



# Toshiba Satellite 1415-S105 CPU Fan and Heatsink Replacement

Replacement instructions for the Toshiba Satellite 1451 CPU fan and heatsink.

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## INTRODUCTION

An overheating laptop, or an always on noisy fan, can be caused by a clogged heatsink, clogged fan, broken fan, or bad thermal paste.

This procedure is similar to the Satellite 1410.



### TOOLS:

- [Phillips #0 Screwdriver](#) (1)
- [iFixit Opening Tools](#) (1)
- [Q-Tips](#) (5)
- [Isopropyl Alcohol](#) (1)



### PARTS:

- [Arctic Silver Thermal Paste](#) (1)

## Step 1 — Battery



- The battery is located on the front right corner of the laptop.

## Step 2



- With one finger on the raised grip, slide the latch towards the front of the laptop.



### Step 3



- Pull the battery out towards the side.

### Step 4



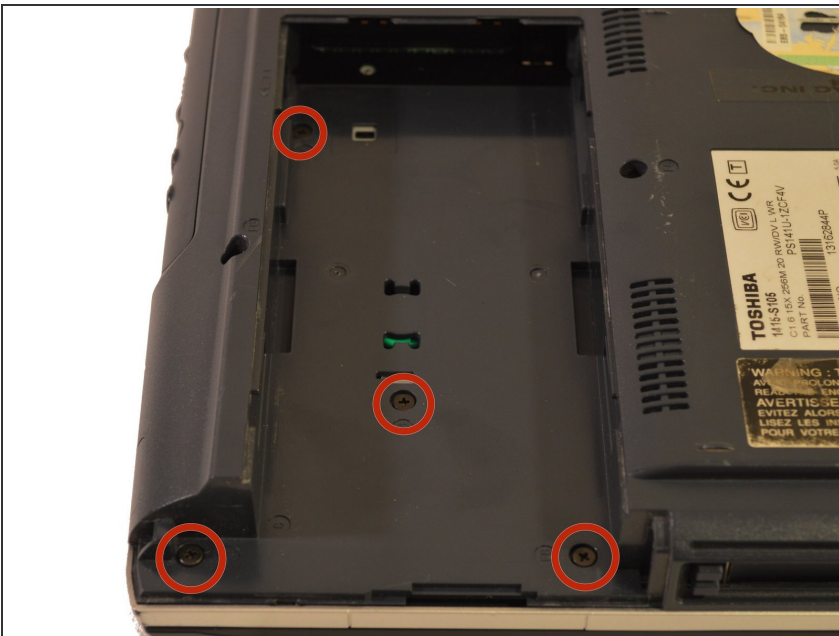
- Lift the battery straight up, out of the computer.

## Step 5 — Lower Case



- Unscrew all of the visible screws on the bottom of the laptop.
- ❗ The screws circled are not necessary to remove.
- ★ Keeping track of which hole each screw goes in will speed up reassembly.

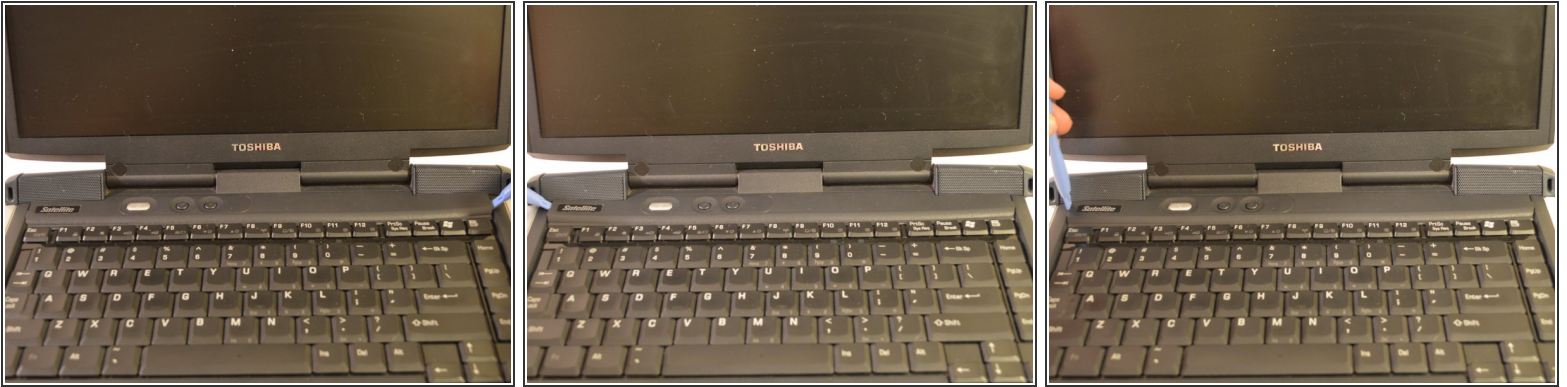
## Step 6



- Unscrew the screws located beneath the battery.

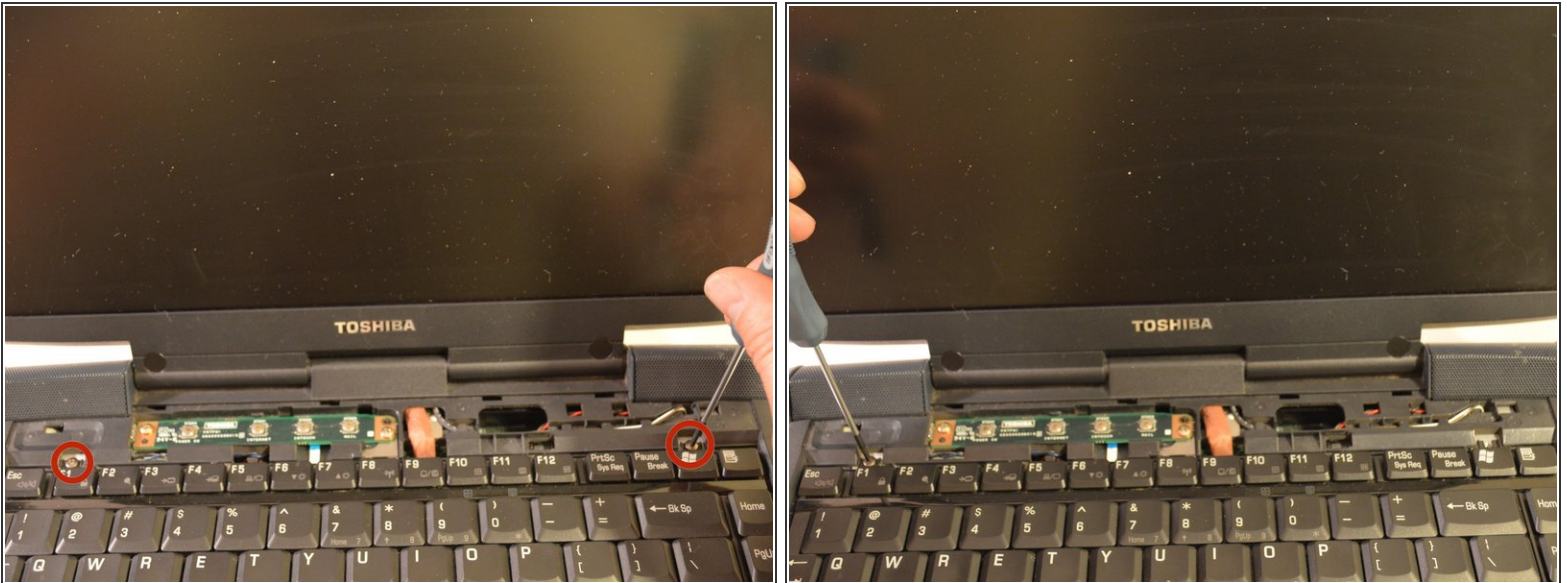


## Step 7 — Keyboard



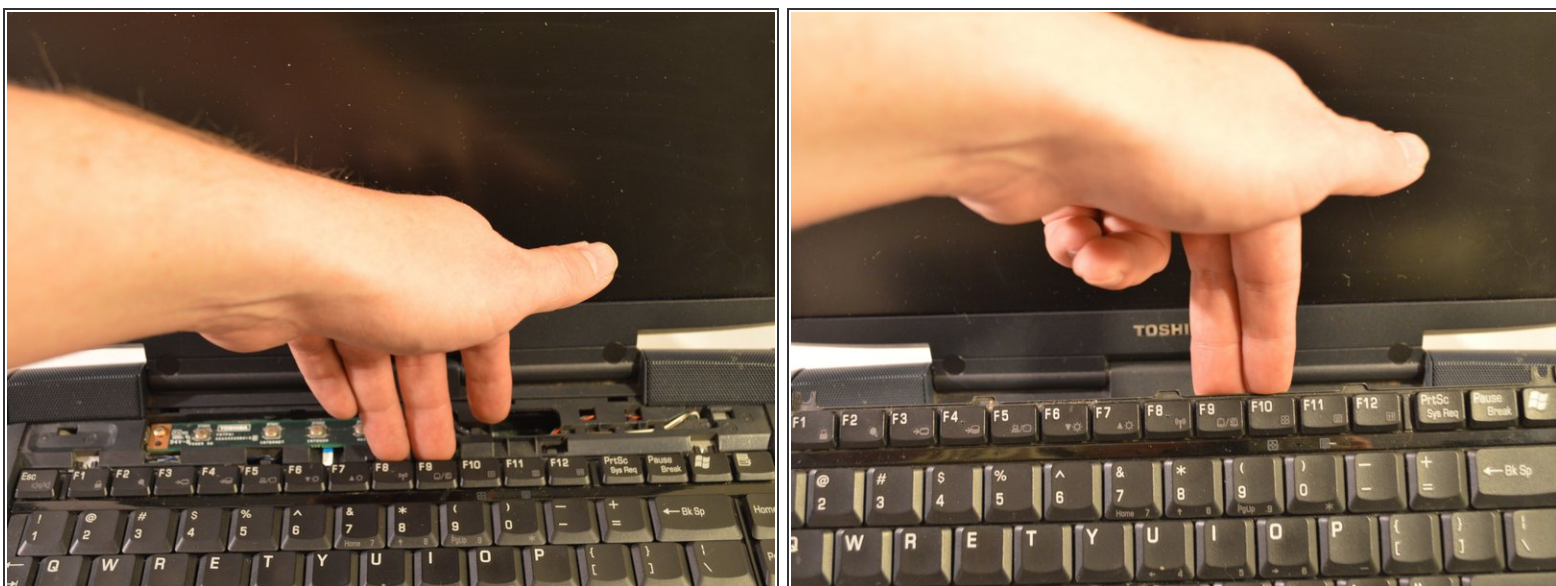
- Using a set of case opening tools, pry open the left and right sides of the black plastic strip above the keyboard.
- Fully detach the strip.

## Step 8



- Unscrew the two screws near the top of the keyboard.

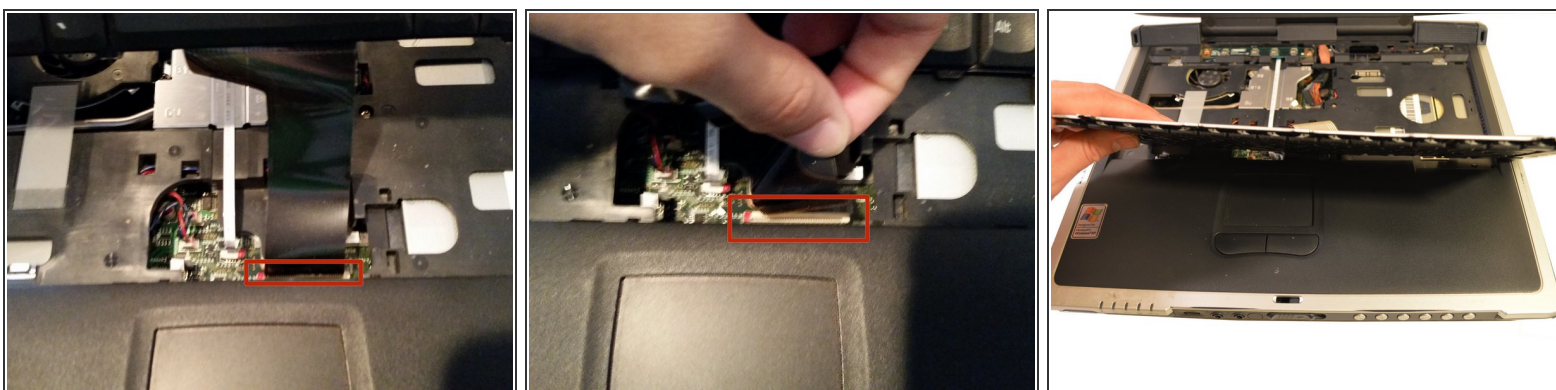
## Step 9



- Lift the keyboard by holding the middle top of the keyboard.

⚠ The keyboard is still connected by a ribbon cable to the motherboard.

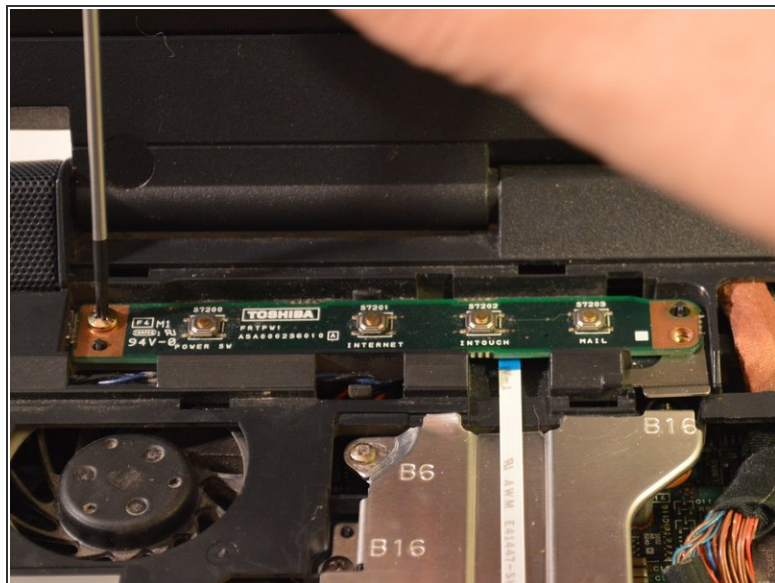
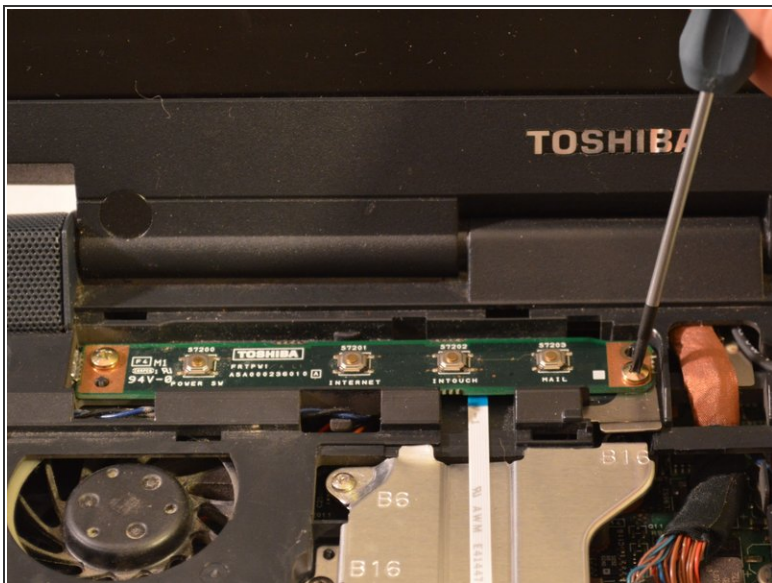
## Step 10



- Carefully pull upwards on the ribbon cable to detach.
- Remove keyboard.

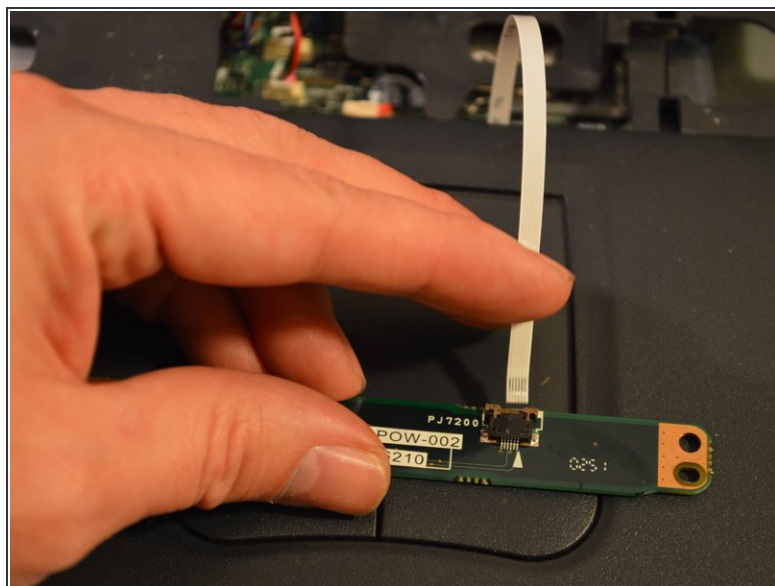
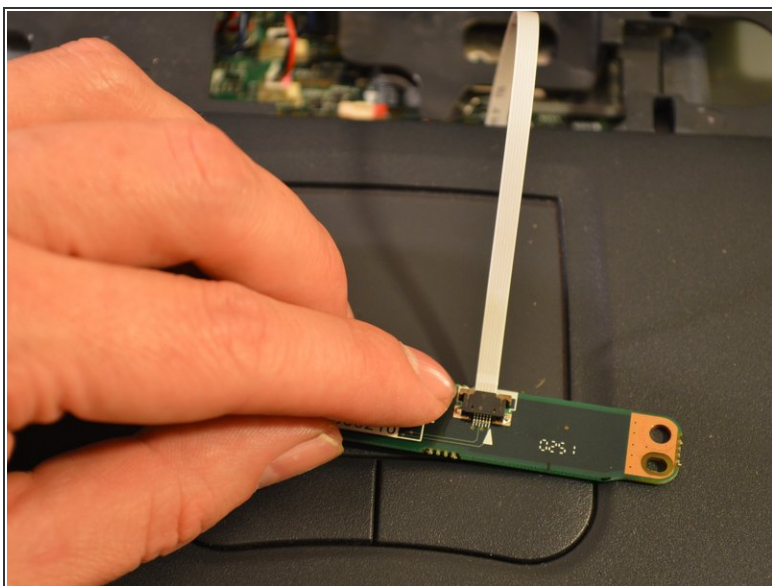


## Step 11 — Power Button Circuit Board



- Unscrew the screws on either side of the power button circuit board.

## Step 12



- Pull upward on the small white ribbon cable to detach from circuit board.

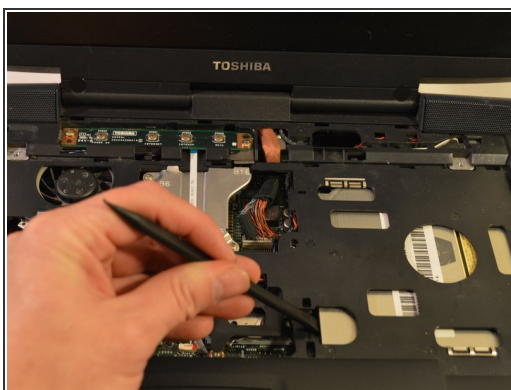


## Step 13 — Optical Drive



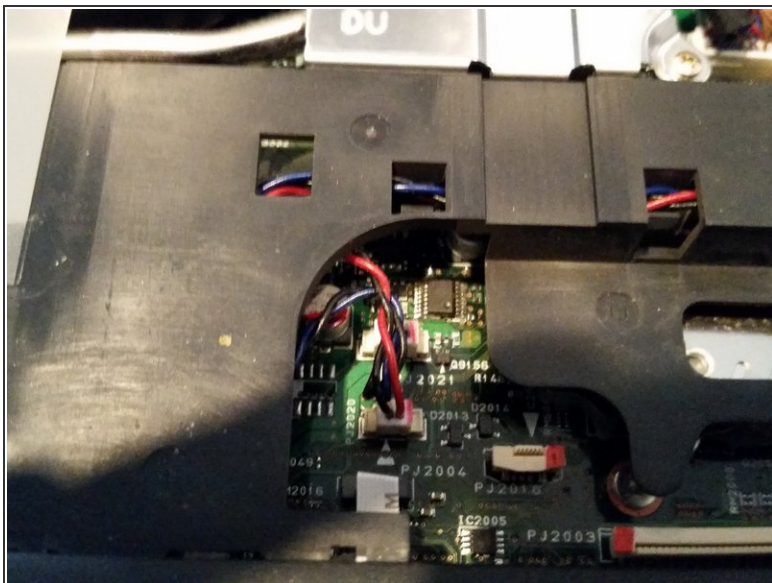
- Unscrew the screw located on the left side of the optical drive near the heat sink cover in the middle of the laptop.

## Step 14



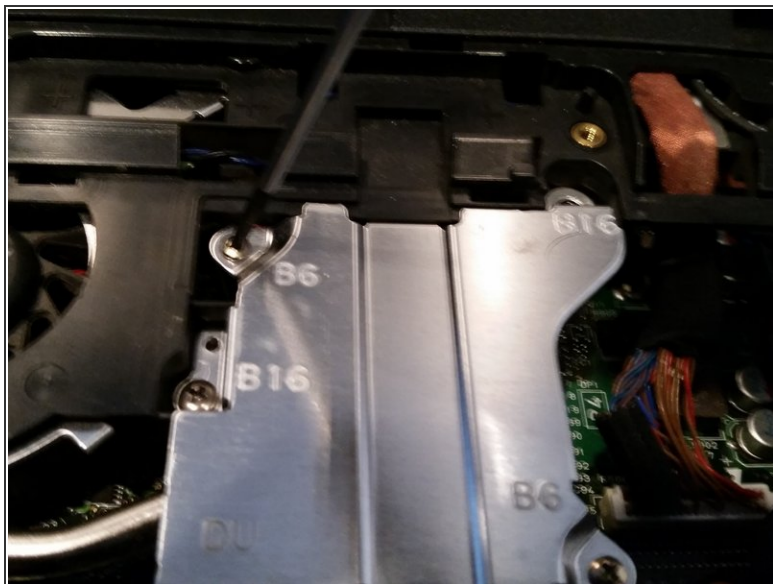
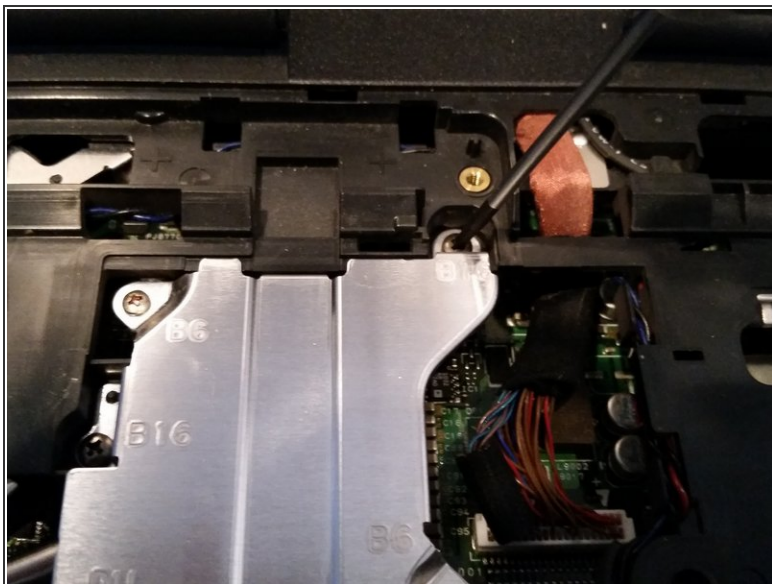
- Using spudger, push the optical drive out to the right.

## Step 15 — Upper Case



- Disconnect both speaker connectors located near the center of the laptop.

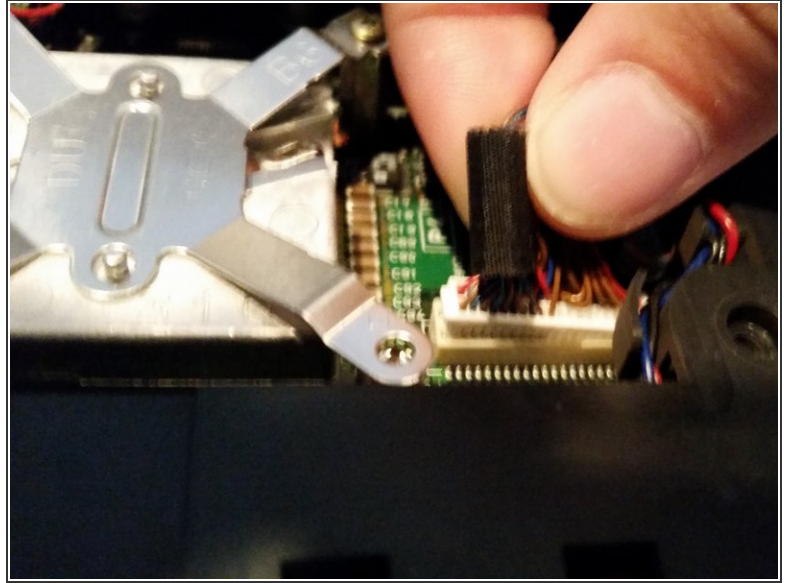
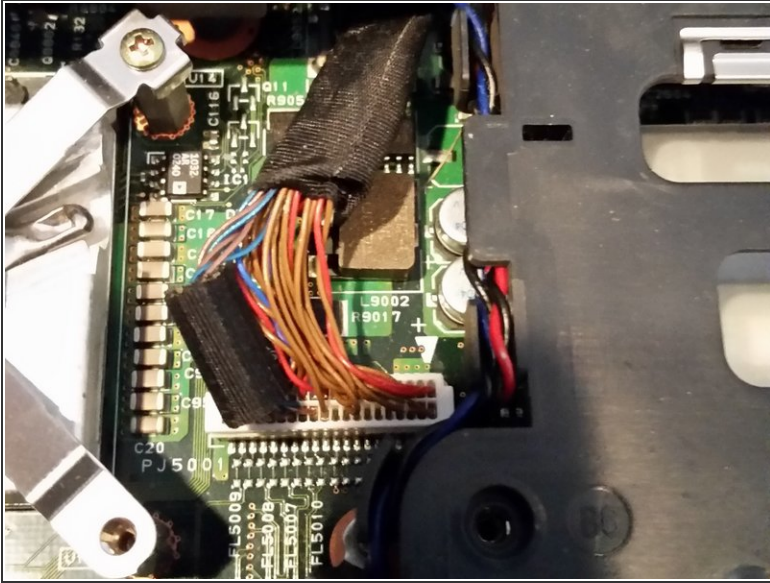
## Step 16



- Unscrew all visible screws on the heat sink shield.

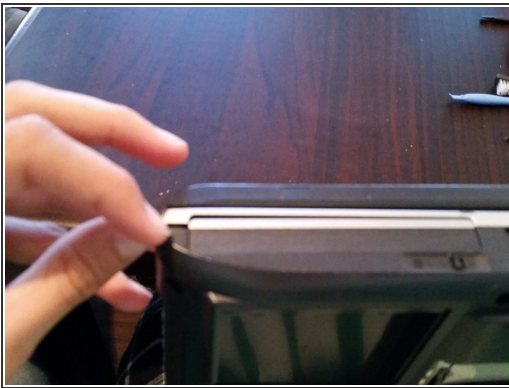


## Step 17



- Disconnect the monitor connector.

## Step 18



- Starting from the front right corner pry apart the black bottom from the gray top.



## Step 19



- Set aside the top half.

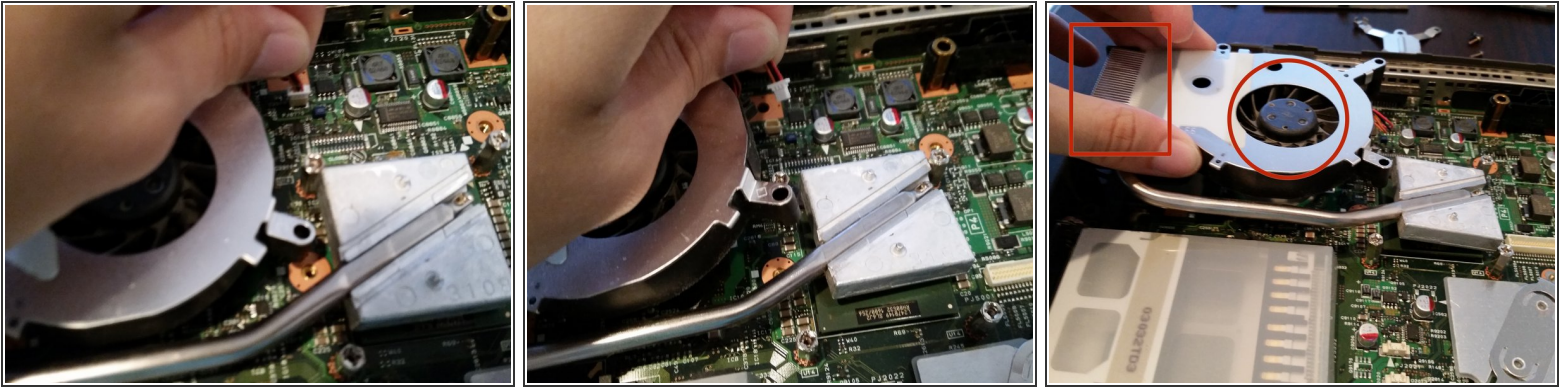
## Step 20 — CPU Fan and Heatsink



- Unscrew the remaining screws on the heatsink and fan brackets.

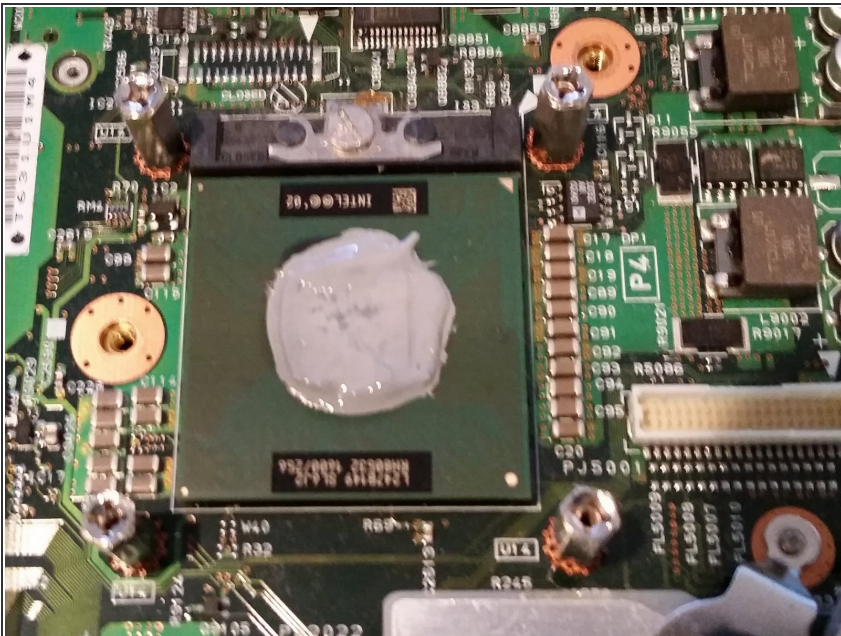


## Step 21



- Disconnect the fan power connector.
- Remove the heatsink and fan.
- Check the heatsink fins and fan for any dust build-up. If any is found use compressed air to clean.

## Step 22



- Clean the old thermal paste off the CPU and heatsink.
- Use a q tip to remove the majority of the thermal paste.
- Use an isopropyl alcohol soaked q tip to further clean remaining thermal paste.
- Dry and clean both surfaces with another q-tip.
- Once completely clean, apply a rice grain sized amount of new thermal paste to the CPU and reattach the heatsink and fan.

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

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