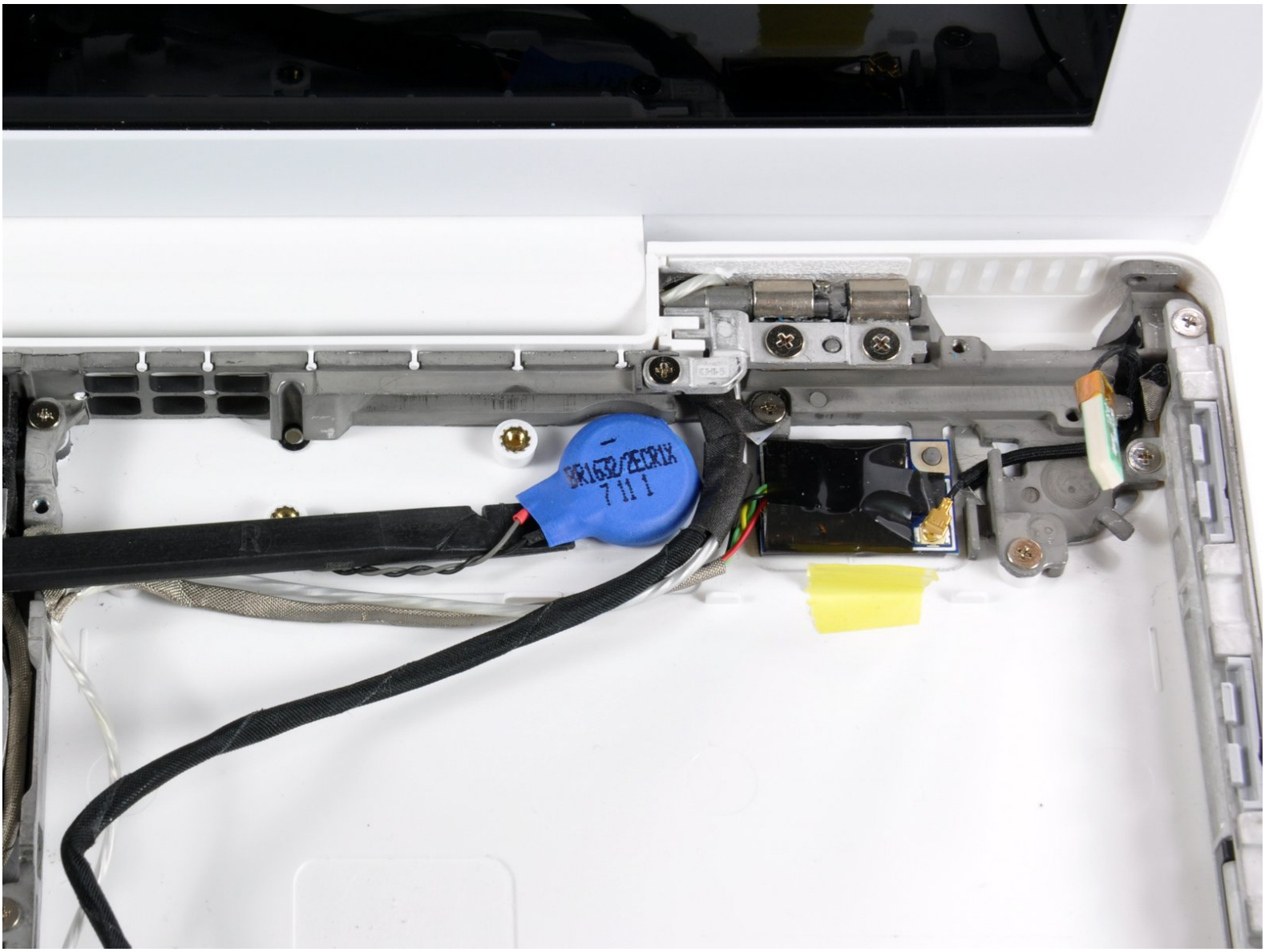
MacBook Core 2 Duo PRAM Battery (Santa Rosa/Penryn) Replacement

Written By: Walter Galan



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INTRODUCTION

The time and date, as well as other settings, are kept by the PRAM battery when your machine is off. **The PRAM battery on early 2009 MacBooks is non-replaceable.**

TOOLS:

- Coin (1)
- Phillips #0 Screwdriver (1)
- Phillips #000 Screwdriver (1)
- Phillips #00 Screwdriver (1)
- Spudger (1)

PARTS:

- MacBook Santa Rosa/Penryn PRAM Battery (1)

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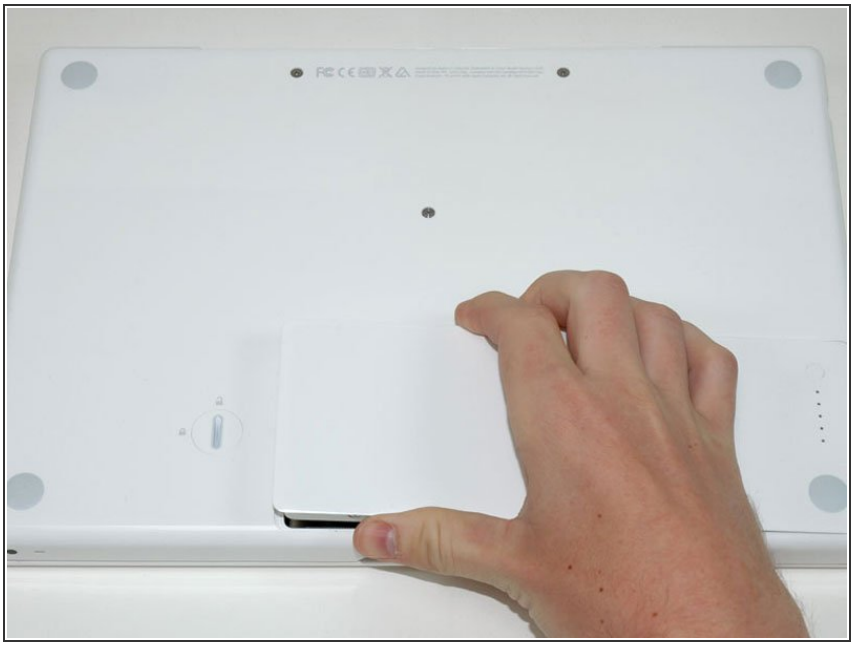
Step 1 — Battery

- Use a coin or spudger to rotate the battery-locking screw 90 degrees clockwise.

Step 2



- Lift the battery out of the computer.

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Step 3 — Memory Cover

- Unscrew the three evenly-spaced Phillips screws from along the rear wall of the battery compartment.

The screws are captive to the metal memory cover so you cannot lose them.

Step 4

- Rotate the L-shaped memory cover so it clears the battery compartment opening and lift it up and out of the computer.

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Step 5 — Upper Case

- Remove the following 3 screws:
  - One 11 mm Phillips#00 in the middle of the case. (Head: 5mm dia. x .75mm thick)
  - Two 14.5 mm Phillips #00 (Head: 5mm dia. x .75mm thick)

If the screws stick in the case, you can use a magnetized screwdriver to draw them out.

The shorter of the three screws goes in the middle.

Step 6

Take extra caution with these screws as they can strip easily!

- Remove the following 3 screws from the rear wall of the battery compartment:
  - One 3 mm Phillips #0. (Head: 2.75 mm. dia.)
  - Two 4 mm Phillips #0 on the either side. (Head: 2.75mm dia.)

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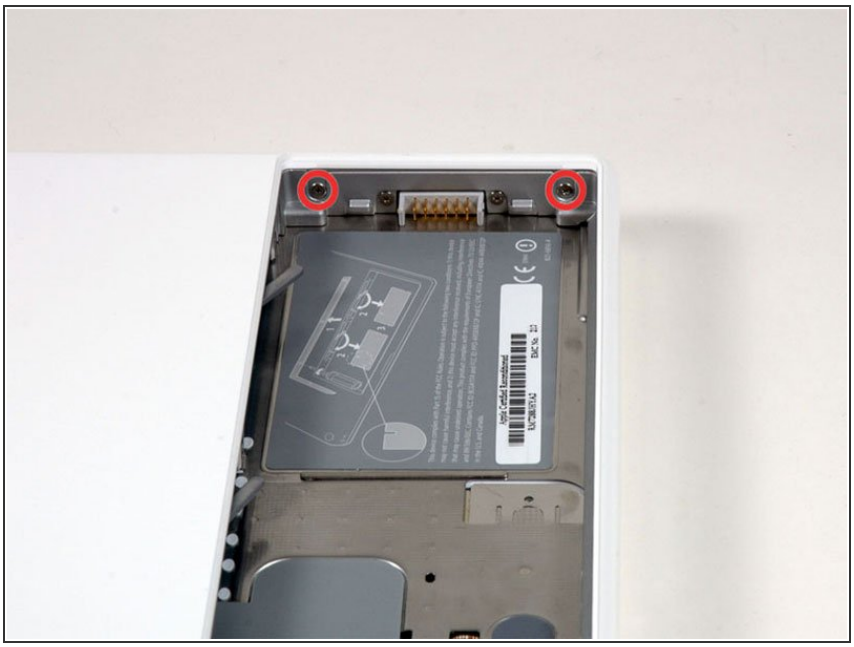
Step 7



- Remove the two Phillips screws from either side of the right wall of the battery compartment (not the ones closest to the battery connector).
  - Two 6.25 mm Phillips #000. (Head: 4 mm. dia. x .5mm thick)

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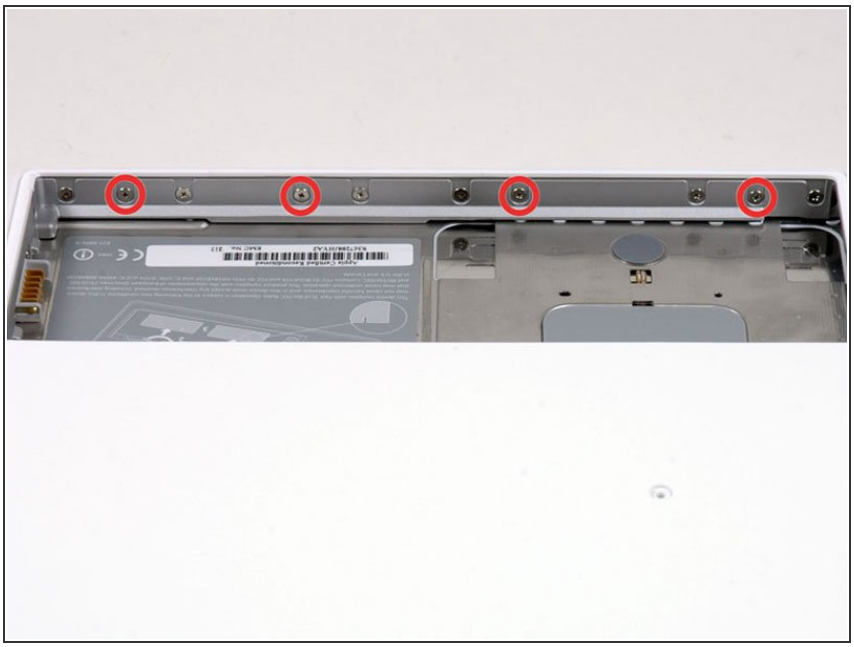
Step 8



- Remove the four indicated Phillips screws from the front wall of the battery compartment. When working from the left, remove the 2nd, 4th, 7th and 9th screw.
  - Four 3.25 mm Phillips #000. (Head: 4 mm. dia. x 4mm thick)

Step 9

- Remove the following 4 screws from the back of the computer:
- The longer screws go on the inside, shorter screws on the outside.
  - Two 11 mm Phillips #00, with Shank (2.2mm dia. x 2 mm len.) (Head: 3.2 mm. dia. x .5mm thick)
  - Two 7.25 mm Phillips #00, with Shank (2mm dia. x 3.75 mm len.) (Head: 3.2 mm. dia. x .5mm thick)

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Step 10

- Remove the two Phillips screws from the optical drive side of the computer.
  - Two 5.2 mm Phillips #00, with Shank (2.3mm dia. x 3.5 mm len.) (Head: 3.2 mm. dia. x .5mm thick)

It is not necessary to remove the similar screws on the other side of the computer.

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Step 11

There's a trackpad and keyboard ribbon connecting the upper case to the logic board, so don't pull the upper case off entirely just yet.

- Starting near the display and working around to the front of the computer, pry up on the upper case. A plastic opening tool or a medium hard guitar pick may help you to do this.

The upper case is likely to stick at the connection above the optical drive. If this is the case, first free all other sides, then proceed to pull upward on the upper case from either side of the optical drive opening.

If you stand the base on end to get a better look you may displace the total of 4 grey plastic clips that hold the keyboard in place. Don't panic. They slide into slots at the top right-most edge near the CD drive.

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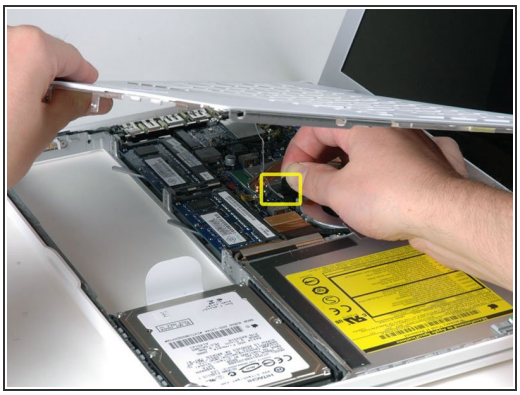
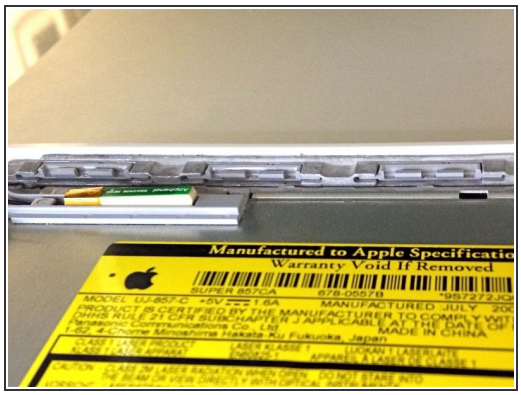
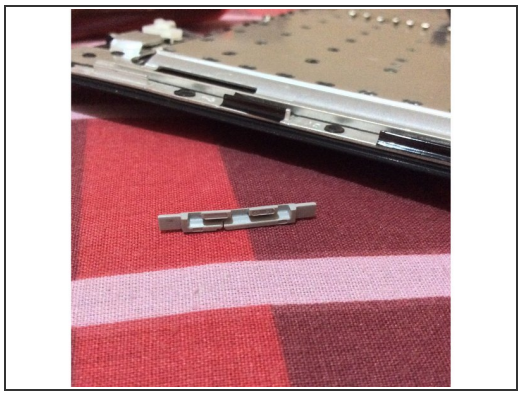
Step 12







- While holding up the upper case, pull up the black tab of the silver cable away from its connector.

If there is no black tab, you can also use a spudger to gently pry the connector from its housing. This connector is tall, so be sure to pry straight up.

If you happen to break your upper case cable when removing the upper case, we stock the cable individually and we have a guide that makes replacing it easy.

- While you have the upper case removed, you may want to take the opportunity to remove dust, hair, etc. It's best to use a can of compressed air, though if you use a brush, make sure that its bristles are made of a material (usually animal hair) that doesn't generate static electricity, which can destroy electronics.

Upon reassembly, there are 4 grey plastic clips on the optical drive side of the keyboard (refer to second picture). They must be installed in their slots for the keyboard to snap in properly.

To make the reassamble process easier, it's better to pull out the clips first by pulling it straight up gently. Be careful not to put too much strength because it will break.

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Step 13 — Optical Drive

- Grasp the white plastic tab attached to the hard drive and pull it to the left, removing the hard drive from the computer.

Step 14

- Remove the two Phillips screws from the front edge of the optical drive.
  - Two 3.25 mm Phillips #000, (Head: 4 mm. dia. x .3 mm thick)

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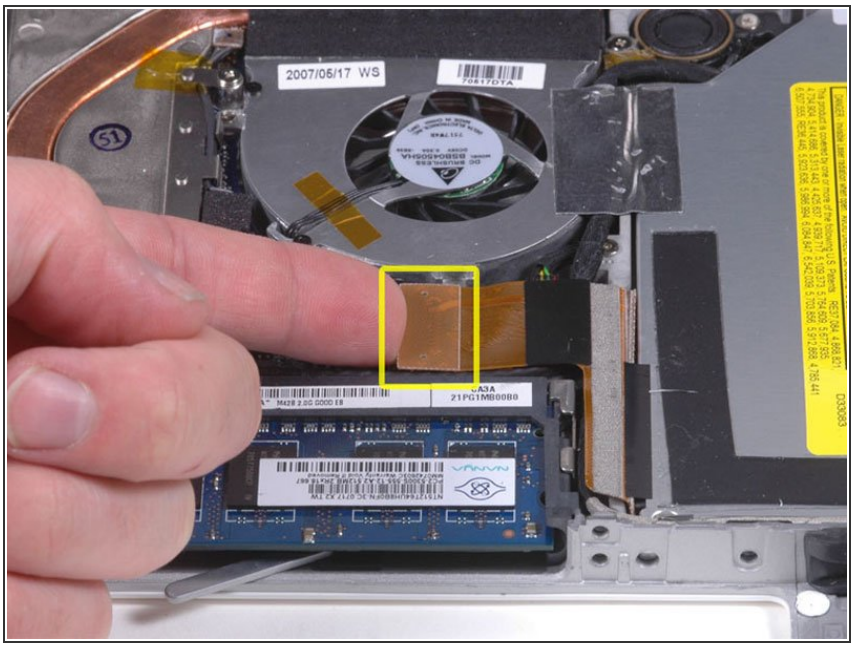
Step 15



- Disconnect the orange optical drive ribbon cable from the logic board. This cable can also be disconnected by prying straight up using a spudger.

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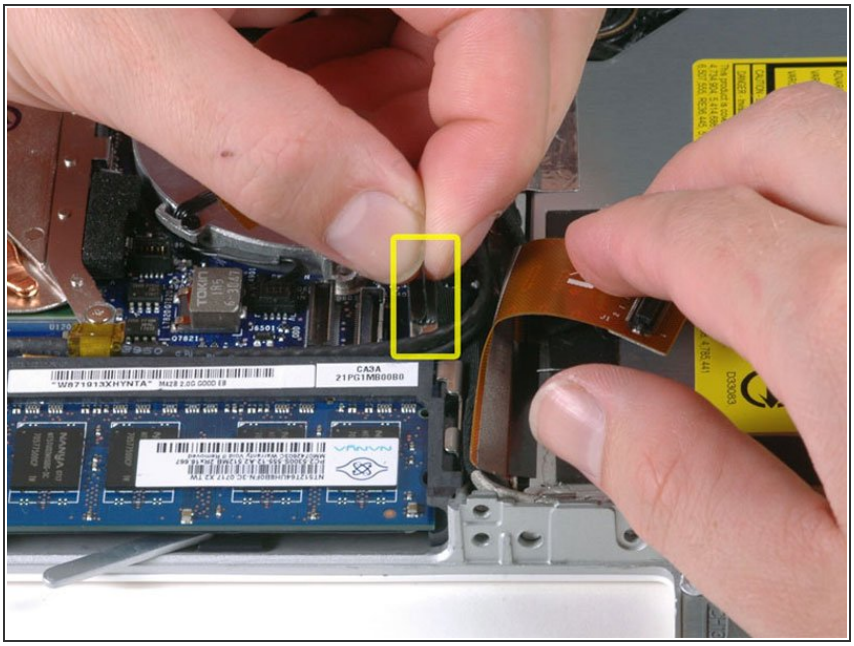
Step 16

- Disconnect the newly revealed display data cable. If there is no pull-tab on the top of the connector, it may be helpful to use a spudger to disconnect this connector.

Step 17



- Disconnect the (once again) newly-revealed hard drive cable.

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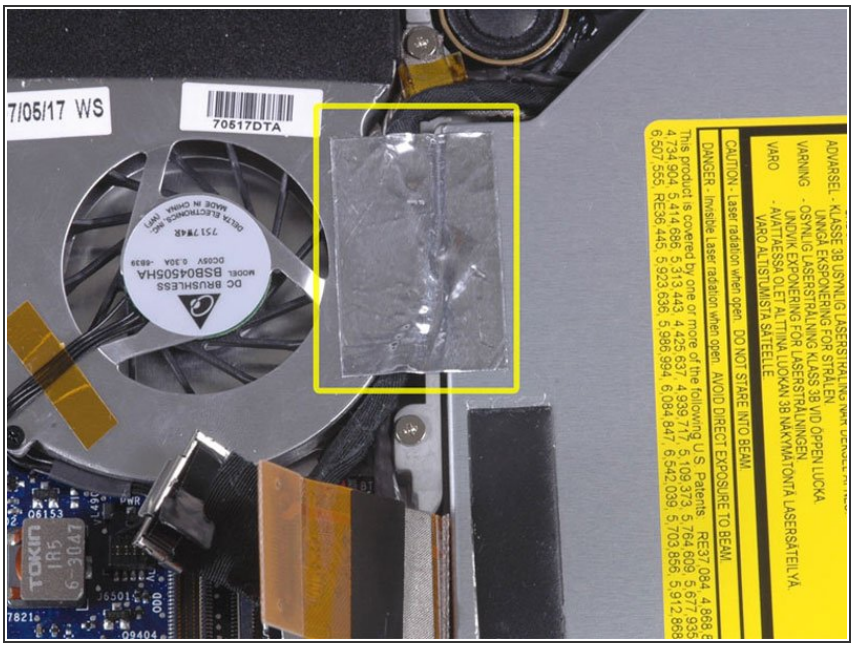
Step 18



- Peel up the foil tape between the fan and the optical drive. Lift the foil tape from the fan side, leaving it attached to the optical drive.
- During reassembly, be sure to route the cables beneath the tape before reattaching it.

Step 19

- Pull up the display data cable from along the edge of the optical drive to reveal a silver Phillips screw.

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Step 20

- Remove the 2 mm Phillips #00 screw securing the optical drive.
- The Bluetooth cable may be covering the screw. If so, carefully push it aside. You may need to unscrew the cable clip to free the cable enough.

Step 21

- Lift the Bluetooth antenna board from the right side of the optical drive.

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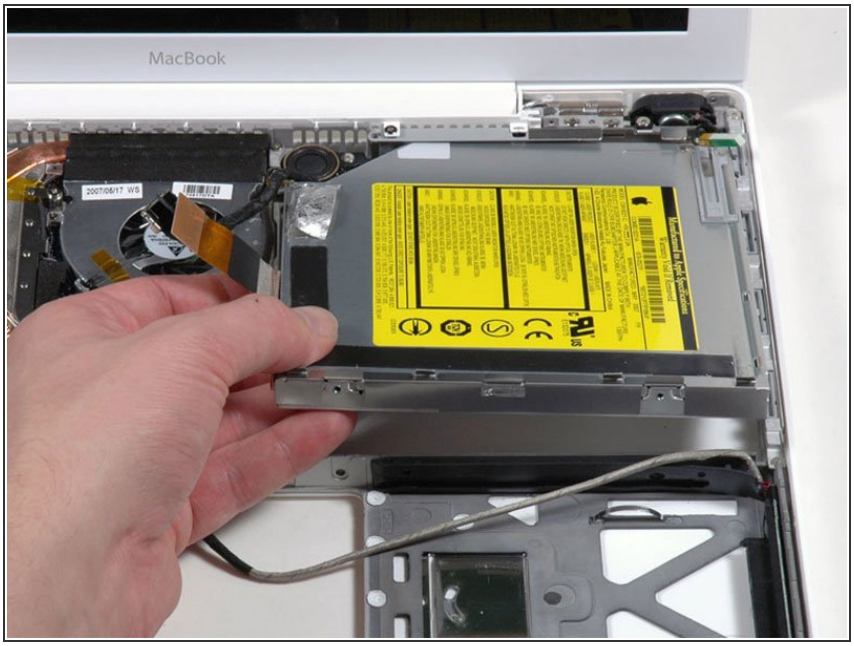
Step 22

- Deroute the hard drive cable from along the front of the optical drive.

Step 23



- Lift the front edge of the optical drive and slide it up and out of the computer.

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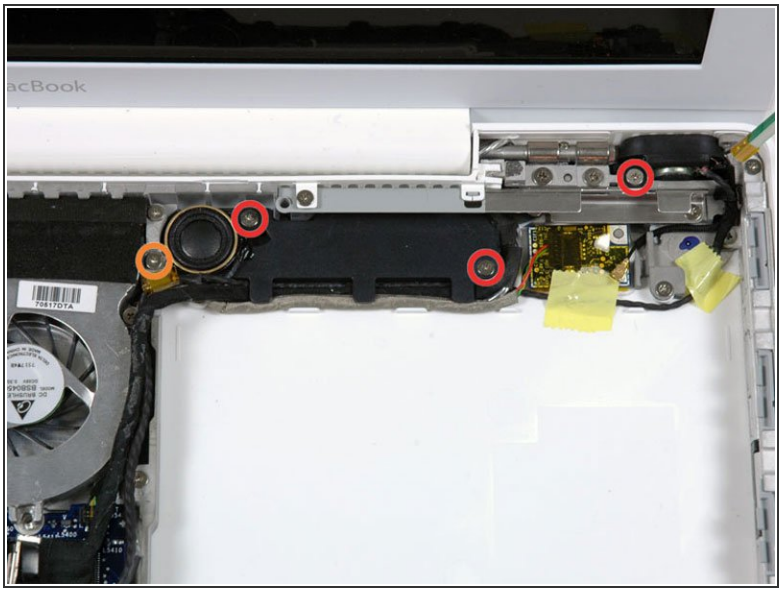
Step 24 — Right Speaker



- Remove the following 4 Phillips screws:
  - Three 3 mm Phillips securing the subwoofer and right speaker to the lower case.
  - One 7.5 mm Phillips securing the loop in the display data cable to the lower case.

If you have a MacBook Core 2 Duo Santa Rosa/Penryn, the screws are in a different location.

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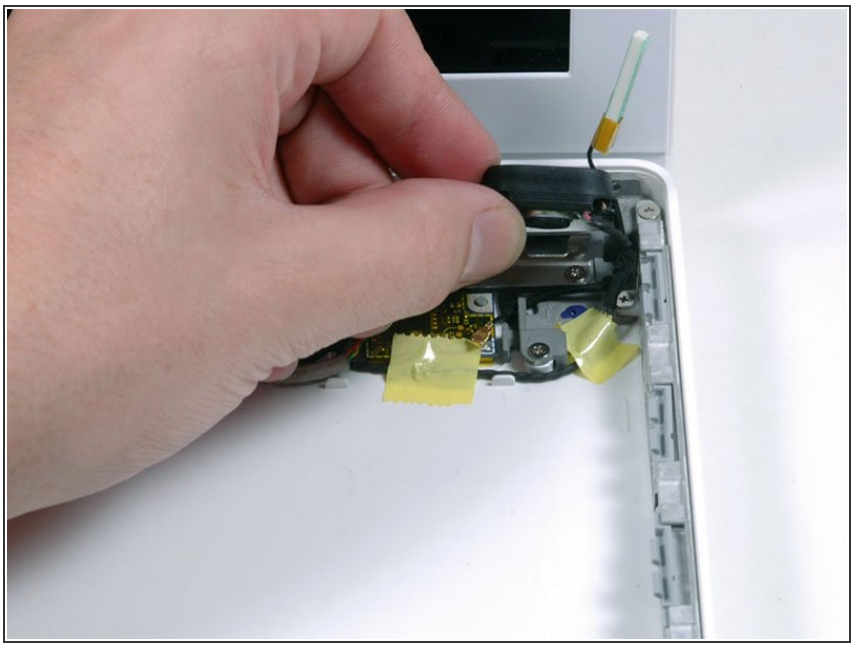
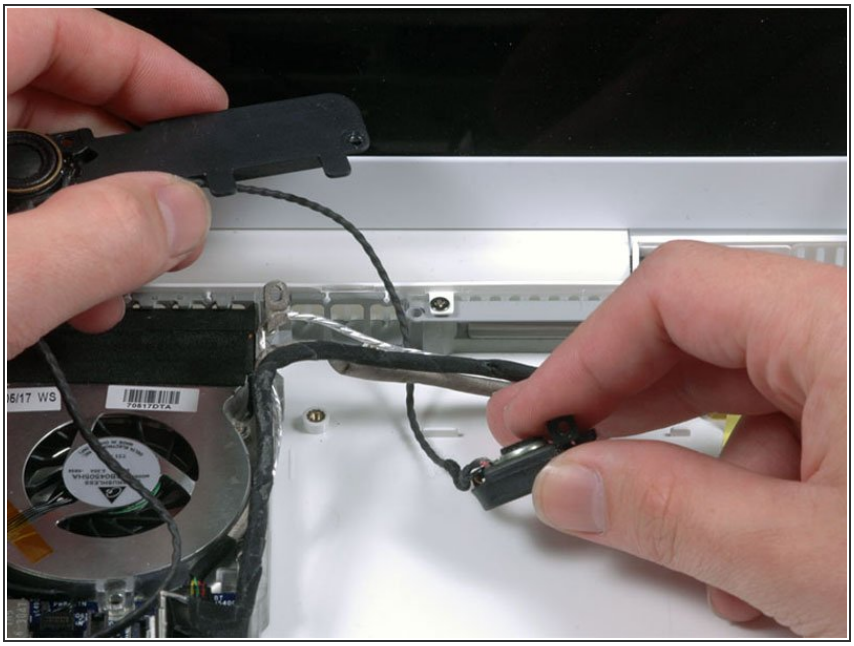
Step 25



- Lift the right speaker out of its housing in the lower case.

Step 26



- Thread the subwoofer and right speaker beneath the display data and microphone cables.

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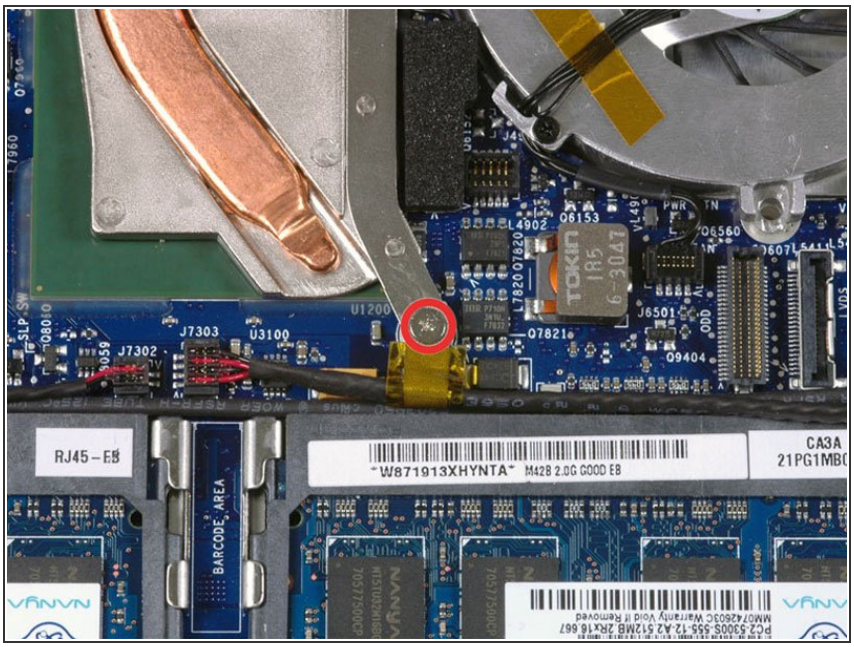
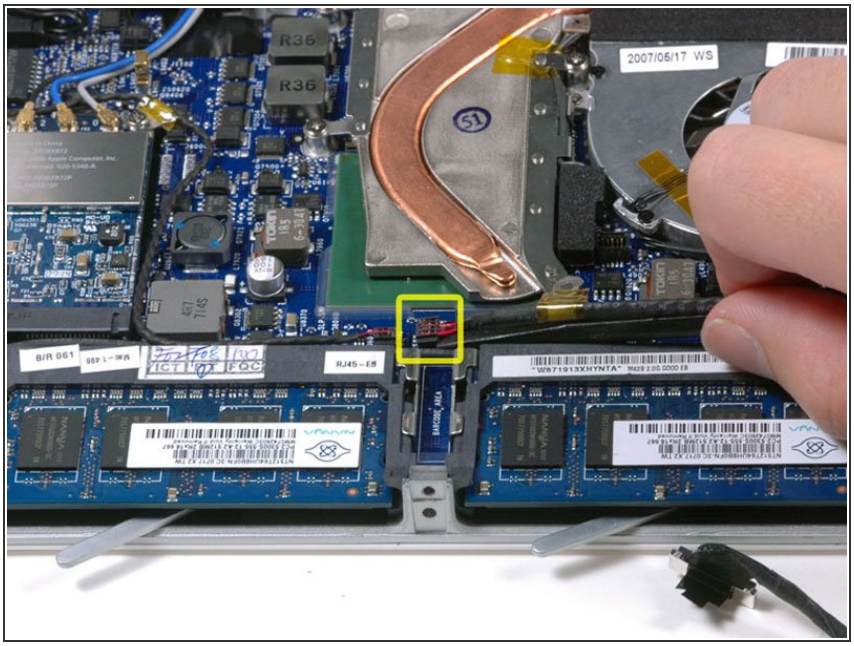
Step 27



- Remove the single Phillips screw securing the ground loop in the right speaker cable to the heat sink.

If you have a Santa Rosa, this screw is not present. Skip this step and move on to the next step.

Step 28



- Use a spudger to disconnect the right speaker connector from the logic board.

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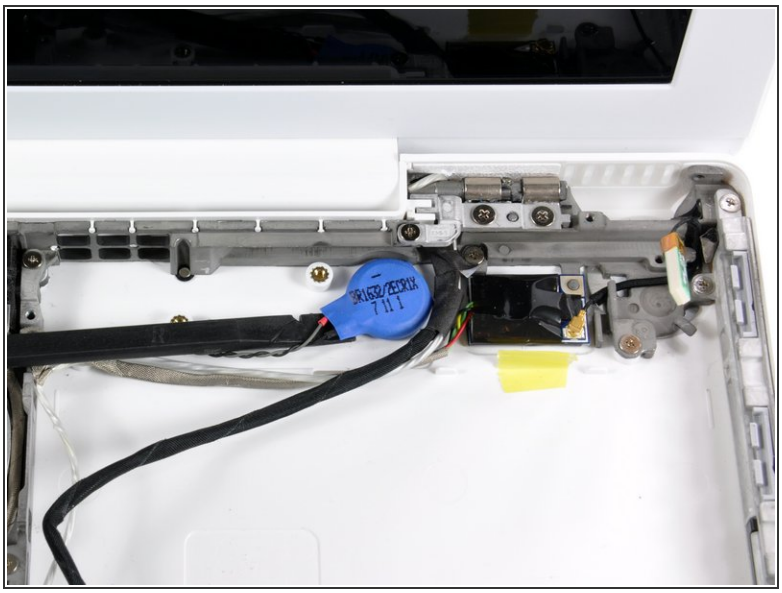
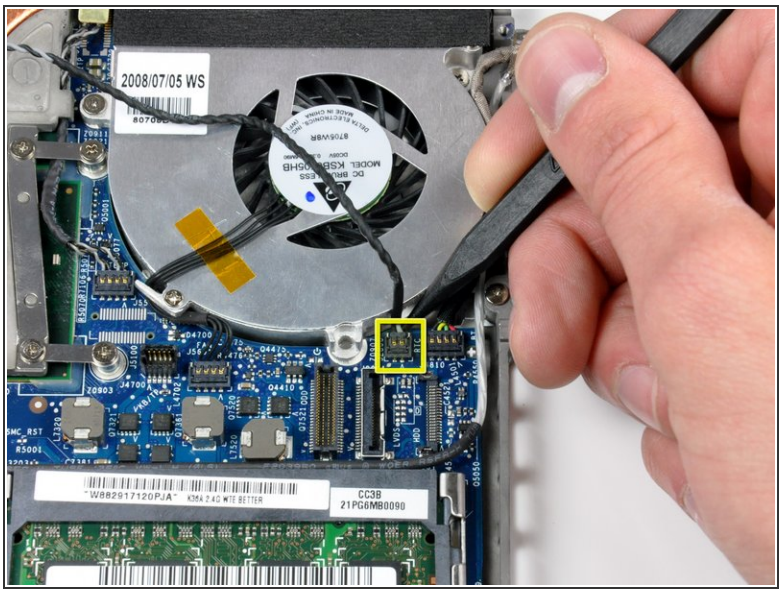
Step 29 — PRAM Battery (Santa Rosa/Penryn)





- Use a spudger to remove the PRAM battery up from its location on the lower case.
- Disconnect the PRAM battery cable from the logic board and remove the PRAM battery from the computer.

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

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