



MacBook Core 2 Duo Fan Replacement

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MacBook



INTRODUCTION

Replacing a defective fan is pretty easy and will keep your laptop running cool.

TOOLS:

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

PARTS:

- [MacBook Fan](#) (1)
- [MacBook Santa Rosa/Penryn Fan](#) (1)

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.

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.

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)
- **i** 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!

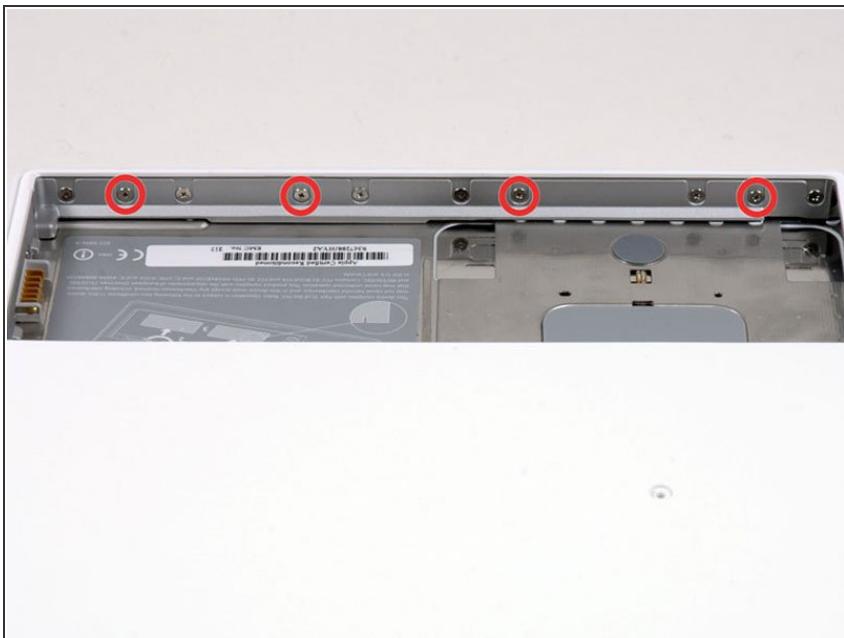
- Remove the following 3 screws from the rear wall of the battery compartment:
 - One 3 mm Phillips #0. (Head: 2.75 mm. dia.)
 - Two 4 mm Phillips #0 on the either side. (Head: 2.75mm dia.)

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)

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)

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)

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

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.
- **i** 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.
- **i** 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.

Step 12



- While holding up the upper case, pull up the black tab of the silver cable away from its connector.
- *i* 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.
- *i* 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.
- *i* 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.
- *i* To make the reassemble 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.

Step 13 — Fan



- Use a spudger to disconnect the orange optical drive cable from the logic board.

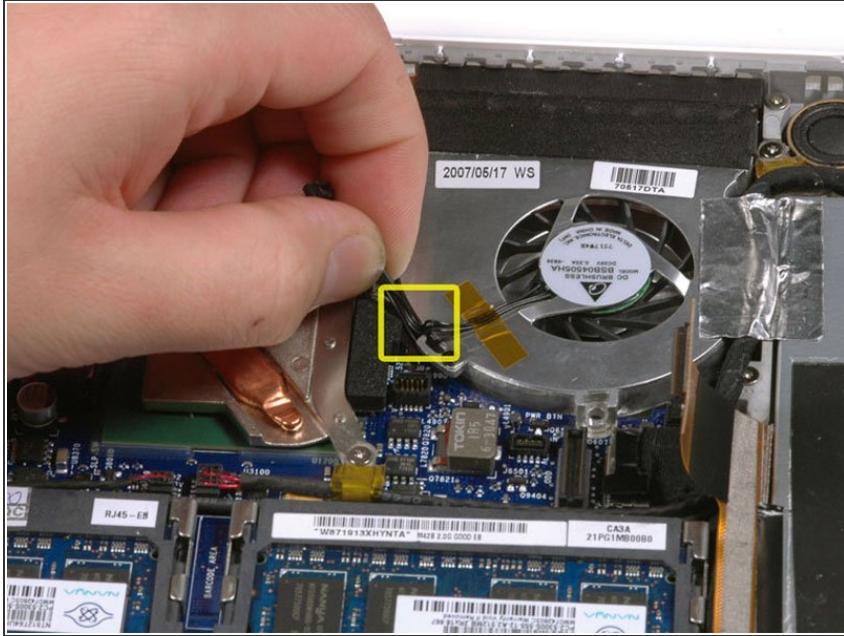
Step 14



- Use a spudger to disconnect the black fan connector from the logic board.

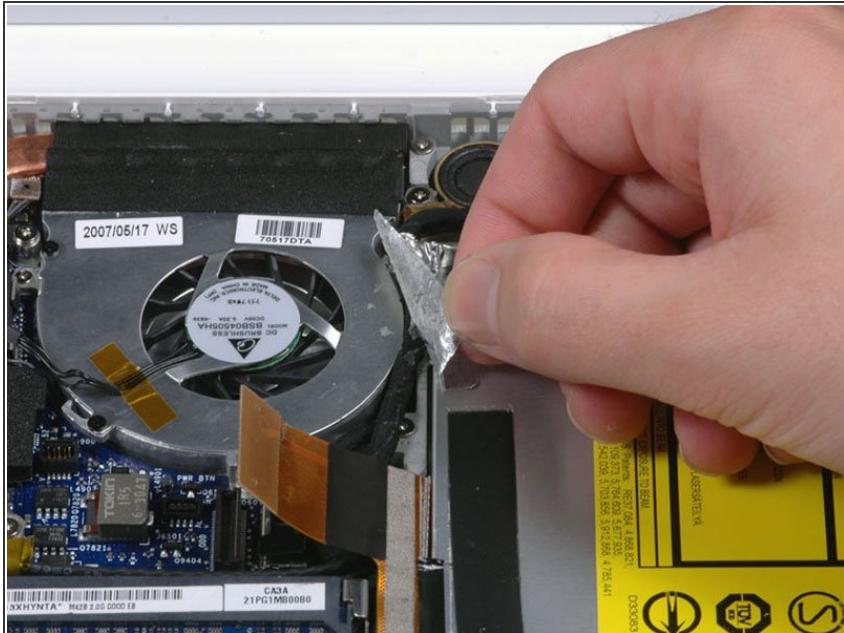
(i) If you have a MacBook Core 2 Duo Santa Rosa/Penryn, the black fan connector resides in a different location.

Step 15



- Deroute the fan cable from behind the tab on the left side of the fan.

Step 16



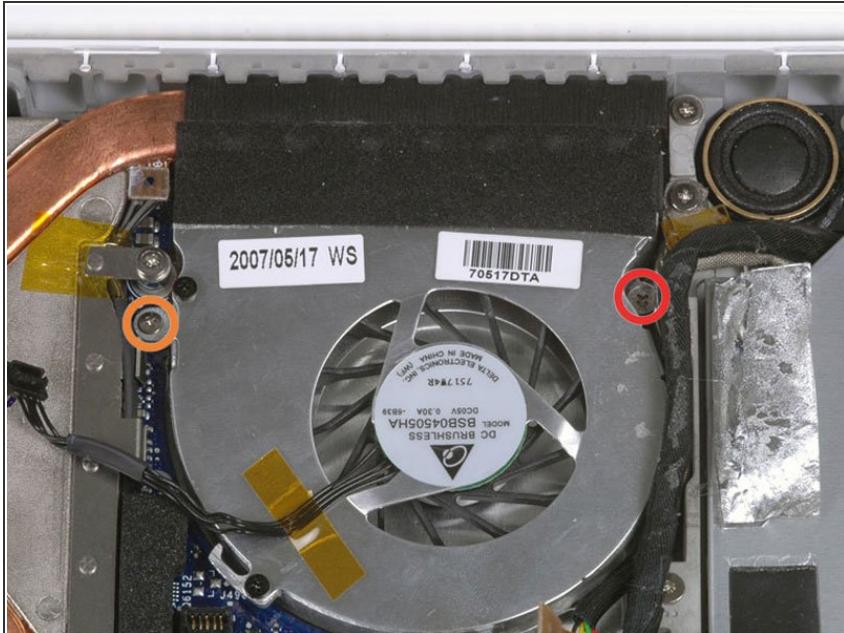
- Peel up the silver foil tape between the fan and the optical drive.

Step 17



- Use a spudger to move the gray display data and black speaker cables to the right. This will reveal a silver screw securing the fan housing to the lower case.

Step 18



- Remove the following 2 screws:
 - One 3 mm Phillips on the right side of the fan.
 - One 6 mm Phillips on the left side of the fan.

Step 19



- Lift the fan and its attached mounting bracket up and out of the computer, being careful not to rip the black felt tape.

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