Google Pixel XL Motherboard Replacement

Remove and replace a broken or malfunctioning motherboard for the Google Pixel XL.

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INTRODUCTION

If you're having issues with the overall functionality of your phone and are unable to diagnose the root cause, consider replacing the motherboard of your device.

The Pixel XL’s unreinforced display panel is fragile and is attached to the frame with strong adhesive, making repairs difficult. There is a considerable chance of breaking the display, especially if it already has micro-fractures. Be sure to apply plenty of heat and be extremely careful during the prying stage.

TOOLS:
- iFixit Opening Picks set of 6 (1)
- Suction Handle (1)
- T5 Torx Screwdriver (1)
- SIM Card Eject Tool (1)
- iOpener (1)
- Spudger (1)

PARTS:
- Google Pixel XL G-2PW2100 Motherboard (1)
- Google Pixel 2 XL (G011C) Motherboard (1)
- Google Pixel XL Display Adhesive (1)
Step 1 — SIM Card Tray

- Insert a SIM eject tool, SIM eject bit, or a paperclip into the small hole on the left edge of the phone, near the top.

- Press to eject the tray.
**Step 2 — Display Assembly**

- **Heat an iOpener** and apply it to the left edge of the display for two minutes.

⚠️ A hair dryer, heat gun, or hot plate may also be used, but be careful not to overheat the phone—the display and internal battery are both susceptible to heat damage.

- Take note of the adhesive regions before you begin prying:
  - Thin adhesive lined against the display panel
  - Thick adhesive
Step 3

- Once the edge is warm to the touch, apply a suction cup close to the edge.
- Lift on the suction cup, and insert an opening pick into the gap.
- Be sure not to insert the pick more than 1.5 mm, or you will damage the display assembly.
- If you have trouble creating a gap, reheat the edge and try again.
  - You can also try to use a playing card instead of an opening pick to help make the initial entry.

Step 4

- Carefully slide the opening pick along the long edge to break up the adhesive.
- Be sure not to insert the pick more than 1.5 mm, or you will damage the display assembly.
Step 5

- Slide the pick around the corner and continue to cut through the adhesive.

⚠️ You can cut a bit deeper into the top and bottom bezel areas, but not too much more. The digitizer circuitry is adhered to part of the lower bezel; it is fragile and should not be cut into.

- Leave an opening pick on each side as you continue to the next to prevent the adhesive from resealing.

- Repeat the process until you have sliced around the entire perimeter.

⚠️ Be careful not to insert the pick more than 1.5 mm along the long edges, or you will damage the display assembly.
Step 6

- Once you have sliced around the perimeter, carefully lift the display assembly up slightly by the corners to check if any section remains attached.

⚠️ Do not attempt to remove the display assembly. It is still attached by a flex cable.

- Use an opening pick to slice through any remaining adhesive.

Step 7

- Lift the display assembly from the top end and swing it around such that it rests upside down on the frame.

⚠️ Be careful not to strain the flex cable when you swing the assembly around.
Step 8

- Remove the two 4 mm T5 screws securing the display cable bracket.
- Remove the display cable bracket.
Step 9

- Use the point of a spudger to pry up and disconnect the display cable from its 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 10

- Remove the display assembly.

Before installing a new display, be sure to remove all traces of adhesive from the frame. Use a spudger or an opening tool to scrape it off, and use high-concentration isopropyl alcohol to remove any residue.

If you are reinstalling the same display assembly, be sure to remove all adhesive residue from the panel and the frame before applying new adhesive.

Be sure to turn on your phone and test your repair before installing new adhesive and resealing the phone.

For more comprehensive instructions on how to reinstall the Pixel XL display, follow this guide.
Step 11 — Google Pixel XL Opening Procedure

- Remove the following screws that secure the midframe to the back:
  - Seven black 4 mm T5 screws
  - Two silver 3 mm T5 screws

Step 12

- The midframe is held tightly in place by plastic clips which push into the edge of the back case.
Step 13

- Find the small notch in the bottom left corner of the frame and insert an opening pick.
- Slide the opening pick along the bottom edge of the phone towards the bottom right corner and leave it there.

Step 14

- Insert a separate opening pick into the right edge of the phone, near the bottom.
- Slowly push the pick upwards along the seam until the first clip pops free.
  - Due to the tight tolerances, this may be difficult, requiring a substantial amount of force. If you are having trouble, try inserting and sliding a playing card.
- Once you've released the clip, leave the opening pick in place to prevent the midframe from resealing.
Step 15

- Insert an opening pick into the right edge of the phone and slide it upwards towards the top right clip.

⚠️ You do not need to insert the pick more than 2 mm into the edge. If you insert the pick all the way in, you may risk damaging flex cables.

- Slowly slide the pick past the clip to disengage it from the frame.

⚠️ At this point, the right edge of the midframe should be free from the case. If it isn’t, slide an opening clip up and down along the right edge.
Step 16

- Grasp the right edge of the midframe by the corners and slowly hinge the edge up.
- When the left edge feels loose, stop hinging and lift the midframe upwards.
- Remove the midframe.

To reinstall the midframe, align it to the case, then squeeze around the perimeter until all the clips snap back into position. When properly done, the midframe should lie flat.

Step 17 — Motherboard

- Use the point of a spudger to pry up and disconnect the battery connector.
- Bend the battery flex cable slightly so that it will not accidentally touch the motherboard.
Step 18

- Use the point of a spudger to pry up and disconnect the button strip connector.

- If the button strip's metal clip falls out during the repair, align the clip and push it back into its groove.

Step 19

- Use the point of a spudger to disconnect the black antenna cable from the motherboard, near the front facing camera module.

- Route the antenna cable out of its retaining clip.
Step 20

- Use the point of a spudger to pry up and disconnect the white antenna cable from the motherboard, near the rear facing camera module.
- Route the antenna cable out of its retaining clip.

Step 21

- Remove the two 3 mm T5 screws securing the motherboard to the frame.

⚠️ During reinstallation, be sure that both camera modules and the headphone jack module are seated properly in their sockets before screwing down the motherboard.
Step 22

- Use the point of a spudger to pry up and loosen the front facing camera module from its socket.

Step 23

- Insert the point of a spudger into the headphone jack port and pry upwards to loosen the port from its socket.
Step 24

Use the flat end of a spudger to pry the bottom edge of the motherboard up slightly, loosening it from its recess.

⚠️ Do not try to remove the motherboard yet. It is still connected by a flex cable.
Step 25

- Locate the fingerprint sensor cable attached to the underside of the motherboard, near the bottom edge.
- Use the point of a spudger to pry and release the fingerprint sensor cable from its socket.
- Peel the cable away from the motherboard.
Step 26

- Hold the motherboard by the corners and maneuver it out of its recess, being careful not to snag any cables.

- During reinstallation, be sure to route both antenna cables **underneath the motherboard edges, and direct them through the cable notches**.

- The fingerprint sensor connector can be tricky to reconnect during reinstallation.
  - **Bend the fingerprint sensor cable slightly** so that it bows upward near the connector.
  - **Stand the motherboard up** and position it such that the connector rests against the socket.
  - **Use your finger to carefully align the connector and press it into the socket.** **Do not use excessive force!** If done correctly, the socket should hold the connector securely.

- If you are having a difficult time, follow this guide, which removes the fingerprint sensor from its indention before attaching it to the motherboard.

To reassemble your device, follow these instructions in reverse order.

Take your e-waste to an [R2 or e-Stewards certified recycler](https://www.e-stewards.org).

Repair didn’t go as planned? Check out our [Google Pixel XL Answers community](https://support.google.com) for troubleshooting help.