iPhone X Screen Replacement

Cracked screen? Touch not working? Bad OLED…

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INTRODUCTION

Cracked screen? Touch not working? Bad OLED display? Use this guide to restore your iPhone X to working order with a new OLED screen and digitizer. Trying a new screen may also help if your iPhone X seemingly won't turn on.

Note: The combined earpiece speaker + sensor assembly affixed to the back of the display is paired to your individual iPhone from the factory, so you must transfer it from your old display to your new one as instructed below during any display replacement. It contains the flood illuminator, which is part of the biometric Face ID security feature. If it is damaged or replaced, Face ID will cease to function, so take extra care not to damage any of these components during this procedure. If damaged, only Apple can restore Face ID function.

Note: If your iPhone's auto brightness feature does not work properly after your screen repair, make sure your iPhone is updated to iOS 12. True Tone functionality is disabled after a screen replacement, even when using an original Apple screen.

🔧 TOOLS:

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

⚙ PARTS:

iPhone X Screen (1)
iPhone X Display Assembly Adhesive (1)
iPhone X Digitizer Cable Connector Foam Pads (1)
NuGlas Tempered Glass Screen Protector for iPhone X/XS/11 Pro (1)
iPhone X Used Screen (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 6.9 mm-long pentalobe screws at the bottom edge of the iPhone.

  📌 If the screws are stripped or damaged, replace the screws.

ⓘ 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 any cracks

ⓘ If your iPhone has a cracked screen, 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 screen until the whole face is covered.

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

● If you can't get the suction cup to stick in the next few steps, fold a strong piece of tape (such as duct tape) into a handle and lift the screen with that instead.

　ⓘ If all else fails, you can superglue the suction cup to the screen.

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—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 forward 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 under the screen and the plastic bezel, **not the screen itself.**
  - ⓘ 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

ⓘ Heating the lower edge of the iPhone will help 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 in order to soften up the adhesive underneath.

⚠ If you use a hairdryer or heat gun, do not heat to much because that can result in damaging the screen.

Step 8

● If using a single suction handle, apply it to the bottom edge of the phone, while avoiding the curved portion of the 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 under the screen's plastic bezel, **not the screen itself.**

ⓘ 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 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 your pick more than 3 mm, as you may damage internal components.

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

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

Step 13

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

- Slide the opening pick around the top corner of the display, while gently pulling or wiggling the display **down** in the direction of the Lightning port.
  ⚠ The clips will break if you use too much force. Work carefully and be patient.

  ⚠ Don't insert your pick more than 3 mm, as you may damage the front panel sensor array.

- Slide the pick to the opposite corner and cut any remaining adhesive securing the display.

Step 14

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

Step 15

- 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.

⚠ As pictured, make sure the frame comes off with display and doesn't get stuck in the device.

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

⊡ 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 16 — Display Assembly
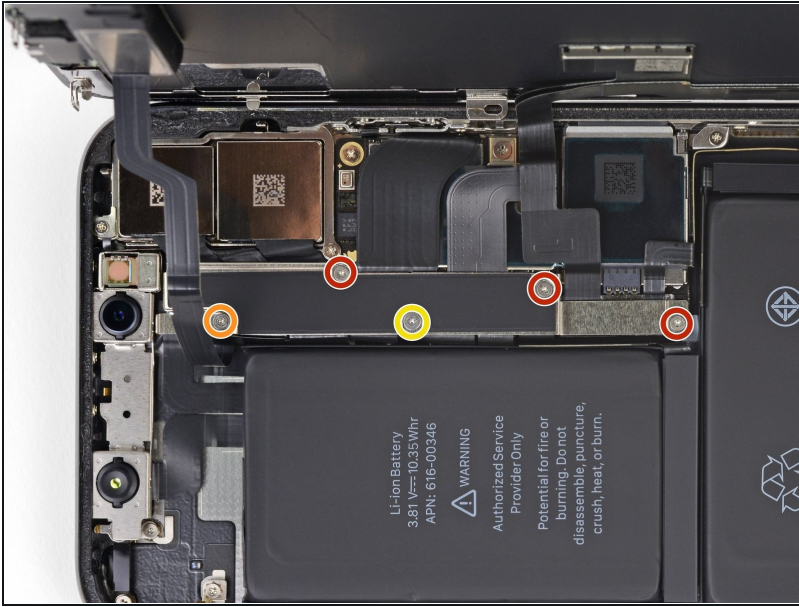
- Remove five Y000 screws securing the logic board connector bracket, of the following lengths:
  - Three 1.1 mm screws
  - One 3.1 mm screw
  - One 3.7 mm screw

- ⓘ 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 17

- Remove the bracket.
  - ⓘ The bracket may be lightly adhered in place. Lift gently but firmly to separate it.

- ⚑ 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 18

- Use the point of 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 making contact with the socket and providing power to the phone during your repair.

Step 19

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

Step 20
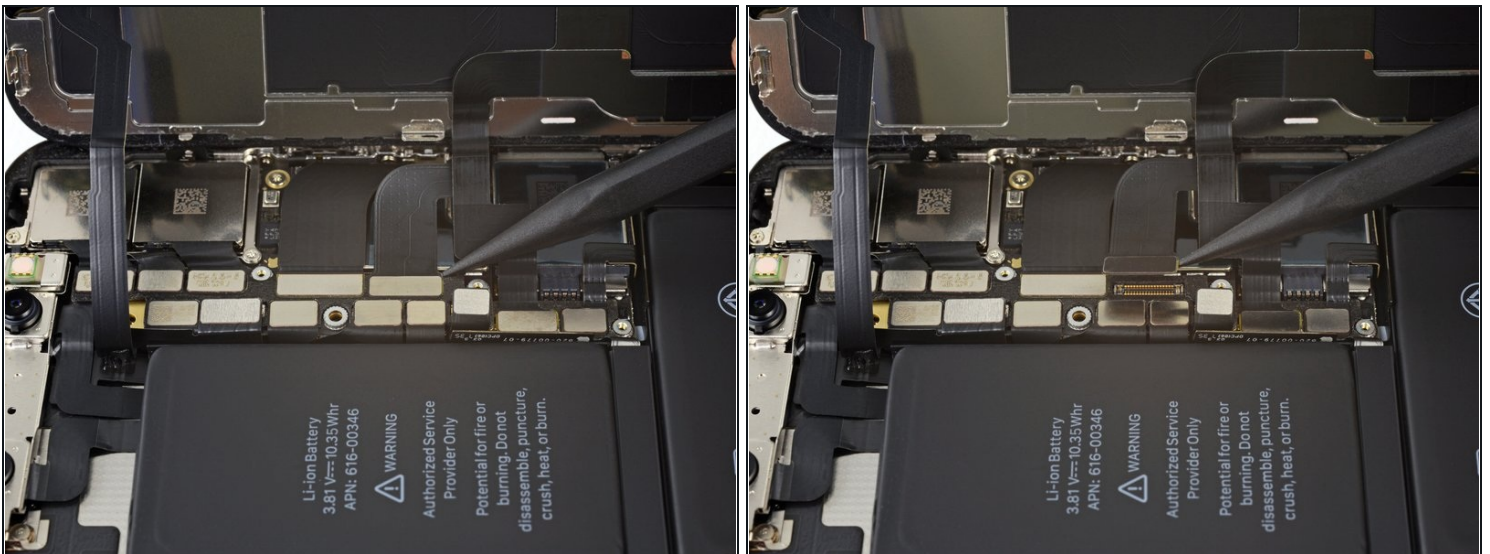
- Use the point of a spudger or a fingernail to disconnect the OLED panel cable connector.
  - 🔲 To re-attach [press connectors](#) like this one, carefully align and press down on one side until it clicks into place, then repeat on the other side. Do not press down on the middle. If the connector is misaligned, the pins can bend, causing permanent damage.
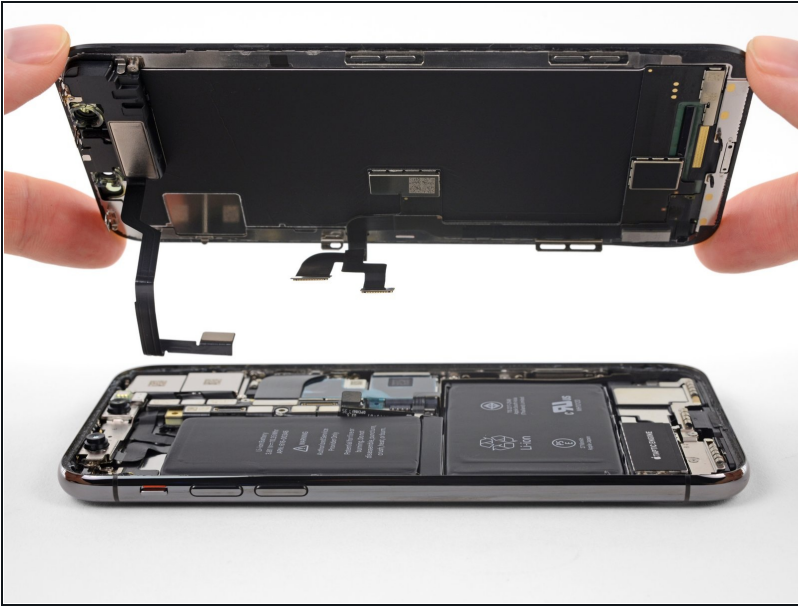
Step 21

- Use the point of a spudger to pry the digitizer cable connector up from its socket.
  - ⌘ This connector's recessed location makes it tricky to reconnect. Take your time and align it carefully, then gently press it into place with your fingertip—first one side, then the other. You should feel it click into place.

  - ⌘ If any part of your screen doesn't respond to touch after your repair, disconnect the battery and then re-seat this connector, making sure it clicks fully into place and that there's no dust or other obstruction in the socket.

Step 22

- ⓘ The front panel sensor assembly flex cable is lightly adhered in place.

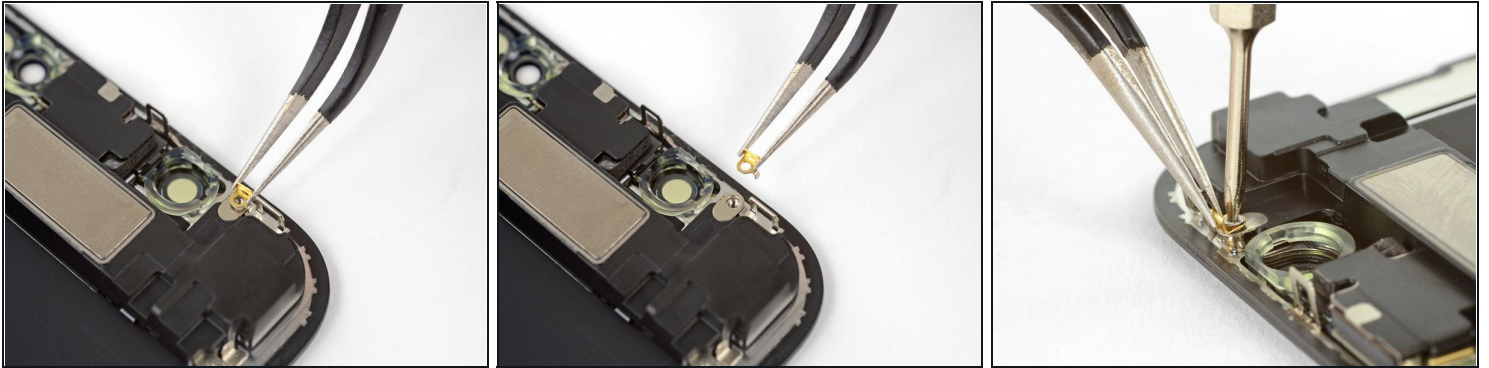- Carefully lift the cable until the adhesive separates.

Step 23

- Remove the display assembly.

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

Step 24 — Earpiece Speaker and Front Sensor Assembly

- Remove the 1.2 mm Y000 screw on the back of the display assembly, near the infrared camera port.

Step 25

- Beneath the screw you just removed lies a small metal grounding clip. If it didn't already come out along with the screw, remove it now.

- ⬚ During reassembly, orient the clip as shown. Hold the clip in position while you install and tighten the screw.

Step 26

- Remove two more Y000 screws securing the speaker/sensor assembly:
  - One 1.6 mm screw
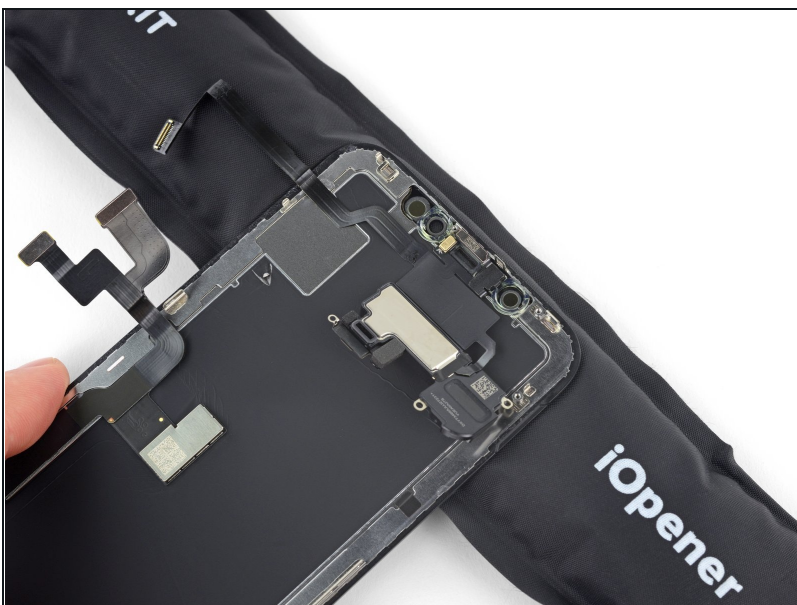 - One 1.3 mm screw

Step 27

ⓘ The earpiece speaker is lightly adhered in place.

- Using a spudger, gently pry under the top edge of the speaker assembly, and flip it over —down and away from the top edge of the display.

⚠ The speaker remains attached via a very thin flex cable. Be careful not to strain or damage the cable.

Step 28

- Use a hairdryer or heat gun or [prepare an iOpener](#) and apply it to the top front of the display for about a minute, in order to soften the adhesive securing the sensors.

Step 29

- Carefully slide the flat edge of your spudger underneath the flex cable below the microphone.

- Twist gently to separate the microphone, while being careful not to strain or damage the flex cable.

- If needed, use the point of the spudger to finish separating the microphone from its notch in the front panel.

Step 30
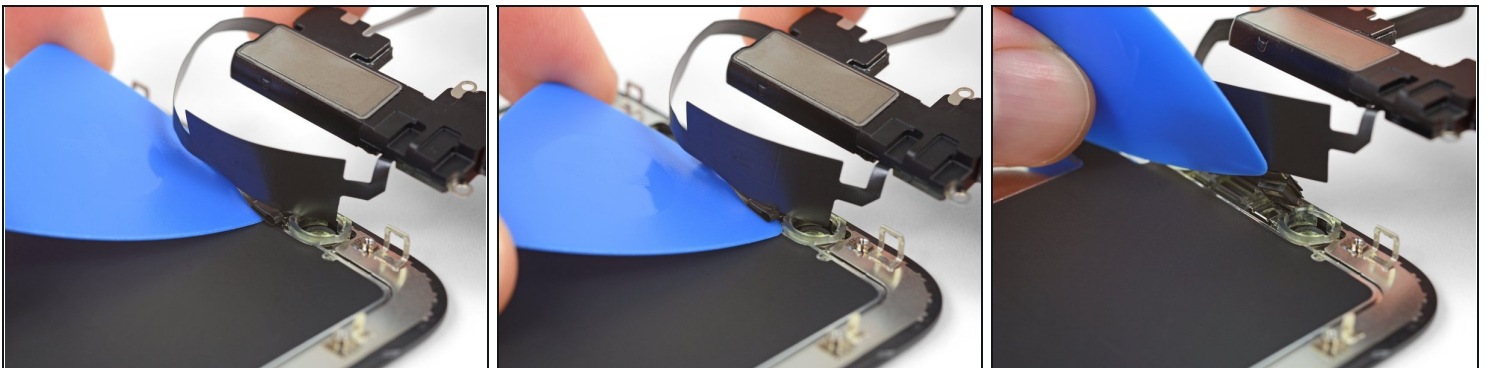
- Working left to right, slide an opening pick beneath the flex cable and underneath the proximity sensor + flood illuminator module.

- Gently wiggle and lift to separate the module from its notch in the front panel.

- (i) It's helpful to lift and hold the speaker out of the way for access. Just be careful not to pull on the thin flex cable while you work.

Step 31
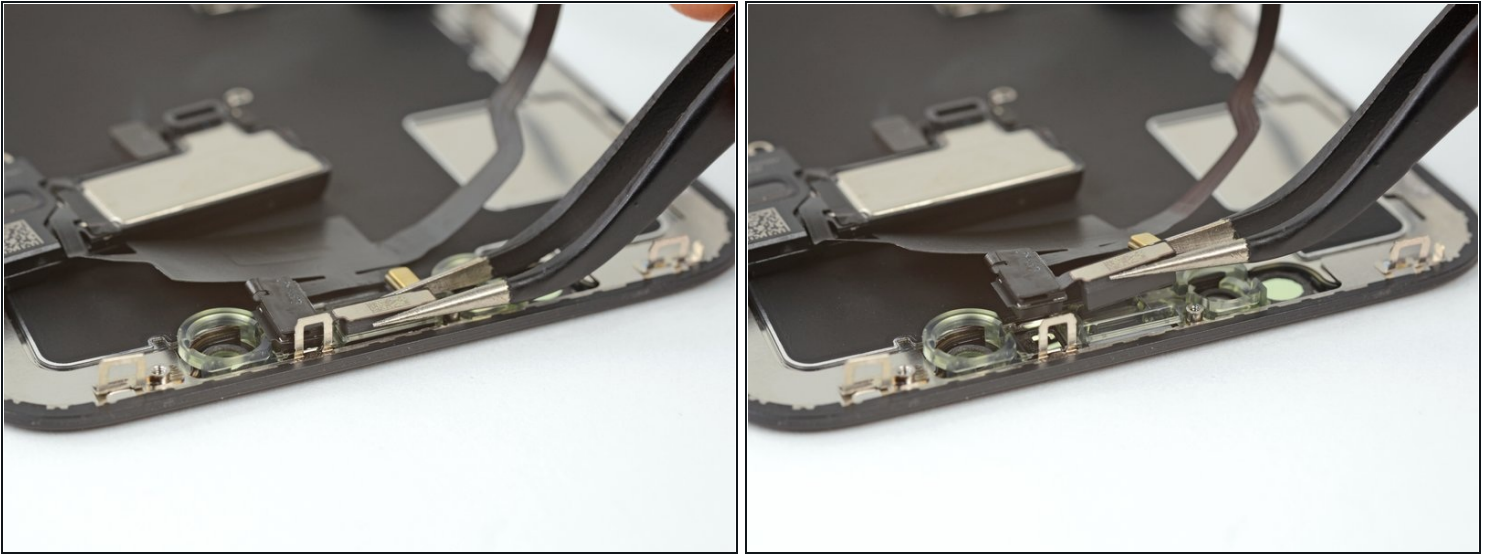
- Use tweezers to wiggle the ambient light sensor and lift it from its notch in the display.

- ⓘ The sensor remains attached to the rest of the sensor assembly via a very thin flex cable. Be careful not to strain or damage the cable.

Step 32

- If you successfully removed the entire ambient light sensor, as shown in the first photo, continue to the next step below.

- If the white diffuser strip detached and remains embedded in the display, as shown in the second photo, you will need to carefully lever it out along the top edge using a thin blade or pry tool. Re-applying heat first may make this task a bit easier.
  - 📌 During reassembly, install the diffuser into the display first, making sure it faces the right direction (the front-facing side is shown in the first image, and the rear-facing side is shown in the third).

  - 📌 Then, set the ambient light sensor on top of the diffuser. You will need to hold the sensor in position while installing the screws securing the earpiece/sensor assembly. Once the screws are tightened, the sensor will stay in place and work normally.

Step 33
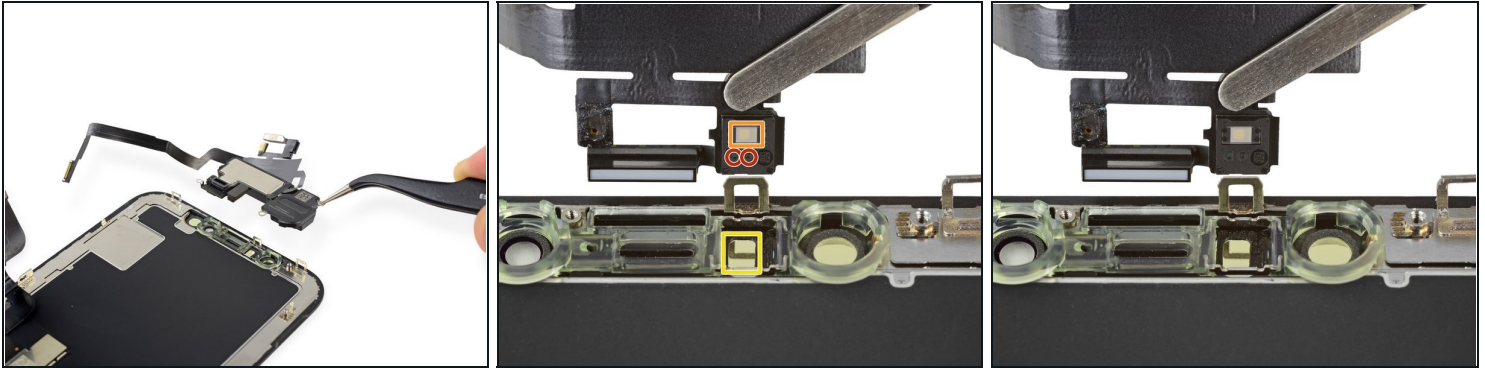
- Remove the earpiece speaker and front sensor assembly.

- ⊡ During reassembly, check the position of the black plastic module containing these components:
  - 🔴 Proximity sensor
  - 🟠 Flood illuminator
  - 🟡 The module must be positioned so that these components are not obstructed by any adhesive.

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.

If you've *still* got repair trouble and find yourself thinking about replacing your device, check out [these iPhone X deals from Backmarket](#)—they've got a great selection of used and refurbished devices with a fantastic warranty.