iPhone 7 LCD and Digitizer Replacement

For an easier repair, use our fix kit and...

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INTRODUCTION

For an easier repair, use our fix kit and follow this shorter guide to replace your iPhone's entire screen.

For more advanced fixers, this guide will help you replace *only* the iPhone 7 LCD and digitizer assembly (a.k.a. the bare "front panel"). This requires you to transfer several components from your original screen to the new one before installing it—including the front camera assembly, earpiece speaker, LCD shield plate, and home/Touch ID sensor.

For all screen/display repairs, **it's important to carefully transfer the original home/Touch ID sensor onto the new display in order for it to function.** The solid state home button is paired to its original logic board by Apple, so replacing it will render it unusable.

TOOLS:

- Anti-Clamp (1)
- P2 Pentalobe Screwdriver iPhone (1)
- iOpener (1)
- Suction Handle (1)
- Spudger (1)
- iFixit Opening Picks (Set of 6) (1)
- Tri-point Y000 Screwdriver (1)
- Tweezers (1)
- Phillips #000 Screwdriver (1)

PARTS:

- iPhone 7 LCD and Digitizer (1)
- iPhone 7 Display Assembly Adhesive (1)
- iPhone 7 Front Panel Assembly Cable Bracket (1)
- iPhone 7 Earpiece Speaker Bracket (1)

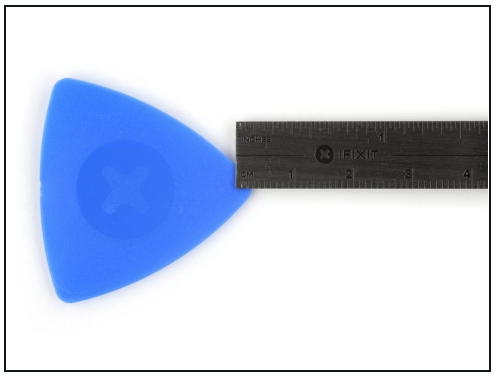
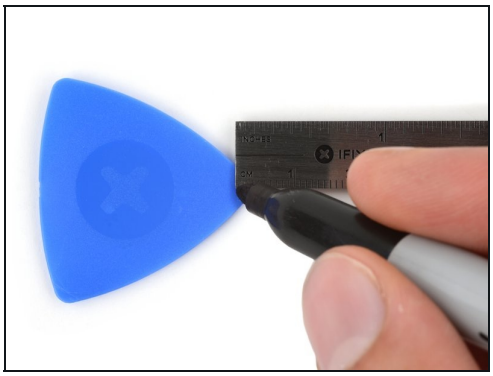
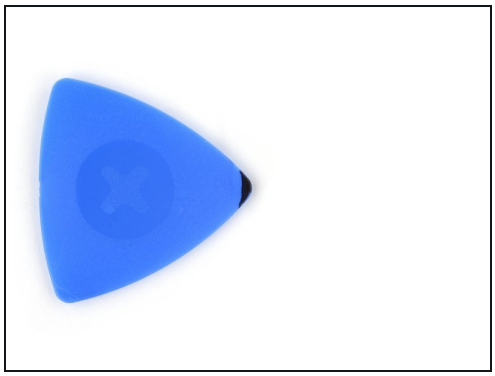
Step 1 — Pentalobe Screws

⚠ 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 3.4 mm pentalobe screws on 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 — Mark your opening picks

ⓘ If inserted too far, an opening pick can damage your device. Follow this step to mark your pick and prevent damage.

- Measure 3 mm from the tip and mark the opening pick with a permanent marker.

ⓘ You can also mark the other corners of the pick with different measurements.

ⓘ Alternatively, tape a coin to a pick 3 mm from the tip.

Step 3 — Tape over the display



- If your display glass is cracked, keep further breakage contained and prevent bodily harm during your repair by taping over 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.

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

- If the broken glass makes it difficult to get a suction cup to stick in the next few steps, try folding a strong piece of tape (such as duct tape) into a handle and lifting the display with that instead.

Step 4 — Anti-Clamp instructions

The next three steps demonstrate the Anti-Clamp, a tool we designed to make the opening procedure easier. **If you aren't using the Anti-Clamp, skip down three steps for an alternate method.**

For complete instructions on how to use the Anti-Clamp, check out this guide.

- Pull the blue handle backwards to unlock the Anti-Clamp's arms.
- Slide the arms over either the left or right edge of your iPhone.
- Position the suction cups near the bottom edge of the iPhone just above the home button—one on the front, and one on the back.
- Squeeze the cups together to apply suction to the desired area.

If you find that the surface of your iPhone is too slippery for the Anti-Clamp to hold onto, you can use tape to create a grippier surface.

Step 5

- Pull the blue handle forwards to lock the arms.
- Turn the handle clockwise 360 degrees or until the cups start to stretch.
- Make sure the suction cups remain aligned with each other. If they begin to slip out of alignment, loosen the suction cups slightly and realign the arms.

Step 6

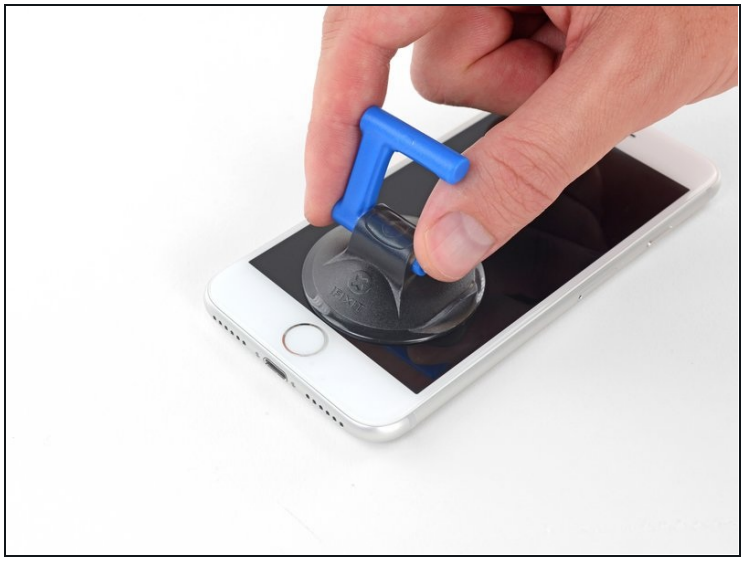
- Heat an iOpener and thread it through the arms of the Anti-Clamp.
  - ⓘ You can also use a hair dryer, heat gun, or hot plate—but extreme heat can damage the display and/or internal battery, so proceed with care.
- Fold the iOpener so it lays on the bottom edge of the iPhone.
- Wait one minute to give the adhesive a chance to release and present an opening gap.
- Insert an opening pick into the gap.
  - ⓘ If the Anti-Clamp doesn't create a sufficient gap, apply more heat to the area and rotate the handle a quarter turn.
  - ⚠ Don't crank more than a quarter turn at a time, and wait one minute between turns. Let the Anti-Clamp and time do the work for you.
- **Skip the next three steps.**

Step 7 — Heat the display

ⓘ The next three steps show how to separate the screen using a suction cup.

- Heating the lower edge of the iPhone will help soften the adhesive securing the display, making it easier to open.
- Use a hairdryer or prepare an iOpener and apply it to the lower edge of the phone for about 90 seconds in order to soften up the adhesive underneath.

Step 8 — Separate the display

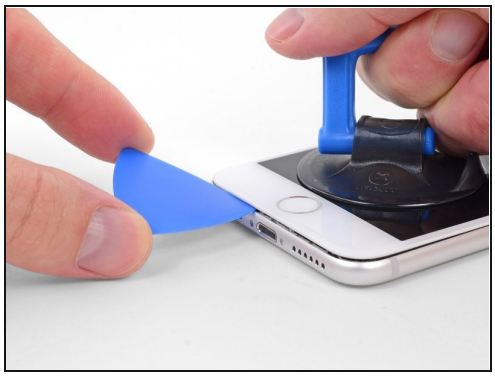


- Apply a suction cup to the lower half of the front panel, just above the home button.

ⓘ Be sure the suction cup does not overlap with the home button, as this will prevent a seal from forming between the suction cup and front glass.

Step 9



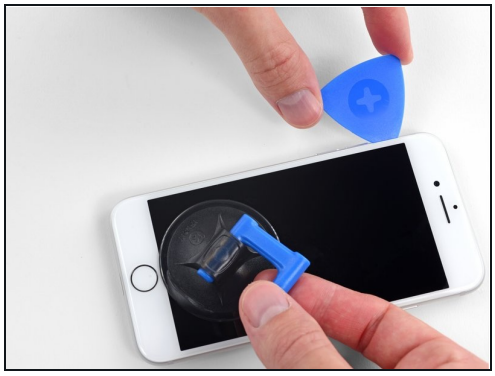


- Pull up on the suction cup with firm, constant pressure to create a slight gap between the screen and the frame.
- Insert an opening pick into the gap.

ⓘ The watertight adhesive holding the screen 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 10





- Slide the opening pick up the left edge of the phone starting at the lower edge and moving towards the volume control buttons and silent switch, breaking up the adhesive holding the display in place.
- Stop near the top left corner of the display.

⚠ Do not try to pry the top edge of the display away from the rear case, as it is held in place by plastic clips that may break.

Step 11 — Screen information

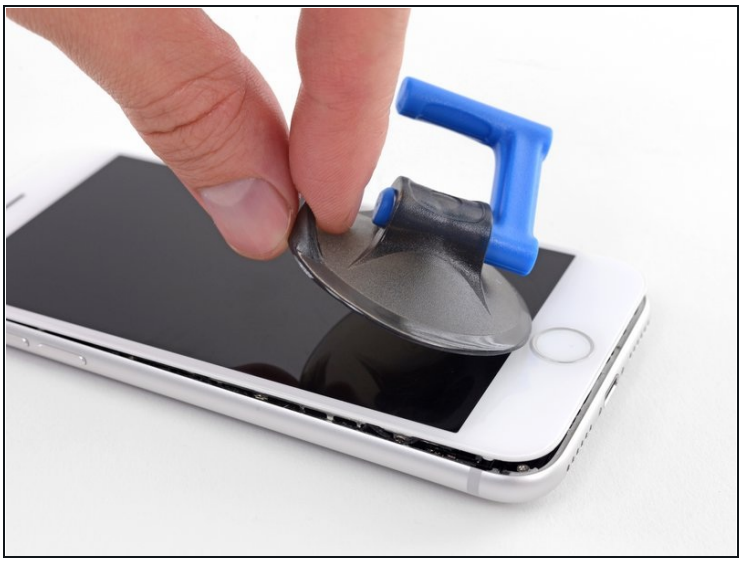
⚠ There are delicate cables along the right edge of your iPhone. **Don't insert your pick here**, as you may damage the cables.

Step 12

- Re-insert your tool at the lower right corner of the iPhone, and slide it around the corner and up the right side of the phone to separate the adhesive.

⚠ Don't insert your pick more than 3 mm, as you may damage the display cables.

Step 13



- Gently pull up on the suction cup to lift up the bottom edge of the display.

  ⚠ **Do not raise the display more than 15º** or you'll risk straining or tearing the ribbon cables connecting the display.

- Pull on the small nub on the suction cup to remove it from the front panel.

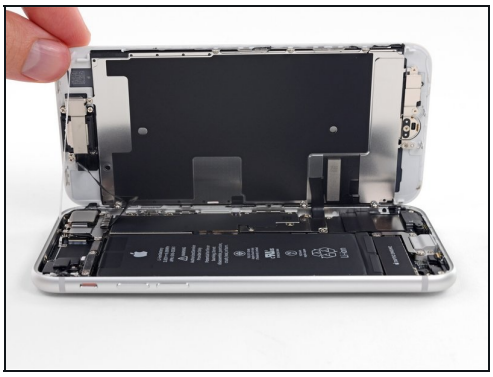
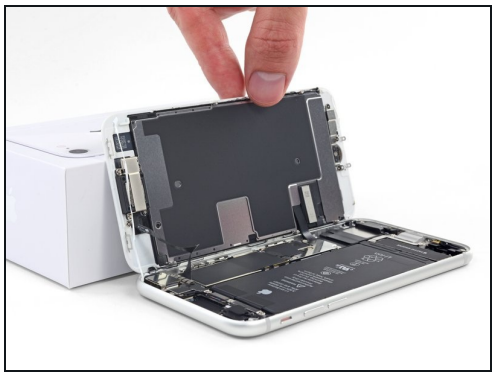
Step 14

- Slide an opening pick underneath the display around the top left corner and along the top edge of the phone to loosen the last of the adhesive.

Step 15


- Slide the display assembly slightly down (away from the top edge of the phone) to disengage the clips holding it to the rear case.

Step 16

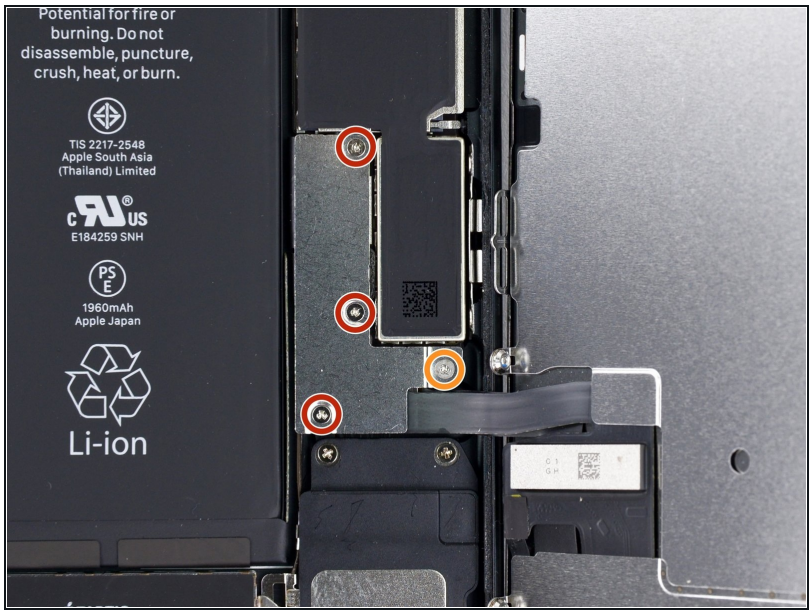




- Open the iPhone by swinging the display up from the left side, like the back cover of a book.

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

- Lean the display against something to keep it propped up while you're working on the phone.

Step 17 — Battery Disconnection



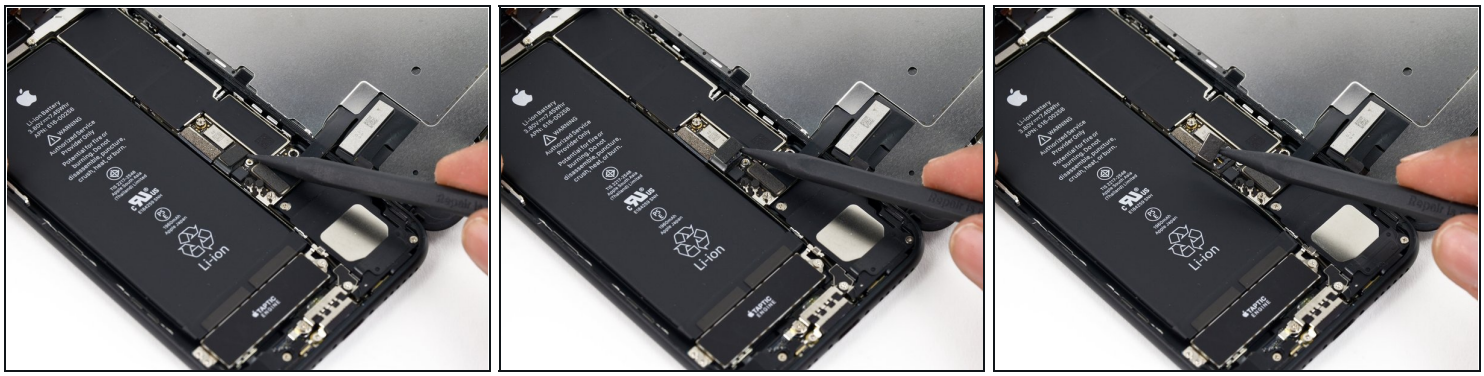
- Remove four tri-point Y000 screws securing the lower connector bracket, of the following lengths:
  - Three 1.2 mm screws
  - One 2.4 mm screw

Throughout this repair, keep track of each screw and make sure it goes back exactly where it came from to avoid damaging your iPhone.

Step 18

- Remove the lower connector bracket.

Step 19



- Use the point of a spudger to lift the battery connector out of its socket on the logic board.

ⓘ Bend the connector cable up slightly to prevent it from making contact with the socket and providing power to the phone.

Step 20 — Display Assembly



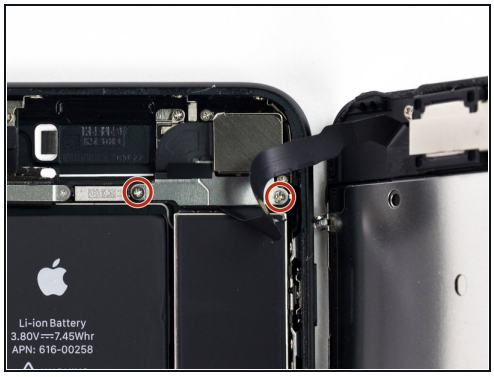
⚠ Make sure the battery is disconnected before you disconnect or reconnect the cables in this step.

- Use a spudger or a fingernail to disconnect the two lower display connectors by prying them straight up from their sockets on the logic board.

To reconnect these cables, press down on one end until it clicks into place, then repeat on the opposite end. **Do not** press down on the middle. If the connector is even slightly misaligned, the connector can bend, causing permanent damage.

If you have a blank screen, white lines on the display, or partial or complete lack of touch response after reassembling your phone, try disconnecting and carefully reconnecting both of these cables and make sure they are fully seated.

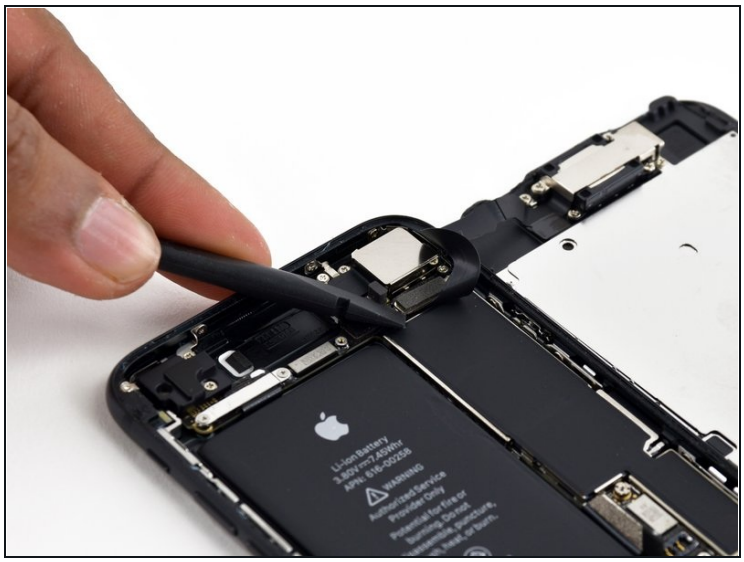
Step 21




- Remove the two 1.3 mm Phillips #000 screws securing the bracket over the front panel sensor assembly connector.

ⓘ Some phones could be Y000. Apple started using Y000 for these at some point in the middle of the product's lifecycle.

Step 22



- Disconnect the front panel sensor assembly connector from its socket on the logic board.

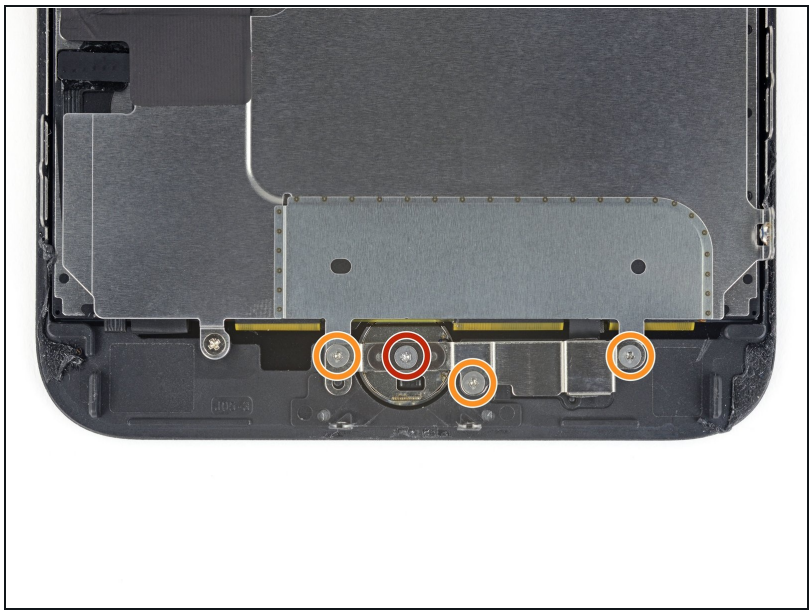
This press connector should also be reconnected one end at a time to minimize the risk of bending.

Step 23

- Remove the display assembly.

During reassembly, pause here if you wish to replace the adhesive around the edges of the display.

Step 24 — Home/Touch ID Sensor



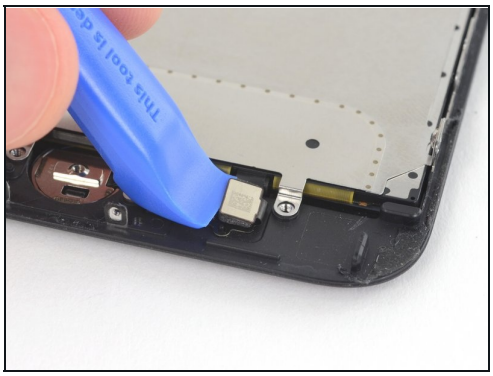
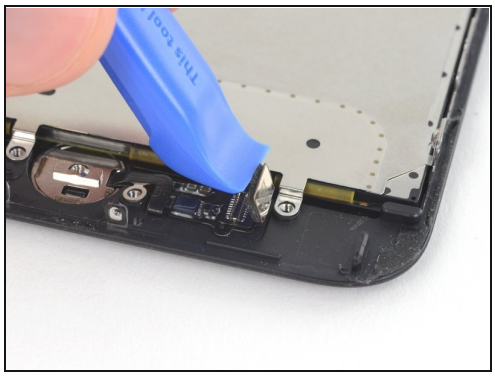
- Remove the four Y000 screws securing the bracket over the home/Touch ID sensor:
  - One 1.1 mm screw
  - Three 1.3 mm screws

During reassembly, be careful not to overtighten these screws, or your home button may not work.

Step 25

- Remove the bracket that secures the home/Touch ID sensor.

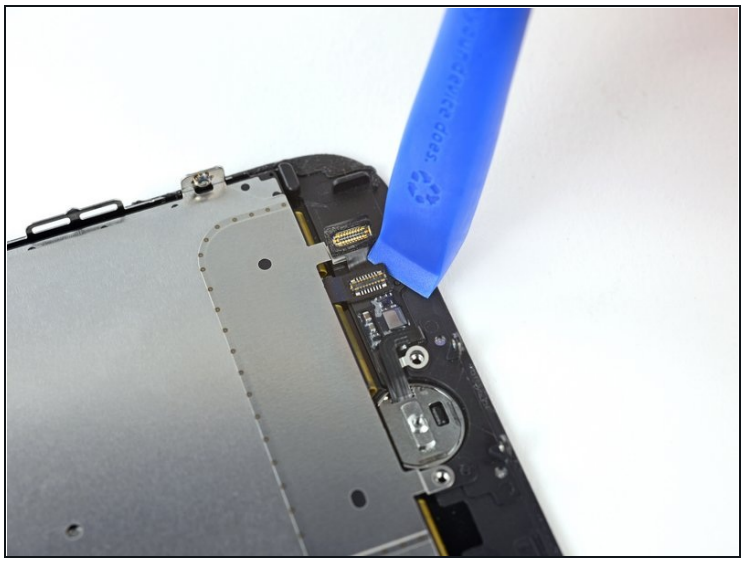
Step 26

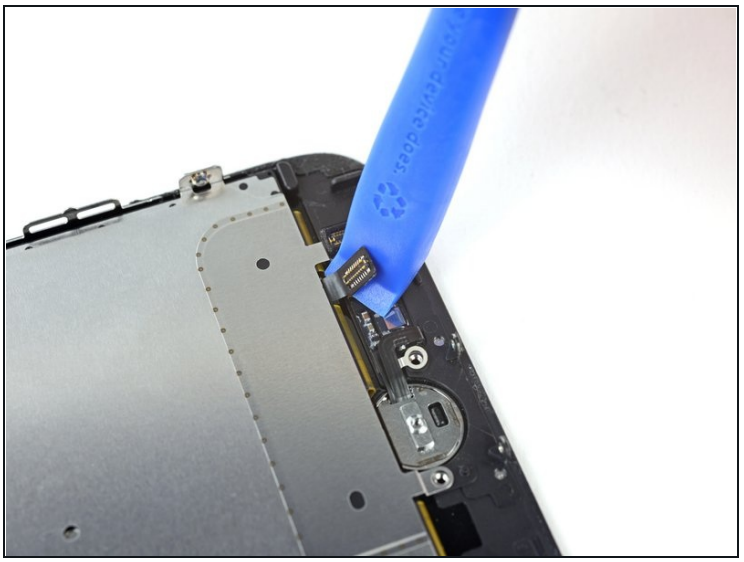




- Pry under the left edge of the home button cable connector to disconnect it from its socket.

⚠ If the entire connector begins to flip up without separating, press down on the cable at the top edge of the connector with the flat of your spudger, while simultaneously prying up the left edge of the connector. Be very careful not to damage the cable or connector, or you will permanently disable the sensor.

Step 27





- Carefully pry up the underlying connector and move it out of the way of the home/Touch ID cable.

⚠ It's very easy to damage your iPhone during this step. Work slowly and take care where you pry with your tool. If you damage the Touch ID hardware, it can only be replaced by Apple.

- If the connector doesn't pry up easily, use a hair dryer or iOpener to heat and soften the adhesive securing the connector, and then try again.

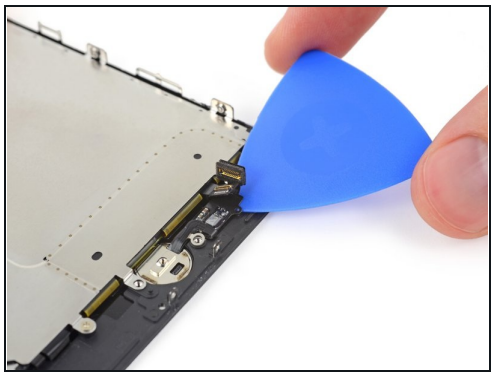
⚠ Don't try to detach the connector completely—simply flip it up slightly so that the underlying home/Touch ID sensor cable can be removed.

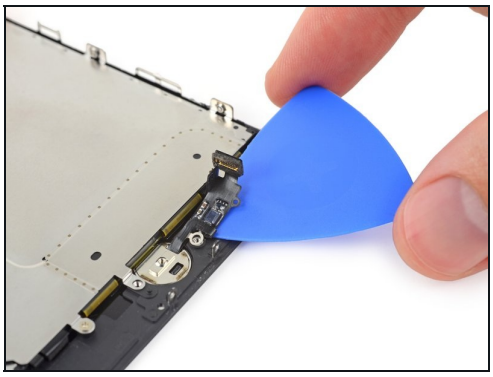
Step 28

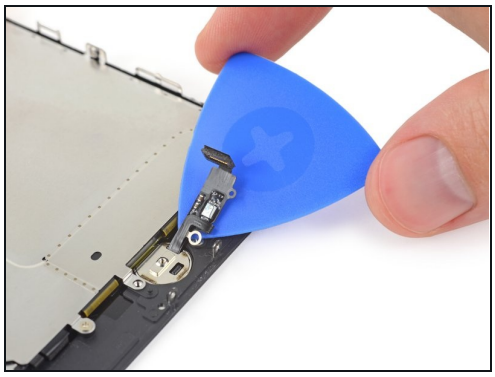
ⓘ Heating the area around the home/Touch ID sensor will help soften the adhesive holding its delicate cable in place, making it easier to remove safely.

- Flip the display assembly over. Use a hairdryer or prepare an iOpener and apply it to the lower edge of the display for about 90 seconds in order to soften up the adhesive underneath.

Step 29







- Use an opening pick to gently separate the adhesive holding the home/Touch ID sensor cable to the back side of the display panel.

Step 30

- Remove the home/Touch ID sensor assembly by lifting it through the front side of the display.

- To reinstall, first feed the cable through the hole in the front of the display.

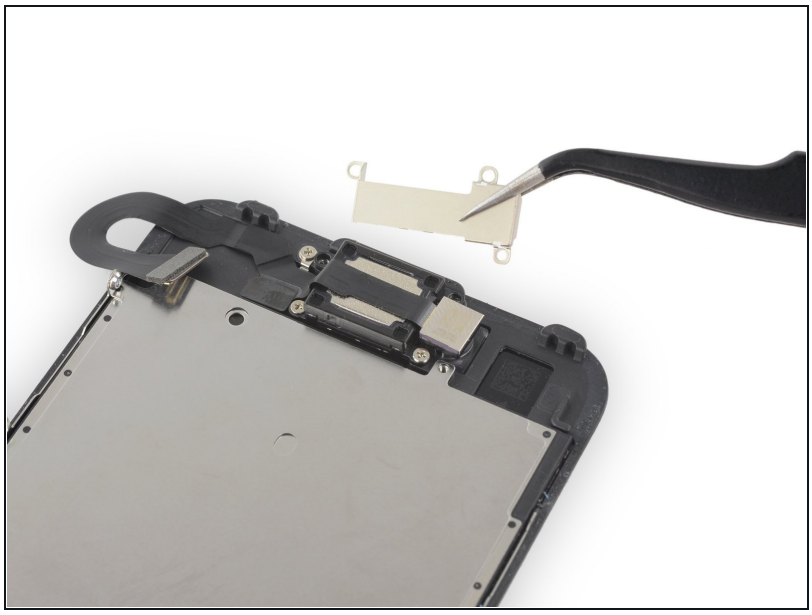
- Your replacement part may come with an extra Y000 screw already installed right of the Home Button. Remove the unnecessary screw so that you can reinstall the home button bracket.

- Follow this guide to install replacement display adhesive on your screen.

Step 31 — Earpiece Speaker

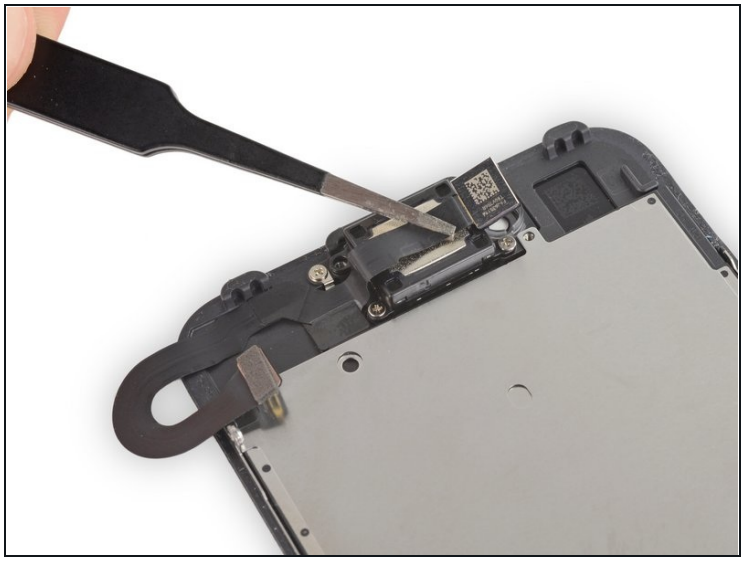
- Remove the three Phillips screws securing the earpiece bracket to the front panel:
  - Two 2.6 mm screws
  - One 1.7 mm screw

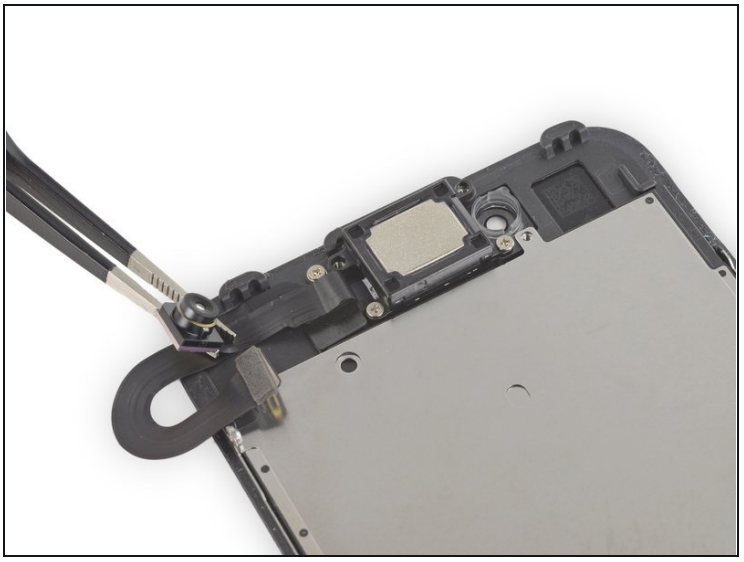
Step 32



- Remove the earpiece speaker bracket.

Step 33



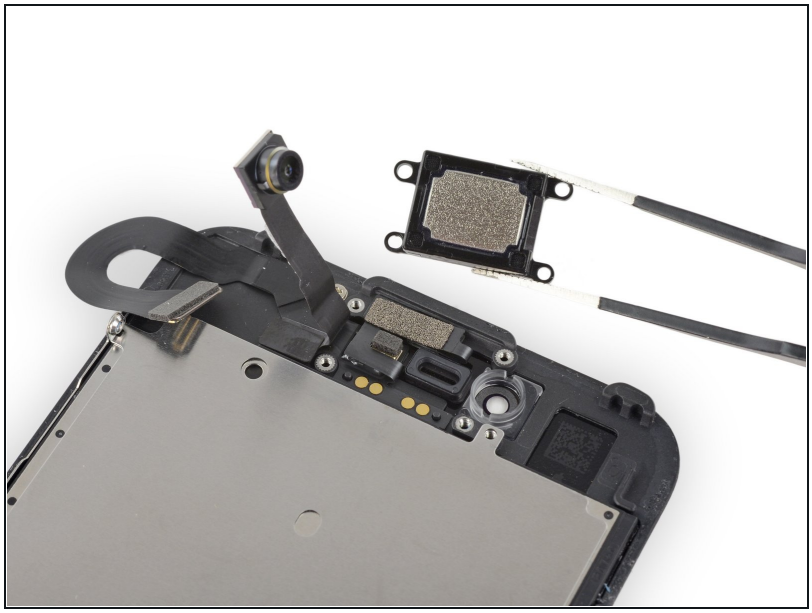


- Lift the front facing camera out of the way to access the earpiece speaker.

Step 34

- Remove the two Phillips screws securing the earpiece speaker to the front panel:
  - One 1.9 mm screw
  - One 2.5 mm screw

Step 35



- Remove the earpiece speaker.

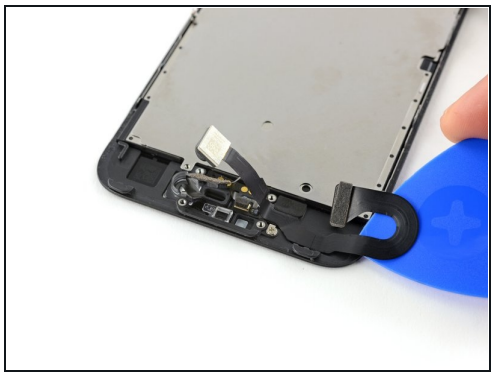
Step 36 — Front Camera and Sensor Cable

- Reheat your iOpener and apply it to the upper edge of the display assembly to soften the adhesive holding the front camera and sensor assembly in place.
  - Wait about two minutes before moving on to the next step to adequately soften the adhesive.

Step 37

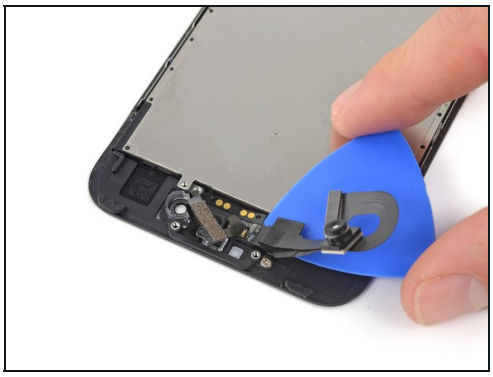
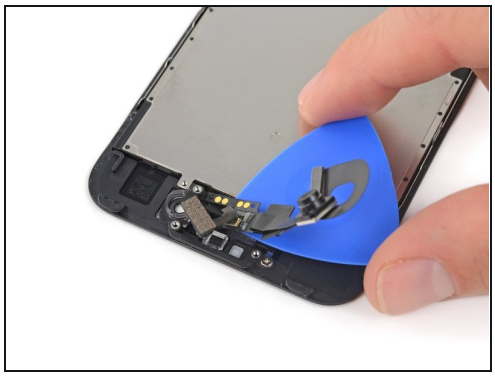
- Use a spudger to gently pry the ambient light sensor out of its recess on the front panel.
  - Try to get your tool all the way under the sensor to pry it away from the clear plastic beneath. If you pry only against the cable, the sensor may separate from the cable assembly and will need replacement. If you're replacing the sensor/cable assembly anyway, then it doesn't matter.

Step 38



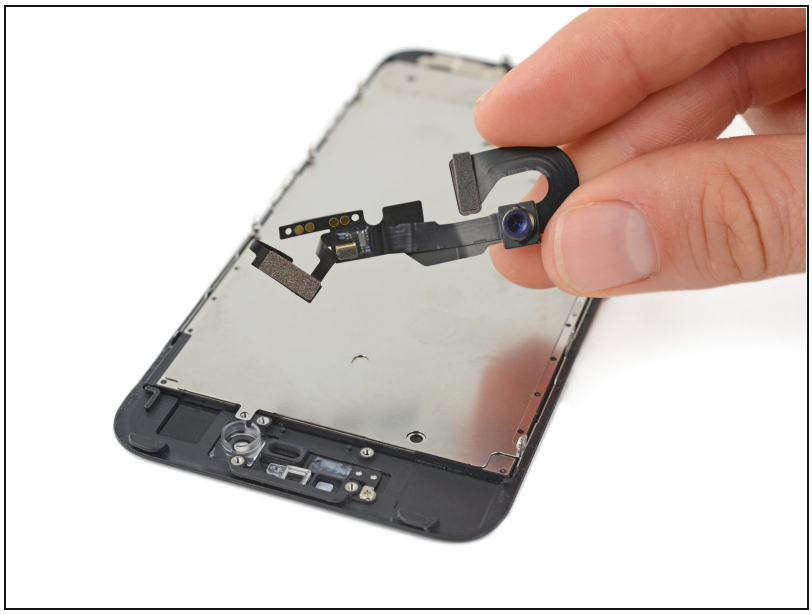
- Slide the pick towards the front facing camera housing, separating the adhesive holding the cable to the front panel. Stop just before the screw posts.

Step 39

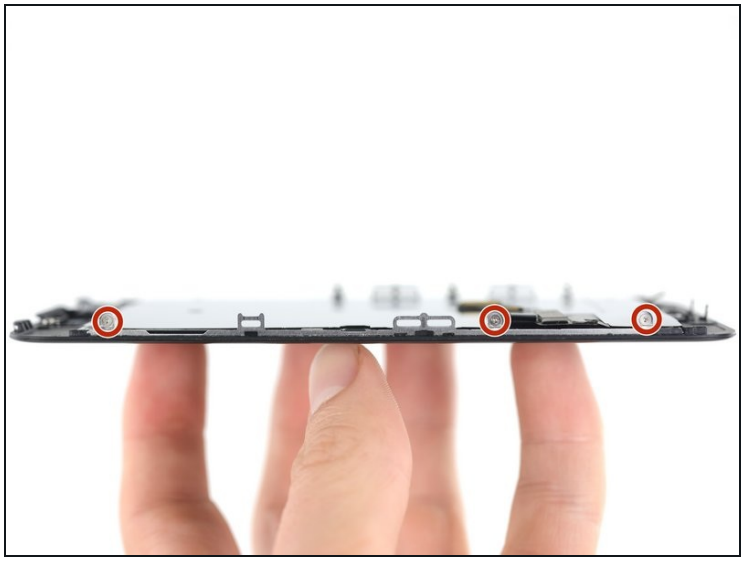
- Use the pick to lift the camera cable up off of the two plastic posts on the front panel and separate it from the last of the adhesive.

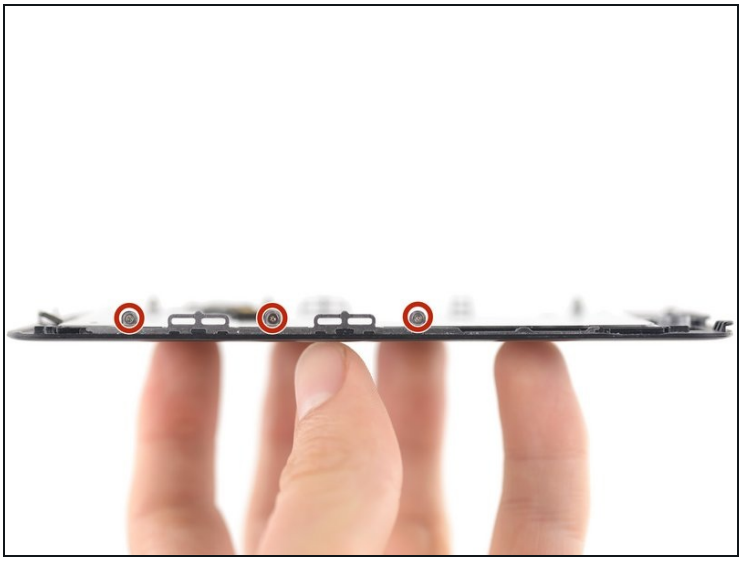
Step 40



- Remove the front camera and sensor cable.

Step 41 — LCD Shield Plate



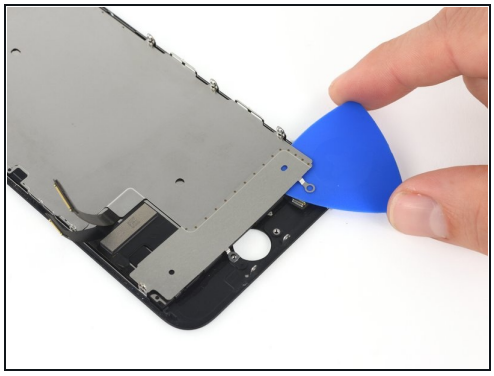


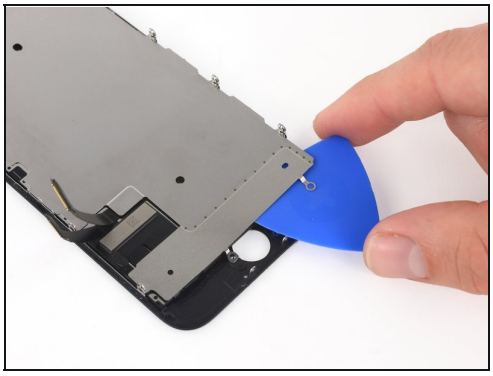
- Remove the three 1.2mm tri-point Y000 screws from either side of the display assembly for a total of six screws.

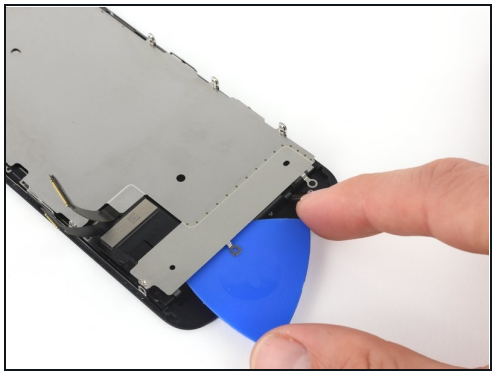
Step 42

- Heat an iOpener and lay it over the edge of the shield closest to the home button to soften the adhesive holding it in place.

Step 43

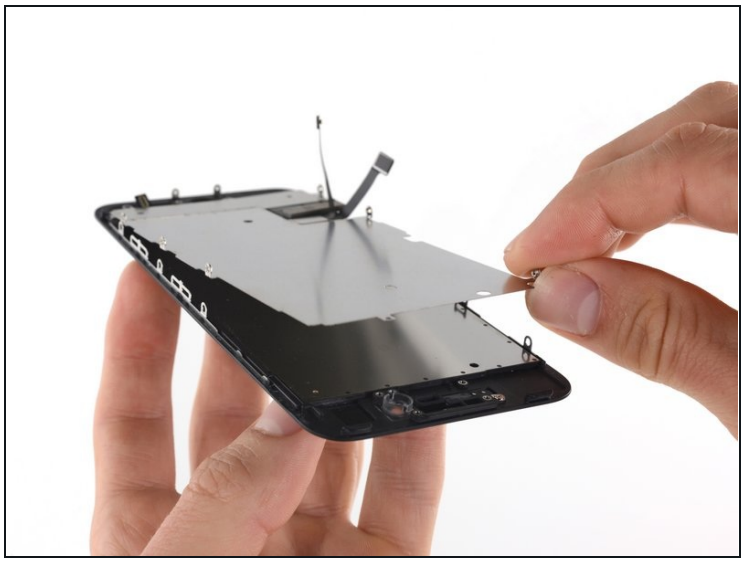






- Use an opening pick to break up the adhesive near the home button that holds the LCD shield plate to the display assembly.

Step 44



- Gently lift the LCD shield plate from the display assembly.

⚠ Be careful not to snag the display data cables when removing the LCD shield plate.

Step 45 — LCD and Digitizer

- Only the LCD and digitizer remain.

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