



# **How to prevent top case separation by lubricating the stiff hinges on MacBook Pro 15" Unibody Late 2008 and Early 2009**

Lubricate your stiff display hinges to prevent top case housing separation.

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## INTRODUCTION

Late 2008 MacBook Pros 15 inch models suffer from delamination of the top case which may occur on some models, as the unibody design of the screen isn't really unibody on these early models, but a glued two part item. Heat from computer that is blown onto the hinge slowly softens this glue and it can eventually cause it to separate. Apple had an out-of-warranty case that permitted free replacements of 15-inch Late 2008 MacBook Pro displays, but this case was valid until about 2013-2014.

Upon inspection of several these MacBook Pros 15-inch Late 2008 laptops, I discovered that some of them had very stiff hinges and display opened with too much force. Some of these already had some delamination of the display assembly. As the hinges get stiff, more force is applied on the display which over time causes the already weak glue that holds the outer display housing to break and separate from the back case.

To delay or even prevent the separation, the solution is to lubricate these hinges which is best done with the display removed, also recommended is to remove clutch cover. Only warning is, that sometimes then the hinges can become too soft and may not hold the display at the desired angle.

This guide is also valid for an A1278 Late 2008 MacBook Aluminium 13-inch model, but delamination and stiff hinges are very uncommon on these models (but it does still happen).

### TOOLS:

- [Spudger](#) (1)
- [iFixit Opening Tools](#) (1)
- [Phillips #00 Screwdriver](#) (1)
- [T6 Torx Screwdriver](#) (1)

### PARTS:

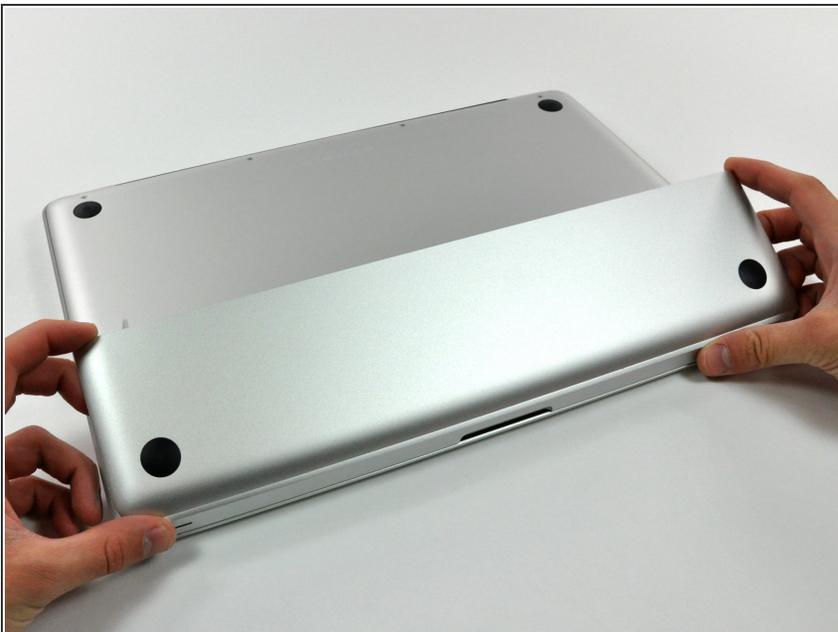
- [1x Silicone Spray](#) (1)

## Step 1 — Access Door



- With the case closed, place the Unibody top-side down on a flat surface.
- Depress the grooved side of the access door release latch enough to grab the free end. Lift the release latch until it is vertical.

## Step 2



- The access door should now be raised enough to lift it up and out of the Unibody.

## Step 3 — Battery



- ⓘ Be sure the access door release latch is vertical before proceeding.
- Grab the translucent plastic tab and pull the battery up and out of the Unibody.
- If the latch is depressed it will lock the battery in place.

## Step 4 — Lower Case



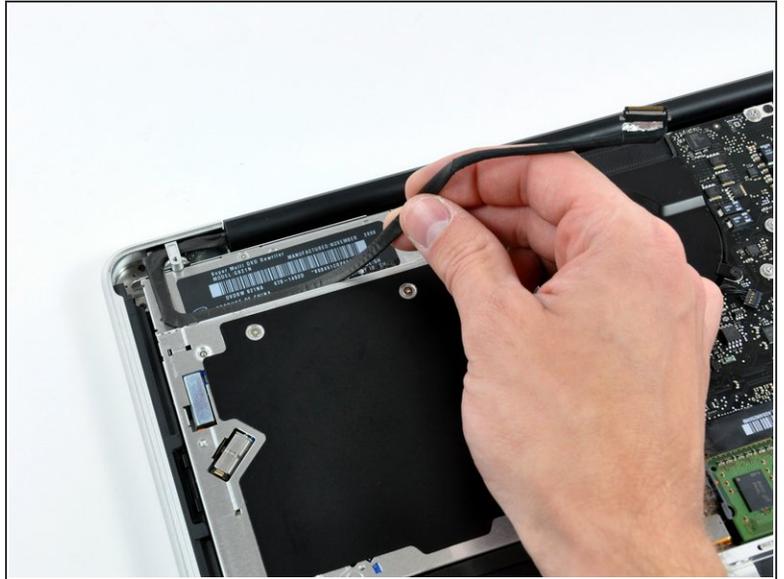
- Remove the following eight screws securing the lower case to the chassis:
  - One 5.4 mm Phillips screw.
  - Three 14 mm Phillips screws.
  - Four 3.5 mm Phillips screws.

## Step 5



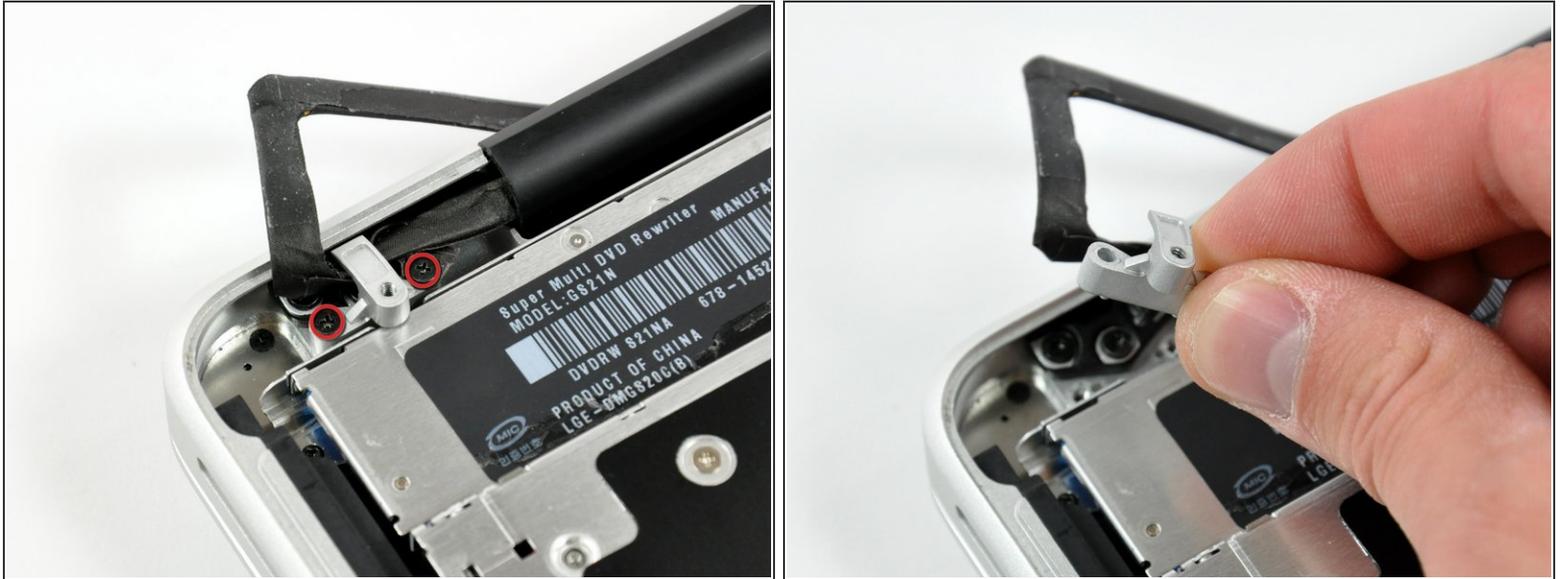
- Using both hands, lift and remove the lower case off the upper case.

## Step 6 — Display Assembly



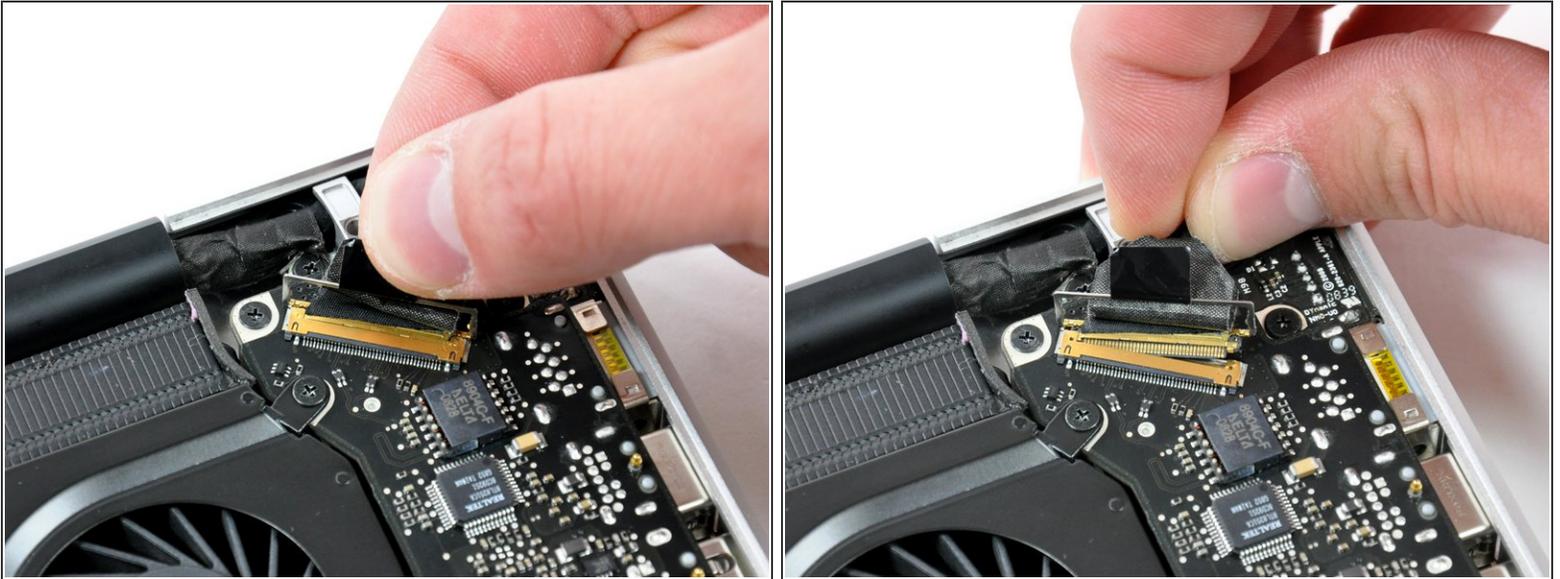
- ⓘ If necessary, peel the EMI gasket off the camera cable connector.
- Disconnect the camera cable by pulling the male end straight away from its socket toward the optical drive opening.
- ⚠ Do not try to lift this connector straight up off the board. Pull the connector parallel to the face of the logic board.
- Deroute the camera data cable from the channel in the optical drive.

## Step 7



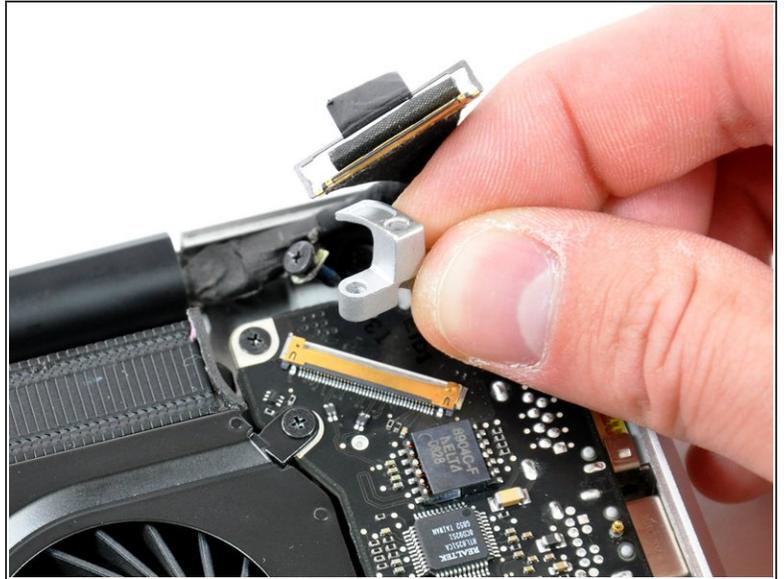
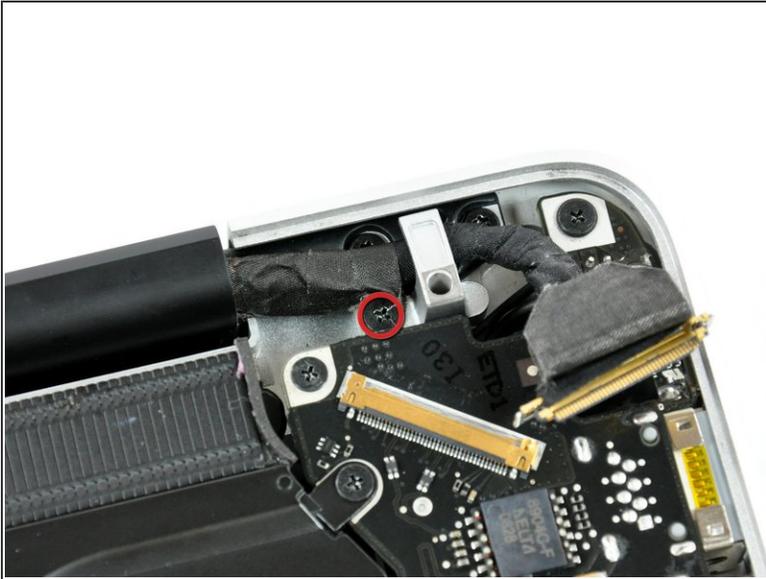
- Remove the two Phillips screws securing the camera cable bracket to the upper case.
- ⓘ The leftmost screw may remain captive in the camera cable.
- Separate the camera cable bracket from the camera cable and remove it from the computer.

## Step 8



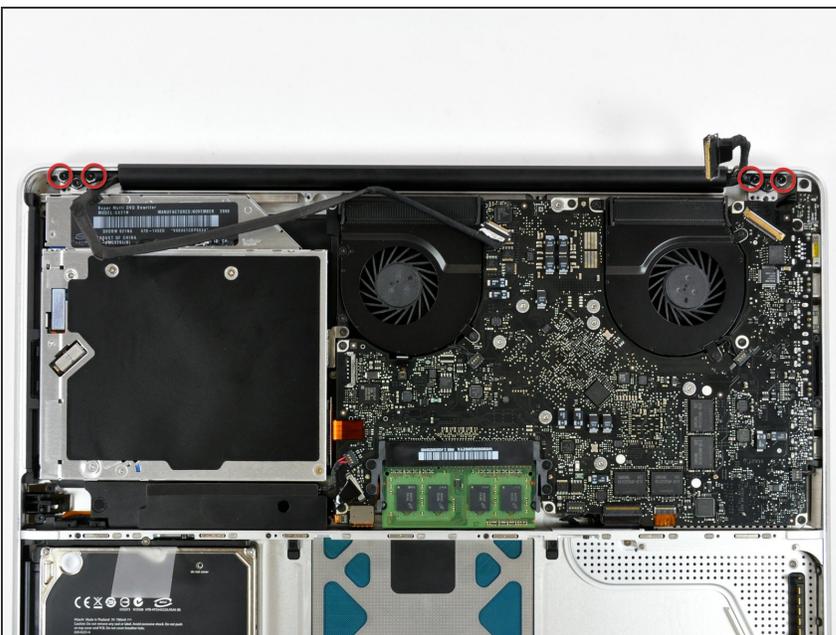
- Grab the plastic pull tab secured to the LVDS cable lock and rotate it toward the DC-in side of the computer.
- Pull the LVDS connector straight away from its socket.
- ⓘ When disconnecting the LVDS cable, do not pull on the black tab secured to the LVDS cable lock. We recommend wiggling the cable while applying tension to slowly "walk" the connector out of its socket.

## Step 9



- Remove the 7 mm Phillips screw from the LVDS cable bracket.
- ⓘ This screw may remain captive in the LVDS cable.
- Lift the LVDS cable bracket out of the upper case.

## Step 10



- Remove the two outer 6 mm Torx screws securing each side of the display to the upper case (four screws total).

## Step 11



- 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 other hand, remove the 6 mm Torx screw from the lower display bracket.

## Step 12



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

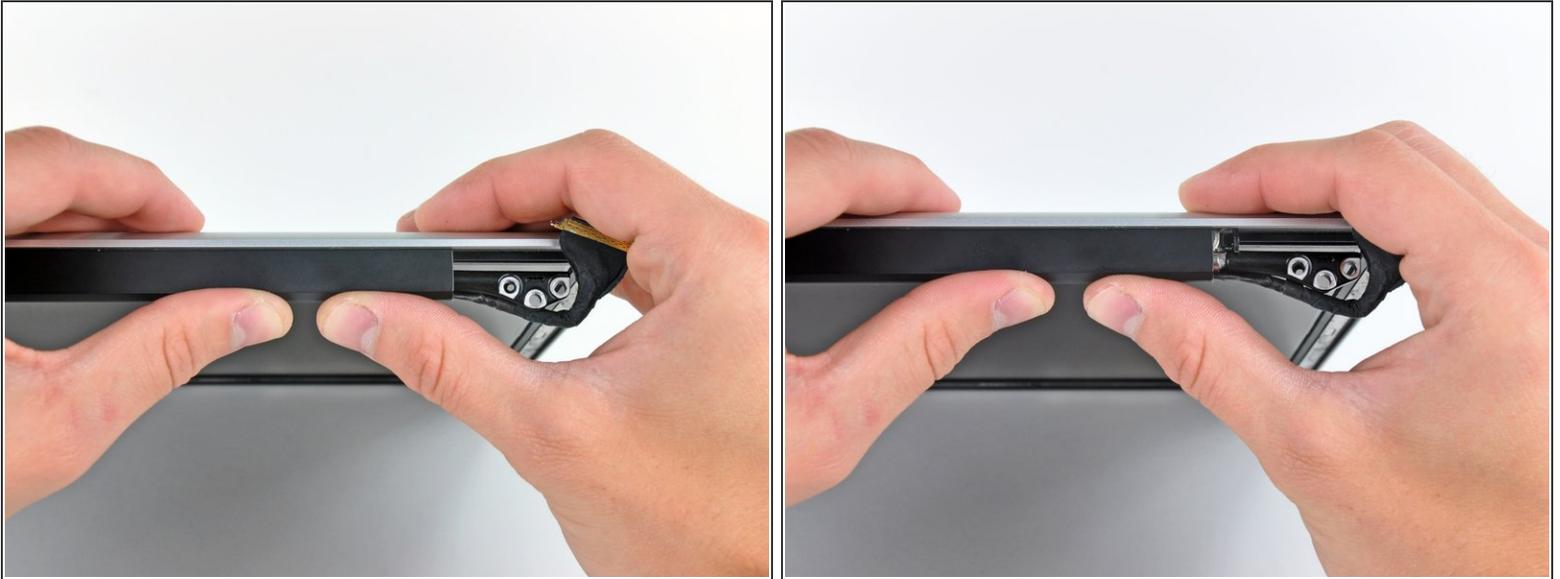
- Remove the last remaining 6 mm Torx screw securing the display to the upper case.

## Step 13



- 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 away from the upper case, minding any brackets or cables that may get caught.

## Step 14 — How to prevent top case separation by lubricating the stiff hinges on MacBook Pro 15" Unibody Late 2008 and Early 2009



- 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 15



- 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 16



- Use a cloth or paper towel to cover the LCD and surroundings as you do not want to get any silicone lubricant there.
- Spray small amount of silicone lubricant onto the display hinges, where the silver part is.
- While you are there, check the three screws that hold the hinges for any play and re-tighten them if necessary.
- ⓘ These screws sometimes come loose after years of everyday use, so it is a good idea to check the tightness anyway
- ⚠ Don't spray too much of lubricant onto the hinges, as it might puddle up and get trapped underneath the LCD!

## Step 17



- Reassemble the laptop, starting with clutch cover.
- Open and close the display a few times while checking if the display closes and opens more smoothly.
- If you feel that lubrication did not help much, you can try to lubricate it again. But don't overdo it.

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