

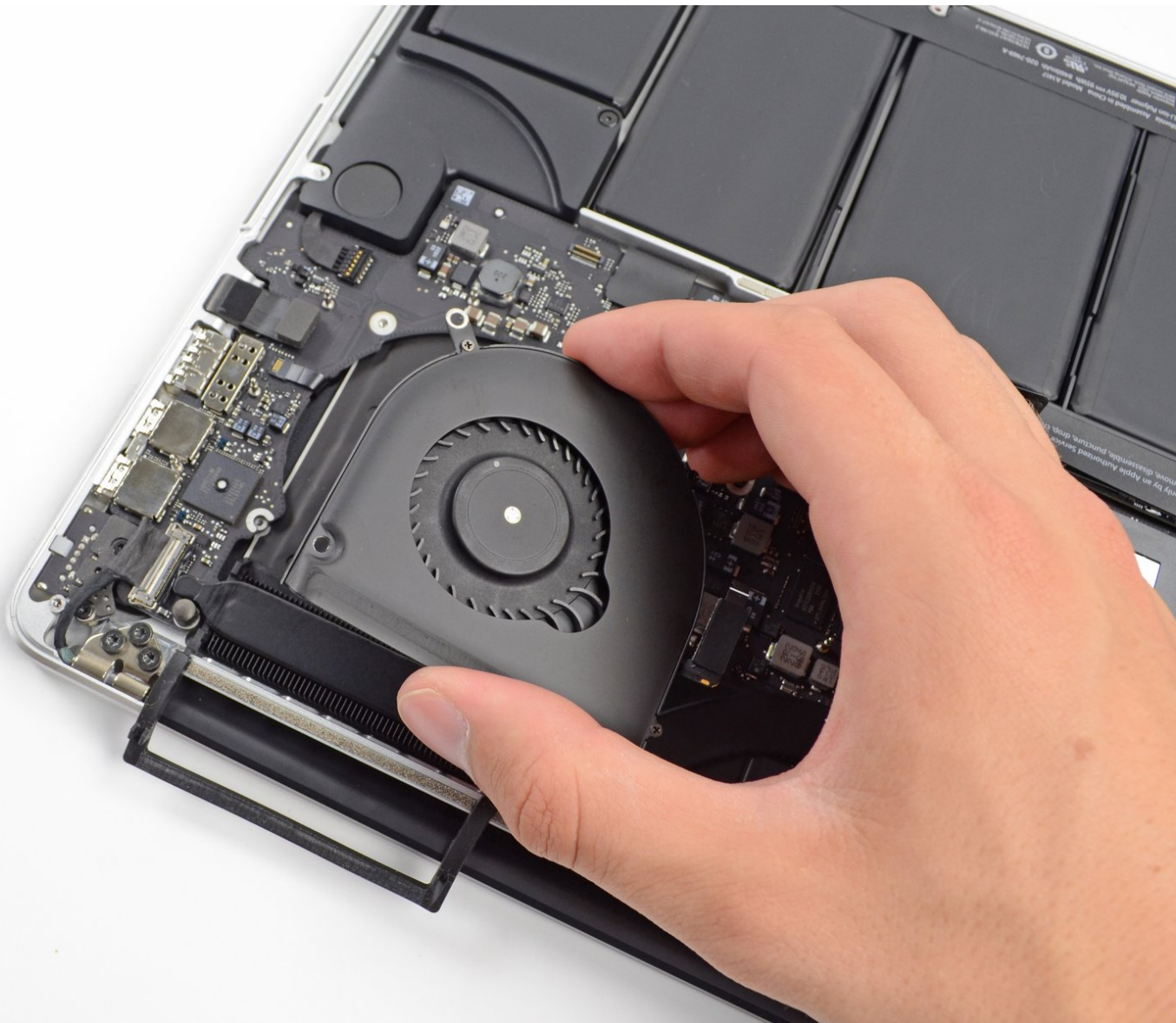


# MacBook Pro 15" Retina Display Early 2013

## Left Fan Replacement

Replace the left fan in the MacBook Pro 15" Retina Display Early 2013.

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# INTRODUCTION

Use this guide to replace a broken or noisy left fan in your MacBook Pro 15" Retina Display Early 2013. This is the guide to remove the fan on the left side of the computer when it is open and in use.



## TOOLS:

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



## PARTS:

- [MacBook Pro 15" Retina \(Mid 2012-Early 2013\) Left 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.

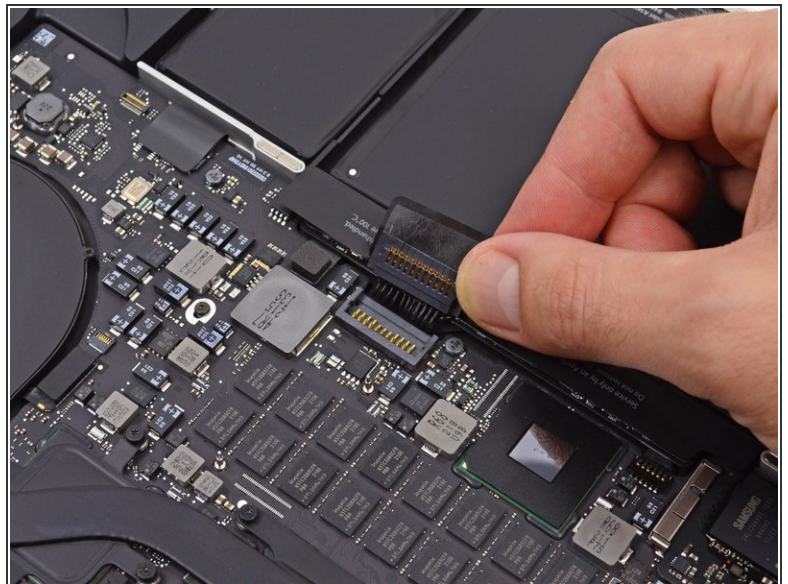
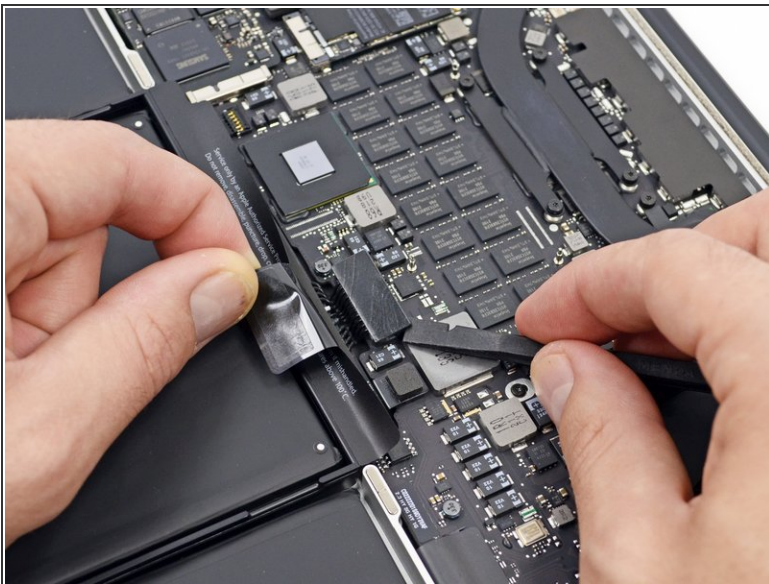


## Step 3 — Battery Connector



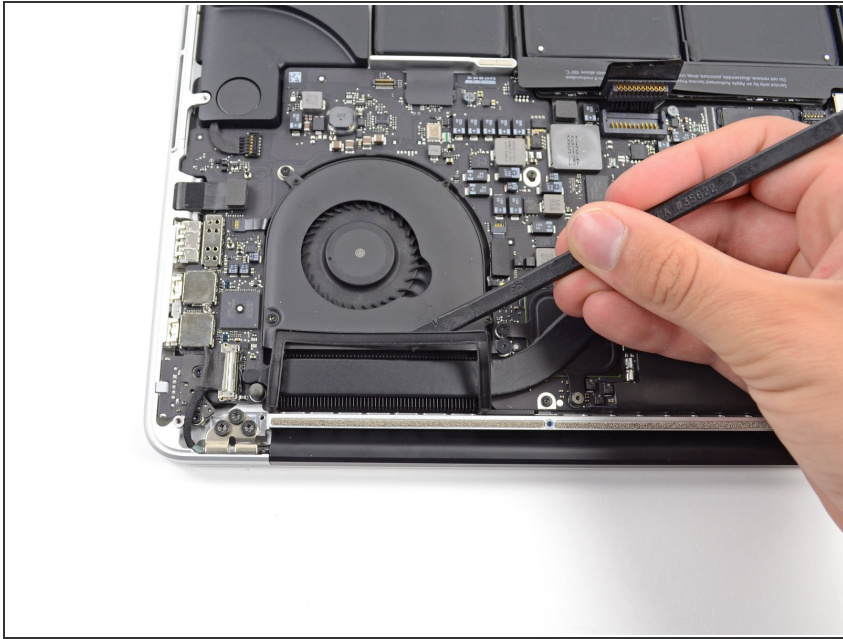
- Peel back the warning label covering the battery connector.

## Step 4



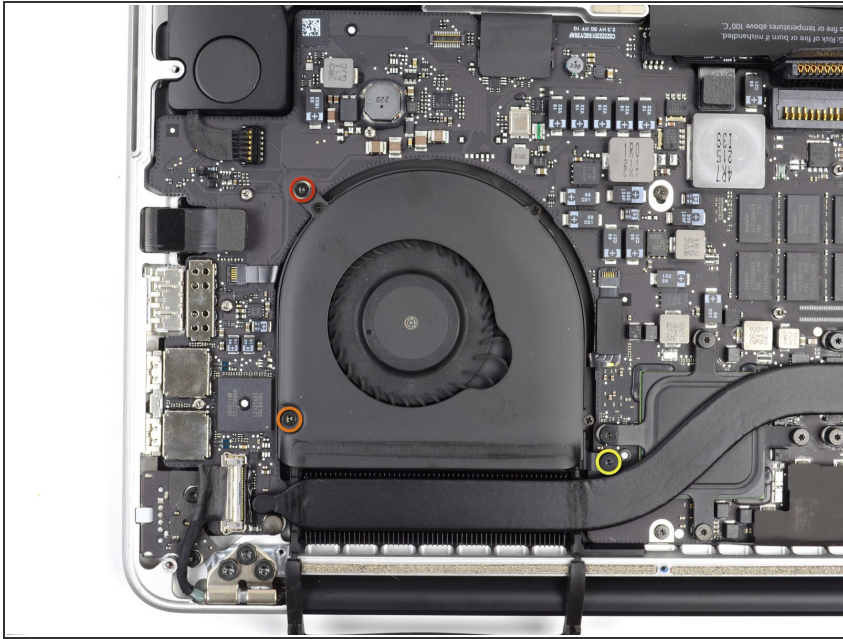
- Using the flat end of a spudger, gently pry the battery connector straight up out of its socket on the logic board.
- Bend the battery cables back and out of the way, ensuring that the battery connector doesn't accidentally make contact with the logic board.

## Step 5 — Left Fan



- Use the flat end of a spudger to lift the rubber heat sink cover up off the left fan.

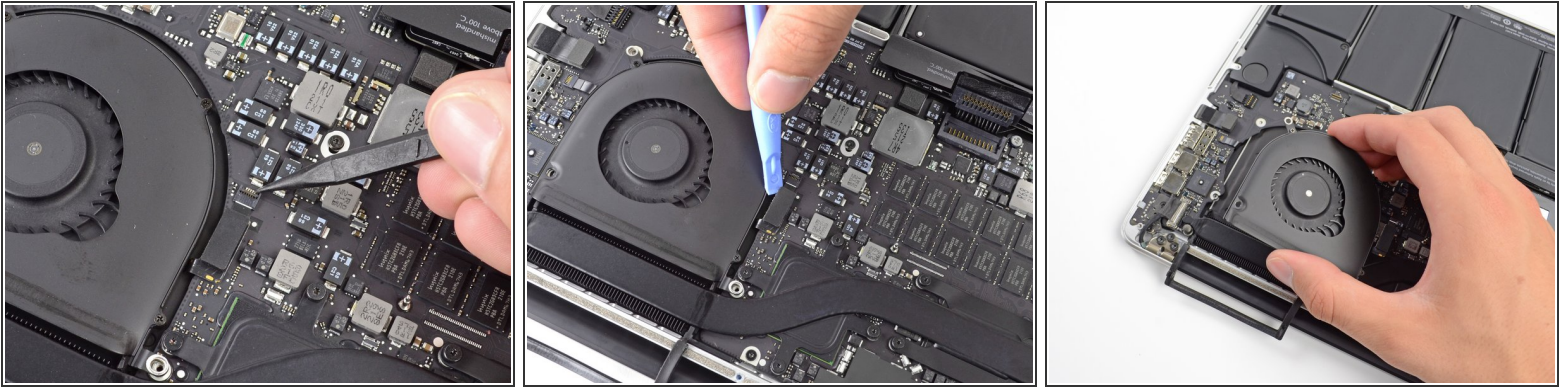
## Step 6



- Remove the following three screws securing the left fan to the logic board:
  - One 4.4 mm T5 Torx screw with 2 mm collar
  - One 5.0 mm T5 Torx screw with 2 mm collar
  - One 3.9 mm T5 Wide Head Torx screw
- ⓘ When reinstalling the fan and its screws, don't fully torque the screws until you've first installed all of them loosely, so that the fan can move a little and position itself properly as you insert the screws into their threaded standoffs.



## Step 7



- Use the tip of a spudger to flip up the retaining flap on the left 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 left fan cable to free it from the logic board.

⚠ Use caution when freeing the cable, as it is strongly adhered to the logic board. If necessary, use an iOpener or hair dryer to heat the cable in order to soften the adhesive and make it easier to remove.

- Lift the left fan out of the device.

☞ When reinstalling the fan, it's easier to 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.