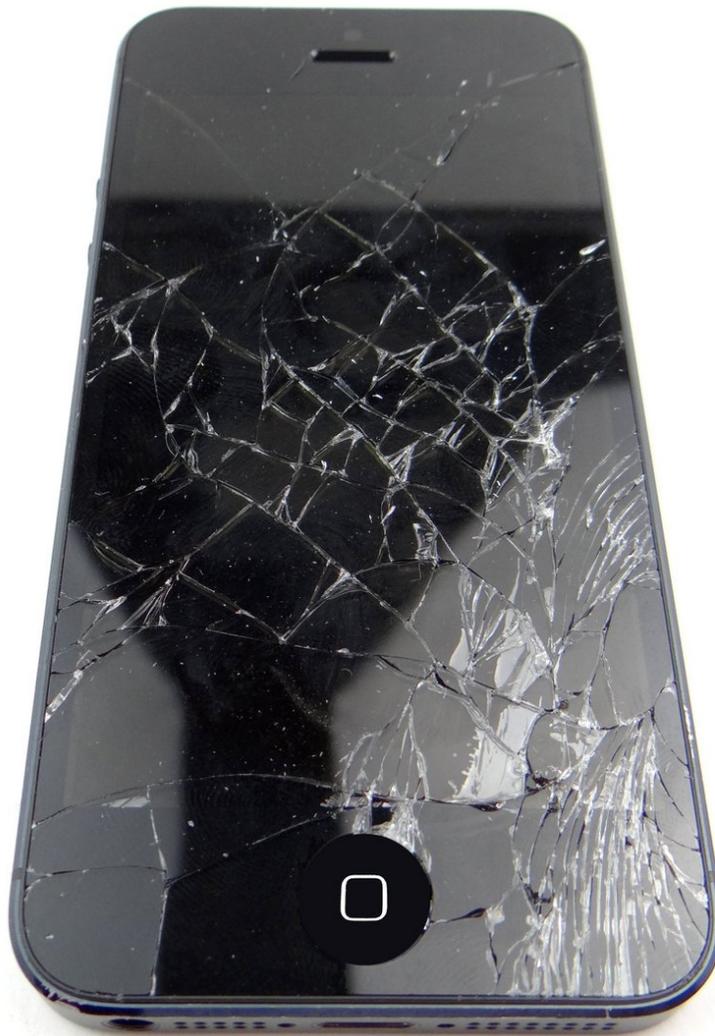


# CELLPHONESANDBOX

## Manual 01 - Display Assembly

Written By: James Linder



# INTRODUCTION

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## TOOLS:

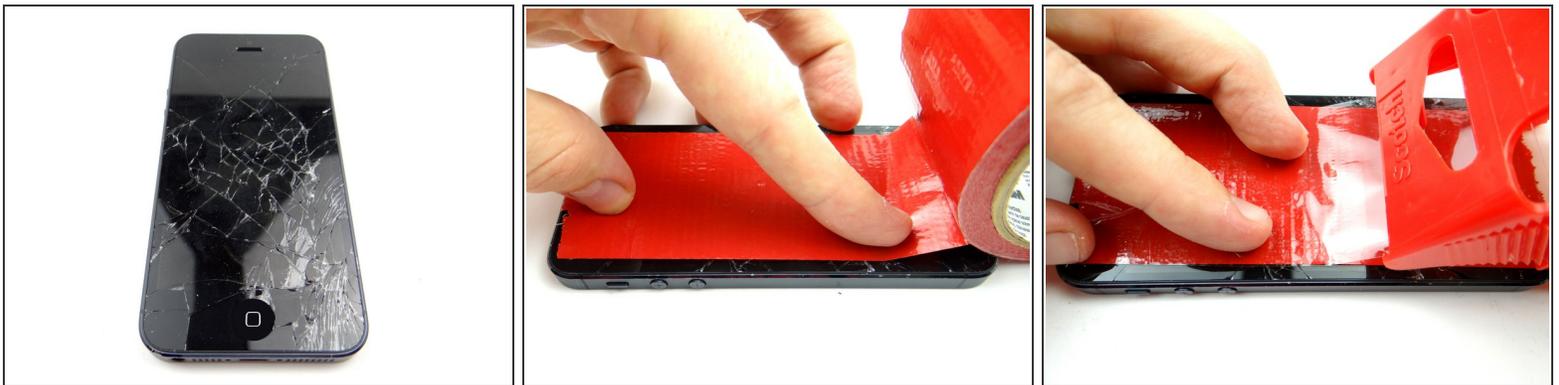
- [Anti-static Mat](#) (1)
  - [Sandbox Organizer](#) (1)
  - [Duct Tape](#) (1)
  - [Packing Tape](#) (1)
  - [Large Paper Clip](#) (1)
  - [Pentalobe Screwdriver](#) (1)
  - [iSesamo](#) (1)
  - [iSlack \(Optional\)](#) (1)
  - [#00 Phillips Screwdriver](#) (1)
  - [Blue Pry Tool](#) (1)
  - [Curved-tip Tweezers](#) (1)
  - [Spudger](#) (1)
-

## Step 1 — Get prepped:



- Gather the tools necessary to complete the repair. Always ground yourself before repairing any electronic device.
- Power up the iPhone and perform pre-repair checklist.
- Remember to power down the iPhone after performing checklist.

## Step 2 — If you're replacing a cracked screen:



- Cover the iPhone face with a strip of duct tape. Smooth out any bubbles.
- ⓘ Wide duct tape (which covers the entirety of the screen) works even better if you have it.
- Place a strip of packing tape directly over the duct tape. Smooth out any bubbles.

### Step 3 — Removal 1.0: Front Panel Assembly



- Picture 1: Push down on SIM card ejector opening with a large paper clip to pop up the tray.
- Picture 2: Remove SIM card tray and SIM card. Place both in Sandbox COMPARTMENT A.
- Picture 3: Remove two 3.6 mm Pentalobe screws near charging port. Place screws in Sandbox SLOT 1.

### Step 4



- Picture 1: The iPhone 5 opens like a book with the top edge acting as a hinge.
- Picture 2: The front panel is held shut tightly with clips on both sides of the display.
- Picture 3: There are three cables attached in the upper-right corner of the interior. Be careful not to put tension on these cables as you open the iPhone.

**i** We show you how to release the clips and safely open the phone over the next few steps.

## Step 5



- The iSlack tool (double suction cups) is best if you intend to reuse the screen. It also works on most cracked screens if you cover the screen with tape as shown in Step 1.
  - The iSesame is used when it's impossible to create suction.
- i** We demonstrate the iSesame method over the next three steps. Skip to step 9 if you're able to use the iSlack tool.

## Step 6



- Cut a thin strip of packing tape and fold it over the lower-right corner of the iPhone.
- Run your fingernail in the groove between the front panel and rear case.
- ⓘ The tape protects the rear case from being scratched by the iSesamo tool in the next step. However, we removed the tape to improve picture clarity.

## Step 7



- Pictures 1 & 2: Wedge the iSesamo between the display bezel and rear case at a 90° angle.
- Picture 3: Slowly rotate the iSesamo in one hand while pinching the screen with your opposite hand. Lift just enough to insert the blue pry tool in the lower-right corner.

## Step 8



- Picture 1: Insert the blue pry tool in the lower-right corner, then twist to pry the front panel up from the rear case.
  - Picture 2: Repeat in the lower-left corner.
  - Picture 3: Work your way up both sides of the iPhone, twisting to open the device from the bottom (as shown in the previous step)
- Remove the thin strip of tape packing tape.

## Step 9



- Picture 1: Close the iSclack suction cups on either side of the iPhone.
  - Note the placement of the top suction cup centered above the home button.
- Picture 2: The iSclack tool opens the phone in one rapid motion: use your left hand to moderately squeeze the top of the iPhone while you open it with your right hand.

## Step 10



**⚠** There are three ribbon cables still attached at the top of the iPhone: do not lift the front panel past an 80° angle:

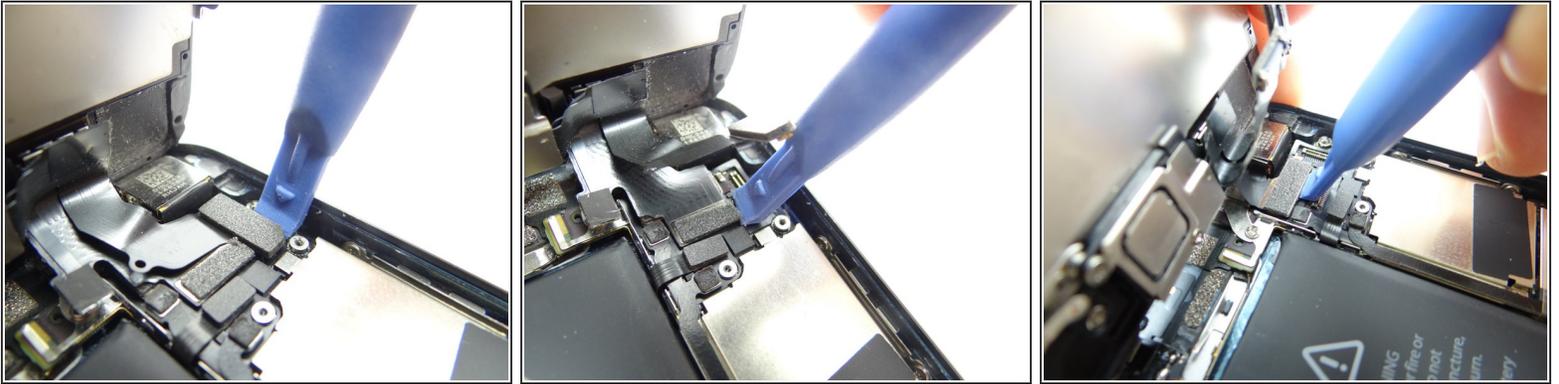
- Pinch the front panel with your thumbs, then:
- Open front panel until it reaches an 80° angle. Continue holding the front panel as pictured.

## Step 11



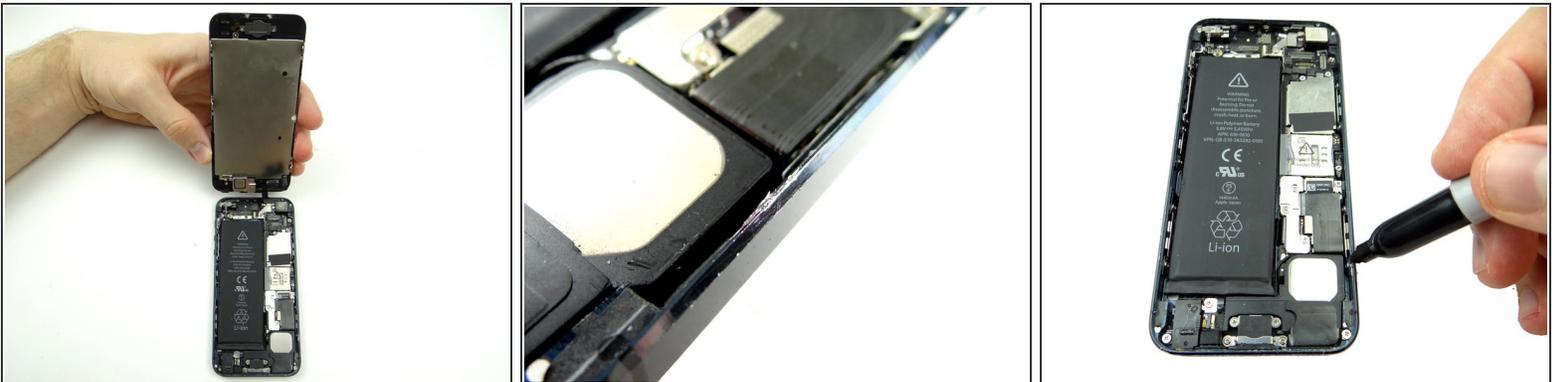
- Picture 1: Remove the non-magnetic 1.6 mm #00 Phillips screw and place in SLOT 2.
- Picture 2: Remove two 1.2 mm #00 Phillips screws and place in SLOT 3.
- Picture 3: Remove cable shield held down by the screws. Place in COMPARTMENT B.

## Step 12 — Use the blue pry tool to disconnect the three front panel assembly cables:



- Picture 1: Release front-facing camera and sensor cable.
- Picture 2: Release digitizer cable.
- Picture 3: Release LCD cable.

## Step 13



- Picture 1: Separate front panel from rear case.
- Picture 2: Check if the iSesamo scratched the rear case bezel.
- Picture 3: If you're repairing a black iPhone, use a black sharpie to color any scratches caused by the iSesamo tool. Be careful to only color over the scratched area.

**⚠ Don't color over scratches on a white iPhone!**

- Place the rear case Sandbox ZONE I.

## Step 14 — Removal 1.1: Earpiece Speaker



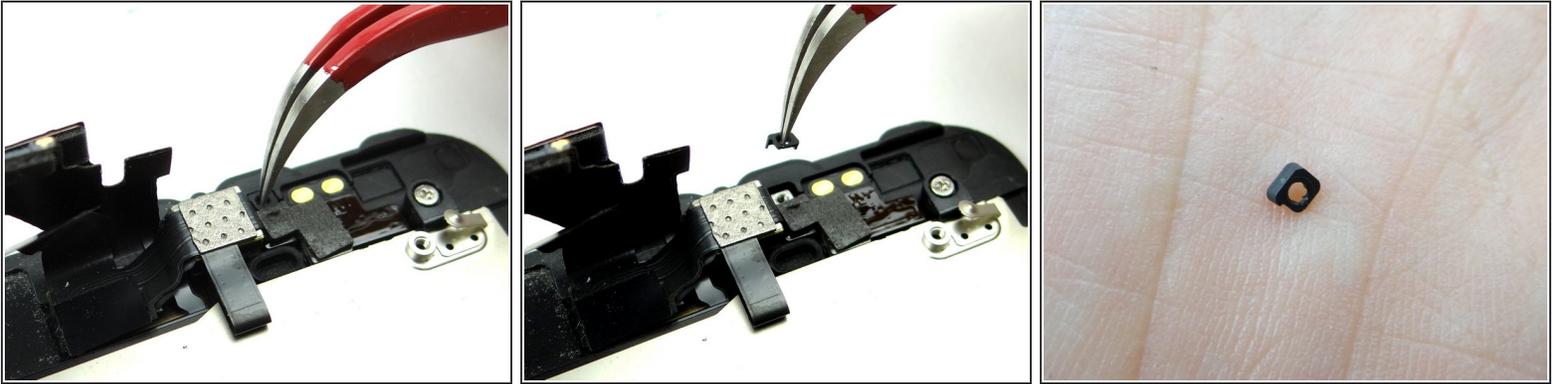
- Remove 4.1 mm Phillips screw securing the earpiece speaker bracket. Place in SLOT 4.
- Remove 2.2 mm Phillips screw. Place in SLOT 5.

## Step 15



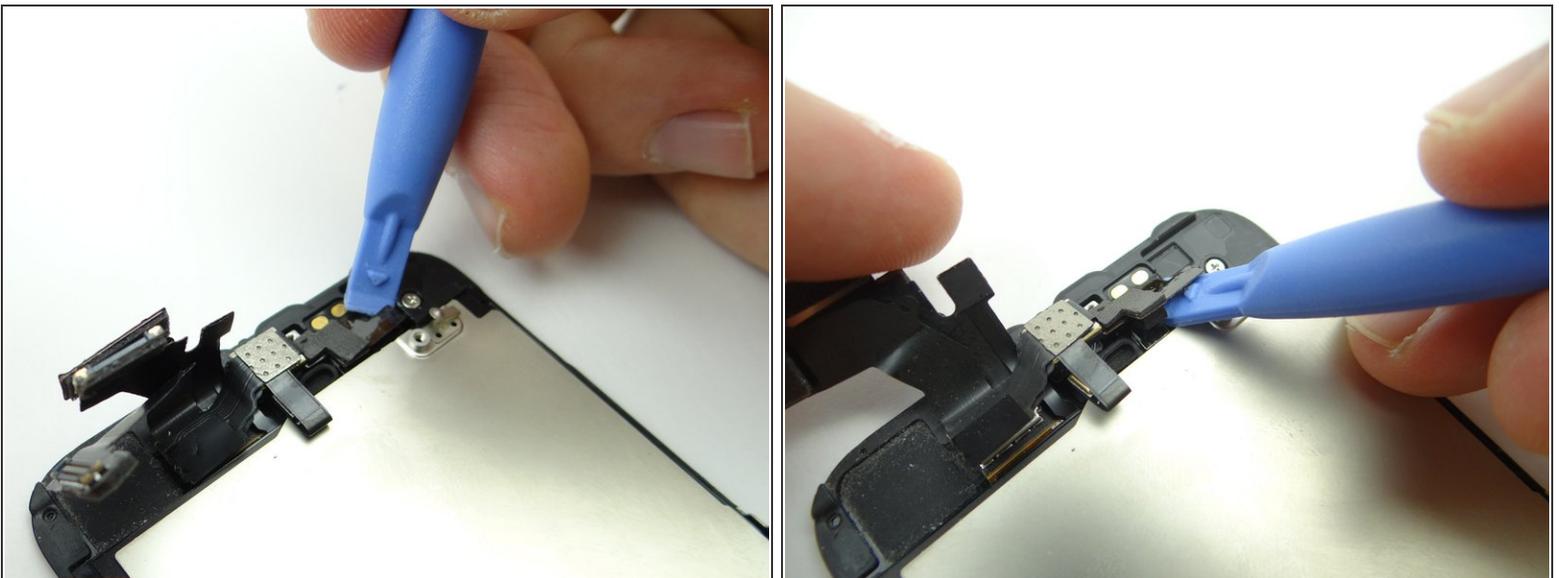
- Pictures 1 & 2: Remove the earpiece speaker bracket. Place in COMPARTMENT C.
- Picture 3: Remove the earpiece speaker. Place with bracket in COMPARTMENT C.

## Step 16 — Removal 1.2: Front-Facing Camera and Microphone Assembly

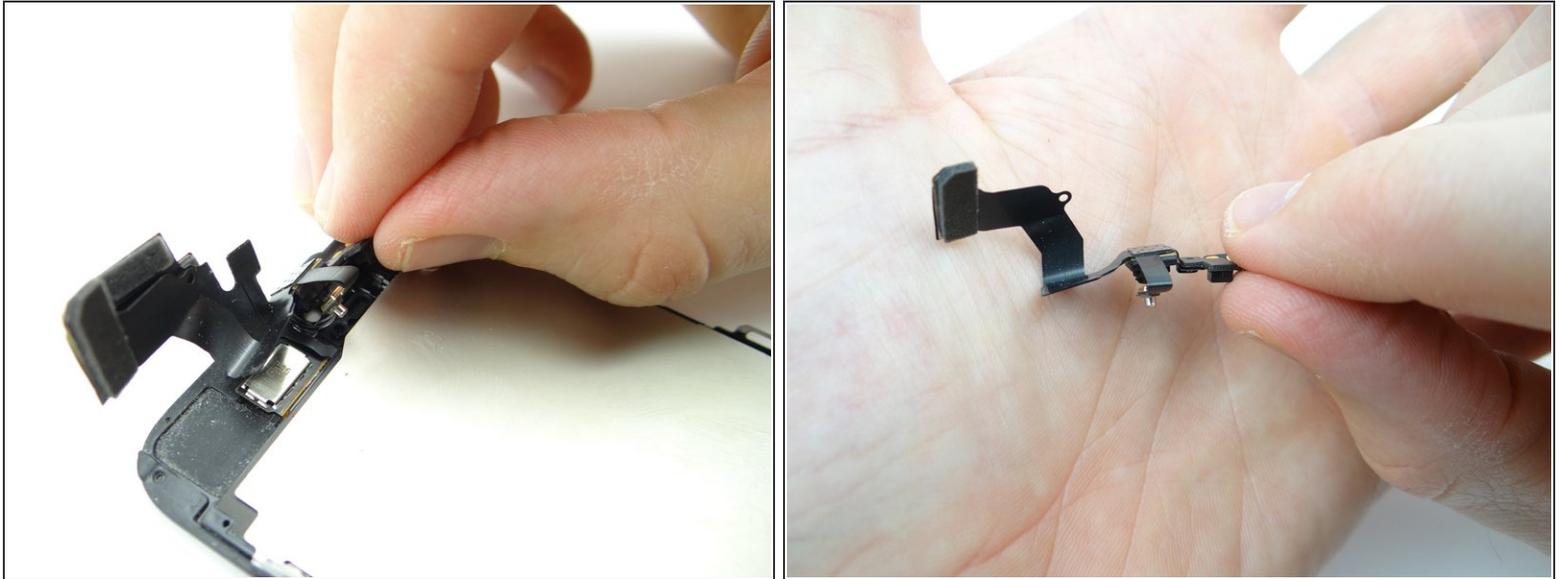


- Squeeze curved-tip tweezers into closed position and place the tip in the center of the spacer.
- Loosen your grip on the tweezers just enough to put tension on the spacer. Lift the spacer away from the phone and drop it in your hand.
- Place spacer in COMPARTMENT D.

## Step 17



- Picture 1: Wedge the blue pry tool under the right edge of the front-facing camera cable.
- Picture 2: Pry the cable free up from the bottom, as pictured.

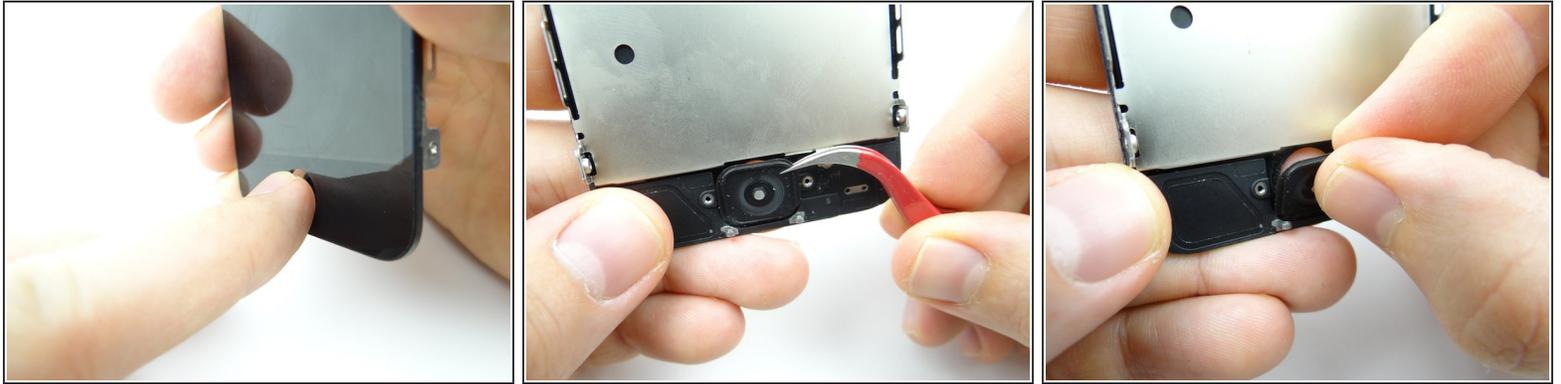
**Step 18**

- Peel up front-facing camera and microphone assembly with your fingers.
- Place in COMPARTMENT E.

**Step 19 — Removal 1.3: Home Button**

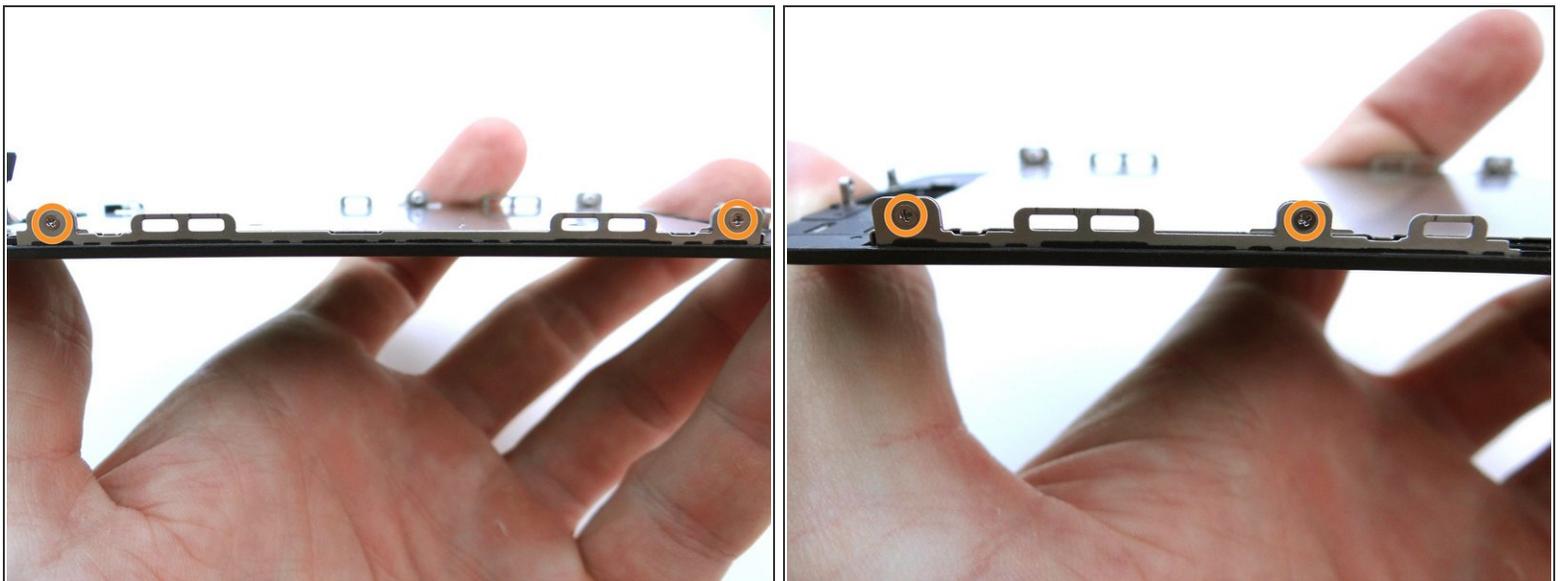
- Picture 1: Remove two 1.3 mm Phillips screws securing the home button bracket to the front panel. Place screws in SLOT 6.
- Picture 2: Wedge the iSesamo under the home button contacts. With the right edge up, simply lift the home button bracket away from the phone with your fingers.
- Picture 3: Place home button bracket in COMPARTMENT F.

## Step 20



- The home button is held in place with mild adhesive. Use your thumb to push the home button away from the front panel.
- If necessary, use plastic tweezers to lift up a corner just enough to wedge your pointer finger under the home button.
- Slowly peel the home button away from the front panel. Place home button in COMPARTMENT G.

## Step 21 — Removal 1.4: Display Assembly



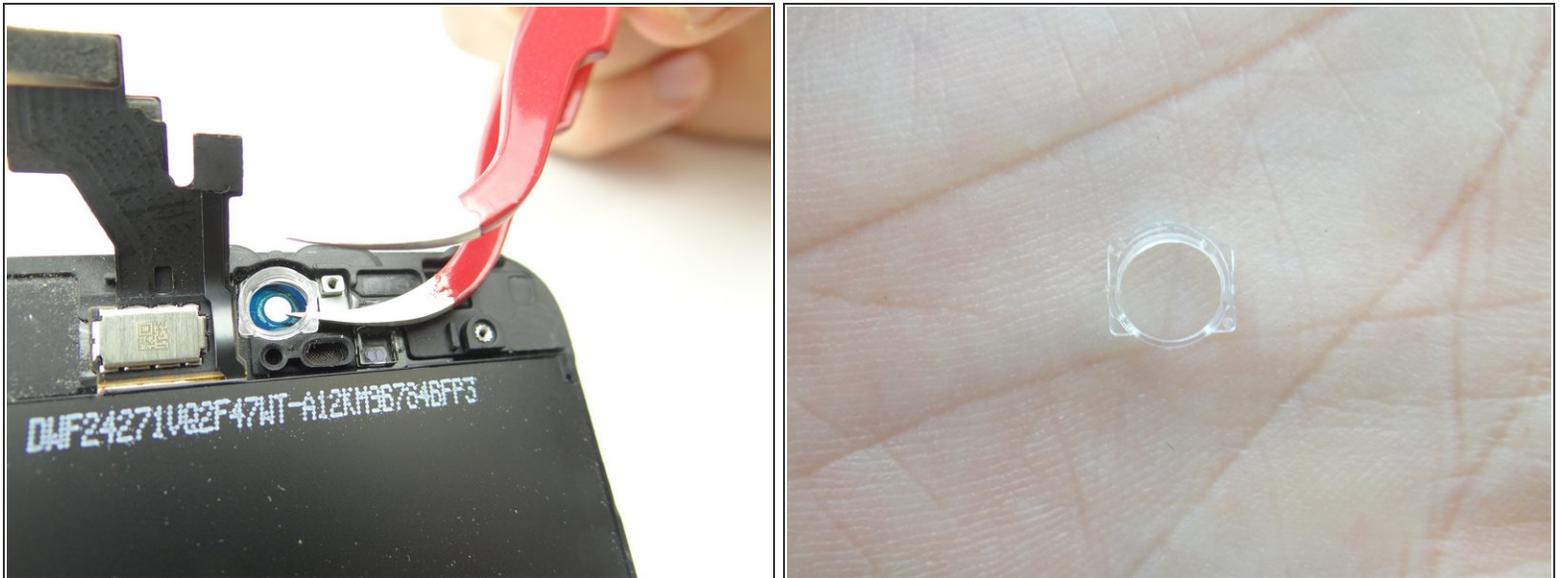
- Remove two 1.2 mm Phillips screws from either side of LCD frame. Place screws (four total) in SLOT 7.

## Step 22 — Remove LCD shield from front panel:



- Picture 1: Remove one 2.6 mm Phillips screw and place in SLOT 8.
- Picture 2: Remove one 1.4 mm Phillips screw and place in SLOT 9.
- Picture 3: Lift the LCD Shield away from the display assembly. Place LCD shield in ZONE II.

## Step 23



- Use a single prong of the curved-tip tweezers to wedge under the front-facing camera frame. Cover the frame with your left hand to stop it from launching into the air as you lift the frame with the tweezers.
- Place camera frame in SLOT 10.

## Step 24 — Replacement 1.4: Display Assembly



- Retrieve the replacement screen:
- Retrieve front-facing camera frame from SLOT 10.
- Use your fingers to place frame on display assembly using the orientation shown in Pictures 2 & 3.

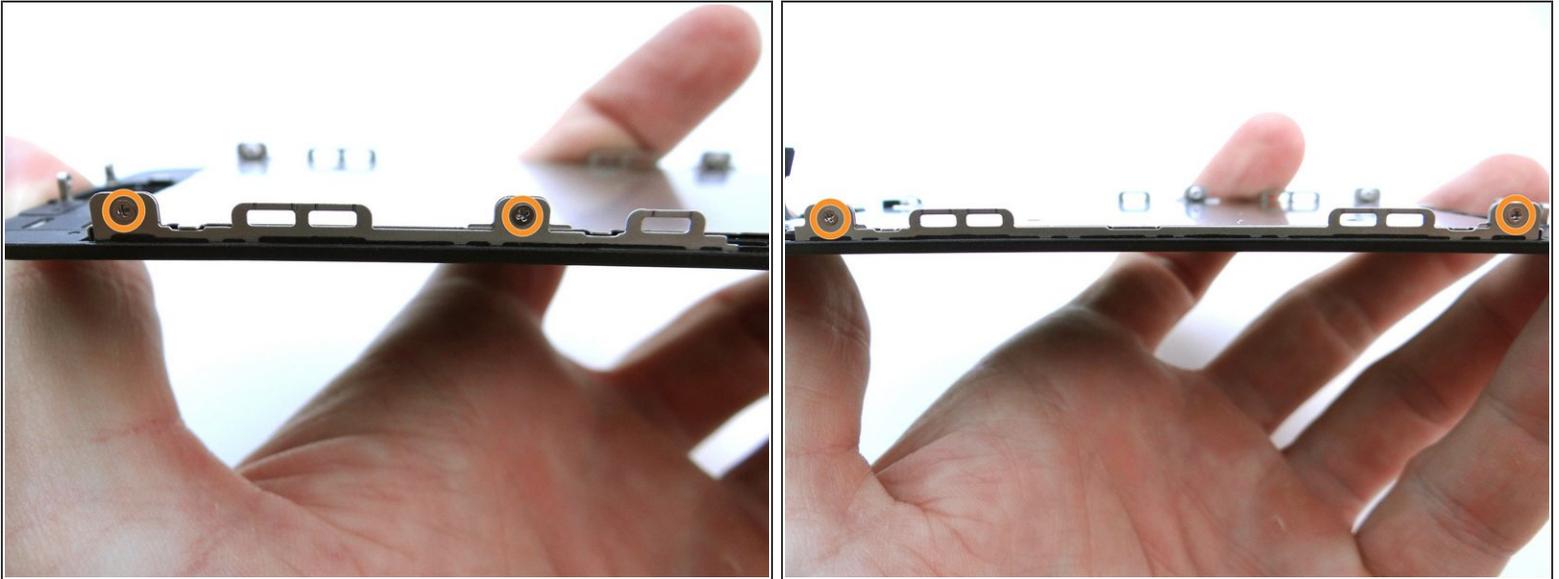
**⚠ Do NOT use tweezers to place the frame. You might scratch the screen with metal tools.**

## Step 25



- Picture 1: Seat LCD shield from ZONE II on display assembly.
- Picture 2: Secure LCD shield with one 1.4 mm Phillips screw from SLOT 9.
- Picture 3: Replace one 2.6 mm Phillips screw from SLOT 8, also used to secure LCD shield.

## Step 26



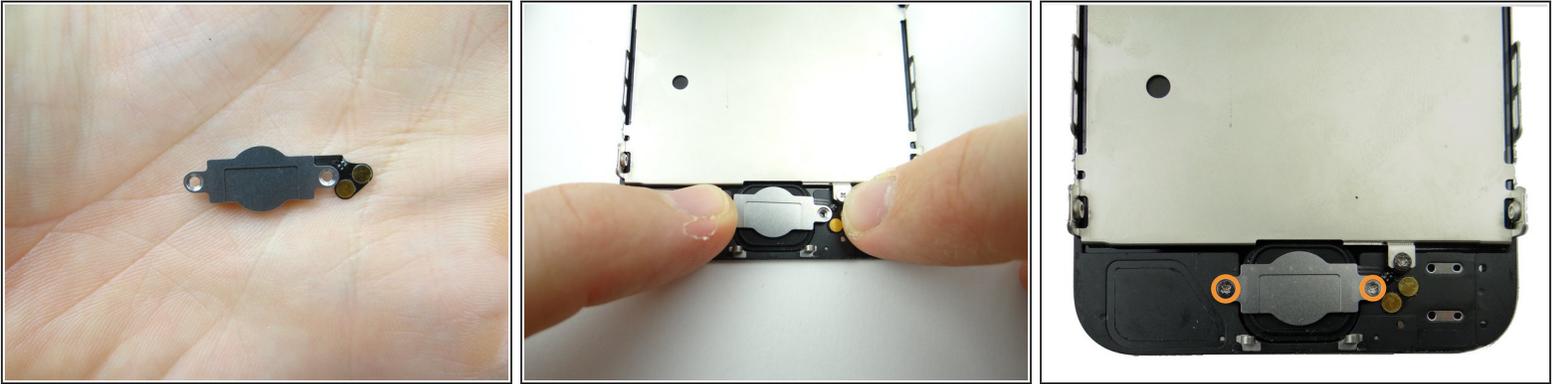
- Replace two 1.2 mm Phillips screws from SLOT 7 on either side of LCD frame.

## Step 27 — Replacement 1.3: Home Button



- Pictures 1 & 2: From COMPARTMENT G, align home button on front panel.
- Picture 3: Push button firmly into place.

## Step 28

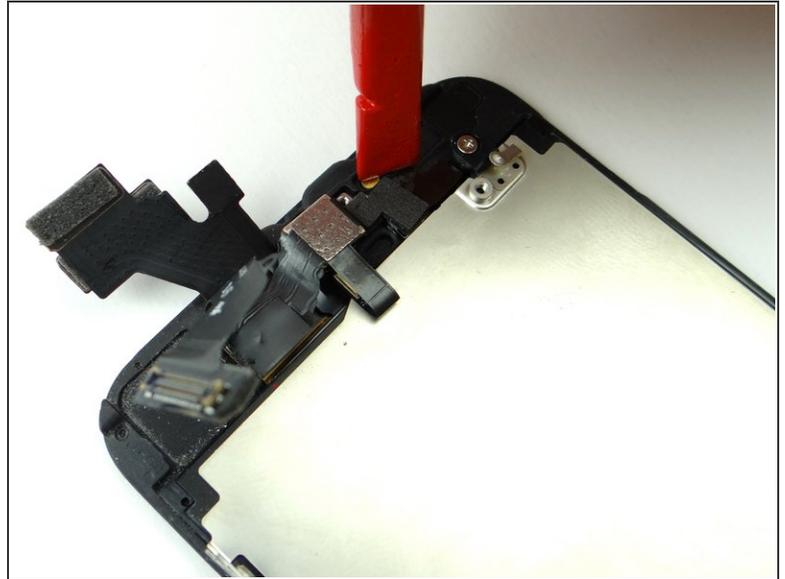
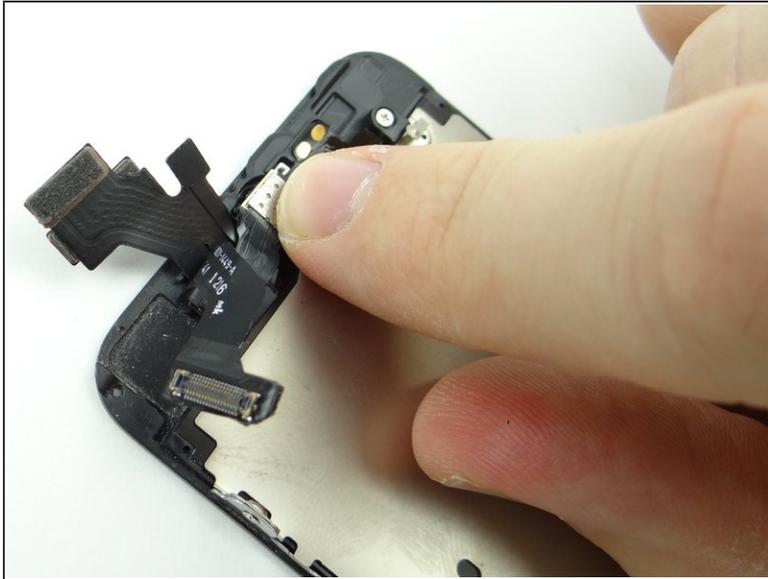


- Picture 1: Replace home button bracket from COMPARTMENT F.
- Picture 2: Line up contacts (right side), then push bracket firmly into place.
- Picture 3: Secure the home button bracket with two 1.3 mm Phillips screws from SLOT 6.

## Step 29 — Replacement 1.2: Front-Facing Camera and Microphone

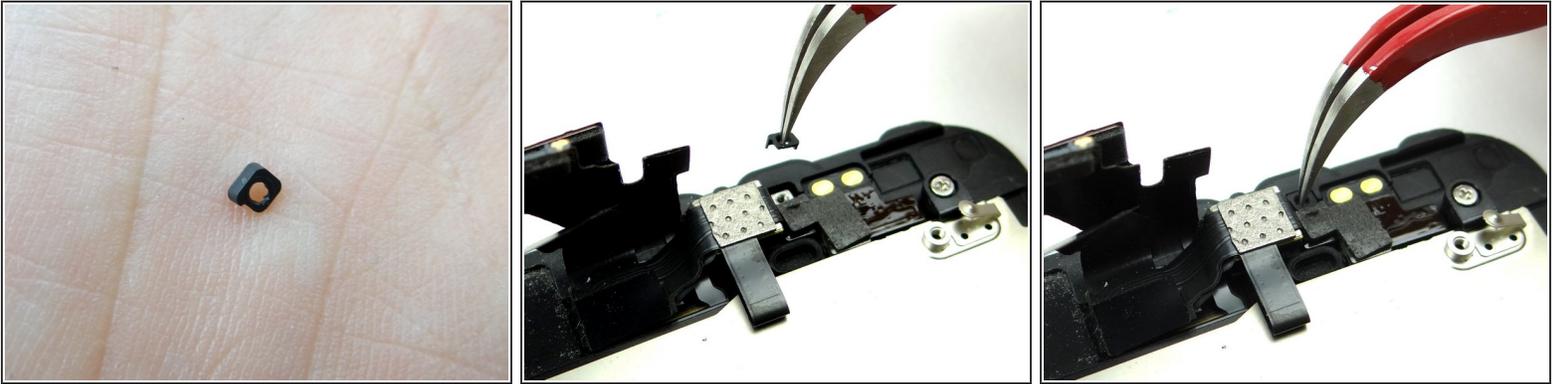


- Replace front-facing camera and microphone assembly from COMPARTMENT E:
- Seat microphone in socket first.

**Step 30**

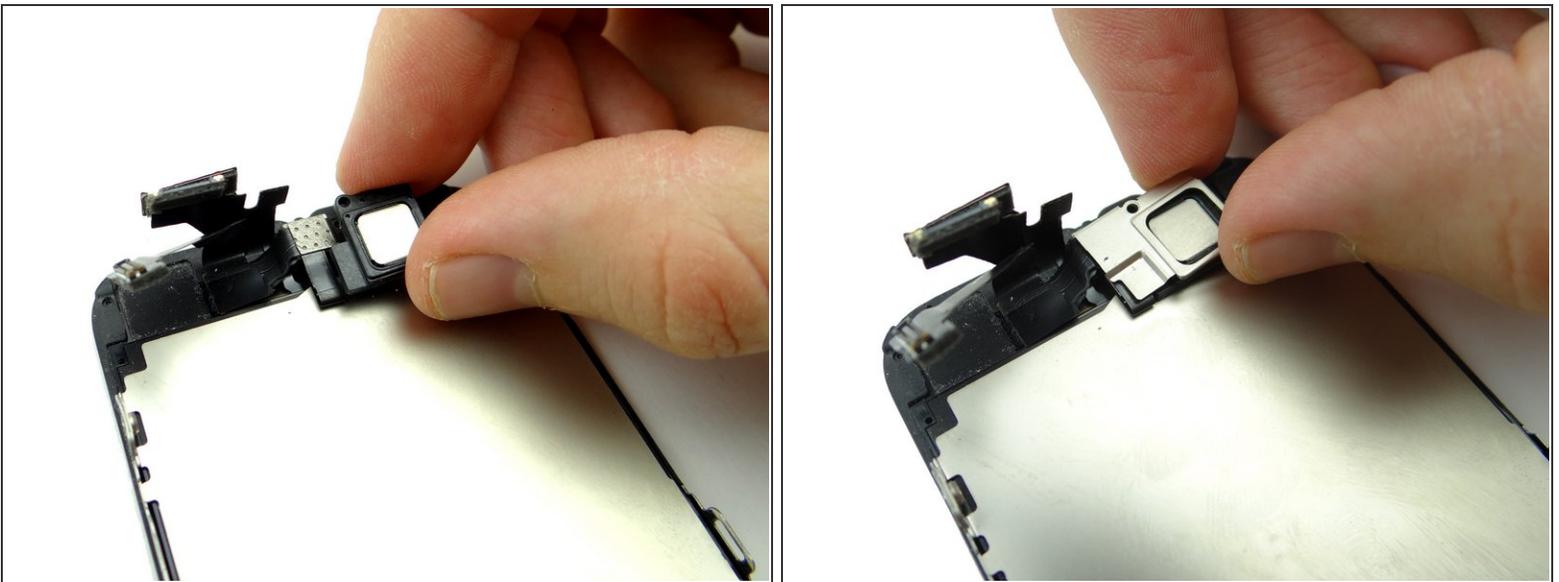
- Push front-facing camera into its frame.
- Use the flat edge of the spudger to press earpiece speaker contacts (right side of the cable) firmly into place.

## Step 31



- Retrieve spacer from COMPARTMENT D:
- Squeeze curved-tip tweezers into closed position and place the tip in the center of the spacer.
- Loosen your grip on the tweezers just enough to put tension on the spacer.
- Move the spacer into position as pictured. When spacer is in the correct position, squeeze tweezers to release pressure on the spacer and allow it to fall into position.

## Step 32 — Replacement 1.1: Earpiece Speaker



- Picture 1: Replace the earpiece speaker from COMPARTMENT C.
- Picture 2: Replace the earpiece speaker bracket also in COMPARTMENT C.

## Step 33



- Replace 2.2 mm Phillips screw from SLOT 5.
- Replace 4.1 mm Phillips screw from SLOT 4 to secure bracket.

## Step 34 — Replacement 1.0: Front Panel Assembly



- Pictures 1 & 2: Line up the replacement front panel with the rear case. In the next step, you'll connect three front panel cables to the logic board.
- Picture 3: This is what the cables will look like when you're finished.

## Step 35



- Picture 1: Seat LCD cable.
- Picture 2: Seat digitizer cable.
- Picture 3: Seat front-facing camera and sensor cable.

## Step 36



- Picture 1: Replace cable shield from COMPARTMENT B.
- Picture 2: Replace two 1.2 mm #00 Phillips screws from SLOT 3.
- Picture 3: Use curved-tip tweezers to seat the non-magnetic 1.6 mm #00 Phillips screw from SLOT 2. Tighten the screw.

## Step 37



- Pictures 1 & 2: Angle the clips on the front panel into their sockets on the rear case.

**⚠ Check the LCD and Digitizer before continuing:**

- Picture 3: Power up the phone and don't close the front panel. If the LCD or digitizer aren't working perfectly (white lines are the most common issue), jump back to Step 11.
- ⓘ If the issue remains after reseating the cables, you'll likely need another display.

## Step 38 — Close the front panel on the rear case:



- Picture 1: With the phone on the worktable, push the Pentalobe screw tabs in first.

**⚠ This should take minimal pressure. Check for errant screws or other obstructions if the device is difficult to close.**

- Pictures 2 & 3: Then, push in with your thumbs just below the middle of the display and work your way up.

## Step 39



- Pictures 1 & 2: Check around the perimeter of the device to ensure the display is fully seated.
- Picture 3: Replace two 3.6 mm Pentalobe screws near charging port from SLOT 1.

## Step 40



- Replace SIM card tray and SIM card from COMPARTMENT A.
- Power up and perform full post-repair checklist.
- ☑ Remember to use a chamois cloth to wipe off the screen before returning it to the customer!