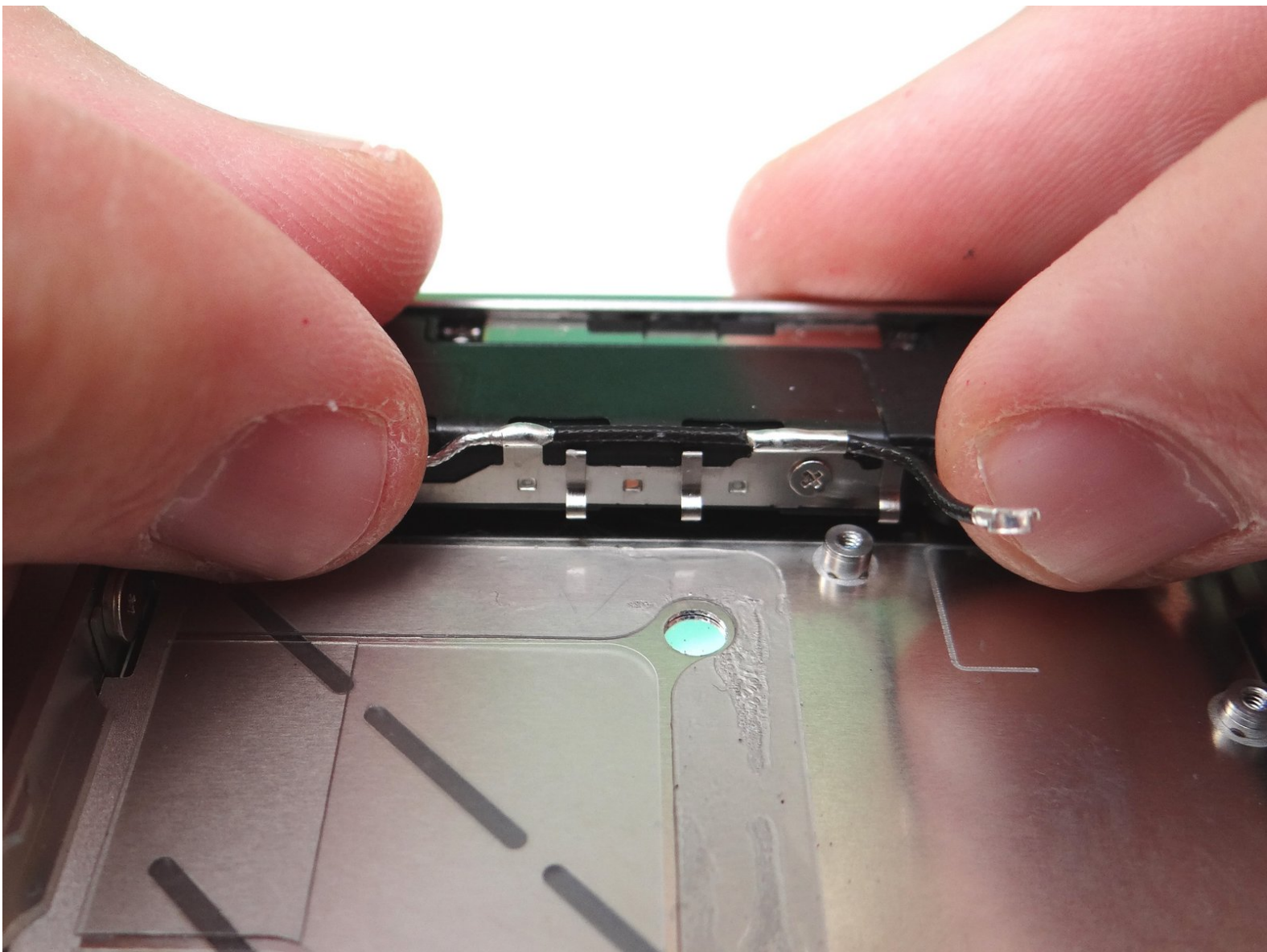


CELLPHONESANDBOX

Manual 09 - Loudspeaker Assembly / Cellular Antenna

Written By: James Linder

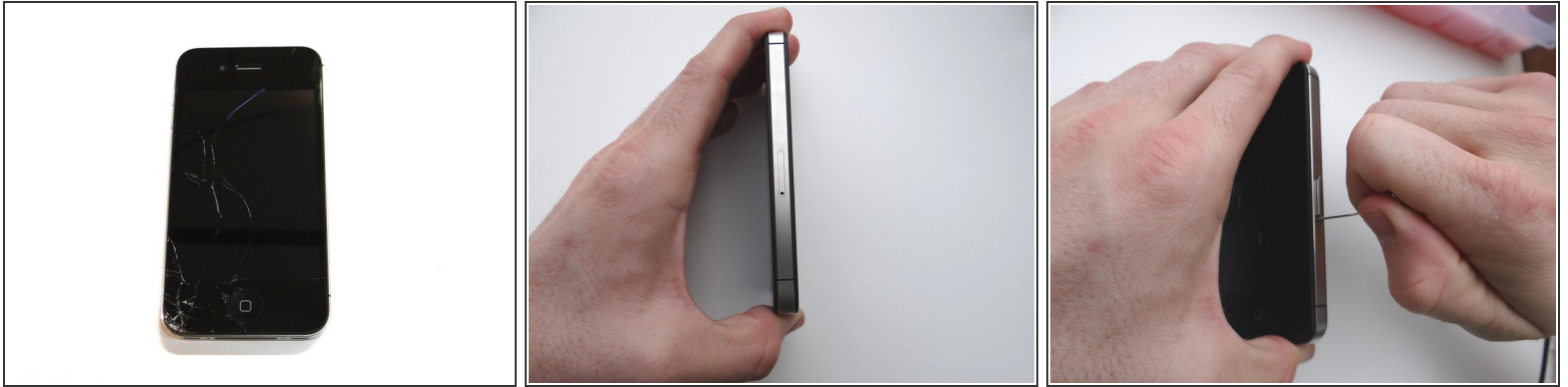




TOOLS:

- [Technician Starter Package](#) (1)
-

Step 1 — Removal 1 - Battery Cover



- Before disassembling the iPhone, thoroughly wash and dry your hands.
- Make sure handset is powered off. Use a SIM card eject tool or a paperclip to eject the SIM card tray. This may require a significant amount of force.
- Place the SIM card and SIM card tray in COMPARTMENT A.

Step 2



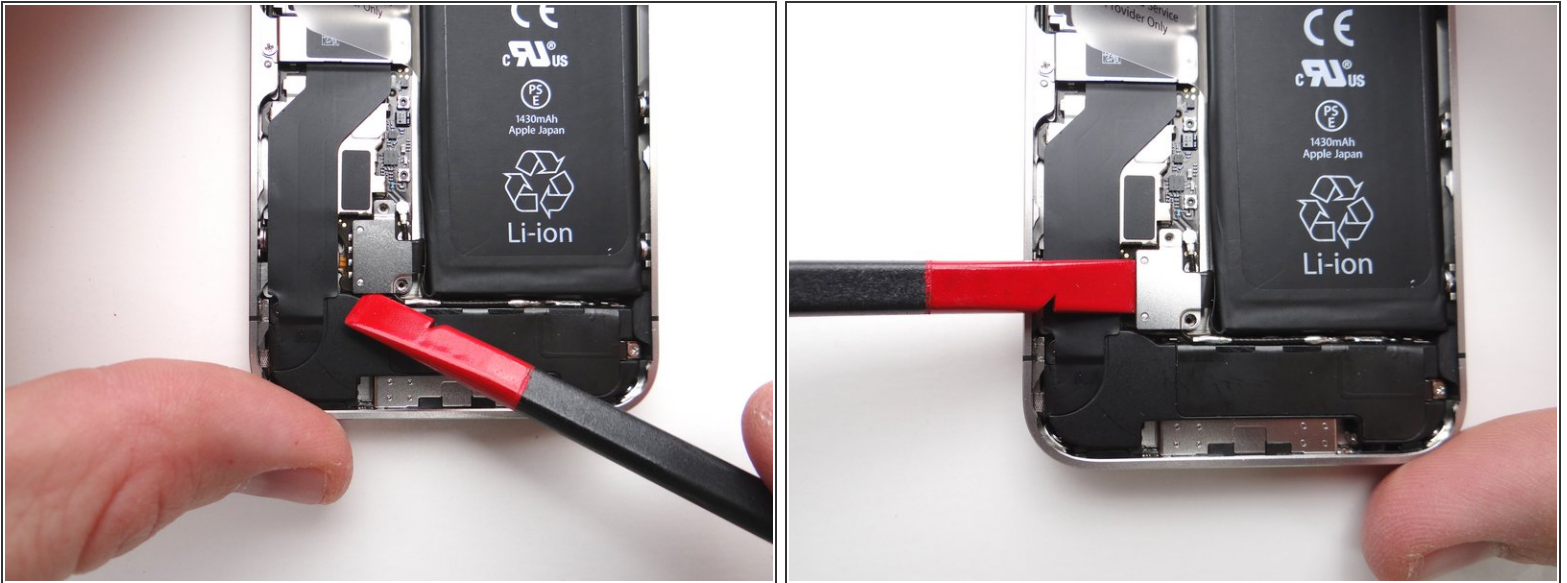
- Place the handset in your non-dominant hand. Remove two Pentalobe screws near charging port with special 5-point Pentalobe screwdriver. Place screws in SLOT 1.
- Gently slide battery cover upwards. Pull battery cover away from iPhone. Place battery cover in ZONE I.

Step 3 — Removal 2 - Battery



- Picture 1: Remove 1.7 mm Phillips screw and place it in SLOT 2.
- Picture 2: Remove 1.5 mm Phillips screw place it in SLOT 3.
- Picture 3: Use Fine Point Tweezers to remove the L-Shaped Antenna Shield before releasing the battery connector. Place the Antenna Shield with the screw in SLOT 3.

Step 4



- Picture 1: Place the flat end of the Black Spudger (tip is painted red for better illustration) at the bottom of the battery connector. Twist the spudger counter-clockwise to lift the bottom of the connector from its socket.

⚠ Be very careful to only pry up on the battery connector and not the socket on the logic board. If you pry on the socket, you could break the socket off the logic board.

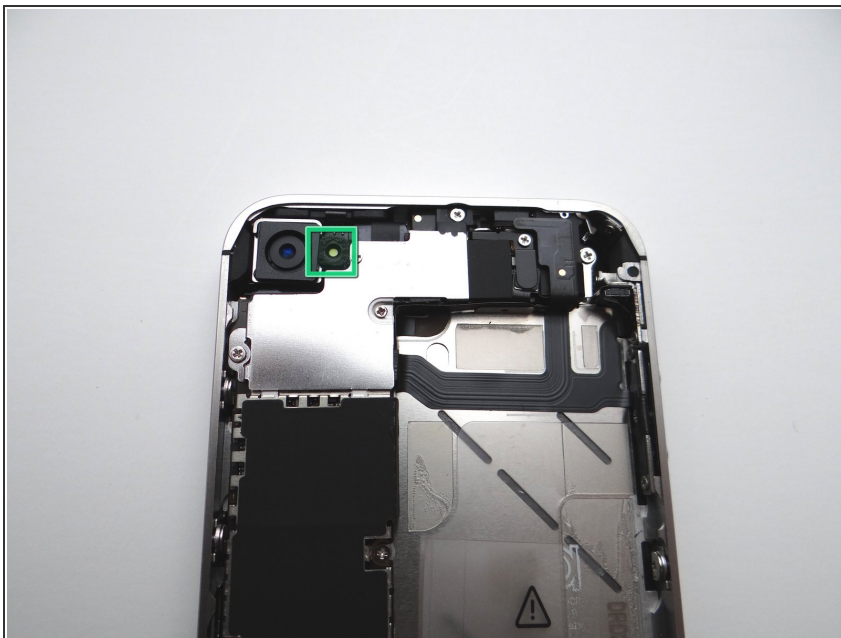
⚠ Picture 2: After freeing the bottom of the connector, finish freeing it by inserting the spudger from the side and slowly lifting. Again, be careful to only pry on the battery connector and not the socket on the logic board.

Step 5



- Apply low-level heat (100* Celcius or less) to edges of battery for 60 seconds to loosen the adhesive securing the battery to the iPhone.
- Wedge the flat end of the Black Spudger on the right edge of the battery. Gently pry up in three or four spots along the right edge to release the adhesive adhering it to the mid-frame.
- Once loose, use the plastic pull tab to peel the battery free from the iPhone. Place the battery in ZONE II.

Step 6 — Removal 3 - Rear Camera



- Use a pair of tweezers to remove the outer plastic ring (if present) located on top of the rear camera's flash. Place in COMPARTMENT B.

Step 7



- Remove four Phillips screws from the Cable Shield surrounding the camera. Use fine point tweezers to remove the screws if the screwdriver won't hold them:
- Picture 1: Remove one 2.6 mm Phillips screw. Place in SLOT 4.
- Picture 2: Remove 1.3 mm Phillips screw (labelled SLOT 5) - Place in SLOT 5.
- Picture 2: Remove one 1.2 mm Phillips screw (labelled SLOT 6) - Place in SLOT 6.
- Picture 3: Remove one 2.7 mm Phillips screw. Place in SLOT 7.

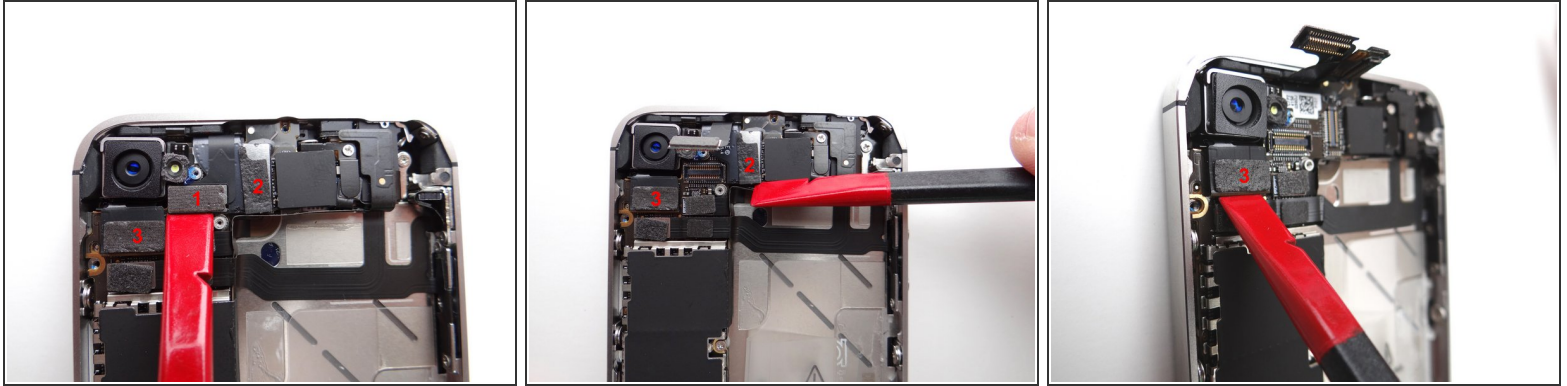
Step 8



- Using your fingers (or plastic tweezers if needed), grab the top-right of the Cable Shield. Gently lift the shield 25 degrees.
- Next, slowly pull Cable Shield towards top of iPhone until the tabs at the bottom of the shield (see red squares) are free.

- Place Cable Shield in COMPARTMENT B (with the plastic ring from the camera flash, if present).

Step 9



- Use the flat end of the black spudger to gently pry three cables free from their sockets on the logic board.

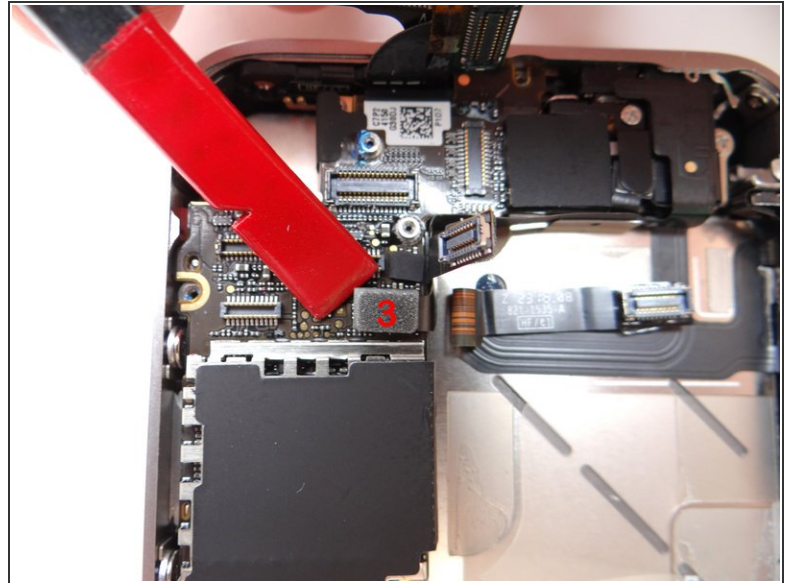
⚠ Be careful not to break any components off the surrounding area on the logic board as you pry upwards.

Step 10



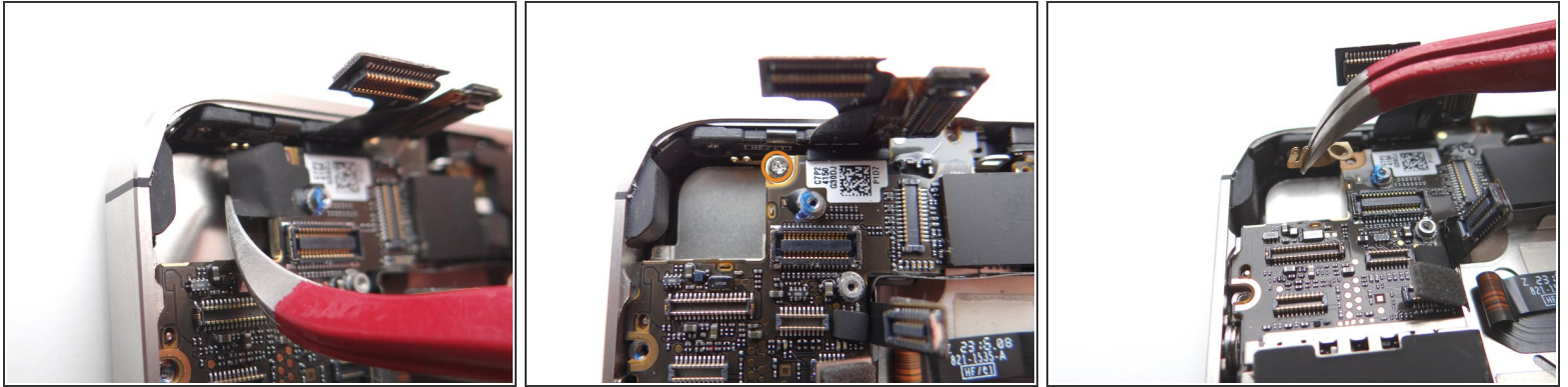
- Remove the Rear Camera with your fingers. Place in COMPARTMENT C.


Step 11 — Removal 4 - Logic Board



- Picture 1: Release cables '1' and '2' just below the camera slot. Use the Black Spudger to gently lift the connectors up and out of the sockets.
- Picture 2: When you release cable '1', it will reveal a hidden power button cable, cable '3' - release it.

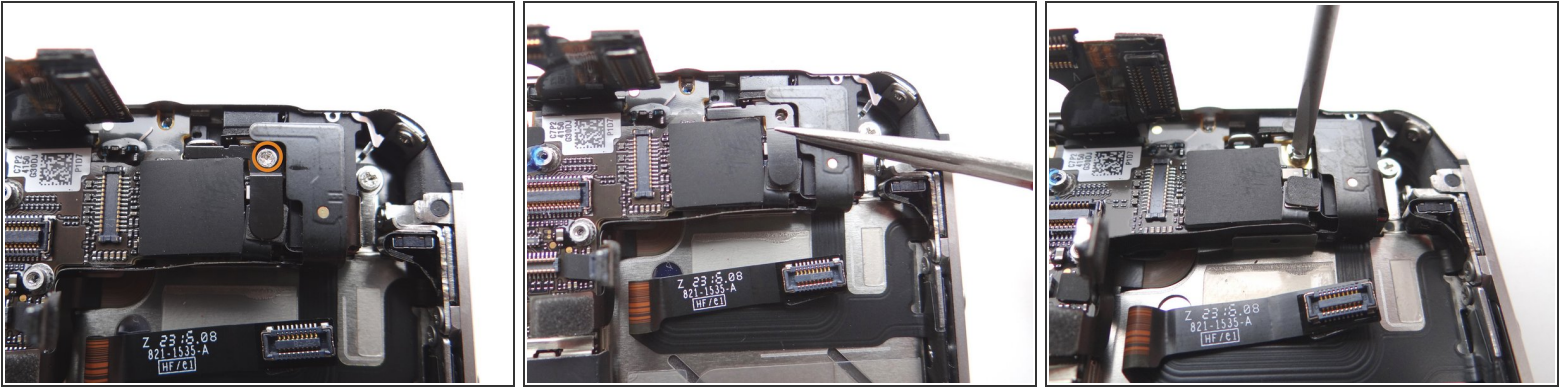
Step 12



-  Picture 1: There may be a small piece of black electrical tape covering the screw in Picture 2. If so, use curved tip tweezers to remove and discard it.
- Picture 2: Remove 2.6 mm Phillips screw securing Gold Grounding Clip to logic board near rear camera opening. Place screw in SLOT 8.
 - Picture 3: Remove Gold Grounding Clip with Curved Tip Tweezers. Place clip in SLOT 8 with Phillips screw.

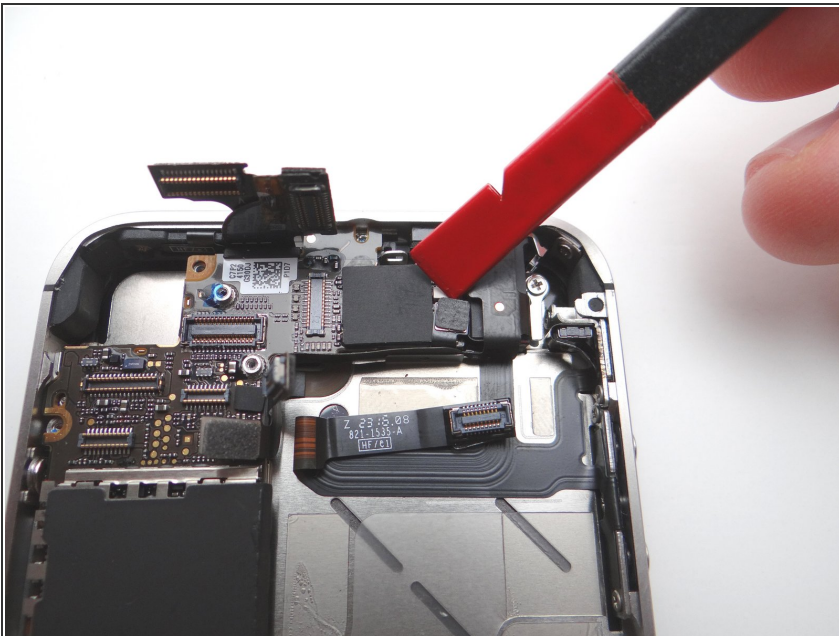
 Be careful not to scratch the logic board with the tweezers.

Step 13



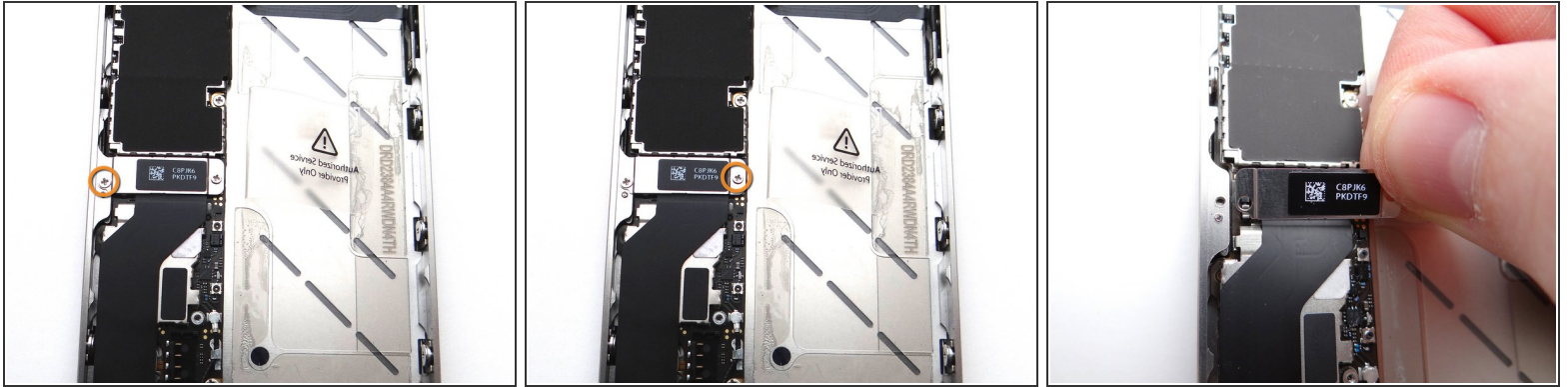
- Picture 1: Remove the 1.5 mm Phillips screw securing the L-Shaped Antenna Shield to the logic board near the headphone jack. Place the screw in SLOT 9.
- Picture 2: Remove the shield with your fingers or Fine Point Tweezers, if needed. Place with the Phillips screw in SLOT 9.
- Picture 3: Use a small flathead screwdriver to remove the 4.8 mm standoff screw near the headphone jack. Place standoff in SLOT 9 with the Phillips screw and Antenna Shield.

Step 14



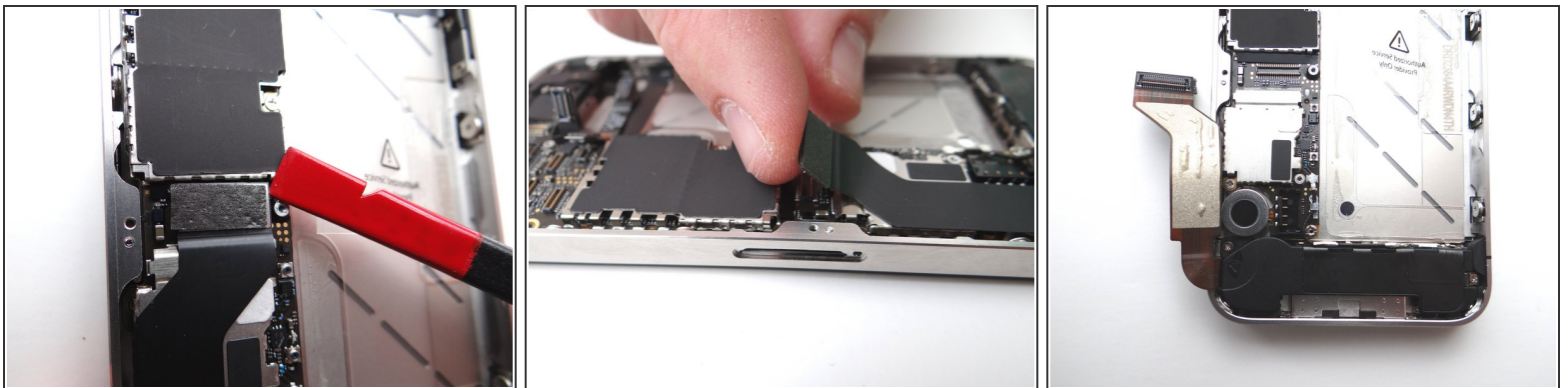
- Wedge the flat end of the black spudger under the wi-fi antenna connector and gently lift to release from logic board.

Step 15



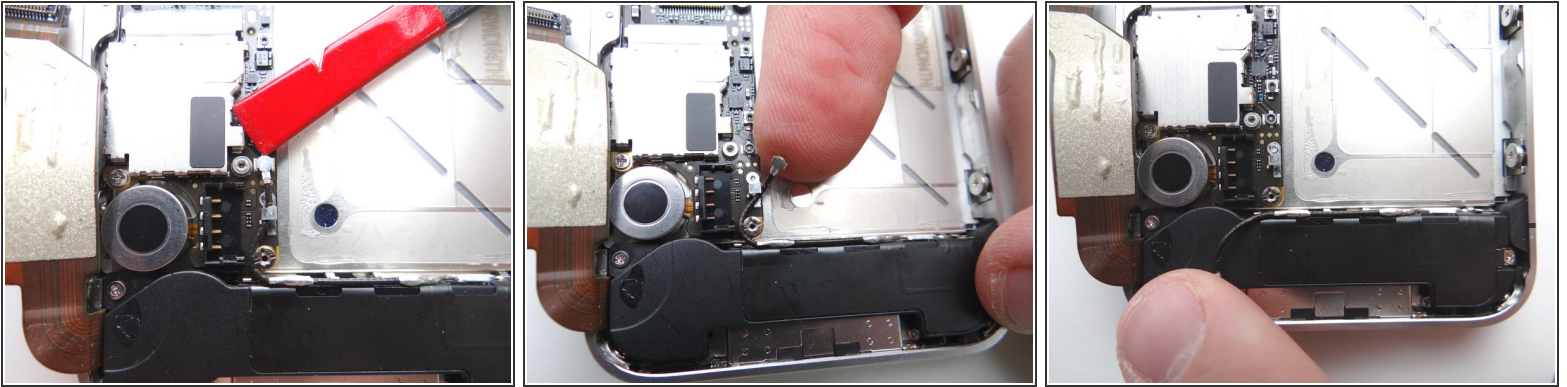
- Picture 1: Remove 1.2 mm Phillips screw and place in SLOT 10.
- Picture 2: Remove 1.5 mm Phillips screw and place in SLOT 11.
- Picture 3: Lift the charging port assembly shield with your fingers (or tweezers, if necessary) and place with screw in SLOT 11.

Step 16



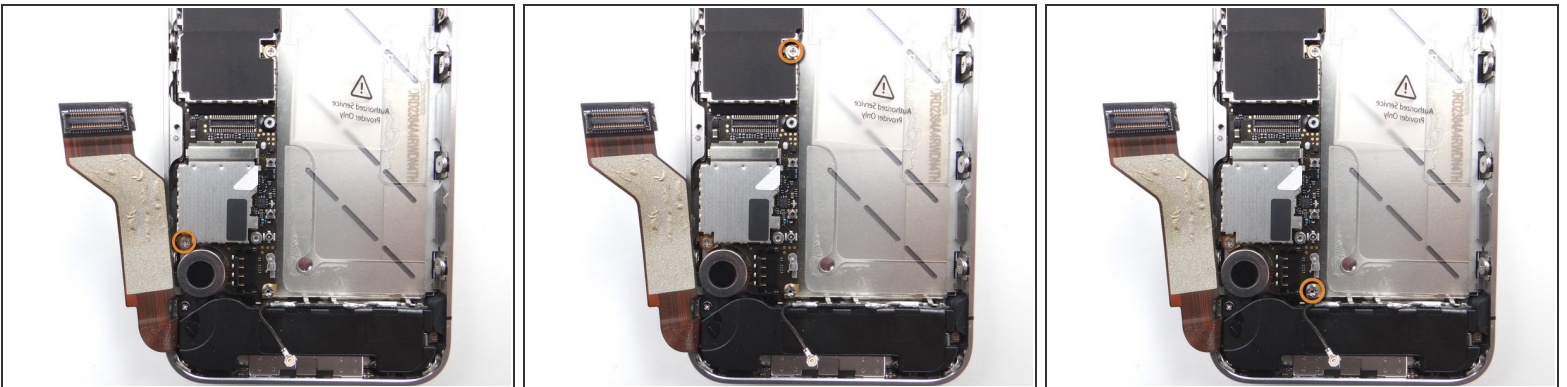
- Picture 1: Place flat end of spudger under upper-right corner of the charging port assembly cable. Gently twist your hand clockwise releasing the cable from its socket on the logic board.
- ⚠ Picture 2: The charging port assembly cable is adhered to the logic board – gently peel it free from the logic board, working top to bottom until cable is free of logic board. Be cautious as this cable is very fragile.
- Picture 3: Fold the cable to the left.

Step 17



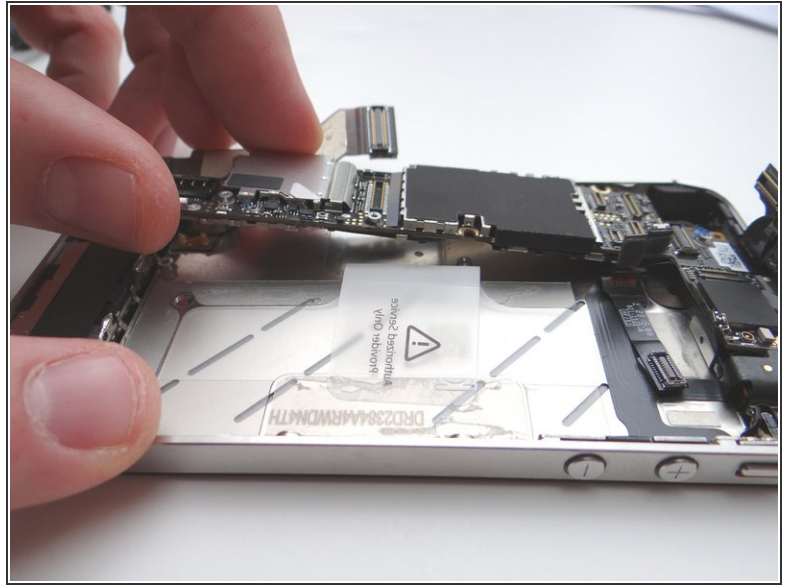
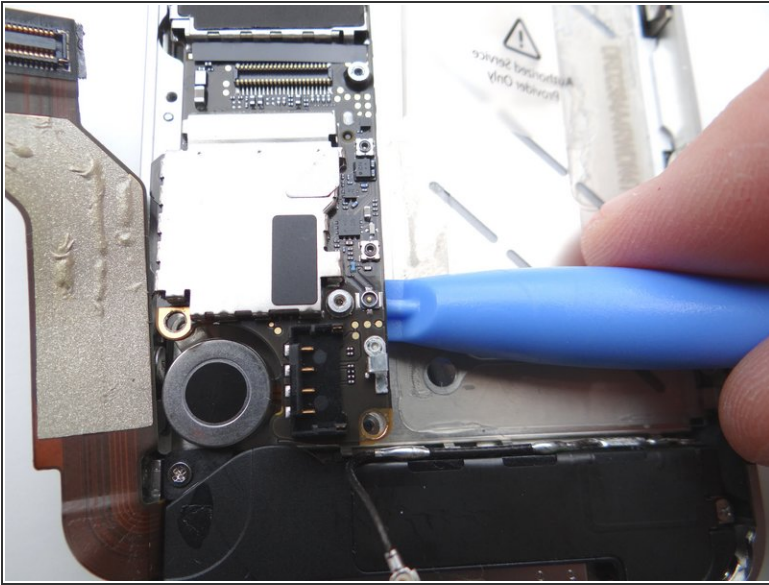
- Picture 1: Place Black Spudger under cellular antenna connector. Gently lift to release antenna from its socket on the logic board.
- Picture 2: Use your fingers to de-route the cellular antenna cable out from under the metal clips attached to the logic board. First pull cable right, then left.
- Picture 3: Fold the cable down so it's out of the way.

Step 18



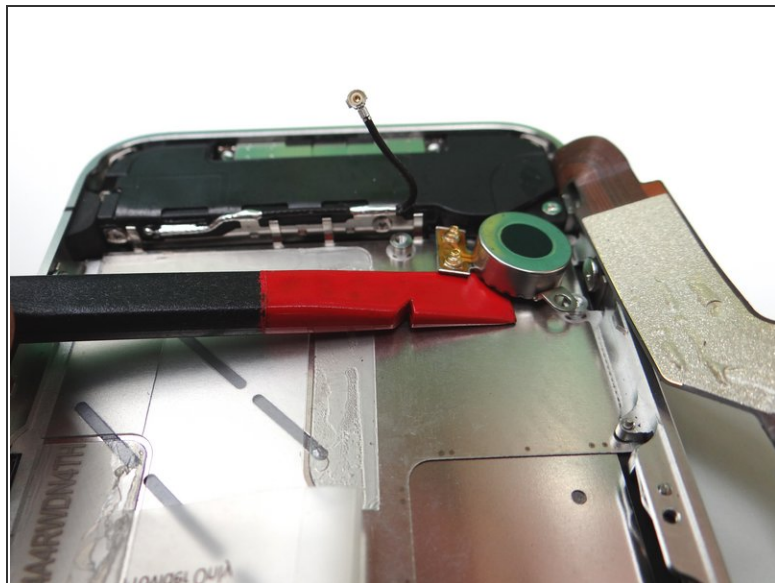
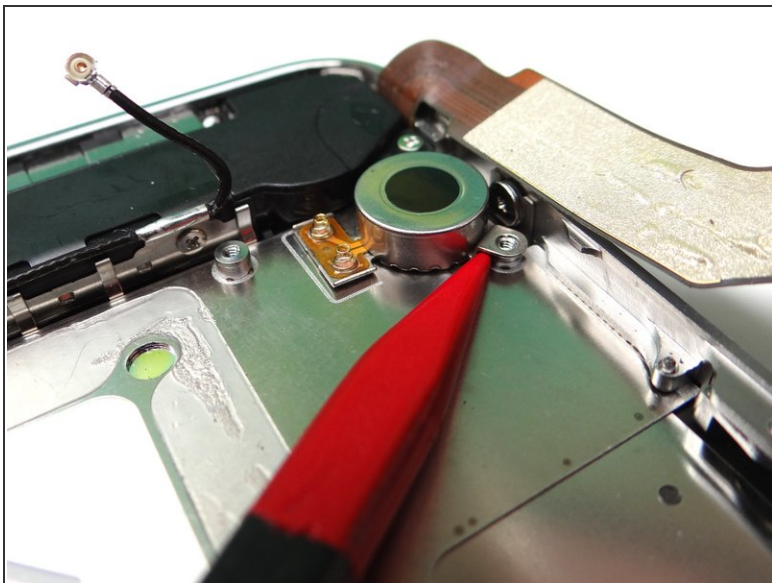
- Picture 1: Remove the 2.5 mm Phillips screw near the vibrator motor. Place in SLOT 12.
- Picture 2: Remove the 2.4 mm Phillips screw. Place in SLOT 13.
- Picture 3: Use a standard screwdriver to remove the 3.6 mm standoff screw. Place in SLOT 14.

Step 19



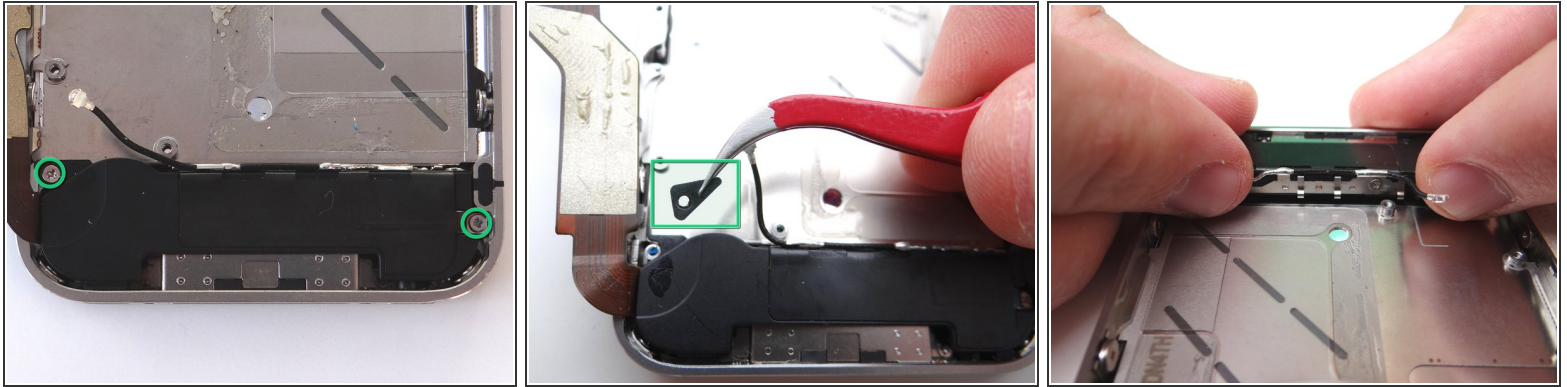
- Picture 1: Using the blue pry tool, carefully lift the logic board just high enough to pinch it with your left thumb and index finger.
- Picture 2: Once you have a good grip on the logic board, use your right hand to brush away cables near the top while pulling the logic board towards you until it is free from the mid-frame. Place in ZONE III.

Step 20 — Removal 5 - Vibrator



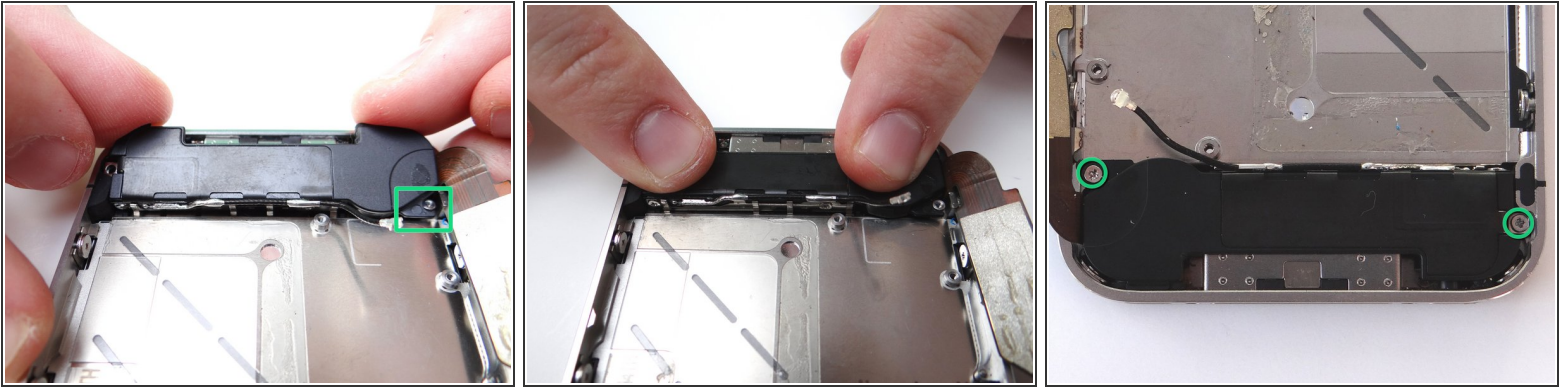
- Picture 1: Wedge the pointed tip of the Black Spudger under the lip of the vibrator. Gently lift to loosen the adhesive holding the vibrator to the mid-frame.
- Picture 2: Wedge the flat end of the spudger (you may prefer to use the iSesamo) under the vibrator until it's free. Place it in COMPARTMENT D.

Step 21 — Removal 6 - Loudspeaker Assembly



- Picture 1: Remove the two 2.4 mm Phillips screws from the sides of the loudspeaker assembly. Place in COMPARTMENT E.
- Picture 2: Remove the small plastic Triangular Bracket that was installed under the left-most screw. Place in COMPARTMENT E with the Phillips screws.
- Picture 3: Use your fingers to lift speaker assembly away from mid-frame and place it in COMPARTMENT E.

Step 22 — Replacement 6 - Loudspeaker Assembly



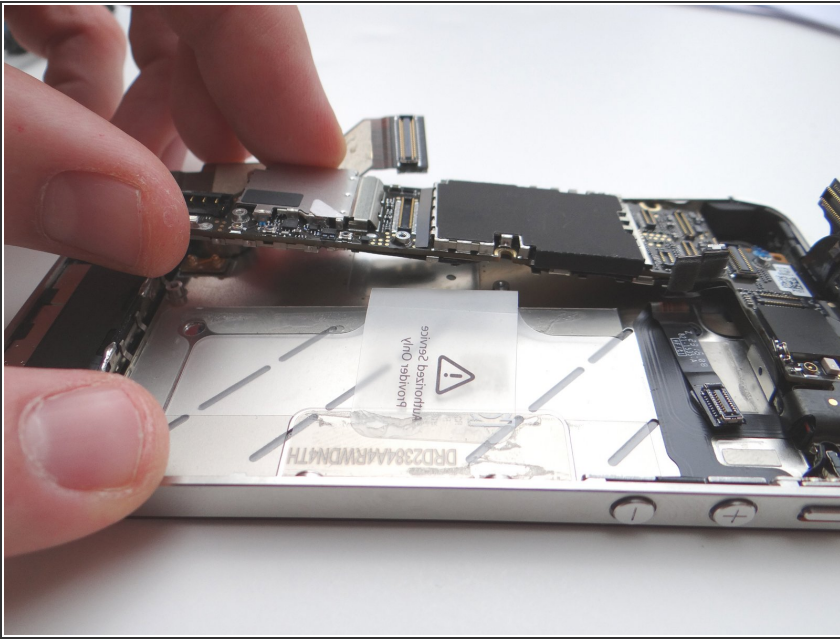
- Grab loudspeaker assembly from COMPARTMENT E (or replacement part) and place it inside mid-frame. Push the front of the assembly (with the clips) down first, then push the entire assembly into place.
- Replace the small triangular plastic bracket that was installed under the left-most screw in COMPARTMENT E.
- Replace the two 2.4 mm Phillips screws from the sides of the speaker enclosure assembly also in COMPARTMENT E.

Step 23 — Replacement 5 - Vibrator



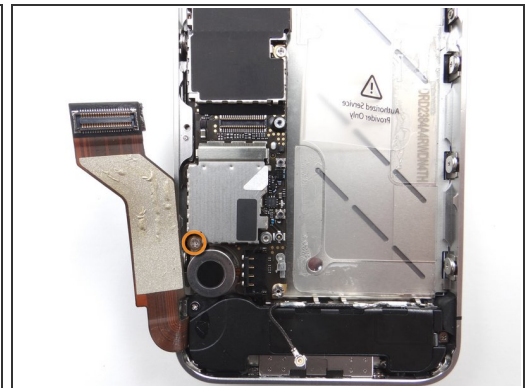
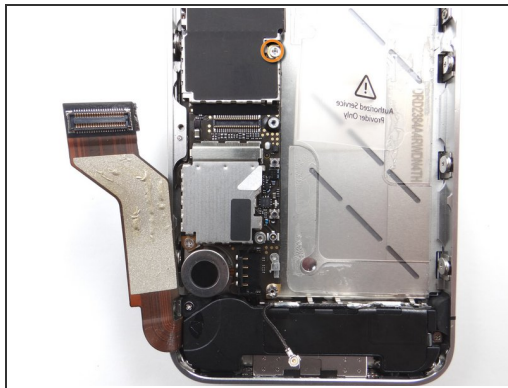
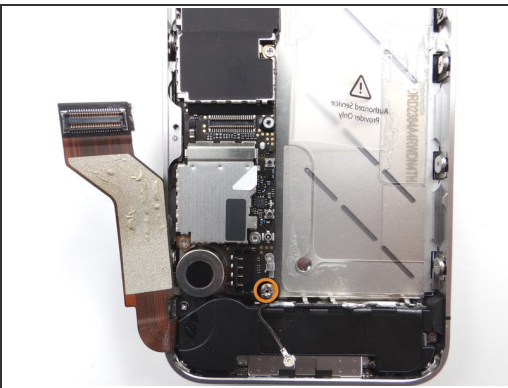
- Use your fingers to replace the vibrator from COMPARTMENT D (or replacement part).
- Make sure the mounting tab on the vibrator lines up with the screw slot on the mid-frame.

Step 24 — Replacement 4 - Logic Board



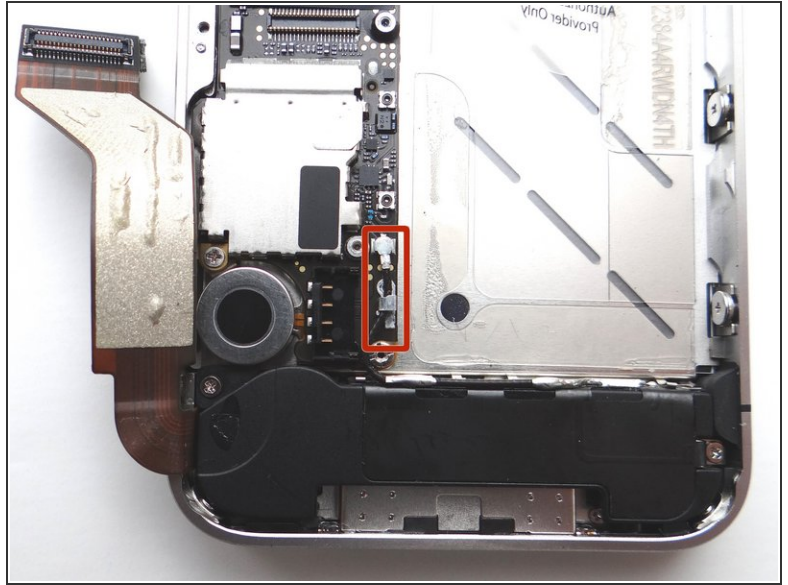
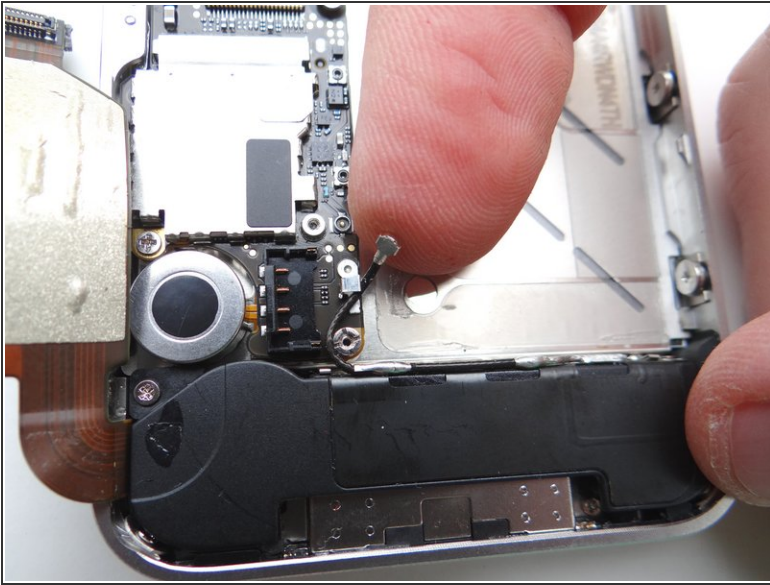
- Picture 1: Grab the logic board from ZONE III and carefully position the top edge into the mid-frame. Make sure the top edge is below the protruding tab on the mid-frame.
 - Push the logic board down into its position on the mid-frame.
- ⚠ Make sure no cables get trapped under the logic board while re-installing it.

Step 25



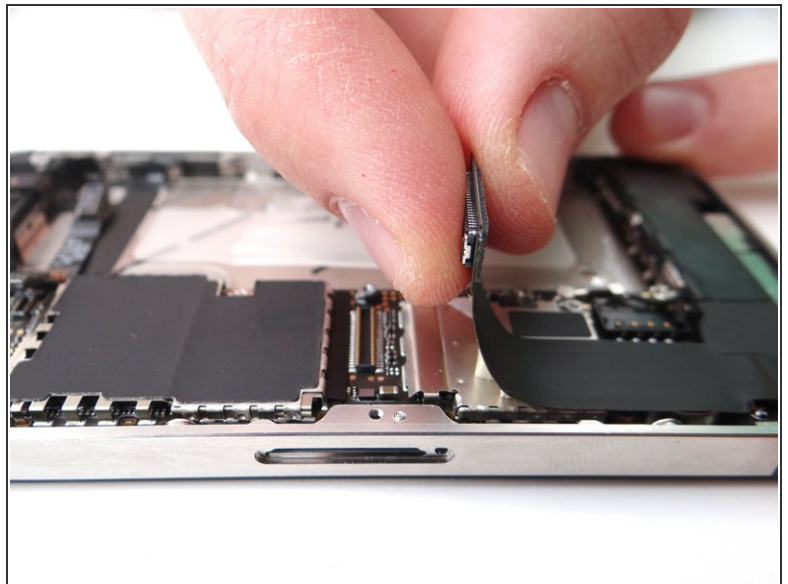
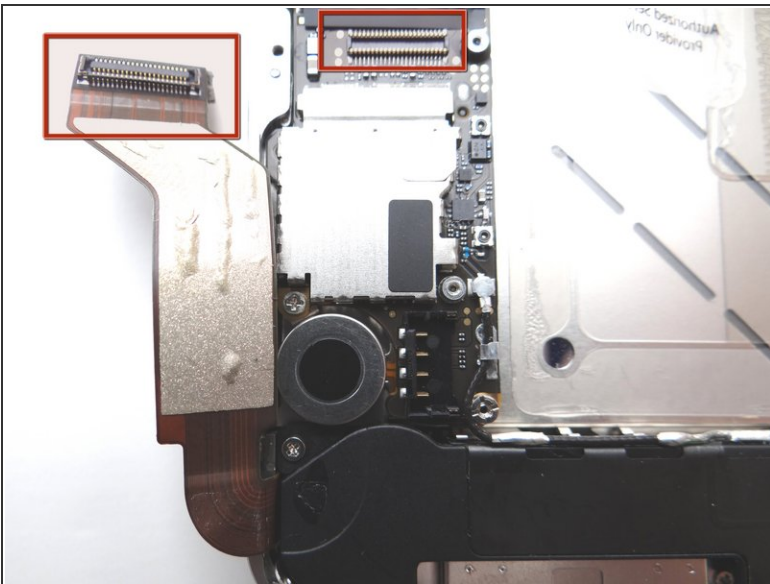
- Picture 1: Use a standard screwdriver to replace the 3.6 mm standoff screw from SLOT 14.
- Picture 2: Replace the 2.4 mm Phillips screw from SLOT 13.
- Picture 3: Replace the 2.5 mm Phillips screw near the vibrator motor from SLOT 12.

Step 26



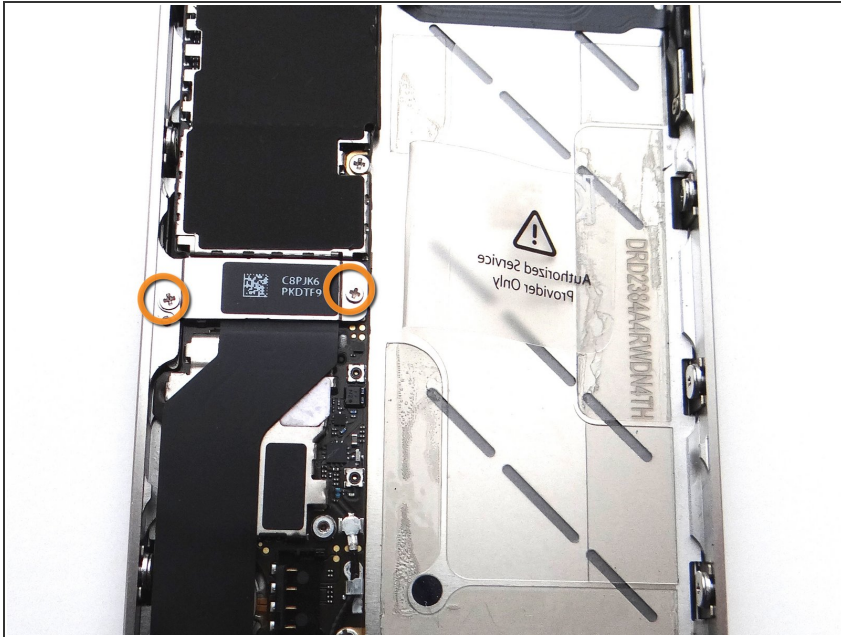
- Picture 1: Using your fingers, re-route the cellular antenna cable into the metal clips attached to the logic board, first pulling cable left, then right.
- Picture 2: Push the cellular antenna connector back into its slot on the logic board as in Picture 2.

Step 27



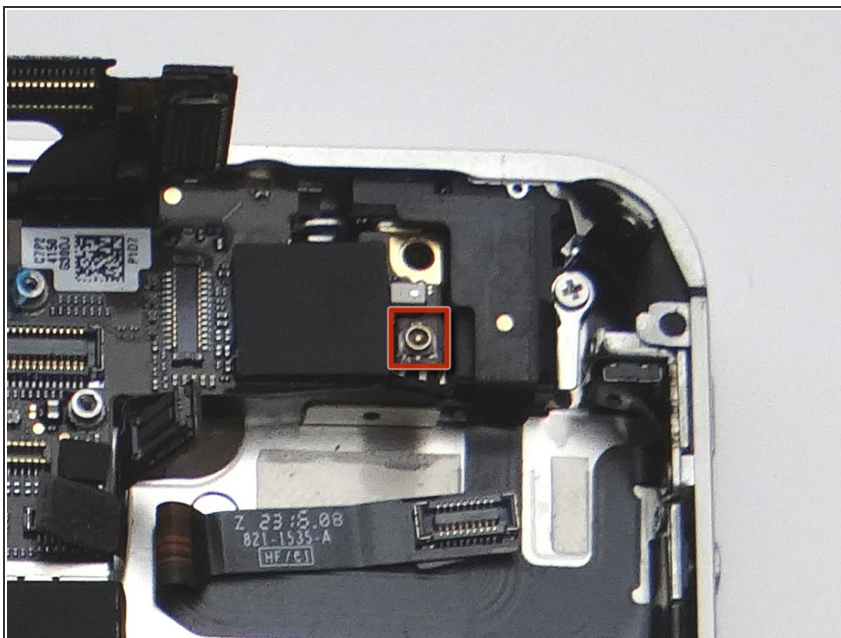
- Fold the charging port assembly cable back into position and reconnect it to its socket on the logic board.

Step 28



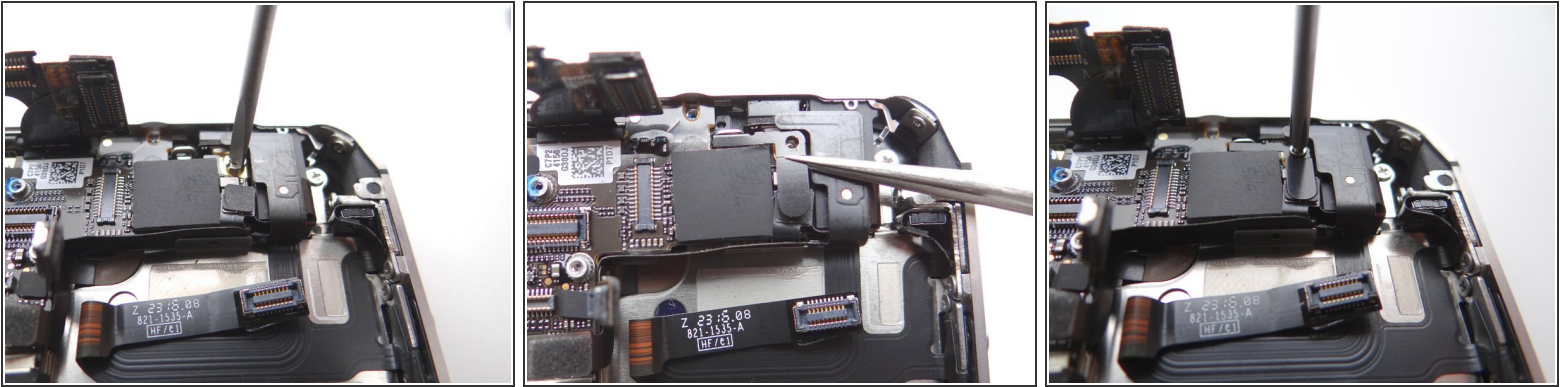
- Replace the charging port assembly shield from SLOT 11.
- Replace 1.5 mm Phillips screw on the right from SLOT 11.
- Replace 1.2 mm Phillips screw on the left from SLOT 10.

Step 29

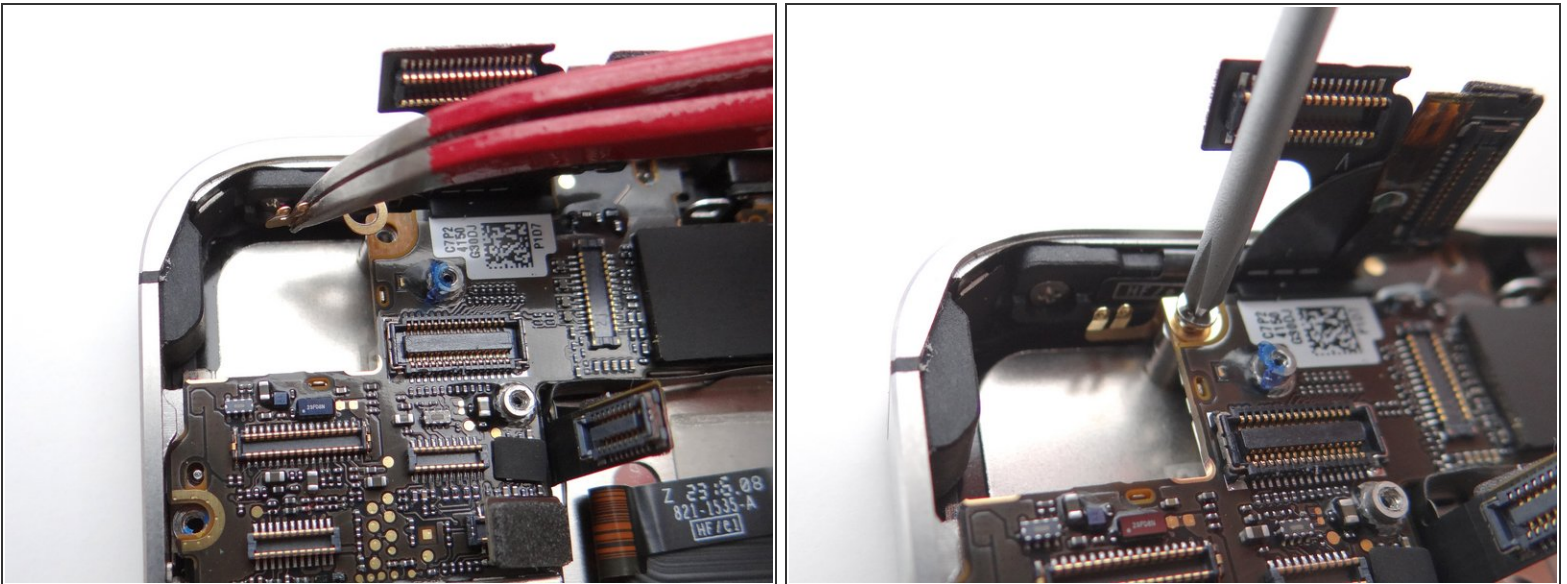


- Reconnect the wi-fi antenna.

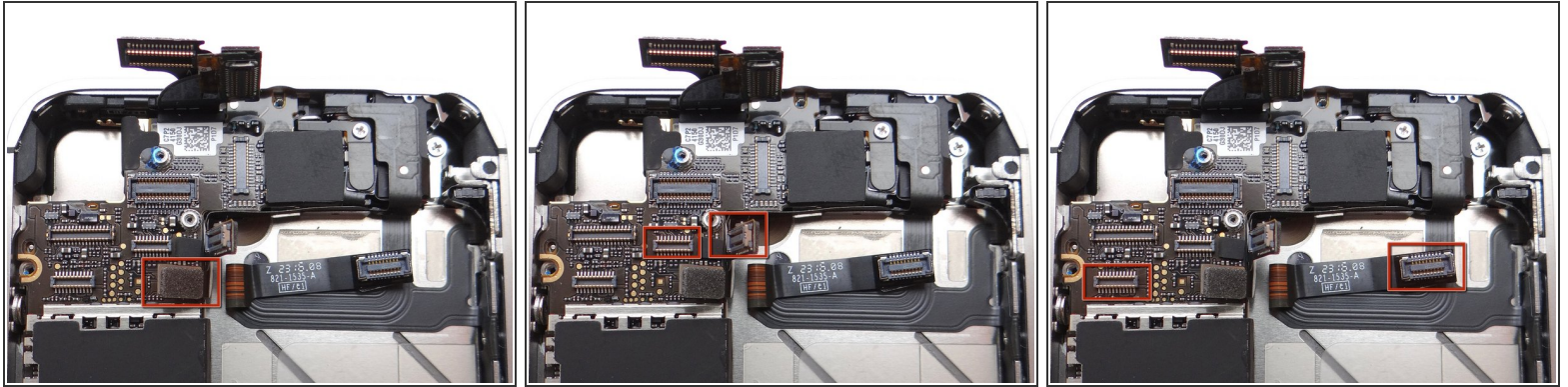
Step 30



Step 31

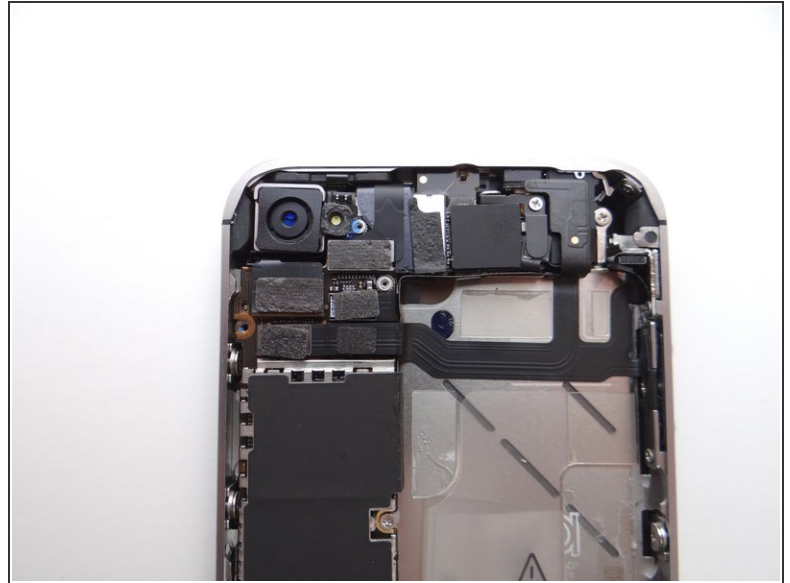


Step 32



- Picture 1: Reconnect the power button cable to its socket on the logic board. (Cable head is outlined in red - socket is directly beneath).
- Picture 2: Reconnect the top cable. (Cable head and socket are outlined in red).
- Picture 3: Reconnect the long cable: position the long cable (pinned to the mid-frame) over top of the power button cable. (Cable head and socket are outlined in red).

Step 33 — Replacement 3 - Rear Camera



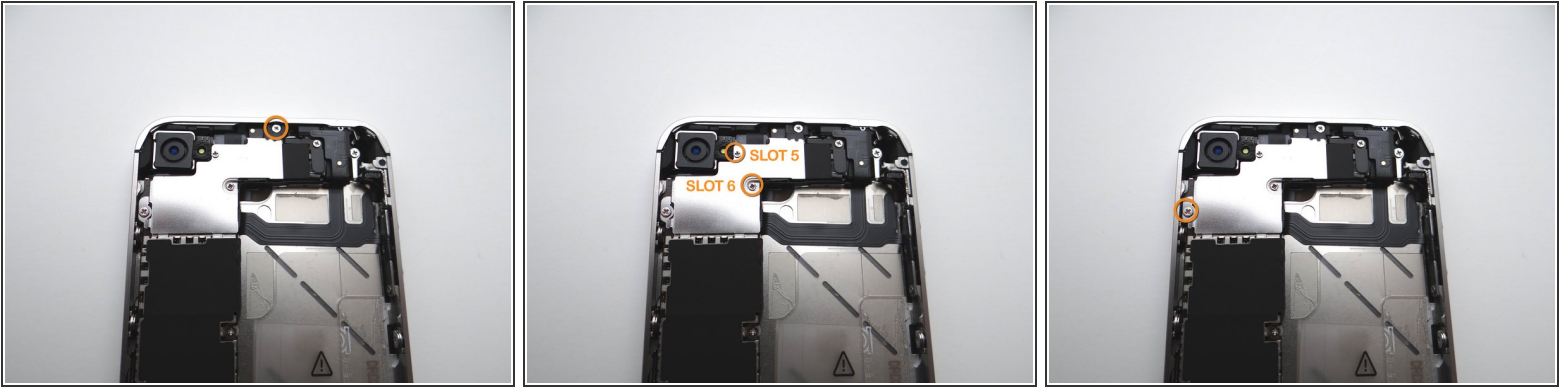
- Picture 1: Replace Rear Camera from COMPARTMENT C (or replacement part). Push connector into socket on logic board.
- Also in Picture 1: Reconnect the digitizer and LCD cables sitting upright.
- Picture 2: This is what you should see after connecting the camera, digitizer and LCD cables.

Step 34



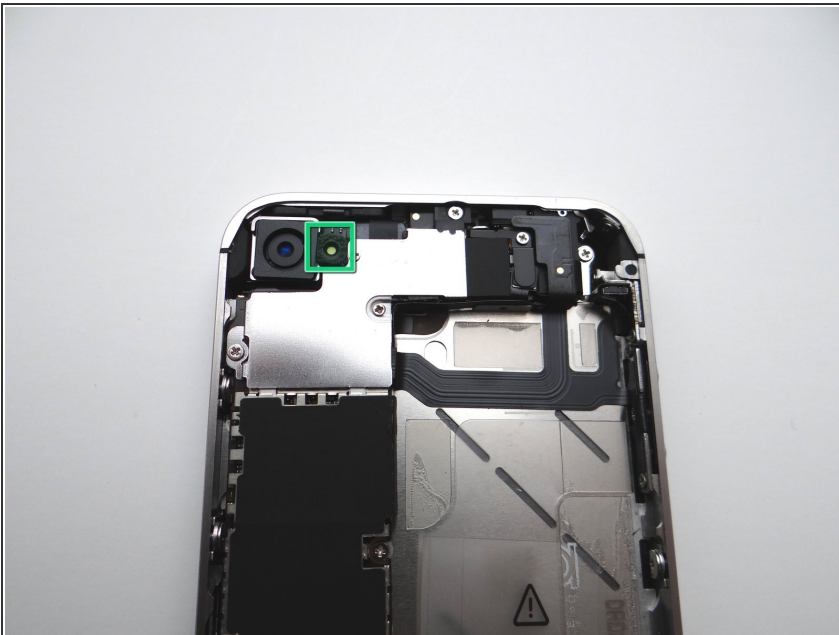
- Replace Cable Shield from COMPARTMENT B:
- Position the protruding tabs at the bottom of the Cable Shield into the slots on the EMI Shield (connected to the logic board) below.
- Push Cable Shield completely into place.

Step 35



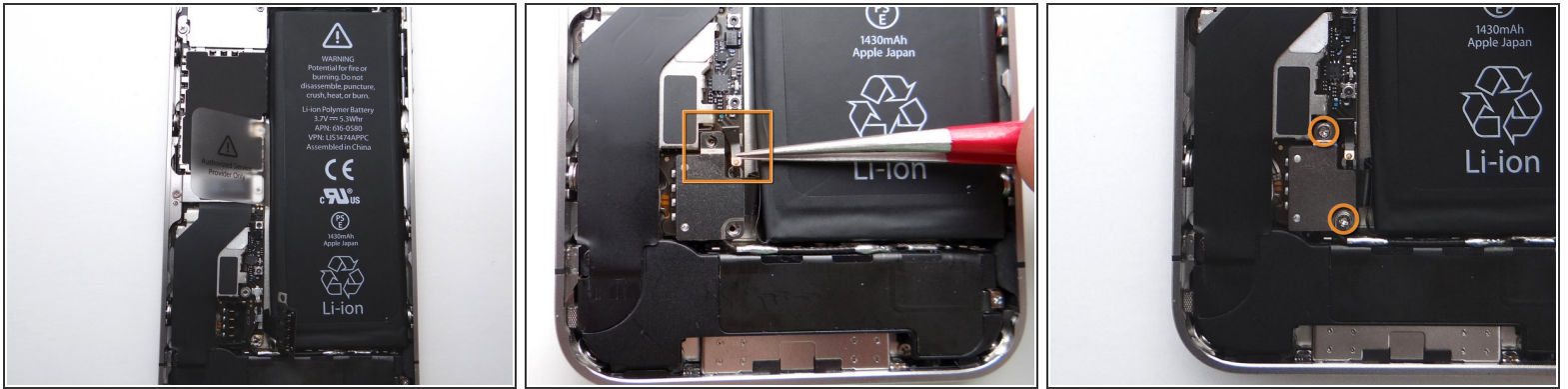
- Picture 1: Replace one 2.7 mm Phillips screw from SLOT 7.
- Picture 2: Replace one 1.2 mm Phillips screw from SLOT 6.
- Picture 2: Replace one 1.3 mm Phillips screw from SLOT 5.
- Picture 3: Replace one 2.6 mm Phillips screw from SLOT 4.


Step 36



- From COMPARTMENT B, if present, replace the outer plastic ring located on top of the rear camera's flash.

Step 37 — Replacement 2 - Battery



- Picture 1: Place the battery from ZONE II (or replacement part) in the mid-frame.
- Push battery connector into its socket on the logic board.
- Picture 2: With Fine Point Tweezers, place the L-Shaped Antenna Shield from SLOT 3 between the battery connector and its socket.
-  Make sure the screw slot on the battery connector lines up with the screw slot on the Antenna Shield, and that they both line up with the screw slot on the battery socket. If needed use tweezers to adjust its position.
- Picture 3: Use the 1.5 mm Phillips screw from SLOT 3 to secure the top of the battery connector.
- Picture 3: Use the 1.7 mm Phillips screw from SLOT 2 to secure the bottom of the battery connector.

Step 38 — Replacement 1 - Battery Cover



- Replace battery cover from ZONE I (or replacement part). Gently slide battery cover downward until it locks into place.
- Place the handset in your non-dominant hand, then replace two Pentalobe screws near charging port with special 5-point Pentalobe screwdriver. The screws are in SLOT 1.
- Replace the SIM card and SIM card tray from Sandbox COMPARTMENT A.