

iPhone 5s Battery Replacement

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INTRODUCTION

Use this guide to bring life back to your iPhone 5s with a new battery.

Before you begin, drain your iPhone's battery below 25% charge. This will minimize the risk of a dangerous thermal runaway in the event that you accidentally deform or puncture the battery.

This guide instructs you to remove the front panel assembly; this is intended to prevent damage to the display cables. If you feel comfortable supporting the display carefully while peeling the battery out of the iPhone, skip the display removal and go directly to the battery removal steps.

For optimal performance, calibrate your newly installed battery: Drain battery below 10%, then charge uninterrupted to 100%.

[video: https://www.youtube.com/watch?v=uGnZv0VIxz8]



TOOLS:

- P2 Pentalobe Screwdriver iPhone (1)
- Phillips #000 Screwdriver (1)
- Suction Handle (1)
- iFixit Opening Tools (1)
- Spudger (1)
- iOpener (1)
- Plastic Cards (1)
- iSclack (1)
- Tweezers (1)



PARTS:

iPhone 5s Replacement Battery (1)
 Fix Kit

This kit contains the part and all tools needed.

- iPhone 5s Replacement Battery (1)
 Part Only
- iPhone 5s/5c/SE Battery Adhesive Strips(1)

Step 1 — Battery







- If your display glass is cracked, keep further breakage contained and prevent bodily harm during your repair by taping the glass.
- Lay overlapping strips of clear packing tape over the iPhone's display until the whole face is covered.
 - This will keep glass shards contained and provide structural integrity when prying and lifting the display.

Mear safety glasses to protect your eyes from any glass shaken free during the repair.

Step 2



- A Before you proceed, 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 3.9 mm Pentalobe screws from either side of Lightning connector.

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- in the following steps you will be pulling the display up out of the phone body. The display is composed of a glass screen and a plastic bezel with metal clips.
- Regardless of the tool you use, you need to be sure you pull up the entire display.
- If the glass begins to separate from the plastic, as shown in the first image, slide a plastic opening tool between the plastic frame and the metal phone body to pry the metal clips out of the case.
- If you are reassembling a phone with a separated display bezel, you may want to place a thin strip of adhesive between the plastic bezel and the glass to keep the phone closed.

Step 4 — iSclack Opening Procedure







- i The next two steps demonstrate using the , a great tool for safely opening the iPhone 5s that we recommend for anyone doing more than one repair. If you aren't using the iSclack, skip to [invalid guide link].
 - Close the handle on the iSclack, opening the suction-cup jaws.
 - Place the bottom of your iPhone in between the suction cups, against the plastic depth gauge.
 - The top suction cup should rest just above the home button.
- Open the handles to close the jaws of the iSclack. Center the suction cups and press them firmly onto the top and bottom of the iPhone.



- Hold onto your iPhone securely and close the handle of the iSclack to separate the suction cups, pulling the front panel up from the rear case.
- The iSclack is designed to safely open your iPhone just enough to separate the pieces, but not enough to damage the home button cable.
- (i) Peel the two suction cups off your iPhone.
- Skip the next three steps and continue on Step 9.

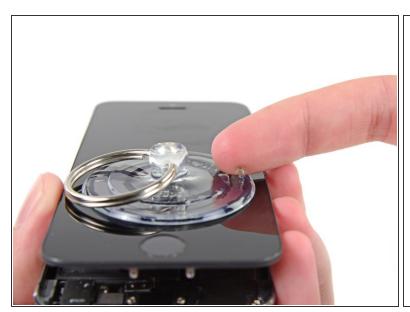
Step 6 — Manual Opening Procedure



- If you don't have an iSclack, use a single suction cup to lift the front panel:
- Press a suction cup onto the screen, just above the home button.
- i Be sure the cup is completely on the screen to get a tight seal.



- The front panel is attached with clips, and there are several ribbon cables connecting it to the rest of the phone. Your goal here is to release the clips and open the phone only enough to disconnect the cables. Go slowly and carefully to avoid damage.
- Make sure the suction cup is firmly attached to the front panel assembly near the home button.
- While holding the iPhone down with one hand, pull up on the suction cup to slightly separate the home button end of the front panel from the rear case.
- With a plastic opening tool, gently pry the edges of the rear case down, away from the front panel assembly, while you pull up with the suction cup.
- ↑ Take your time and apply firm, constant force. The 5s front panel assembly is a much tighter fit than most devices.





- ⚠ Do not try to completely remove the front panel assembly from the rear case, as there are several delicate ribbon cables connecting them.
- Pull the plastic nub to release the vacuum seal on the suction cup.
- Remove the suction cup from the display assembly.







- Open the phone just enough to reveal the metal bracket covering the home button cable.
- ↑ Do not open the phone too far or you risk damaging the home button cable, or the socket it plugs into. Keep the cable loose—if it is stretched taut, that's too far.
 - Only the phone's original home button assembly will be capable of using the Touch ID functionality. If you rip the cable, installing a new home button will only restore ordinary home button functions, not the Touch ID features.
- Use the tip of a spudger to push the bracket free and remove it with tweezers.
- (i) The next two steps apply to reassembly. Skip them and continue to Step 12 until reassembly.





- During reassembly, you will need to reinstall the Touch ID cable bracket. The top of the bracket needs to slide between the battery and Touch ID cable connector, and the front must latch down over the connector.
- Slide the top of the bracket over the Touch ID cable connector from left to right.





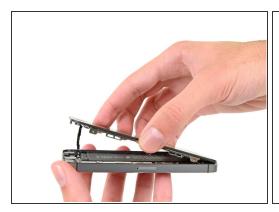
- Use the flat end of a spudger to snap the front portion of the Touch ID cable bracket down over the cable connector.
- (i) If the bracket does not snap down flush, you may need to remove the bracket and slide it over the cable connector again for a better fit.





Use the tip of a spudger to pry the home button cable connector up out of its socket.

A Be sure you're separating the cable connector from its socket, and not prying the entire socket up. The socket is on its own glued-down cable that can be pried up if you aren't careful.







- Once the connector has been released, pull the home button end of the assembly away from the rear case, using the top of the phone as a hinge.
- Open the display to about a 90º angle, and lean it against something to keep it propped up while you're working on the phone.
 - Add a rubber band to keep the display securely in place while you work. This prevents undue strain on the display cables.
 - (i) In a pinch, you can use an unopened canned beverage to hold the display.

Step 14



Remove the two 1.6 mm Phillips #000 screws securing the metal battery connector bracket to the logic board.

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 Remove the metal battery connector bracket from the iPhone.

Step 16





 Use the flat end of a spudger to gently pry the battery connector up from its socket on the logic board.

A Be very careful to only pry up on the battery connector itself and not the socket on the logic board. If you pry up on the logic board socket, you may break the connector entirely.

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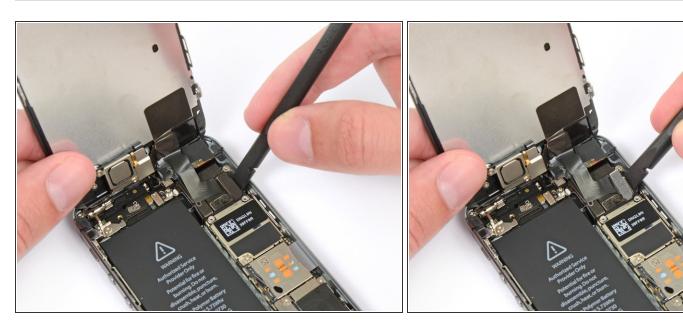


- Remove the following screws securing the front panel assembly cable bracket to the logic board:
 - One 1.7 mm Phillips #000 screw
 - One 1.2 mm Phillips #000 screw
 - One 1.3 mm Phillips #000 screw
 - One more 1.7 mm Phillips #000 screw
 - This 1.7 mm screw tends to not be attracted to a magnetized screwdriver. Take care not to lose it when removing.
 - It is especially important to keep track of your screws in this step for reassembly. Accidentally using the 1.3 mm screw or one of the 1.7 mm screws in the bottom right hole will result in significant damage to the logic board causing the phone to no longer boot properly.
 - A Be careful not to over-tighten the screws, and don't force them. If they don't fit easily when you are securing them, they may be the wrong size.

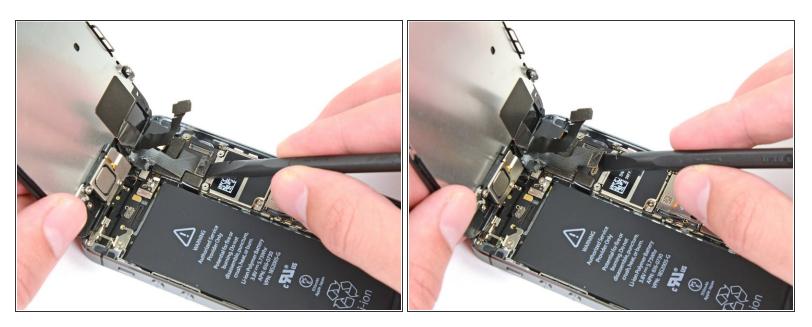


 Remove the front panel assembly cable bracket from the logic board.

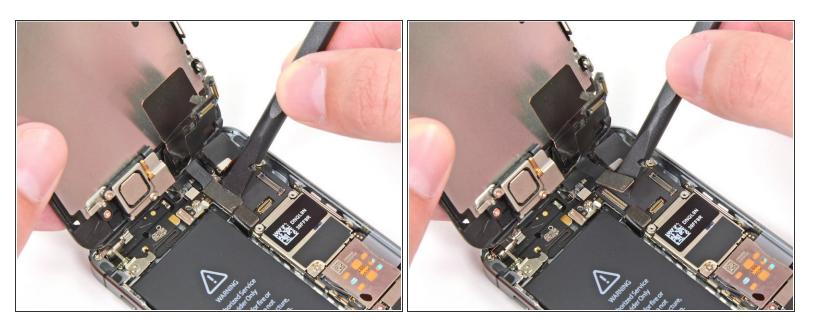
Step 19



• Use the flat end of a spudger to disconnect the front-facing camera and sensor cable.



- While still supporting the front panel, disconnect the LCD cable connector.
- When reassembling your phone, the LCD cable may pop off the connector. This can result in white lines or a blank screen when powering your phone back on. If that happens, simply reconnect the cable and power cycle your phone. The best way to power cycle your phone is to disconnect and reconnect the battery.

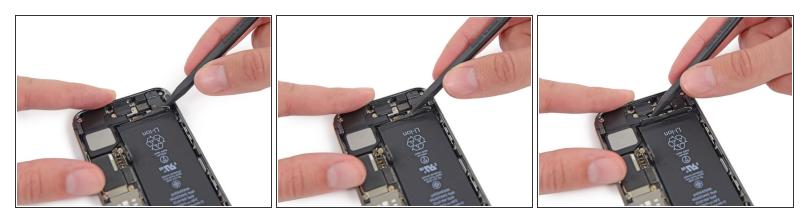


Finally, disconnect the digitizer cable connector.

Step 22



 Remove the front panel assembly from the rear case.



 Run the tip of a spudger between the battery and the headphone jack to unfold the battery adhesive tab.



- Pull the battery adhesive tab away from the phone.
- Cut the black battery adhesive tab between the two white adhesive strips, separating them.







- Try to keep the strips flat and unwrinkled during this procedure; wrinkled strips will stick together and break instead of pulling out cleanly.
- Slowly pull one of the battery adhesive strips away from the battery, toward the bottom of the iPhone.
- Pull steadily, maintaining constant tension on the strip as it slips out from between the battery and the rear case. For best results, pull the strip at a 60° angle or less.
- Guide the strip carefully around the corner and up the side of the battery. Be careful not to snag it on any of the other internal iPhone components.
- The strip will stretch to many times its original length. Continue pulling, re-grabbing the strip near the battery if necessary, until the entire strip comes free.





- Repeat for the second strip.
- If you removed both strips successfully, skip the next two steps.

If either of the adhesive strips break underneath the battery and cannot be retrieved, try to remove the remaining strip, and then proceed to the next step.

Step 27



If any of the adhesive strips broke off and the battery remains stuck to the rear case, [invalid guide link] or use a hair dryer to heat the rear case directly behind the battery.

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- Flip the iPhone back over and insert a plastic card between the case side of the battery and the rear case.
 - Do not pry against the logic board or you may damage the phone.
 - Avoid prying at the top left near the volume controls, or you may damage the volume button ribbon cable.
- Keep the card as flat as possible to avoid bending the battery, which may damage it and cause it to release dangerous chemicals or catch fire. Do not use any sharp tools to pry at the battery.
- Press the card in farther to break up the adhesive behind the battery.
- (i) Alternatively, a piece of dental floss may be used to separate the battery from the rear case. A stronger alternative to dental floss is an unwound guitar string, such as a 0.009 E string from a 12-string set.
 - Thread the floss or string behind the upper battery corners, bring the ends together, wrap them around a folded cloth, and pull evenly.







- Pull the battery out of the rear case.
- When installing the battery, refer to this guide to replace your battery's adhesive strips.
- Perform a <u>hard reset</u> after reassembly. This can prevent several issues and simplify troubleshooting.

To reassemble your device, follow these instructions in reverse order. For optimal performance, calibrate your newly installed battery: Drain battery below 10%, then charge uninterrupted to 100%.