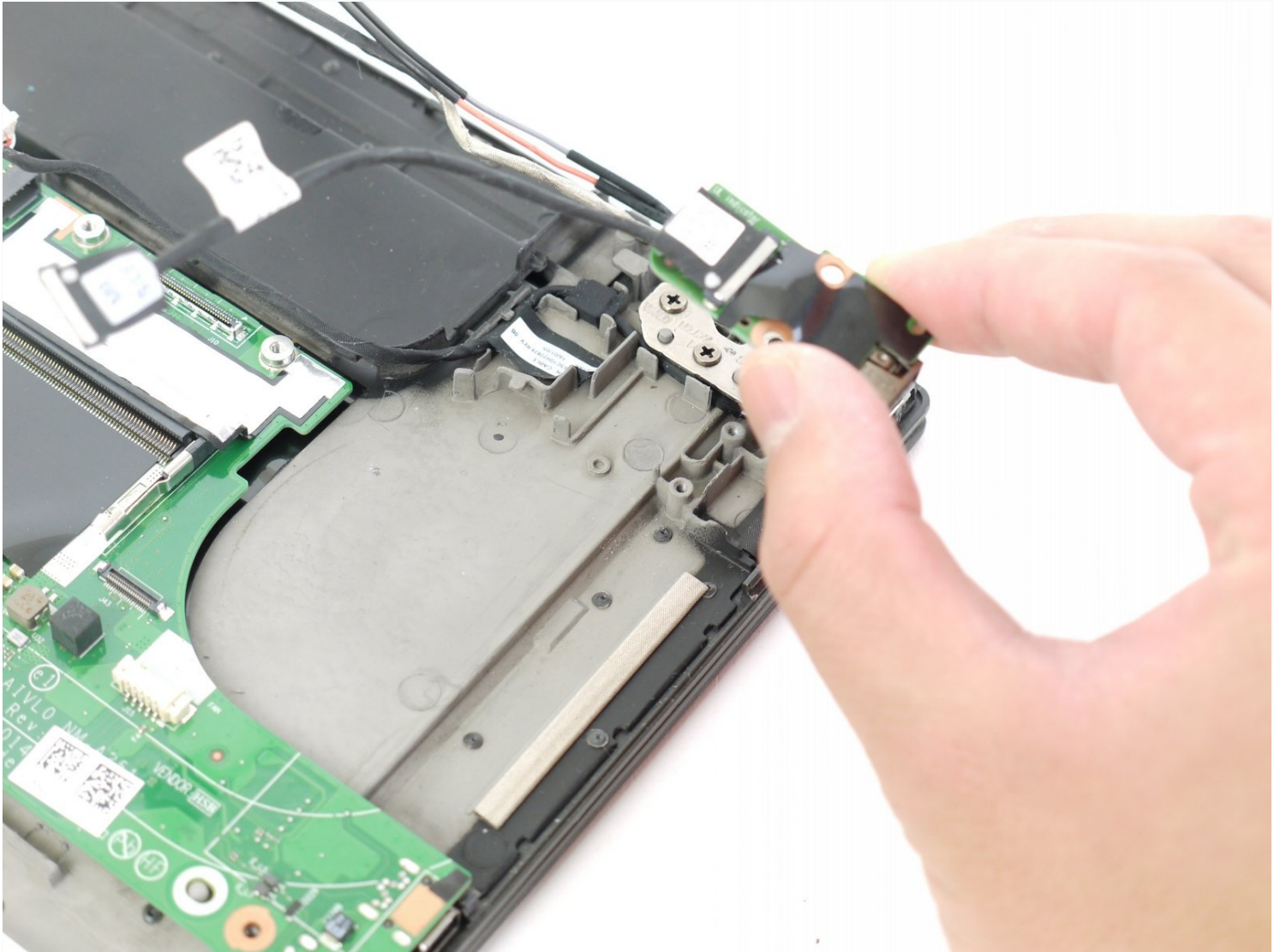




# Lenovo Thinkpad T450 Daughterboard Replacement

Also known as the daughter card, piggyback...

Written By: Justin Ogihara



# INTRODUCTION

Also known as the daughter card, piggyback card, or mezzanine board, the daughterboard is an extension of the motherboard. The daughterboard is typically connected to the motherboard via a series of cables. Similar to the motherboard, the daughterboard has pins, plugs, sockets, and connectors to be attached to other boards.

As for the Lenovo ThinkPad T450 laptop, the daughterboard houses the USB port on the upper left side of the laptop. If you find that the devices you plug into this USB port are not being recognized, it may be time to replace the daughterboard. Follow these simple instructions to replace the daughterboard in your device.

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## TOOLS:

[JIS #00 Screwdriver](#) (1)

[iFixit Opening Tool](#) (1)

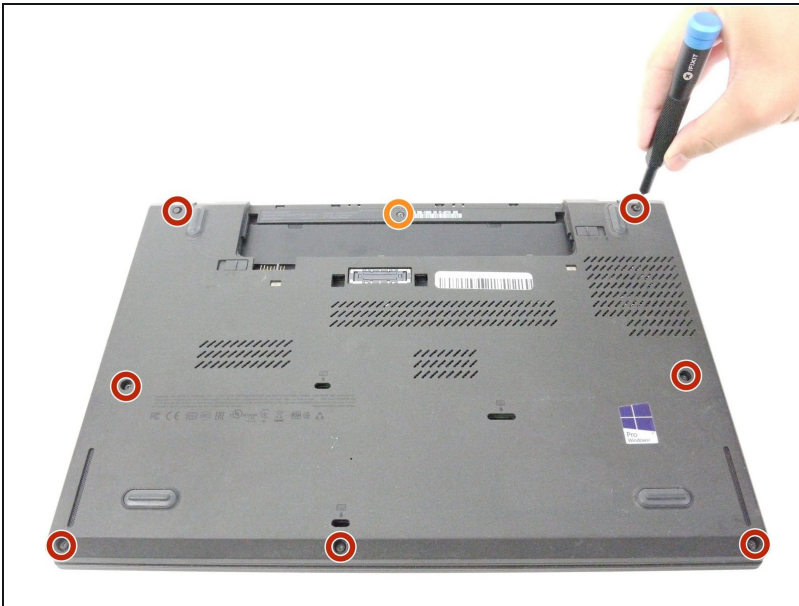
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## Step 1 — External Battery



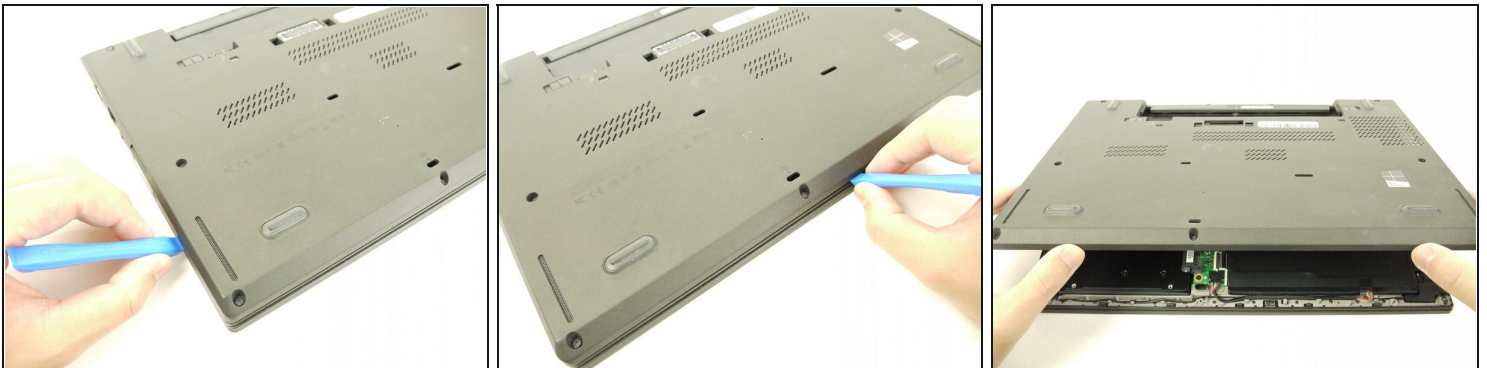
- Using your hands, slide the two locking tabs away from each other to release the battery.
- Slide the battery up and out of the device.

## Step 2 — Back Cover



- Using the JIS #00 screwdriver, unscrew seven screws from the back cover.
- ❗ These screws are not removable and will remain in the back cover.
- Use the JIS #00 screwdriver to remove the single 2.8 mm screw from the back cover.

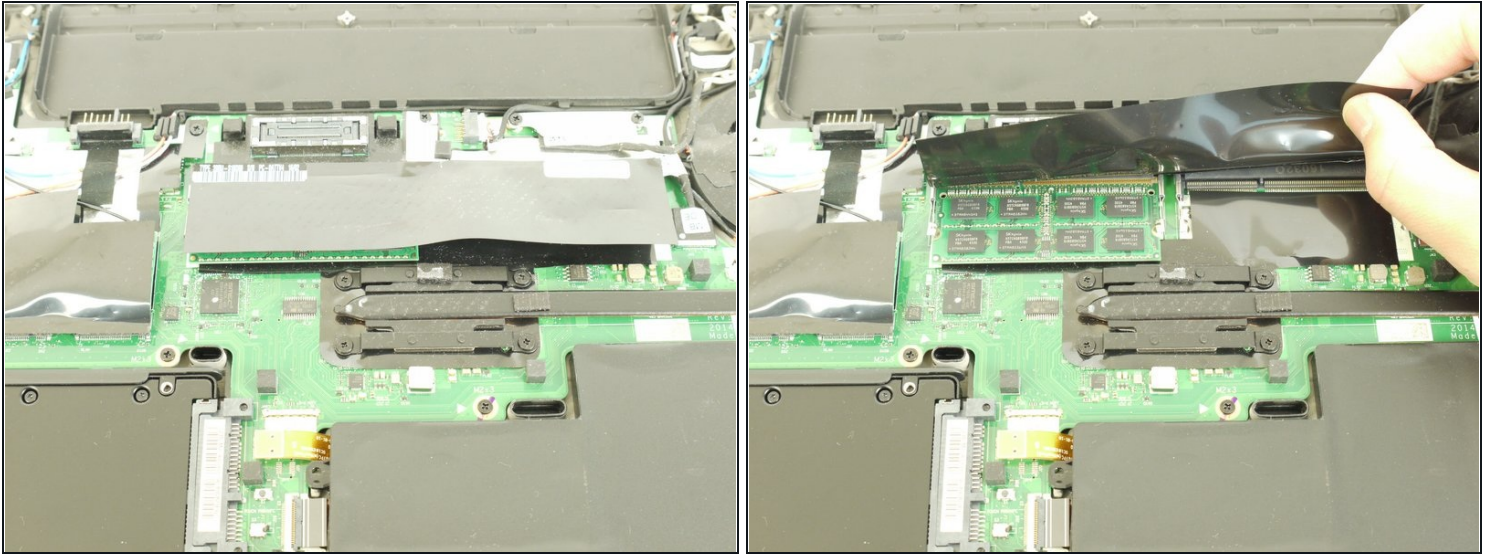
## Step 3



- Insert a plastic opening tool into the edges of the laptop and work your way around the edges to pry off the back cover from the device.
- Remove the back cover from the device.

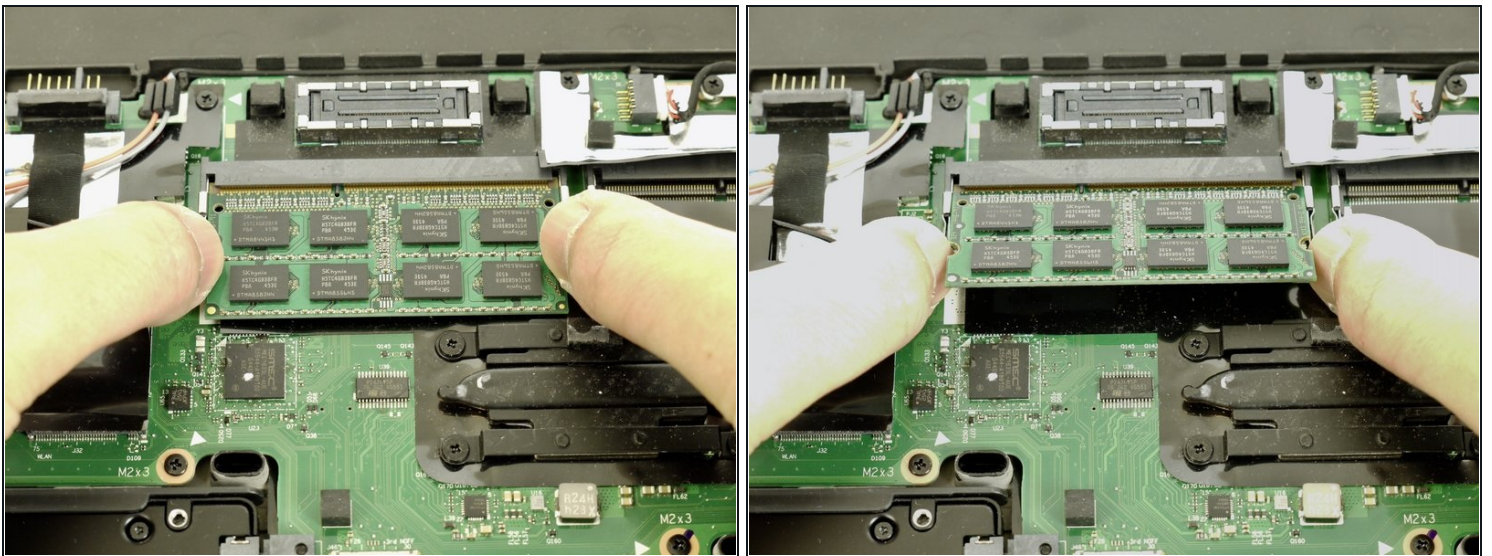


## Step 4 — RAM



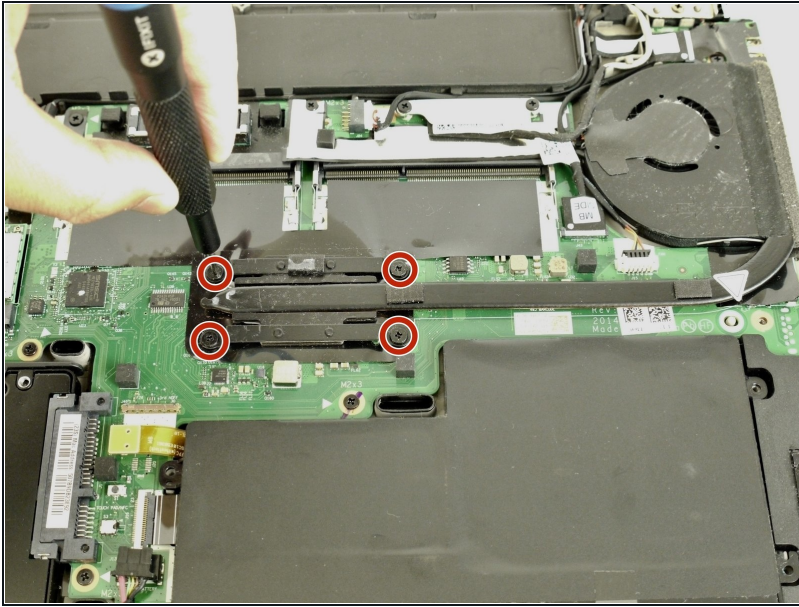
- Lift up the black piece of tape and remove it to uncover the RAM sticks underneath.

## Step 5



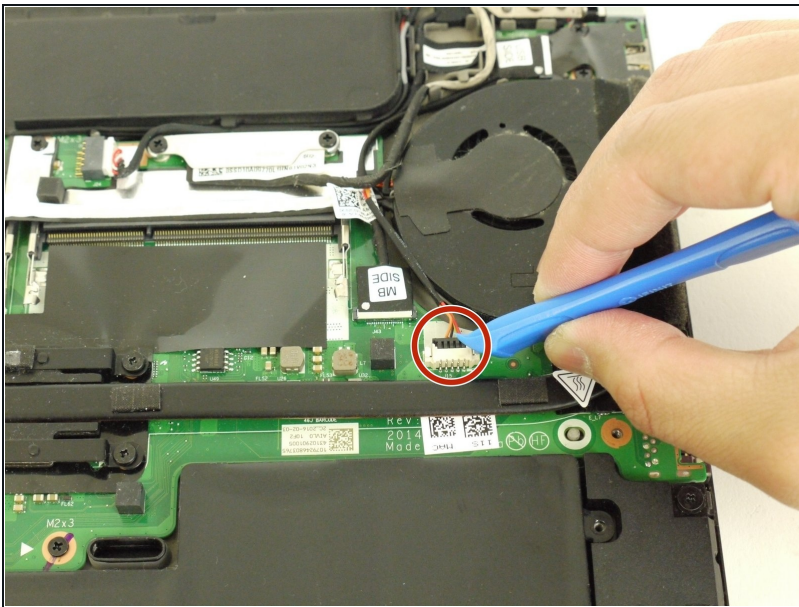
- Using your fingers, push the two clips securing the RAM away from each other to release the RAM.
- ① The RAM stick should pop up at a 30 degree angle.
- Remove the RAM stick from the device.
- ① Repeat this step for any additional RAM sticks.

## Step 6 — Fan and Heatsink Assembly



- Using the JIS #00 screwdriver, unscrew the four screws securing the fan and heatsink assembly to the motherboard.
- ⓘ These screws are not removable and will stay on the fan and heatsink assembly.

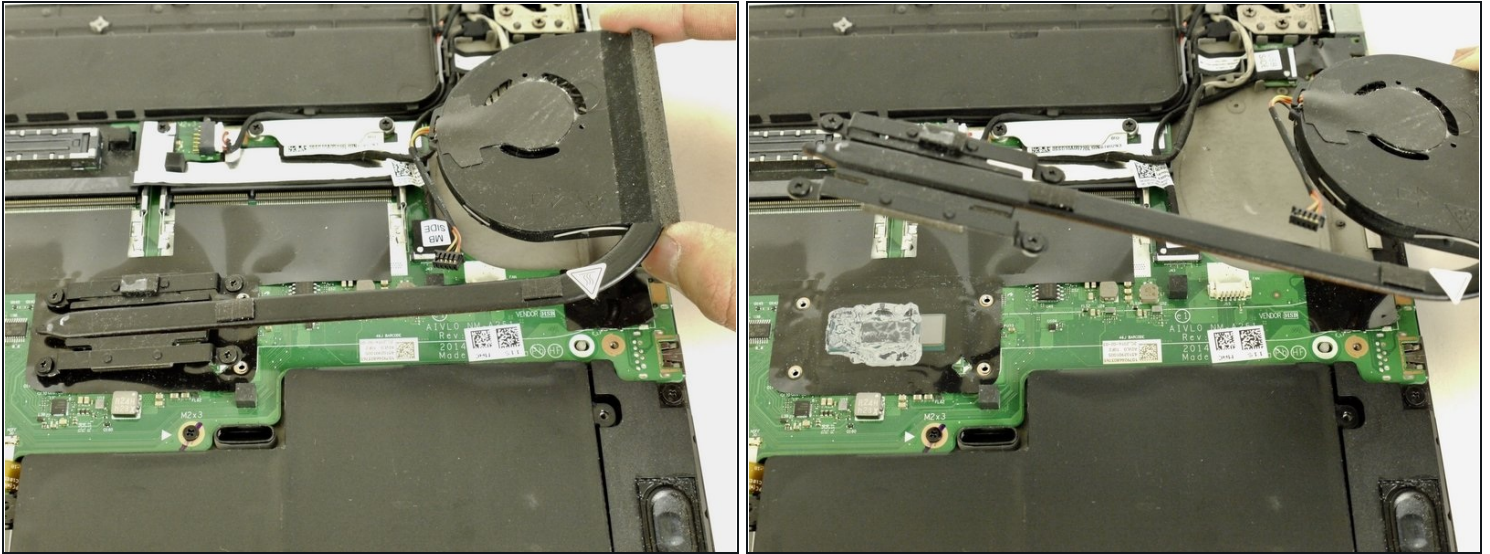
## Step 7



- Disconnect the fan and heatsink assembly from the motherboard using the plastic opening tool.

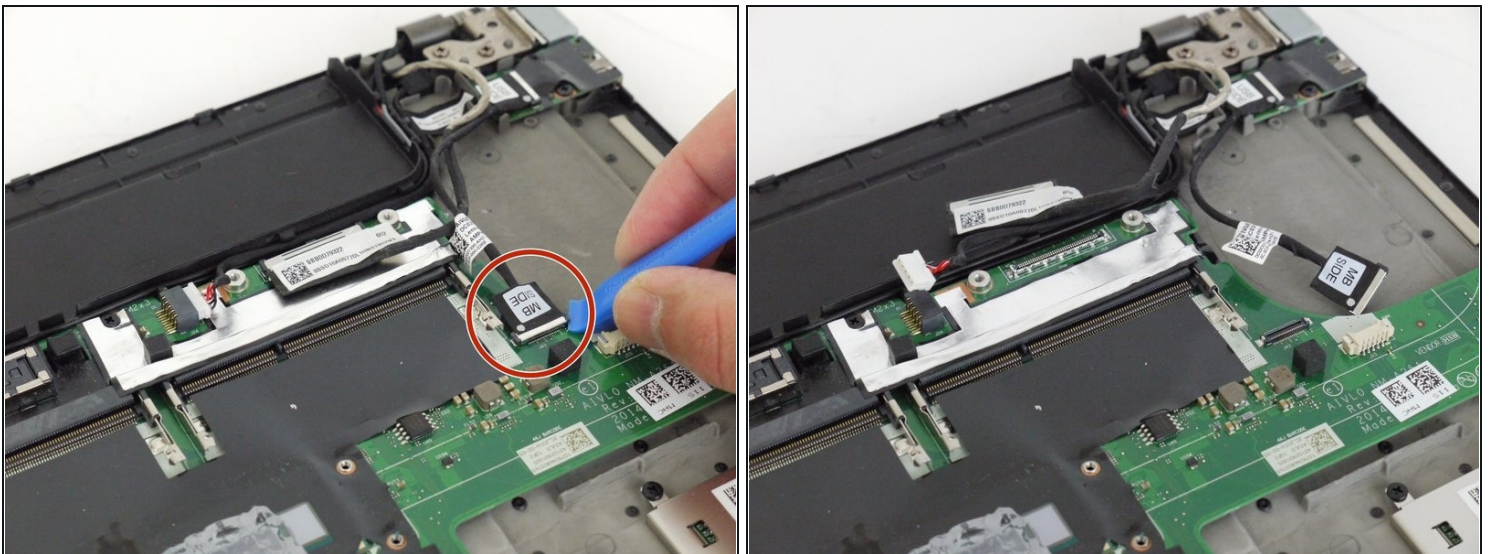


## Step 8



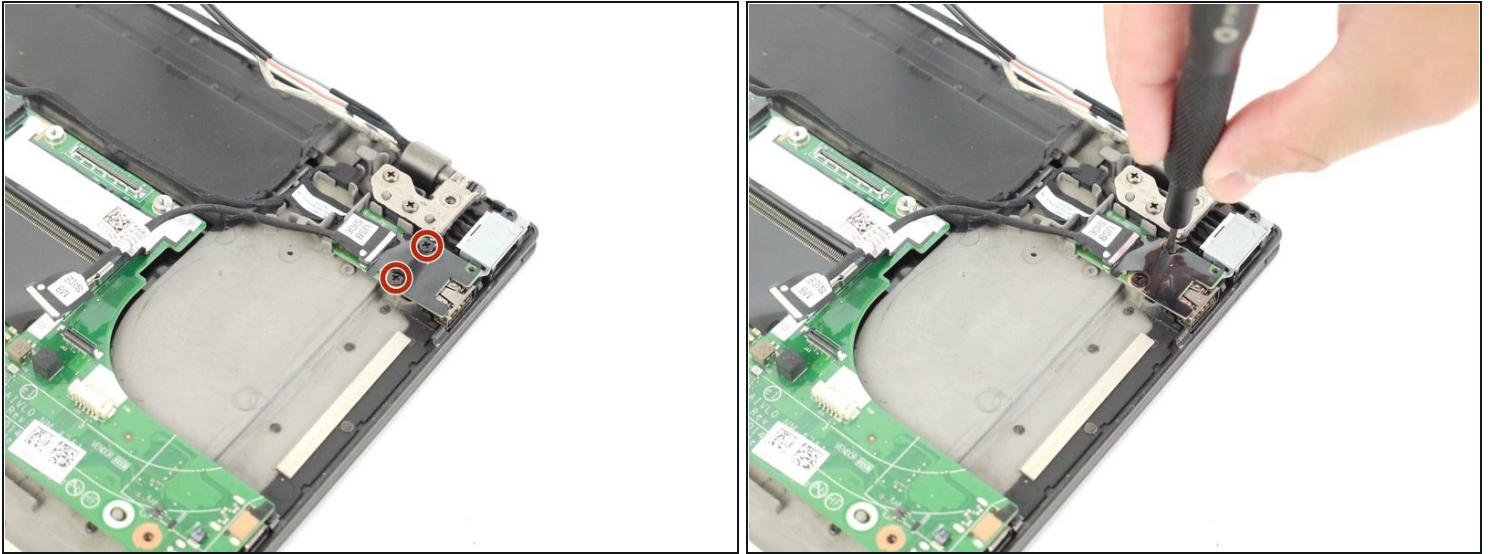
- Lift up the fan and heatsink assembly and remove it from the device.
- ☑ When you reassemble your device, don't forget to reapply thermal paste to the back of the heatsink and fan assembly. For proper technique and thermal paste application, please visit the [How to Apply Thermal Paste guide](#).

## Step 9 — Daughterboard



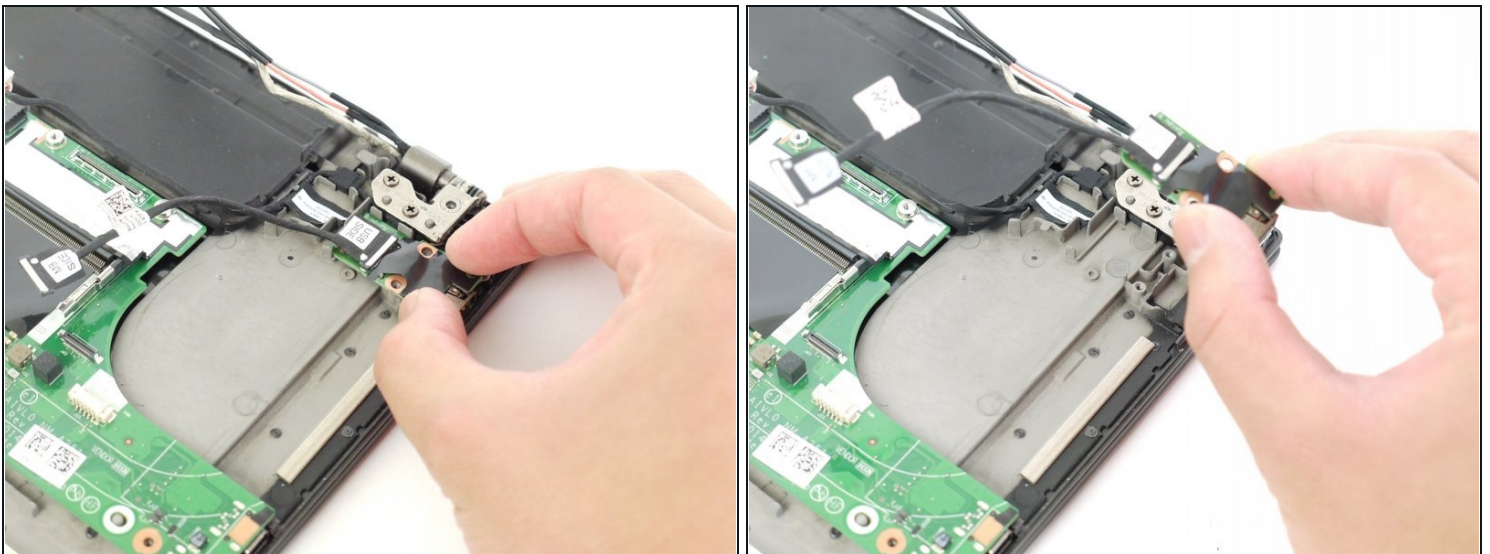
- Use the plastic opening tool to disconnect the daughterboard cable from the motherboard.

## Step 10



- Using the JIS #00 screwdriver, remove the two 2.8 mm screws securing the daughterboard to the device.

## Step 11



- Lift up and remove the daughterboard from the device.

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

Take your e-waste to an [R2 or e-Stewards certified recycler](#).