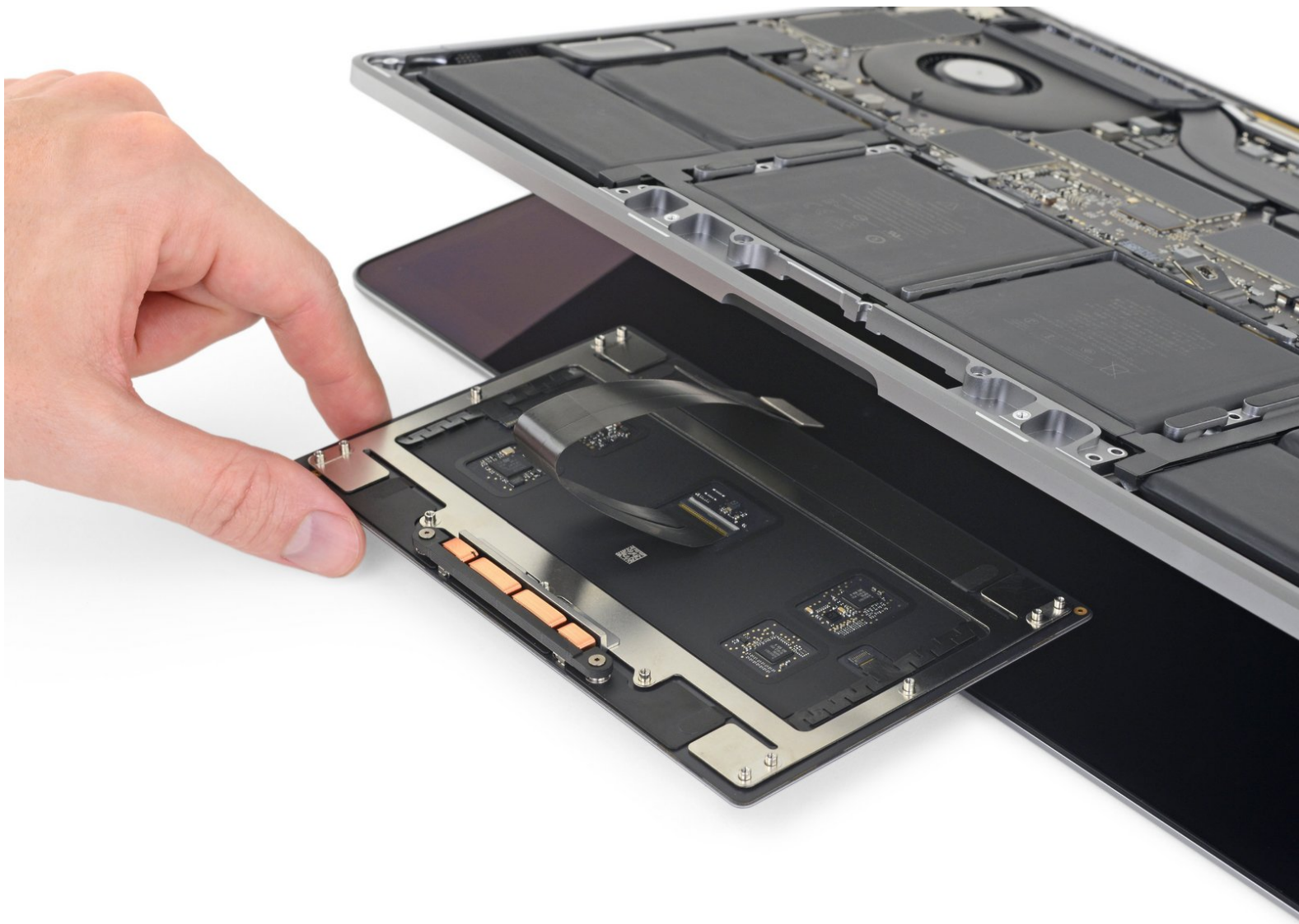




MacBook Pro 15" Touch Bar 2019 Trackpad Replacement

How to remove or replace the trackpad in your 15" MacBook Pro (2019).

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INTRODUCTION

Use this guide to replace a faulty trackpad, or to simply remove the trackpad temporarily when servicing the battery.

For your safety, discharge your MacBook Pro's battery below 25% before you begin this procedure. A charged lithium-ion battery can create a dangerous fire if accidentally punctured.



TOOLS:

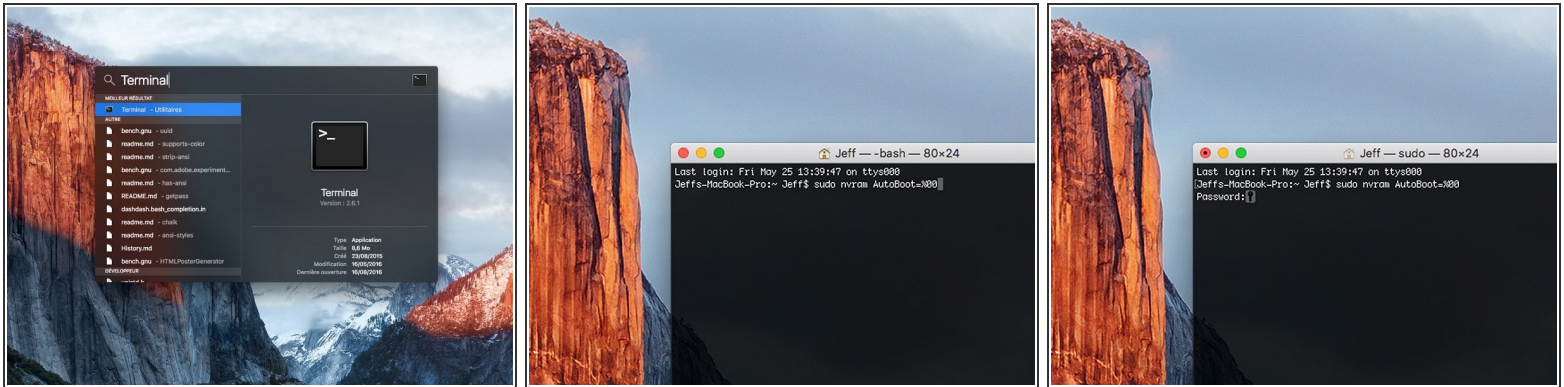
- [P5 Pentalobe Screwdriver Retina MacBook Pro and Air](#) (1)
- [Suction Handle](#) (1)
- [iFixit Opening Picks set of 6](#) (1)
- [Spudger](#) (1)
- [Tweezers](#) (1)
- [T5 Torx Screwdriver](#) (1)
- [T3 Torx Screwdriver](#) (1)
- [iOpener](#) (1)
- (Optional)
- [Halberd Spudger](#) (1)



PARTS:

- [MacBook Pro 15" Retina \(Late 2016-2019\) Trackpad](#) (1)
- [MacBook Pro 15" Retina \(Late 2016-2019\) and 16" \(2019\) Trackpad Cable](#) (1)

Step 1 — Disable Auto Boot



i Before starting this procedure, you must disable your Mac's **Auto Boot** feature. Auto Boot powers on your Mac when you open the lid, and may be accidentally triggered during disassembly. [Use this guide](#) or follow the abbreviated instructions below to disable Auto Boot. *This command may not work on all Macs.*

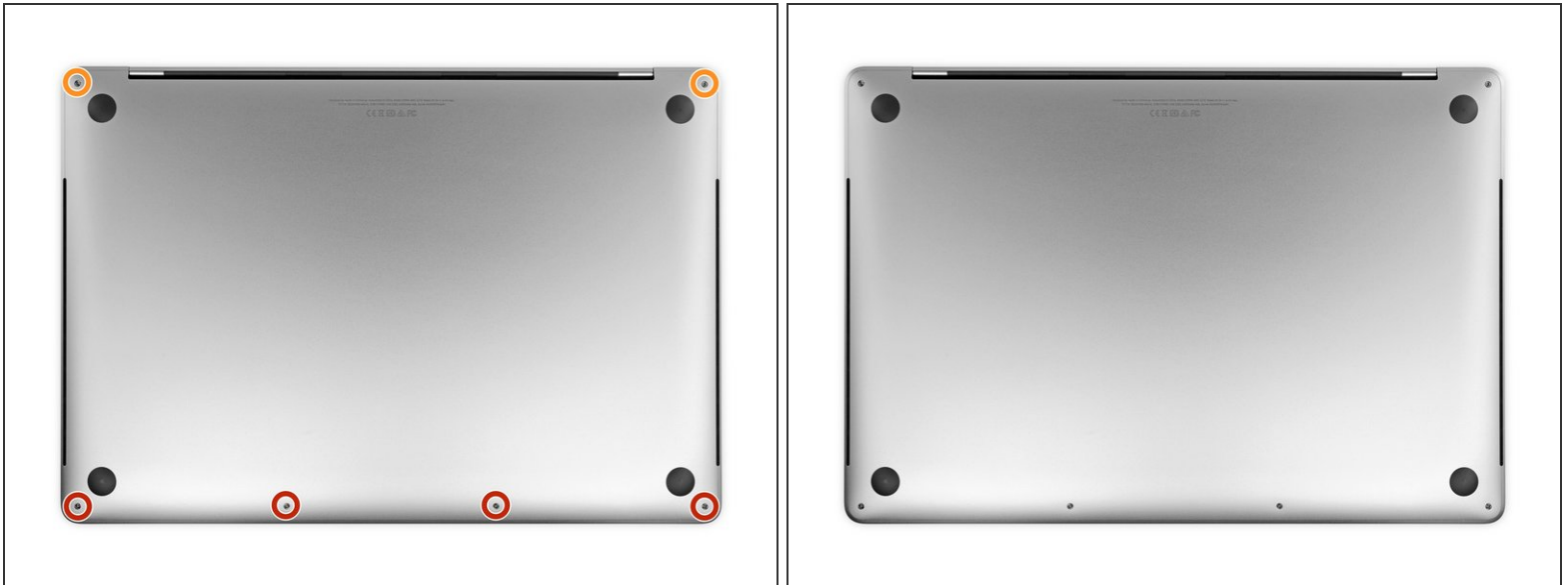
- Power on your Mac and launch **Terminal**.
- Copy and paste the following command (or type it exactly) into Terminal:
 - **sudo nvram AutoBoot=%00**
- Press **[return]**. If prompted, enter your administrator password and press **[return]** again. *Note: Your return key may also be labeled ↵ or "enter."*


i You can now safely power down your Mac and open the bottom case, without it accidentally powering on.

★ When your repair is complete and your Mac is successfully reassembled, re-enable Auto Boot with the following command:



- **sudo nvram AutoBoot=%03**

Step 2 — Lower Case



 Completely power off and unplug your MacBook Pro before you start. Close the display and flip the entire laptop upside-down.

- Use a P5 Pentalobe driver to remove six screws securing the lower case, of the following lengths:
 - Four 4.7 mm screws
 - Two 6.6 mm screws

-  Note how the screws come out at a slight angle—you must reinstall them the same way.
-  Throughout this repair, [keep track of each screw](#) and make sure it goes back exactly where it came from to avoid damaging your device.

Step 3



- Press a suction handle into place near the front edge of the lower case, between the screw holes.
- Pull up on the suction handle just enough to open a small gap under the lower case.

Step 4



- Slide the corner of an opening pick into the gap you just created underneath the lower case.
- Slide the opening pick around the nearest corner and then halfway up the side of the MacBook Pro.
- ❗ This releases the first of the hidden clips securing the lower case. You should feel and hear the clip pop free.

Step 5



- Repeat the previous step on the other side, using an opening pick to to release the second clip.

Step 6

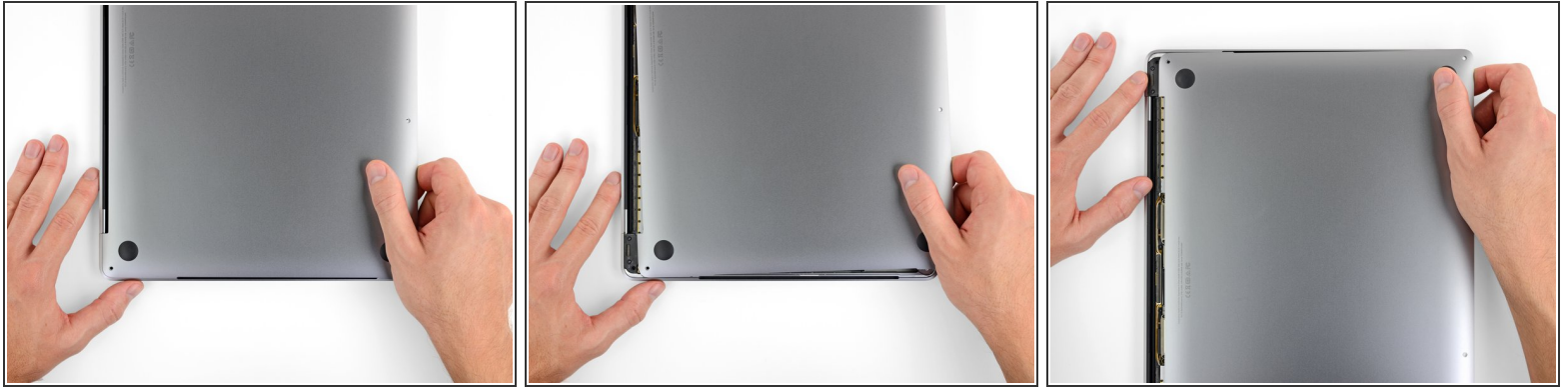


- Lift the front edge of the lower case (the side opposite the display hinge) enough to slide your fingertips underneath and get a good grip on it.

- ⓘ Two additional hidden clips near the middle of the cover should pop free at this point, if they haven't already.

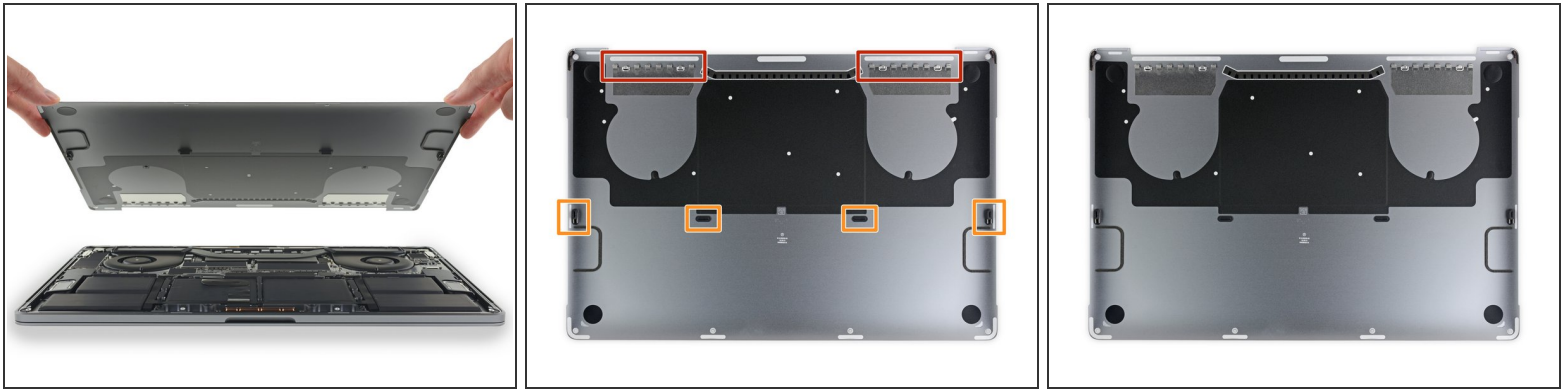
- ⚠ Don't lift more than an inch or so, and don't try to remove the lower case yet.

Step 7



- Pull firmly to slide the lower case towards the front edge of the MacBook (away from the hinge area) to separate the last of the clips securing the lower case.
 - Pull first at one corner, then the other.
- ⚠ Pull to the side—not up.
- ⓘ This may require a lot of force.

Step 8



- Remove the lower case.

To reinstall the lower case:

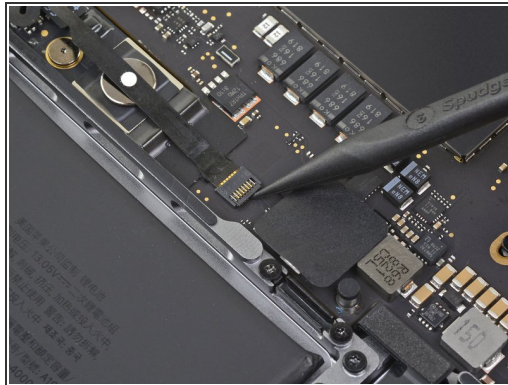
- [Set it in place](#) and align the sliding clips near the display hinge. Press down and slide the cover toward the hinge. It should stop sliding as the clips engage.
- When the sliding clips are fully engaged and the lower case looks correctly aligned, press down firmly on the lower case to engage the four hidden clips underneath. You should feel and hear them snap into place.

Step 9 — Battery Connector



- Peel up and remove the insulating sticker covering the battery board, on the edge of the logic board nearest the battery.
 - If the cover doesn't peel up easily, apply mild heat with an iOpener, hair dryer, or heat gun to soften the adhesive underneath, and try again.
- ☑ If the cover doesn't seat securely during reassembly, try rotating it 180 degrees. It must be oriented correctly in order for the adhesive pads underneath to contact the board screws.

Step 10



- Peel back any tape covering the battery board data cable connector.
- Use a spudger to gently pry up the locking flap on the [ZIF connector](#) for the battery board data cable.

Step 11



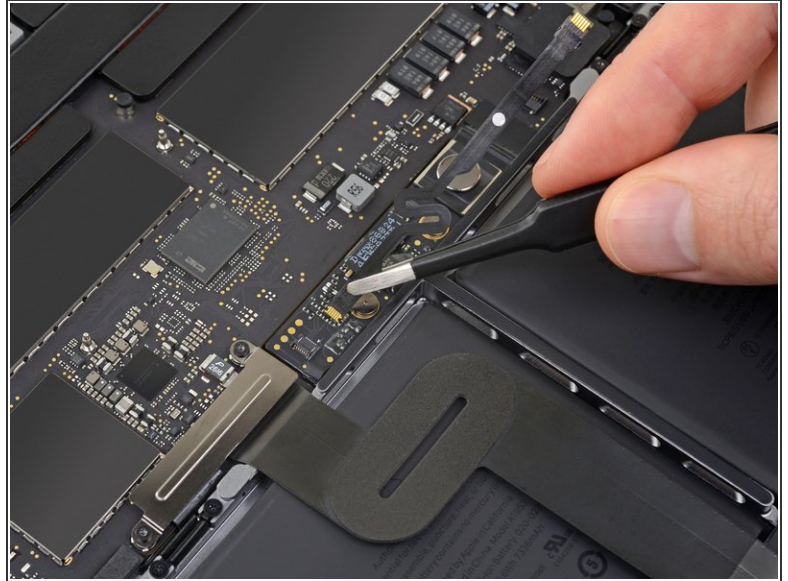
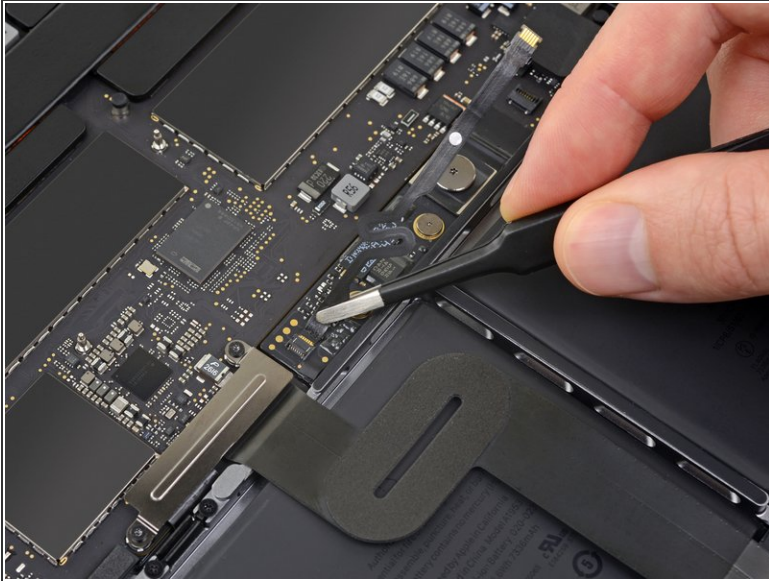
- Disconnect the battery board data cable by sliding it out from its socket on the logic board.
- Slide parallel to the logic board, in the direction of the cable.

Step 12



- Pry up and disconnect the locking flap on the connector at the opposite end of the battery board data cable.

Step 13



- Slide the battery board data cable out of its socket on the battery board, and remove it completely.
- ☑ Take care not to install this cable backwards or upside-down. When installed correctly, the white liquid indicator sticker should face up, positioned directly over the battery power connector screw.

Step 14



- Use a T5 Torx driver to remove the 3.7 mm pancake screw securing the battery power connector.

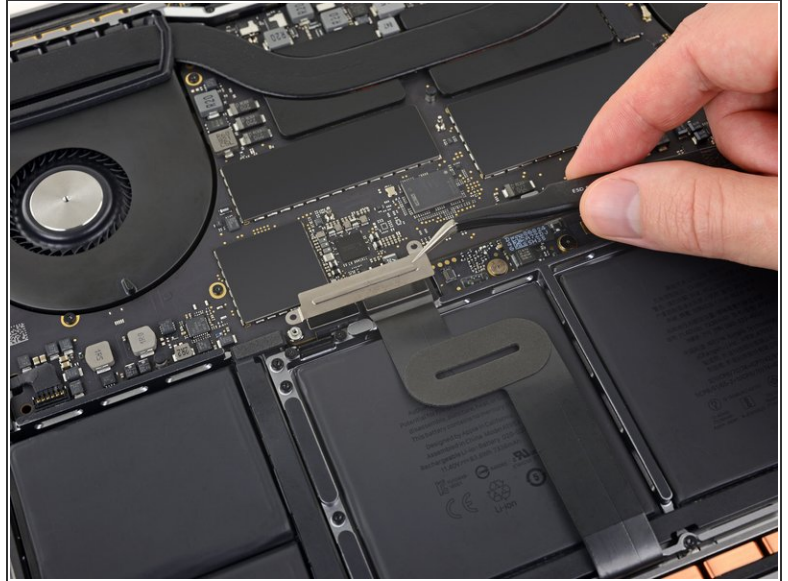
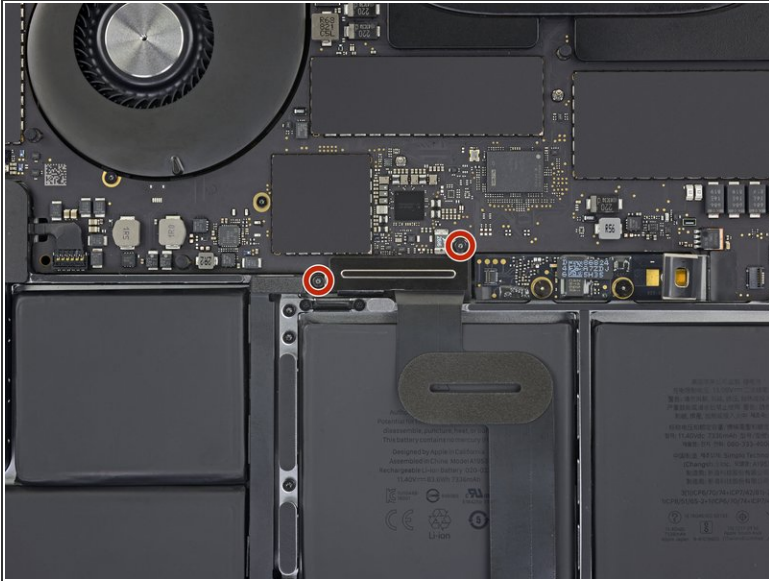
Step 15



- Use a spudger to lift the battery power connector, disconnecting the battery.

⚠ Lift the connector high enough to keep it separated from its socket while you work. If it accidentally makes contact, it could damage your MacBook Pro.

Step 16 — Trackpad Assembly



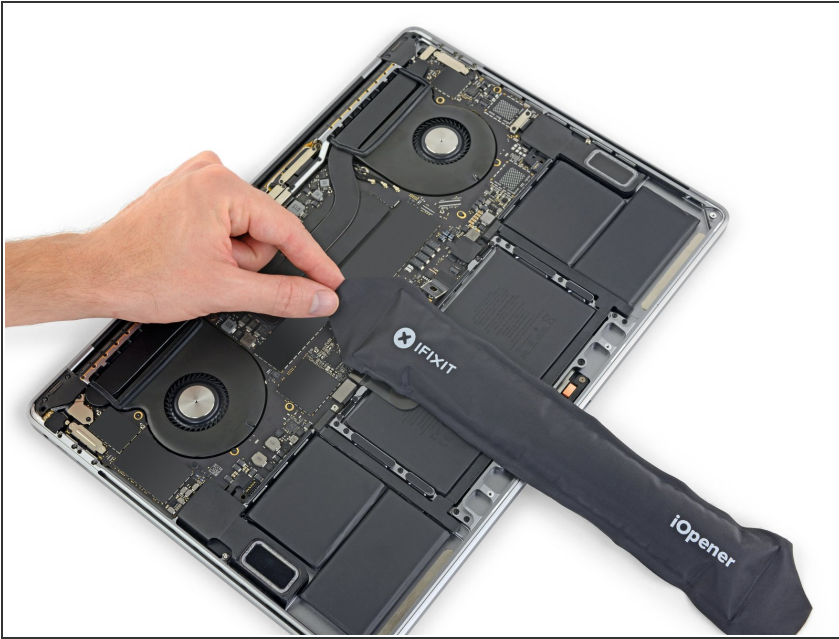
- Use a T3 Torx driver to remove the two 1.9 mm screws securing the cover bracket for the keyboard and trackpad cable connectors.
- Remove the bracket.

Step 17



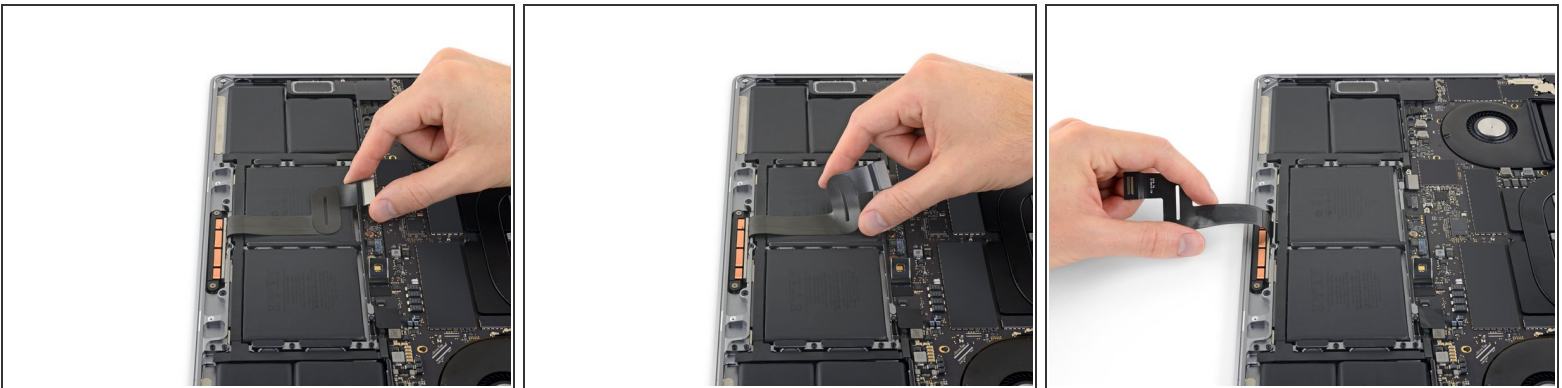
- Use a spudger to disconnect the trackpad cable by prying its connector straight up from the logic board.

Step 18



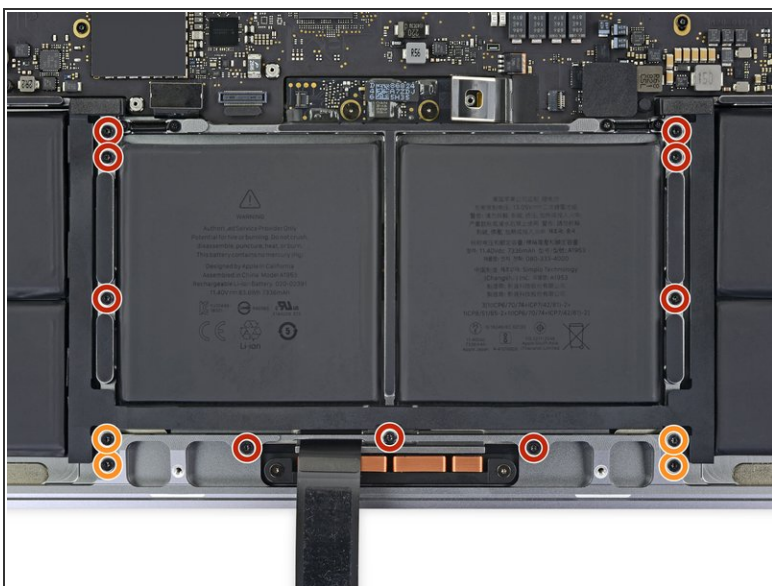
- Apply mild heat to the trackpad ribbon cable to soften the adhesive securing it to the battery.
- ⚠ You can use an iOpener, hair dryer, or heat gun, but be careful not to overheat the battery. The cable should be warm, but not too hot to touch.

Step 19



- Carefully peel the trackpad cable up off the battery, and push it out of the way.
- ⚠ Don't crease or tear the cable. If you have trouble, don't force it—apply more heat and try again.

Step 20



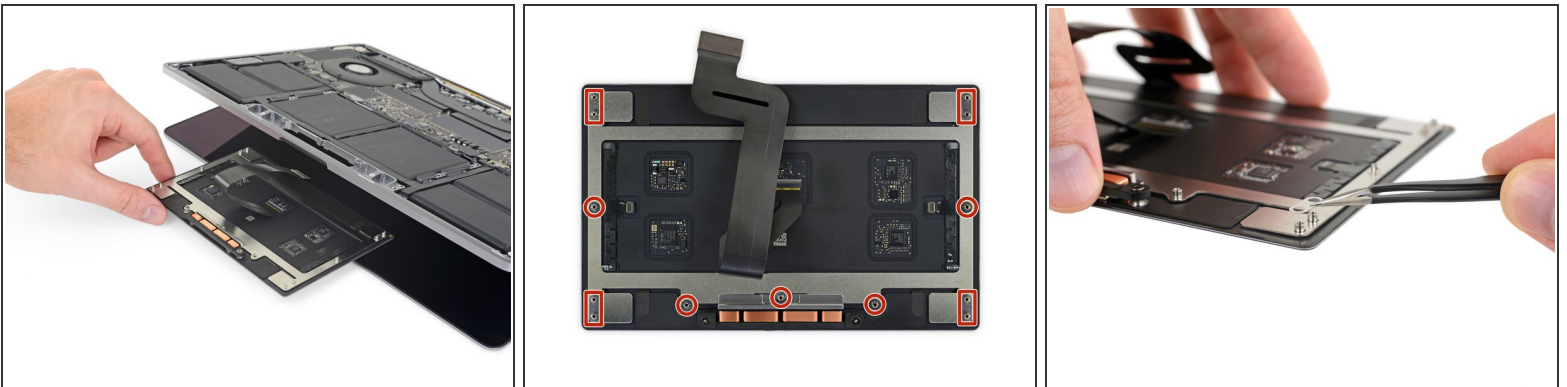
- Use a T5 Torx driver to remove the 13 screws securing the trackpad assembly:
 - Nine 5.8 mm screws
 - Four 4.9 mm screws
- ☑ These screws all look similar—be careful not to mix them up.
- ☑ Adding a little blue threadlocker to the screw threads during reassembly can help prevent the screws from working themselves loose over time.
- ☑ Install the screws loosely at first, and then check the trackpad alignment before tightening them down.

Step 21



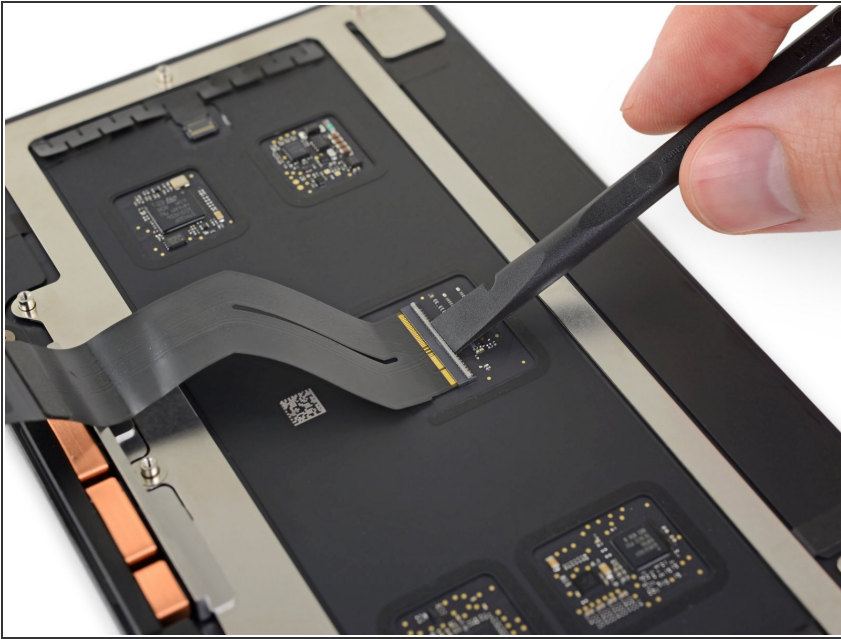
- Swing the display open slightly, but keep the MacBook upside-down. The trackpad assembly should separate and lay flat on the display.
- Carefully feed the trackpad's ribbon cable through its slot in the chassis.

Step 22



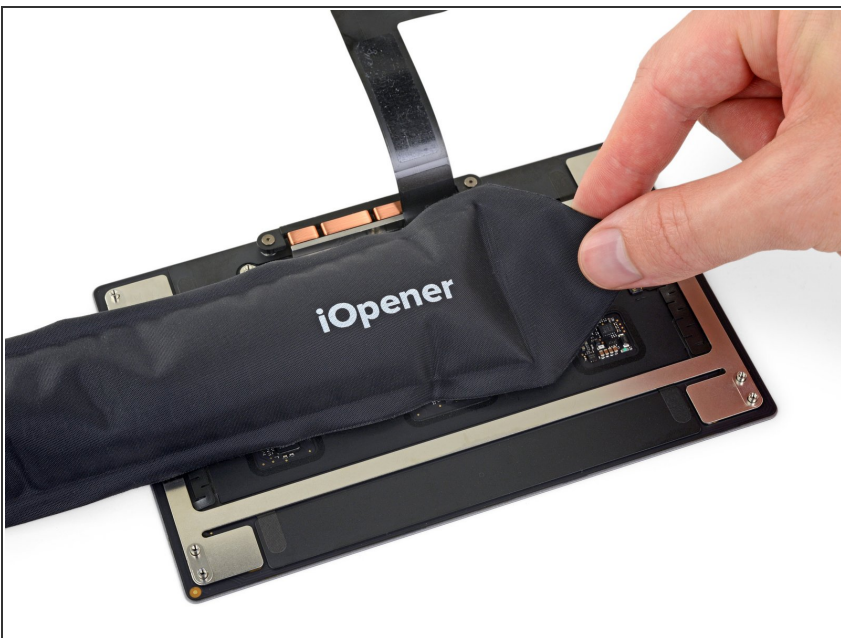
- As you remove the trackpad assembly, be very careful not to lose the nine small metal washers resting on the screw posts. (They will fly off and get lost with very little provocation.)
- Remove the trackpad assembly.

Step 23 — Trackpad



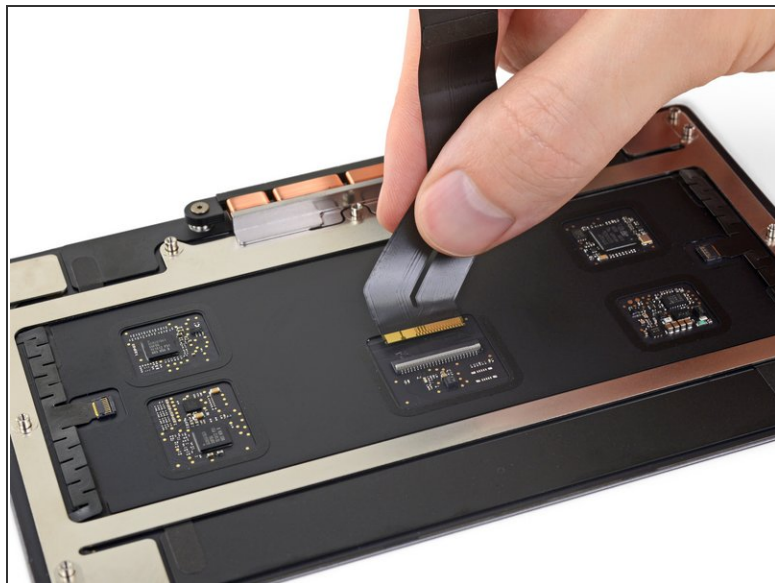
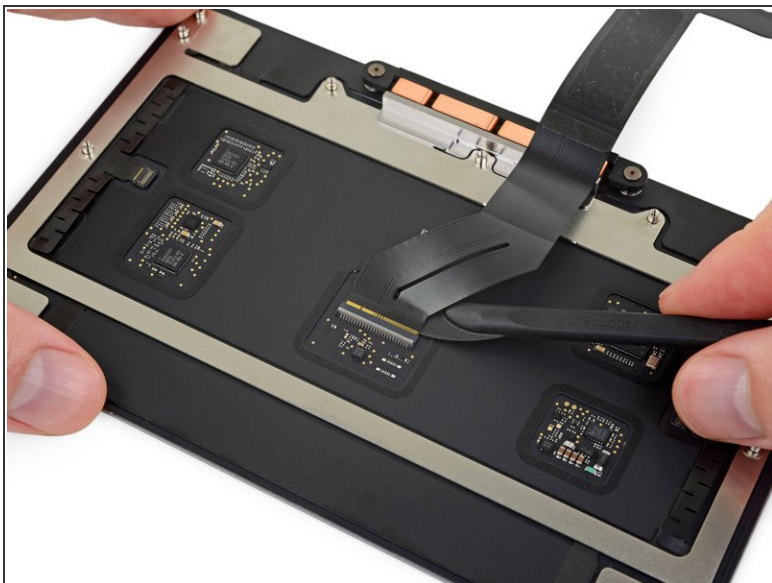
- ❗ If your new trackpad didn't come with a ribbon cable, use the following three steps to remove and transfer the old ribbon cable to the new trackpad.
- Use a spudger to pry up the retaining flap on the trackpad ribbon cable's ZIF connector.

Step 24



- Apply mild heat with an iOpener, hair dryer, or heat gun to soften the adhesive holding the end of the ribbon cable to the trackpad.

Step 25



- Carefully slide the edge of a halberd spudger or opening pick underneath the ribbon cable, and work the tool back and forth to separate the cable from the trackpad.
 - ⚠ Use minimal force, and apply more heat if needed.
- Slide the ribbon cable out of its socket and remove it from the trackpad.

Compare your new replacement part to the original part—you may need to transfer remaining components or remove adhesive backings from the new part before installing.

To reassemble your device, follow the above steps in reverse order.

Take your e-waste to an [R2 or e-Stewards certified recycler](#).

Repair didn't go as planned? Check out our [Answers community](#) for troubleshooting help.