



# MacBook Pro 15" Unibody Mid 2009 LCD Replacement

Replace a broken LCD on your MacBook Pro 15" Unibody Mid 2009.

Written By: Andrew Bookholt



## INTRODUCTION

Save money by replacing just the LCD rather than the whole display assembly. This guide is **not** applicable for anti-glare displays.

### TOOLS:

- [Heat Gun](#) (1)
- [Heavy-Duty Suction Cups \(Pair\)](#) (1)
- [Phillips #00 Screwdriver](#) (1)
- [iFixit Opening Tools](#) (1)
- [Spudger](#) (1)
- [T6 Torx Screwdriver](#) (1)
- [P6 Pentalobe Screwdriver 2009 MacBook Pro Battery](#) (1)

### PARTS:

- [15" Unibody LCD Panel](#) (1)
- [MacBook Pro 15" Unibody LVDS Display Cable](#) (1)

## Step 1 — Lower Case



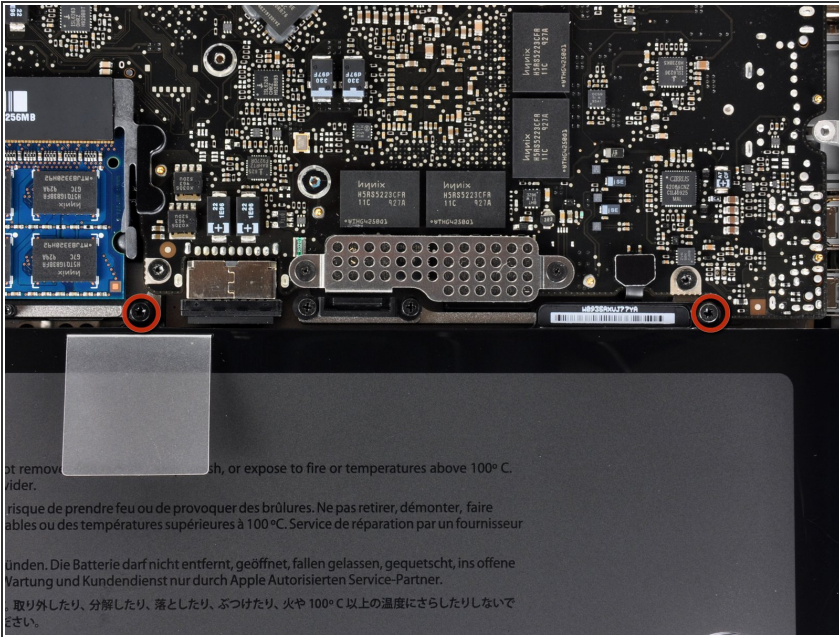
- Remove the following ten screws securing the lower case to the upper case:
  - Seven 3 mm Phillips screws.
  - Three 13.5 mm Phillips screws.

## Step 2



- Using both hands, lift the lower case near the vent to pop it off two clips securing it to the upper case.
- Remove the lower case and set it aside.

## Step 3 — Battery



- Remove the two [5-Point Pentalobe](#) screws along the top edge of the battery.
- ⓘ You do not necessarily have to follow steps 3-6 to remove the battery in order to replace the hard drive. However it is recommended to remove all power sources from electronics before working on them.

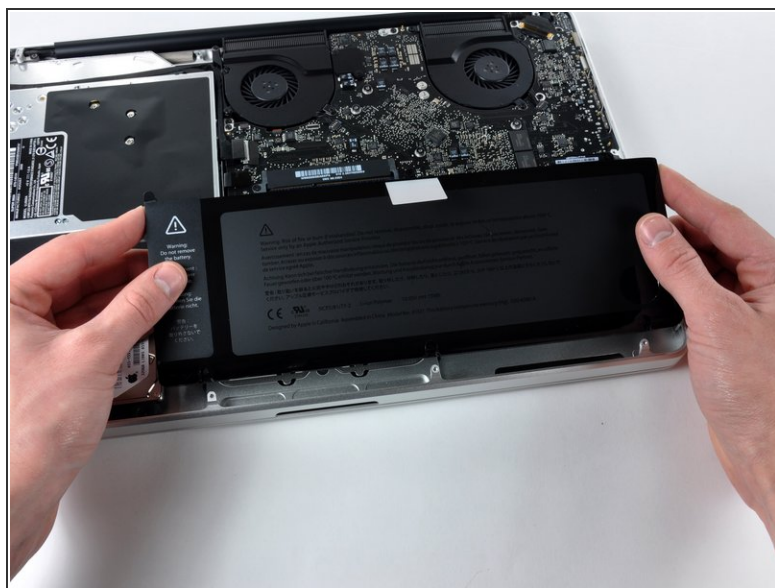


## Step 4



- Use the tip of a spudger to bend back the finger of the "Warning: Do not remove the battery" sticker while you remove third five-point Pentalobe screw hidden underneath.

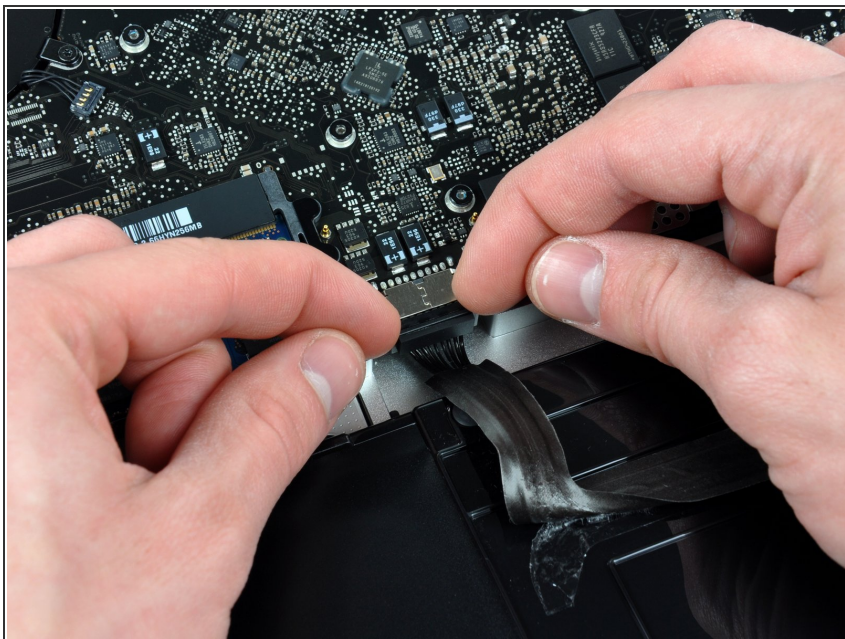
## Step 5



- Lift the battery by its plastic pull tab and slide it away from the long edge of the upper case.

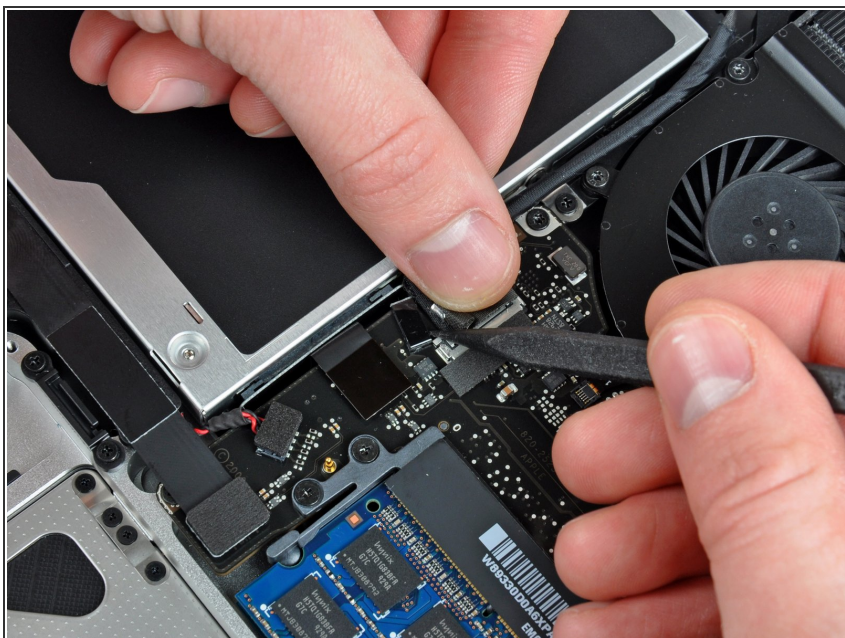
⚠ Do not try to completely remove the battery just yet.

## Step 6



- Tilt the battery back enough to access the battery cable connector.
- Pull the battery cable connector away from its socket on the logic board and remove the battery from the upper case.
- ✦ If you're installing a new battery, you should [calibrate](#) it after installation.

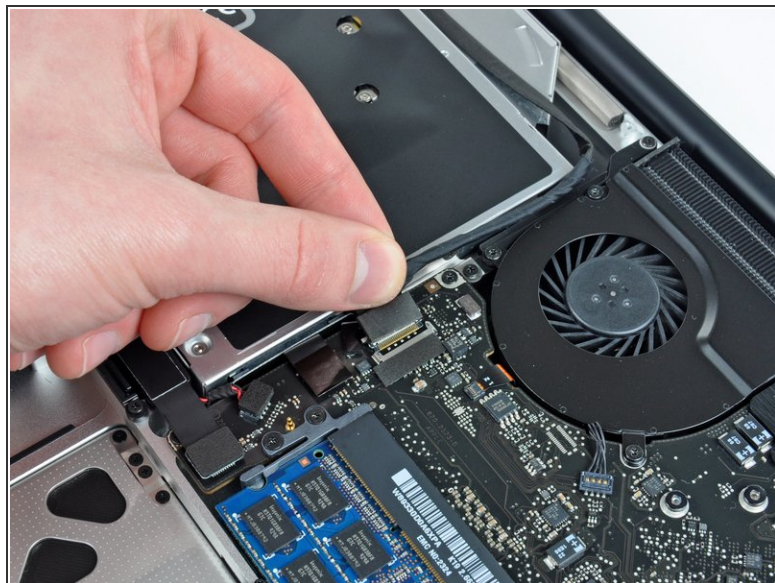
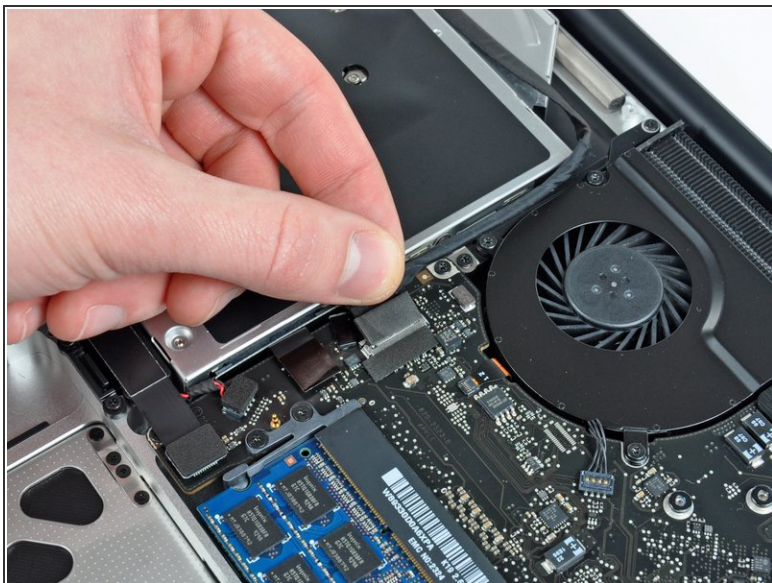
## Step 7 — Display



- ⚠ Apple sticks a small strip of clear plastic with adhesive applied to one side of the logic board behind the camera cable connector to keep it in its socket. When moving it out of the way, be sure not to break any surface-mount components off the logic board.
- Use the tip of a spudger to rotate the plastic retainer away from the camera cable connector.

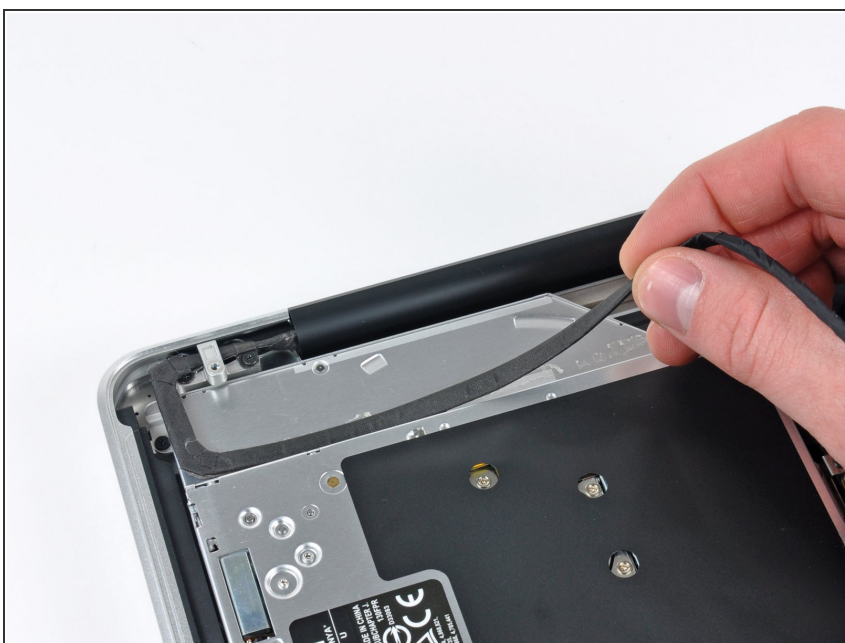


## Step 8



- Pull the camera cable away from its socket on the logic board.
- ⚠ Pull the connector parallel to the face of the logic board, not straight up.


## Step 9




- Peel the camera cable off the adhesive securing it to the body of the optical drive.

## Step 10



 This step is only required if you have an anti-glare display. If you have a glossy display, skip to step 12.

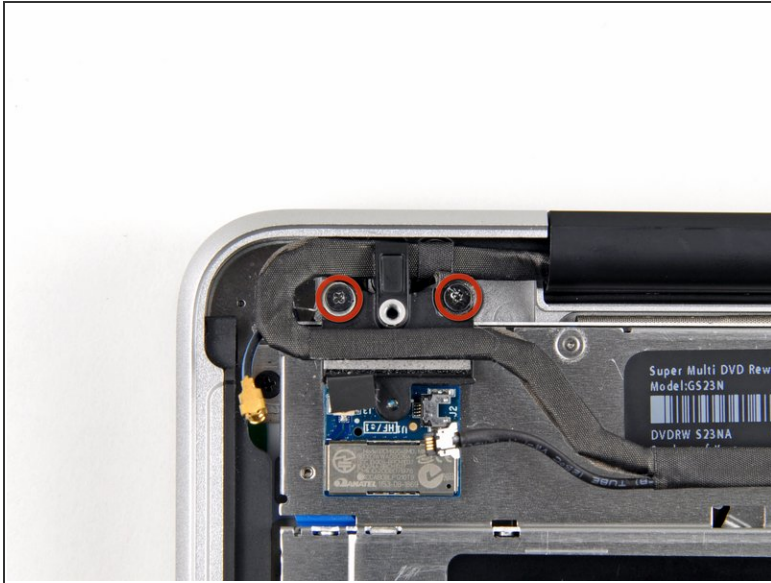
- Disconnect the Bluetooth cable by pulling the male end straight away from its socket.

 Pull the connector parallel to the face of the logic board, not straight up.

- Use the flat end of a spudger to pry the Bluetooth antenna cable up from its socket on the board.



## Step 11





**i** This step is only required if you have an anti-glare display.

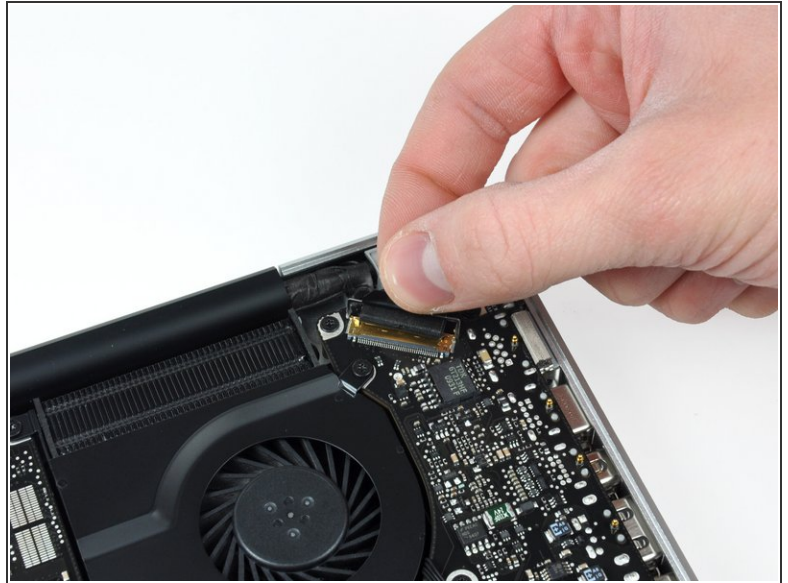
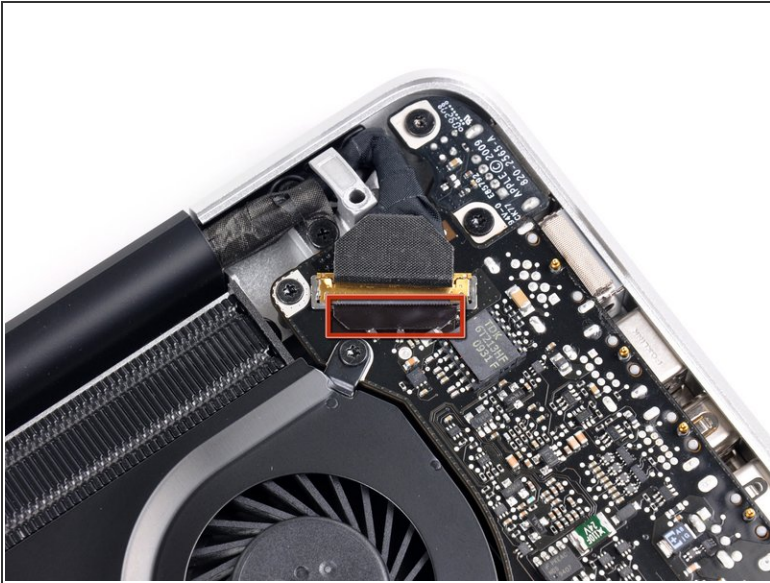
- Remove the two 8 mm Phillips screws securing the Bluetooth/camera cable retainer to the upper case.
- i** One of the screws may remain captive in the Bluetooth/camera cable ground loop. If replacing the display, be sure to transfer this screw to the new unit.
- Lift the Bluetooth board/cable retainer assembly out of the upper case.

## Step 12



-  This step is only for glossy display machines. If you have an anti-glare display, skip this step.
- Remove the two 8 mm Phillips screws securing the camera cable retainer to the upper case.
  -  One of the screws may remain captive in the camera cable ground loop. If replacing the display, be sure to transfer this screw to the new unit.
  - Lift the camera cable retainer out of the upper case.

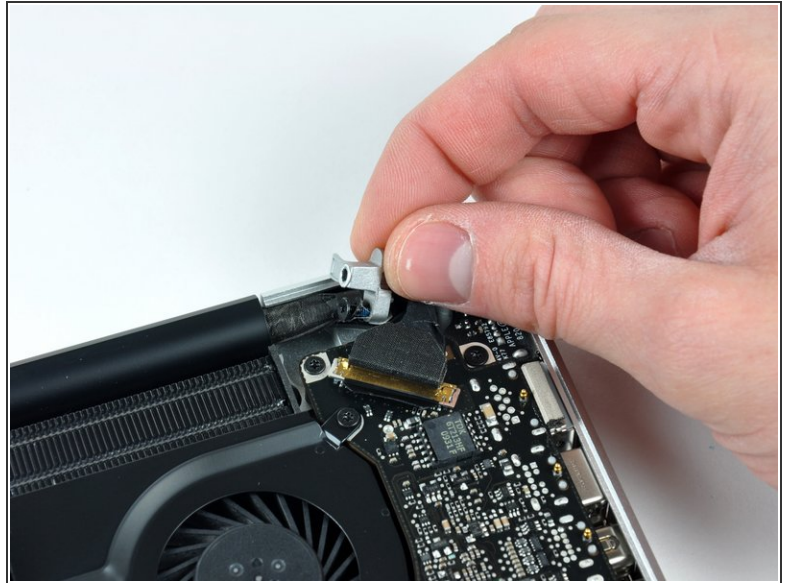
## Step 13



- Grab the plastic pull tab secured to the display data cable lock and rotate it toward the DC-In side of the computer.

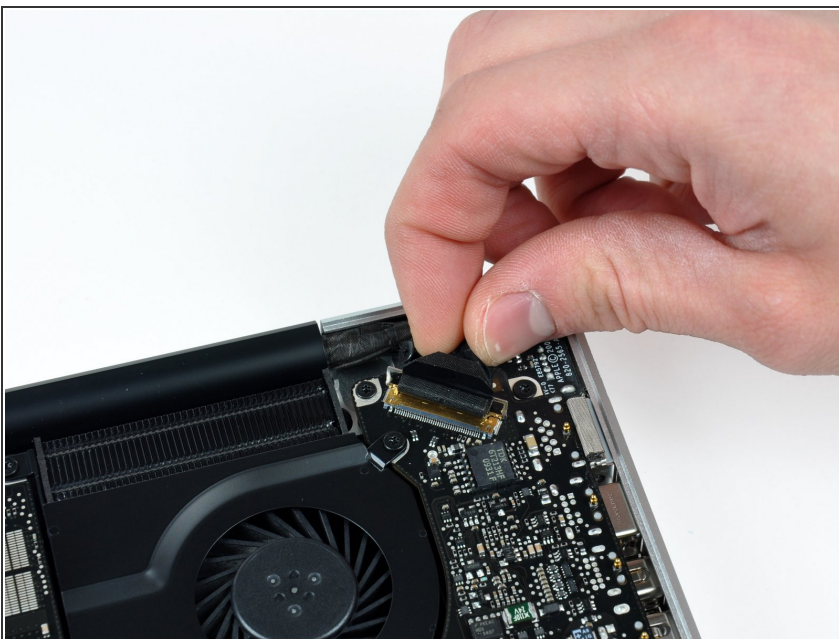


## Step 14



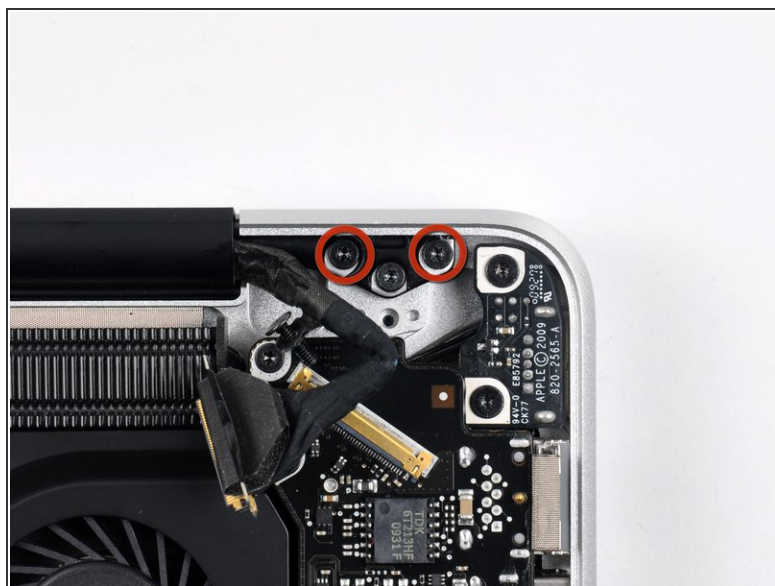
- Remove the single 7 mm Phillips screw securing the display data cable retainer to the upper case.
- ☛ This screw may remain captive in the display data cable ground loop. If replacing the display, be sure to transfer this screw to the new unit.
- Remove the display data cable retainer from the upper case.

## Step 15



- ⓘ Be sure the display data cable lock is rotated toward the DC-In board before proceeding.
- Pull the display data cable connector straight away from its socket.
- ⚠ Make sure to pull the connector parallel to the face of the logic board, not straight up from its socket.

## Step 16



- Remove the outer two T6 Torx screws securing both display hinges to the upper case (four screws total).

## Step 17




- 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 18



 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 19



- 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.

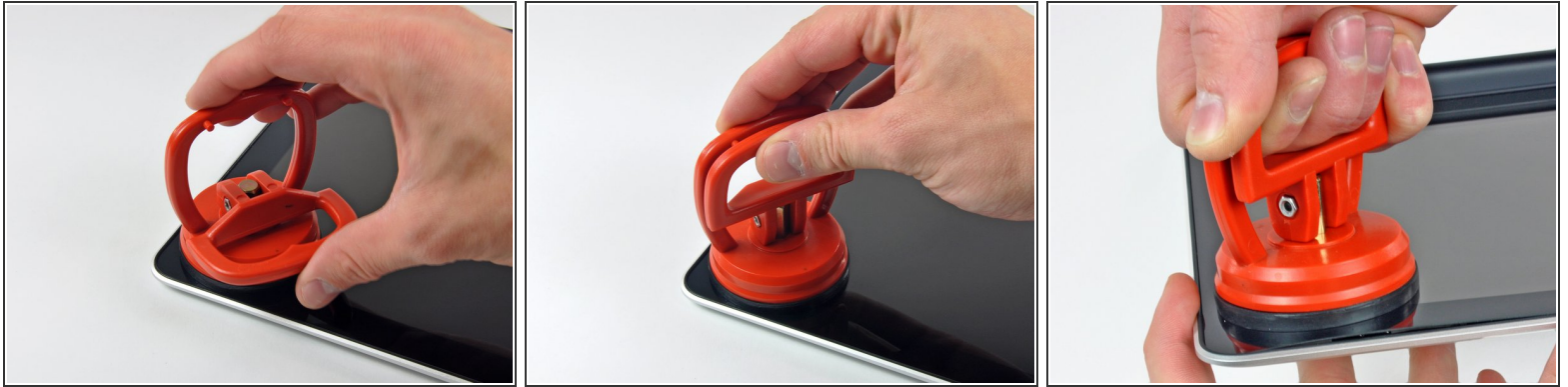


## Step 20 — Front Display Glass





- i** 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. The area the adhesive is applied to is shown in red in the second picture.
- Before starting, be sure to clean the display glass with 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.
- !** Always aim the heat gun away from the soft rubber strip around the display glass. Heating the rubber will cause it to melt slightly, turning its finish from matte to glossy. Touching overheated rubber can cause it to permanently deform.
- i** 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 21




- With the panel sufficiently heated, fasten a heavy-duty suction cup near the upper right corner of the display glass.

 Don't fasten the suction cup on top of the rubber strip around the edge 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.

- Slowly and gently pull the corner of the display glass up off the display assembly.

 If only the top edge of the glass lifts up (as seen in the third picture), repeat steps one and two until you can lift up the corner of the panel.

## Step 22



- Gently lift the corner of the display glass enough to insert a spudger between it and the display assembly.
- Use the flat end of a spudger to gently pry up the adhesive securing the front glass to the display.
- Pry up the glass panel a few inches away from the upper right corner along the top and right edges of the display.



## Step 23



- Use a heat gun to soften the adhesive under the black strip along the right side of the front glass panel.
  - Attach a suction cup along the right side of the front glass panel.
  - Pull up on the glass panel while you use the flat end of a spudger 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.
- i** It may be helpful to use a guitar pick or another thin plastic object to keep the upper right corner of the front glass panel from sticking back down to the display assembly.

## Step 24



- Use your heat gun to soften the adhesive under the black strip along the top edge of the glass display panel.
- Attach a suction cup near the top edge of the glass display panel and use it to pull the glass panel up off the display.
- Work along the top edge of the glass panel, carefully using the flat end of a spudger to separate the adhesive if necessary.

## Step 25



- Use a heat gun to soften the adhesive under the black strip near the upper left corner of the glass display panel.
  - Attach a suction cup near the upper left corner of the glass display panel.
  - Pull up on the suction cup and use the flat end of a spudger to carefully pry the glass display panel out of the display assembly.
- i** Once the upper left corner has been separated from the display, it may be helpful to use a guitar pick or another thin plastic object to keep the glass from sticking back down to the display assembly.



## Step 26



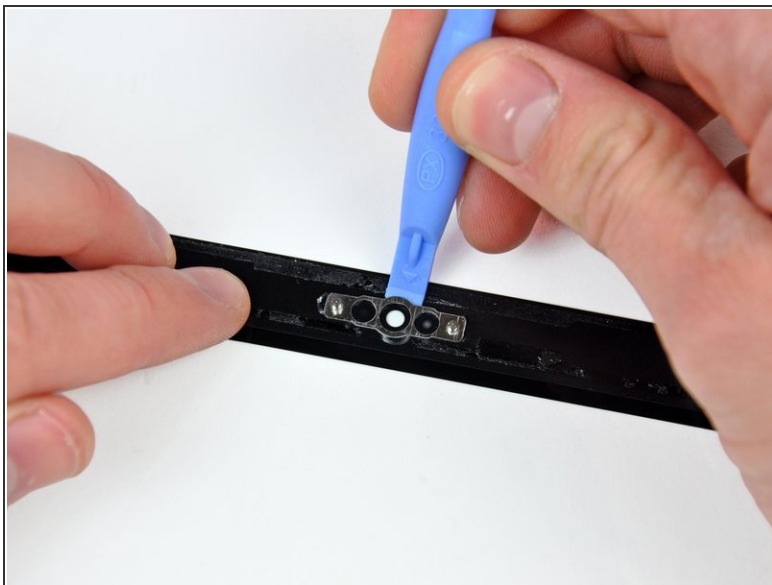
- Use a heat gun to soften the adhesive under the black strip along the left side of the front glass panel.
- Attach a suction cup along the left side of the front glass panel.
- Pull up on the glass panel while you use the flat end of a spudger to separate it from the rest of the display assembly.
- Continue working along the left edge of the front display glass until it is separated from the display.

## Step 27



- Now that the top, left, and right edges of the glass are free from the display, slowly lift the top edge of the glass panel and gently rotate it out of the display.
- ⓘ If necessary, use the flat end of a spudger to free the bottom edge of the glass display panel from the display assembly.
- ✦ 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



- Insert the edge of a plastic opening tool between the display glass and the camera bracket, and run it around the camera bracket to separate it from the display glass.

✦ Do not forget to stick the camera bracket down to the new front display glass before reassembly.

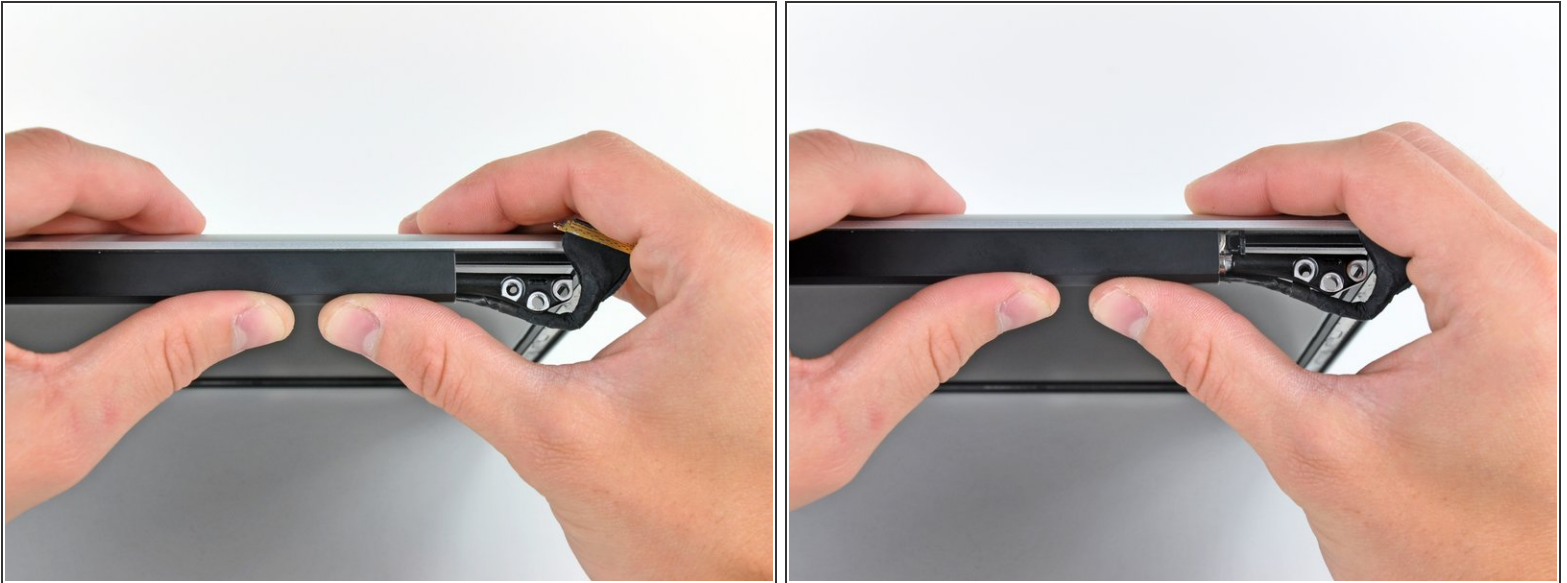


## Step 29



- ⓘ During the glass removal process, the camera cable may stick to the adhesive on the glass panel, disconnecting it from the camera board as the panel is lifted. If your camera cable is still connected to the camera board, skip this step.
- To reconnect the cable, first use the tip of a spudger to remove the piece of foam tape over the camera cable ZIF socket.
- Use the tip of a spudger to flip up the ZIF cable retainer on the camera cable socket.
- Insert the camera cable into its socket on the camera board and use the tip of a spudger to snap down the ZIF cable retainer, locking the cable in place.
- ★ Reapply the piece of tape covering the camera cable socket.

## Step 30 — LCD



- Slide the clutch cover toward the right edge of the display.

⚠ The clutch cover will move approximately .25" and stop. Do not force it too far to the right.

- 🔧 When reinstalling the clutch cover, be sure to slip it over the components protruding from the lower edge of the display about .25" to the right of its final installed position on the display.

## Step 31



- Starting at its far left end, rock the clutch cover along its long axis while pulling it away from the clutch hinge.
  - Working from right to left, carefully continue to release and lift the clutch along the lower edge of the display assembly.
  - Lift the clutch cover up off the front bezel and set it aside.
- ✦ When reinstalling the clutch cover, be sure to widen the opening when slipping it over the small black plastic cosmetic cover that fills the open end of the clutch cover when it is in place. The cosmetic cover has very thin and delicate plastic arms that hold it to the right clutch hinge.



## Step 32



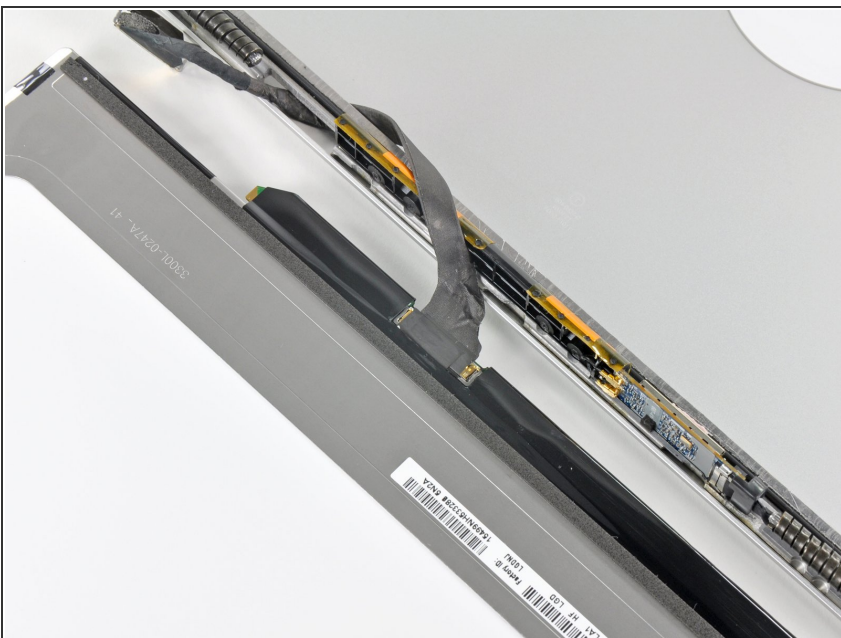
- Remove the six 2.9 mm Phillips screws securing the LCD panel to the front bezel.

## Step 33



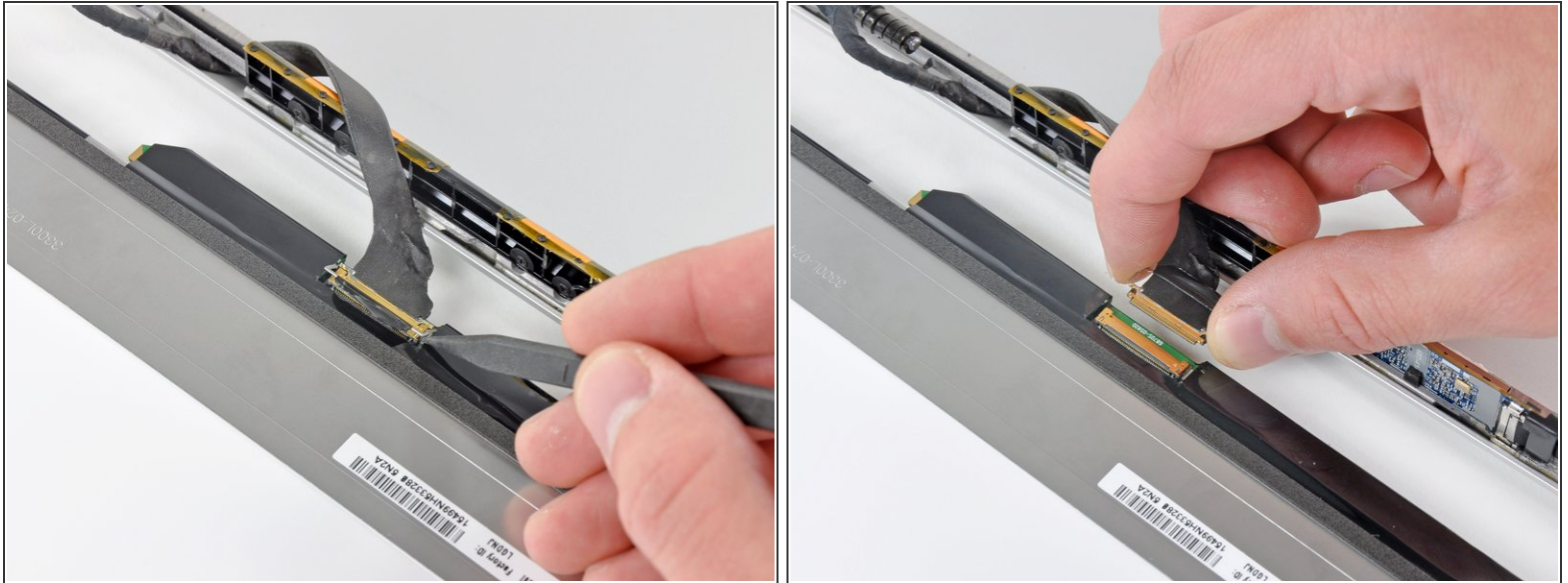
- Pull the LCD toward the top edge of the display to slide the circuitry along its lower edge out of the recess in the aluminum display assembly.
- ⓘ It may be helpful to use one hand to feed the display data cable through its channel in the aluminum display assembly as you pull the LCD toward the top edge of the display with the other hand.

## Step 34



- Peel the piece of tape covering the display data cable connector away from the edge closest to the LCD.

## Step 35



- 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.
- ⓘ If you are replacing the LVDS/display data cable, simply de-route it from its slot cut into the display casing.

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