



# MacBook Pro 17" Unibody Camera Board Replacement

Replace the camera board in your MacBook Pro 17" Unibody.

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# INTRODUCTION

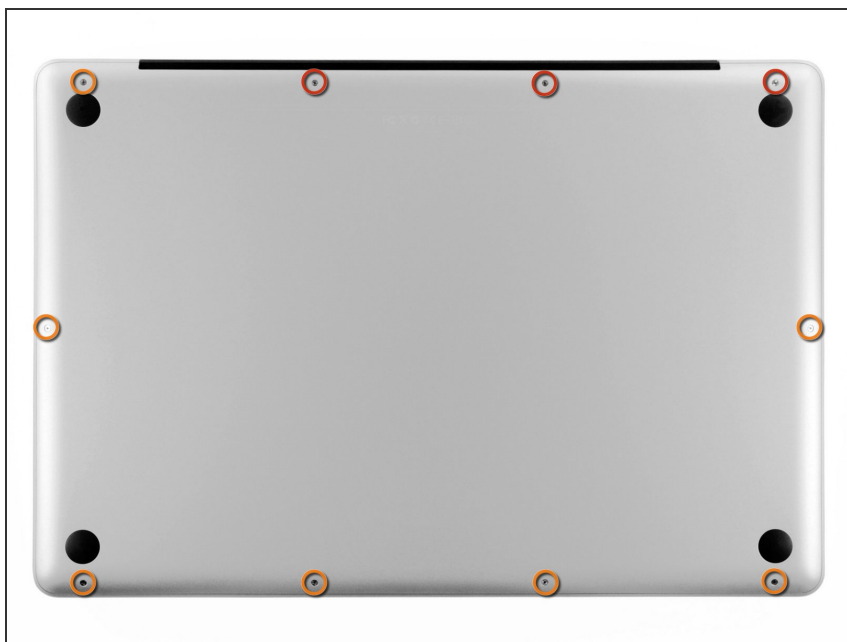
Use this guide to replace the camera board.

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## TOOLS:

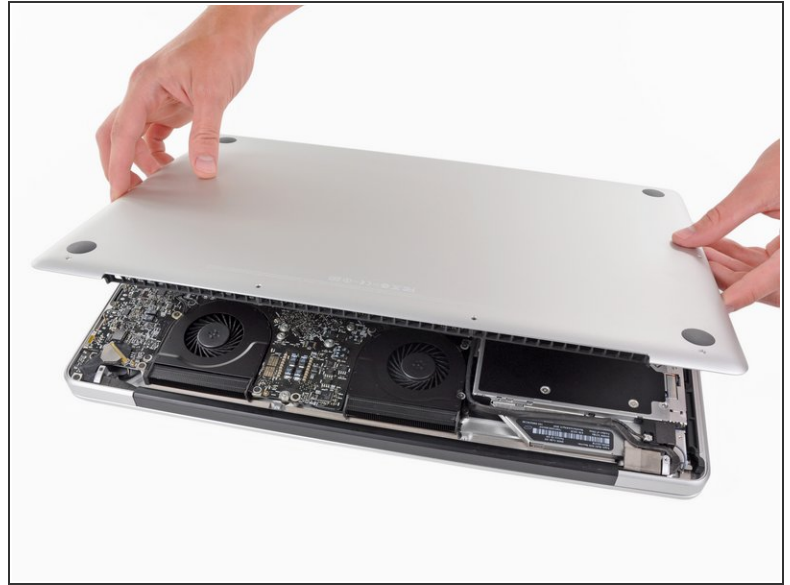
- [Heat Gun](#) (1)
  - [Heavy-Duty Suction Cups \(Pair\)](#) (1)
  - [iFixit Opening Picks set of 6](#) (1)
  - [Phillips #00 Screwdriver](#) (1)
  - [Spudger](#) (1)
  - [T6 Torx Screwdriver](#) (1)
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## Step 1 — Lower Case



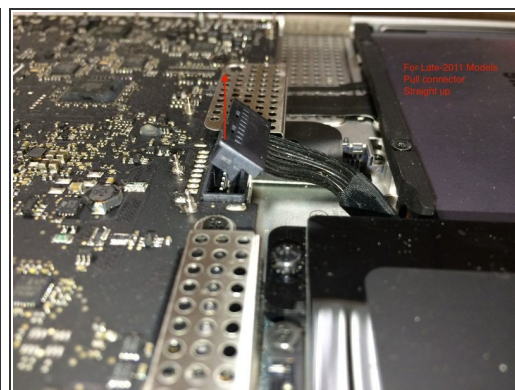
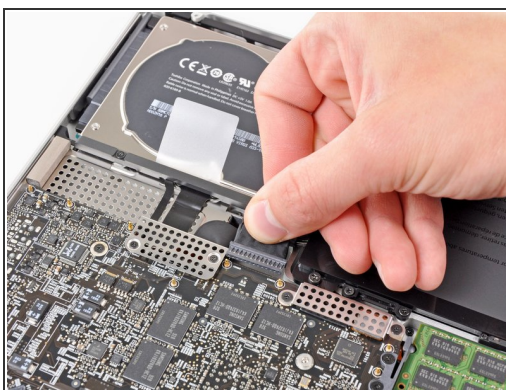
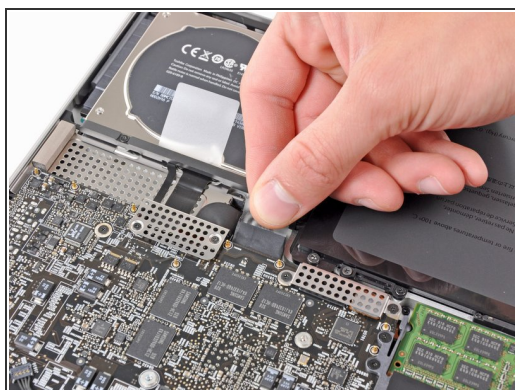
- Remove the following ten screws securing the lower case to the upper case:
  - Three 13.5 mm Phillips screws.
  - Seven 3 mm Phillips screws.


## Step 2





- Wedge your fingers between the lower case and the vent, and lift upward to release the two clips holding the lower case to the upper case.
  - ☑ During reassembly, carefully align the lower case and then press it firmly until both clips engage.
- Remove the lower case.

## Step 3 — Battery

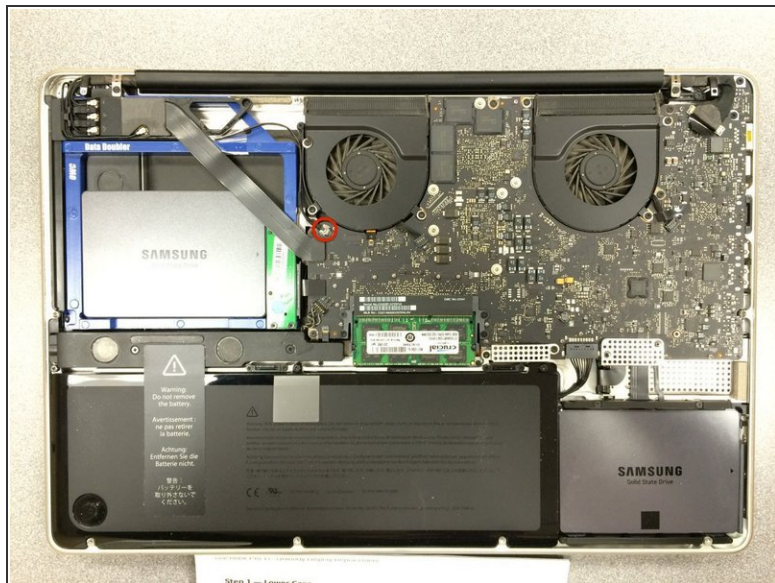


 Whenever working near the logic board, it is always wise to first disconnect the battery to avoid short circuits.

- If present, grab the plastic tab attached to the battery connector and pull it toward the front edge of the device. For Late-2011 models the battery connector will not have a tab and is simply a plug that inserts straight down into the motherboard--to remove pry the plug straight up.
-  If the plastic tab is missing, use a spudger to pry the connector up from its socket.
-  Pull the tab parallel to the face of the logic board.

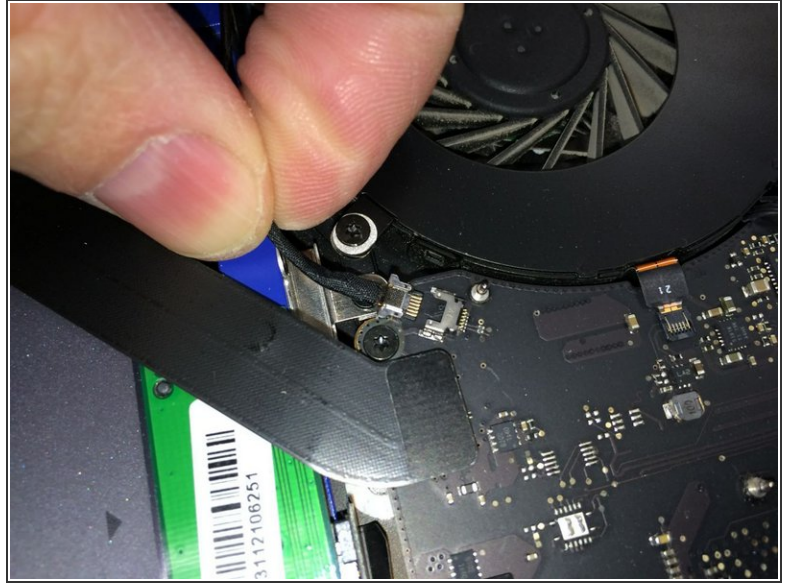


## Step 4 — Display




- i** Before disconnecting the camera cable, a small plastic retainer stuck to the logic board must first be moved out of the way. In late-2011 models you can skip this step because there is not a plastic retainer on the camera cable connector.
- Use the tip of a spudger to push the small plastic cable retainer away from the camera cable socket for enough clearance to remove the camera cable.

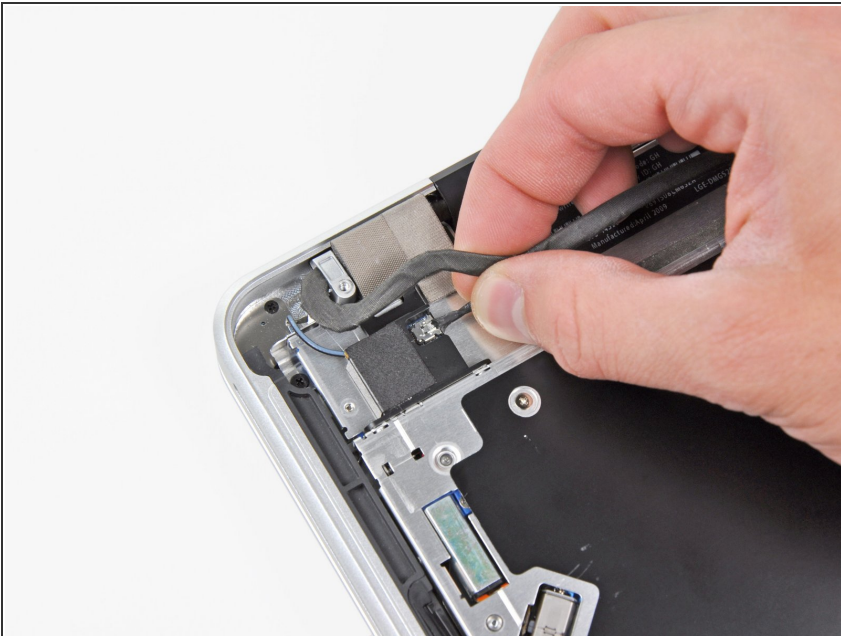
## Step 5




- Pull the camera cable toward the optical drive opening to disconnect it from the logic board.

 The camera cable socket is very fragile. Do not apply any upward force to this socket, as it may break off the logic board. Pull the camera cable parallel to the face of the logic board.

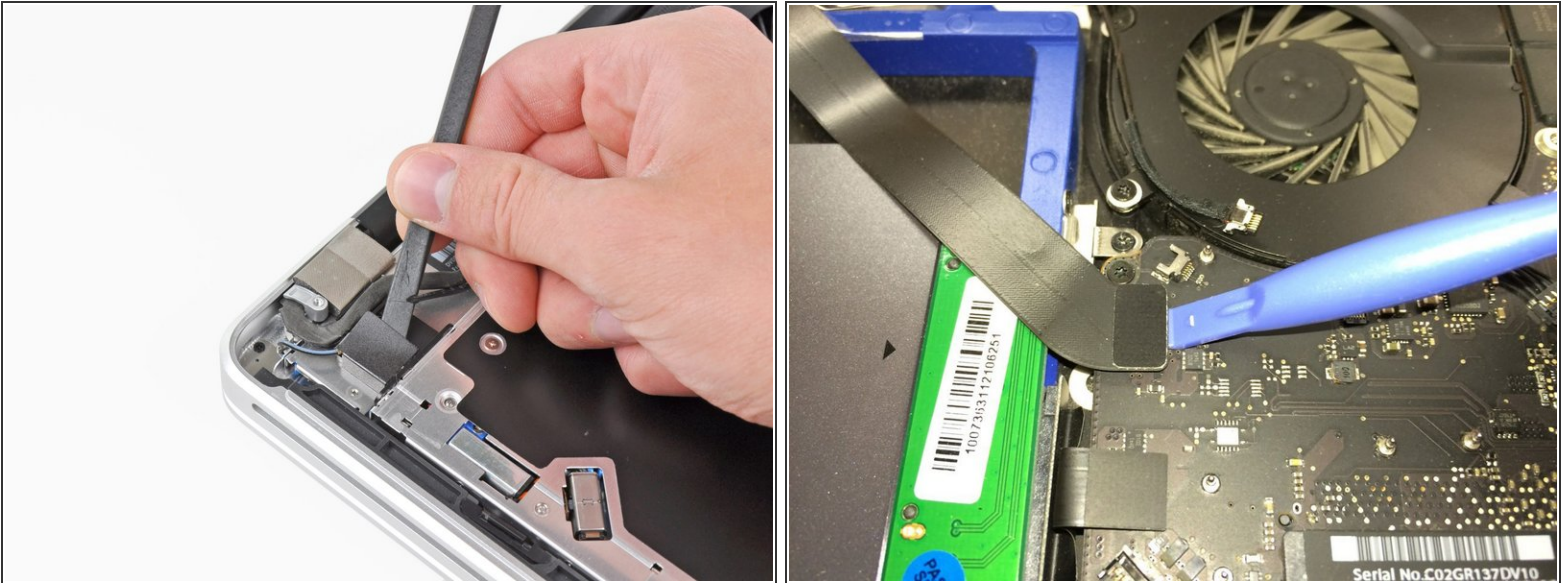
## Step 6



- Carefully pull the Bluetooth cable toward the fans to disconnect it from the Bluetooth board.
-  Pull the cable parallel to the face of the optical drive.



## Step 7



- Use the flat end of a spudger to peel the thin plastic cover off the top and sides of the Bluetooth board housing. For late-2011 models check out the other picture because the connector location is in a totally different location.

## Step 8



- Use the flat end of a spudger to pry the Bluetooth antenna connector up and off its socket on the Bluetooth board.

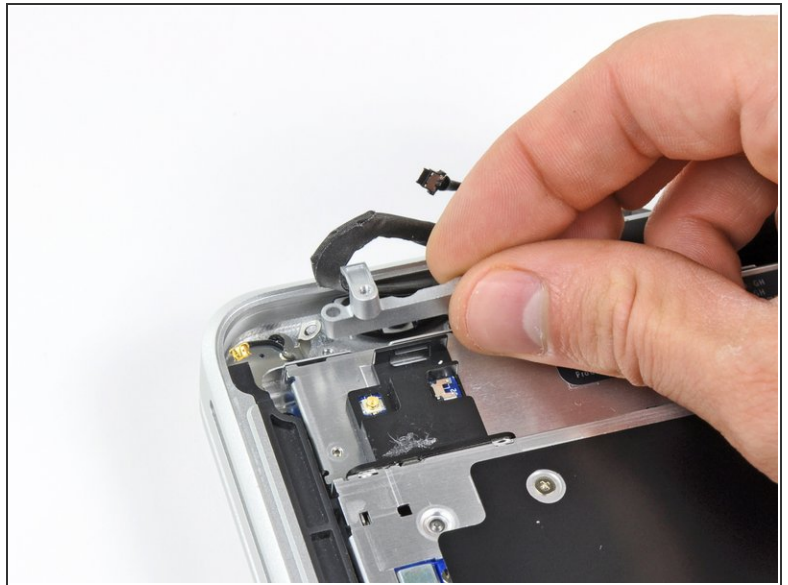
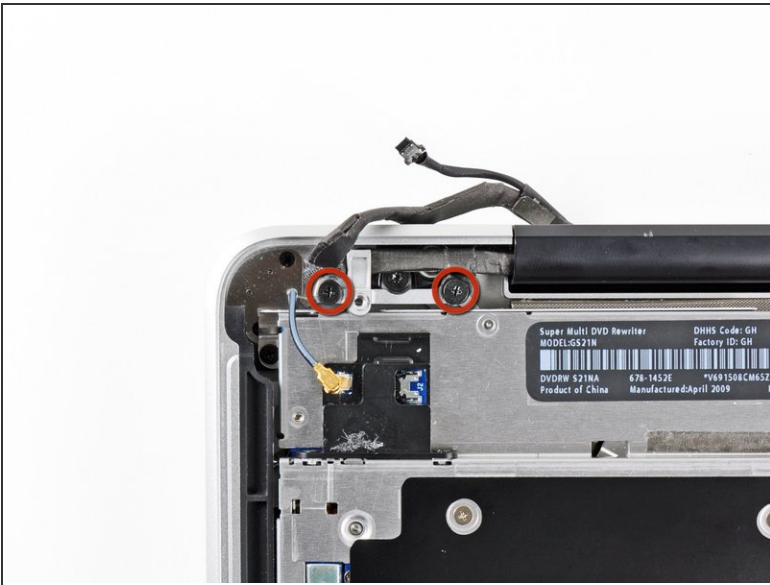


## Step 9



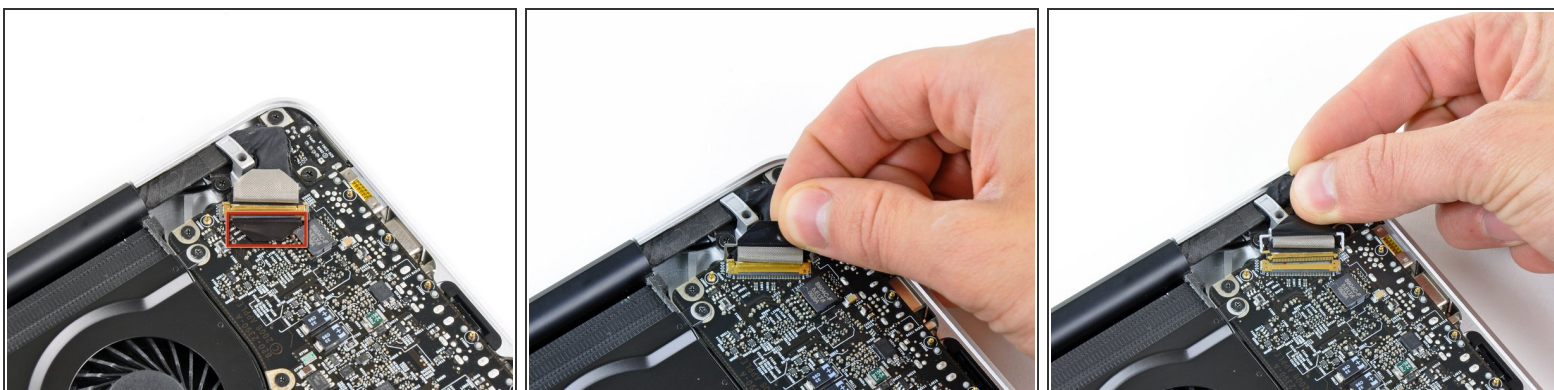
- ✦ If present, remove the small piece of EMI foam near the Bluetooth board.
- De-route the camera cable from the slot molded into the Bluetooth board housing.

## Step 10



- Remove the two 7.1 mm Phillips screws securing the camera cable retainer to the upper case.
- Remove the camera cable retainer from the upper case.

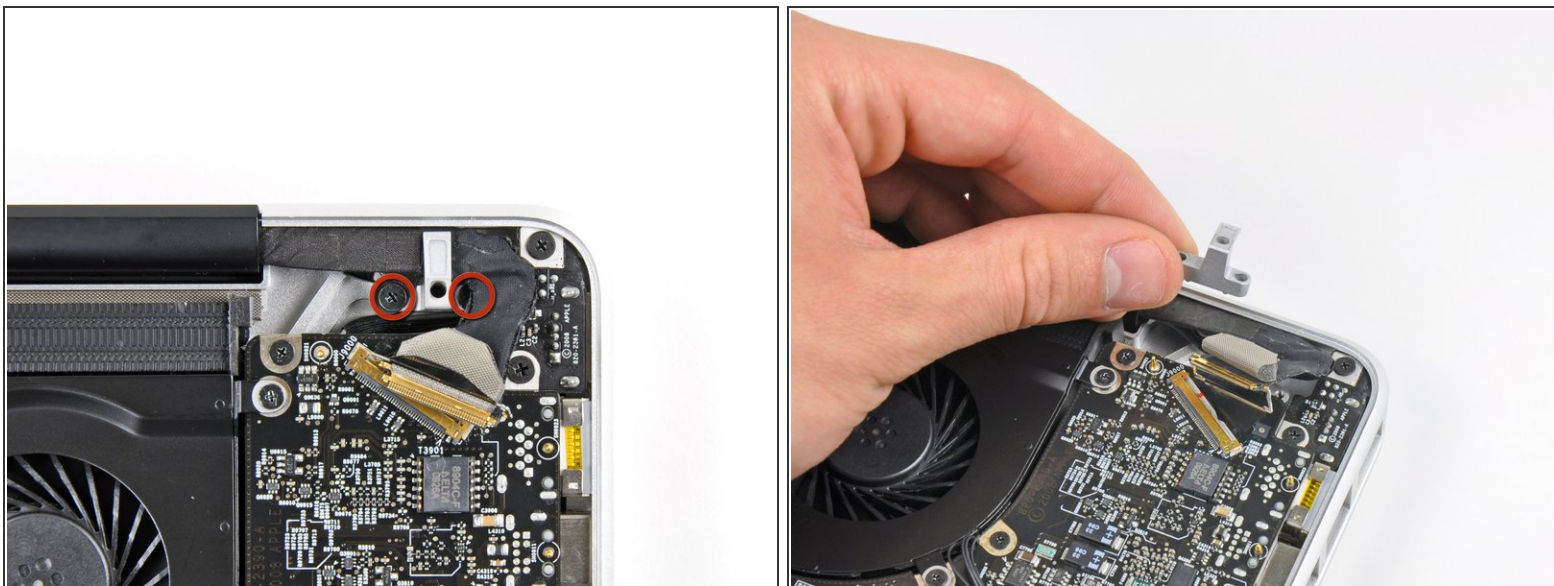
## Step 11



- Lift the black plastic flap attached to the display data cable retainer and rotate it toward the DC-In side of the MacBook.
- Pull the display data cable out of its socket.

⚠ The display data cable socket is very fragile. **Do not** lift the connector upward as you disconnect it, as the socket may break off the logic board. Pull the cable parallel to the face of the logic board.

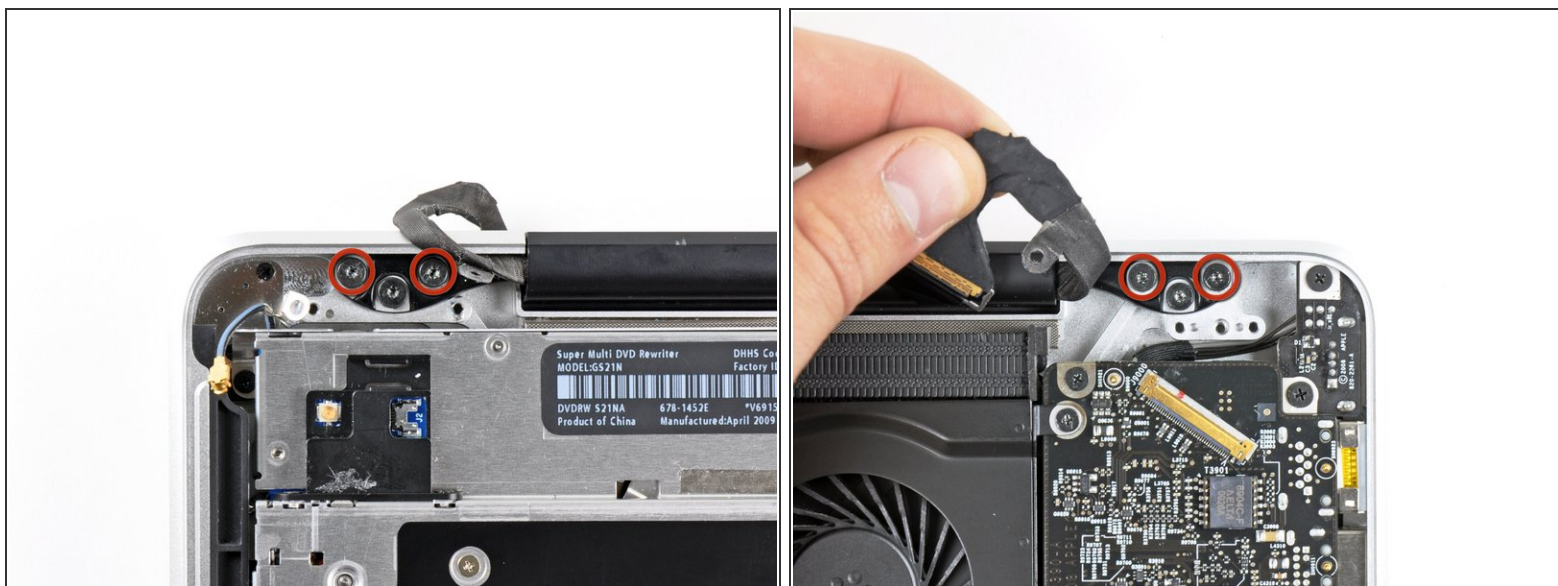
## Step 12



- Remove the two 7.1 mm Phillips screws securing the display data cable retainer to the upper case.
- Remove the display data cable retainer.



## Step 13



- Remove the two outer 6.8 mm T6 Torx screws from each of the two display brackets (four screws total).
- ⓘ We purposely have you leave one screw attaching each display bracket to the upper case to aid in future steps.

## Step 14



- ★ Open your MacBook Pro so the display is perpendicular to the upper case.
- ⓘ Place your opened MacBook Pro on a table as pictured.
- While holding the display and upper case together with your left hand, remove the remaining T6 Torx screw from the lower display bracket.

## Step 15

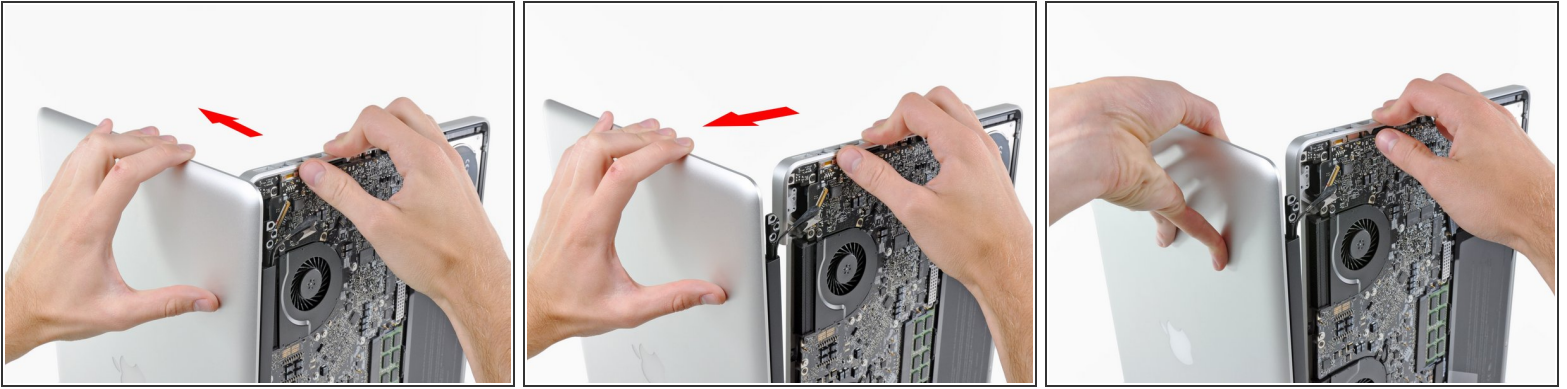


**⚠** Be sure to hold the display and upper case together with your left hand. Failure to do so may cause the freed display/upper case to fall, potentially damaging each component.

- Remove the last remaining T6 Torx screw securing the display to the upper case.

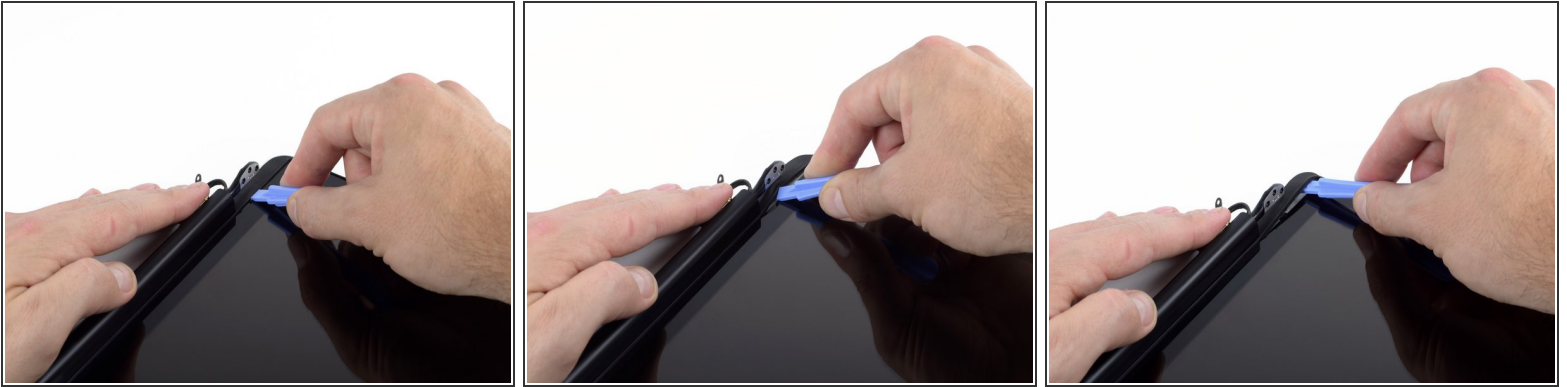


## Step 16



- Grab the upper case with your right hand and rotate it slightly toward the top of the display so the upper display bracket clears the edge of the upper case.
  - Rotate the display slightly away from the upper case.
  - Lift the display up and away from the upper case, minding any brackets or cables that may get caught.
- ☒ During reassembly, fit the display into place and install the display bracket Torx screws, then close the lid and lay the laptop upside-down to check the alignment of the screen to the body. If necessary, loosen the screws and realign the display before tightening.

## Step 17 — Front Display Glass



**i** It's very easy for the rubber display gasket to deform when exposed to heat, so it is best to remove it before using a heat gun to remove the display glass.

- Insert a plastic opening tool underneath the black rubber gasket at the bottom left corner of the display assembly.
- Gently pry the wide edge of the gasket up from the back case.

## Step 18



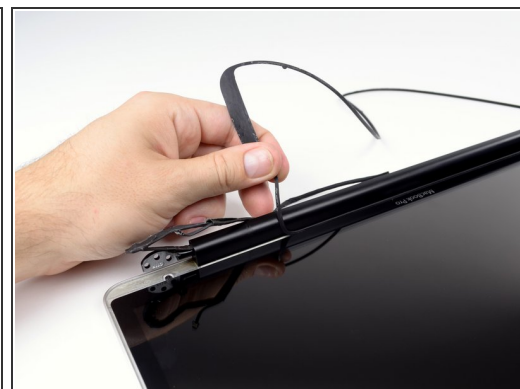
- Starting with the freed corner, pull the left gasket off the left side of the display assembly.

## Step 19



- Continue pulling the display gasket off the display assembly across the top edge.

## Step 20



- Continue pulling the display gasket off the display assembly down the right side.
- Pull the gasket off the bottom edge of the display to completely free it and set it aside.

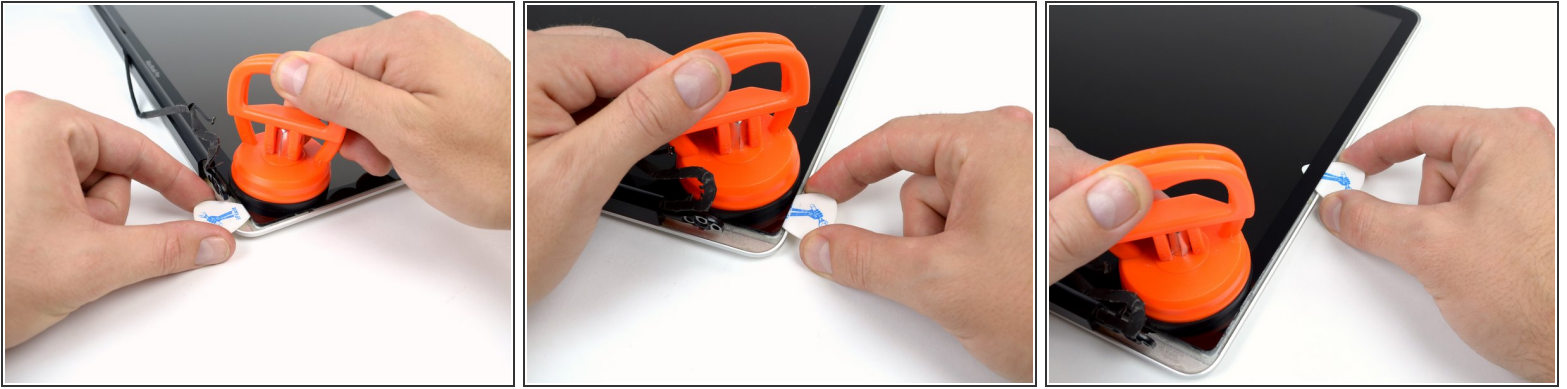
## Step 21



- ⓘ In the following steps, you will use a heat gun to soften the adhesive securing the outer black border around the underside of the front glass panel to the display.
- Before starting, be sure to clean the display glass with a lint-free cloth moistened with a mild solution; it will make the suction cup adhere better, and will make checking for dust on reassembly easier.
- With the heat gun set to low, start by heating the outer black border near the upper right corner of the glass panel.
- ⓘ Due to the heat applied, it is normal for a layer of condensation to develop on the inside of the glass panel and/or the outside of the LCD. It can be removed with glass cleaner once the glass is separated from the display.



## Step 22



- With the panel sufficiently heated, fasten a heavy-duty suction cup near the lower right corner of the display glass.
- To attach the [suction cups](#) we sell, first position the suction cup with the movable handle parallel to the face of the glass panel. While lightly holding the suction cup against the glass, raise the movable handle until it is parallel with the other handle.
- Gently lift the corner of the display glass enough to insert a guitar pick between it and the display assembly.
- Use the guitar pick to gently pry up the adhesive securing the front glass to the display.
- Pry up the glass panel along the right edge of the display up to the halfway point.
- Leave the guitar pick in place halfway up the right side of the display and remove the suction cup.

## Step 23



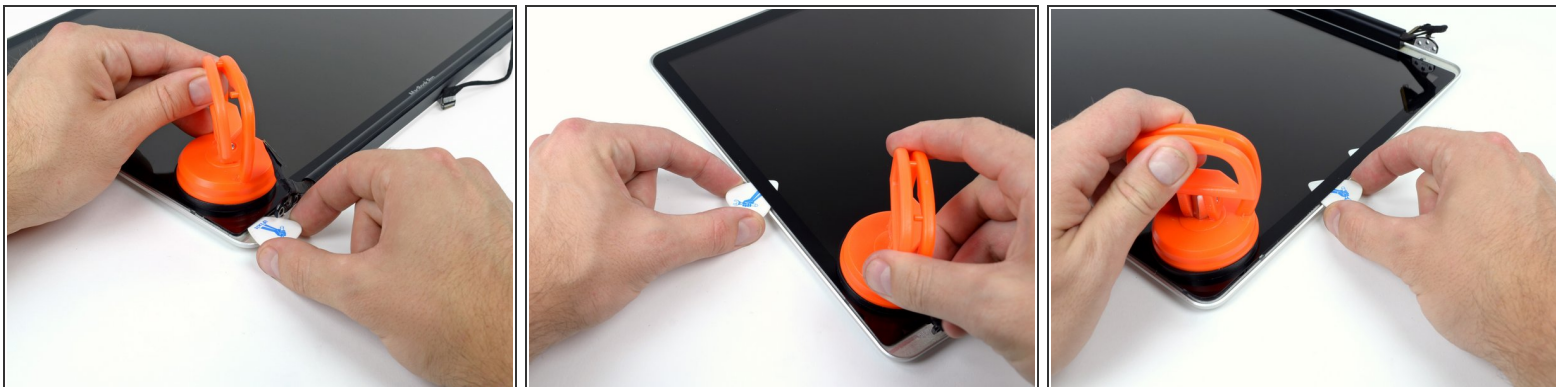
- Use a heat gun to soften the adhesive under the display glass along the right and top edges of the display.
- Attach a suction cup to the upper right corner of the front glass panel.
- Pull up on the glass panel while you use a second guitar pick to separate it from the rest of the display assembly.
- Continue working along the right edge of the front display glass until it is separated from the display.

## Step 24



- Work along the top edge of the display assembly, carefully prying the adhesive up with the guitar pick.
- Stop prying about an inch before you reach the iSight camera. Leave the guitar pick in place and remove the suction cup.

## Step 25



- Repeat steps 22 through 24 for the left side and the left top edge of the display.

## Step 26






- After prying up the three edges of the display glass, you should have four guitar picks resting underneath the panel, as shown.

## Step 27



- With the heat gun set to low, heat the bottom edge of the display to soften the adhesive holding the glass in place.

 A number of cables and the AirPort card lie underneath the clutch cover, so do not heat the area for too long.

- Slowly lift the top edge of the glass panel and gently rotate it out of the display.
-  If necessary, use a plastic opening tool to free any part of the lower edge of the glass that is still attached.
-  Before reassembling, be sure to clean both the inside of the glass display panel and the LCD as any dust or fingerprints trapped inside will be annoyingly visible when the machine is on.

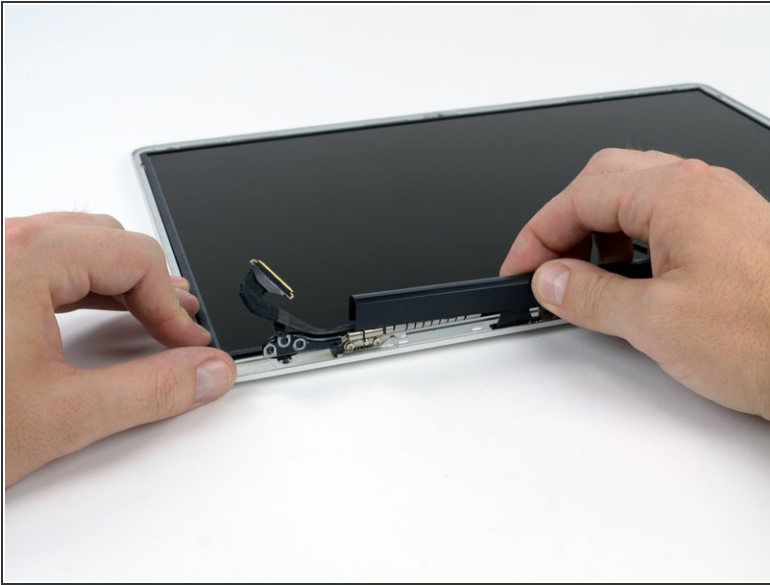


## Step 28 — Clutch Cover



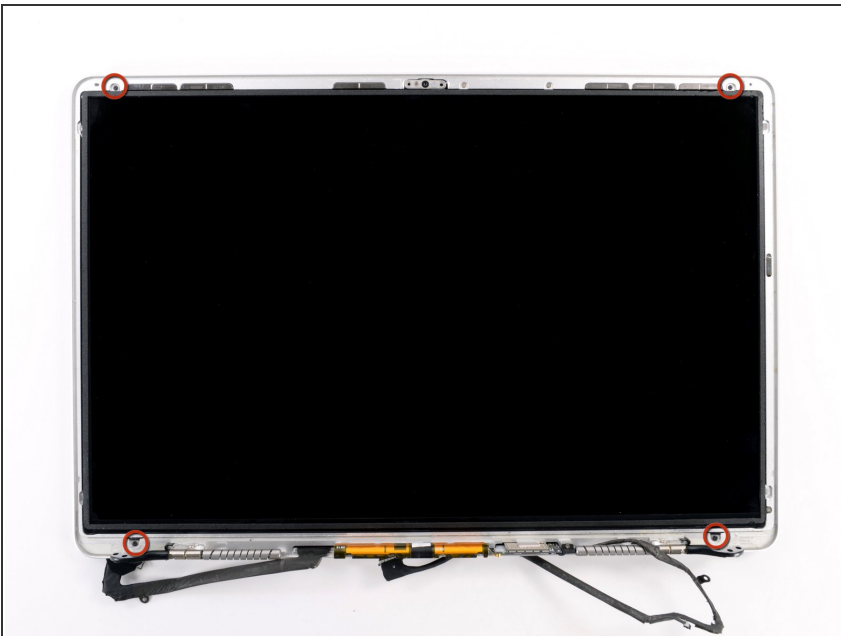
- Holding the clutch cover firmly, slide it towards the right display hinge.
- ⓘ The clutch cover will move approximately 1 cm to the right. Do not force it pass this point.

## Step 29



- Lifting the left edge of the clutch cover, gently rock it back and forth on its long axis while pulling it away from the display.
- Remove the clutch cover from the display, minding any cables that may get caught.

## Step 30 — LCD



- Remove the four 2.3 mm Phillips #00 screws securing the LCD to the rear display bezel.

## Step 31



- Lift one of the top corners of the LCD panel out of the rear bezel with a plastic opening tool.
- Grasp the top corners of the LCD and rotate it upwards, slightly out of the display.
- Pull the LCD toward the top of the display panel, freeing the screw tabs from underneath the rear display bezel.

## Step 32



- Carefully guide the LCD cable through the slot in the rear display bezel.
- ⓘ You may need to rotate the display slightly to get the cable through.

## Step 33



- Flip the LCD over and lay it face down, being careful to not put too much stress on the display cable.
- Peel the piece of tape covering the display data cable connector away from the edge closest to the LCD.

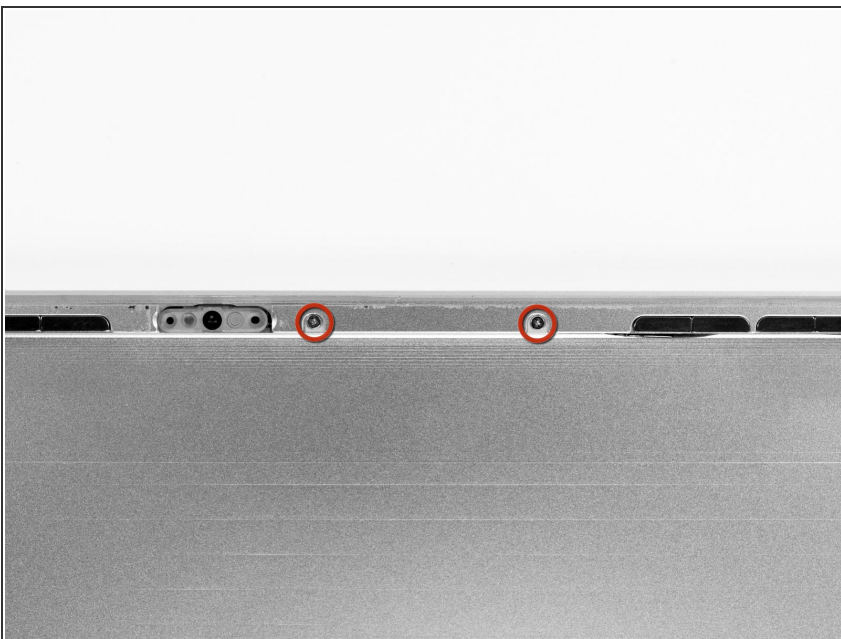


## Step 34



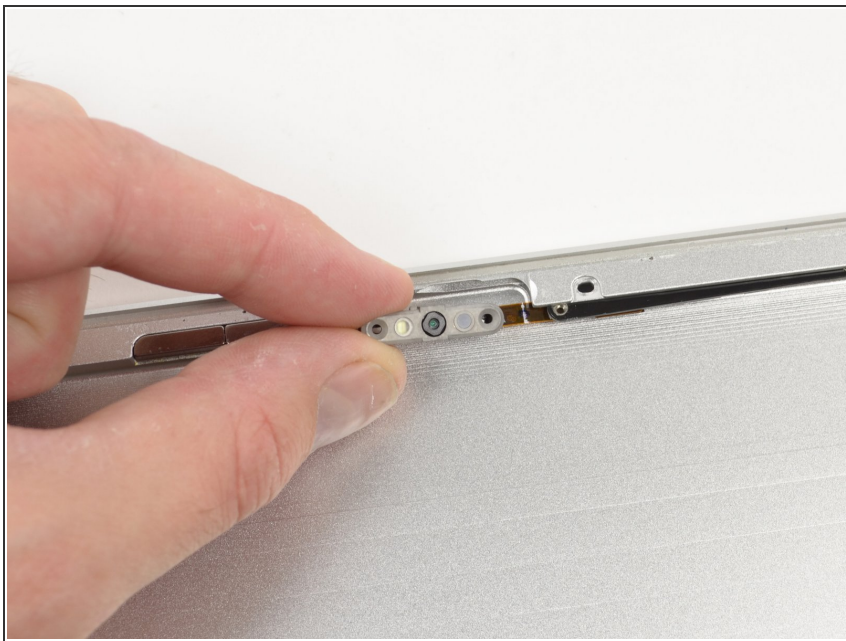
- Use the tip of a spudger to flip up the thin steel retaining clip securing the display data cable to its socket on the LCD.
- Pull the display data cable straight away from its socket on the LCD.
- Lift the LCD out of the display assembly and set it aside.

## Step 35 — Camera Board Assembly



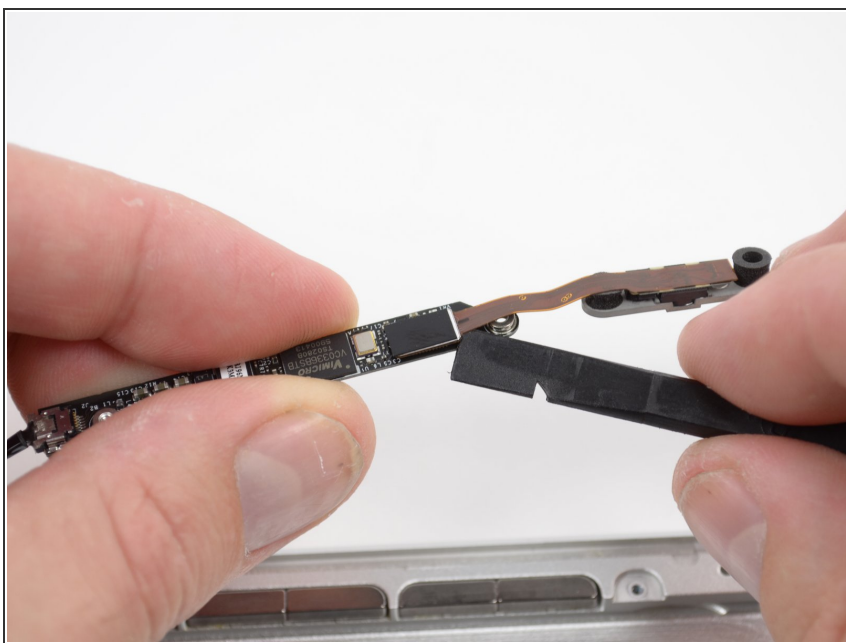
- Remove the two 2.7 mm Phillips #00 screws securing the camera board to the rear display bezel.

## Step 36



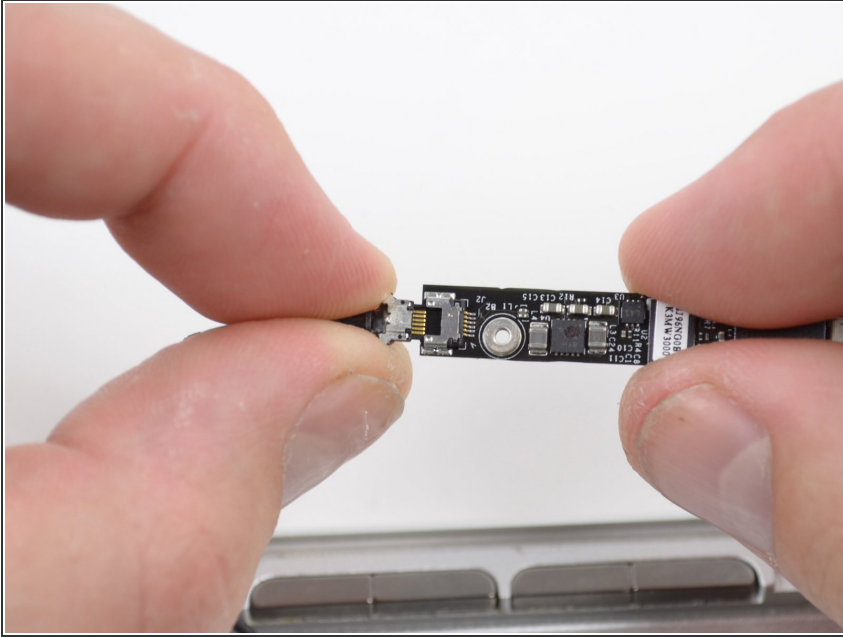
- Lift and remove the camera assembly out of the rear display bezel.

## Step 37 — Camera



- Use the flat end of a spudger to pry the camera board cable from its socket on the underside of the camera board.

## Step 38 — Camera Board



- Pull the camera/AirPort cable straight out of its socket on the camera board.

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