

# CELLPHONESANDBOX

## Manual 10 - Loudspeaker Assembly / Cellular Antenna

Written By: James Linder





## TOOLS:

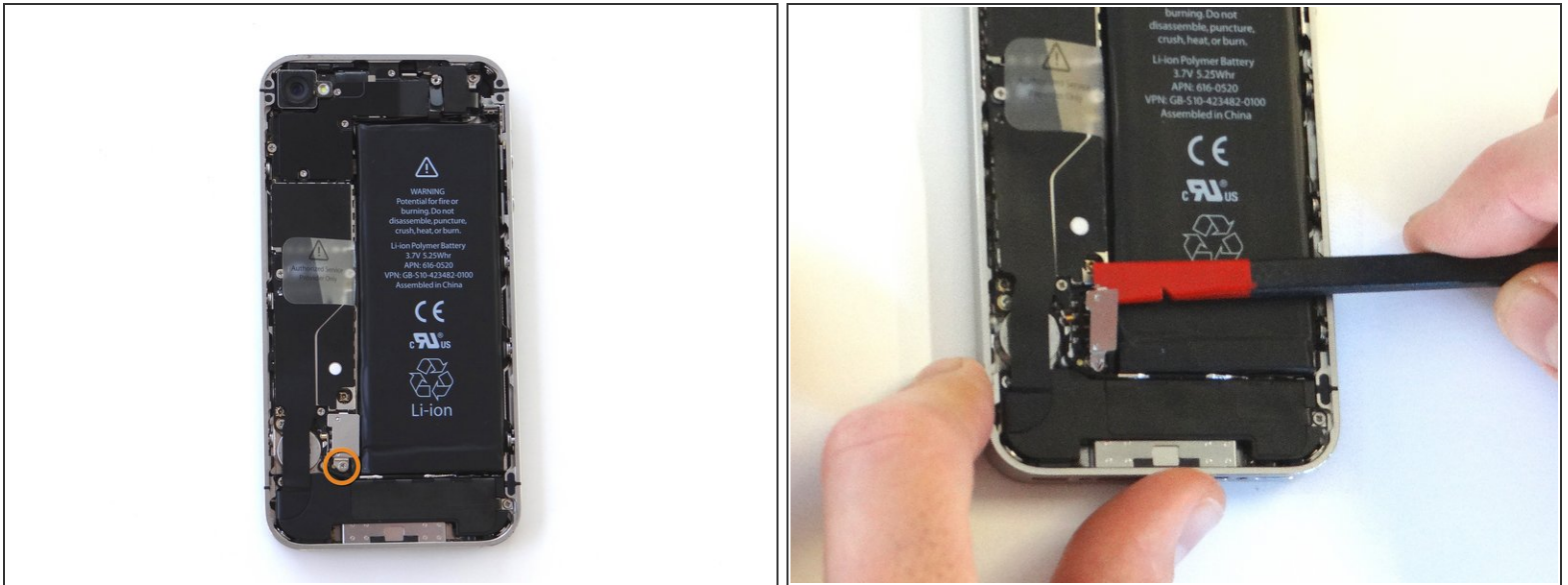
- [Technician Starter Package](#) (1)
-

## Step 1 — Removal 1 - Battery Cover



- Before disassembling the iPhone, thoroughly wash and dry your hands.
- Make sure handset is powered off.
- 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 2 — Removal 2 - Battery



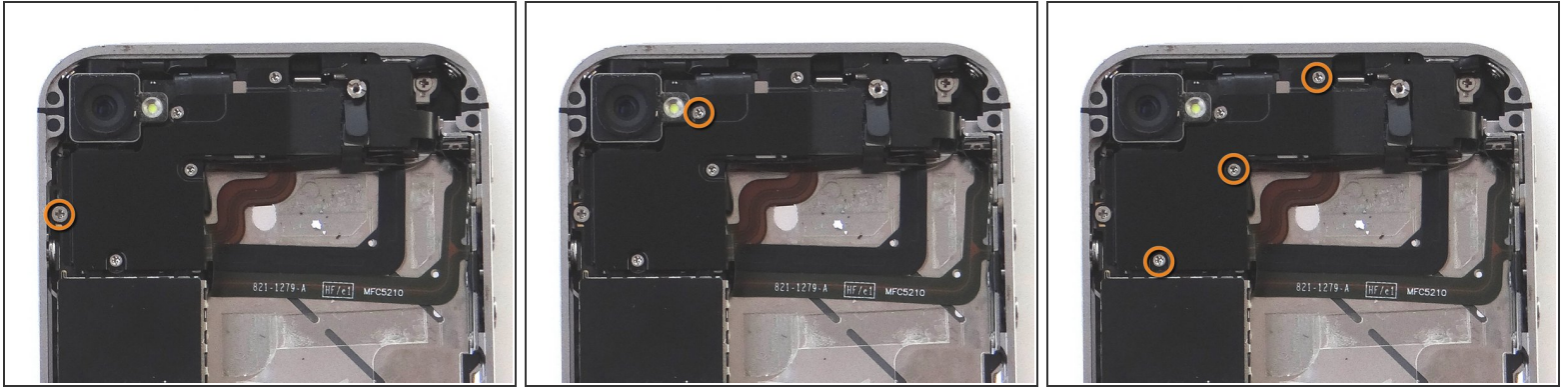
- Remove the 1.5 mm Phillips screw from battery connector cable (circled in orange). Place screw in SLOT 2.
- Use the flat edge of the Black Spudger (tip is painted red for better illustration) to gently pry the battery connector up from its socket on the logic board, top to bottom.

## Step 3



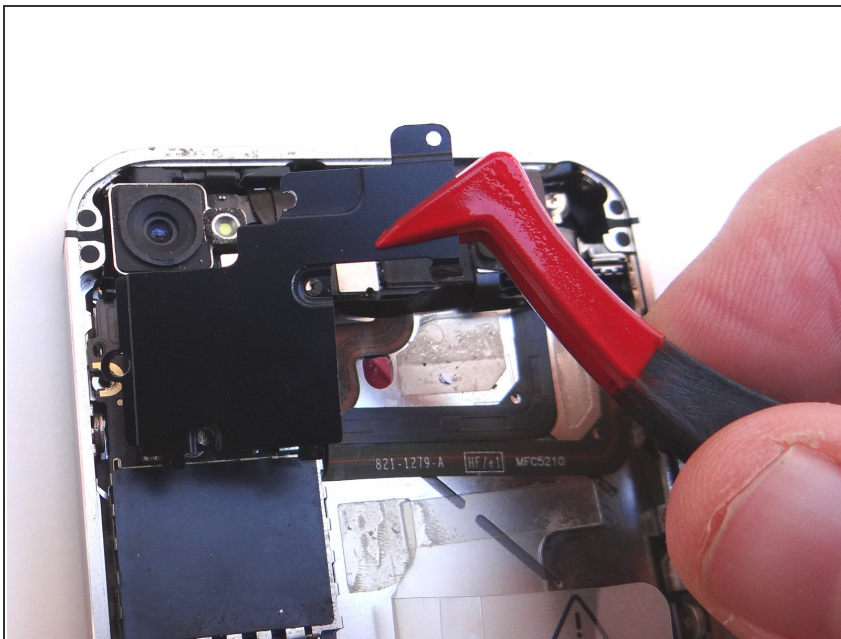
- Apply low-level heat (100\* Celcius or less) to edges of battery for 60 seconds to loosen the adhesive securing the battery to the iPhone.
- Wedge right-side of the battery up with the Black Spudger to free battery from adhesive securing it to Mid-Frame.
- Grab battery removal tab and gently pull tab away from phone, taking care not to bend or warp the battery as you pull (you may have to use the spudger to help wedge it up). Apply more heat in 30 second increments, if needed.
- Remove the battery and place in ZONE II.

## Step 4 — Removal 3 - Rear Camera



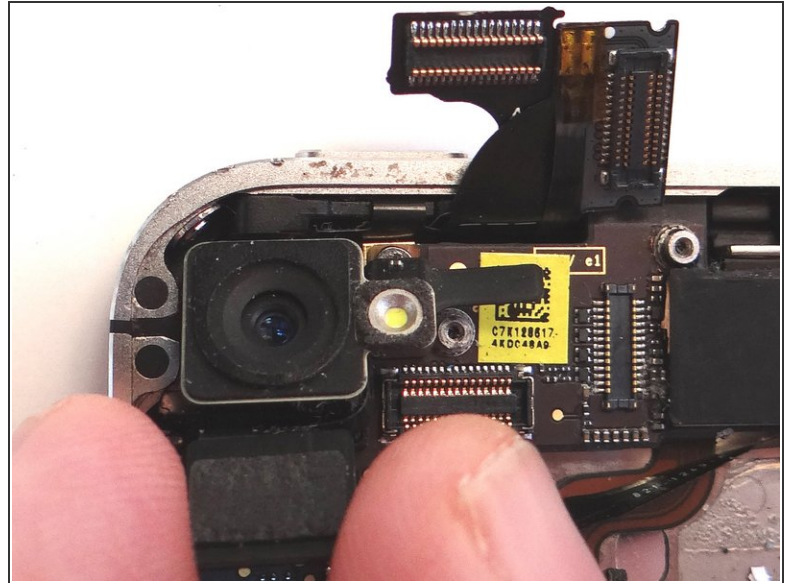
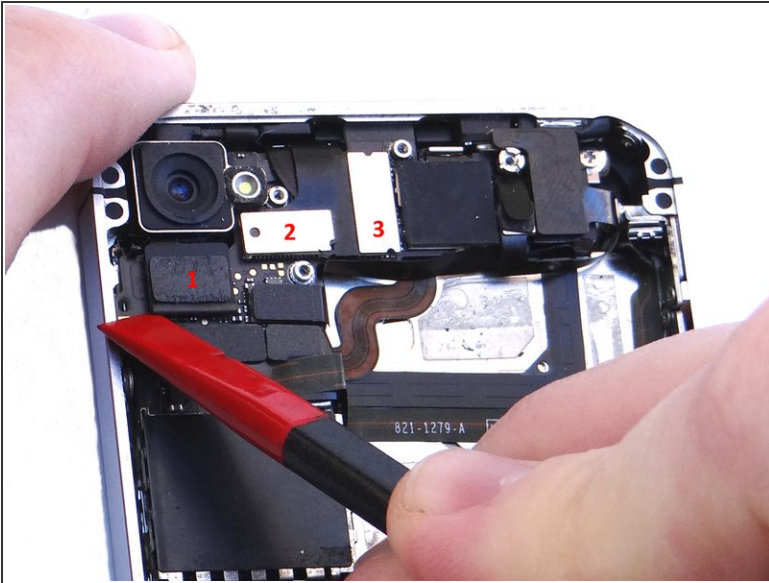
- Remove five Phillips screws from the Cable Shield surrounding the camera. Use fine point tweezers to remove them if the screwdriver won't hold them:
- Picture 1: Remove one 2.4 mm Phillips screw. Place in Sandbox SLOT 3.
- Picture 2: Remove one 1.5 mm Phillips screw. Place in SLOT 4.
- Picture 3: Remove three 1.3 mm Phillips screws. Place in SLOT 5.

## Step 5



- 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 A.

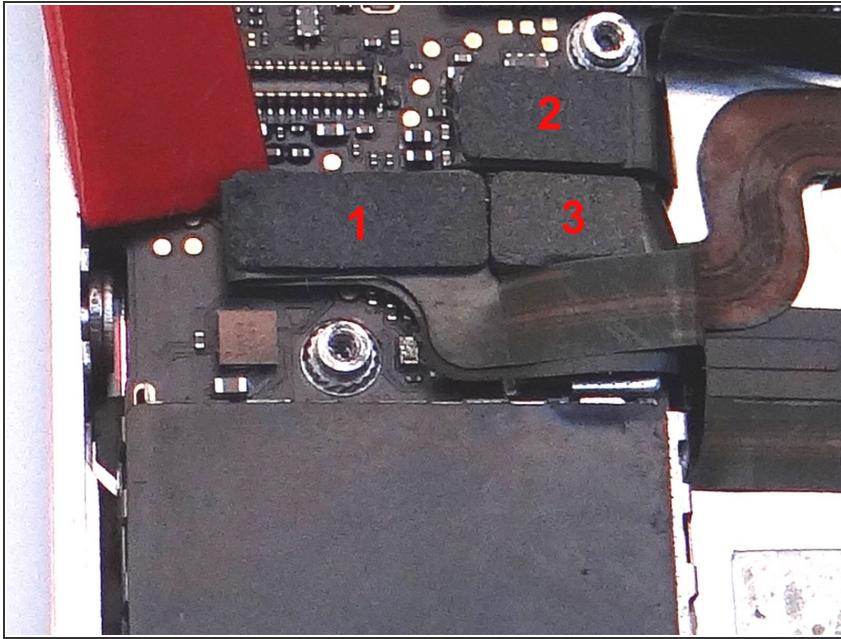
## Step 6



**⚠ Before performing this step, make sure the Black Spudger is wedged under the lip of the cable. Also, be careful not to break any components off the surrounding area on the logic board:**

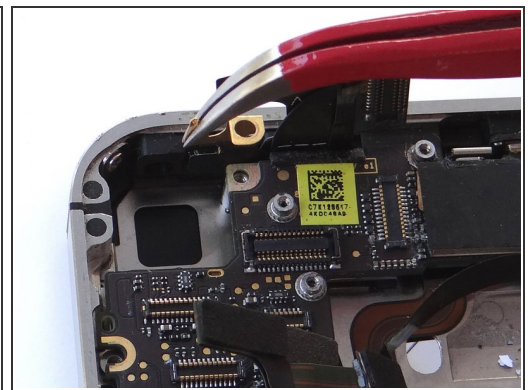
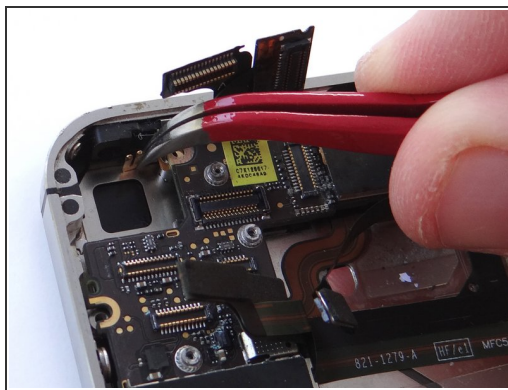
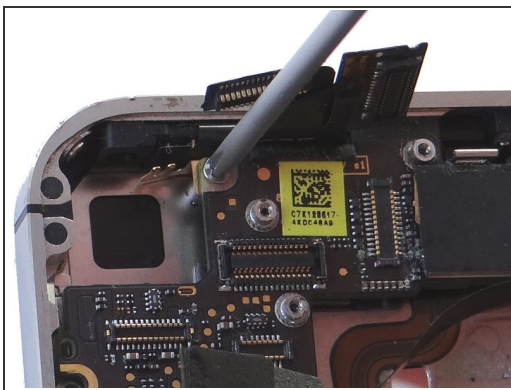
- Use the flat end of the Black Spudger to gently pry three cables free from their sockets on the logic board.
- Lift camera away from iPhone. Place in COMPARTMENT B.

## Step 7 — Removal 4 - Logic Board



- Release three cables just below the camera slot using the Black Spudger to gently lift the connectors up and out of the sockets.

## Step 8



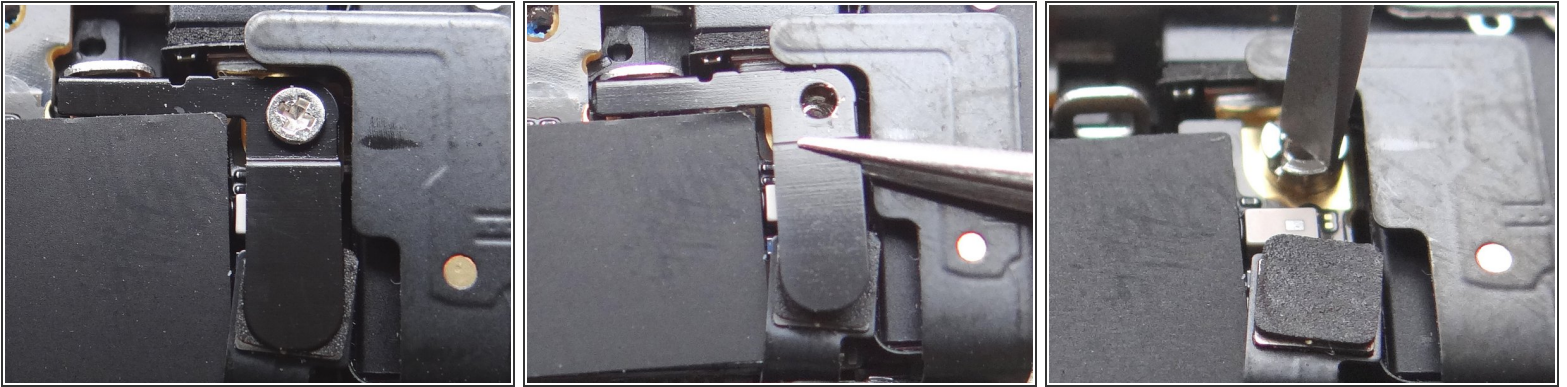
**i** Picture 1: There may be a small piece of black electrical tape covering the pictured screw. If it's there use Plastic Tweezers to remove and discard it.

- Remove 2.5 mm Phillips screw securing Gold Grounding Clip to logic board near rear camera opening. Place screw in SLOT 6.

**⚠** Remove Gold Grounding Clip with curved tip tweezers. Lift straight up and be careful not to scratch the logic board with the tweezers.

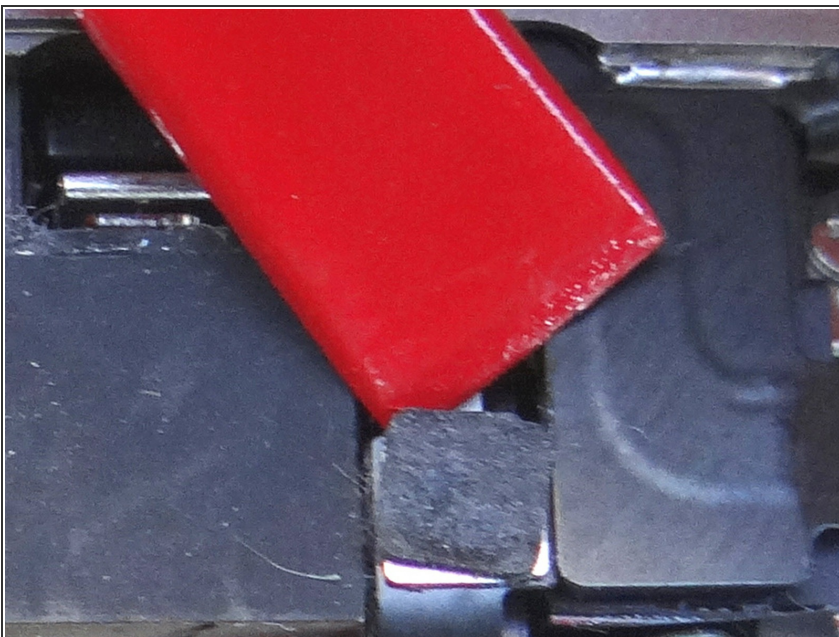
- Place clip in SLOT 6 with Phillips screw.

## Step 9



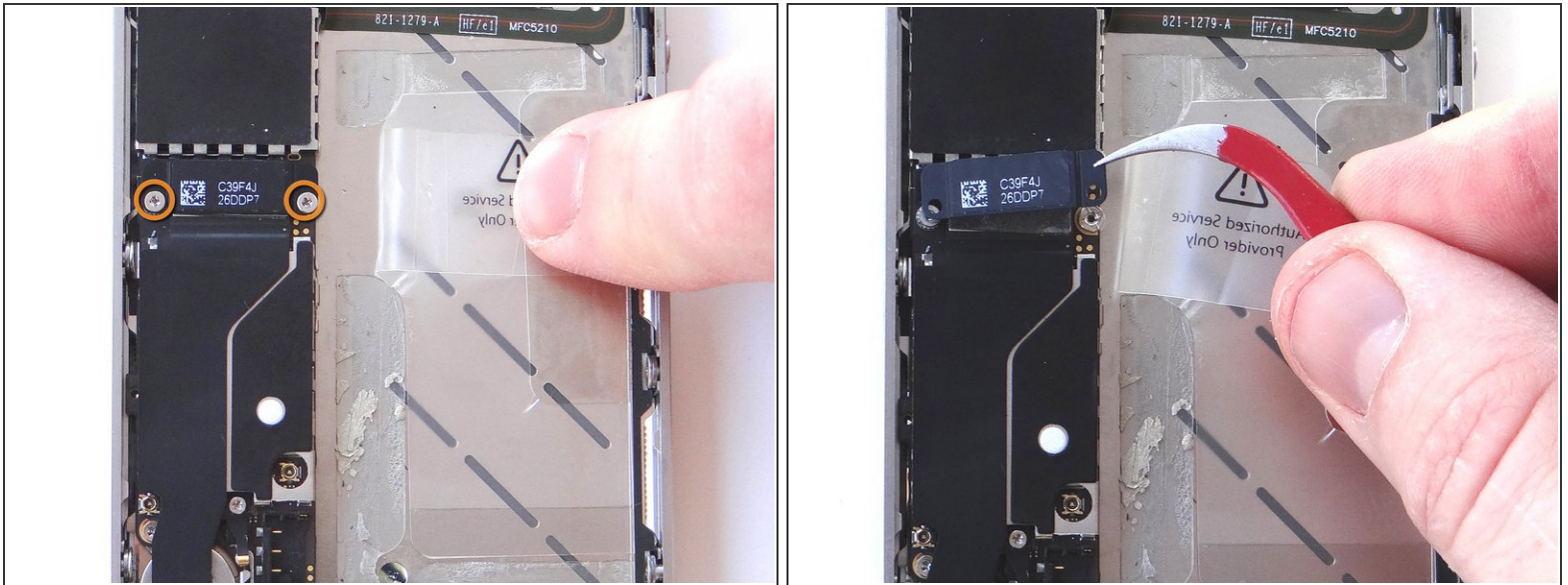
- i** Remove Antenna Shield: Older iPhones are held in place with a Standoff Screw and will NOT have a Phillips screw on top.
- Picture 1: Remove the 1.5 mm Phillips Screw holding the Antenna Shield. Place in SLOT 7.
  - Picture 2: Remove the Antenna Shield with your fingers or Fine Point Tweezers. Place with the Phillips screw in SLOT 7.
  - Picture 3: Use a Small Flathead Screwdriver to remove the 4.8 mm Standoff Screw near the headphone jack. Place standoff in SLOT 7 with the Phillips screw and Antenna Shield.

## Step 10



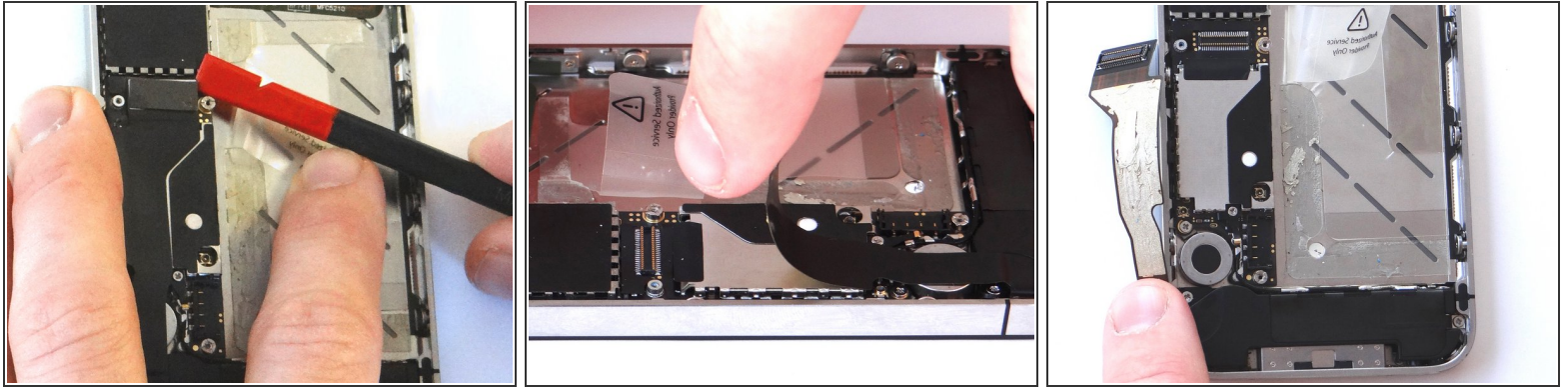
- Wedge the flat end of the black spudger under the wi-fi antenna connector and gently lift to release from logic board.

## Step 11



- Remove two 1.8 mm Phillips screws from the charging port assembly shield. Put screws in SLOT 8 as you remove them.
- Then lift the charging port assembly shield straight up with your fingers (or tweezers, if necessary). Place the charging port assembly shield with screws in SLOT 8.

## Step 12

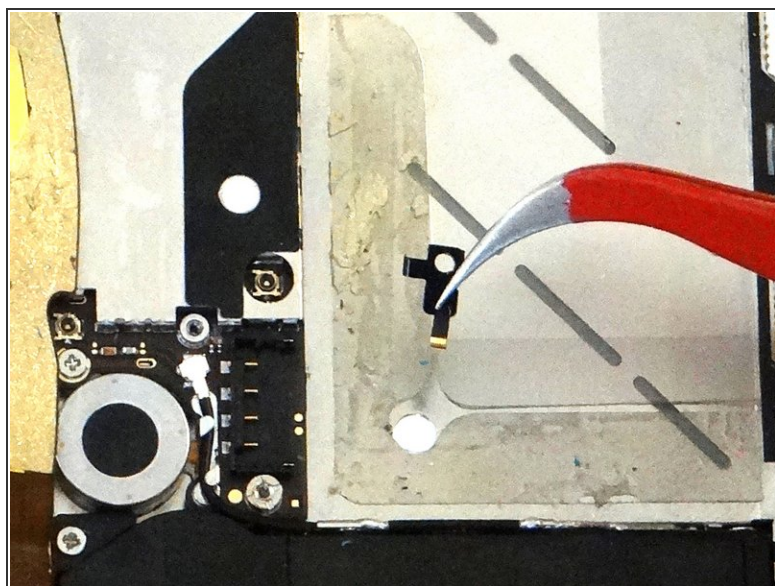
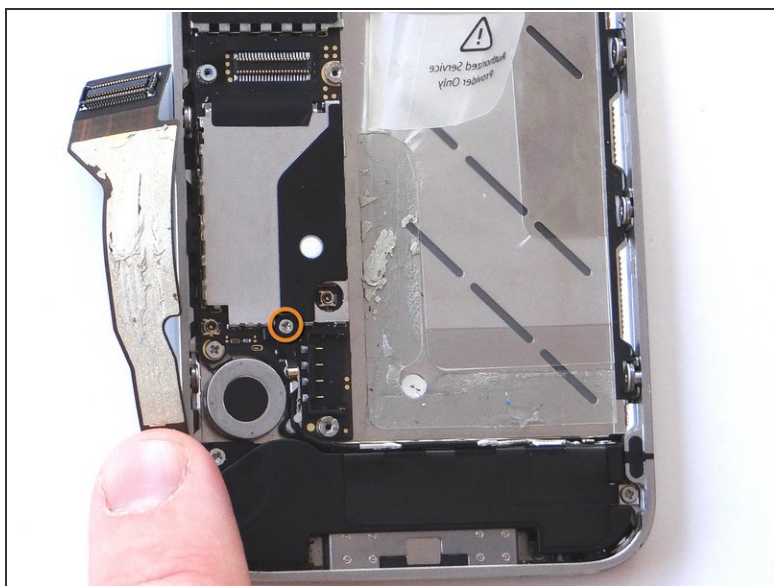


- Picture 1: Place flat end of spudger under upper-right corner of the charging port assembly cable. Gently twist your hand clockwise releasing the cable from its socket on the logic board.

**⚠ 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.**

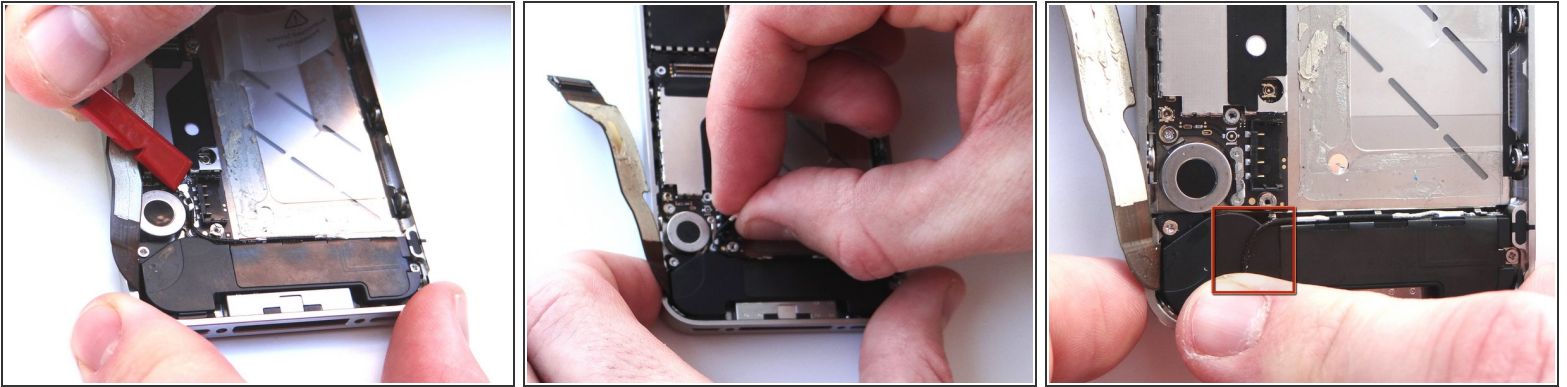
- Picture 3: Fold the cable to the left.

## Step 13



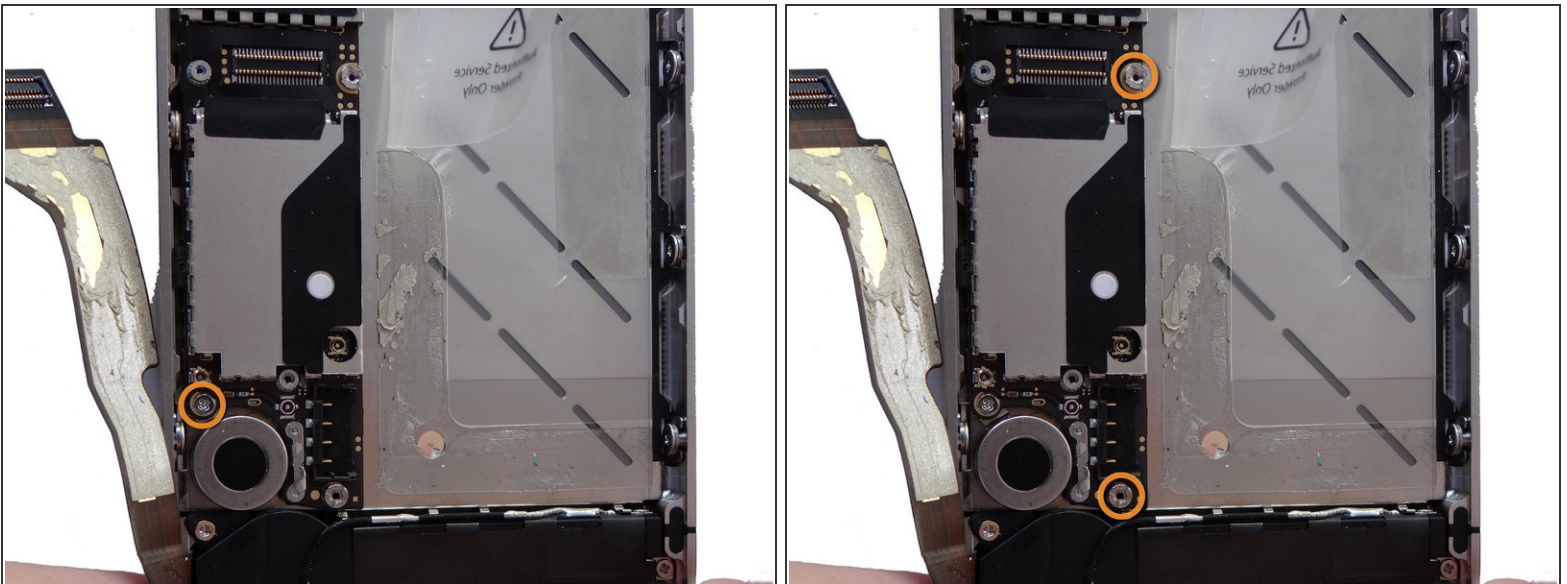
- Picture 1: Remove 1.6 mm Phillips screw securing L-Shaped antenna shield. Place the screw in SLOT 9.
- Picture 2: Use your fingers or Curved Tip Tweezers to remove the shield. Place the shield with the screw in SLOT 9.

## Step 14



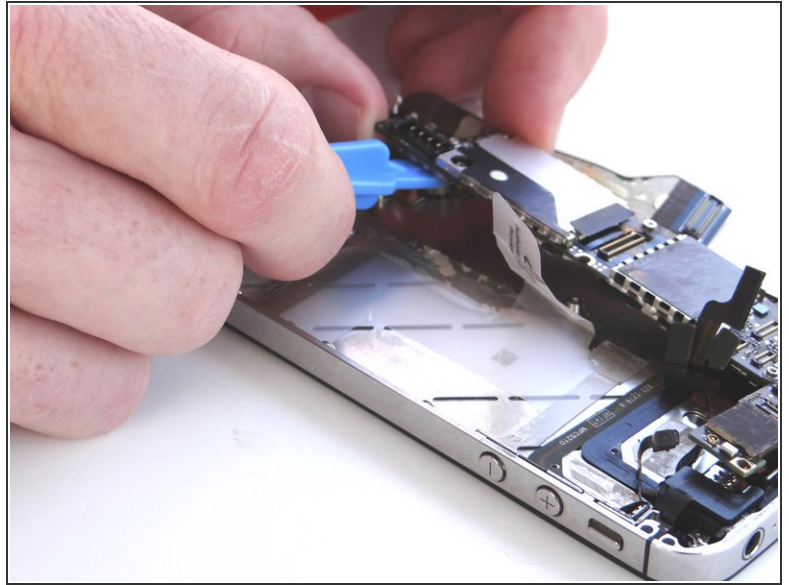
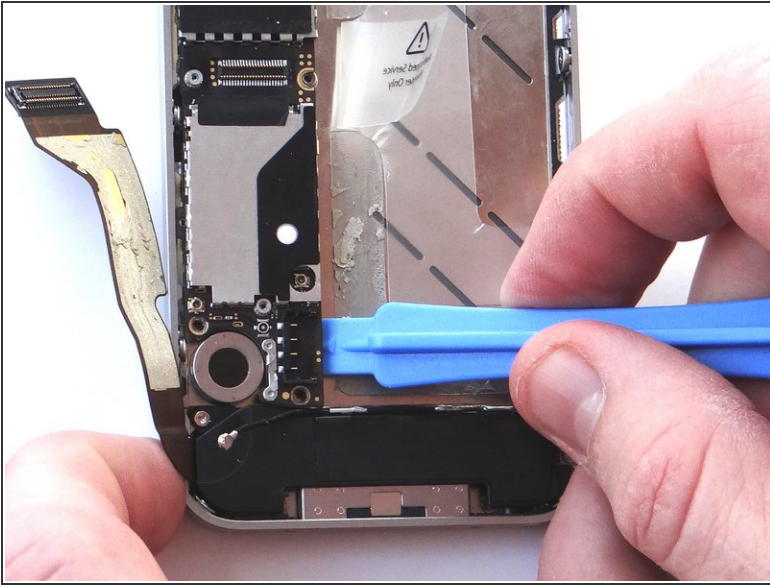
- Picture 1: Place Black Spudger under antenna. Gently lift to release antenna from its socket on the logic board.
- Picture 2: Use your fingers to de-route the cellular antenna cable out from under the metal clips attached to the logic board. First pull cable right, then left.
- Picture 3: Fold the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

## Step 15



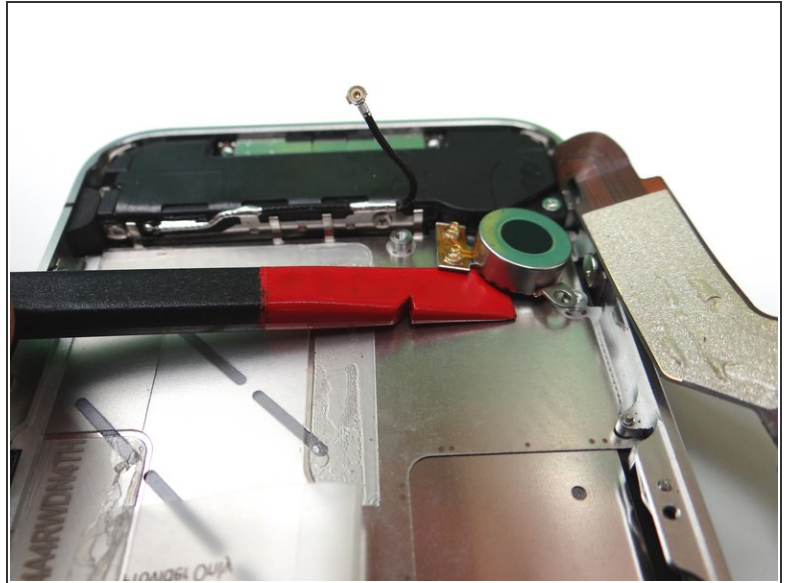
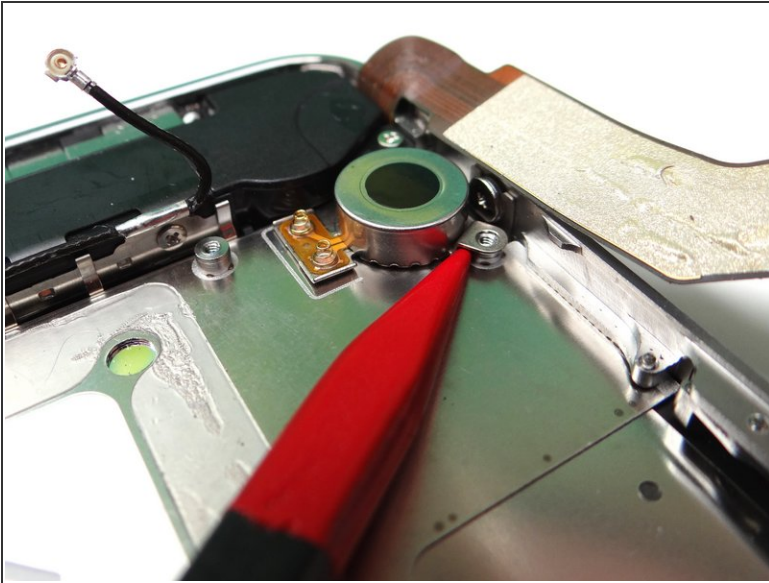
- Picture 1: Remove the 3.4 mm Phillips screw near the vibrator motor. Place in SLOT 10.
- Picture 2: Use a small flathead screwdriver to remove the two 3.6 mm standoffs. Place both in SLOT 11.

## Step 16



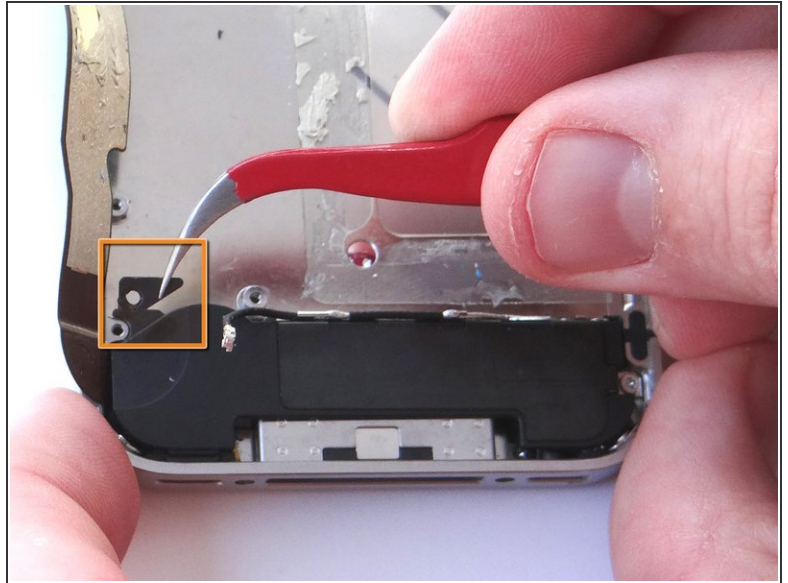
- Picture 1: Using the blue pry tool, carefully lift the logic board just high enough to pinch it with your left thumb and index finger.
- Picture 2: Once you have a good grip on the logic board, use your right hand to brush away cables near the top while pulling the logic board towards you until it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

## Step 17 — Removal 5 - Vibrator



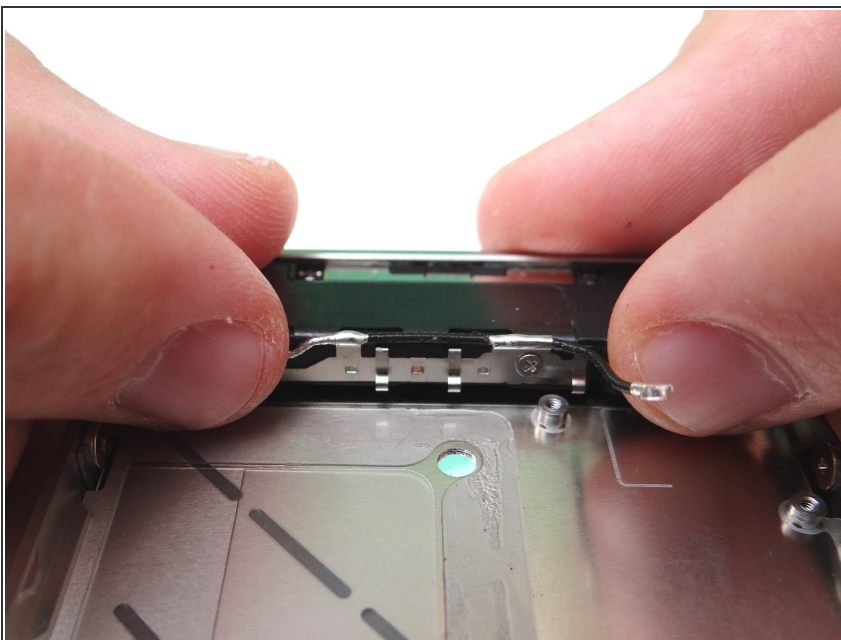
- Picture 1: Wedge the pointed tip of the Black Spudger under the lip of the vibrator. Gently lift to loosen the adhesive holding the vibrator to the mid-frame.
- Picture 2: Wedge the flat end of the spudger (you may prefer to use the iSesamo) under the vibrator until it's free. Place it in COMPARTMENT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

## Step 18 — Removal 6 - Loudspeaker Assembly



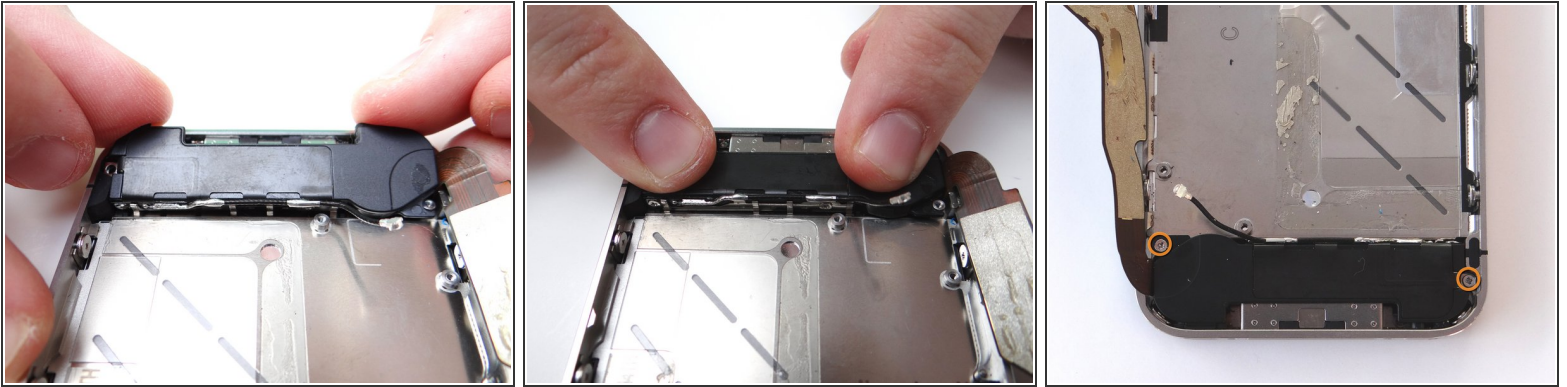
- Remove the two 2.4 mm Phillips screws from the sides of the speaker enclosure assembly. Place in SLOT 12.
- Remove the small plastic Triangular Bracket that was installed under the left-most screw. Place in SLOT 12 with the two screws.

## Step 19



- Use your fingers to lift loudspeaker assembly away from mid-frame and place it in COMPARTMENT D.

## Step 20 — Replacement 6 - Loudspeaker Assembly



- Grab speaker assembly from COMPARTMENT D 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 from SLOT 12.
- Replace the two 2.4 mm Phillips screws from the sides of the speaker enclosure assembly from SLOT 12.

## Step 21 — Replacement 5 - Vibrator



- Use your fingers to replace the vibrator from COMPARTMENT C.
- Make sure the mounting tab on the vibrator lines up with the screw slot on the mid-frame.

## Step 22 — Replacement 4 - Logic Board



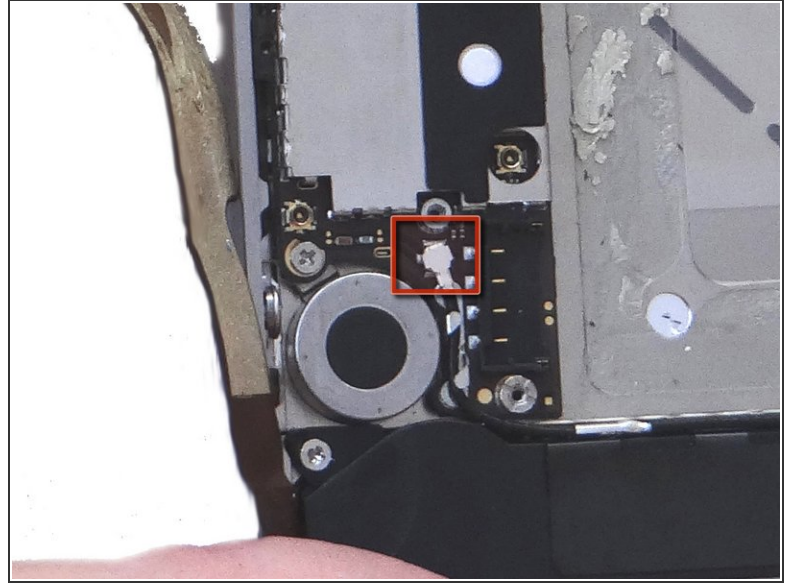
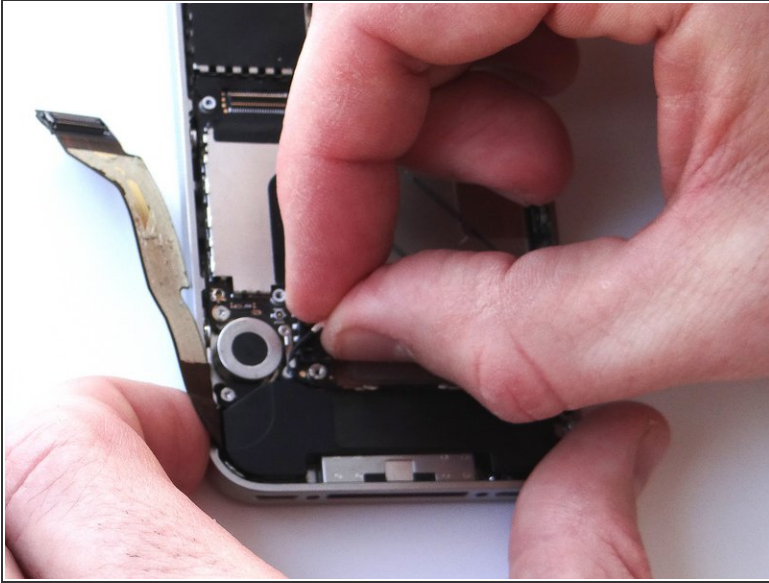
- Picture 1: Grab the logic board from ZONE III and carefully position the top edge into the mid-frame. Make sure the top edge is below the protruding tab on the mid-frame.

- 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.**

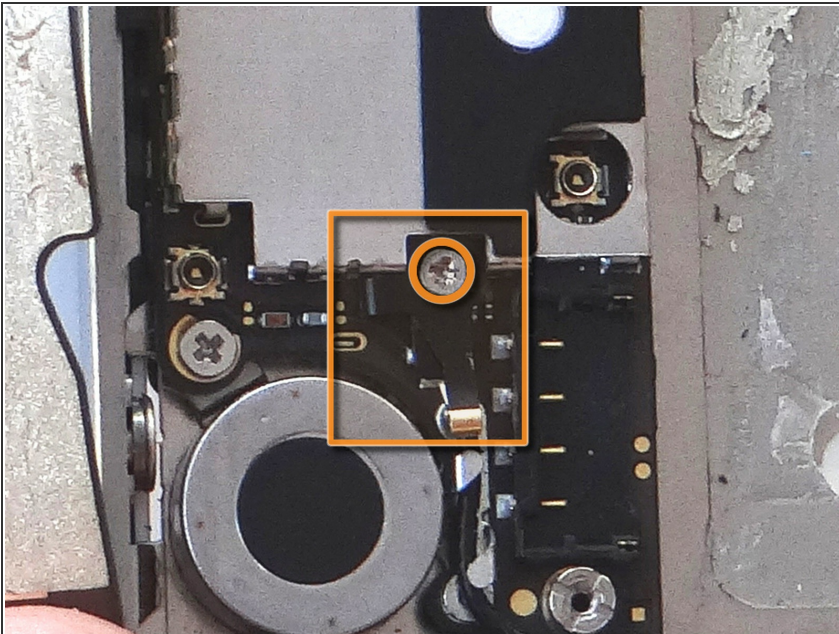
- Picture 2: Use a small flathead screwdriver to replace the two 3.6 mm standoffs (on the right) from SLOT 11.
- Picture 3: Replace the 3.4 mm Phillips screw (on the left) near the vibrator motor with the screw from SLOT 10.

## Step 23



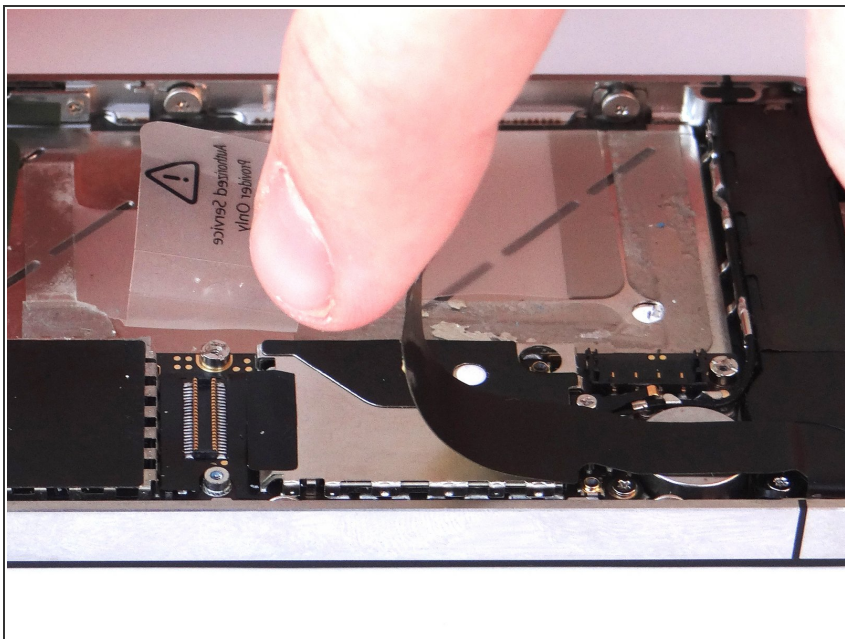
- Picture 1: Using your fingers, re-route the cellular antenna cable into the metal clips attached to the logic board, first pulling cable left, then right.
- Push the cellular antenna back into its slot on the logic board as in Picture 2.

## Step 24



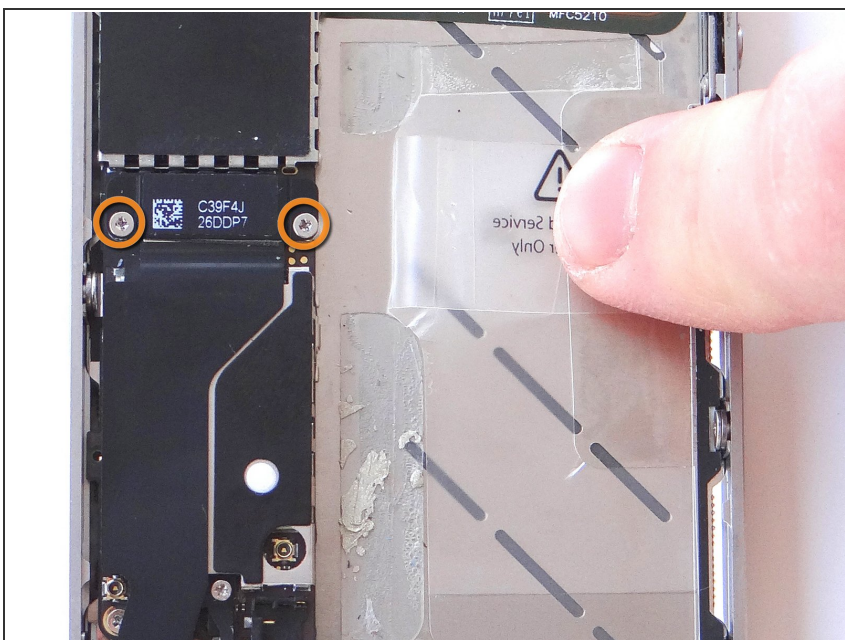
- Use your fingers or fine point tweezers to replace the L-Shaped Antenna Shield found in SLOT 9.
- Secure it with the Phillips screw also in SLOT 9.

## Step 25



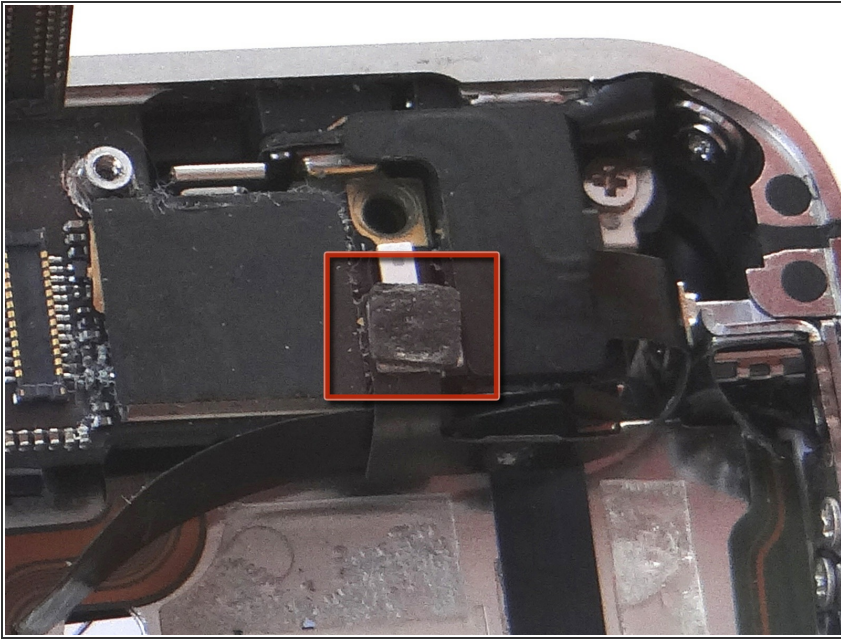
- Reposition the charging port assembly cable and push cable connector into its socket on the logic board.

## Step 26



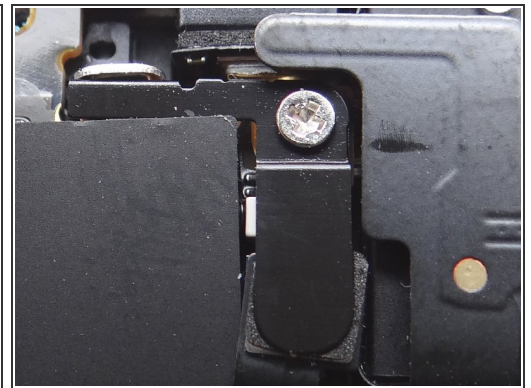
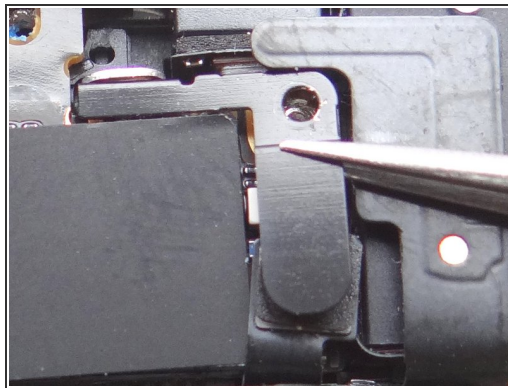
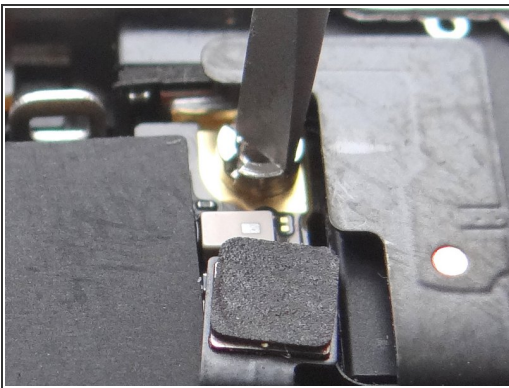
- Replace the charging port assembly shield from SLOT 8 and secure it with Phillips screws also from SLOT 8.

## Step 27



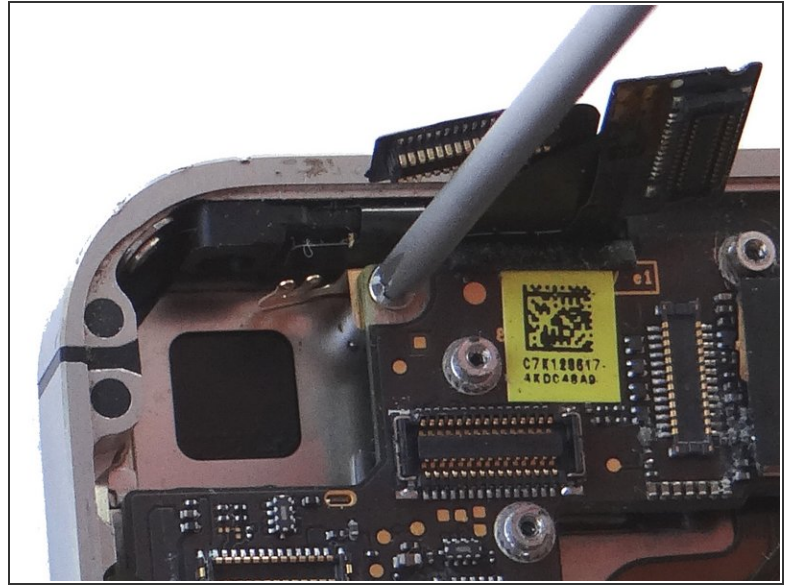
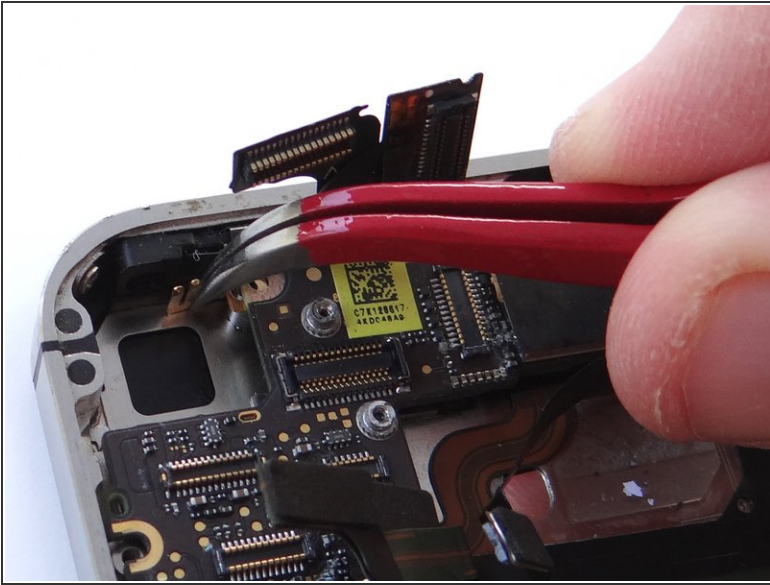
- Reconnect the wi-fi antenna connector to the logic board.

## Step 28



- Picture 1: Replace the 4.8 mm Standoff Screw from SLOT 7.
- Picture 2: Replace the L-Shaped Antenna Shield from SLOT 7 with your fingers or Fine Point Tweezers.
- Picture 3: Secure it with the 1.5 mm Phillips screw, also from SLOT 7.

## Step 29

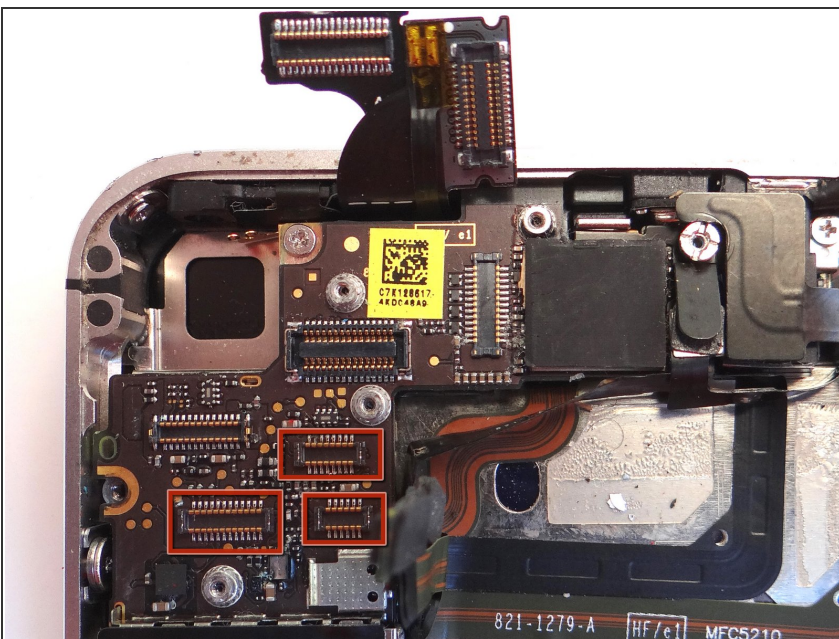


- Use the Curved Tip Tweezers to replace the Gold Grounding Clip from SLOT 6.

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

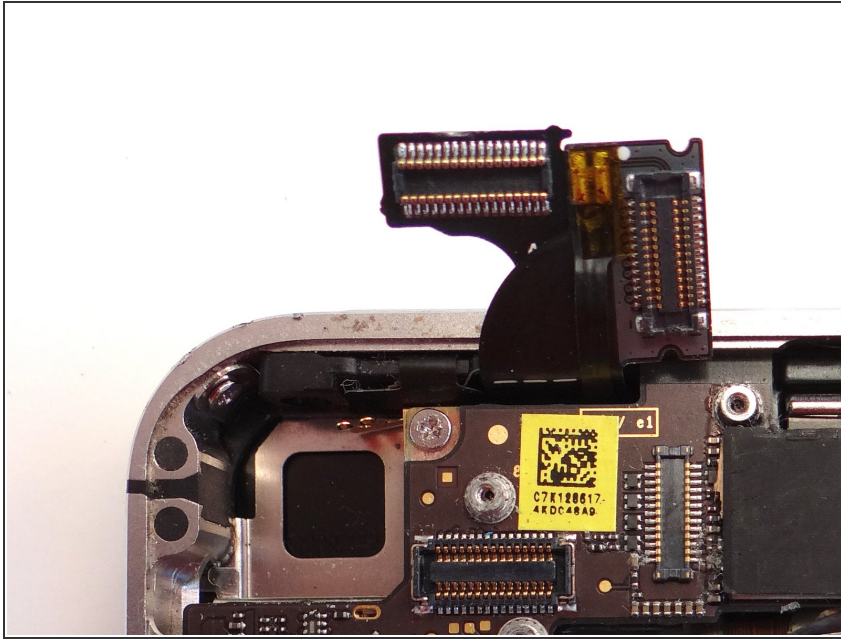
- Use the screw also in SLOT 6 to secure the clip.

## Step 30



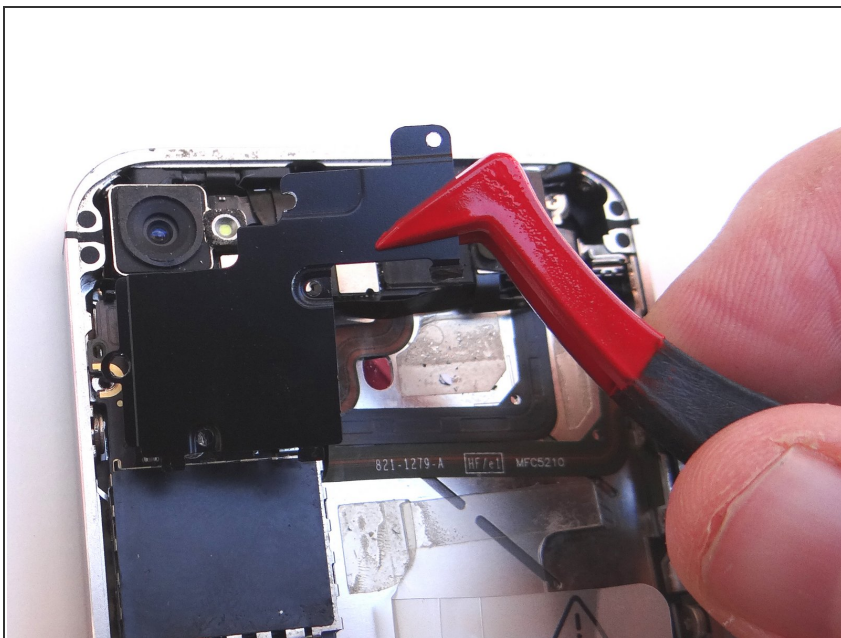
- Reconnect the three cables just below the camera slot. Make sure the cable heads are completely depressed into their sockets on the logic board.
- ☒ DO NOT connect the digitizer and LCD cables (the two cables to the immediate right of the camera slot).

## Step 31 — Replacement 3 - Rear Camera



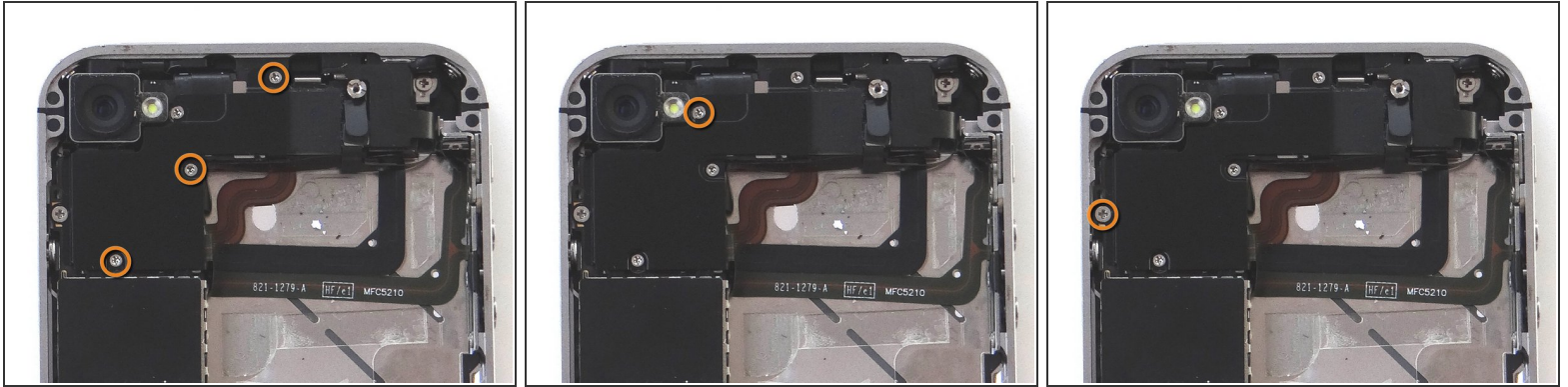
- Replace camera from COMPARTMENT B. Push connector into socket on logic board.
- Reconnect the digitizer and LCD cables (sitting upright in the picture).

## Step 32



- Replace Cable Shield from COMPARTMENT A:
- 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 33



- Picture 1: replace three 1.3 mm Phillips screws from SLOT 5.
- Picture 2: replace one 1.5 mm Phillips screw from SLOT 4.
- Picture 3: replace one 2.4 mm Phillips screw from SLOT 3.

## Step 34 — Replacement 2 - Battery



- Reinsert the battery from ZONE II. Push battery connector into its socket the logic board.
- Use the screw from SLOT 2 to secure the battery.

## Step 35 — Replacement 1 - Battery Cover



- Grab battery cover from ZONE I.
- Place battery cover 2 mm above the bottom of the iPhone and slide it down to lock it in place.
- Secure the battery cover with two Pentalobe screws from SLOT 1.

## Step 36

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