iMac Intel 21.5" EMC 2428 CPU Fan Replacement
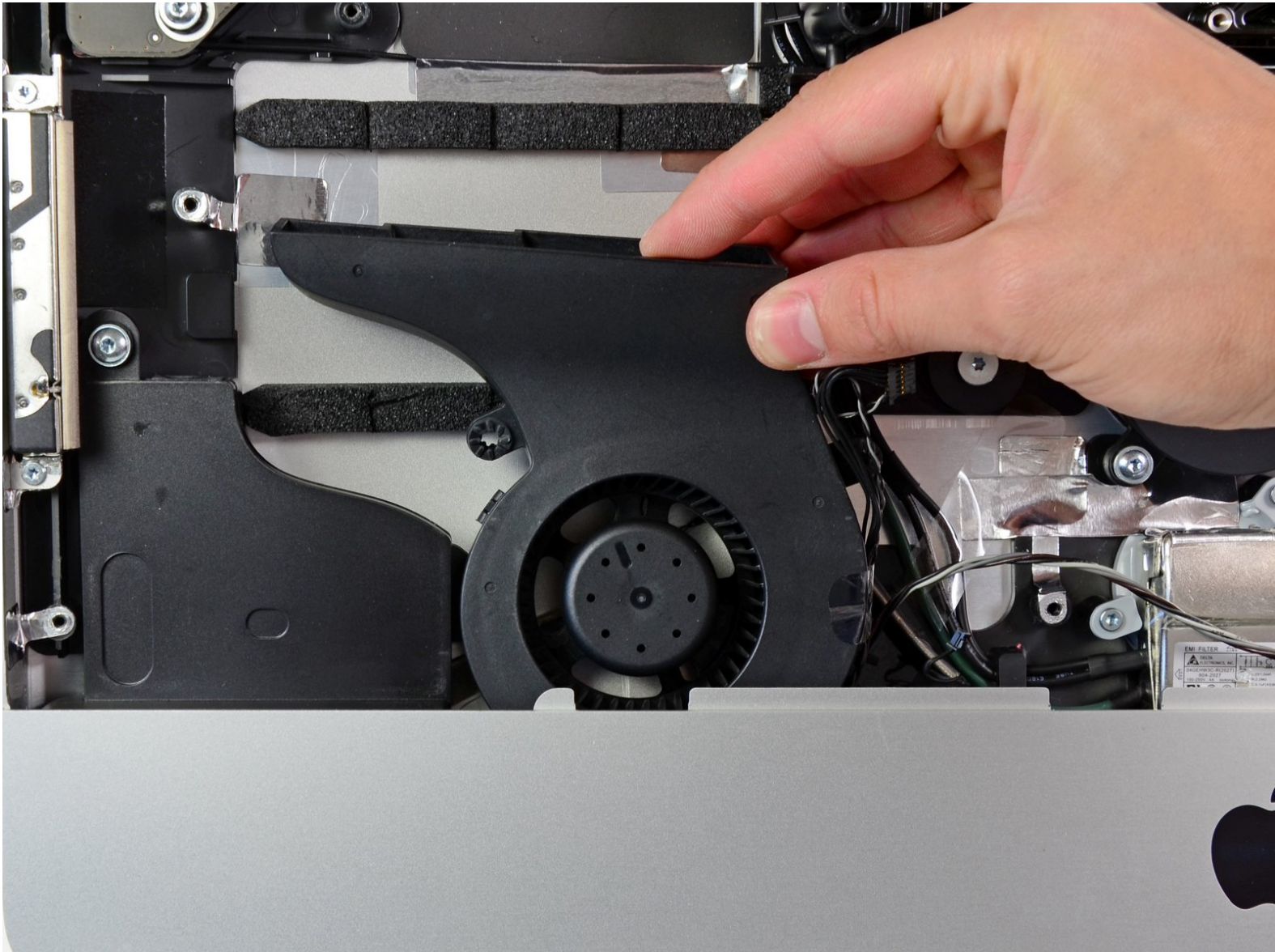
Replace the CPU fan in your iMac Intel 21.5" EMC 2428.

Written By: Walter Galan

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INTRODUCTION

Replace a broken CPU fan to keep temperatures down.

TOOLS:

- Heavy-Duty Suction Cups (Pair) (1)
- Phillips #2 Screwdriver (1)
- Spudger (1)
- T10 Torx Screwdriver (1)

PARTS:

- iMac Intel 21.5" (EMC No. 2428) CPU Fan (1)

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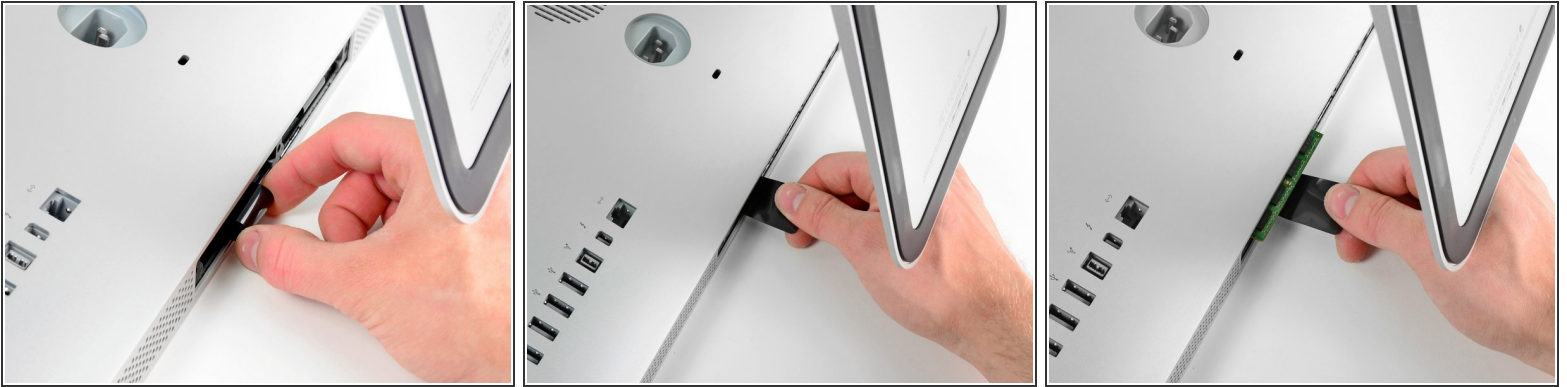
Step 1 — Access Door

- Unplug your iMac's AC cord along with any peripheral devices.

- Lay your iMac face-down on a soft, clean surface as shown.

⚠️ Be sure there isn't any dirt or debris on your work surface, as it may scratch the glass panel on the front of your iMac. We recommend placing a towel between the iMac and the work surface.
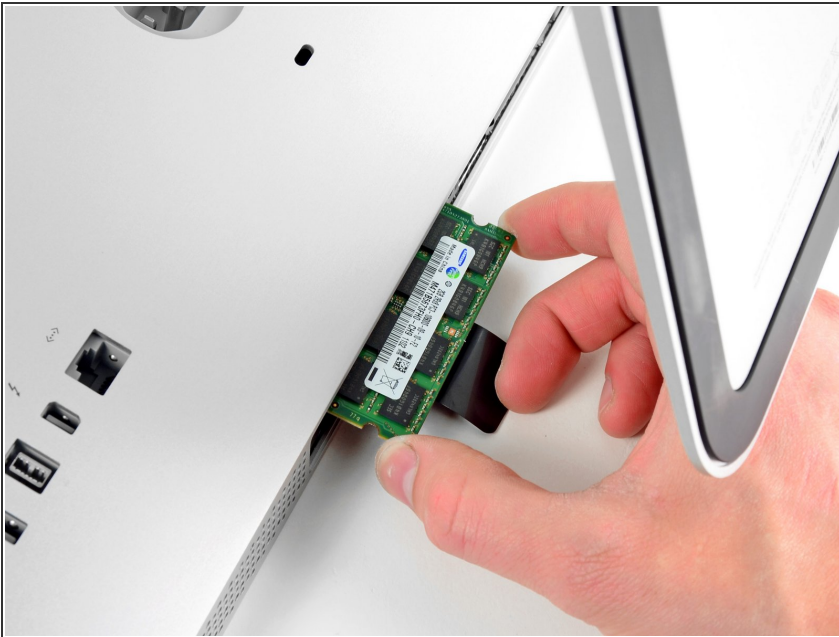
- Loosen the three Phillips screws securing the access door to the bottom edge of your iMac.

ⓘ All three screws will remain captive in the access door.

- Remove the access door.

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Step 2 — RAM

- Gently slide the black plastic RAM pull tab out from the RAM slot.

- Pull the black plastic tab away from the bottom edge of the iMac to eject the module(s) on that side of the RAM bay.

- (i) This may require a bit of force.

Step 3

- Slide the old RAM module(s) out of their slots in the RAM bay and set them aside.

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Step 4

- Repeat the process in the previous steps to remove the RAM module(s) from the other side of the RAM bay.
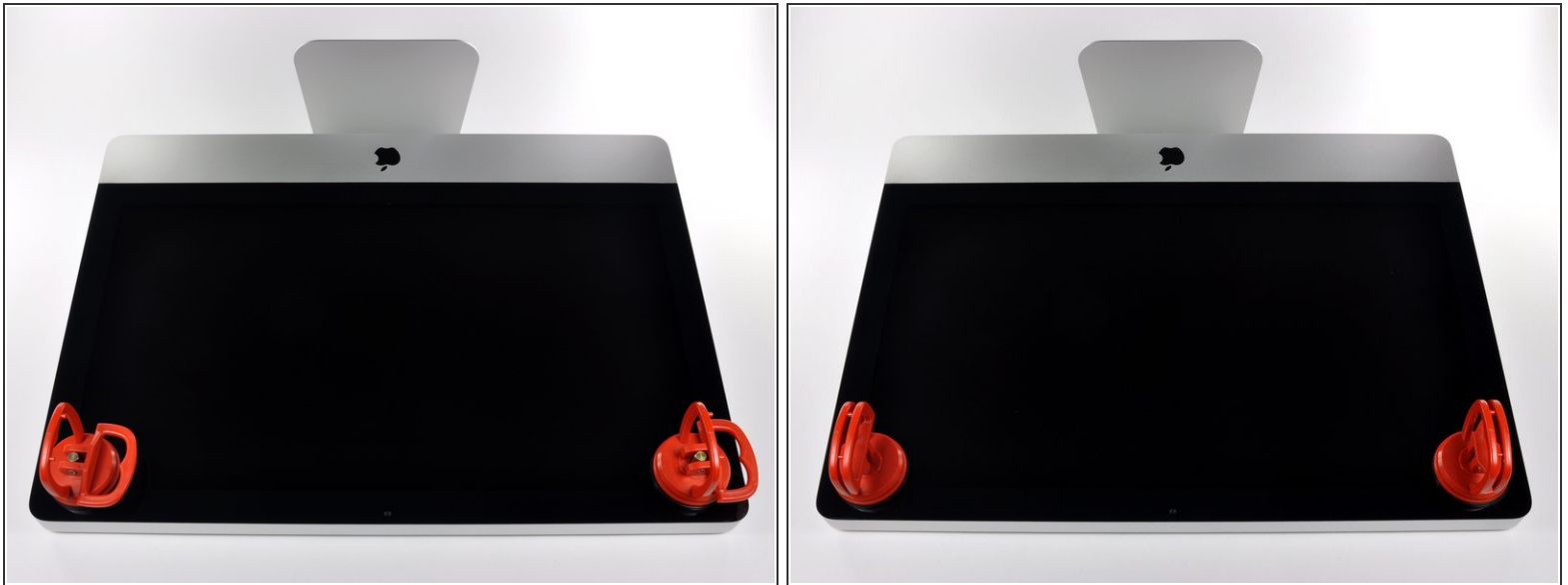
Step 5

⚠ When installing new RAM modules, it is important to orient them correctly.

- Be sure the small notch cut into each RAM module (shown in the first picture) mates with the protrusion in each RAM slot (shown in the second picture).

ⓘ Your iMac has four RAM slots. Be sure to slide each RAM module into its slot horizontally. This will prevent getting the modules stuck between two of the adjacent slots.

ⓘ Once you have oriented the new RAM modules correctly, gently slide them completely into the iMac and use your thumbs to firmly seat them in their sockets.

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Step 6 — Glass Panel

- (i) Before beginning, unplug your iMac and lay it on a soft surface as shown.

- Stick a suction cup near each of the two top corners of the glass panel.

- (i) To attach the [suction cups](#) we sell, first position the suction cup with the movable handle parallel to the face of the glass panel. While lightly holding the suction cup against the glass, raise the movable handle until it is parallel with the other handle.
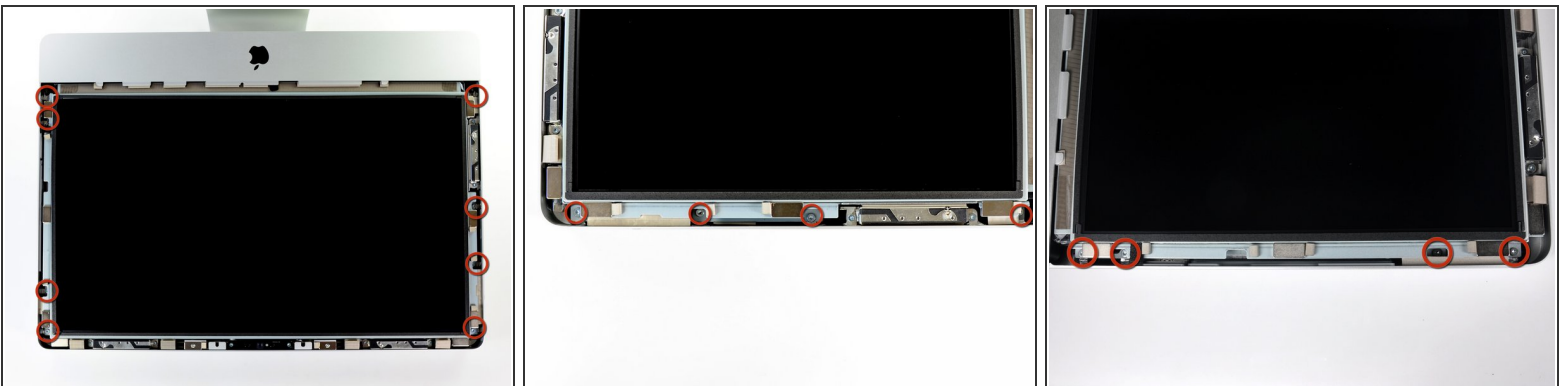
- If your suction cups refuse to stick, try cleaning both the glass panel and the suction cup with a mild solvent.

Step 7

- Gently lift the glass panel perpendicular to the face of the LCD enough to clear the steel mounting pins attached along the underside of the top edge of the glass panel.

- Pull the glass panel away from the lower edge of the iMac and carefully set it aside.

- ⭐ During reinstallation, be sure to meticulously clean the inside of the glass panel and the face of the LCD as any dust or fingerprints trapped inside will be annoyingly visible when the machine is turned on.

Step 8 — Display

- Remove the eight 8 mm T10 Torx screws securing the display to the outer case.

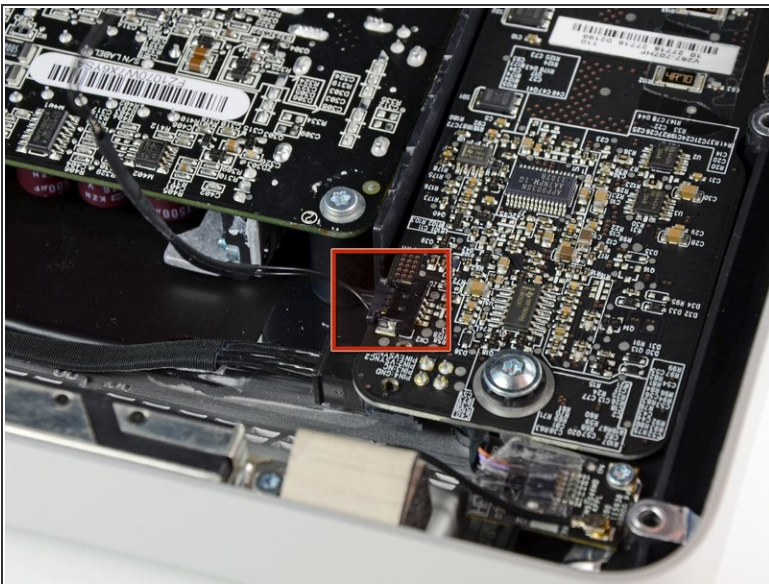- ⓘ The last two pictures are detail shots of each side of the display.

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Step 9

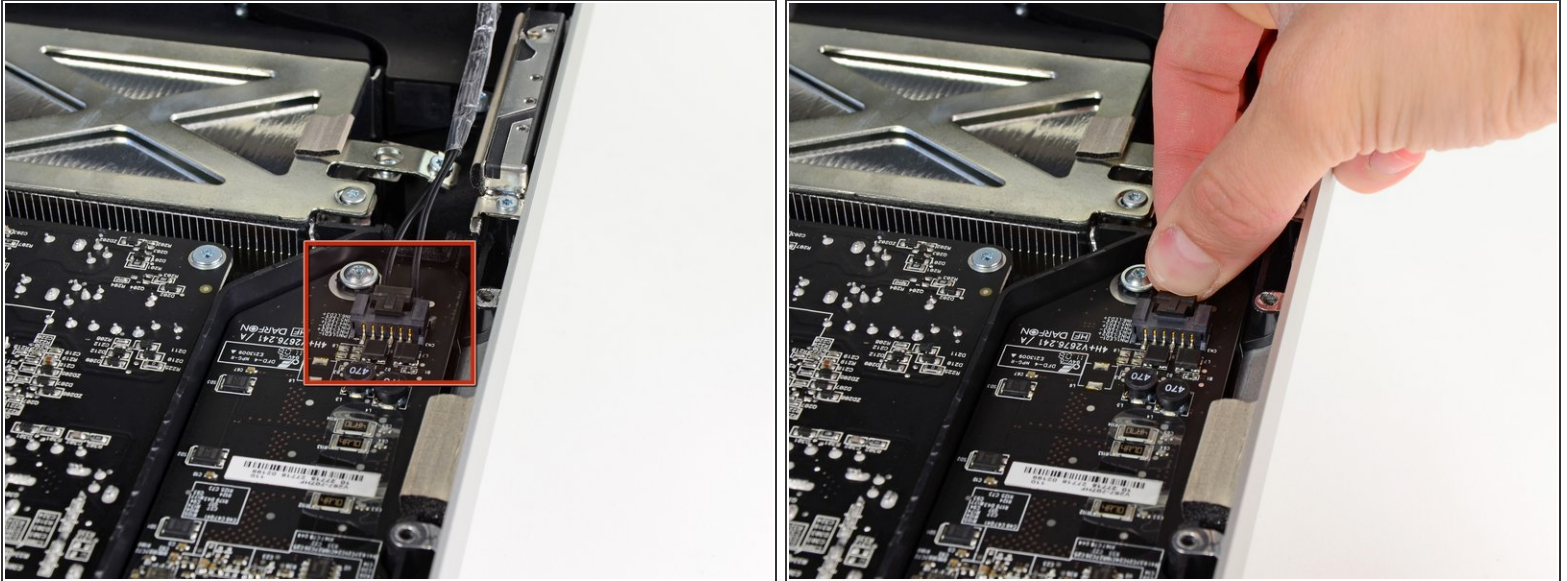- Slightly lift the top edge of the display out of the outer case.

- ⚠ Do not lift it too much. There are several cables attaching the display to the logic board. Twisting or pulling the display assembly with the cables attached will damage your iMac.
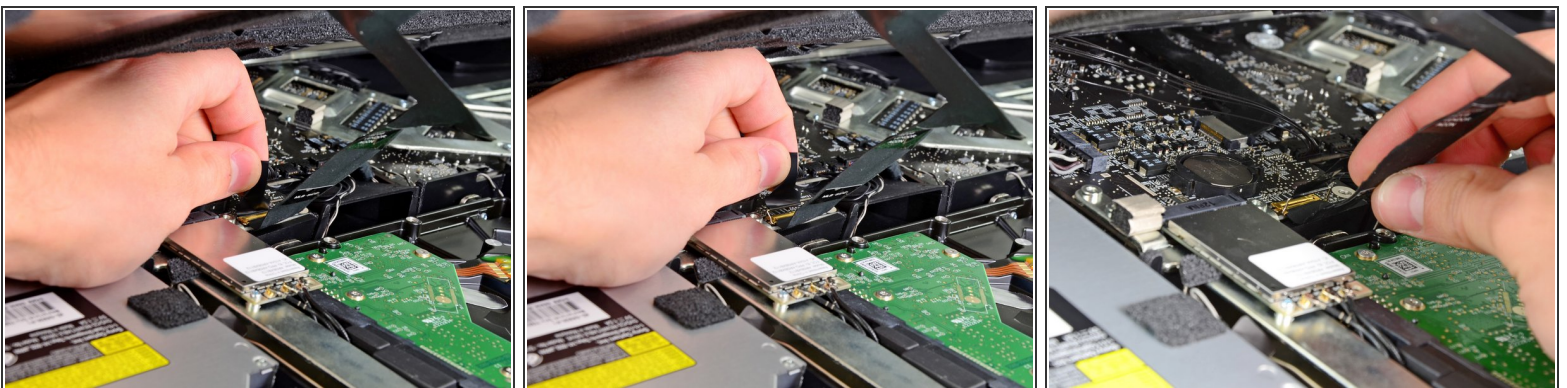
Step 10

- Pull the vertical sync cable connector out of its socket on the LED driver board near the top left corner of your iMac.
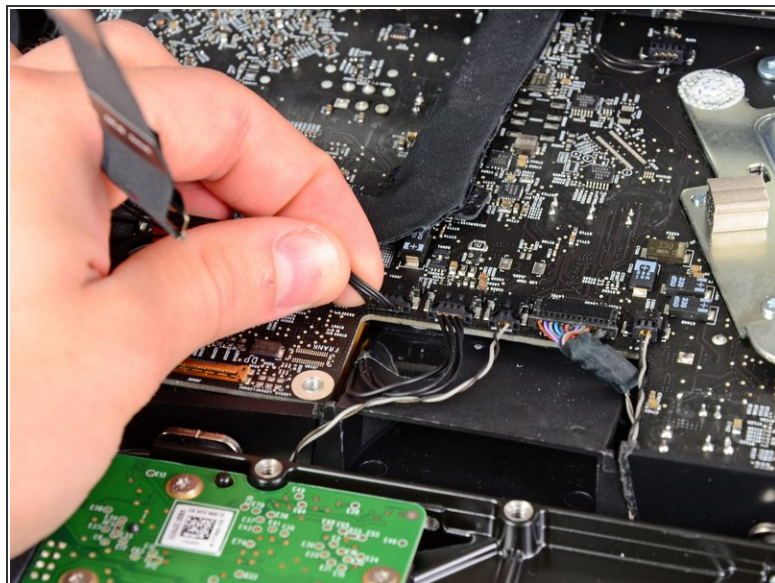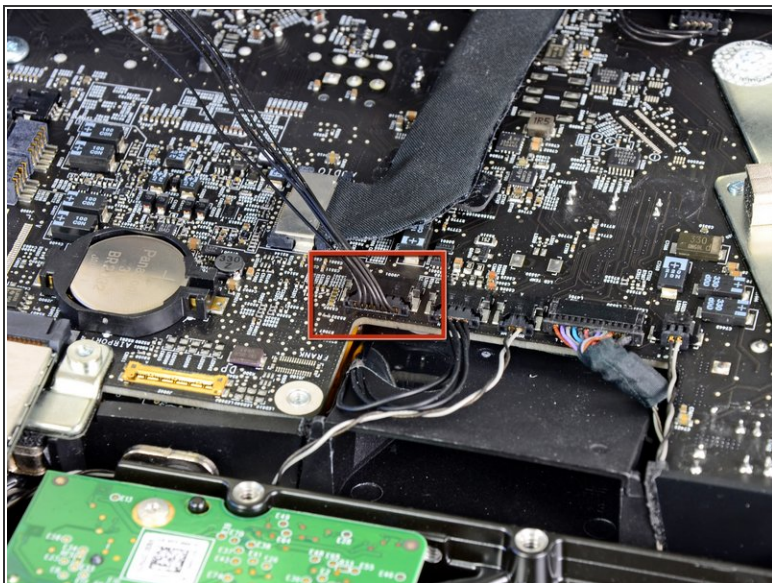
Step 11

- Rotate the display out of the outer case enough to disconnect the LED backlight power cable from the LED driver board.

- ⓘ Disconnect the LED backlight power cable by depressing the locking mechanism while pulling the connector away from its socket (toward the bottom edge of the iMac).

Step 12

- Grab the plastic pull tab secured to the display data cable lock and rotate it towards upwards.

- Pull the display data cable straight out of its socket on the logic board.

- ⓘ Do not lift up on the display data cable, as its socket is very fragile. Pull the cable parallel to the face of the logic board.

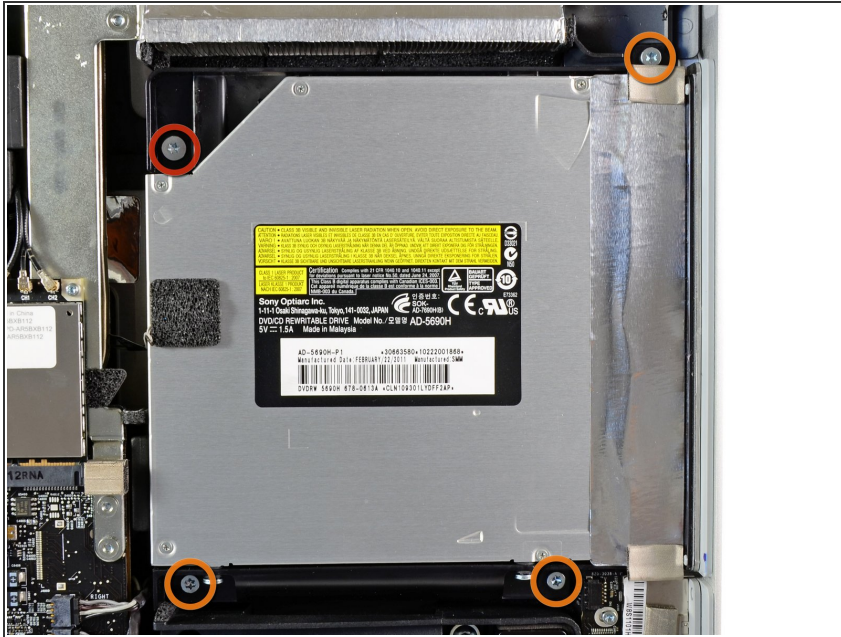This document was generated on 2019-09-18 09:22:29 PM (MST).

Step 13

- Disconnect the LCD thermal sensor cable connector from its socket on the logic board.

Step 14

- Carefully pull the display toward the top edge of your iMac and lift it out of the outer case, minding any cables that may get caught.
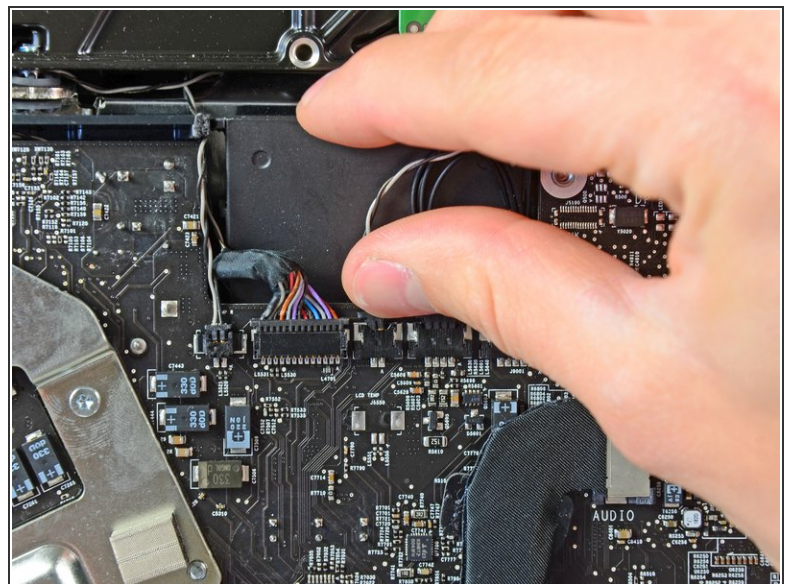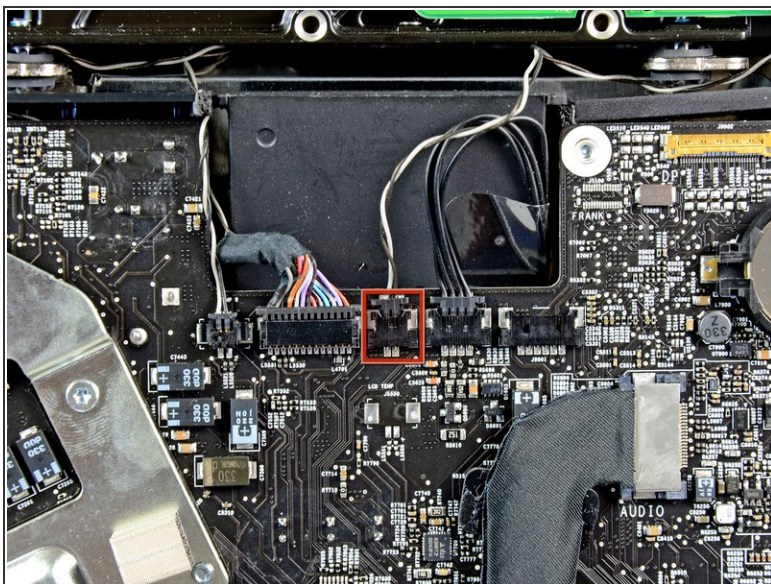
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Step 15 — Optical Drive

- (i) From here, the repair will be easier if you flip the computer around so the base is facing you.
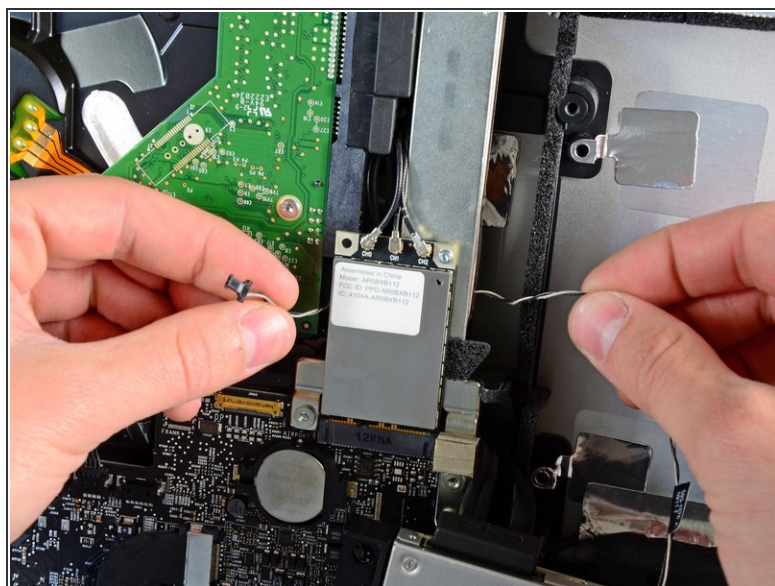
- Remove the following four screws:
  - One 9.3 mm T10 Torx screw with a large head
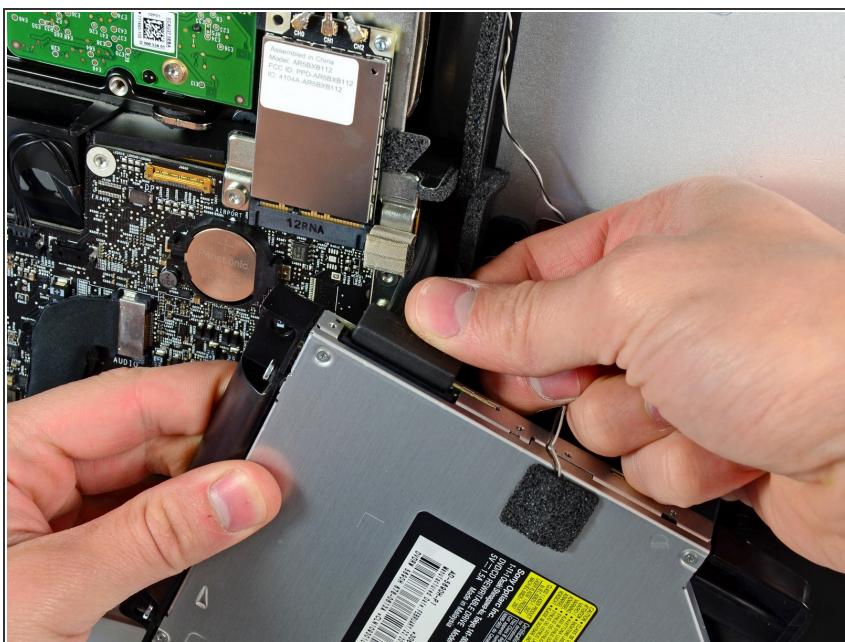 - Three 9.3 mm T10 Torx screws with a normal sized head

Step 16

- Pull the optical drive thermal sensor connector straight up from its socket on the logic board. Pull parallel to the board.
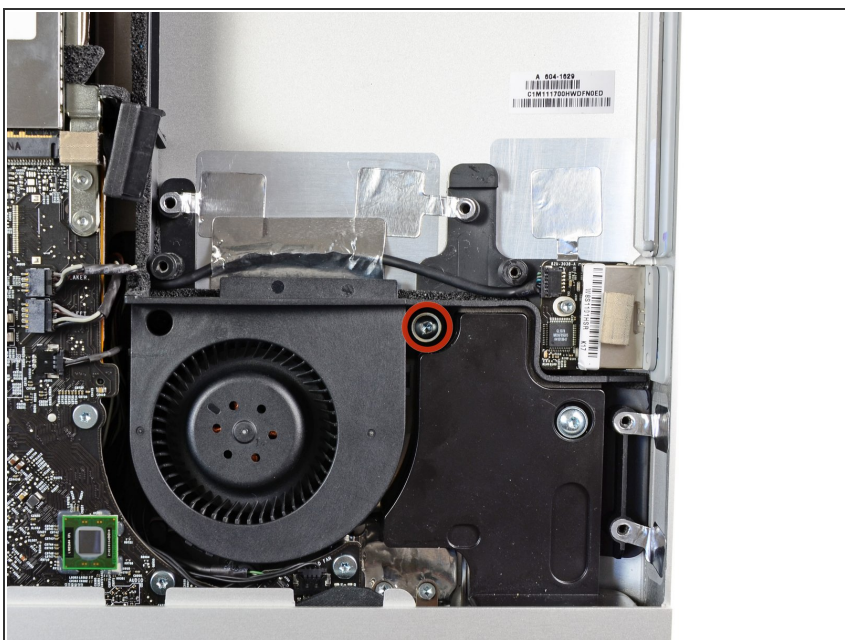
Step 17

- Lift the inner edge of the optical drive and maneuver its connector past the GPU frame attached to the logic board.

- Carefully pull the optical drive off its mounting pins on the right side of the outer case to gain clearance for disconnecting the optical drive cable.

- Allow the optical drive to hang down as you de-route the optical drive thermal sensor connector from behind the GPU heat sink.

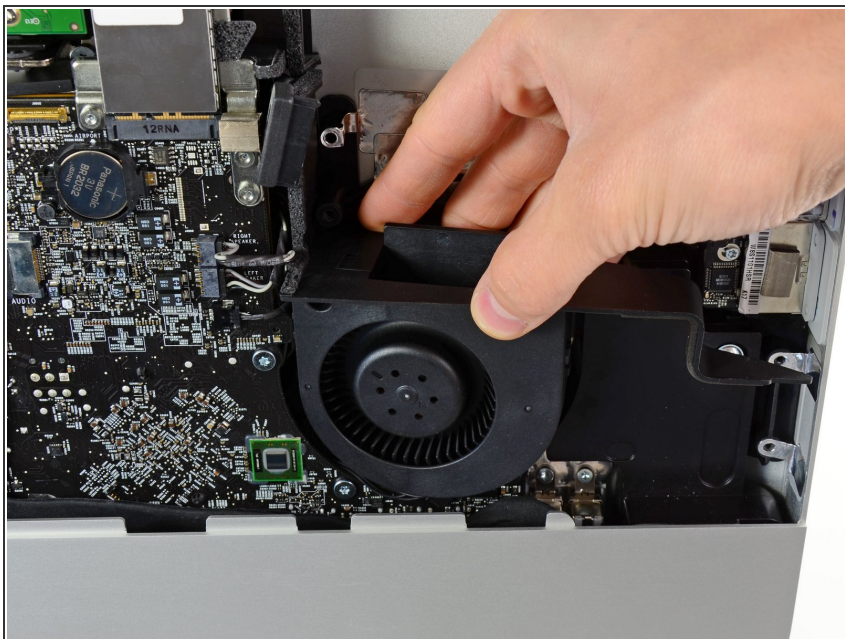This document was generated on 2019-09-18 09:22:29 PM (MST).

Step 18

- Disconnect the optical drive cable by pulling its connector away from the optical drive.

- Remove the optical drive from the iMac.
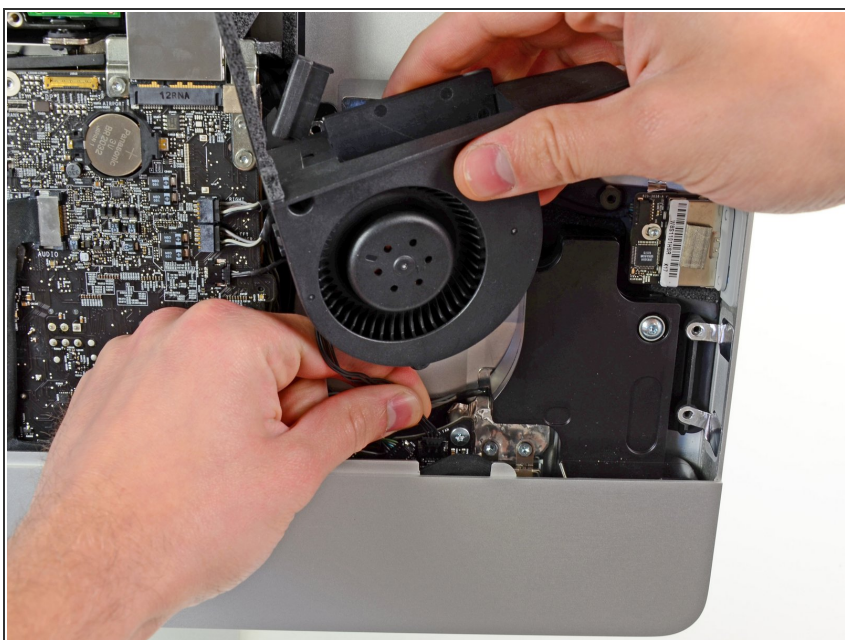
Step 19 — Optical Drive Fan

- Remove the single 13 mm T10 Torx screw securing the optical drive fan to the outer case.

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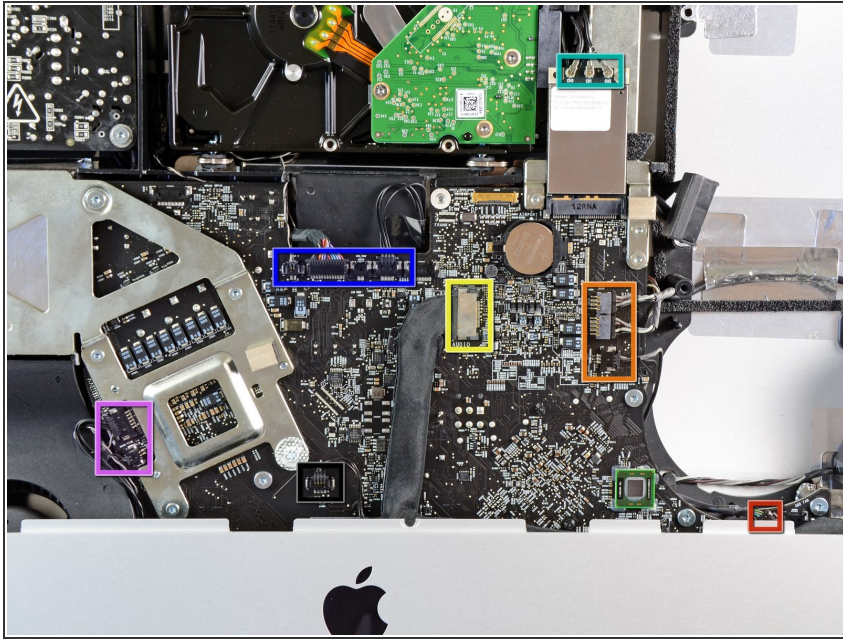
Step 20

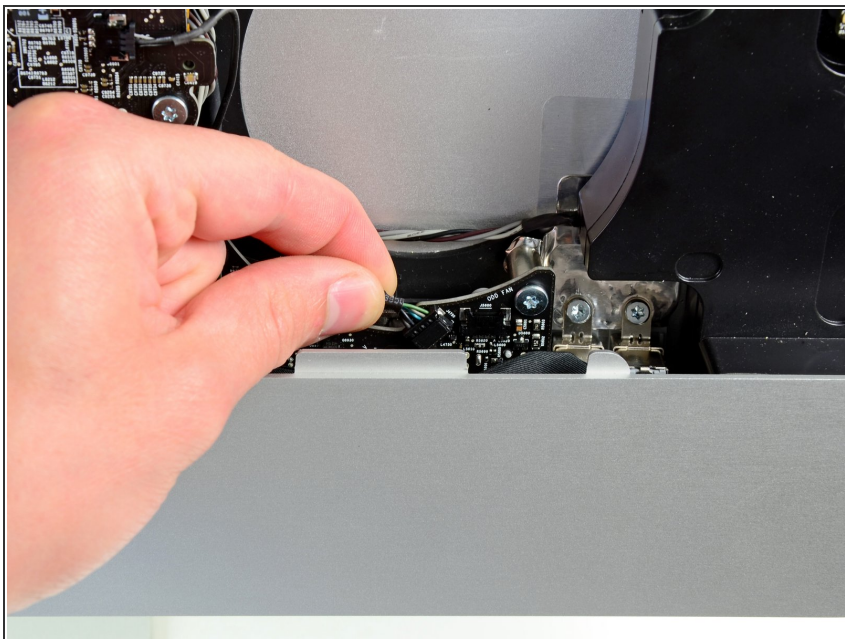- Pull the optical drive fan off the pins attached to the outer case.

Step 21

- Pull the optical drive fan connector away from its socket on the logic board.

- Remove the optical drive fan from the iMac.

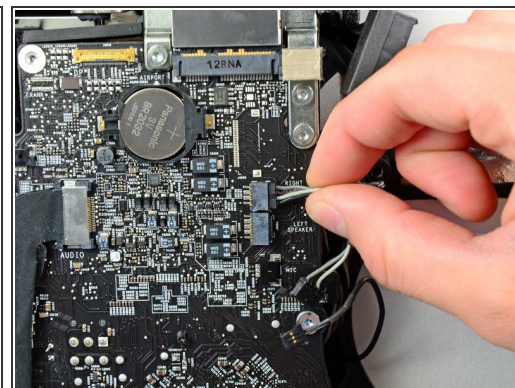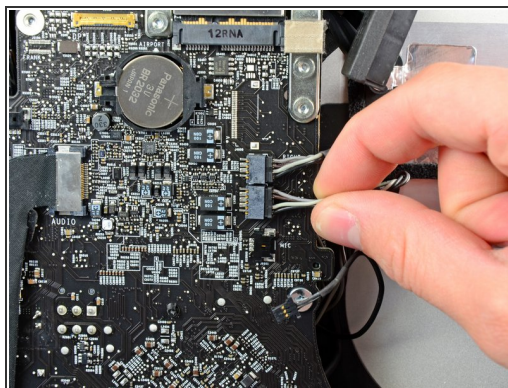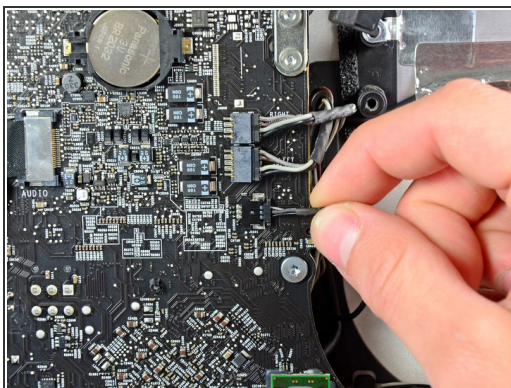## Step 22 — Logic Board

- In the proceeding steps, you will disconnect the following cables:
  - SD Board
  - Left/Right Speaker and Microphone
  - Audio Port
  - Wi-Fi Antenna
  - Right Temperature Sensor, Bluetooth/Ambient Light Sensor/Camera/Left Temperature, and Hard Drive Fan
  - CPU Fan/Ambient Temperature and Power Button
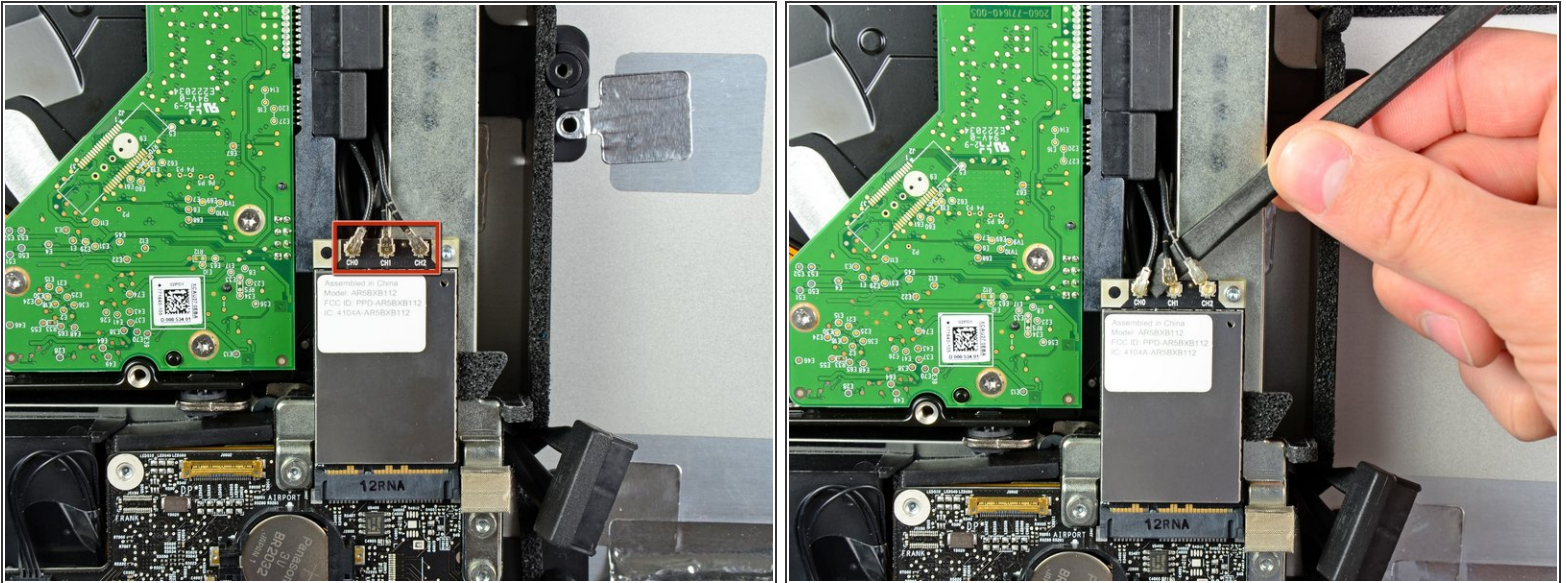 - IR Sensor

Step 23

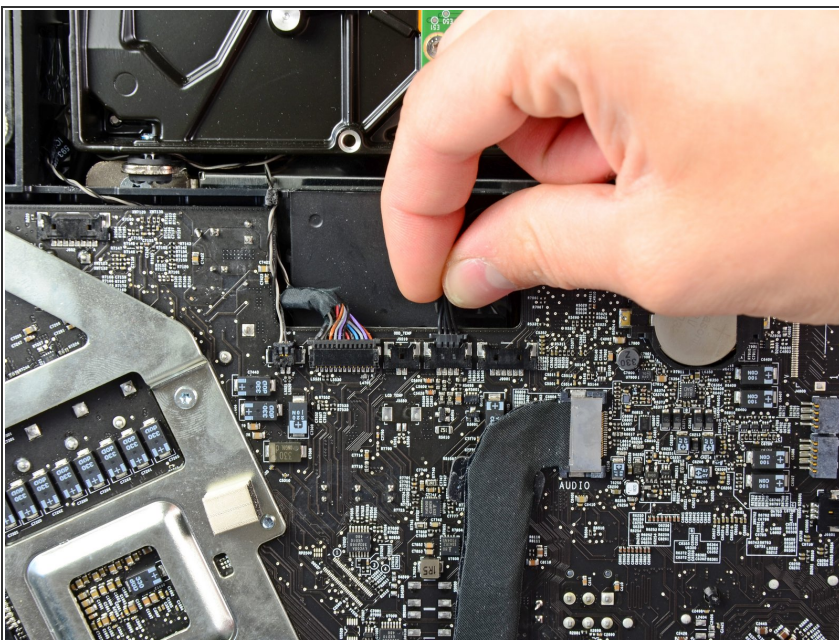- Pull the SD board cable out of its socket on the logic board.

Step 24

- Disconnect the microphone, left speaker, and right speaker cables by pulling their connectors toward the right side of the iMac.

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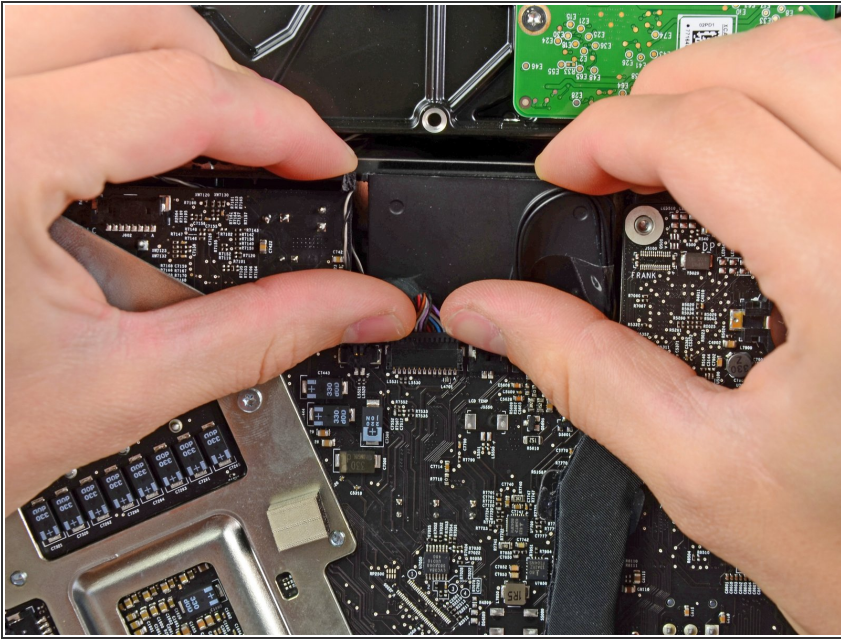© iFixit — CC BY-NC-SA
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Step 25

- Use the flat end of a spudger to pry all three AirPort antenna connectors up from their sockets on the AirPort board.

- During reinstallation, connect the cable with no stripes to the socket marked CH0, the cable with one stripe to CH1, and the cable with two stripes to CH2.
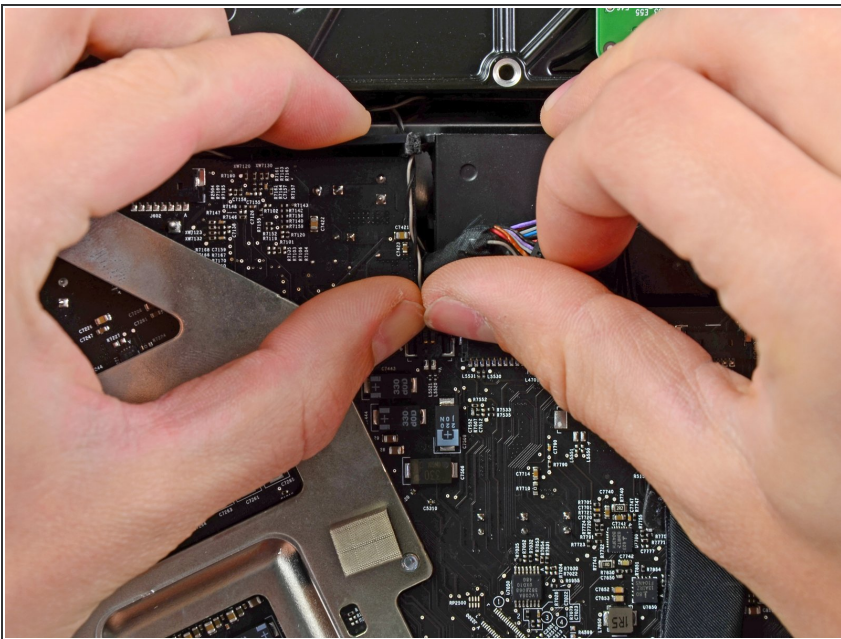
Step 26

- Pull the hard drive fan connector toward the top edge of the iMac to disconnect it from its socket on the logic board.

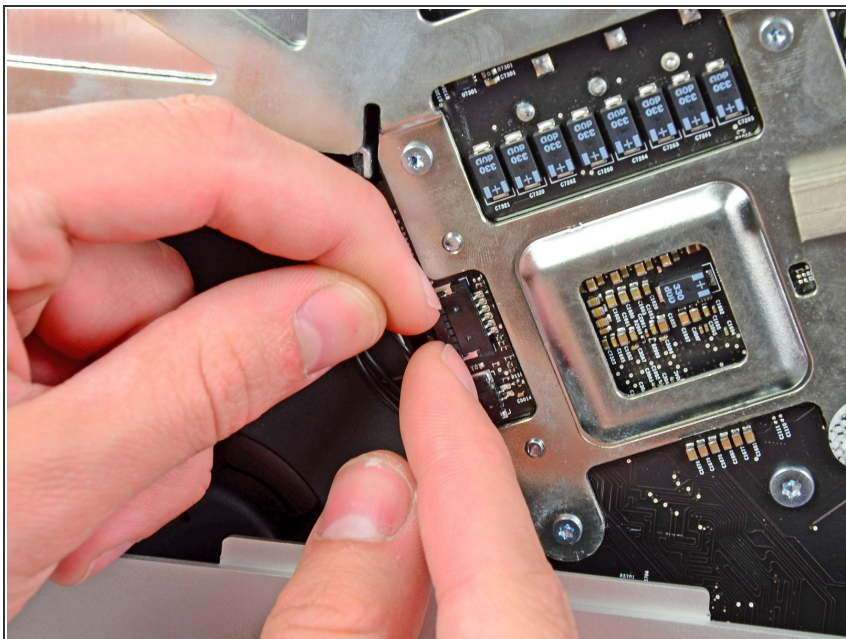This document was generated on 2019-09-18 09:22:29 PM (MST).

Step 27

- Use your thumbnails on both sides of the Bluetooth/ambient light sensor/camera/left temperature connector to push it toward the top edge of the iMac and out of its socket on the logic board.
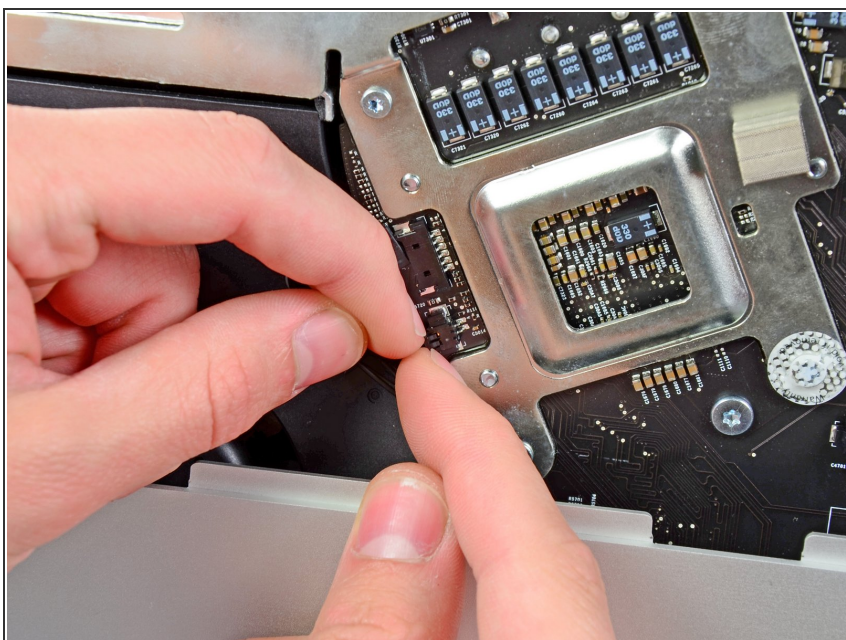
Step 28

- Use your thumbnails to push the right temperature sensor connector toward the top edge of the iMac and out of its socket.
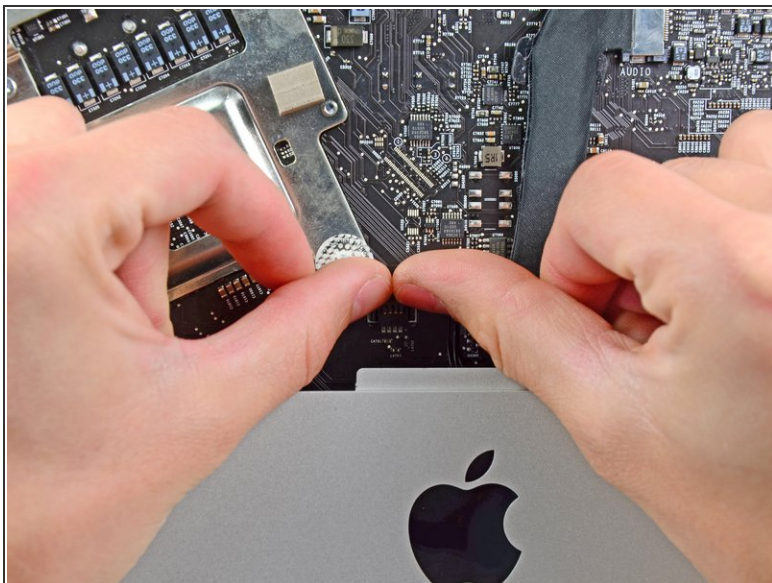
Step 29

- Pull the CPU fan/ambient temperature sensor connector toward the bottom left edge of the iMac and out of its socket on the logic board.
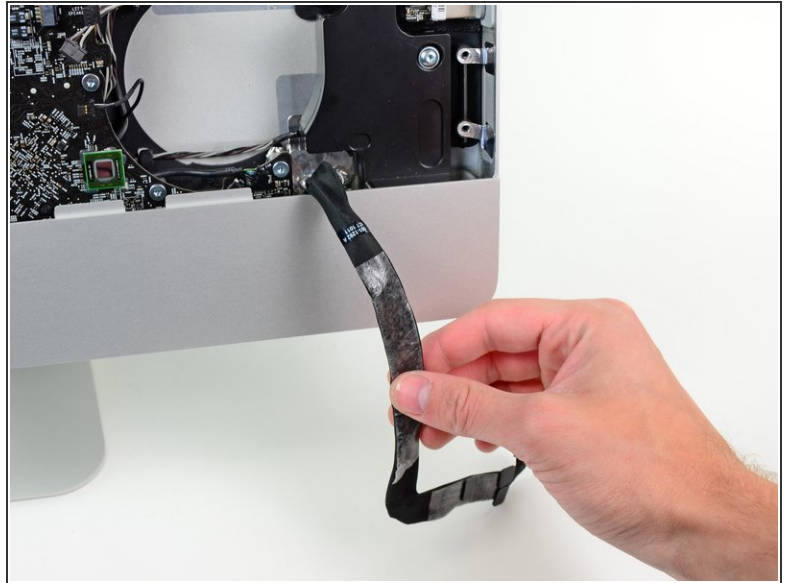
Step 30

- Pull the power button connector toward the bottom left corner of the iMac to disconnect it from its socket on the logic board.

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Step 31

- Use your thumbs to push the IR sensor connector toward the top edge of the iMac and out of its socket on the logic board.

- Pull the IR sensor board up from behind the front face of the outer case.
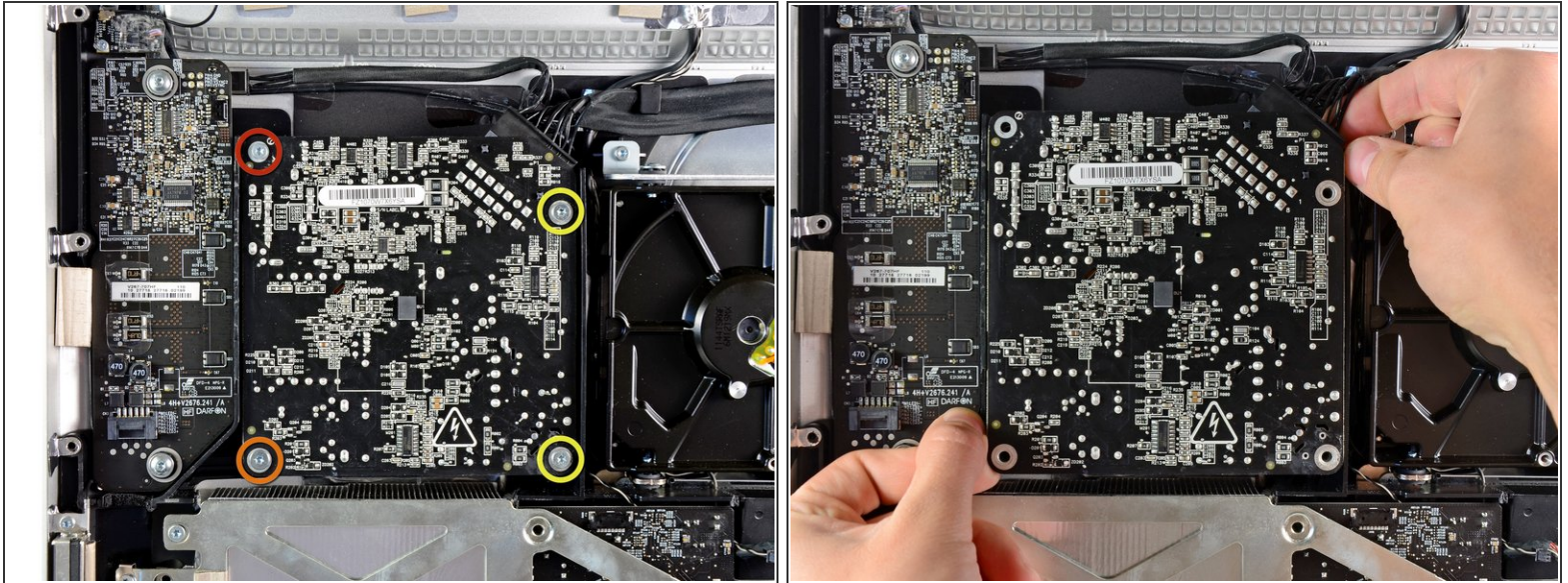
- Remove the IR sensor and set it aside.

Step 32

- Pull the audio port cable connector toward the left side of the iMac to disconnect it from the logic board.

⚠ Do not pull the cable toward yourself (away from the front face of the logic board) as you disconnect it.

- Peel the audio port cable off the front face of the logic board and let it hang down as shown in the second picture.
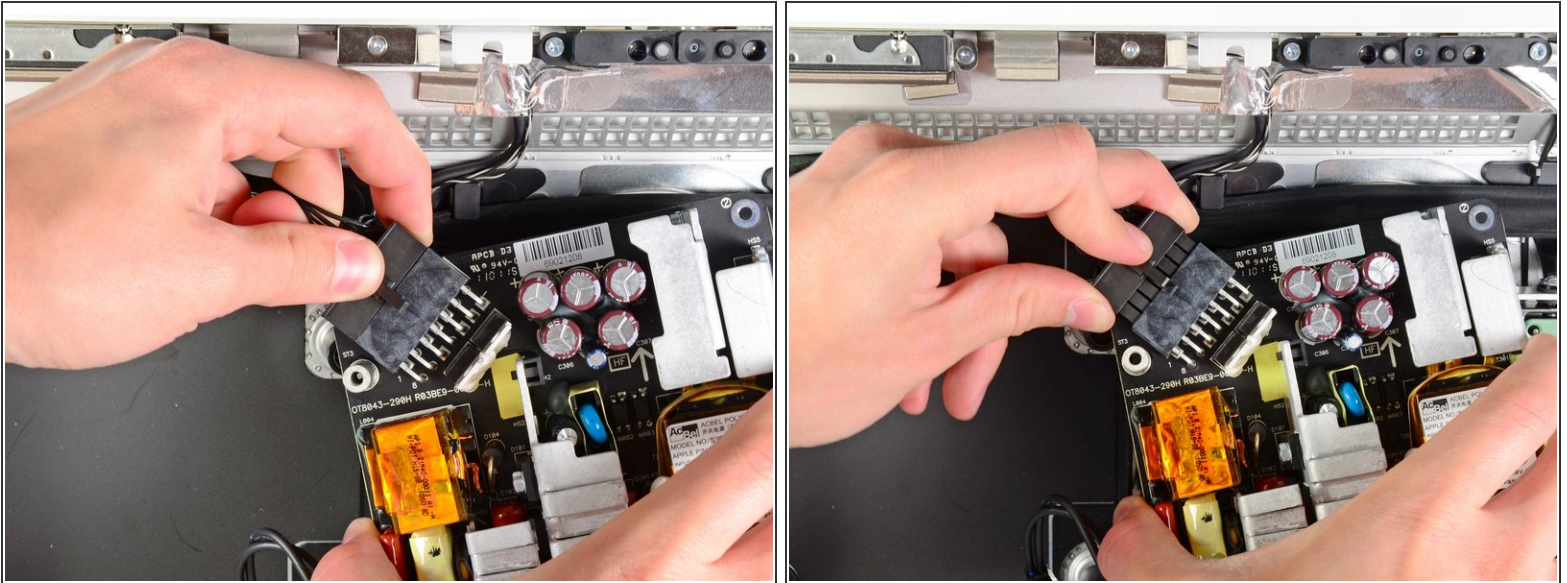
Step 33

- Remove the following seven screws:
  - Two 7 mm T10 torx screws
  - One 30 mm T10 Torx screw
  - Two 25 mm T10 Torx screws
  - Two 21 mm T10 Torx screws

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Step 34

- Remove the following four screws:

  - One 9.3 mm T10 coarse-threaded screw

  - One 25 mm T10 coarse-threaded screw

  - Two 22 mm fine-threaded screws

- Pull the upper right and lower left corners of the power supply away from the rear case to dislodge the mounting posts attached to the power supply's corners.
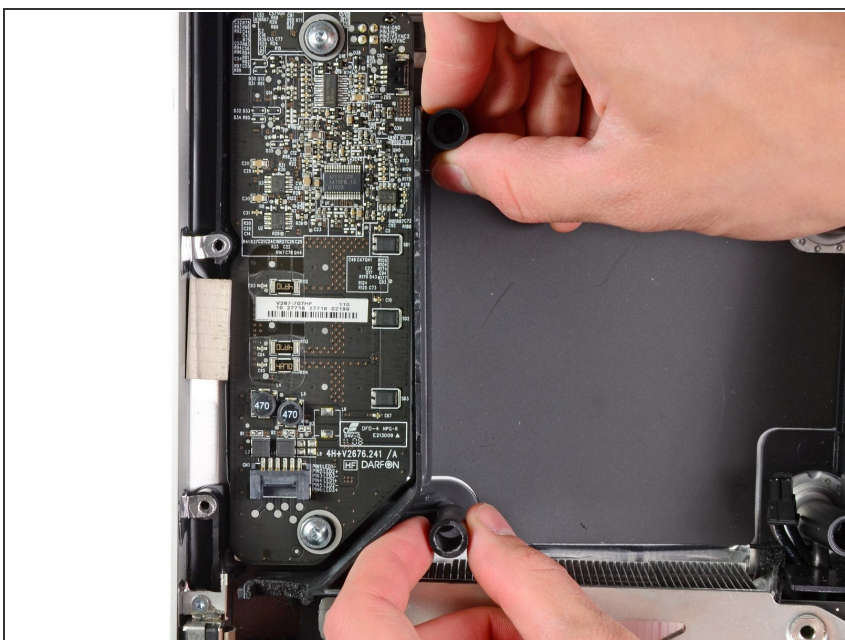
Step 35

- Carefully lift the power supply out of the outer case and rotate it to expose the cable lock as shown, minding the DC-out and AC-in cables still attaching it to the iMac.

- Disconnect the DC-out cable by depressing the locking mechanism on the connector while you pull the connector away from its socket on the power supply.

- Once the locking mechanism has cleared the socket, pull the DC-in connector away from the power supply.

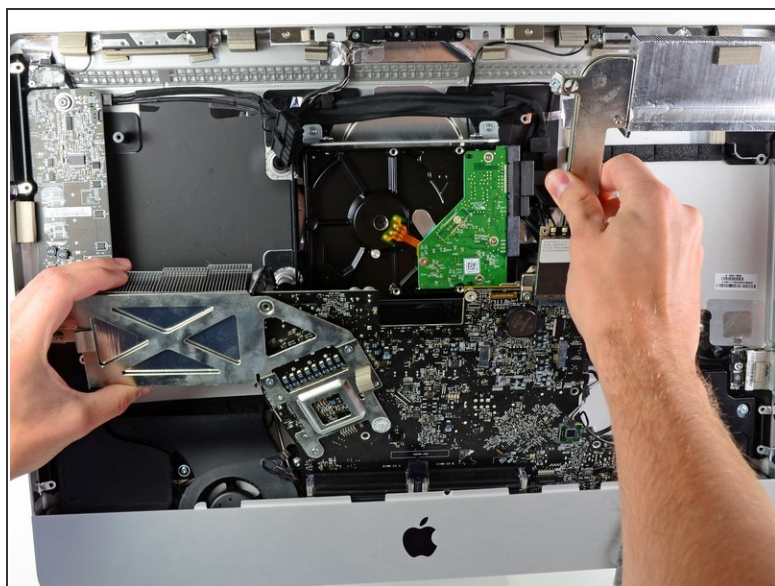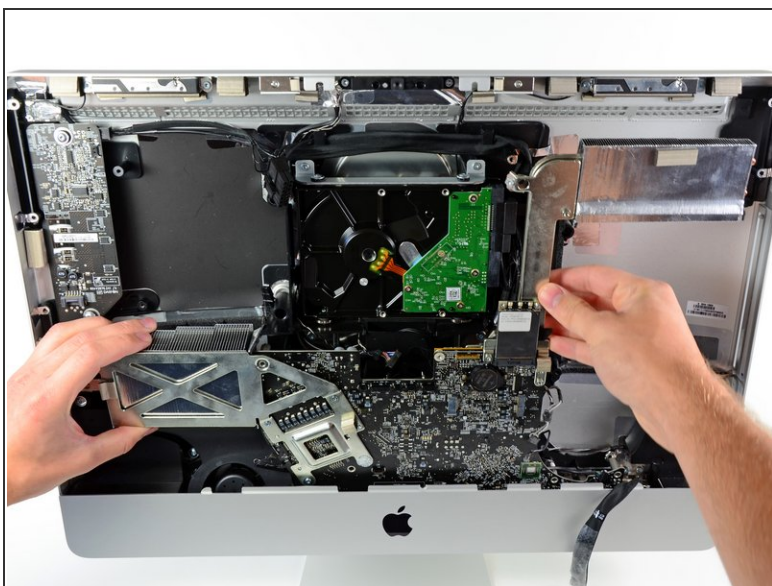This document was generated on 2019-09-18 09:22:29 PM (MST).

Step 36

- Disconnect the AC-In cable by depressing the locking mechanism while pulling the connector away from its socket.

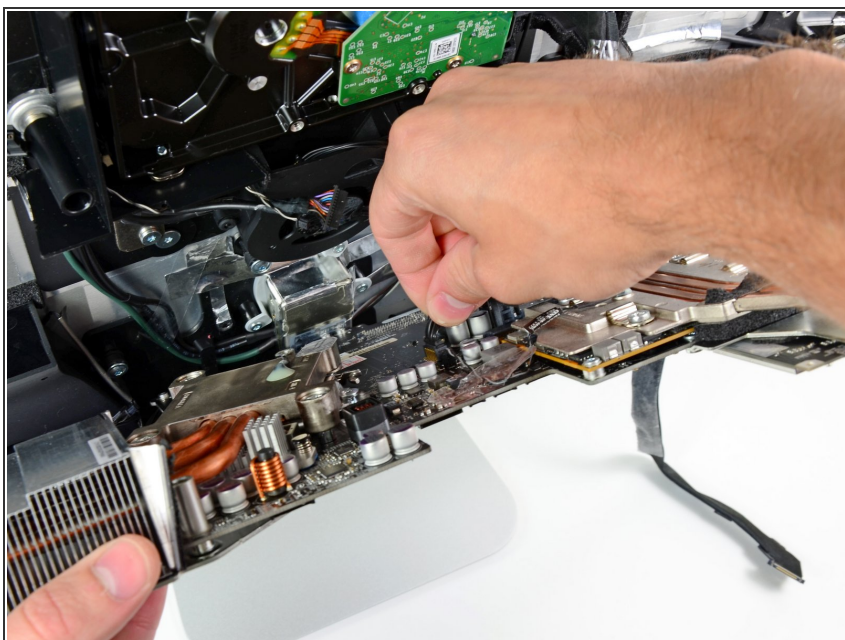- Remove the power supply from the outer case.

Step 37

- Remove the plastic wall that is installed directly to the right of the LED driver board.
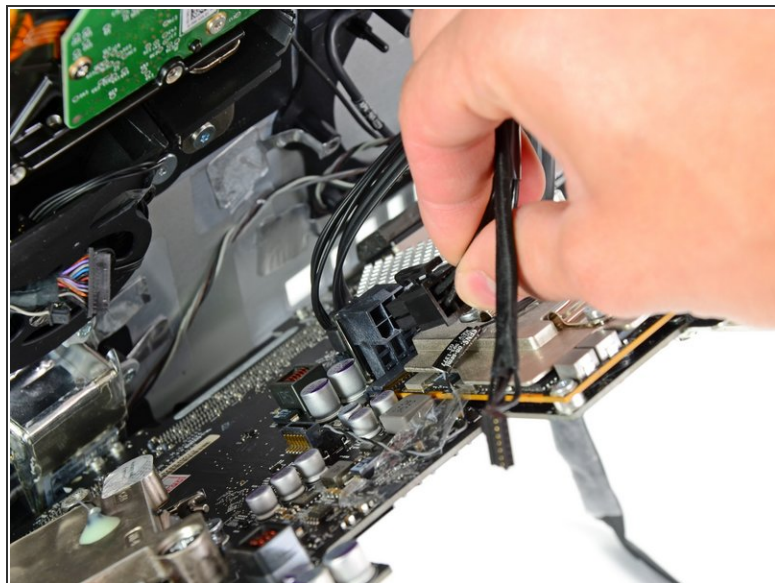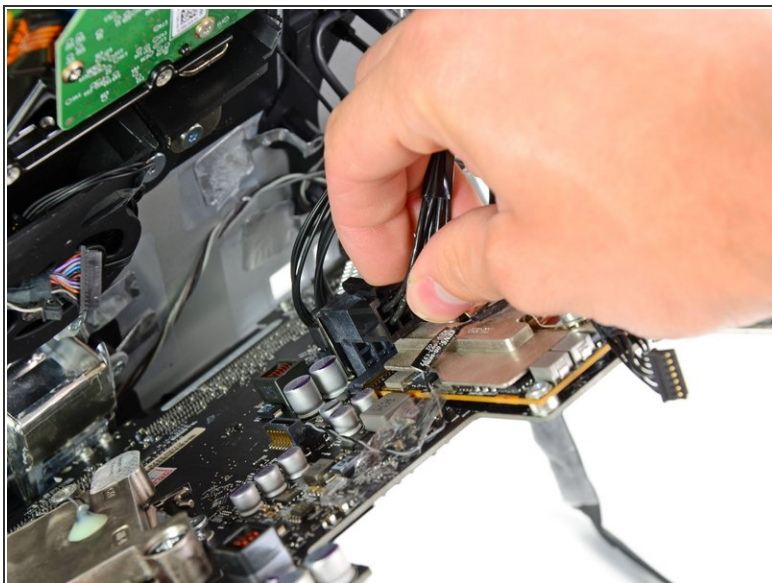
Step 38

- Slightly pull the logic board away from the back of the outer case, then lift it upward to clear the lower front face of the outer case.
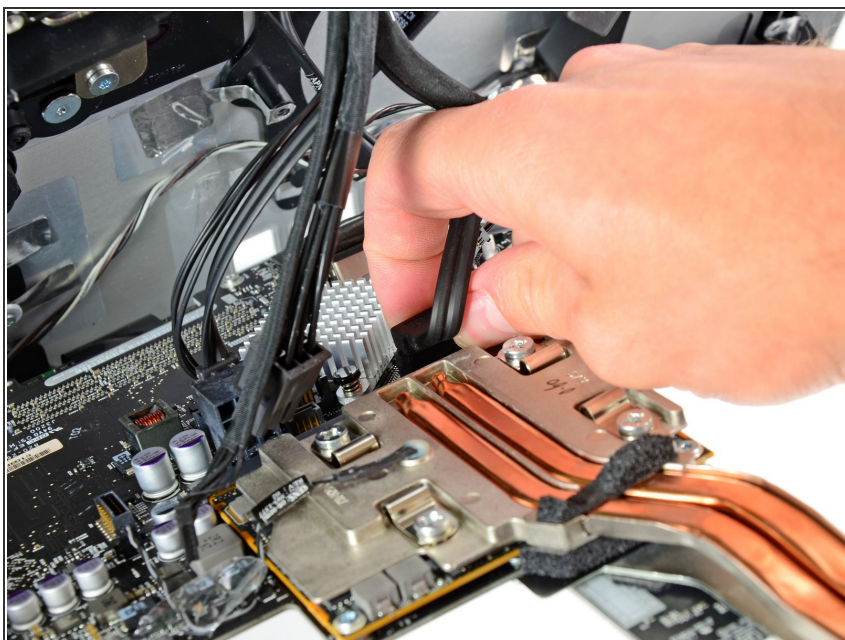
Step 39

- Disconnect the LCD temperature cable by pulling its connector up and out of its socket on the logic board.
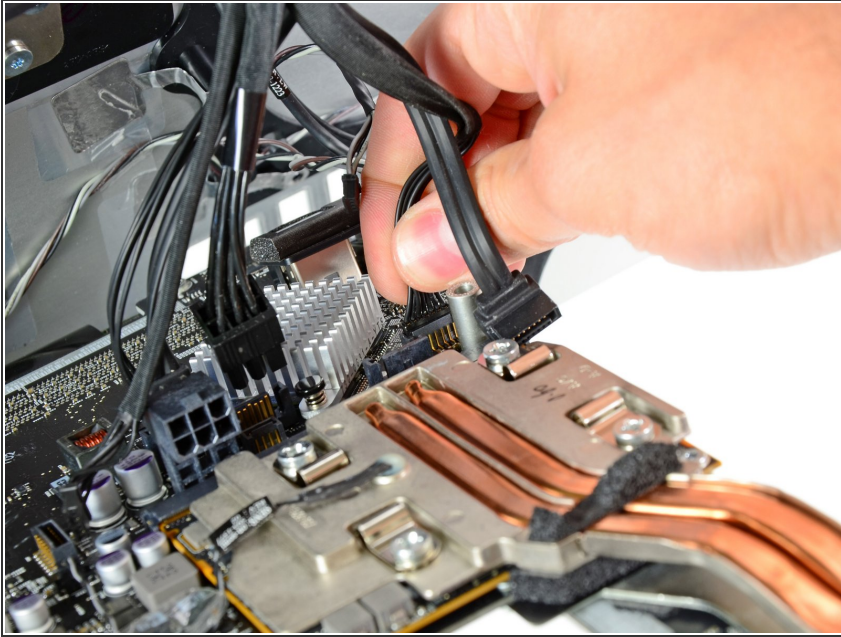
Step 40

- Depress the locking mechanism and carefully pull the DC-In cable out of its socket on the back of the logic board.
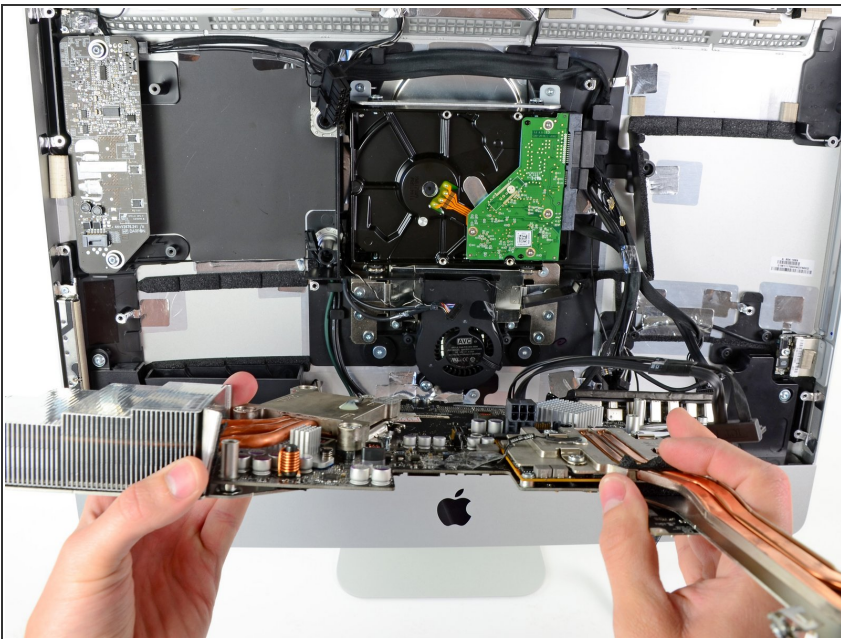
Step 41

- Being careful not to damage the socket on the logic board, gently pull the hard drive SATA data cable straight out of its socket on the logic board.
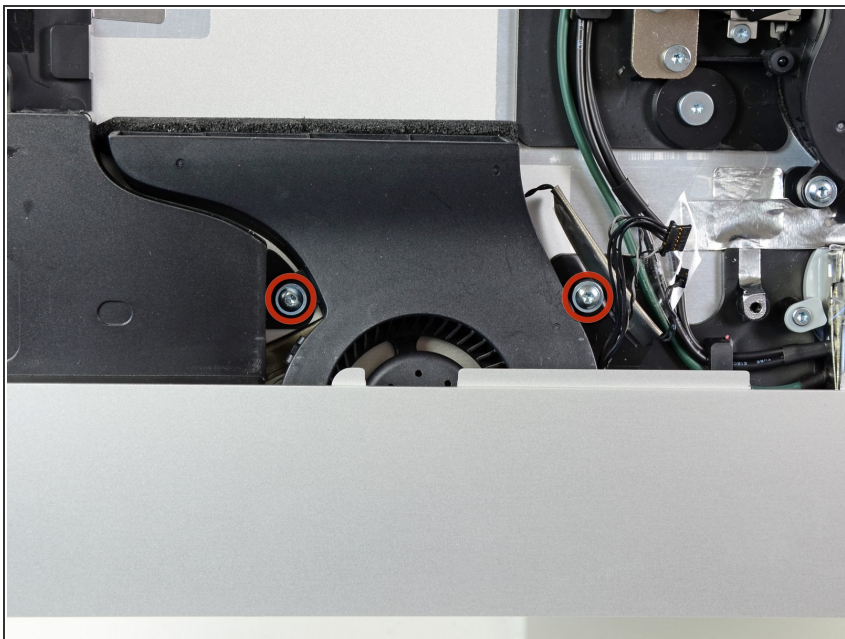
Step 42

- Pull the hard drive power cable connector out of its socket on the logic board.
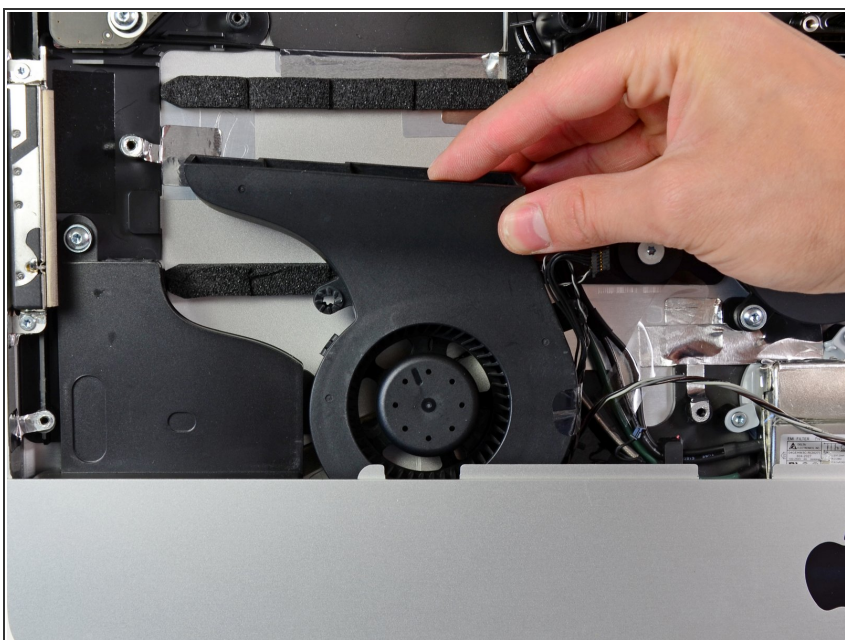
Step 43

- Remove the logic board from the outer case, minding any cables that may get caught.

- 📌 When reinstalling the logic board, plug in a thunderbolt cable and a USB cable into the USB port closest to the headphone/microphone ports before tightening the logic board screws to ensure proper alignment.

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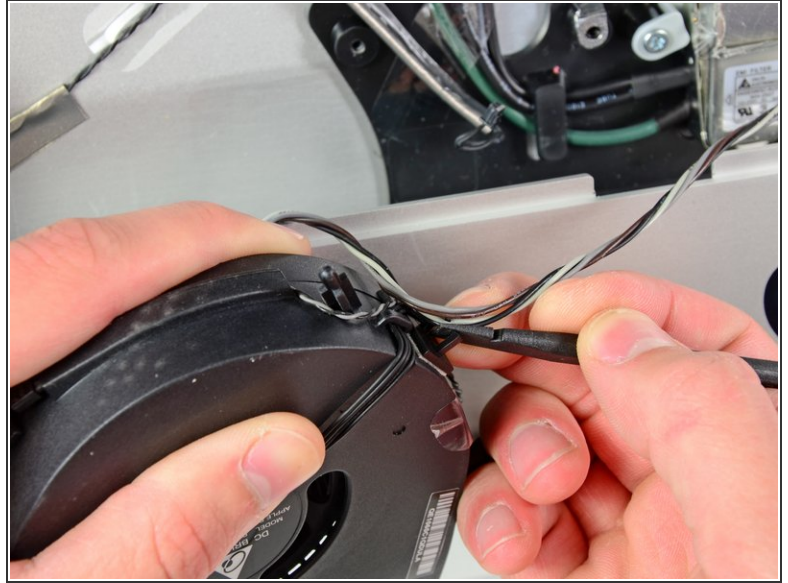
Step 44 — CPU Fan

- Remove the two 13 mm T10 Torx screws securing the CPU fan to the outer case.

Step 45

- Pull the CPU fan straight up from its mounting pin near the bottom edge of the iMac.

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Step 46

- Being careful not to put too much strain on the left speaker cable, flip the CPU fan over to expose its bottom edge.

- Use the flat end of a spudger to press down one side of the speaker cable retainer as you use your other hands to slide the speaker cables out of the retainer.

- Remove the CPU fan from the iMac.

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