



# iPhone 11 Battery Replacement

If your iPhone 11 runs slowly or needs to be recharged all the time, learn how to replace the battery using this guide.

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# INTRODUCTION

iPhone batteries degrade with use—over time, they lose their ability to hold a full charge. Apple's batteries are rated to hold 80% of their capacity for up to 500 charge cycles, which lasts roughly 18-24 months for most users. When your battery's chemistry is degraded, it may also cause your iPhone to run more slowly. Use this guide to replace your battery and restore your iPhone 11 to full performance.

If your battery is swollen, [take appropriate precautions](#).

**Note:** After the repair, your iPhone may [display a warning](#) about the “genuineness” of the battery, even when using original Apple parts. If your iPhone functions normally, you can safely ignore the warning.

For optimal performance, after completing this guide, [calibrate](#) your newly installed battery: Charge it to 100% and keep charging it for at least two more hours. Then use your iPhone until it shuts off due to low battery. Finally, charge it uninterrupted to 100%.



## TOOLS:

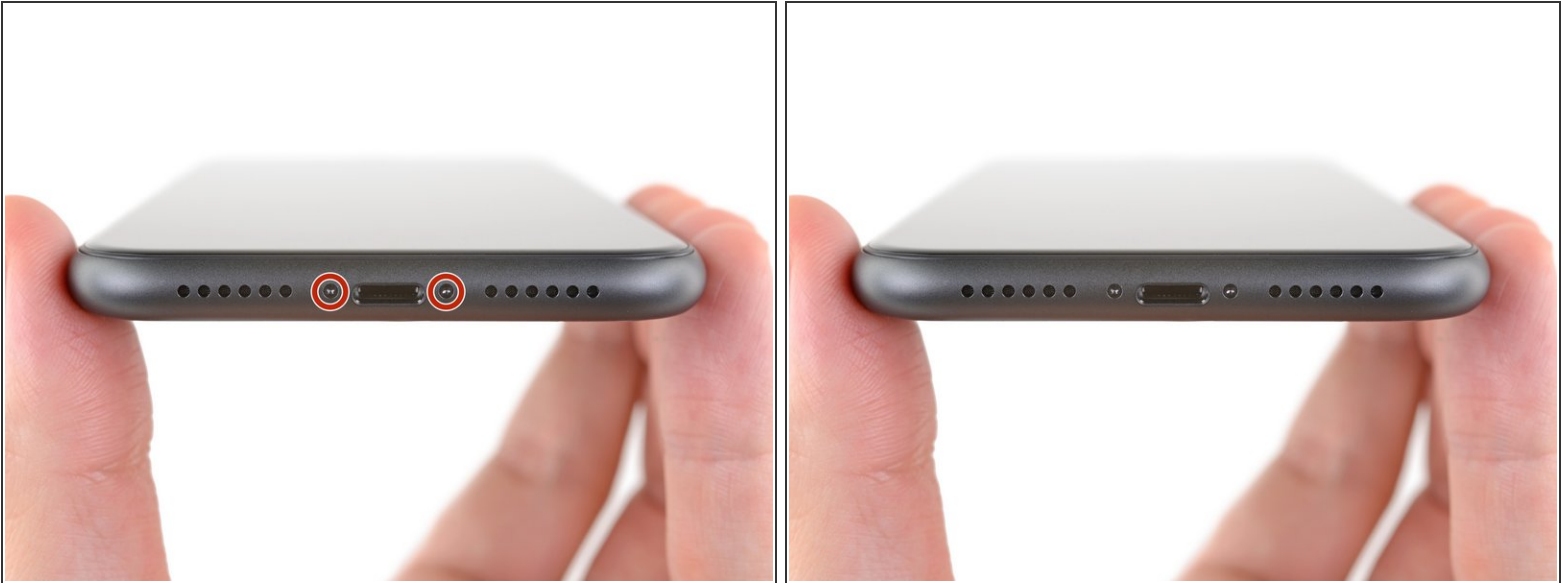
- [P2 Pentalobe Screwdriver iPhone](#) (1)
- [iOpener](#) (1)
- [iFixit Opening Picks set of 6](#) (1)
- [Suction Handle](#) (1)
- [iSlack](#) (1)
- [Tri-point Y000 Screwdriver Bit](#) (1)
- [Phillips #000 Screwdriver](#) (1)
- [Standoff Screwdriver for iPhones](#) (1)
- [Isopropyl Alcohol](#) (1)
- [Spudger](#) (1)
- [Tweezers](#) (1)





## PARTS:

- [iPhone 11 Replacement Battery](#) (1)
- [iPhone 11 Battery Adhesive Strips](#) (1)

## Step 1 — Remove the pentalobe screws



-  Before you begin, discharge your iPhone battery below 25%. A charged lithium-ion battery can catch fire and/or explode if accidentally punctured.
- Power off your iPhone before beginning disassembly.
  - Remove the two 6.7 mm-long pentalobe screws at the bottom edge of the iPhone.
-  Opening the iPhone's display will compromise its waterproof seals. Have replacement seals ready before you proceed past this step, or take care to avoid liquid exposure if you reassemble your iPhone without replacing the seals.

## Step 2 — Heat the lower edge of the phone



- ⓘ Heating the lower edge of the iPhone helps soften the adhesive securing the display, making it easier to open.
- Use a hairdryer or heat gun or [prepare an iOpener](#) and apply it to the lower edge of the iPhone for about a minute.

### Step 3 — Apply suction cup(s)



- ❗ The next two steps demonstrate the iSlack, a handy tool that we recommend for anyone doing frequent repairs. **If you aren't using the iSlack, skip down two steps for an alternate method.**
- If the plastic depth gauge is attached at the center of the iSlack, remove it now—it's not needed for larger iPhones like the iPhone 11.
- Position the suction cups near the bottom edge of the iPhone—one on the front, and one on the back.
- Press both suction cups firmly into place.
- ❗ If your display or back glass is badly cracked, [covering it with a layer of clear packing tape](#) may help the suction cups adhere. The iSlack also includes two pieces of tape for this purpose.

## Step 4



- Hold onto your iPhone securely and close the handle of the iSclack to slightly separate the screen from the rear case of the phone.
  - ⚠ Don't try to completely separate the screen; a small opening along the bottom edge is all you need.
- Insert an opening pick into the gap under the display on the lower edge of the iPhone.
- **Skip the next two steps.**



## Step 5



- If you're using a single suction handle, apply it to the bottom edge of the phone, while avoiding the curved portion of the glass.
- ⓘ If your display is badly cracked, [covering it with a layer of clear packing tape](#) may help the suction cup to stick. Alternatively, you can use very sticky tape [instead of the suction cup](#). Or if all else fails, you can superglue the suction cup to the broken screen.

## Step 6 — Lift the display slightly



- Pull up on the suction cup with firm, constant pressure to create a slight gap between the front panel and rear case.
  - Insert an opening pick into the gap.
- i** The watertight adhesive holding the display in place is very strong; creating this initial gap takes a significant amount of force. If you're having a hard time opening a gap, apply more heat, and gently rock the screen up and down to weaken the adhesive until you create enough of a gap to insert your tool.

## Step 7 — Separate the screen adhesive




- Slide the opening pick around the lower left corner and up the left edge of the iPhone, slicing through the adhesive holding the display in place.
- ⚠** Don't insert the opening pick too far into the iPhone, or you may cause damage to internal components.



## Step 8




- Re-insert your pick at the bottom edge of the iPhone, and slide it up the right side to continue separating the adhesive.

 Don't insert the pick very far, or you may damage the display cables along this side of the iPhone. Insert it only a few millimeters, or about the width of the display bezel.

## Step 9



 The top edge of the display is secured with both glue and clips.

- Gently pull the right edge of the display **down** slightly (in the direction of the Lightning port).
- Insert your pick into the top-right corner of the phone.

## Step 10



- Continue pulling the display down (toward the Lightning port) as needed in order to make a gap large enough for the pick.
  - Slide the pick to the top left corner and cut any remaining adhesive securing the display.
- ⚠ Again, don't insert the pick more than a few millimeters—about the width of the display bezel—or you may damage the Face ID sensor array.

## Step 11 — Remove the suction cup(s)




- Pull the small nub on the suction cup to detach it from the front panel.
- If you used an iSlack and it's still affixed to the iPhone, remove it now.


## Step 12 — Open the iPhone



- Open the iPhone by swinging the display up from the left side, like the back cover of a book.

 Don't try to fully separate the display yet, as several fragile ribbon cables still connect it to the iPhone's logic board.

- Prop the display up against something sturdy.

 During reassembly, lay the display in position, align the clips along the top edge, and carefully press the top edge into place before snapping the rest of the display down. If it doesn't click easily into place, check the condition of the clips around the perimeter of the display and make sure they aren't bent.

## Step 13 — Display Assembly

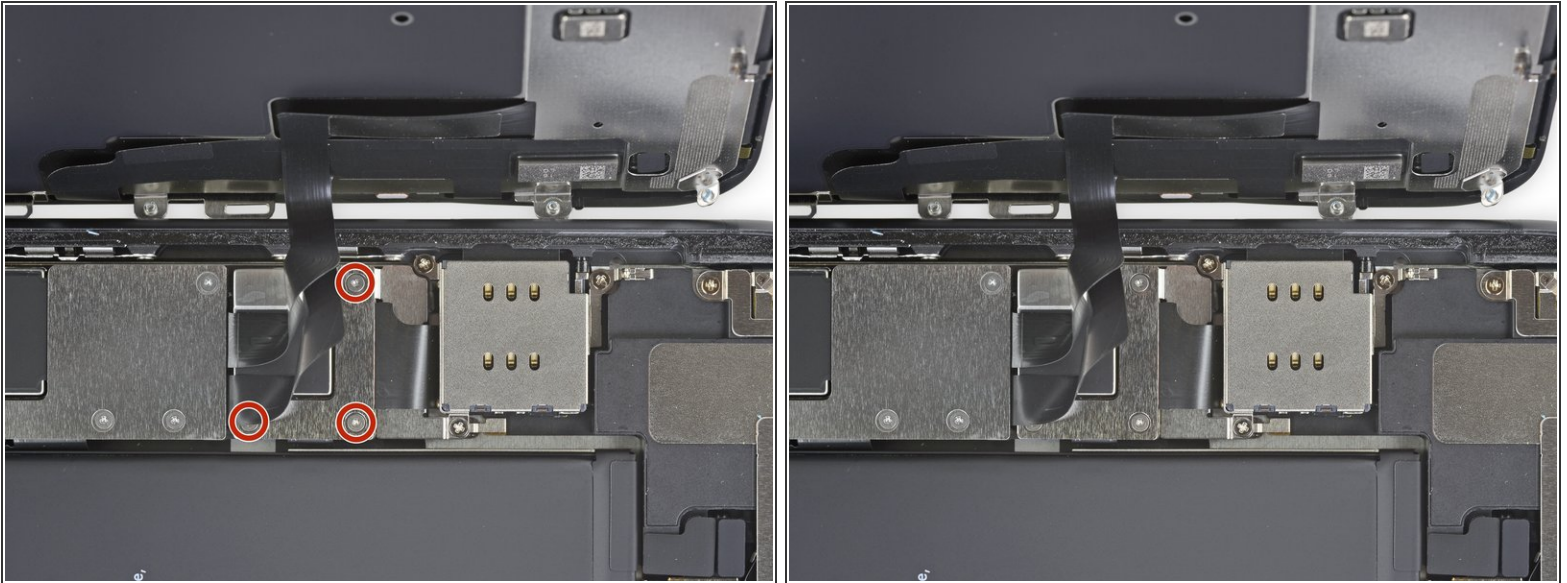


- To access the screws in the following step, tilt the display by slightly lifting its lower edge.

⚠ Be careful not to strain or tear the display cables.

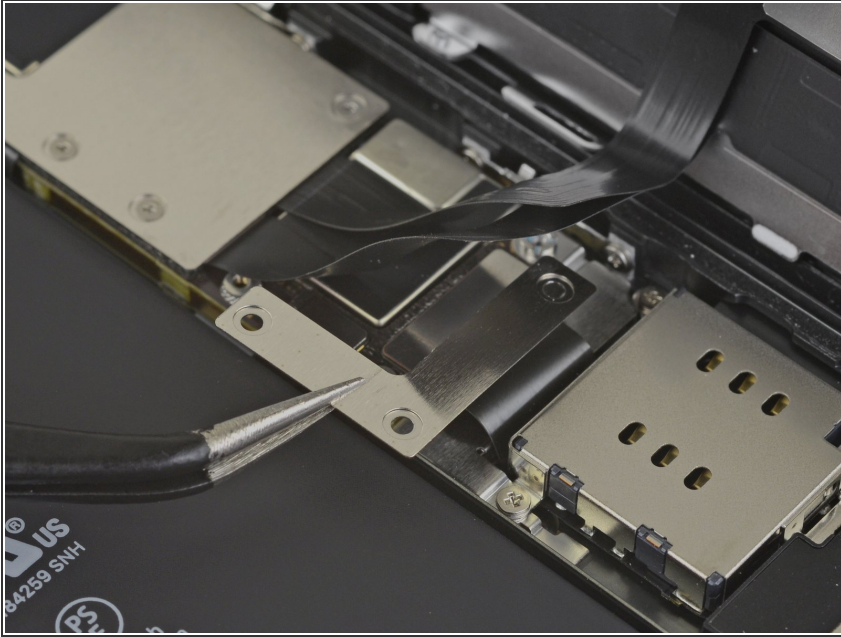


## Step 14 — Unscrew the battery connector cover



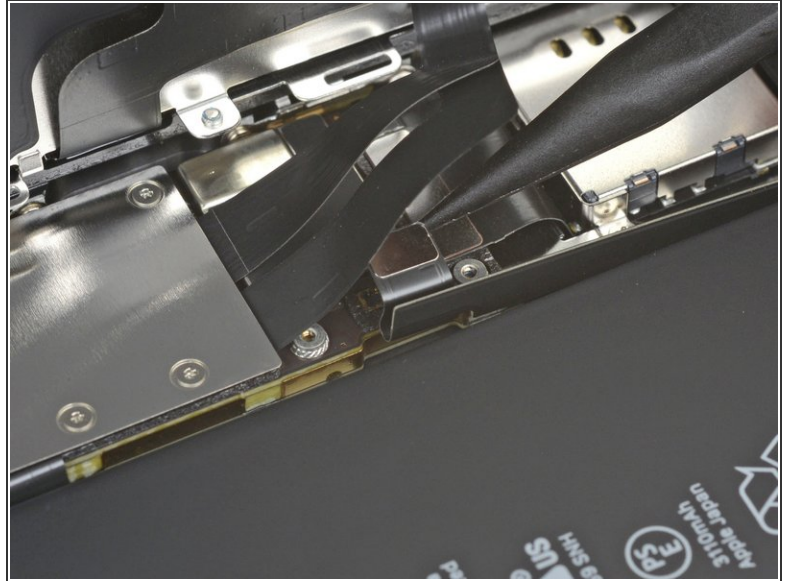
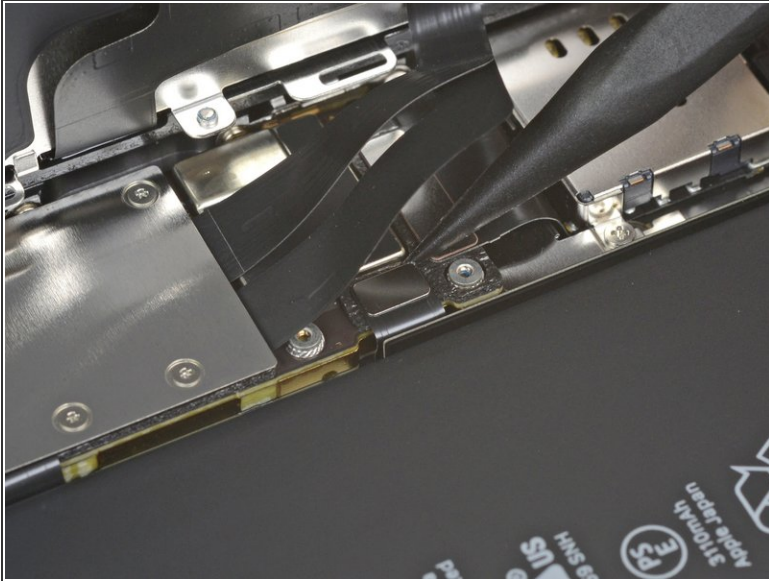
- Use a Y000 driver to remove the three 1.1 mm-long screws securing the battery connector bracket.
- ⓘ Throughout this repair, [keep track of each screw](#) and make sure it goes back exactly where it came from.
- ✦ During reassembly, this is a good point to power on your iPhone and test all functions before you seal the display in place. Be sure to power your iPhone back down completely before you continue working.

## Step 15 — Remove the battery connector cover



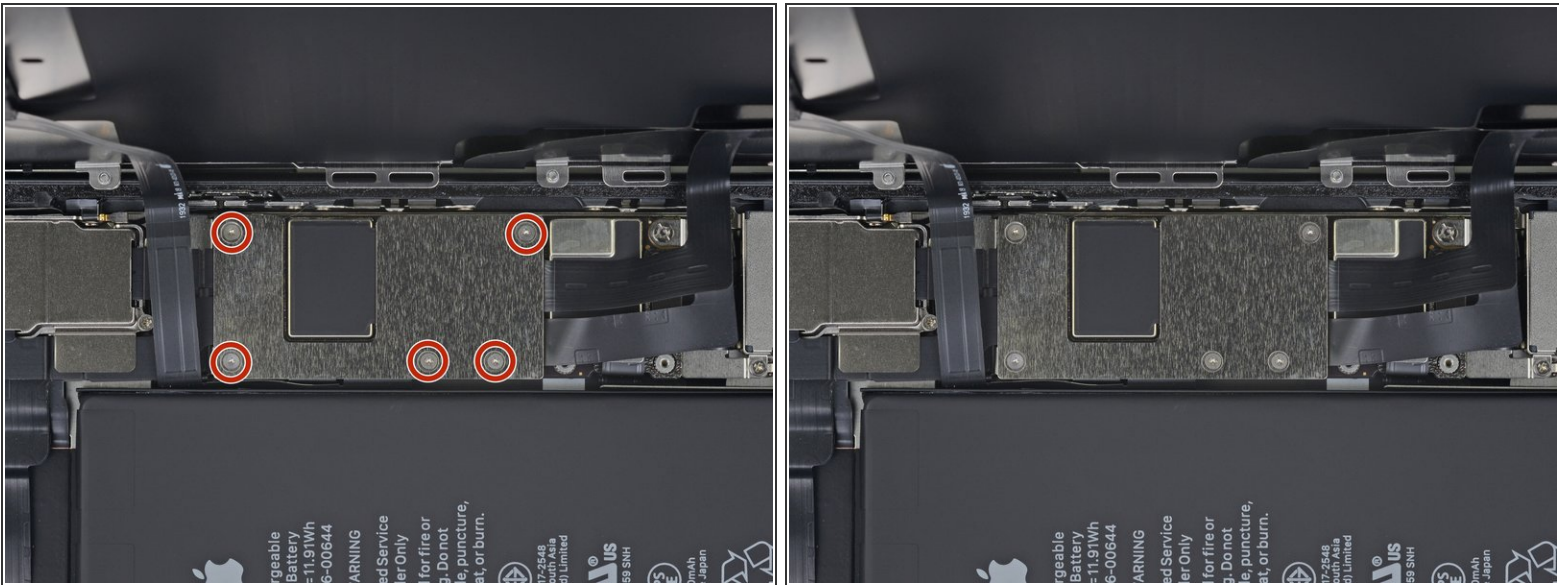
- Remove the bracket.

## Step 16 — Disconnect the battery



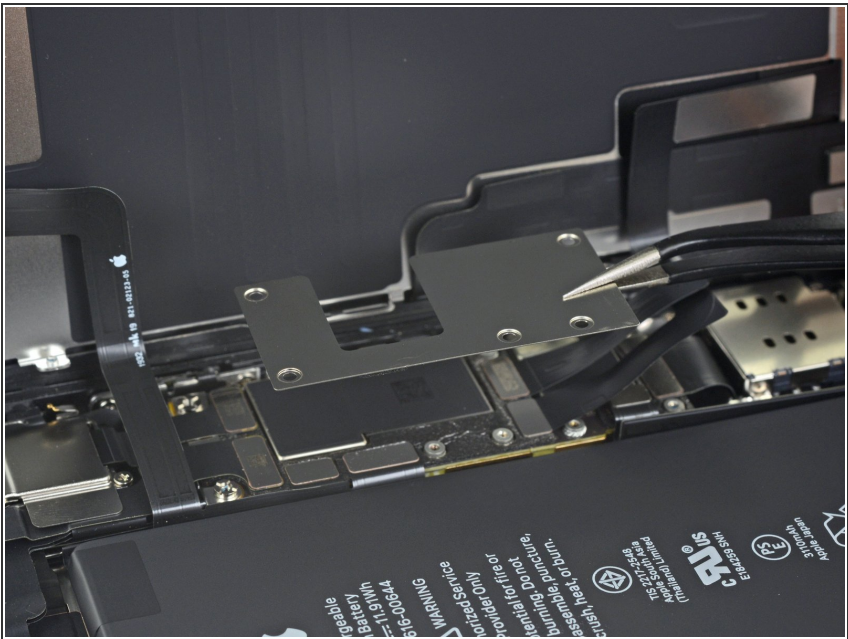
- Use a spudger or a clean fingernail to pry the battery connector up from its socket on the logic board.
- ⓘ Try not to damage the black silicone seal surrounding this and other board connections. These seals provide extra protection against water and dust intrusion.
- Bend the connector slightly away from the logic board to prevent it from accidentally contacting the socket.

## Step 17 — Unscrew the logic board cover screws



- Use a Y000 driver to remove the five 1.1 mm screws securing the logic board cover bracket.

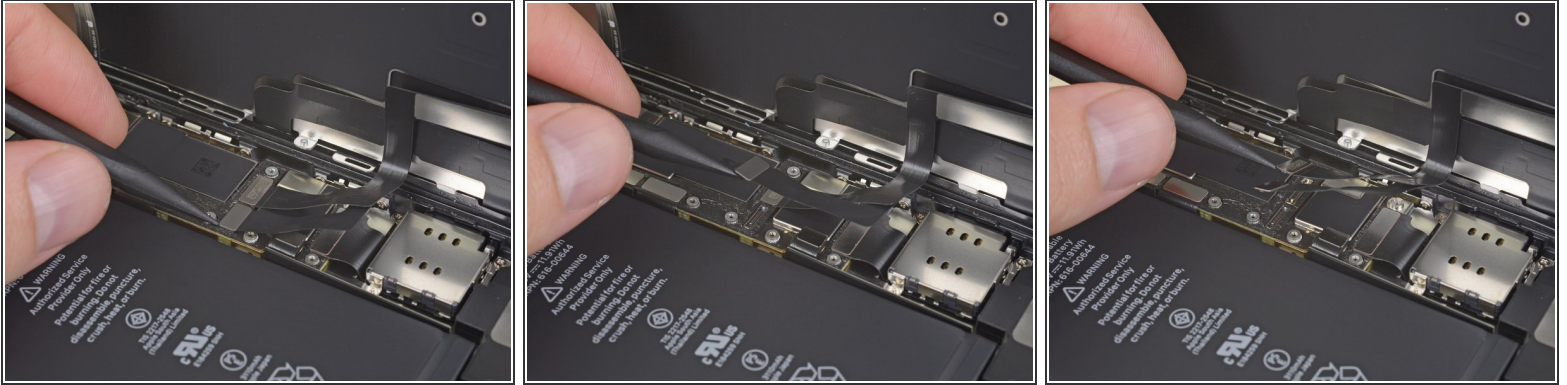
## Step 18 — Remove the logic board cover bracket



- Remove the bracket.

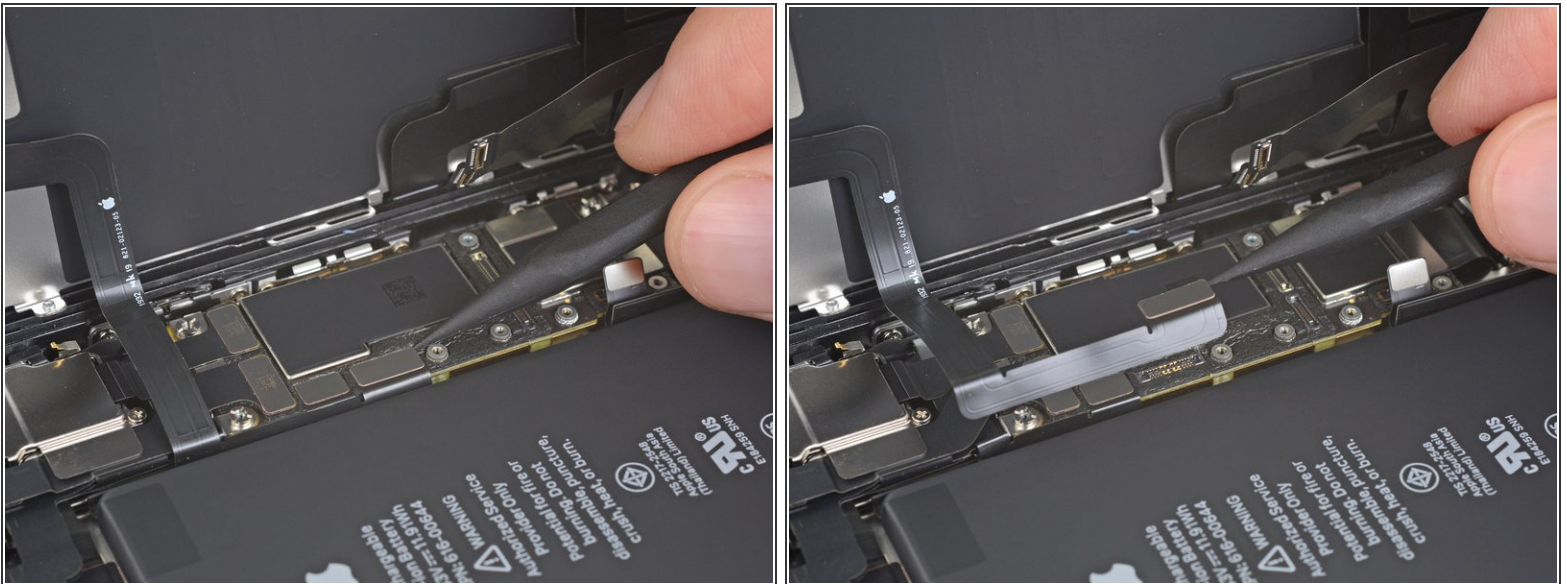


## Step 19 — Disconnect the display



- Use a spudger or a fingernail to disconnect the LCD panel cable connector.
- Disconnect the digitizer connector next to it.

## Step 20 — Disconnect the front sensors



- Use the point of a spudger or a fingernail to disconnect the front panel sensor assembly connector.

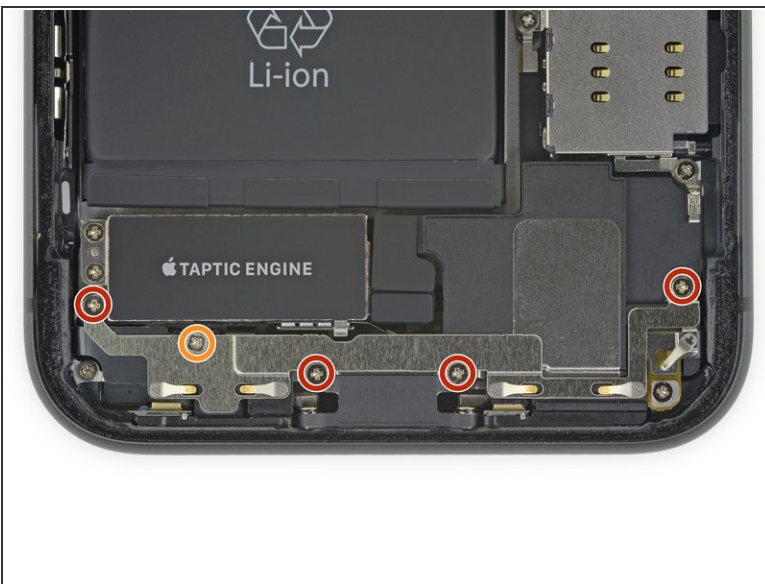


## Step 21 — Remove the display assembly



- Remove the display assembly.
- ★ During reassembly, pause here if you wish to [replace the waterproof adhesive around the edges of the display](#).

## Step 22 — Remove the lower bracket screws



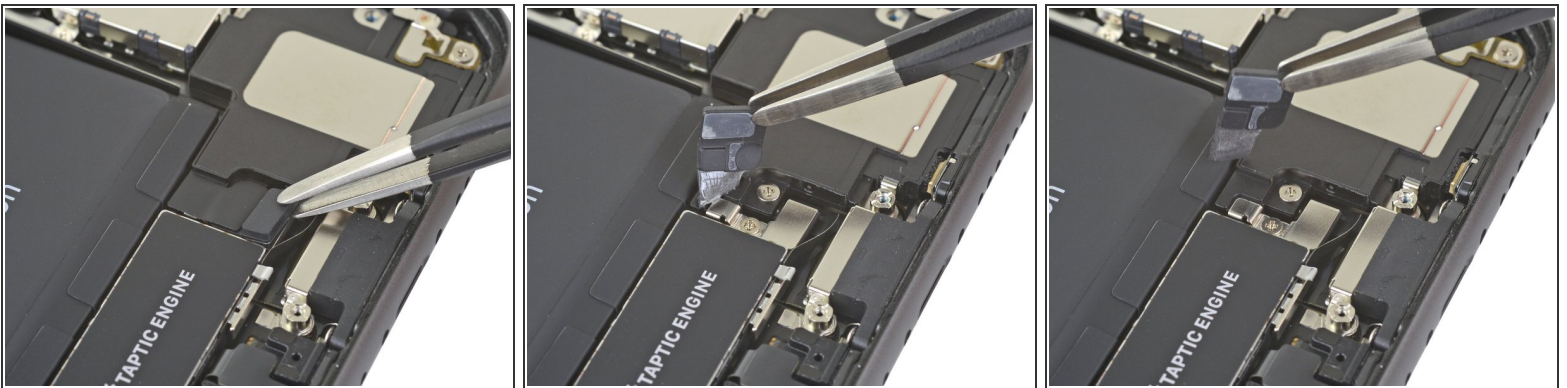
- Using a Phillips driver, remove the five screws securing the bracket below the Taptic engine and speaker:
  - Four 1.6 mm screws
  - One 1.3 mm screw

## Step 23 — Remove the lower bracket



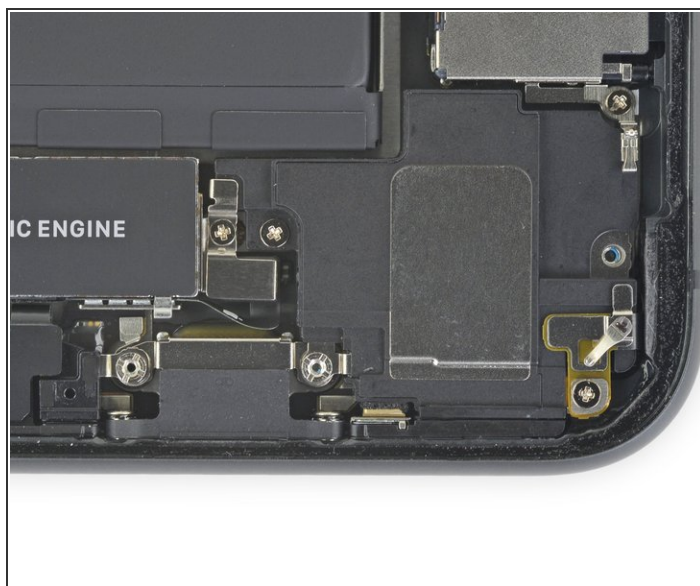
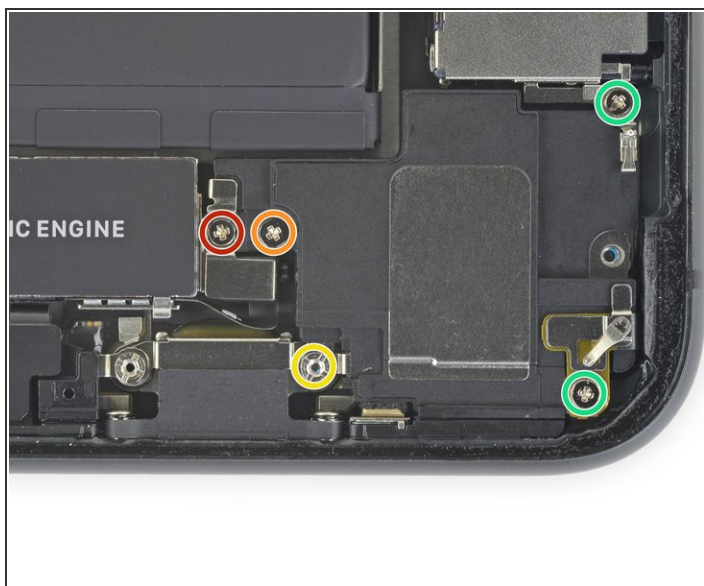
- Remove the lower bracket.

## Step 24 — Remove the Taptic Engine connector tape



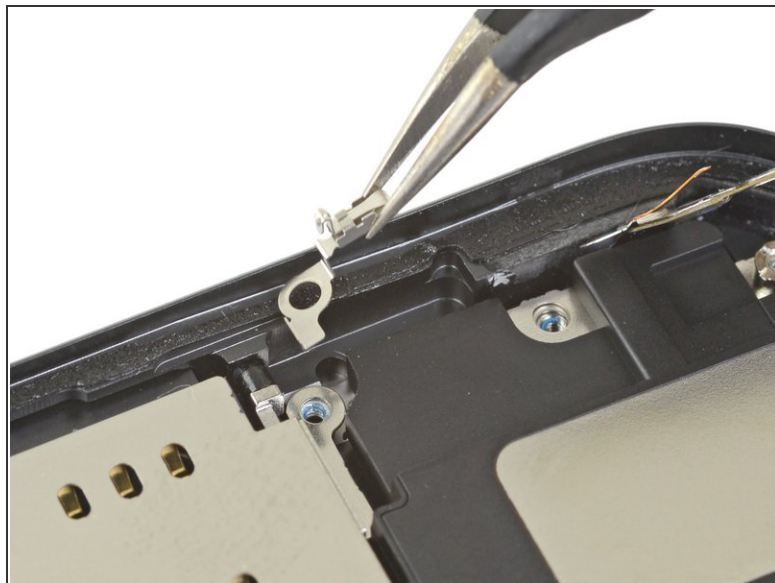
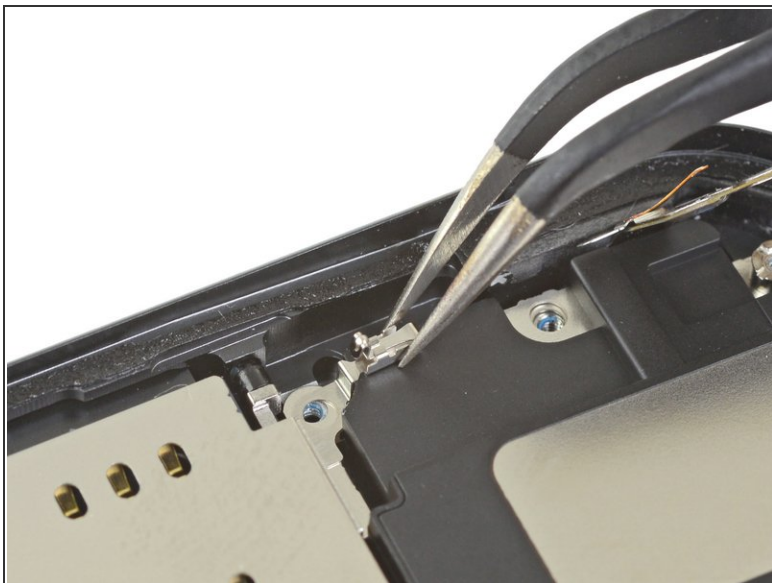
- Use tweezers to lift and remove the black tape and rubber pad covering the Taptic Engine connector.
- ⓘ Use a little heat from a hair dryer or iOpener to make the tape easier to peel up and re-adhere later.

## Step 25 — Unscrew the lower speaker



- Remove the five screws securing the speaker and brackets:
  - One 1.9 mm Phillips screw
  - One 2.3 mm Phillips screw
  - One 3.1 mm standoff screw
  - Two 1.6 mm Phillips screws

## Step 26 — Remove the grounding clip



- Remove the small grounding clip on the top right corner of the speaker.

## Step 27 — Remove the Taptic Engine connector cover



- Remove the Taptic Engine connector cover.

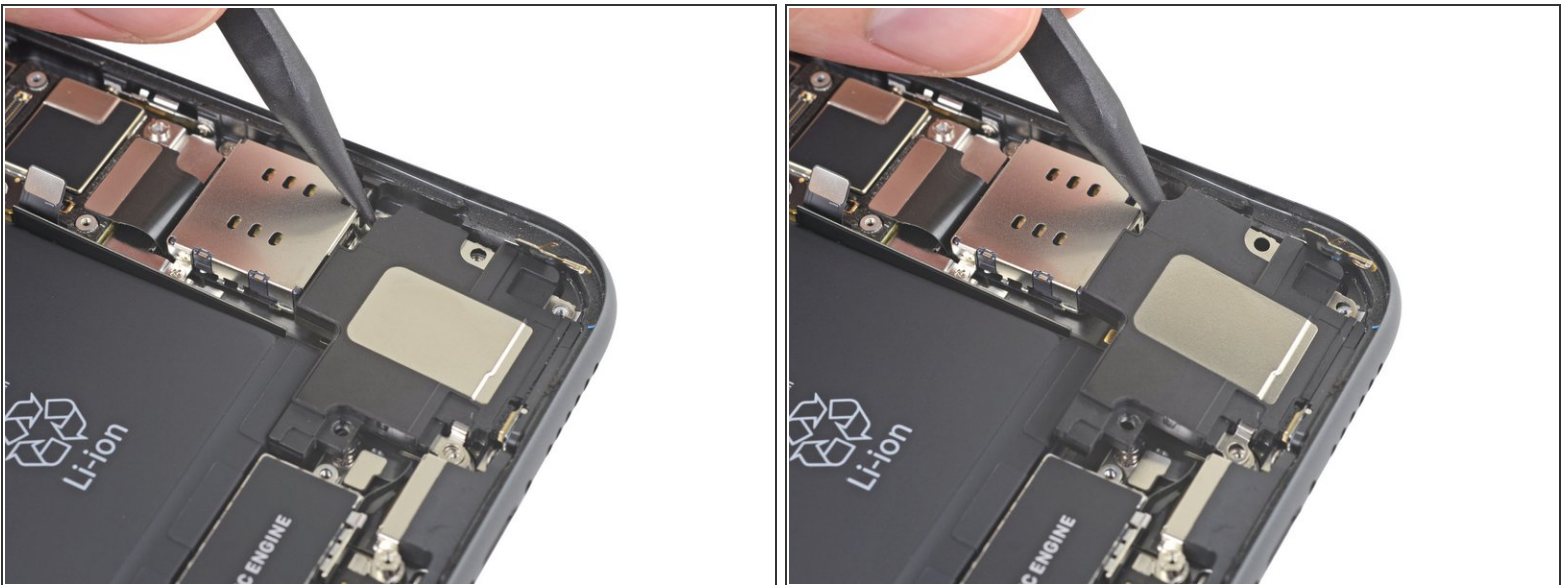


## Step 28 — Remove the speaker standoff screw



- Lift and push aside the small board covering the remaining speaker screw in the bottom right corner of the iPhone.
- Remove the 2.4 mm standoff screw underneath.

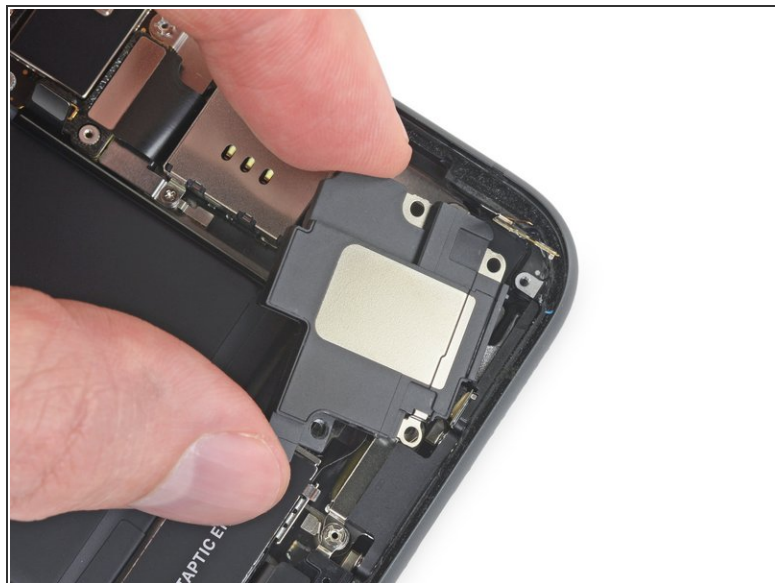
## Step 29 — Loosen the speaker



- Insert a spudger under the top edge of the speaker, near the edge of the iPhone's case.
- Gently pry up and lift the top edge of the speaker.

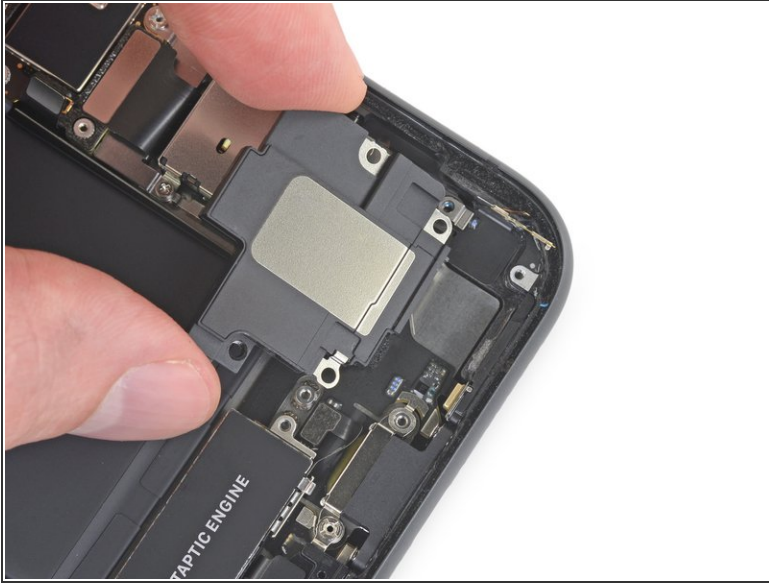


## Step 30



- Hold the speaker by its side edges and rock it side-to-side, separating the adhesive securing it to the bottom edge of the iPhone.
- Pull the speaker away from the bottom edge of the iPhone until the adhesive gasket separates.

## Step 31 — Remove the speaker



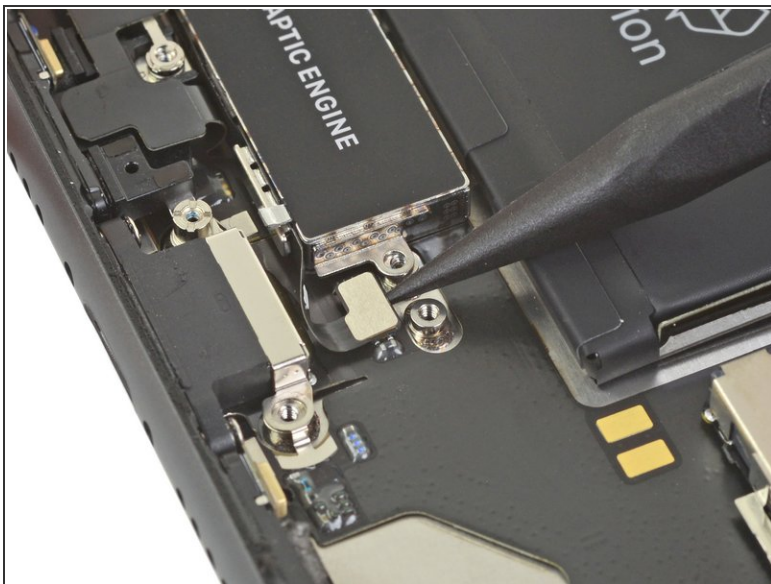
- Remove the speaker.
- ☑ Optionally, to help protect against water and dust intrusion, replace the speaker's adhesive gasket during reassembly:
  - Peel away any remaining adhesive with tweezers.
  - Prep the area underneath by cleaning it with a bit of isopropyl alcohol and a lint-free cloth or coffee filter so that the gasket adheres properly.
  - Install a new gasket onto the speaker, and then install the speaker.

## Step 32 — Unscrew the Taptic Engine



- Use a Phillips driver to remove the two 1.8 mm screws securing the Taptic Engine.

## Step 33 — Disconnect the Taptic Engine



- Use a spudger to disconnect the Taptic Engine flex cable by prying it straight up from its socket.



## Step 34 — Remove the Taptic Engine



- Remove the Taptic Engine.

## Step 35 — Locate the adhesive pull tabs




- ① Six pieces of stretch-release adhesive hold the battery in place—three near the top edge, and three near the bottom.
- Each piece of adhesive has a black pull-tab at one end, which is lightly adhered and folded onto the top of the battery.

## Step 36 — Peel back the lower pull tabs

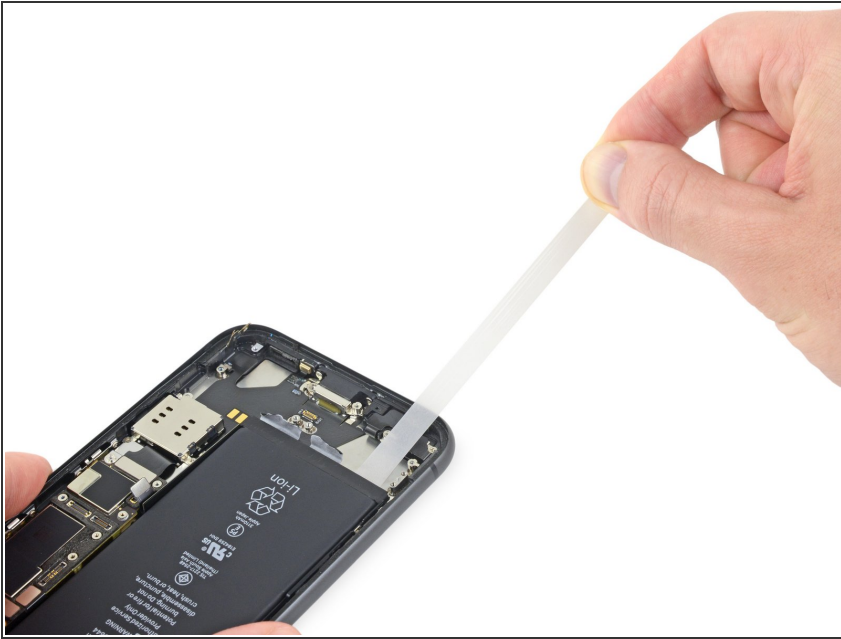


- Peel back the three battery adhesive pull tabs from the bottom edge of the battery.

 Be careful not to jab the battery with any sharp tools—a punctured battery may leak dangerous chemicals or catch fire.



## Step 37



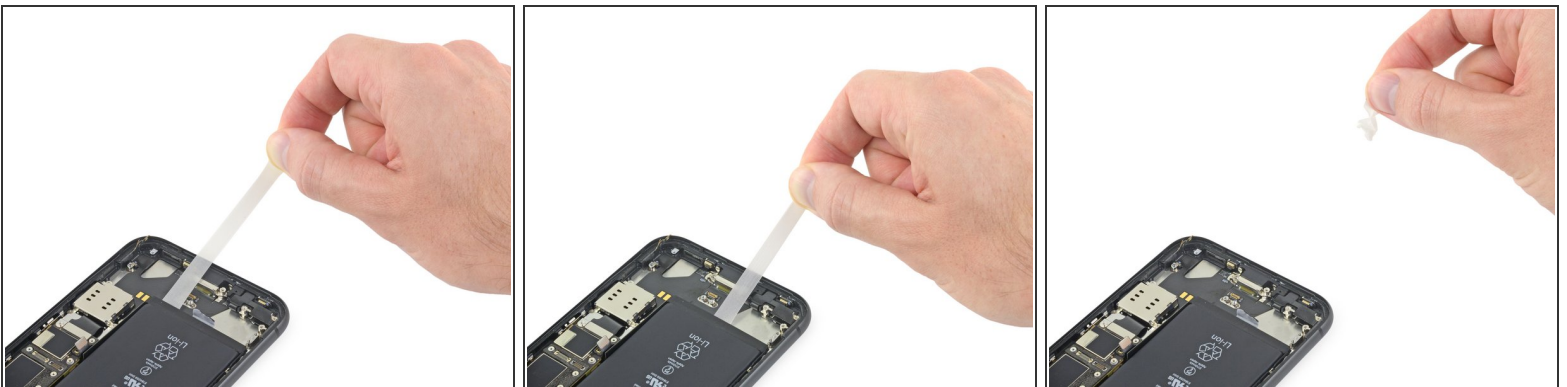
- i** In the following steps, you'll pull each tab to *slowly* stretch out the adhesive underneath the battery. The adhesive releases as it stretches.
- !** If the strips break, don't panic! Keep reading for some additional steps for removing broken strips.
- To increase your odds of success:
    - Don't press down on the battery. Hold the iPhone firmly by its sides.
    - Keep the strips flat and unwrinkled as you pull.
    - Pull very slowly, giving the strip time to stretch and separate. It takes around 30 seconds of stretching to remove each strip.
    - Pull at a **low angle** so the strip doesn't snag along the bottom edge of the battery.
    - If a strip does break off underneath the battery and cannot be retrieved, move on to the other strips and then continue with the additional steps below.

## Step 38 — Remove the first adhesive strip



- **Slowly** pull one battery adhesive tab away from the battery, towards the bottom of the iPhone.
- Pull steadily, maintaining constant tension on the strip until it slips out from between the battery and the rear case.
- ⓘ The strip will stretch to many times its original length. Continue pulling and re-grab the strip near the battery if necessary.
  - If the battery adhesive tabs break during the removal process, use your fingers or tweezers to retrieve the remaining length of adhesive, and continue pulling.
  - If any of the adhesive strips break underneath the battery and cannot be retrieved, try to remove the other strips, and then proceed as instructed below.

## Step 39 — Remove two more adhesive strips



- Repeat the above steps to remove the other two adhesive strips near the bottom edge of the iPhone.

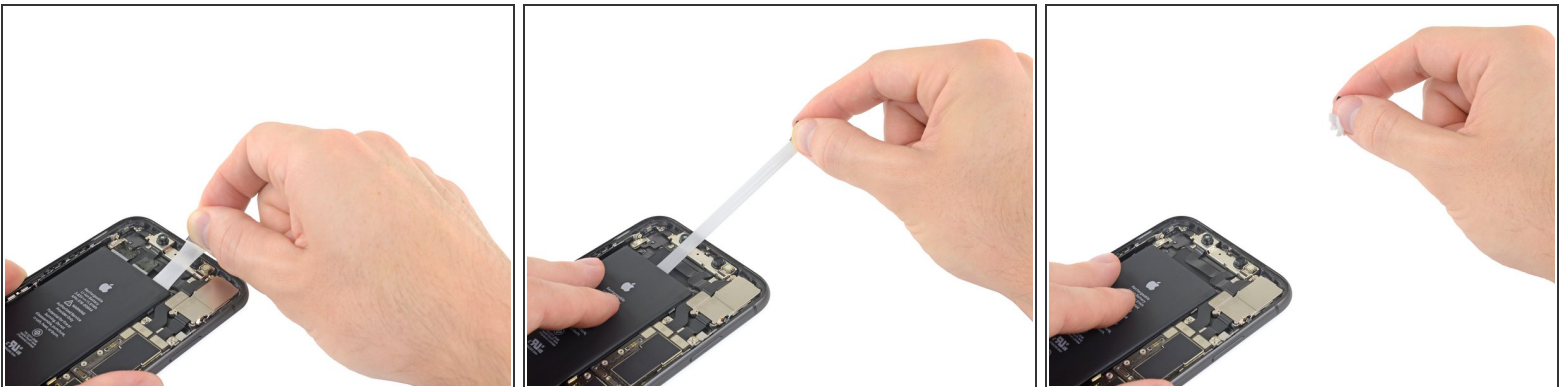
## Step 40 — Peel away the top adhesive pull tabs



- Peel back the three battery adhesive tabs from the top edge of the battery.

⚠ Don't touch the [Face ID sensor modules](#) near the top of the iPhone.

## Step 41 — Remove the three top adhesive strips



- Pull the top adhesive strips out one at a time, using the same method you've used to pull the bottom strips.
- ⚠ Be sure to hold onto the battery as you remove the final strip, or it may fling out of the iPhone unexpectedly.
- **If you removed all of the adhesive strips successfully, skip the next step.**
- If any of the adhesive strips broke off underneath the battery and could not be retrieved, **continue with the next step below.**

## Step 42 — Removing a battery that's still stuck



- If any of the adhesive strips broke off and the battery remains stuck to the rear case, remove it by adding a few drops of isopropyl alcohol (90% or greater) underneath the battery near the stuck strip(s).
- After about a minute, gently lift the battery.
- ⓘ The battery should come free with minimal force. If not, add a little more isopropyl alcohol and try again. Do not bend or puncture the battery.

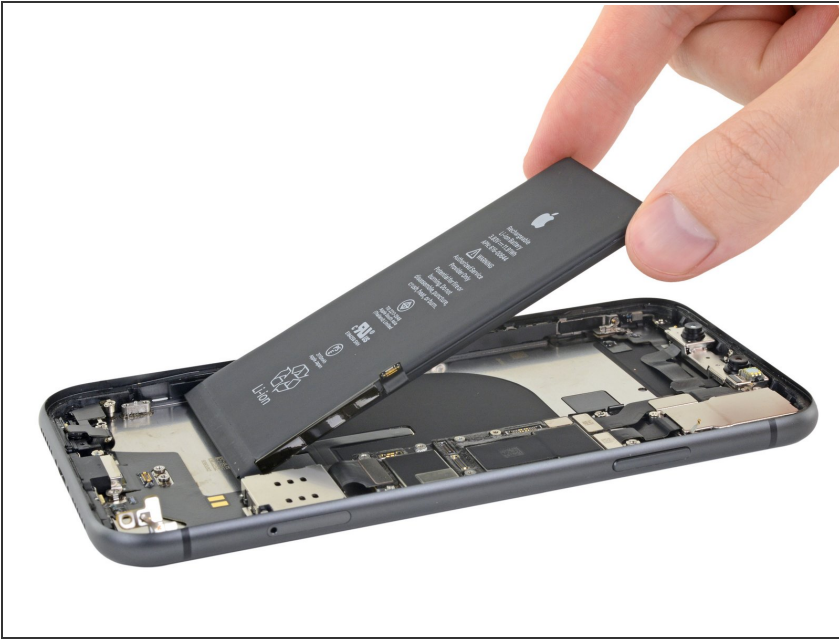


## Step 43 — Removing a stuck battery (alternate method)



- If your battery is stuck and an appropriate liquid solvent is not available, [prepare an iOpener](#) or use a hair dryer to heat the rear case directly behind the battery.
- ⚠ Heat the iPhone until the rear case is slightly too hot to comfortably touch, but no more.
- Flip the iPhone back over and thread a strong piece of string (such as dental floss or a length of thin guitar string) underneath the battery.
- ⓘ Wear gloves to protect your fingers, or wrap each end of the string around a tool.
- Pull the string from side to side in a sawing motion to separate the adhesive. This can take some time since the adhesive is slow to deform, but with patience it will come free. **Do not deform or damage the battery.**
  - Start from the top or bottom edge of the battery, and pull toward the middle. Don't pull the string through the middle third of the battery, or you may damage the ribbon cables or the wireless charging coil directly underneath.
- ⚠ If you choose to use pry tools to lift the battery out of the iPhone, use extreme caution or you may damage the ribbon cables or the wireless charging coil directly underneath the battery.

## Step 44 — Remove the battery



- Remove the battery.
- ☑ Reinstall the Taptic Engine and speaker before installing a new battery. This helps keep the battery aligned correctly during installation.
- If your new battery doesn't have adhesive preinstalled, refer to [this guide](#) to replace the adhesive strips.
- Perform a [force restart](#) after reassembly. This can prevent several issues and simplify troubleshooting.

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? Try some [basic troubleshooting](#), or ask our [iPhone 11 Answers community](#) for help.