



MacBook Pro 15" Retina Display Late 2013

Right Fan Replacement

Replace the Right Fan in your MacBook Pro 15" Retina Display Late 2013.

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INTRODUCTION

Fans can be such blowhards, except when they blow out. Use this guide to help you replace a damaged, broken, or faulty right fan. This fan is located on the right side of the computer, as seen when it is open and in use.



TOOLS:

- [MacBook Pro and Air 5-Point Pentalobe Screwdriver](#) (1)
- [Spudger](#) (1)
- [T5 Torx Screwdriver](#) (1)



PARTS:

- [MacBook Pro 15" Retina \(Late 2013\) Right Fan](#) (1)

Step 1 — Lower Case



- Remove the following P5 pentalobe screws securing the lower case to the MacBook Pro:
 - Eight 3.0 mm
 - Two 2.3 mm

Step 2



- Lifting from the edge nearest the clutch cover, lift the lower case off the MacBook Pro.
- Set the lower case aside.

Step 3 — Battery Connector



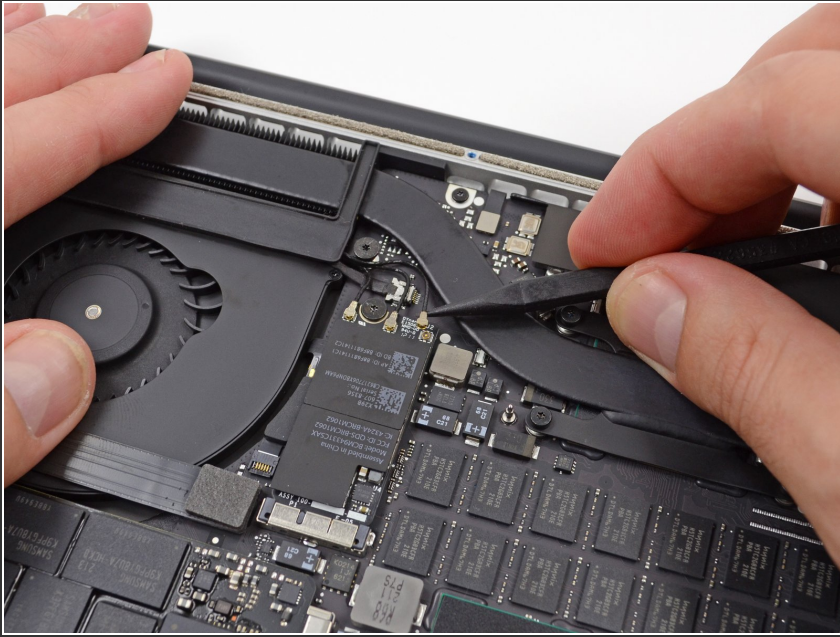
- Peel back the warning label covering the battery connector.

Step 4



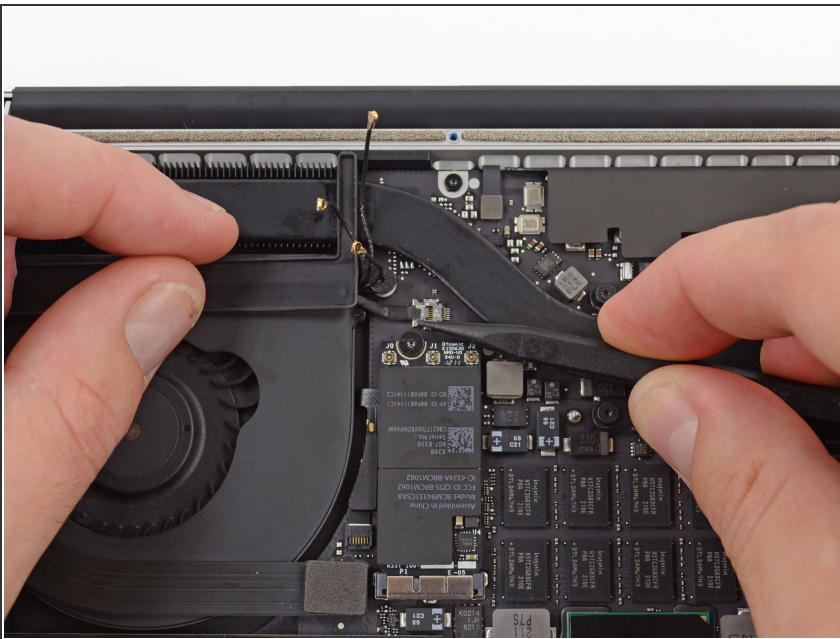
- Using the flat end of a spudger, gently pry the battery connector straight up out of its socket on the logic board.
- Bend the battery cables back and out of the way, ensuring that the battery connector doesn't accidentally make contact with the logic board.

Step 5 — AirPort/Camera Cable



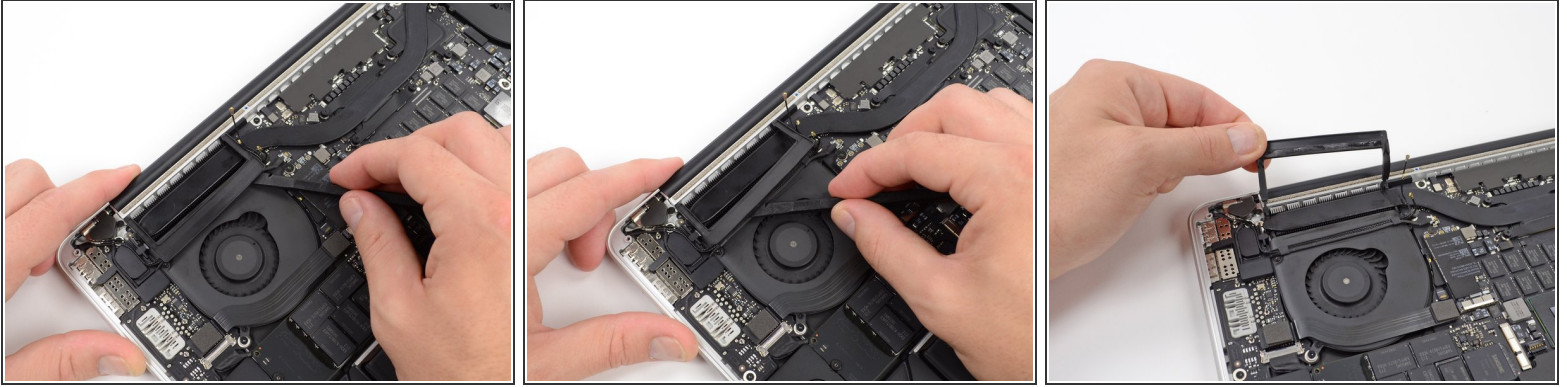
- Use a spudger or tweezers to pry the three AirPort antenna cables straight up off of their sockets on the AirPort board.
- ⚠ The cable connection points are fragile. Be careful to lift only on the connector, and not on the socket or cable.
- 🔧 To reconnect, align the connector carefully into position over the socket, and press it down firmly with the flat of your spudger.

Step 6



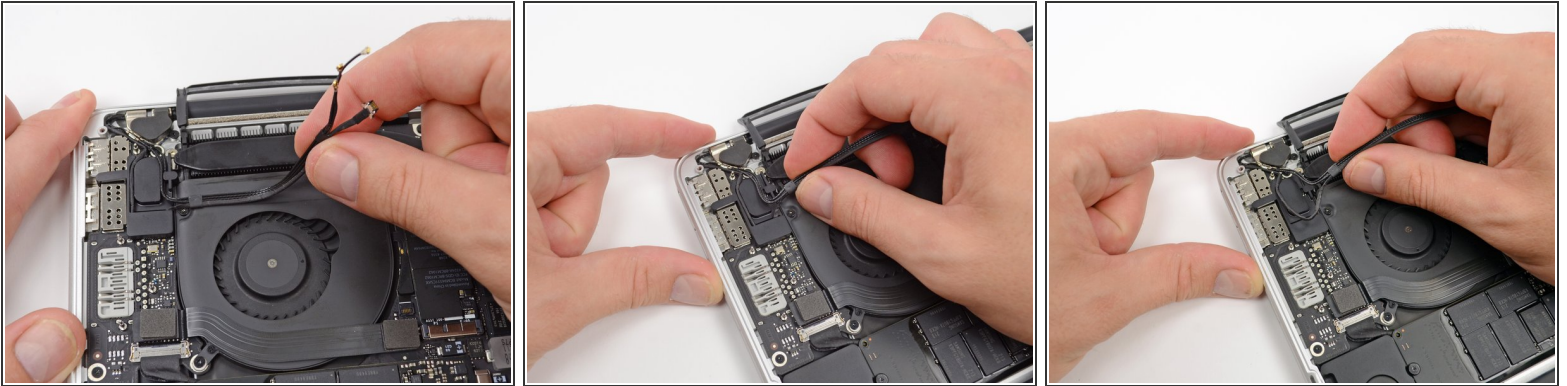
- Use the tip of a spudger to push the camera cable connector toward the fan and out of its socket on the logic board.
- ⚠ Be sure to push parallel to the board, first on one side, then the other, to slowly "walk" the connector out of its socket. Do not pry up, or you will damage the socket.

Step 7



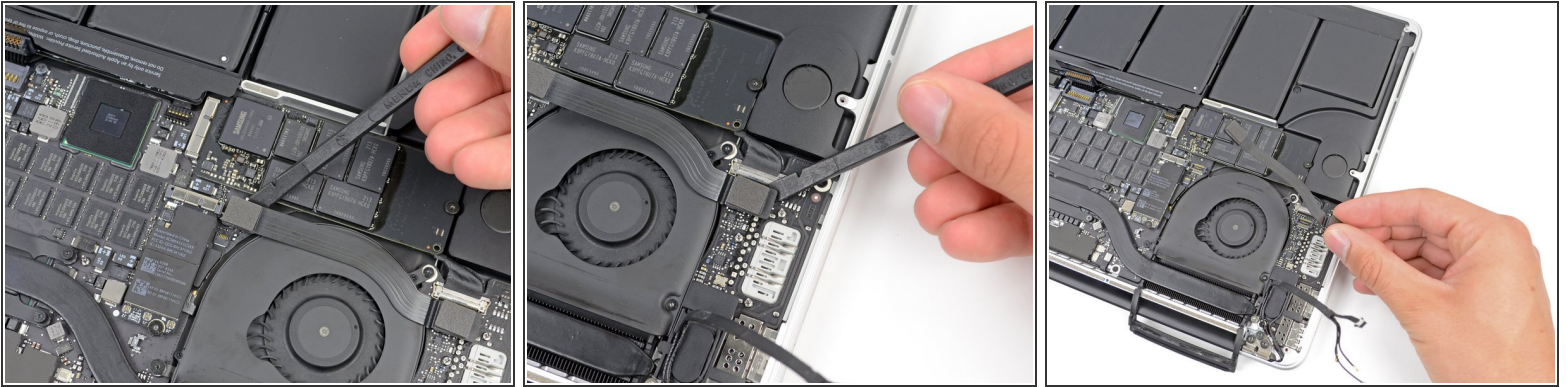
- Insert the flat end of a spudger underneath the rubber heat sink cover on the right fan.
- Slide the spudger underneath the length of the cover, releasing the adhesive.
- Lift the cover and flip it back so that you can access the cables underneath.

Step 8



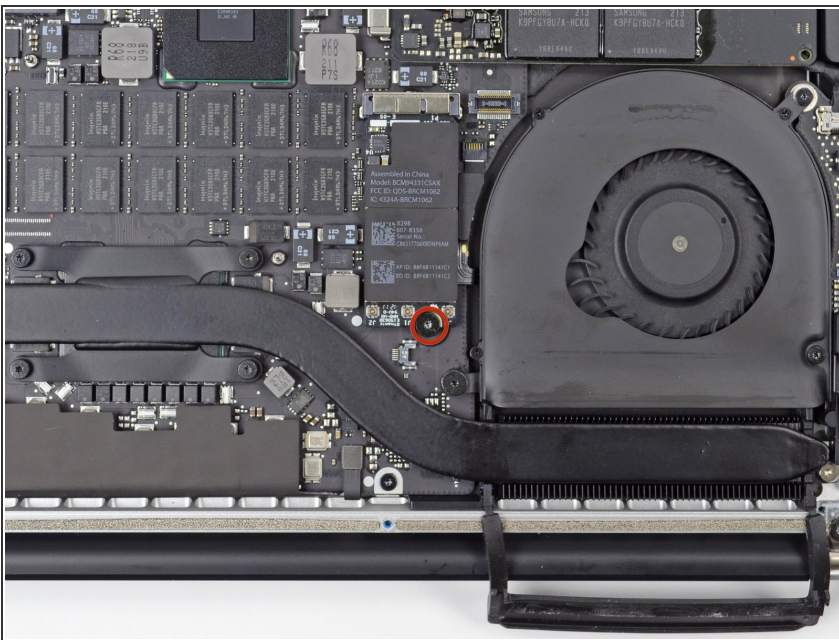
- Use your fingers to pull the AirPort/Camera cables up off the fan.
 - ⓘ The cables are adhered to the fan, so peel them up carefully to avoid damaging them.
- Carefully de-route the cables from the plastic cable guide.

Step 9 — I/O Board Cable



- Using the flat end of a spudger, pry the I/O Board connector straight up out of its socket on the logic board. On reassembly, connect this end first as it does not flex.
- In a similar fashion, remove the I/O Board connector from its socket on the I/O Board.
- Remove the I/O Board cable from the MacBook Pro.

Step 10 — Right Fan



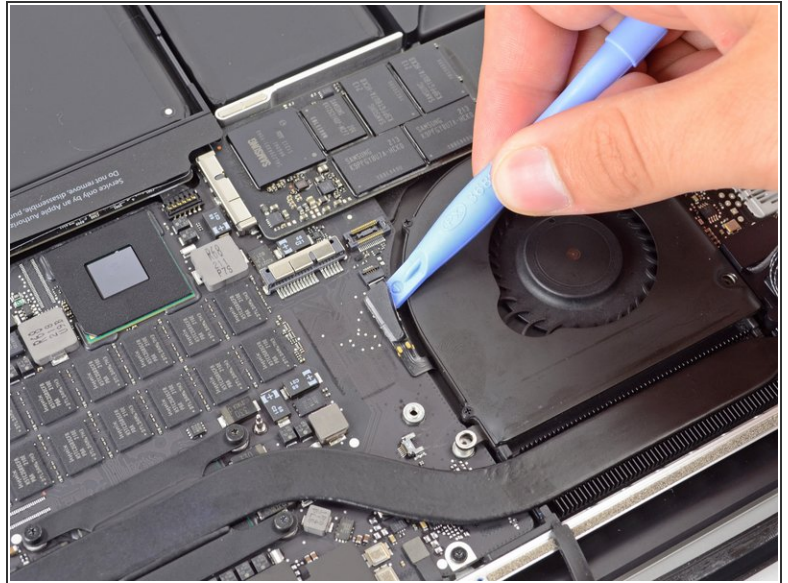
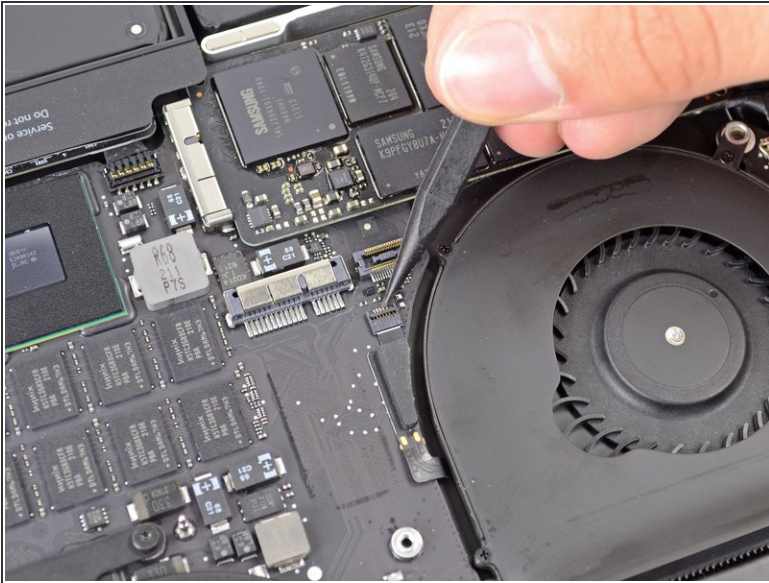
- Remove the single 2.9 mm T5 (sometimes T6) Torx screw securing the AirPort card to the logic board.

Step 11



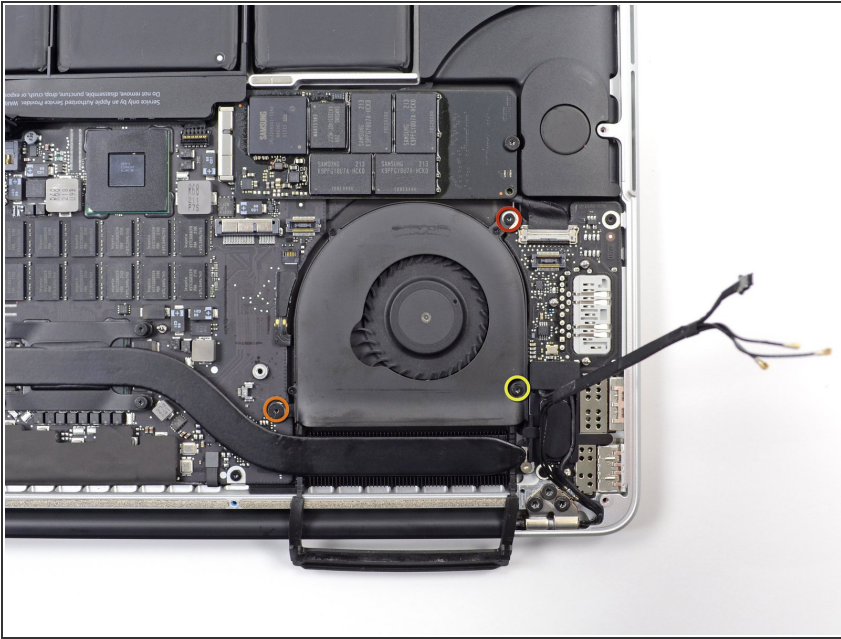
- Grasp the thin sides of the AirPort card and pull parallel to the logic board, removing the AirPort card from the MacBook Pro.

Step 12



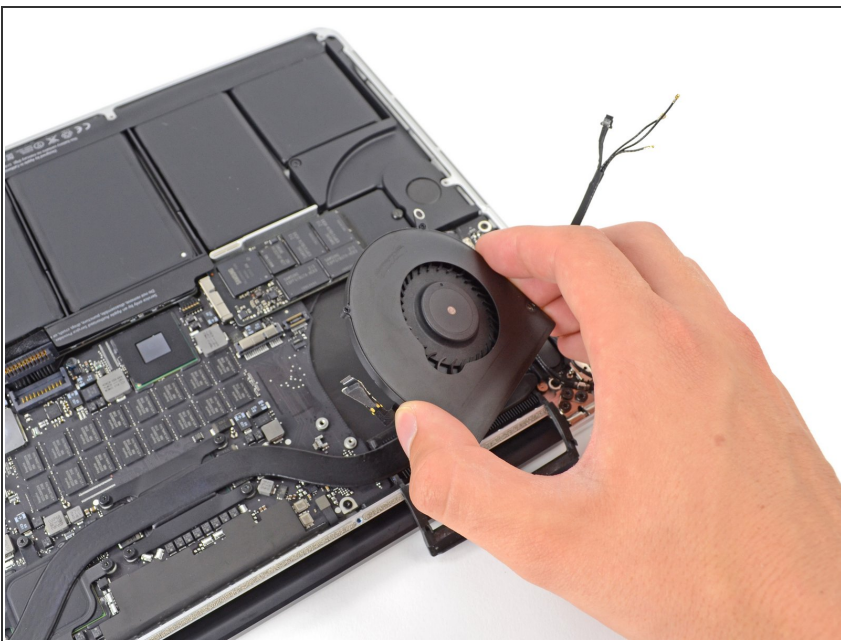
- Use the tip of a spudger to flip up the retaining flap on the right fan ribbon cable [ZIF](#) socket.
- ⚠ Be sure you are prying up on the hinged retaining flap, **not** the socket itself.
- Starting at the top of the cable, slide a plastic opening tool under the right fan cable to free it from the logic board.
- ⚠ Use caution when freeing the cable, as it is strongly adhered to the logic board.

Step 13



- Remove the following three screws securing the right fan to the logic board:
 - One 4.4 mm T5 Torx screw
 - One 3.9 mm T5 Wide Head Torx screw
 - One 5.0 mm T5 Torx screw with 2 mm collar

Step 14



- Lift and remove the right fan out from the MacBook Pro.
- ★ When reinstalling the fan, it's easiest connect the fan ribbon cable as you drop the fan in place, rather than after you've installed the three fan screws.

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