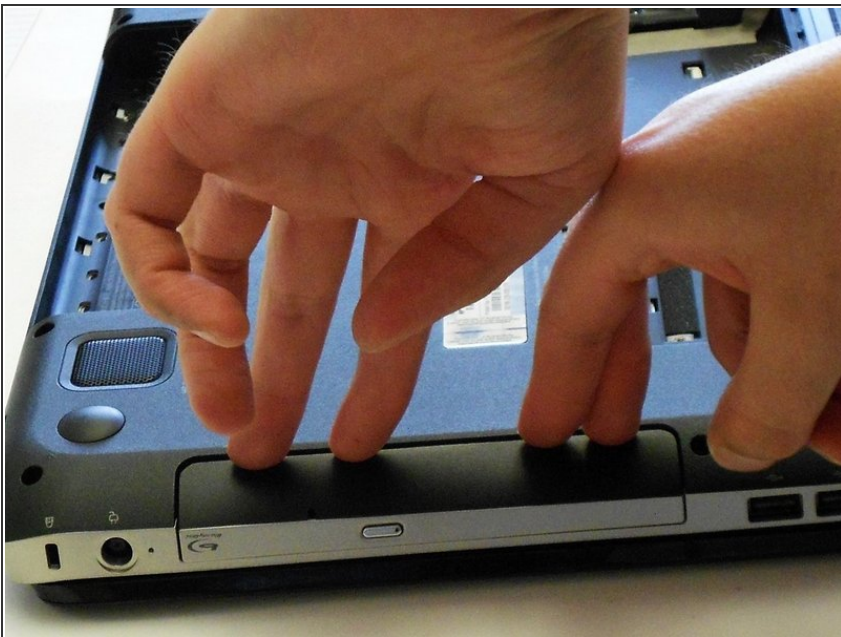
- Gently push the tabs away from the sides of the RAM chips to release them. (Push the tabs in the direction of the arrows.)
- Remove both RAM chips, gently pulling them out at a 45 degree angle.

Step 8



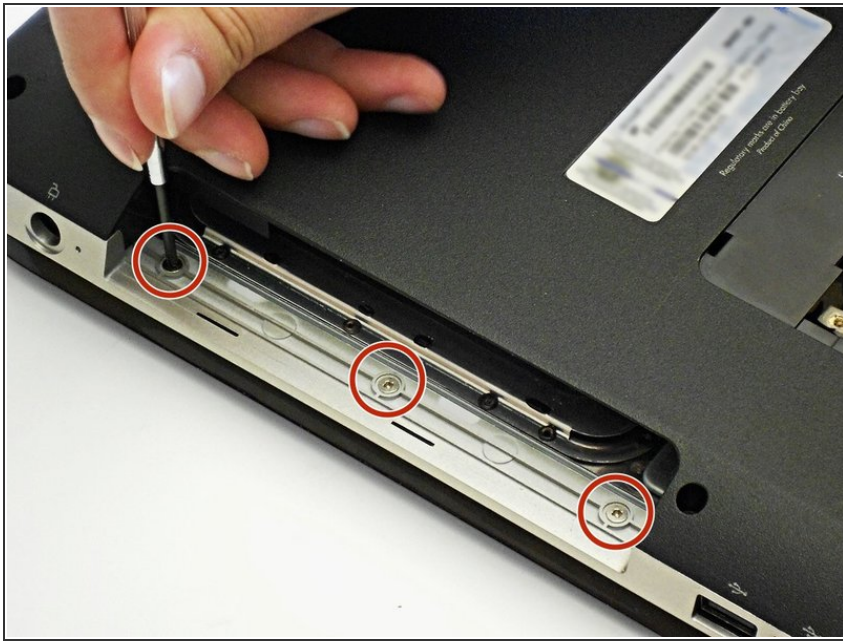
- To begin removing the wireless card disconnect the attached wires.
 - Remove the two PM 2.0x4.0 screws from the corners of the wireless card. Removing the screws will cause the wireless card to pop up.
 - Carefully remove the wireless card.
- i** Note: Make a note of the color of the wire attached to each node. The connection nodes are marked with yellow circles.

Step 9



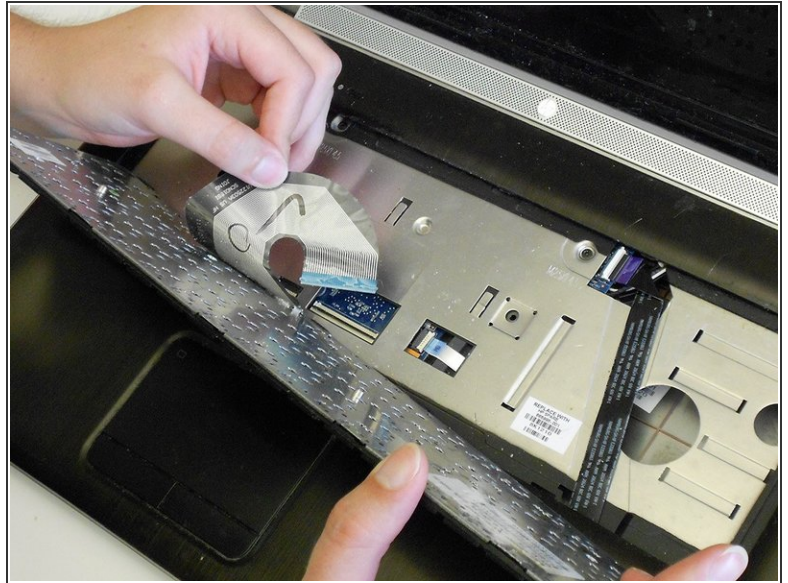
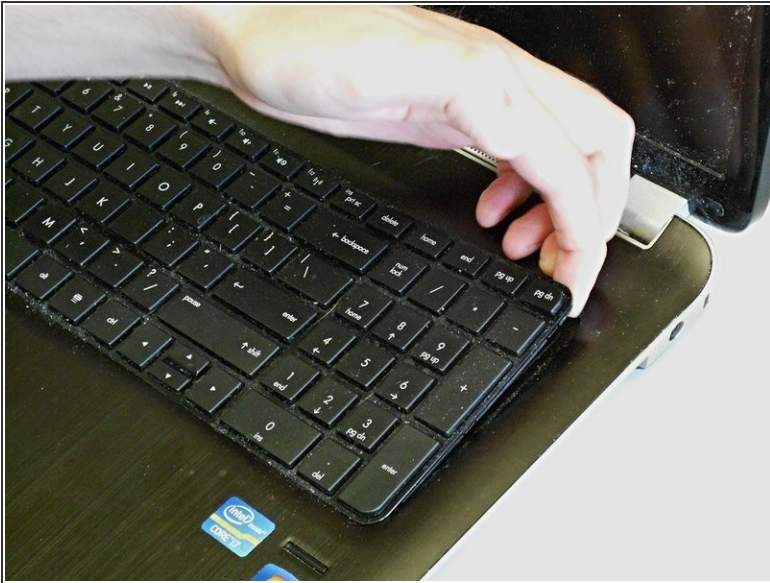
- Place your fingernails in-between the crevice of the CD drive and the main body of the laptop. Carefully pull the drive out of the slot.

Step 10



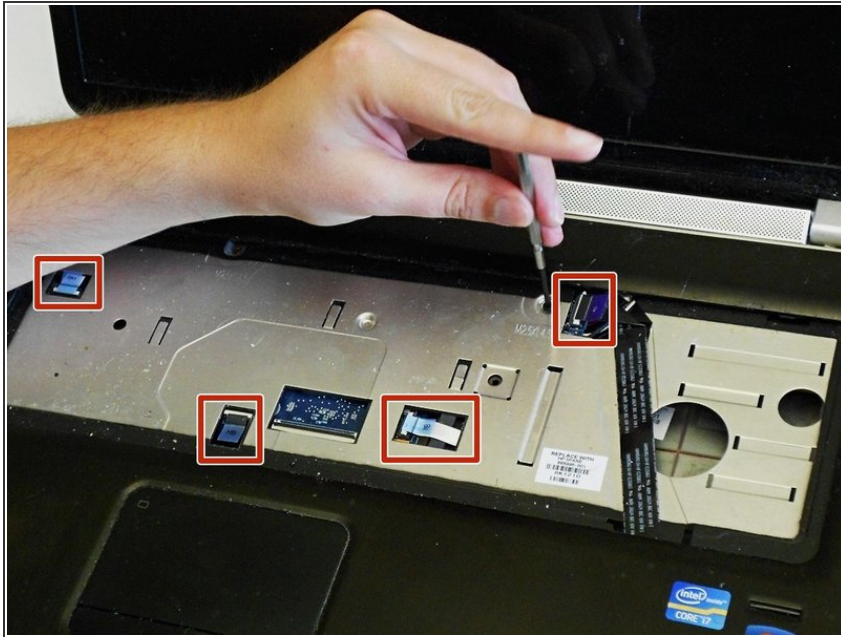
- Remove the three screws on the seam of the CD disk drive slot.

Step 11



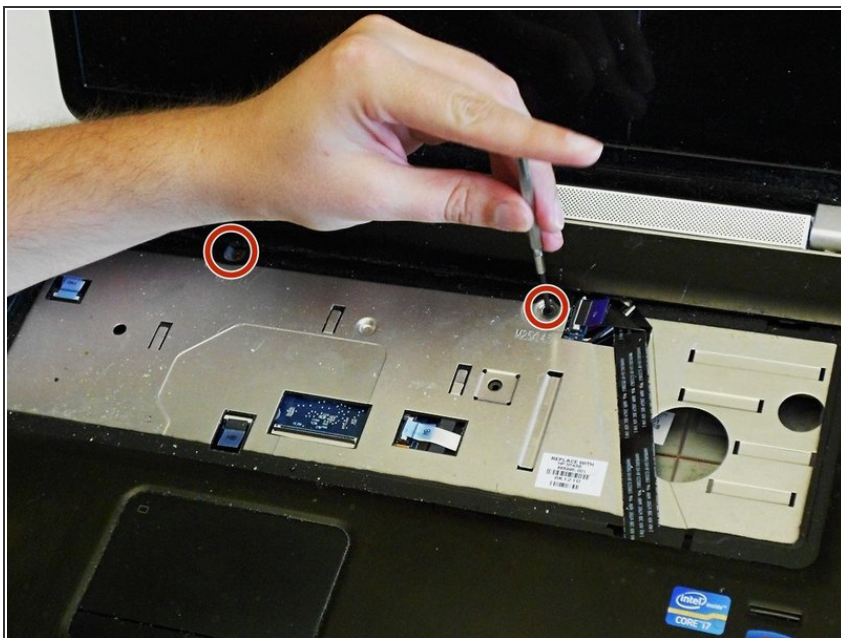
- Turn the laptop right-side-up, and open the screen. Loosen the keyboard by carefully prying it up using your fingernails, carefully working along the edges.
- ⓘ Note: Keyboard keys may pop off. Re-attach them after you re-attach the keyboard.
- Slowly lift the keyboard away from the case.
- Lift the plastic tab that connects the keyboard ribbon cable to the motherboard.
- Set the keyboard aside.

Step 12



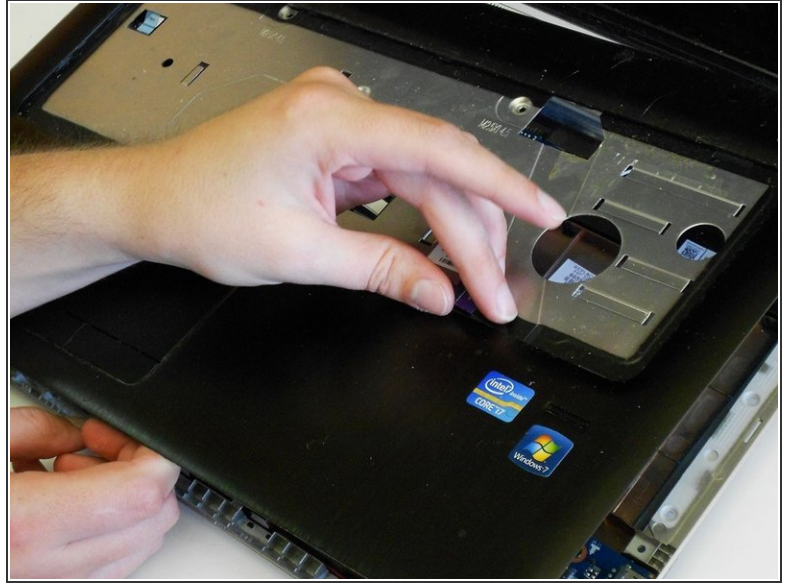
- Carefully lift the four plastic tabs under the keyboard, and gently disconnect the ribbons under each one.

Step 13



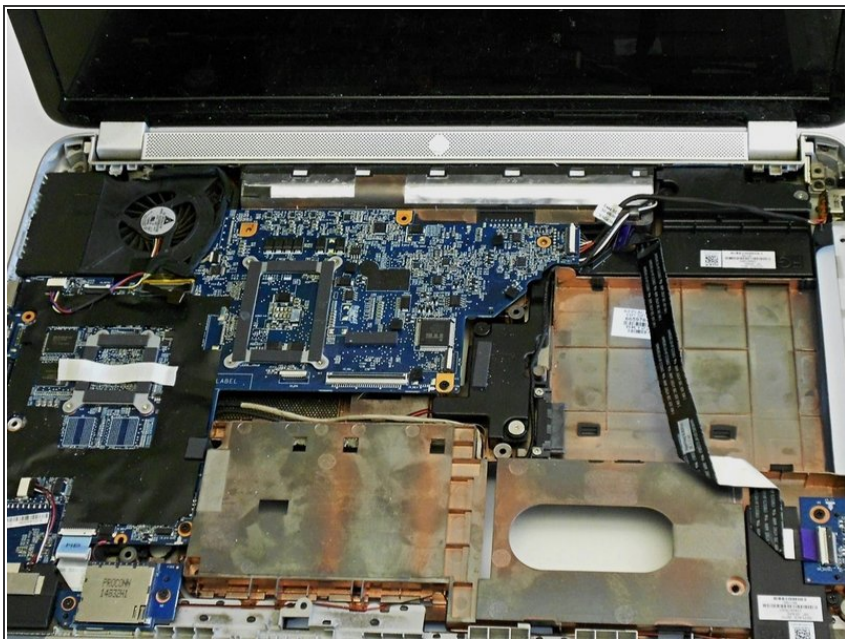
- Remove the two PM 2.5x5.0 screws from beneath the keyboard.
- ⓘ Note: Both screws under the keyboard are the same size, so they can go to either location in re-assembly.

Step 14



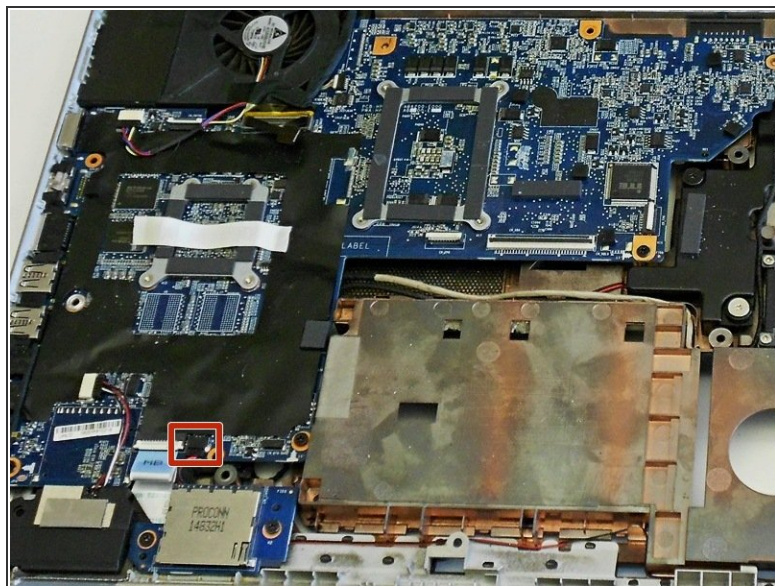
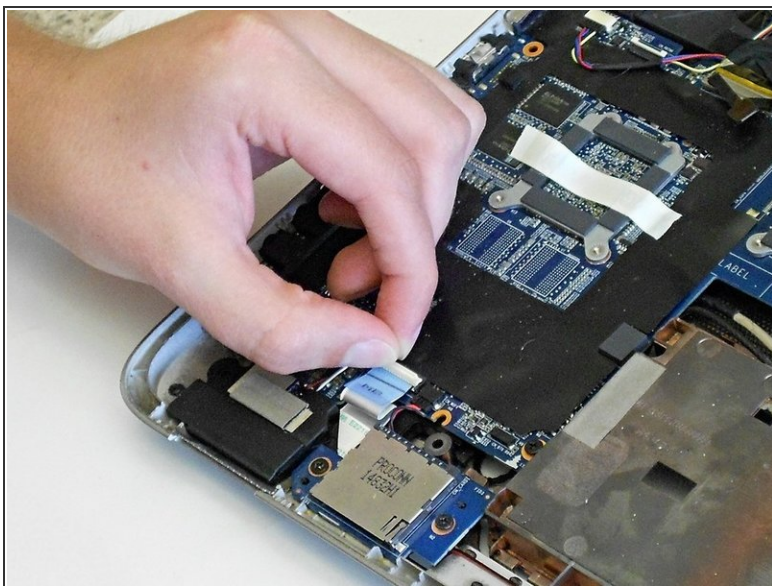
- Use your fingers to release the top cover. Start at the top right corner. and work your way around the faceplate.
- ⓘ Note: You can also use a small flat-head screwdriver if your fingers do not fit. You will hear some popping sounds as the faceplate comes off.
- ⚠ **WARNING:** There are several sharp edges that may cut fingers. Do not force the top faceplate off. If it does not release with slight pressure, make sure all screws are removed from the back of the laptop case.

Step 15



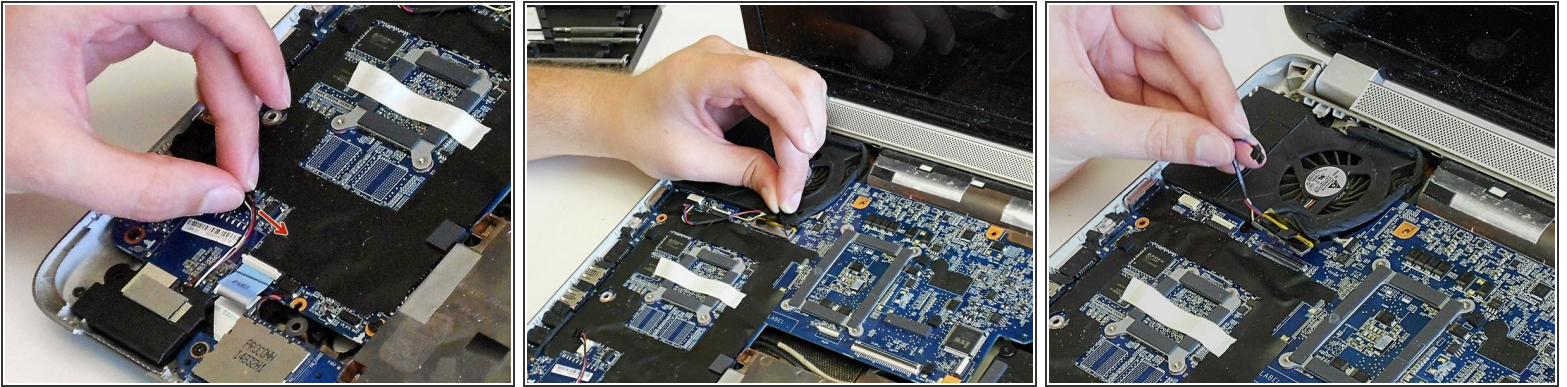
- The laptop should now look like this.

Step 16



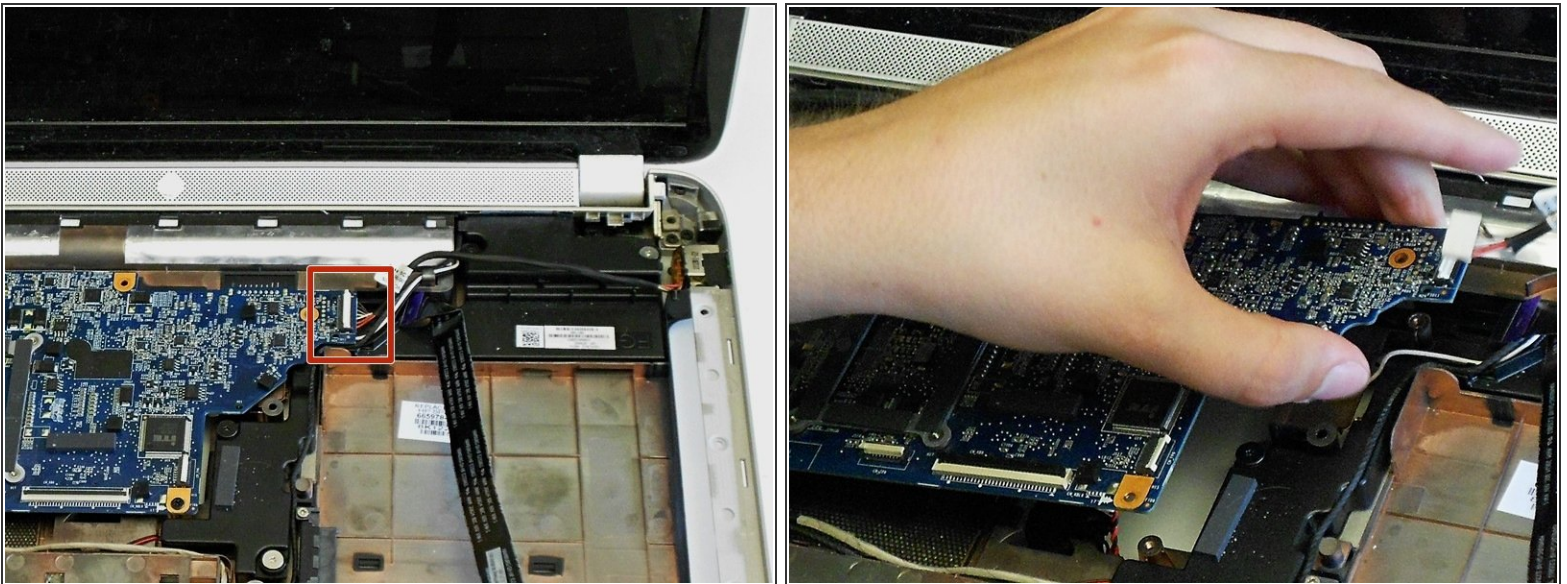
- Lift the tab covering the SD card reader ribbon to unplug it.
- Gently pull the SD card reader wires to disconnect them from the motherboard.

Step 17



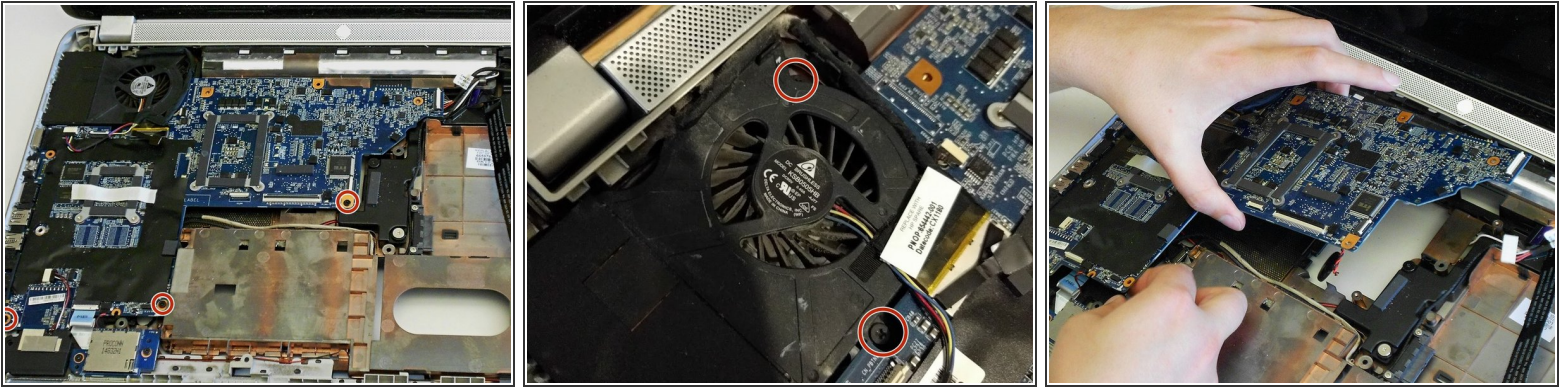
- Unplug the speaker wire from the port in the lower left hand corner of the laptop.
- Gently pull the plastic tab attached to the display wire to disconnect the display.
- Disconnect the fan power supply cable.

Step 18



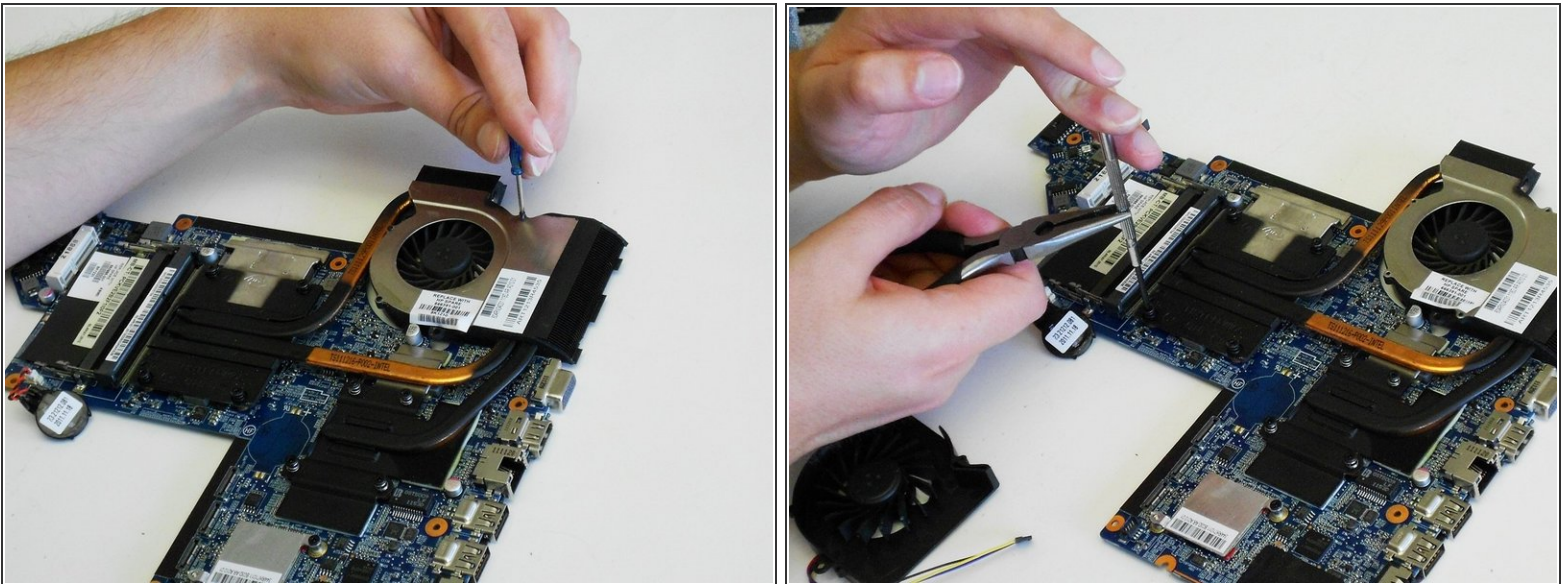
- Remove the power supply cord from the port on the right hand side of the motherboard (marked with red box).

Step 19



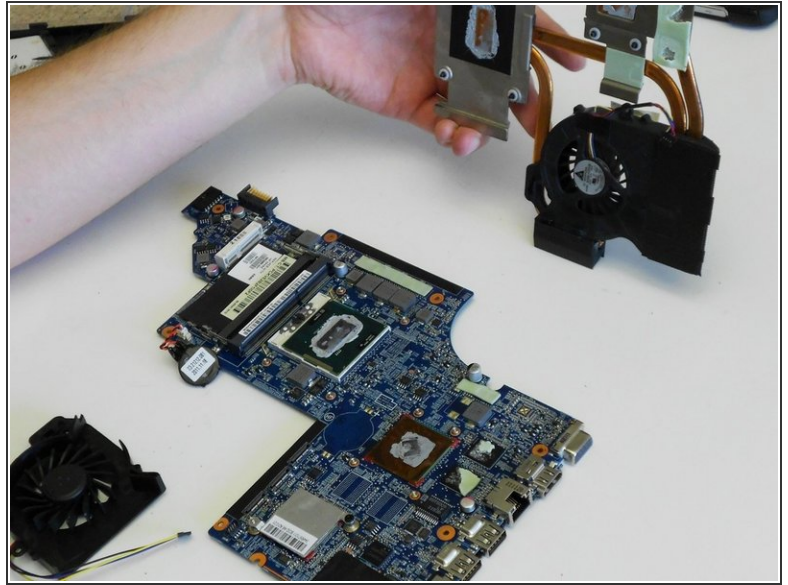
- Remove the five screws that hold the motherboard and fan in place.
 - Carefully remove the motherboard and fan.
- ⚠ CAUTION: Be careful not to bend or break the motherboard body or USB ports.

Step 20



- Flip the motherboard over. Use a micro- screwdriver to remove the screws holding the fan assembly in place.
- ⓘ Note: You may need to cut or remove a bar code sticker from the fan/heat sink assembly.
- Remove screws from the heat sink assembly using a #1 Phillips screwdriver.

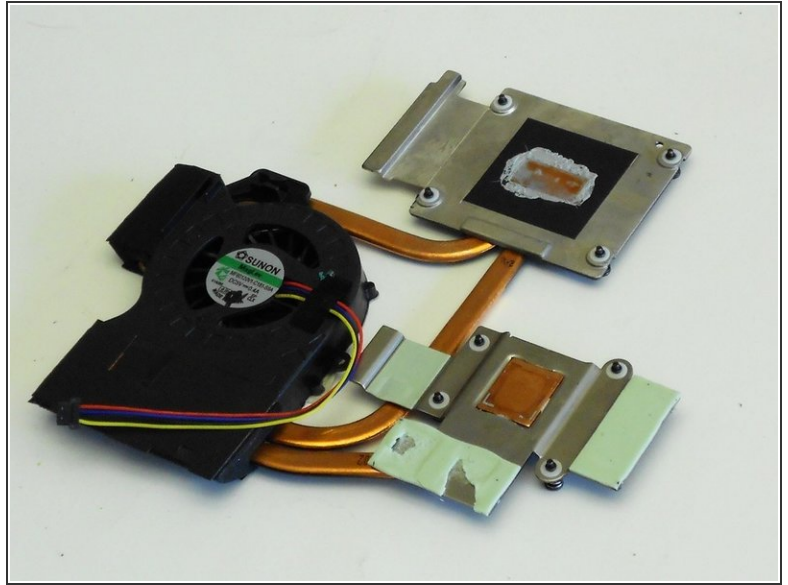
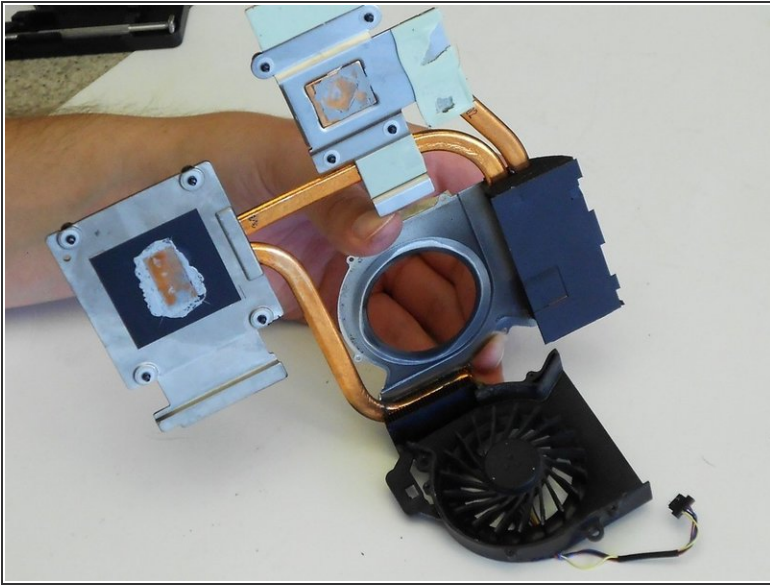
Step 21



- Remove the fan/heat sink assembly.

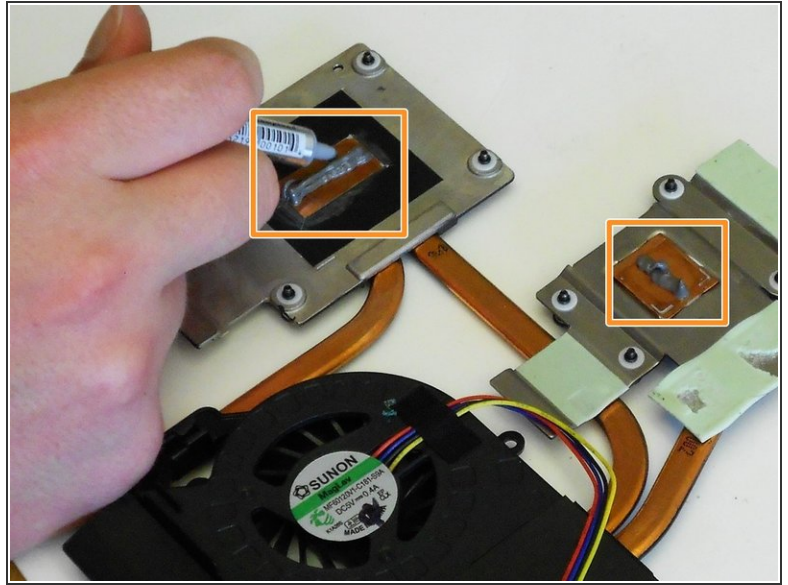
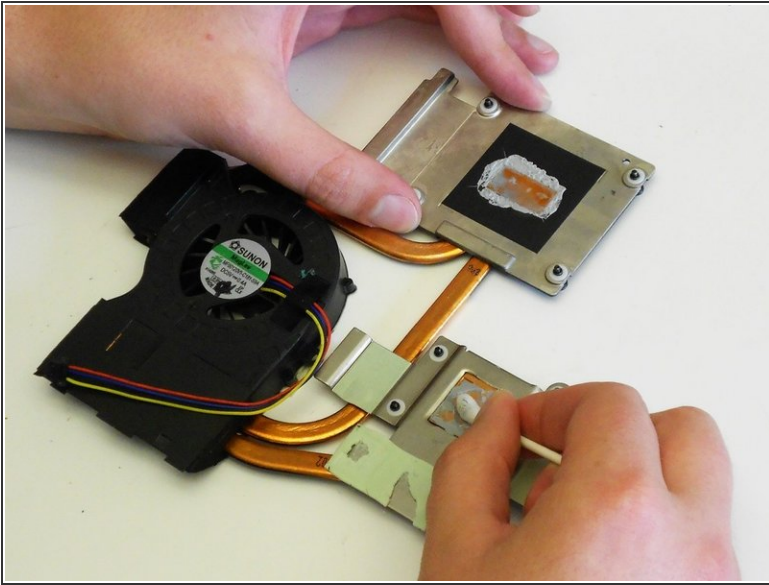
(i) Note: The assembly may stick, due to the connection made with the heat sinks through the thermal compound.

Step 22



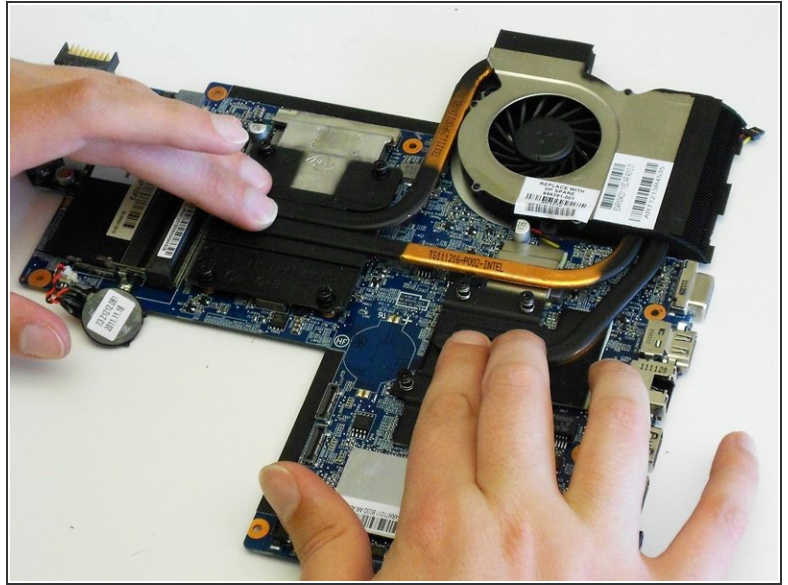
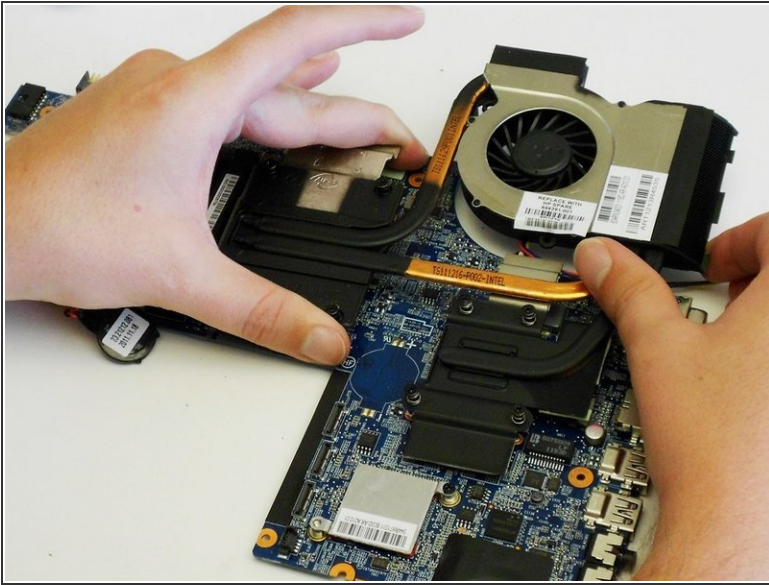
- The old fan can be removed by sliding it out of the fan/heat sink assembly.
- ⓘ Note: You can use canned air to clean out the fan vents for better CPU cooling.
- Insert the new fan into the fan slot in the fan/heat sink assembly. Put the assembly back together with the micro screws.
- ⓘ Before reassembly, make sure your new fan freely rotates within its housing.
- ⚠ CAUTION: Do not over-tighten the screws!

Step 23



- Use cotton swabs, paper towels, and alcohol to gently remove old thermal compound from the fan/heat sink assembly and motherboard.
- ⚠ CAUTION: *Do not* pour rubbing alcohol on the motherboard or other components! The rubbing alcohol may cause severe damage to your computer.
- Apply a small amount of new thermal compound to the center of the brass section of the heat sink. Both areas that need new thermal compound are marked with red boxes.
- ⚠ CAUTION: Use the thermal compound manufacturer's recommended amount. Applying too much or too little of it may damage your computer.

Step 24



- Re-attach the heat sink assembly to the motherboard.

⚠ CAUTION: *Do not* over-tighten screws. Finger tighten them until snug. If you apply too much torque, you may damage components.

- Using light pressure, shift the fan/heat sink gently back and forth to spread the thermal compound. This makes a solid connection between the heat sink and motherboard.

Follow the steps in reverse order to reassemble.

Once you have reassembled the laptop, your repair is complete. If you need additional help, see the HP Pavilion dv7 Maintenance and Service Guide on HP's support website (link to guide:

<http://h10032.www1.hp.com/ctg/Manual/c03...>).