iPad 7 Screen Digitizer Replacement

Follow this guide to remove or replace the...

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INTRODUCTION

Follow this guide to remove or replace the screen digitizer in an iPad 7. The screen digitizer includes the front glass and digitizer only—it doesn't include the LCD panel.

Note: this guide is for the LTE version only. For the Wi-Fi version, click here.

The home button's Touch ID sensor is paired to the logic board. In order to retain Touch ID functionality, you'll need to transfer and glue the original home button to the new front panel assembly.

Be very careful when you isolate the battery using a battery blocker. The battery contacts are easily damaged, resulting in irreversible damage. If you choose to complete the guide without isolating the battery, avoid using metal tools except when completely necessary (like when removing screws) to prevent shorting the battery and damaging sensitive circuit components.

Some photos in this guide are from a different model and may contain slight visual discrepancies, but they won't affect the guide procedure.

TOOLS:

- Anti-Clamp (1)
- Packing Tape (1)
- Safety Glasses (1)
- Deck of Cards (1)
- Polyimide Tape (1)
- E6000 Adhesive Glue (1)
- Tweezers (1)
- Battery Blocker (1)
- iOpener (1)
- iFixit Opening Picks (Set of 6) (1)
- Suction Handle (1)
- Spudger (1)
- Phillips #00 Screwdriver (1)

PARTS:

- iPad 7/8 Screen Digitizer (1)
- iPad 7/8/9 Home Button Bracket (1)
- iPad 7/8/9 Home Button Spacer Ring (1)
- iPad 7/8/9 Adhesive Strips (1)

Step 1 — iOpener Heating

ⓘ We recommend that you clean your microwave before proceeding, as any nasty gunk on the bottom may end up stuck to the iOpener.

- Place the iOpener in the center of the microwave.

⚠ For carousel microwaves: Make sure the plate spins freely. If your iOpener gets stuck, it may overheat and burn.

Step 2

- Heat the iOpener for **thirty seconds**.
- Throughout the repair procedure, as the iOpener cools, reheat it in the microwave for an additional thirty seconds at a time.

⚠ Be careful not to overheat the iOpener during the repair. Overheating may cause the iOpener to burst. Do not attempt to heat over 100˚C (212˚F).

⚠ Never touch the iOpener if it appears swollen.

⚠ If the iOpener is still too hot in the middle to touch, continue using it while waiting for it to cool down some more before reheating. A properly heated iOpener should stay warm for up to 10 minutes.

Step 3

- Remove the iOpener from the microwave, holding it by one of the two flat ends to avoid the hot center.

⚠ The iOpener will be very hot, so be careful when handling it. Use an oven mitt if necessary.

Step 4 — Alternate iOpener heating method

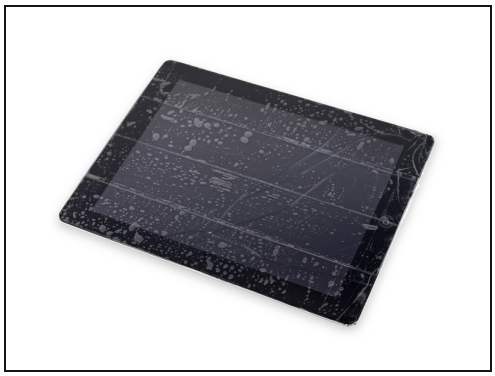
ⓘ If you don't have a microwave, follow this step to heat your iOpener in boiling water.

- Fill a pot or pan with enough water to fully submerge an iOpener.
- Heat the water to a boil. **Turn off the heat.**
- Place an iOpener into the hot water for 2-3 minutes. Make sure the iOpener is fully submerged in the water.
- Use tongs to extract the heated iOpener from the hot water.
- Thoroughly dry the iOpener with a towel.

  ⚠ The iOpener will be very hot, so be careful to hold it only by the end tabs.
- Your iOpener is ready for use! If you need to reheat the iOpener, heat the water to a boil, turn off the heat, and place the iOpener in the water for 2-3 minutes.

Step 5 — Front Panel





- 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 iPad's display until the whole face is covered.

  ⓘ This will keep glass shards contained and provide structural integrity when prying and lifting the display.

- Do your best to follow the rest of the guide as described. However, once the glass is broken, it will likely continue to crack as you work, and you may need to use a metal prying tool to scoop the glass out.

⚠ Wear safety glasses to protect your eyes, and be careful not to damage the LCD screen.

Step 6

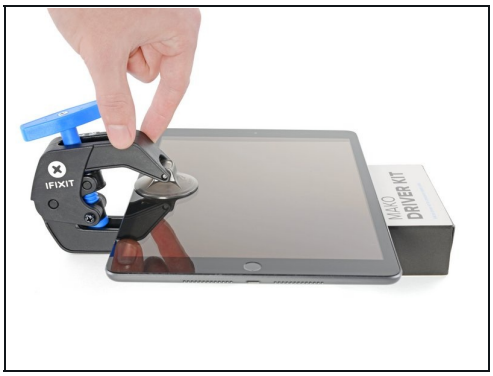
- Handling it by the tag, place the heated iOpener on the side of the iPad to the left of the home button assembly.
- Let the iOpener sit for at least a minute to soften the adhesive beneath the glass.

Step 7

ⓘ While the iPad looks uniform from the outside, there are delicate components under the front glass. To avoid damage, **only** heat and pry in the areas described in each step.

- As you follow the directions, take special care to avoid prying in the following areas:
  - Front-facing camera
  - Antennas
  - Display cables

Step 8 — Anti-Clamp instructions



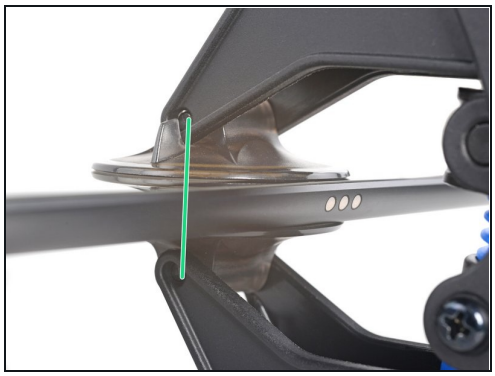
ⓘ The next three steps demonstrate the Anti-Clamp, a tool we designed to make the opening procedure easier. **If you aren't using the Anti-Clamp, skip down three steps for an alternate method.**

ⓘ 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.
- Place an object under your iPad so it rests level between the suction cups.
- Position the suction cups near the middle of the left edge—one on the top, and one on the bottom.
- Hold the bottom of the Anti-Clamp steady and firmly press down on the top cup to apply suction.

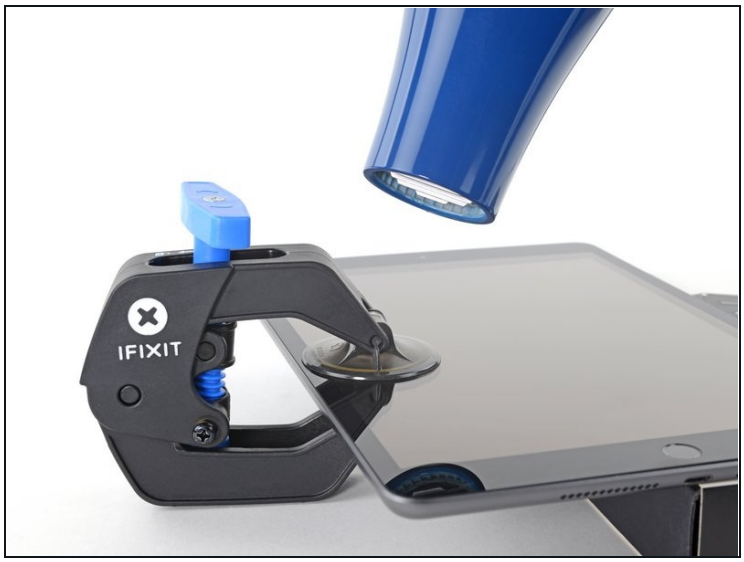
ⓘ If you find that the surface of your iPad is too slippery for the Anti-Clamp to hold onto, use tape to create a grippier surface.

Step 9



- 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 10



- Wait one minute to give the adhesive a chance to release and present an opening gap.

- If your screen isn't getting hot enough, you can use a hair dryer to heat along the left edge of the iPad.

  ⓘ For complete instructions on how to use a hair dryer, check out this guide.

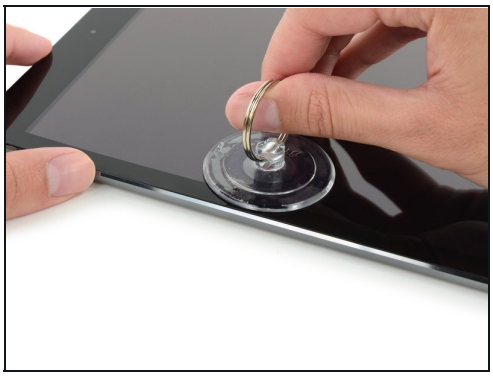
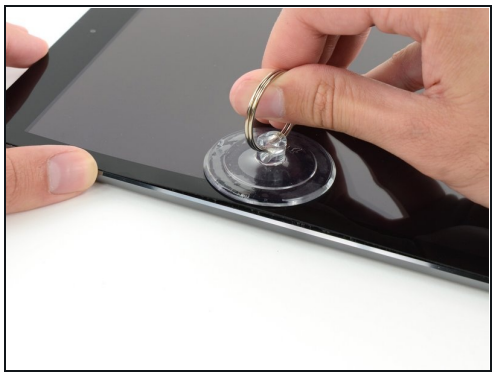
- Insert an opening pick under the screen when the Anti-Clamp creates a large enough gap.

  ⓘ If the Anti-Clamp doesn't create a sufficient gap, apply more heat to the area and rotate the handle clockwise half a turn.

  ⚠ Don't crank more than a half a turn at a time, and wait one minute between turns. Let the Anti-Clamp and time do the work for you.

- **Skip the next two steps.**

Step 11

- Carefully place a suction cup halfway up the heated side.
  - Be sure the cup is completely flat on the screen to get a tight seal.
- While holding the iPad down with one hand, pull up on the suction cup to slightly separate the front panel glass from from the rear case.

ⓘ If your iPad's screen is badly cracked, covering it with a smooth layer of clear packing tape may help the suction cup adhere. Alternatively, use a strong piece of tape (such as duct tape) and fold it into a handle.

Step 12



- Place an opening pick in the gap opened by the suction cup.

⚠ Don't insert the opening pick any deeper than the black bezel on the side of the display. Inserting the pick too far may damage the LCD.

- Pull the suction cup's plastic nub to release the vacuum seal and remove the suction cup from the display assembly.

Step 13

- Reheat and replace the iOpener.

⚠ Be careful not to overheat the iOpener during the repair procedure. Always wait at least ten minutes before reheating the iOpener.

Step 14

- Place a second opening pick alongside the first and slide the pick down along the edge of the iPad, releasing the adhesive as you go.

Step 15

- Continue moving the opening pick down the side of the display to release the adhesive.
- If the opening pick gets stuck in the adhesive, "roll" the pick along the side of the iPad, continuing to release the adhesive.

Step 16

- Take the first pick you inserted and slide it up toward the top corner of the iPad.
- If you can see the tip of the opening pick through the front glass, don't panic—just pull the pick out just a little bit. Most likely, everything will be fine, but try to avoid this as it may deposit adhesive on the front of the LCD that is difficult to clean off.

Step 17

- Reheat the iOpener and place it on the top edge of the iPad, over the front-facing camera.

⚠ Be careful not to overheat the iOpener during the repair procedure. Wait at least ten minutes before reheating the iOpener.

ⓘ If you have a flexible iOpener, you can bend it to heat both the upper left corner and the upper edge at the same time.

Step 18

- Slide the opening pick around the top left corner of the iPad to separate the adhesive.

Step 19



- Slide the opening pick along the top edge of the iPad, stopping just before you reach the camera.

ⓘ The third image shows where the front-facing camera and housing are in the iPad.

⚠ Avoid sliding the opening pick over the front facing camera, as you may smear adhesive onto the lens or damage the camera. The following steps will detail how to best avoid disturbing the front facing camera.

Step 20



- Pull the pick out slightly, and slide the very tip gently along the top of the front-facing camera section of the top edge.

Step 21

- Leave the opening pick in the iPad slightly past the front-facing camera.
- Take a second pick and insert it to the left of the camera, and then slide it to the corner of the iPad to finish cutting the adhesive on that edge.

Step 22

- Insert the previous pick deeper into the iPad and slide it away from the camera toward the corner.

Step 23

- Leave the three picks in the corners of the iPad to prevent re-adhering of the front panel adhesive.
- Reheat the iOpener and place it on the remaining side of the iPad—along the volume and lock buttons.

Step 24

- Slide the opening pick around the top right corner of the iPad, releasing the adhesive there.

ⓘ Leave this pick in place to keep the adhesive from re-sealing itself, and grab a new pick for the next step.

Step 25



- Insert a new opening pick and slide it to the middle of the right edge of the iPad, releasing the adhesive as you go.

⚠ The display cables are located approximately halfway from the bottom of the iPad. Stop sliding the pick when you get ~4.5" from the bottom of the iPad.

Step 26

- Leave the opening picks in place, and set the reheated iOpener on the home button end of the iPad.

Step 27



- Slide the lower left pick to the lower left corner to cut the adhesive on that corner.
- Leave the pick at the corner. Do not pry any farther, and do not remove the pick from the iPad.

ⓘ The third image shows the two antennas and the home button cavity in the lower case of the iPad.

- The following steps will direct you where to pry to avoid damage to these components. Only apply heat and pry where directed.

Step 28

ⓘ Leave the pick from the last step in place to prevent the adhesive from re-sealing.

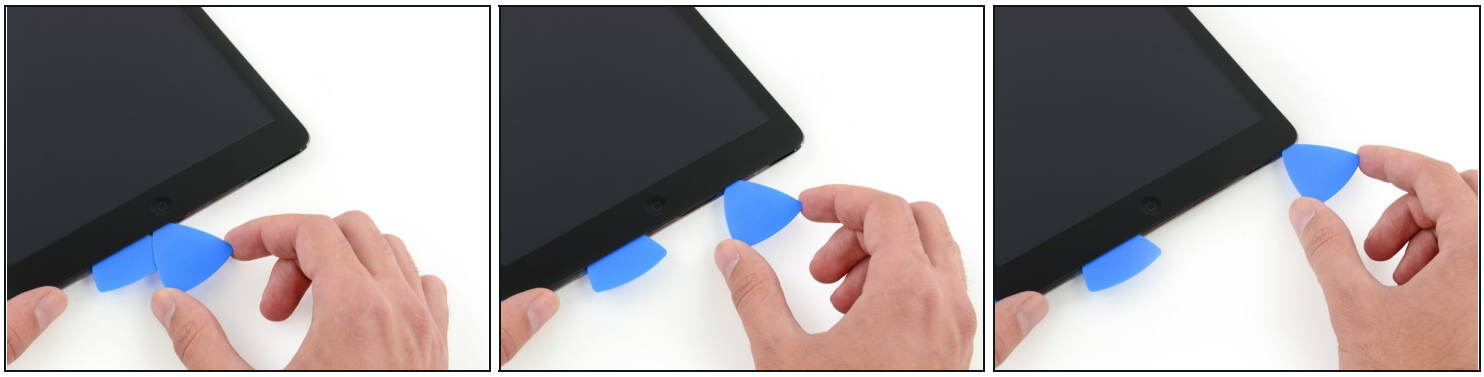
- With a new pick, slice gently over the left-hand antenna, stopping before the home button.

⚠ Only slide the pick from the outer edge toward the center of the iPad. Do not move the pick back toward the outer edge, as moving in this direction may damage the antenna.

ⓘ If you need to slide the pick over the lower section more than once, remove it and re-insert at the outer edge, and slide inwards.

- Leave the pick in place before moving on.

Step 29



- Take a new pick and slip it in to the right of the previous pick.
- Slide across the home button and right-hand antenna using **only the very tip** to remove the adhesive.

Step 30



- With the adhesive loosened, you can now insert the pick near the right-hand corner. Slide the pick to the left, and stop just short of the Home button.

⚠ Just like with the left antenna, only slide from the outer edge toward the center. Reversing this direction may damage the antenna.

Step 31

- Reheat and reapply the iOpener to the volume control side of the iPad.

Step 32

⚠ **Be very careful with this step.** Take your time and ensure the adhesive is hot and soft, and that you've been through all of the adhesive with an opening pick. Don't be afraid to stop and reheat.

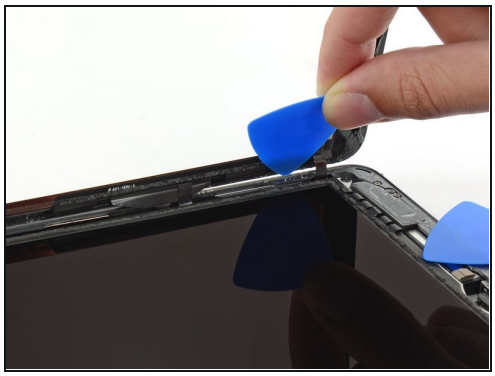
- On the side of the iPad opposite the volume controls, you should have a pick lodged into each corner. Twist the picks to lift the glass slightly, separating the last of the adhesive along the display cable edge.

ⓘ If you encounter a significant amount of resistance, leave the picks in place, reheat, and reapply the iOpener to the problem areas.

Step 33

- Lift slowly and gently to further detach the adhesive along the display cable edge.

Step 34



- While supporting the front panel glass, use an opening pick to cut the last of the adhesive.

⚠ Be very careful not to cut or damage any of the display cables.

Step 35

- Once all of the adhesive has been separated, open the glass panel like a page in a book and rest it on your workspace.

- During reassembly, clean the remains of the adhesive from the case (and the front glass if you are re-using it) with isopropyl alcohol, and replace the adhesive using our display adhesive application guide and pre-cut adhesive strips.

- It's easy to pinch a flex cable between the front glass and the iPad's frame during reassembly. Be mindful of the flex cables and make sure they gently fold and tuck under the frame. If the folds in a flex cable are pressed completely flat, it may be damaged beyond repair.

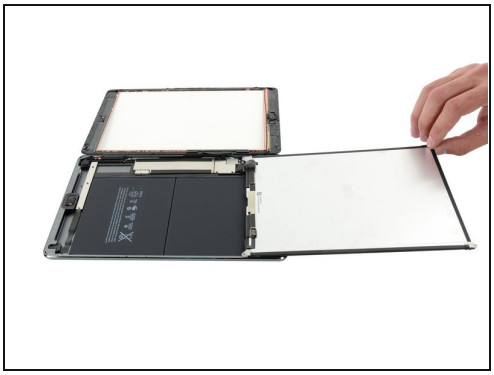
Step 36 — Remove the LCD

- Use a Phillips screwdriver to remove the four 4.3 mm-long screws securing the LCD to the frame.
  - Remove any tape obscuring the LCD screws.

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 37 — Flip the LCD over



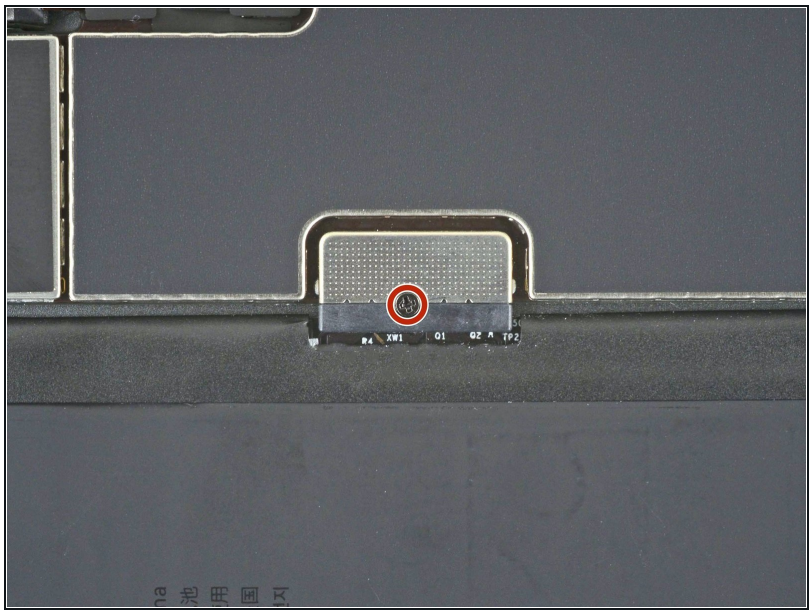


⚠ Don't attempt to fully remove the LCD during this step, as it's still connected by several cables at the home button end.

⚠ Only lift the LCD from the front-facing camera end.

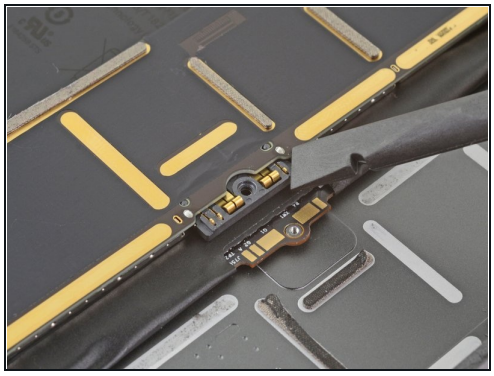
- Use the flat end of a spudger to pry the LCD out of its recess just enough to grab it with your fingers.
- Flip the iPad LCD like a page in a book, lifting near the camera and turning it over the home button end of the rear case.
- Lay the LCD down onto a clean, soft, lint-free surface to allow access to the display cables.

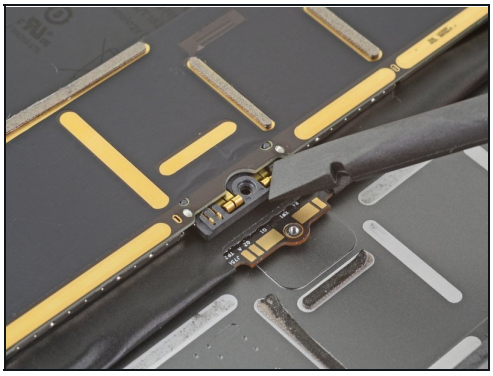
Step 38 — Disconnect the battery

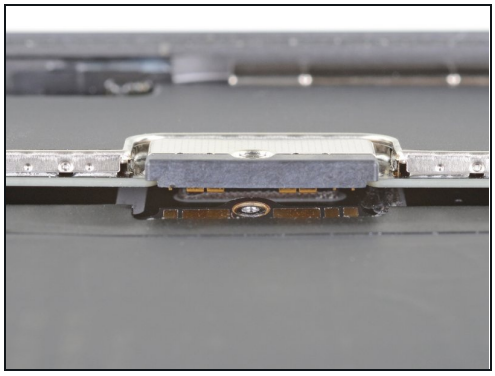


- Use a Phillips screwdriver to remove the single 2.3 mm-long screw securing the battery connector to the logic board.

Step 39 — Battery connector information







ⓘ These photos show what the battery connector looks like underneath the logic board. Use these photos as a reference while you safely disconnect the battery.

ⓘ Notice that the battery connector has cantilever springs on the logic board that press against the battery contact pads. Since both the logic board and battery are glued down, you'll need to slide something thin and flexible between the contact points to disconnect the battery.

Step 40 — Disconnect the battery

⚠ Be careful when you isolate the battery using a battery blocker. The battery contacts are easily bent or broken, resulting in irreversible damage.

ⓘ Ensure that the iFixit logo on the battery blocker is facing up.

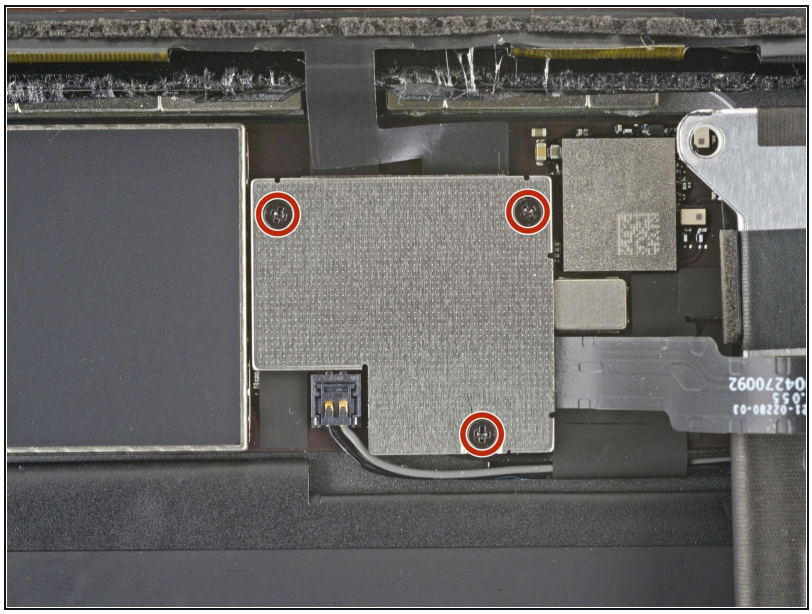
- Slide the battery blocker underneath the logic board's battery connector at a 35 degree angle.

  ⓘ Don't push the battery blocker underneath the connector with excessive force. If you're having trouble fitting the battery blocker underneath the logic board, you can try using a playing card to disconnect the battery instead.

  ⓘ The battery blocker or playing card ideally should slide under the logic board without encountering any blockages. After insertion, it should rest at about a 15 degree angle.

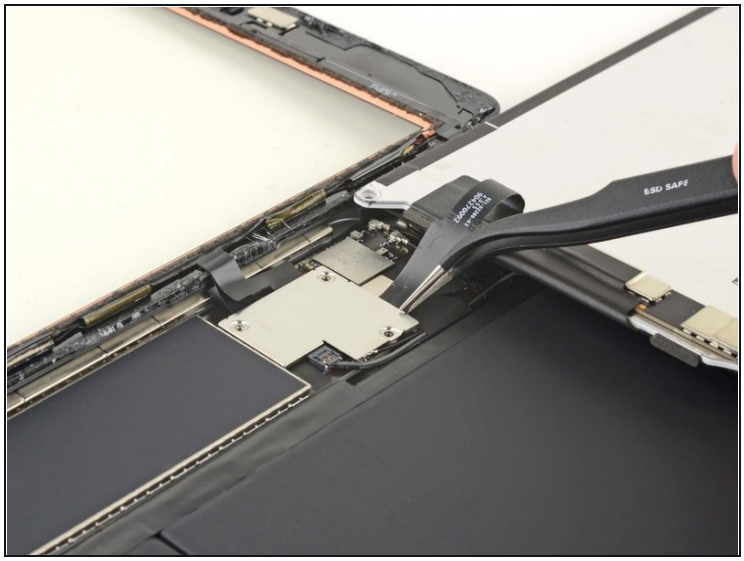
- Leave the battery blocker in place as you work.

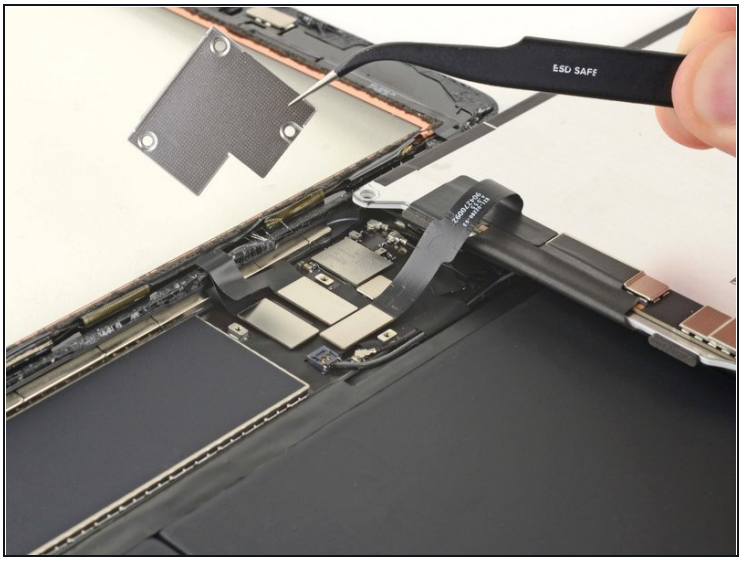
Step 41 — Remove the display cable bracket



- Use a Phillips screwdriver to remove the three 1.4 mm-long screws securing the display cable bracket.

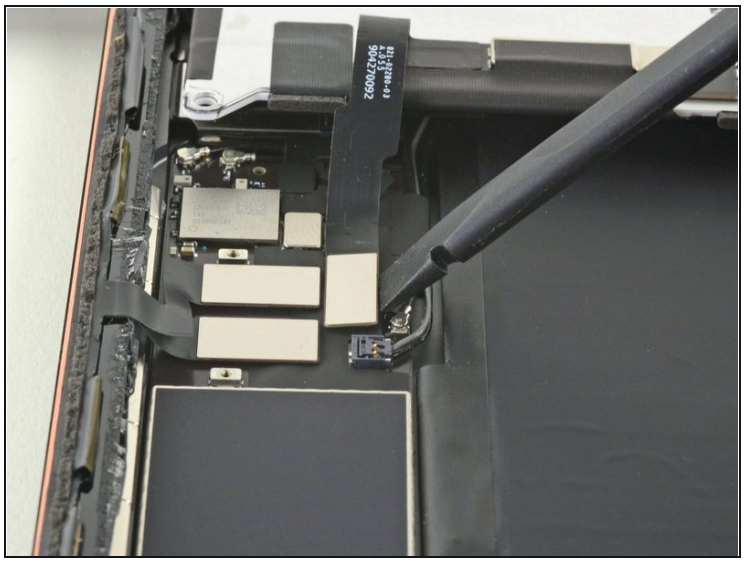
Step 42

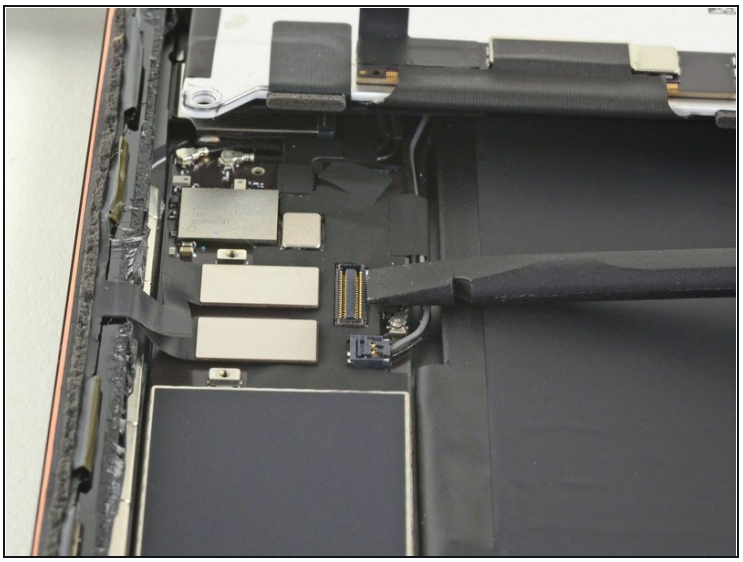




- Remove the display cable bracket.

Step 43 — Disconnect the LCD

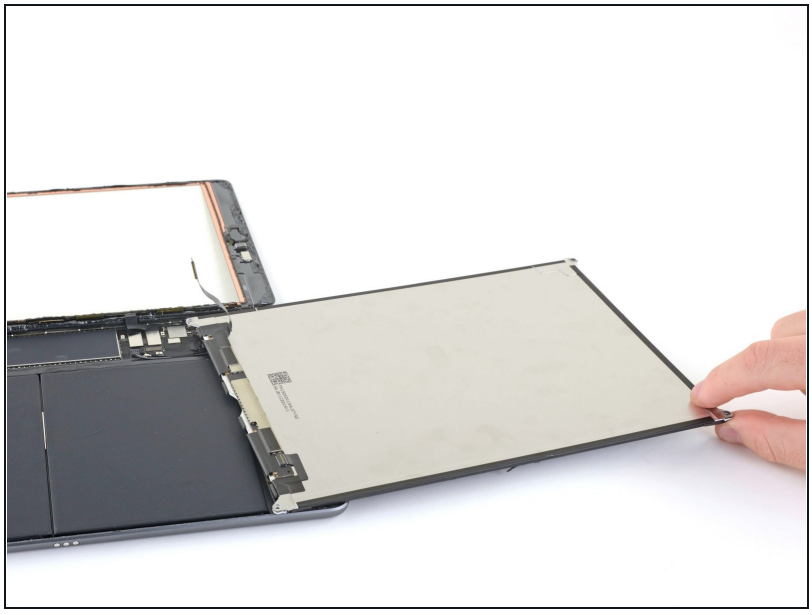




- Use the flat end of a spudger to disconnect the LCD cable by lifting straight up on the press connector.

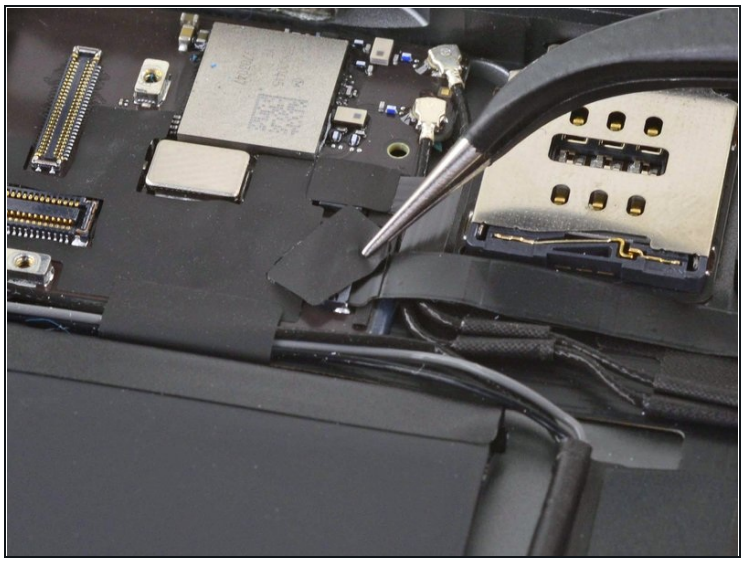
To re-attach press connectors like this one, carefully align and press down on one side until it clicks into place, then repeat on the other side. Do not press down on the middle. If the connector is misaligned, the pins can bend, causing permanent damage.

Step 44



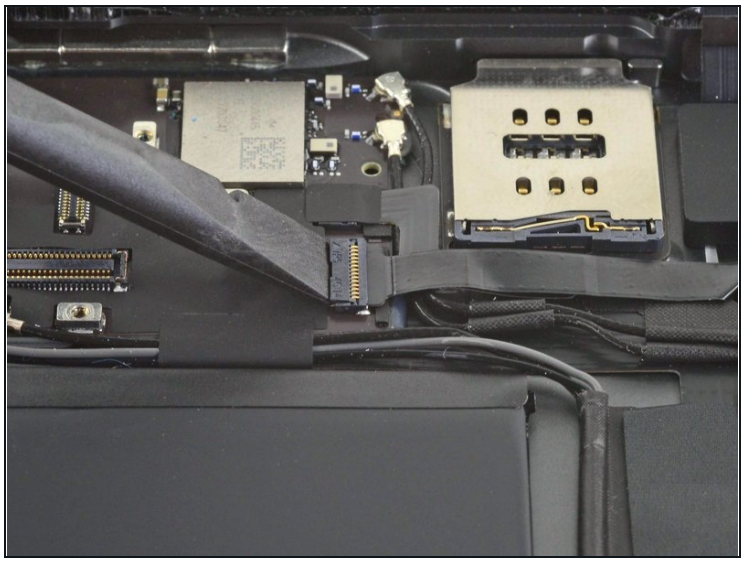
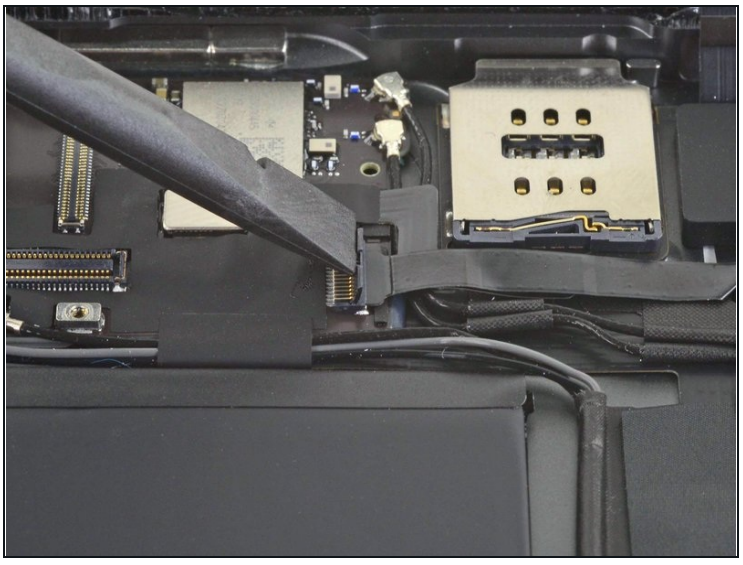
- Remove the LCD completely and rest it face down on a clean, soft, lint-free surface.

Step 45 — Disconnect the home button



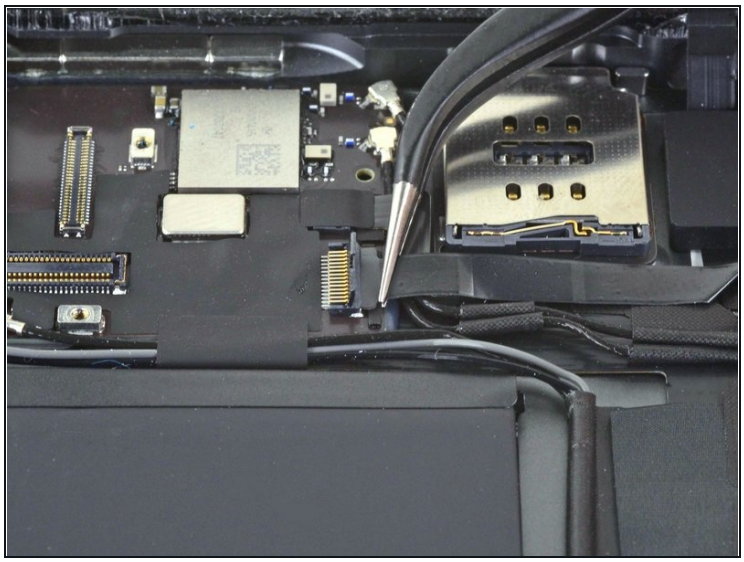
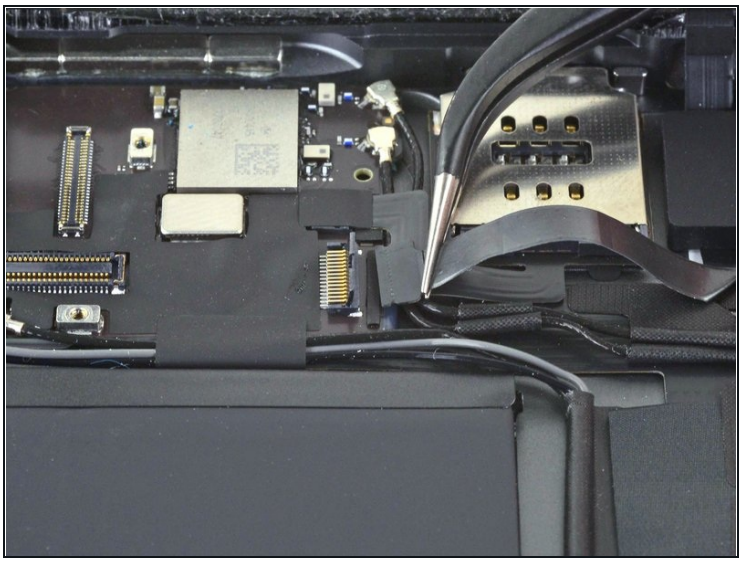

- Use a pair of tweezers to peel off the tape covering the home button cable ZIF connector.

Step 46

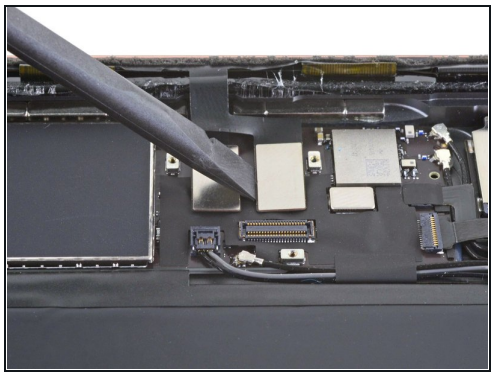
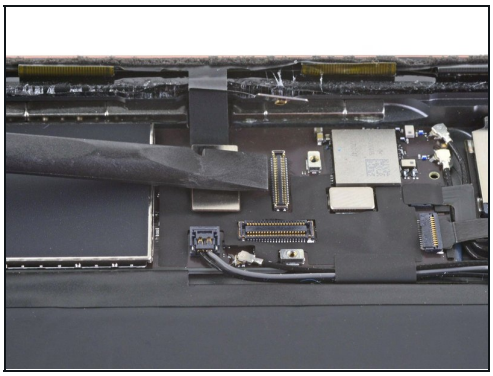
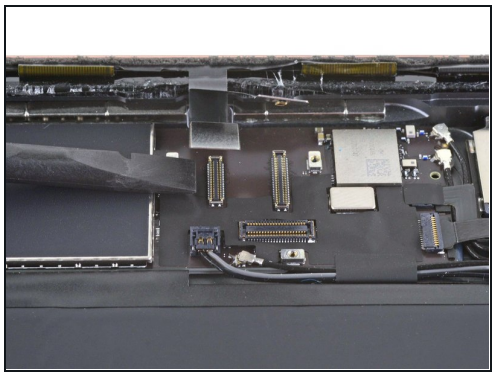
- Use the tip of a spudger, an opening tool, or your fingernail to flip up the small, hinged locking flap on the home button cable ZIF connector.

Step 47

- Use a pair of tweezers to carefully pull the home button ribbon cable straight out of the ZIF connector.

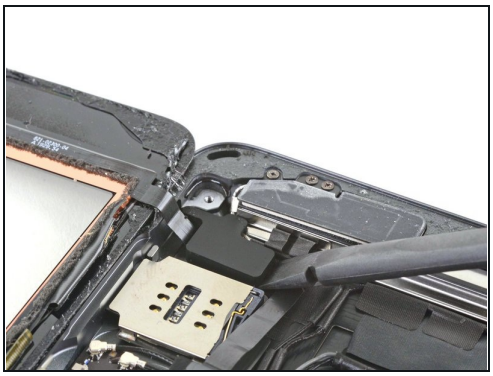
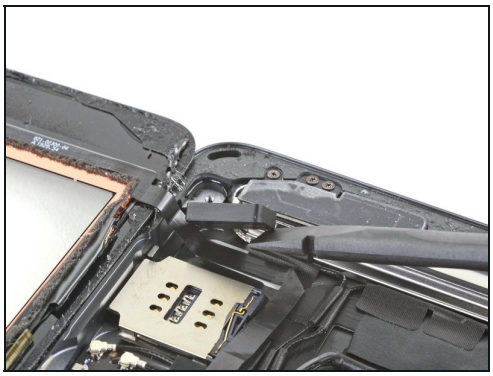
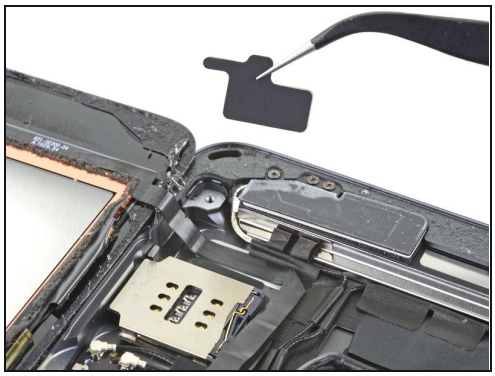
Step 48 — Disconnect the display cables

- Use the flat end of a spudger to disconnect the two digitizer cables by lifting straight up on the press connectors.

⚠ To avoid damaging your iPad, pry only on the connectors themselves, not on the socket on the logic board.

Step 49 — Remove the vibration isolator

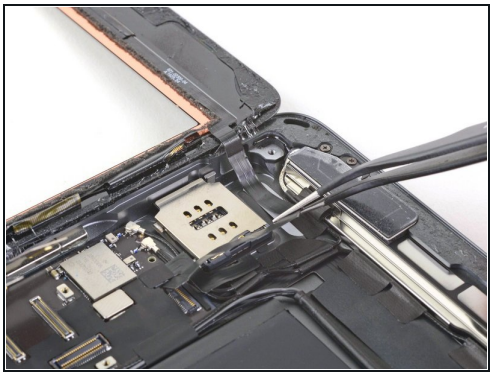
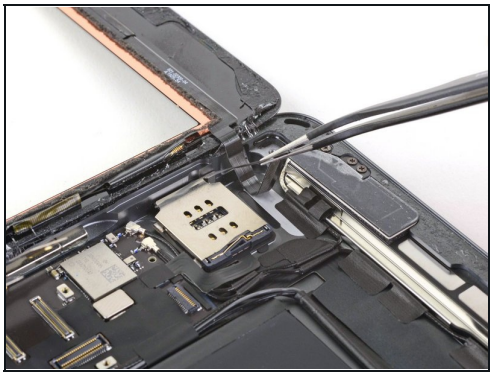
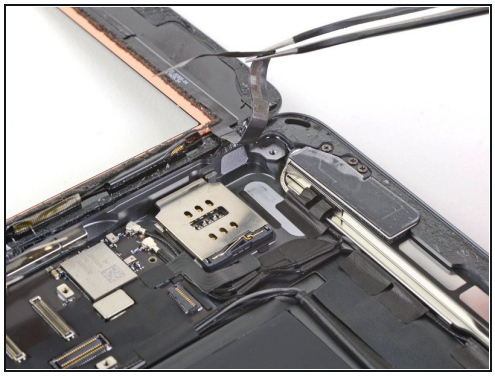




- Use the flat end of a spudger to pry up the vibration isolator below the SIM card reader.

  ⚠ Take care not to puncture or tear the home button ribbon cable.

- Remove the vibration isolator.

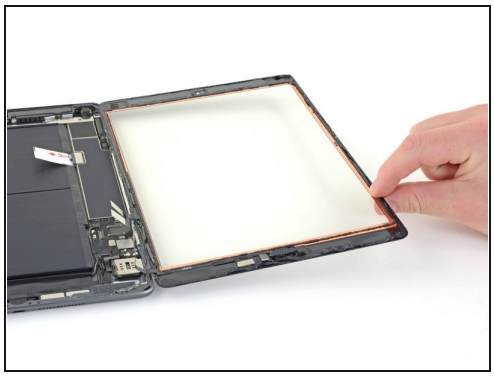
Step 50

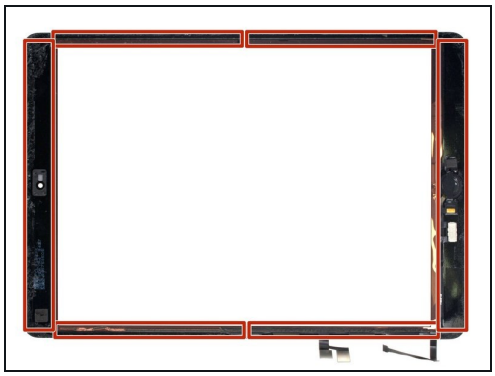




- Use a pair of tweezers to peel the home button cable away from the rear case.

  ⓘ The cable is secured with some light adhesive.

Step 51 — Remove the front panel assembly





- Remove the front panel assembly.

  Use an opening pick to cut away any residual adhesive that may still be connecting the front panel assembly to the frame.

- If you experience "ghost" or "phantom" touch input issues with your new display, this can be resolved by adding a layer of very thin insulating tape, such as Kapton (polyimide) tape, to the highlighted areas on the back of the panel. **iFixit replacement digitizers come with the proper insulation and should not require the addition of any tape.**

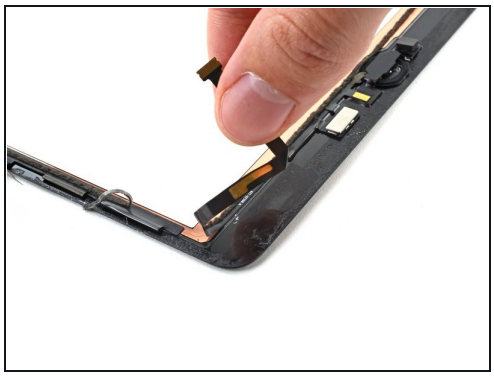
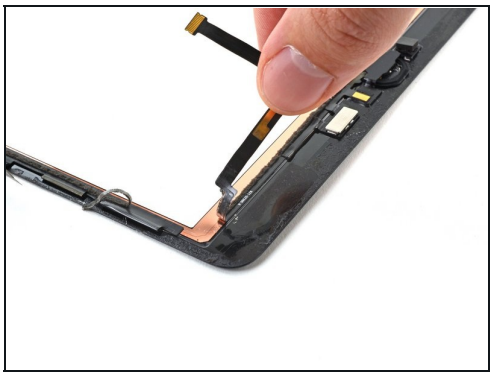
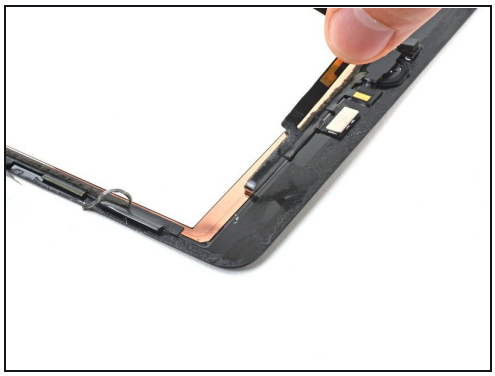
  Without the proper insulation, these areas of the digitizer can ground out against other components, causing touch input malfunction.

  The insulation is not visible to the naked eye, and is different from the foam dust barrier strips found on many iPads.

During reassembly, before installing a display, remove any remaining adhesive from the iPad, and clean the glued areas with high concentration isopropyl alcohol (90% or greater) and a lint-free cloth. This helps prep the iPad for fresh adhesive and ensures that it will bond properly.

Test your iPad's functions and install pre-cut adhesive strips to the back of the display using our display adhesive application guide before sealing it up.

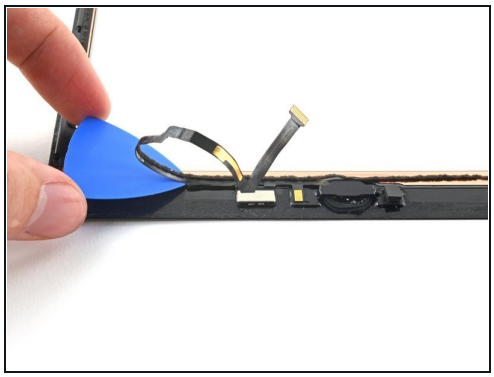
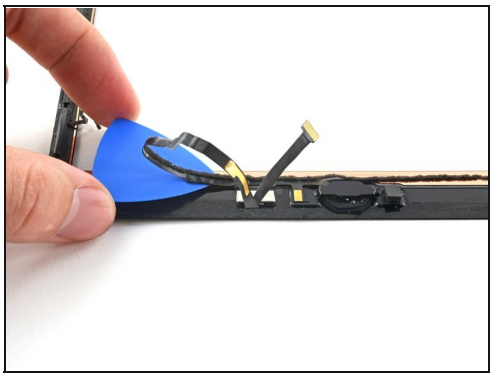
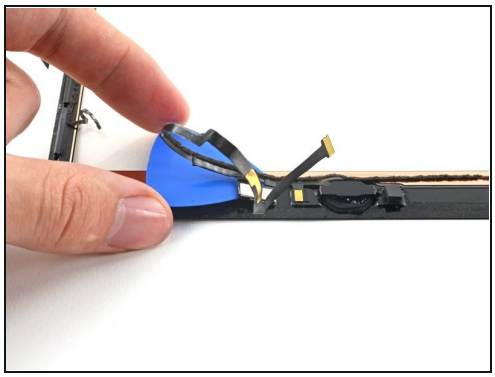
Step 52 — Peel up the home button cable

ⓘ The home button cable is secured with some light adhesive.

- Use your fingers to peel the home button cable off of the back of the front panel.

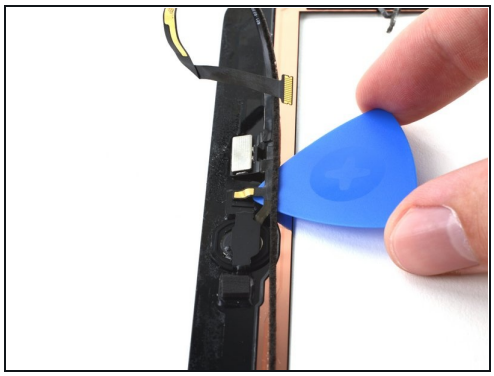
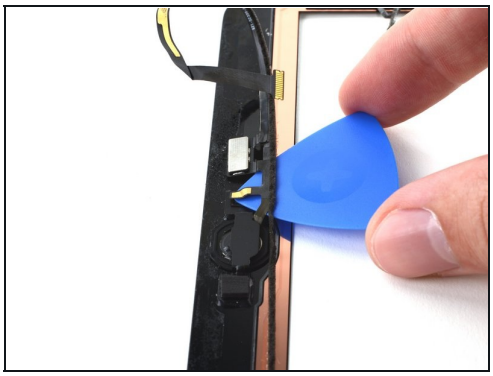
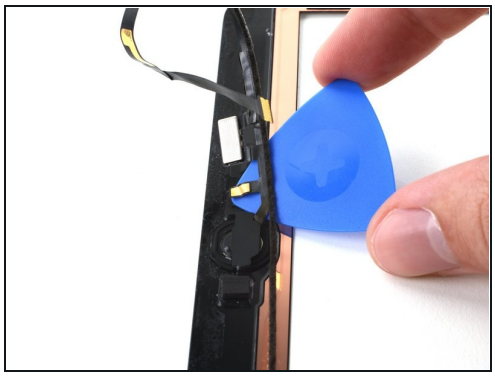
Step 53

- Slide an opening pick underneath the home button cable to separate it from the front panel.
- Gently slide it forward to cut through the adhesive securing the home button cable to the front panel.

  ⓘ If the adhesive is stubborn, don't force the pick. Lightly heat the home button cable using an iOpener or a hair dryer to soften the adhesive.
- Continue sliding the opening pick until you reach the home button bracket.

Step 54

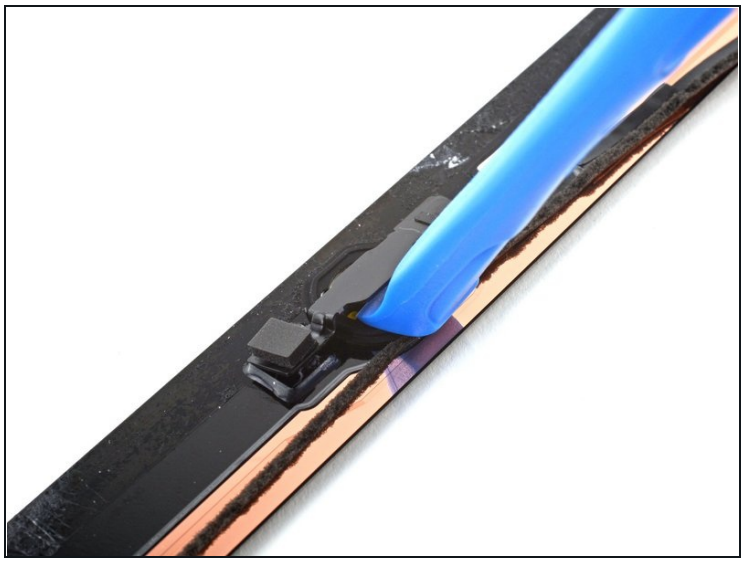




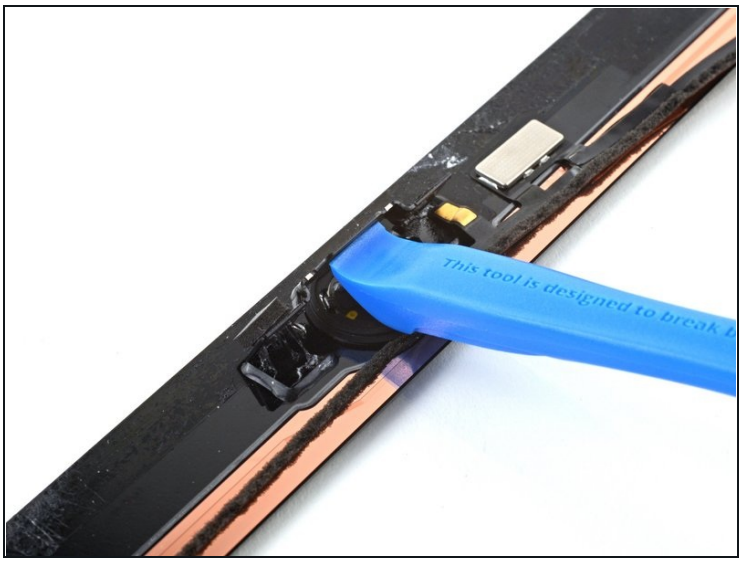
- Slide an opening pick under the top of the home button cable to loosen the metal contact off of the home button bracket.

Step 55 — Remove the home button bracket

- Heat an iOpener and apply it to the home button bracket for thirty seconds.

Step 56





- Use an opening tool to pry the home button bracket off of the front panel.

⚠ Bending or warping the home button bracket can cause your home button to lose its "clickey-ness" upon reassembly.

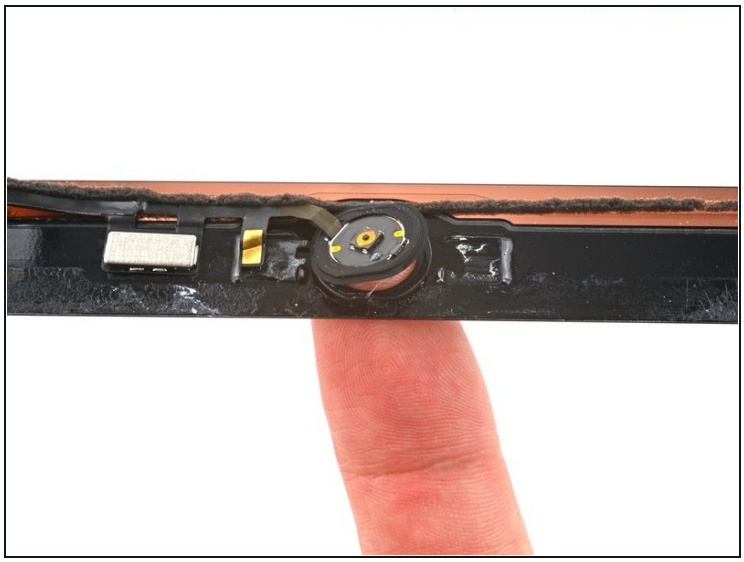
ⓘ If the home button bracket begins to bend before popping off, apply a few drops of high-concentration (90% or higher) isopropyl alcohol to the bracket mounts.

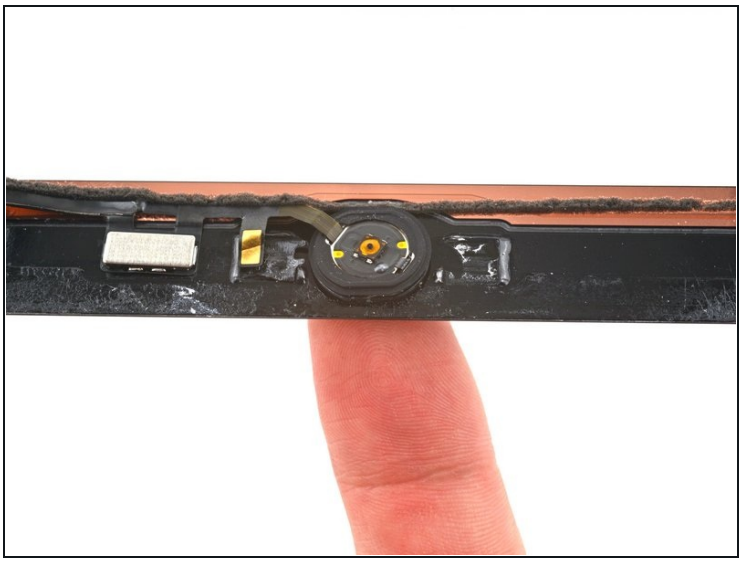
Step 57

- Remove the home button bracket.

  When reinstalling this bracket, use high bond glue such as E6000 to secure it to the front panel assembly.

Step 58 — Remove the home button assembly

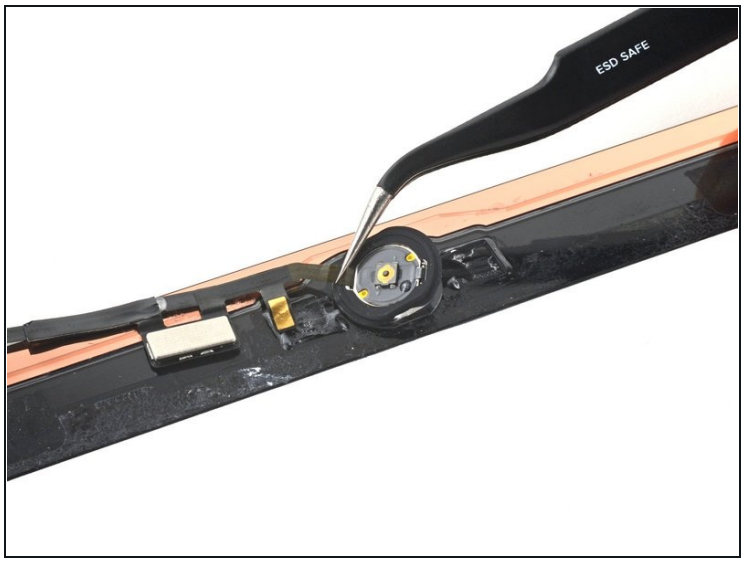


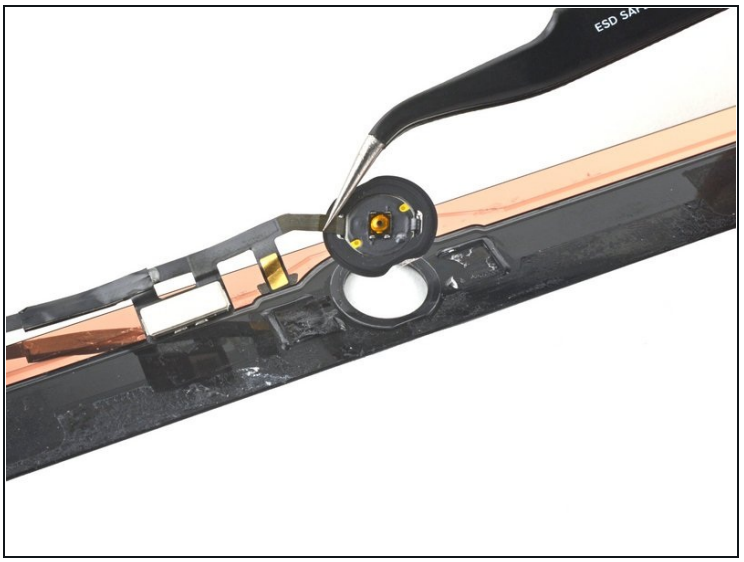


- Use your finger to push the home button through the front of the front panel to separate the adhesive holding it in place.

  Apply pressure slowly. The adhesive is attached to a delicate gasket that will tear easily.

Step 59





- Remove the home button assembly.

  During reassembly, transfer over the home button gasket to the new front panel or home button assembly.

  - If the new panel doesn't have a spacer ring, you'll also need to transfer your existing spacer over.

  If possible, turn on your iPad and test your repair before installing new adhesive and resealing it.

Step 60 — Remove the front panel

- Only the front panel remains.

To reassemble your device, follow these instructions 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 iPad 7 Answers community for help.