



# Dell Alienware 13 Heat-sink Assembly Replacement

Use this guide to replace the heat-sink assembly on a Dell Alienware 13 laptop.

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## INTRODUCTION

This guide will show the user how to replace a heat-sink assembly with a damaged or broken fan on a Dell Alienware 13 laptop.



### TOOLS:

- [Heavy-Duty Spudger](#) (1)
  - [Phillips #1 Screwdriver](#) (1)
  - [Phillips #0 Screwdriver](#) (1)
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## Step 1 — Base Panel



**⚠** Working on an electrical device while plugged in can cause injury due to electrical shock. Ensure that all external power is disconnected from the device.

- Close the device and turn the device over.

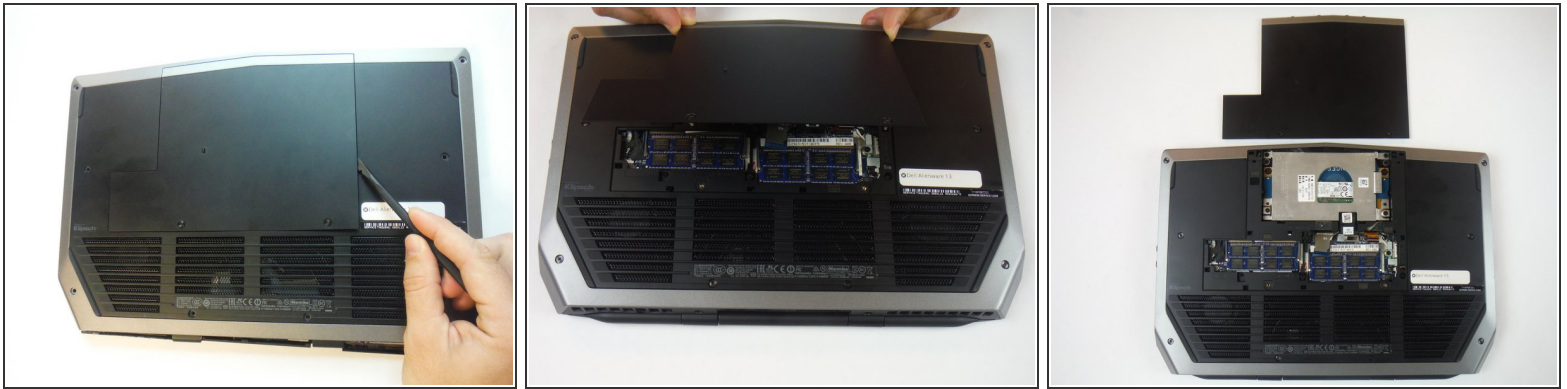
## Step 2



- Remove (2) 5 mm Phillips head screws attaching the small access panel to the base using a Phillips # 1 screwdriver.
- ⓘ The (2) screws are attached to the base panel with retaining clips and won't completely detach from the panel.

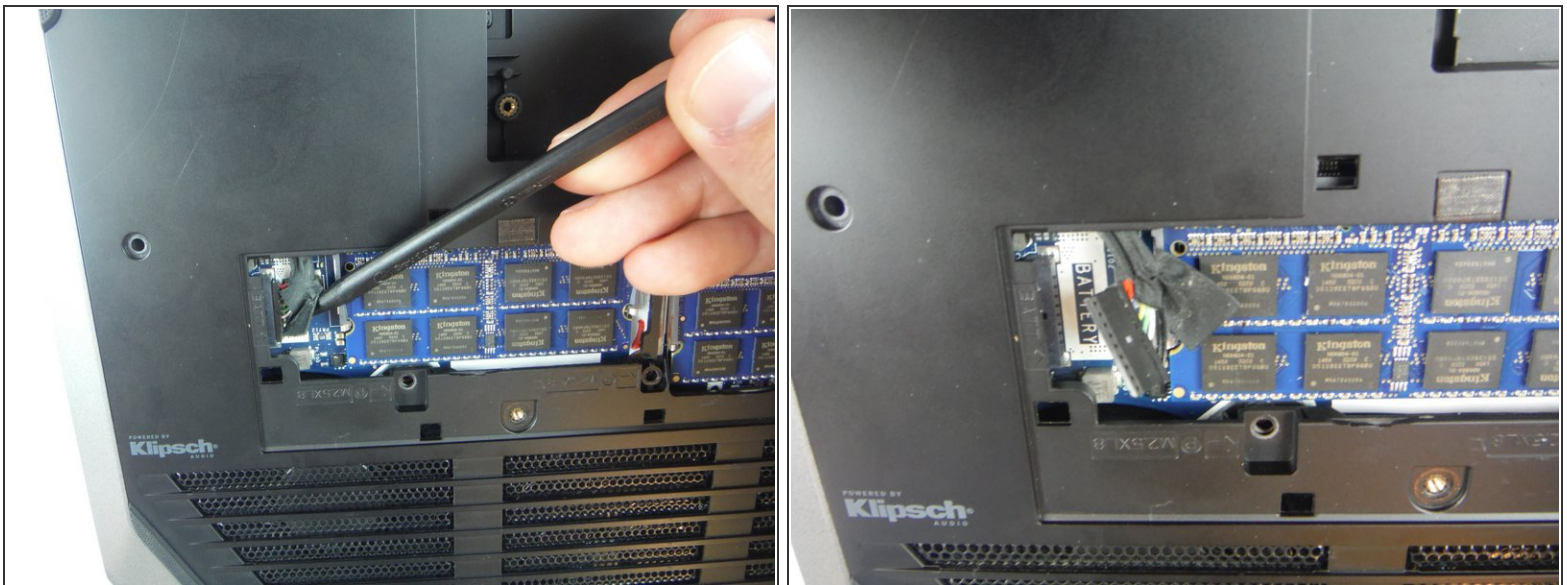


### Step 3



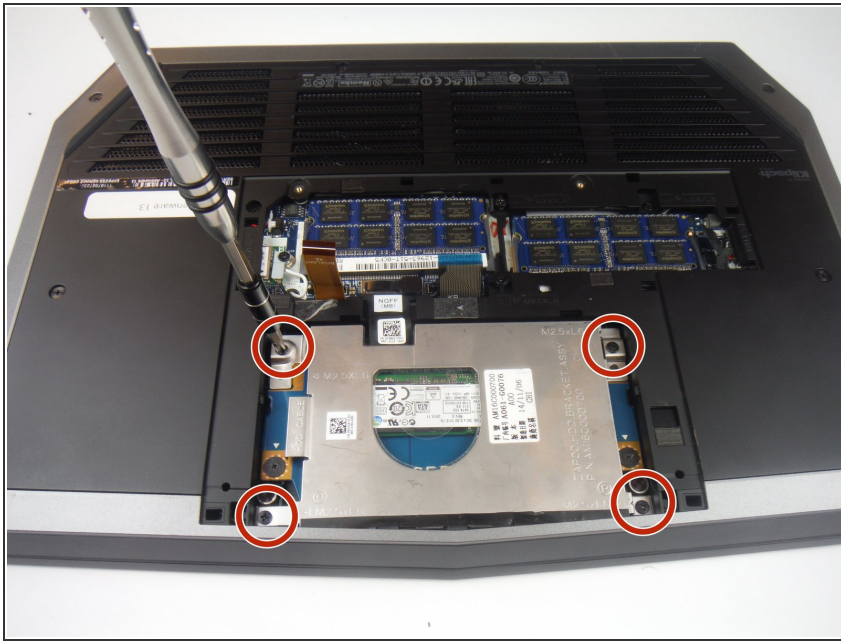
- Remove the small access panel using a heavy duty spudger.

### Step 4 — Computer Base



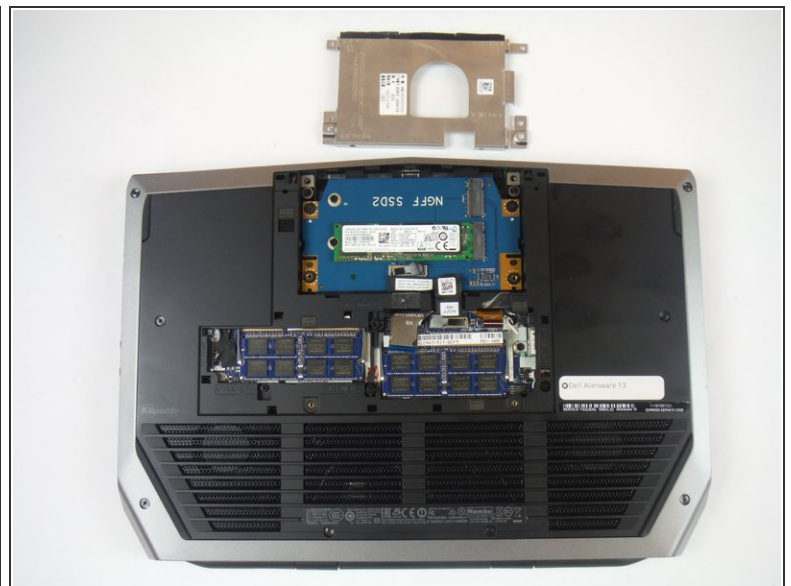
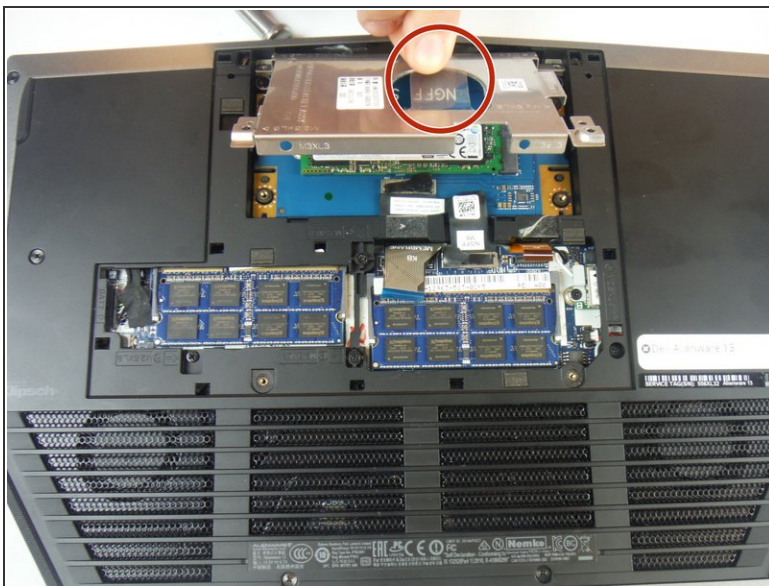
- Disconnect the battery cable from the battery cable terminal.

## Step 5



- Remove (4) 6 mm Phillips head screws from the solid-state metal drive bracket, using a Phillips # 1 screwdriver.

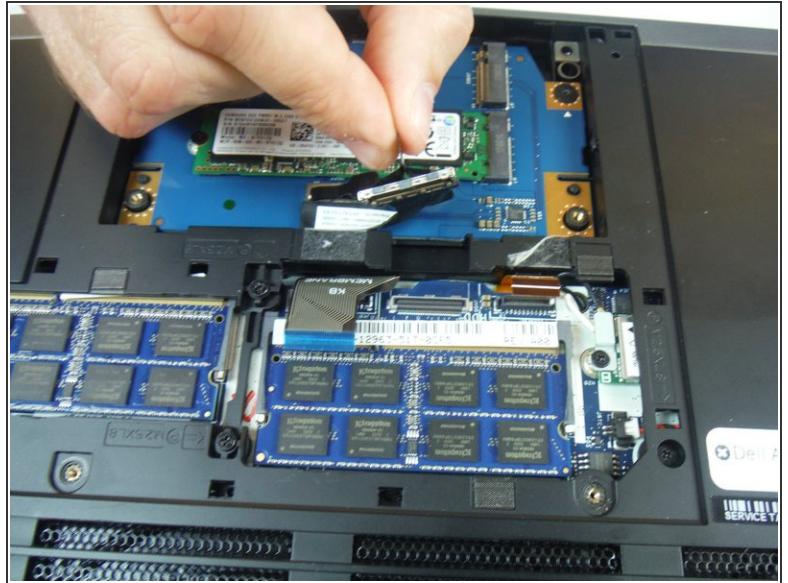
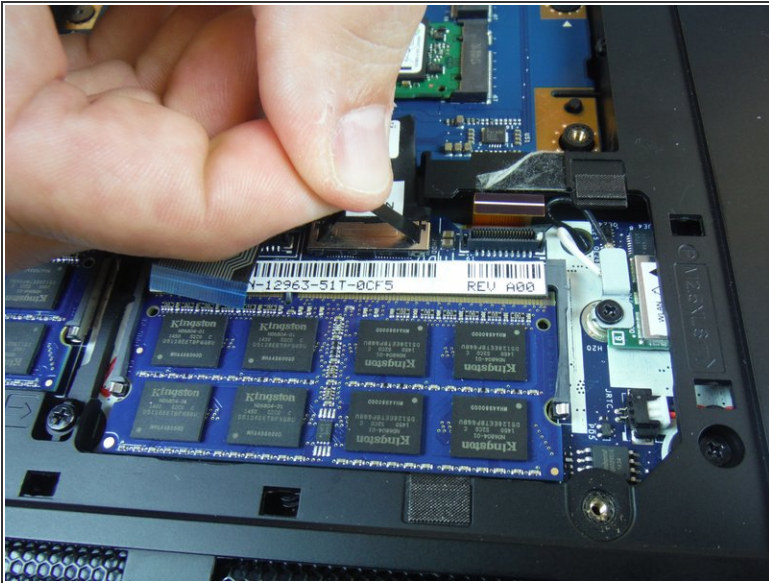
## Step 6



- Grab the pull tab to pivot the solid-state drive bracket upwards. Remove the bracket from the computer base.



## Step 7



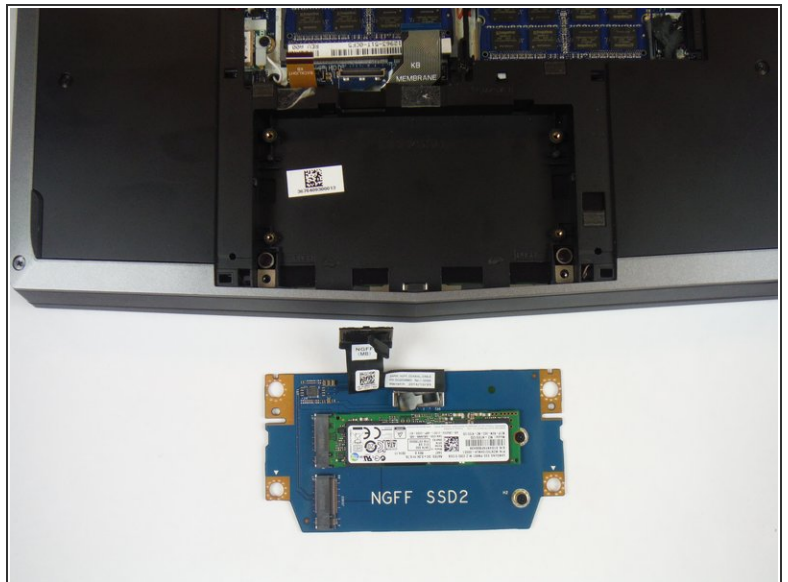
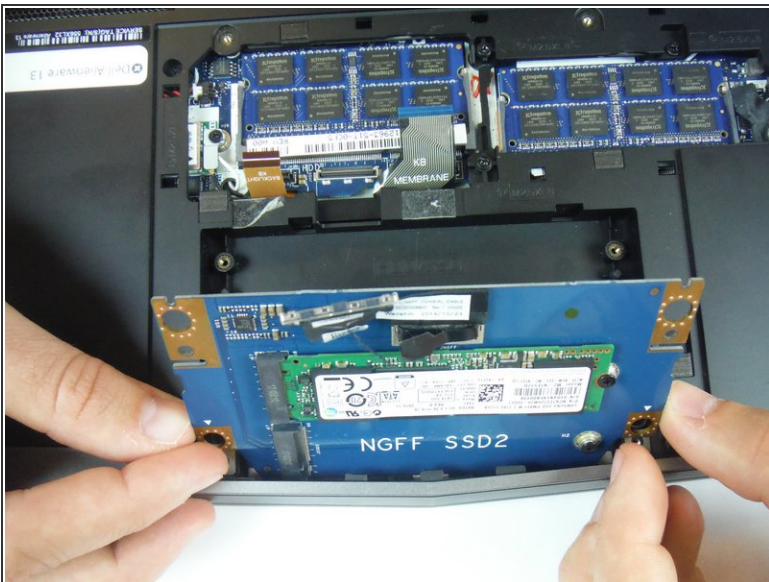
- Using the pull tab, disconnect the black solid-state drive cable from the system board.

## Step 8



- Remove (2) 3 mm Phillips head screws, using a Phillips # 0 screwdriver, that connect the solid-state drive assembly to the computer base.

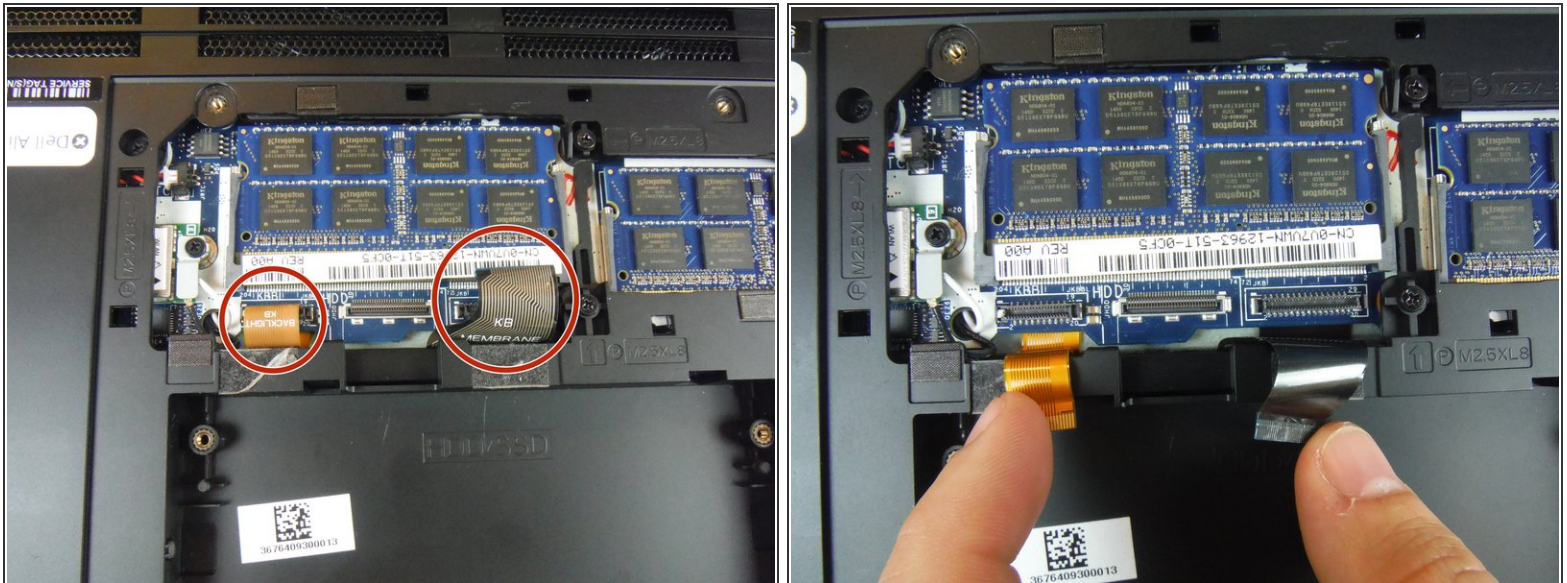
## Step 9



- Lift up on the solid-state drive assembly to remove it from the computer base.

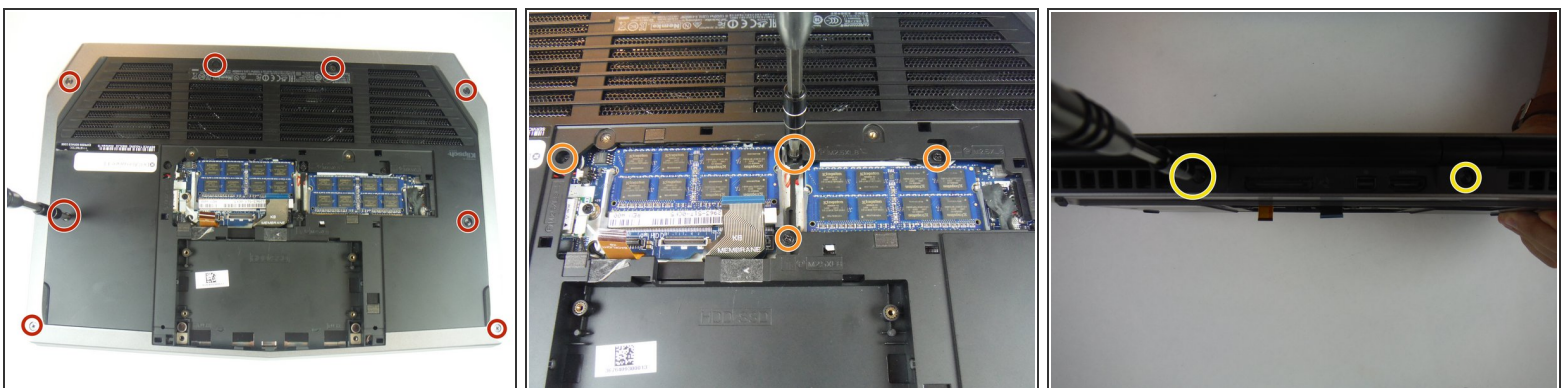


## Step 10



- Locate two cables labeled, "KB Backlight" (orange) and "KB Membrane" (black). Lift up on the latches to disconnect the cables from the system board.
- i The latches that connect the cables to the system board are very delicate. Handle with care to avoid damaging them.

## Step 11



- Remove (8) 9 mm Phillips head screws using a Phillips # 1 screwdriver, that secures the palm-rest assembly to the computer base.
- Remove (4) 8 mm Phillips head screws using a Phillips # 1 screwdriver.
- Remove (2) 7 mm Phillips head screws using a Phillips # 1 screwdriver.

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## Step 12



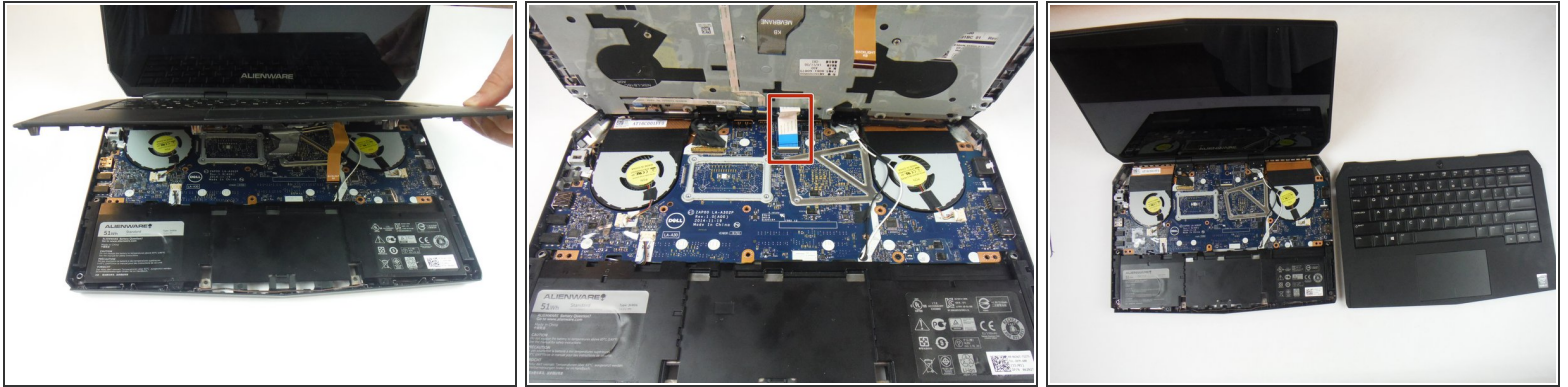
- Lift the computer base slightly towards you and push the release tabs on the palm-rest assembly until it pops out using a spudger.

## Step 13



- Turn the computer over and open the display as far as possible.
- Using a plastic spudger, pry up along the edges of the palm-rest assembly.
- Gently lift the palm-rest assembly.

## Step 14



- Lift the connector latch and disconnect the power-button board cable from the system board. Identified as a cable with a blue tab.
- Lift the palm-rest assembly off the computer base.

## Step 15



- Open the display as far as possible.
- Remove (2) 3 mm Phillips head screws, using a Phillips head #0 screwdriver, that secure the hinge caps to the display hinges.
- Slide and lift the hinge caps off the display hinges.

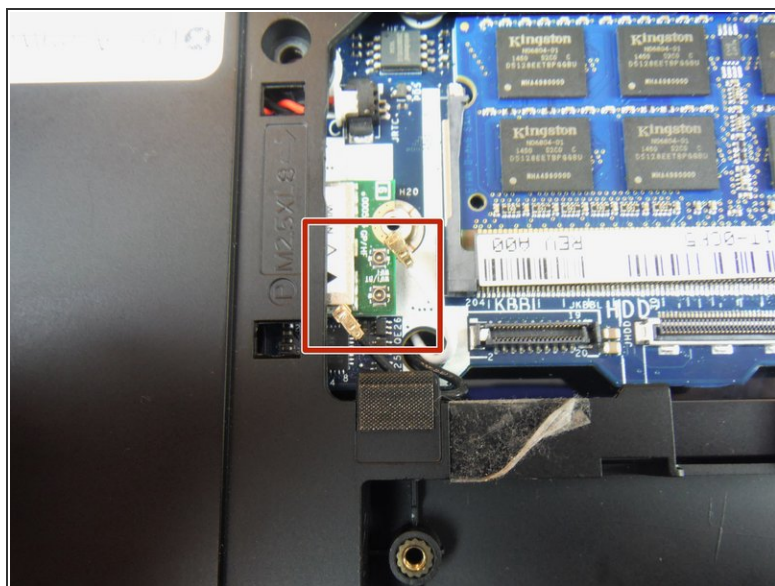


## Step 16



- Close the display and turn the computer over.
- Remove (1) 2 mm Phillips head screw, using a Phillips head # 0 screwdriver, that secures the wireless-card bracket to the wireless card.

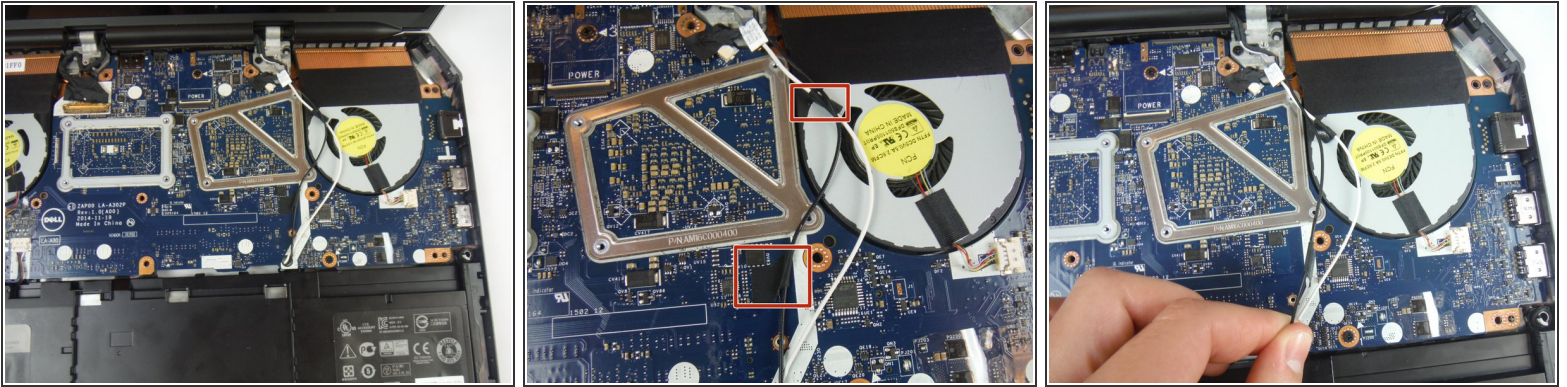
## Step 17



- Disconnect the antenna cables from the wireless card using a heavy duty spudger. The wires can be removed by applying a force directed upward, away from the device.

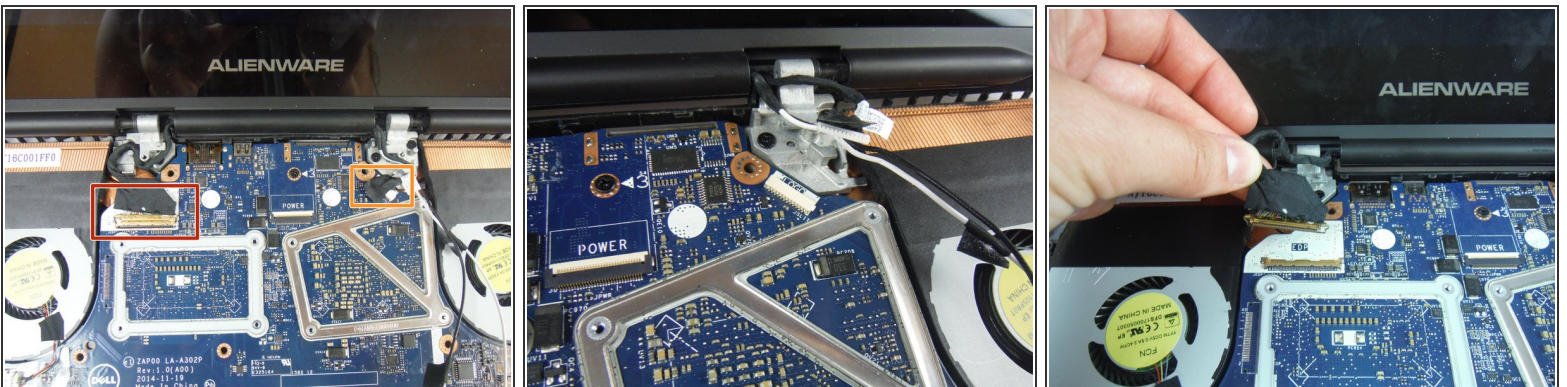


## Step 18



- Turn the computer over and open the display.
- Peel off the adhesive tapes that secure the antenna cables to the system board.
- ❗ Make note of how the cables are routed before removing any cables from their routing guide.

## Step 19



- Lift the connector latch and disconnect the display cable from the system board.
- Disconnect the logo-board cable from the system board.
- Remove the antenna cables, display cable, and logo-board cable from the routing guides on the display hinges.

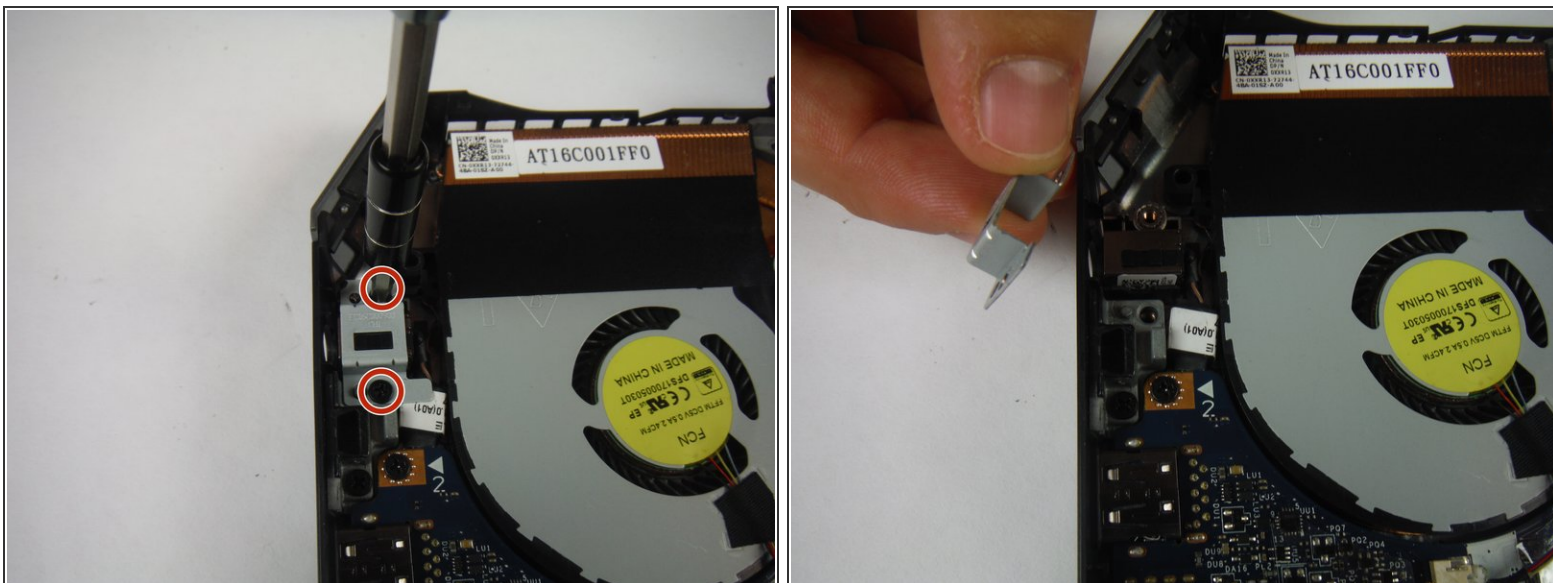


## Step 20



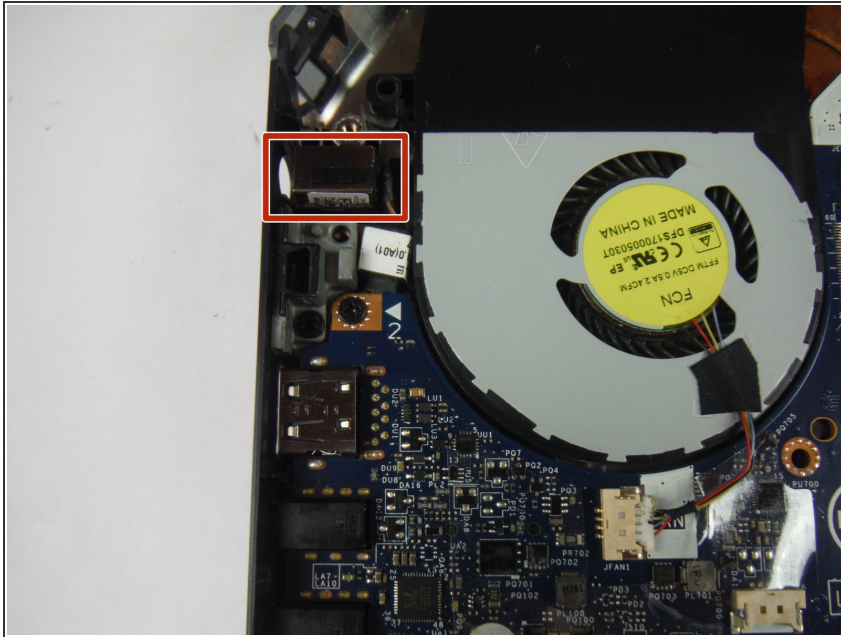
- Remove (4) 8 mm Phillips head screws, using a Phillips # 1 screwdriver, that secure the display assembly to the computer base.
- Lift the display assembly off the computer base.

## Step 21



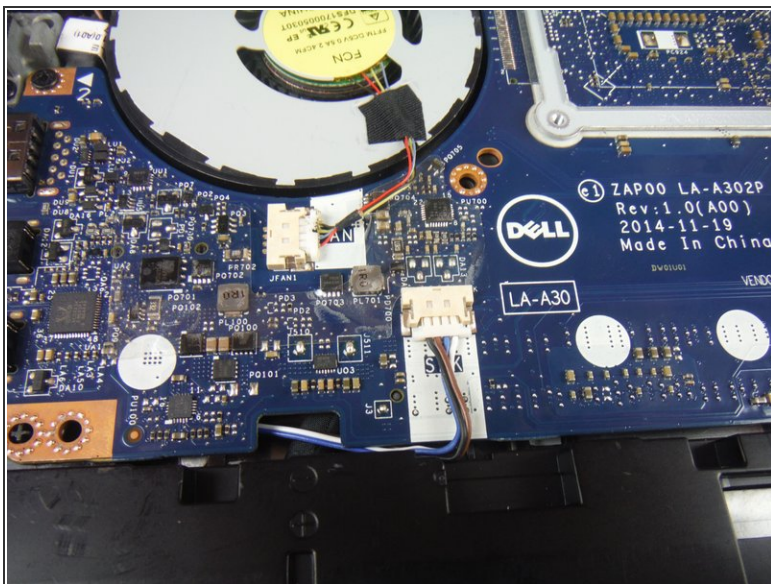
- Remove the (2) 6 mm Phillips head screws securing the power adapter port bracket with a #1 Phillips screwdriver.
- Lift and remove the power adapter port bracket.

## Step 22



- Lift up and remove the power adapter port from the computer base.

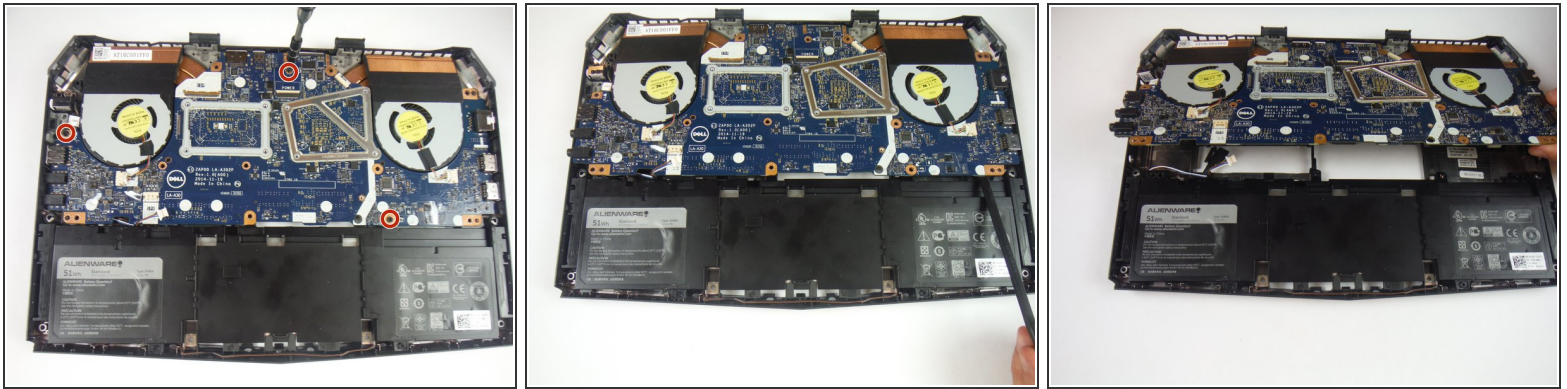
## Step 23



- Disconnect the speaker cable connector from the service board.



## Step 24



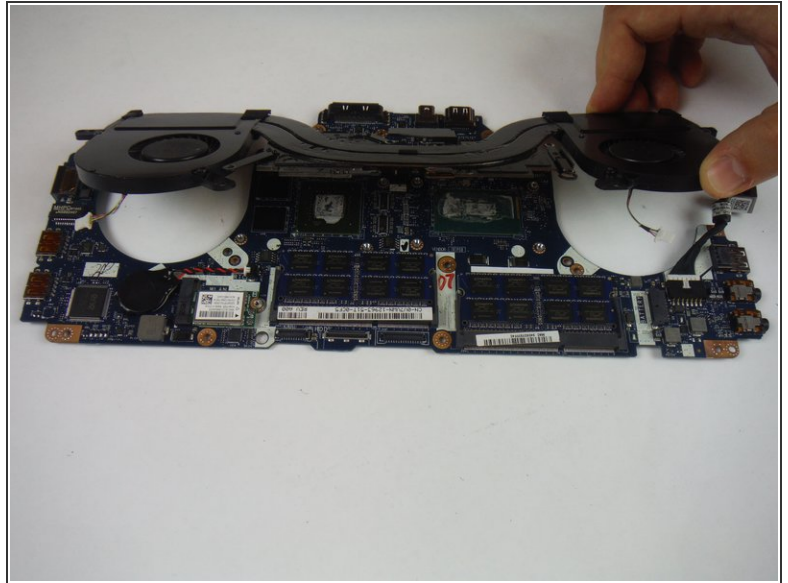
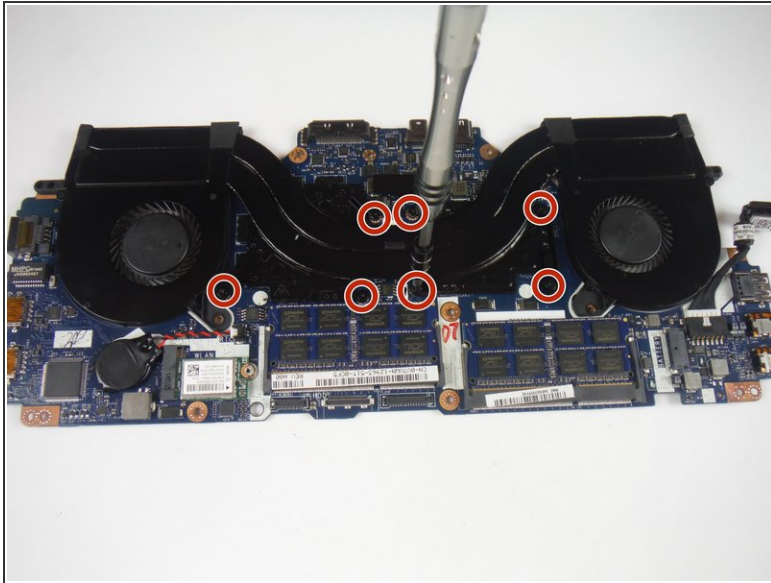
- Remove (3) 6 mm Phillips head screws securing the service board with a #1 Phillips screwdriver.
- Lift up on the service board assembly using a heavy duty spudger and slide the board towards the battery to remove from the base.

## Step 25 — Heat-sink Assembly



- ⚠ The heat-sink assembly can get very hot during computer use. Let the computer cool off before touching the heat-sink assembly.
- ⓘ Oils from hands can reduce the efficiency of the heat transfer capabilities. Avoid direct contact with the heat transfer areas as much as possible.
- Disconnect (2) fan cables attaching the fans to the motherboard.

## Step 26



- Turn the system board over.
- Remove the (7) 3 mm Phillips head screws attaching the heat-sink assembly to the system board with a #0 Phillips screwdriver.
- Lift up and remove the heat-sink assembly.

To reassemble your device, follow these instructions in reverse order.