

MacBook Core 2 Duo Fan Replacement

Written By: iRobot (and 5 other contributors)

Comments: 136 Favorites: 127 Completions: 282



🔧 Difficulty	Moderate
☰ Steps	19
🕒 Time Required	40 minutes - 1 hour
📖 Sections	4
⚠️ Flags	0

Introduction

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

Tools [Buy these tools](#)

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

Parts [Buy these parts](#)

- 
MacBook Fan
\$14.99
Buy
- 
MacBook Santa Rosa/Penryn Fan
\$29.99
Buy

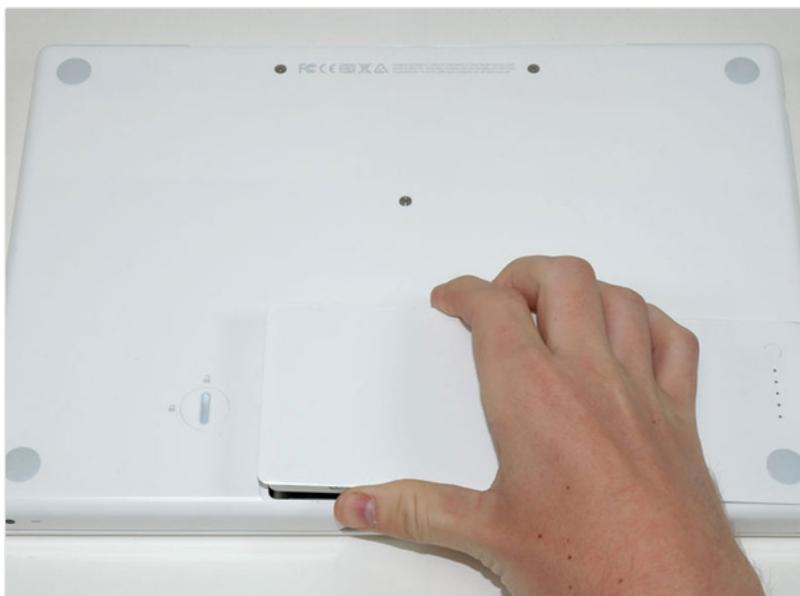
Step 1 Battery



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

💬 13 comments

Step 2



- Lift the battery out of the computer.

[2 comments](#)

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.

[5 comments](#)

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.

[6 comments](#)

Step 6



- 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.)

⚠ Take extra caution with these screws as they can strip easily.

[20 comments](#)

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)

[2 comments](#)

**WE HAVE THE RIGHT
TO REPAIR OUR OWN STUFF**

PROTECT YOUR RIGHTS

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)

[2 comments](#)

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)

[6 comments](#)

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.

[2 comments](#)

Step 11

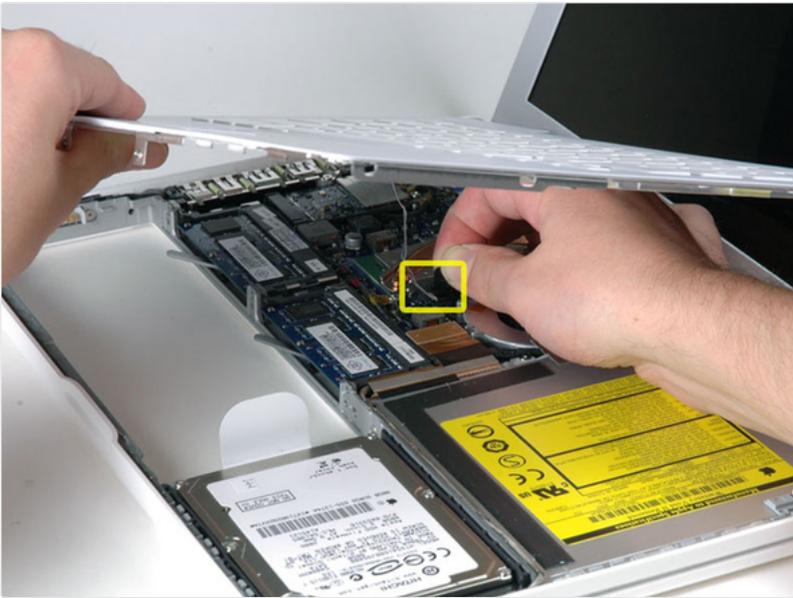


⚠ There's a trackpad and keyboard ribbon connecting the upper case to the logic board, so don't pull the upper case off entirely just yet.

- 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.

[15 comments](#)

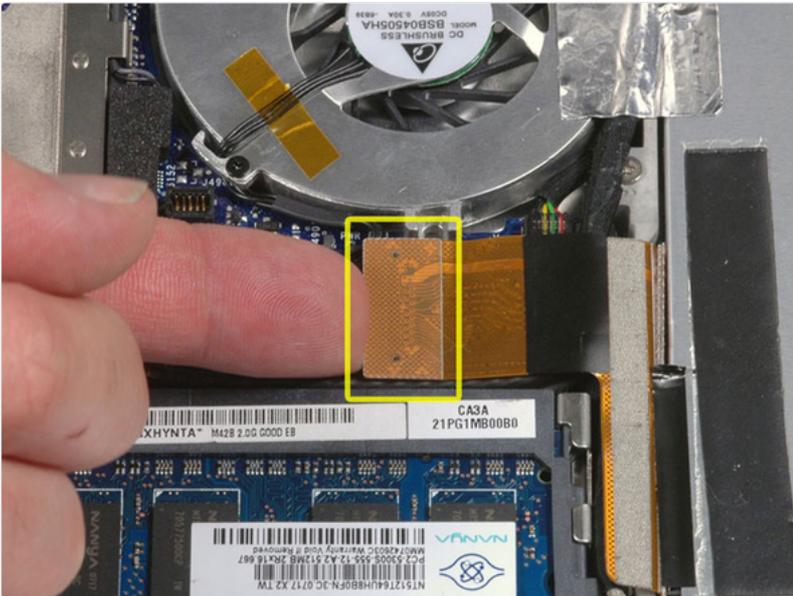
Step 12



- 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 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.

[17 comments](#)

Step 13 Fan



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

[One comment](#)

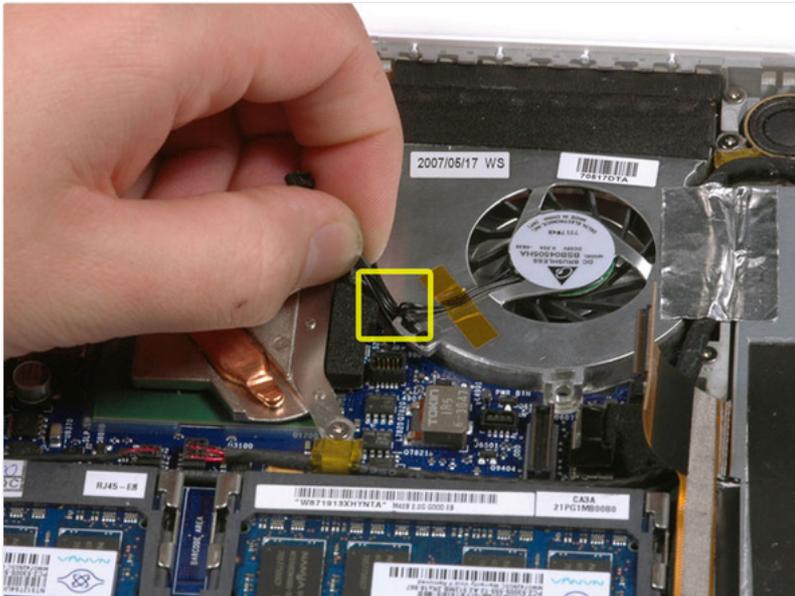
Step 14



- Use a spudger to disconnect the black fan connector from the logic board.
- ⓘ If you have a MacBook Core 2 Duo Santa Rosa/Penryn, the black fan connector resides in a different location.

[9 comments](#)

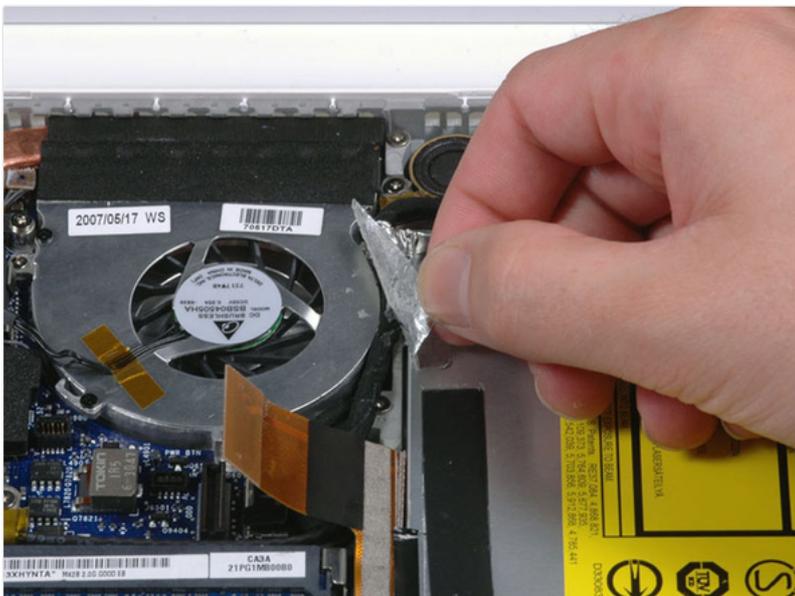
Step 15



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

[Add a comment](#)

Step 16



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

[One comment](#)

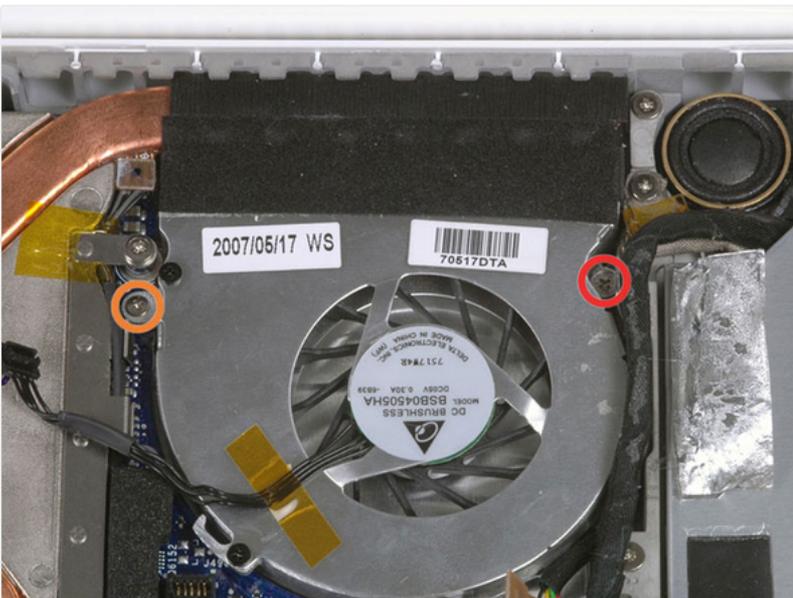
Step 17



- 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.

🗨 Add a comment

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.

🗨 2 comments

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.

12 comments

CONCLUSION

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

✓ Give the author +30 points!

282 other people completed this guide.

Author

with 5 other contributors



iRobot
 Member since: 09/24/2009
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21 COMMENTS

Add a comment

My wife's MacBook has been overheating for some time, and then shutting itself down. Your instructions were great, but I did note that I needed to unscrew the cable tie near the speaker in Step 17. The system had some dust in it, used the air can to spray it all out. Dust was on the heatsink vents, too. Closed it all up, and peak temps during a software install that crashed it three times yesterday was 145F - yesterday it was passing 170F and crashing. Thanks for the instructions, ifixit!

[Redwolf](#) - 12/06/2009

-
- Download and print out the PDF version of the repair guide. Tape the screws to their corresponding image in the guide so that you can't go wrong!
- [Donal Caulfield](#) - 05/13/2010
- what a great idea! i've been thinking about a solution for organizing screws. that's genius!
- [Victoria](#) - 07/17/2012
- Good Idea. I generally sketch up rough diagrams and put small pieces of double sided tapes and stick the screws on my drawing.
- [Sandeep Giri](#) - 06/16/2014
-
- Worked a treat!!
- [aweinmann](#) - 12/17/2010
-
- Very easy to do and the guides are spot on. Took me about 20 minutes to do and no hairy moments at all. I recommend using an ice cube tray, and put the screws from each step in a different compartment as you go along. Not that there are that many screws but it makes life easy. 'Hardest' step for me was reconnecting the fan power plug, is quite small and I kept trying to put in upside down..not so easy if you have big fingers.
- [mjedmondson](#) - 01/14/2011
-
- Thanks for the guide! You've saved me from unscrewing many unnecessary screws and allowed me to perform this repair without damaging anything (except the brittle old felt tape, no way was that coming off, I used black photographers tape as a replacement). My 4 year old MB was making horrible noises, overheating and was almost unusable. I found an inexpensive fan on eBay (\$13), and in less than half an hour it is running like new. I don't know what the quality is like compared to a part ordered from Apple, (only time will tell) but for now it is working great.
- [JWeybright](#) - 05/24/2011
-
- This was definitely a moderately complex do-it-yourself fix. As a 51 year old female, I am moderately mechanical and it took me an hour. I printed the instructions and the comments from users and used an ice cube tray for the screws. In Step 5, the two 14.5mm screws would not come out, so, like others have mentioned, I loosened them and left them in. In Step 11, I used a plastic flat pick to pry the cover off, it was hard near the on/off button on the top right but it did work after a while. I had no problems getting the cable connector nor the fan connectors off, but for both these items and the orange optical drive connector, it is critical to press them back firmly in place when re-assembling. In Step 18, a tweezer or bent nose plier are helpful. In Step 19, my black tape ripped so I used a piece of masking tape to hold everything together. Highly recommend getting the right screwdriver and something to blow the dust out of the case.
- [anniekhan](#) - 08/27/2011
-
- When I took the old fan out I saw significant build-up of dust on the left side (as seen in the pic of step 18. Blew it all out, cleaned up the heat sink and all other dust. BUT when I went to replace the 6 mm screw on the left, it would not seat into its threads. I had to take out the fan again to find out what was wrong: The threads had come loose from their housing, a plastic housing holding brass threads. The plastic had cracked and released the brass threads. I guess the overheating on that side due to the excess dust had caused it. Anyway, nothing to do but to clean out the pieces of plastic and remove the brass threads so it wouldn't rattle around inside the computer. I just left out the 6 mm screw and hoped that the one on the right and the 11 mm screw from step 5 would hold it well enough. So far seems to be good. BTW, it was impossible to get the old fan out without tearing the black felt tape. I put it back as best as I could and sealed the tears with a piece of paper tape (first aid-type) (assuming that it should be non-conducting).
- [David Laffe](#) - 01/08/2012
-
- Hi, Thanks for the guide! I took the Macbook apart and the fan off for the sole purpose of spraying the computer free of dust from the inside. It's easy to disassemble... as long as you're very organized with the screws. Lifting the tabs near the optical drive was difficult. However putting it back together was kind of a bugger. The whole keyboard assembly sort of expanded and deformed a little bit, probably because of the heat/cold cycles. I had a hard time with the clips below the optical drive (I actually broke one), and fitting the screws back was a bit difficult. The computer seems to run a bit cooler, about 5 or 7° C below usual when idle. Nevertheless, I succeeded, and left behind my fear to strip my compute to bare guts. Thank you iFixit.
- [Christian](#) - 03/12/2012
-
- Hi! I can't remove the screw in the middle with a Philips #00. Do you believe a #000 would work better?
- [andreapecci](#) - 10/09/2012
-

Just changed the fan in my 2007 MacBook and it's so quiet now. It was easy once I read the online instructions, then went to the Android app on my cell phone and followed the guide step by step as I took the computer apart. I had taken it apart before to clean the fan, but these instructions were much better. The last part about the foam tape: mine would not lift off so I had to rip it along the edge and replaced it with blk. electrical tape. I also used a metal nail file instead of a spludger and it also worked well shifting wires out of the way without having a sharp edge to do damage. Will be looking into adding some speed to this laptop too. We'll see.
Thanks a bunch!

[dentednj](#) - 02/21/2013

Extremely helpful! Clear and succinct. And this was my first time tinkering.
Thank you :D

[Mary](#) - 03/26/2014

Ordered my fan yesterday it arrived today. Followed these steps it was so easy. My computer has been thru !@#\$ and back a few times it's an early model 2009 MacBook and the fan started to sound like that jet so many have referred to would overheat and shutdown. I've never attempted to fix a computer so was a bit nervous but it was a fun project. Can't imagine how much I saved if I were to take it into a repair shop. Thanks for being so fast with delivery and the instructions! See if we can get a bit more life out of the OI girl!!

[ringo00](#) - 04/16/2014

Hi, how do we know if the fan is done? Its been getting hot a bit but never questioned it. Also it just warped the lower left bevel of my monitor screen.

[Shawn](#) - 10/14/2014

you are best!!!

[higewang](#) - 10/15/2014

I used your guide with success as soon as I received your used fan by mail. Your guide was easy to follow and to execute. I did the replacement in about half-hour. The noise still persists, but the heating and the consequent turn-off stopped. Is there anything that I might do to stop the noise? Is it the screws too tight? too loose?

[pedromourinho](#) - 06/19/2015

UPDATE!!!

So after a short while, the fan accelerated and the noise just stopped!!!! It's working great!!!!

[pedromourinho](#) - 06/19/2015

I am not technically inclined, so I blocked my whole Saturday today for this (for me) big project. I made it a family fun time and my three older kids ages 8 through 5 helped. I made sure to go slow and label every screw and I am glad to report that I now have a very silent MacBook going strong after 10 years! :) Success would have not been possible without this very detailed guide and I thank you guys for it. Thanks, Alejandro.

[alegoje](#) - 01/16/2016

Great instructions! ...and even more, you have the right spare parts
thanx from France
bernard

[Docgynec0](#) - 03/10/2016

My White Macbook (Mid 2009) was just too loud, no matter what I did, as if there was a small lawn mower is living inside the laptop. I suspected the CPU fan, so I followed this guide, and now everything is super-quiet! It turns out, I didn't have to replace the CPU fan. After disassembling everything, I took out the CPU fan. There were a lot of dust from years of neglect on the fan as well as the heat sink/air-flow area, and I cleaned as best as I could using Q-tips. There were clumps of black dusts. I also cleaned the inside of the fan, since it was very easy to disassemble. After removing all the dust and cleaning, I put everything back together.
Now, it's like night and day. I can't even hear the fan, even if I tried. What a change. It brought my Macbook from dead. . Thank you, iFixit, for such a thorough guide for repair.

[Daniel](#) - March 9

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