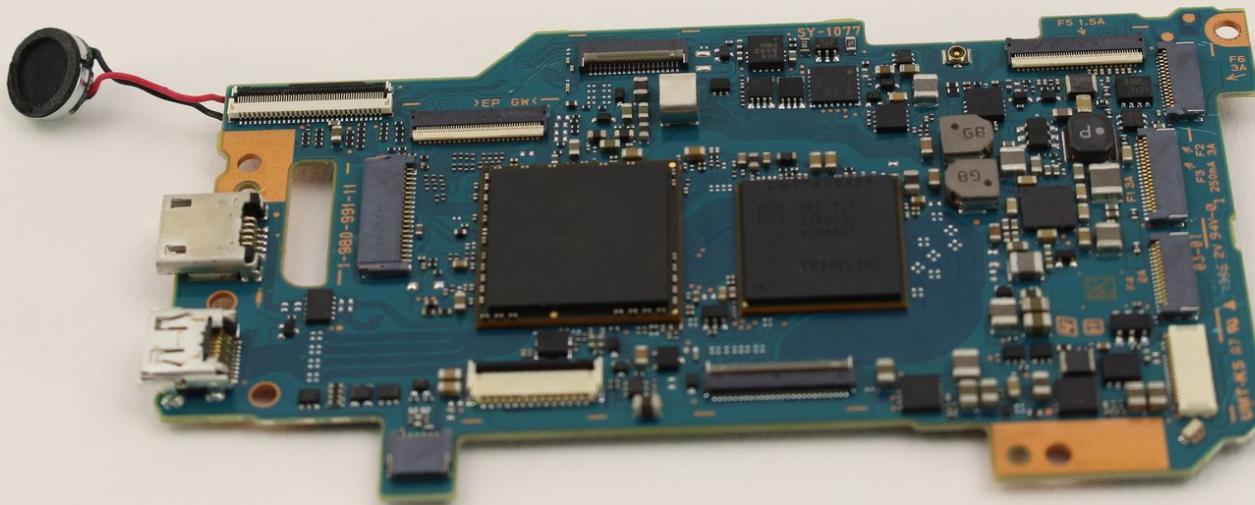




Sony α6500 Motherboard Replacement

This guide will help you replace the motherboard in a Sony α6500 model ILCE-6500.

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INTRODUCTION

Warning: The flash capacitors located under the front grip contain dangerous amounts of stored charge and will need to be safely discharged before removing the motherboard. Use a [Capacitor Discharging Tool](#) to do so.

The motherboard is crucial for the function of both the software and hardware of the Sony a6500 camera; its failure will result in an inoperable device. If your camera is failing to turn on despite having a functional battery, the motherboard may need replacing. This guide will walk you through the replacement of the motherboard; it requires more steps than the other guides because it is embedded deep inside the camera. This guide will require opening tools, spudger, tweezers, JIS 0 screwdriver, JIS 00 screwdriver, and JIS 000 screwdriver.

TOOLS:

- [Tweezers](#) (1)
- [Spudger](#) (1)
- [JIS #000 Screwdriver](#) (1)
- [JIS #00 Screwdriver](#) (1)
- [JIS #0 Screwdriver](#) (1)
- [iFixit Opening Tools](#) (1)

PARTS:

- [Sony α6500 Motherboard](#) (1)

Step 1 — Battery



- Verify the camera is powered off by setting the switch to OFF.

Step 2



- Flip the camera upside down.
- Slide the battery compartment lock to OPEN to unlock it.

Step 3



- Push the blue lever aside to release the battery.

Step 4



- Remove the released battery from the compartment.

Step 5 — Top Assembly



(i) To access the back of the camera remove the screws attaching the LCD screen hinge to the camera body.

- Remove four 3mm JIS 000 screws.
- Remove one 3mm JIS 00 screw.

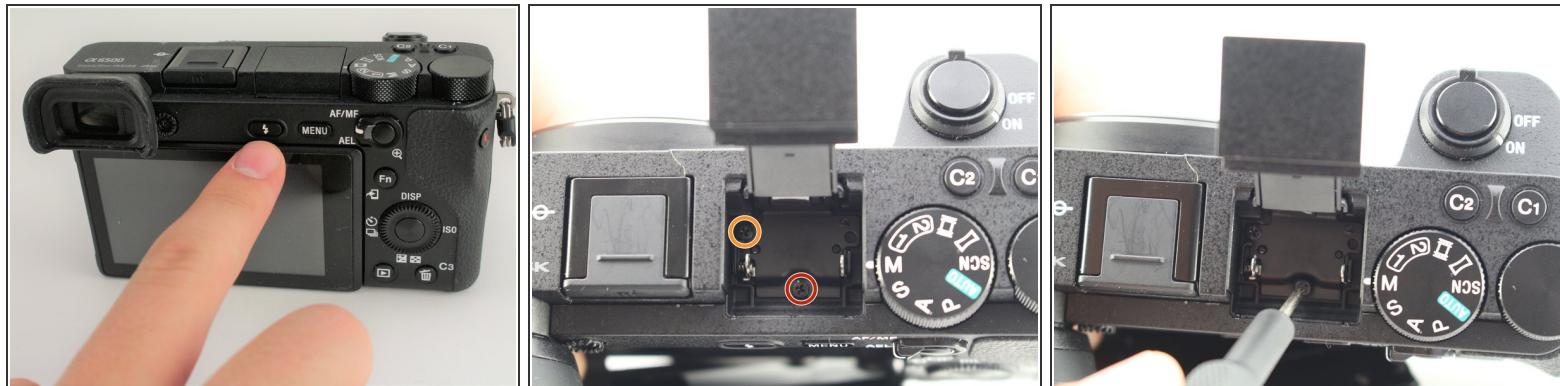
⚠ After dismounting the screen hinge be careful to avoid tearing the black wire ribbon connecting the screen to the camera body.

Step 6



- Grasp the viewfinder eyecup; slide it up and off the viewfinder.

Step 7



- Press the flash popup button on the back of the camera.
- Remove one 5mm JIS 00 screw from inside the flash compartment.
- Remove one 4mm JIS 00 screw.

Step 8



(i) To remove the top of the camera you must remove the back first.

- Remove the 2.5mm JIS 00 screw from the side of the camera near the viewfinder.
- Use the opening tool to pry off the small cover.
 - Remove two 2.5mm JIS 00 screws from underneath the cover.
 - Remove a 5mm JIS 00 screw from underneath the cover.

Step 9



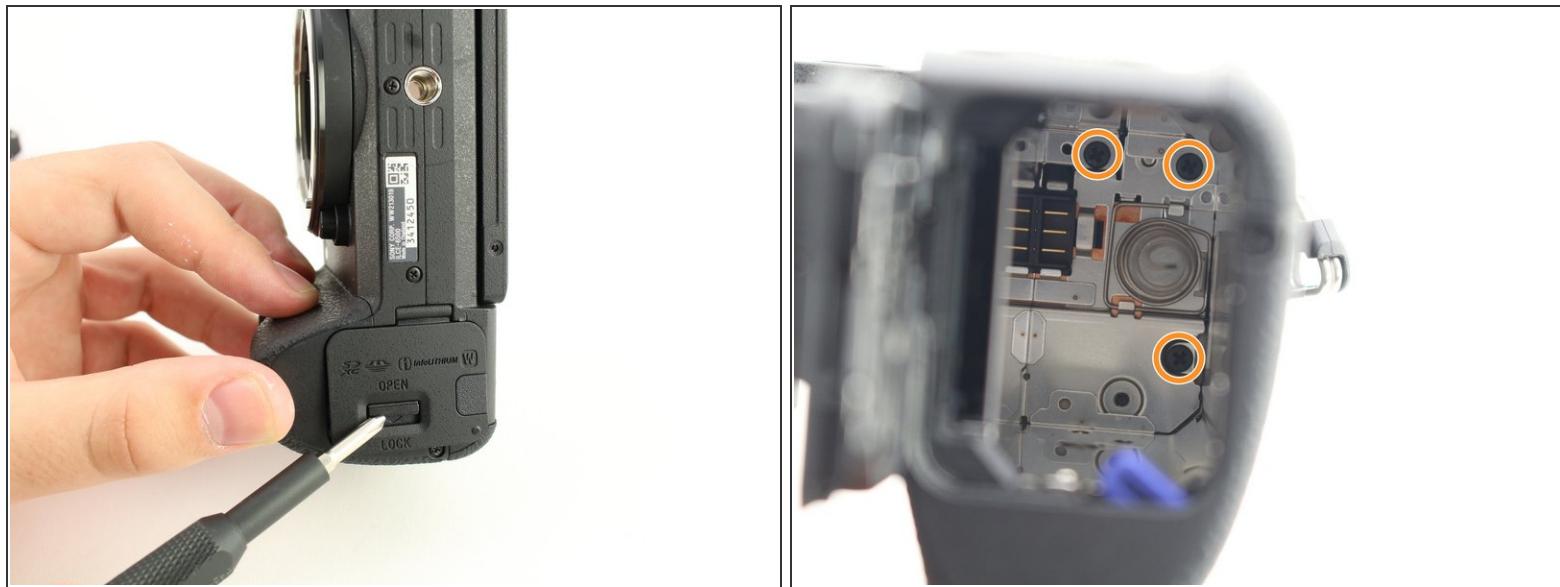
- Remove three 2.5mm JIS 0 screws from the back face of the camera.
- Remove one 4mm JIS 00 screw from the underside of the lip that overhangs the back of the camera.

Step 10



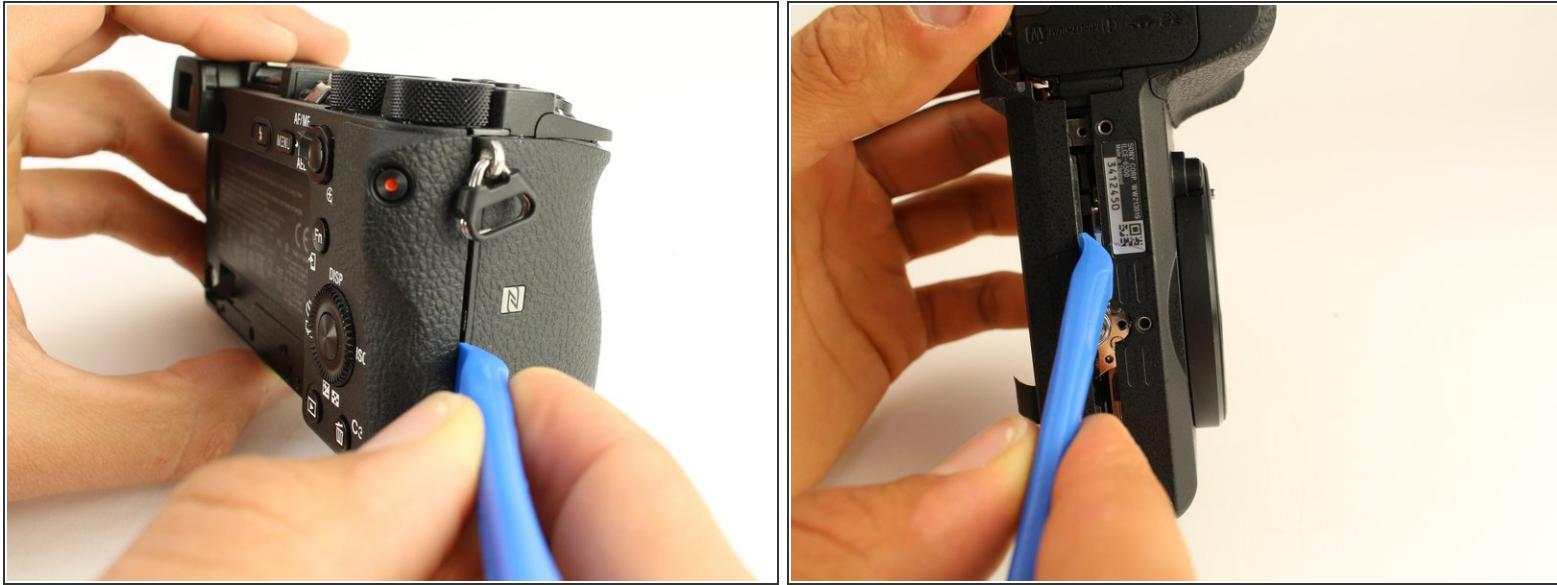
- Remove four 4mm JIS 0 screws from the bottom of the camera.

Step 11



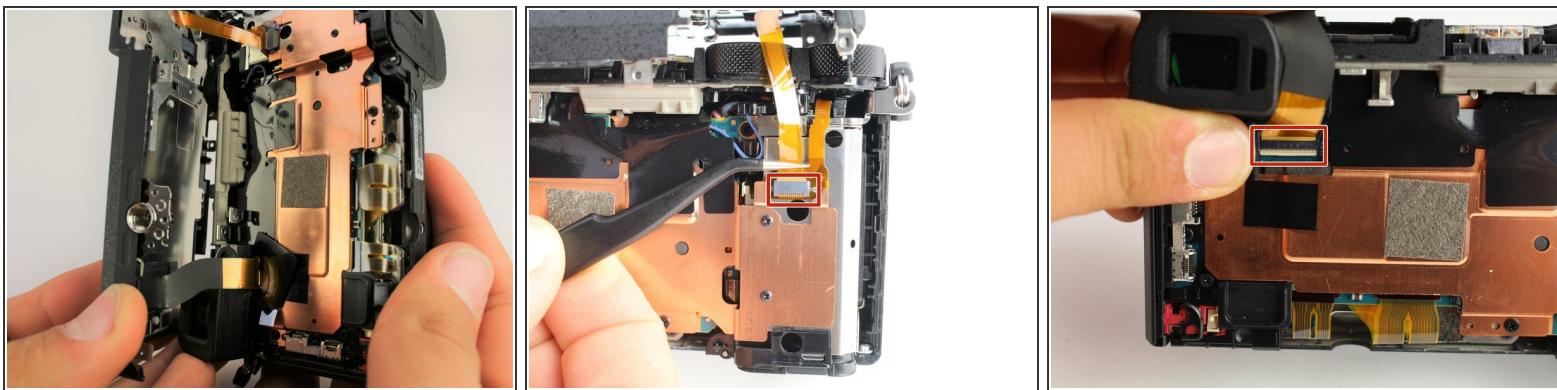
- Flip the battery lock switch to open and open the battery compartment.
- Remove three 2.5mm JIS 00 screws from the top of the battery compartment.
- *(i)* You may need a longer or thinner screwdriver to reach the screws in the battery compartment.

Step 12



- Use the plastic opening tool to begin prying off the back of the camera from the side.
- Continue to loosen the back until you can open it from the bottom.

Step 13



- Open the back of the camera.
- Use tweezers to remove two ribbon connectors from underneath the back. One connects to the LCD display and the other connects to the right side behind the battery compartment.

⚠ Ribbon connectors can tear easily. Grasp the plastic ends (not the ribbon) when removing.

Step 14



- Use the plastic opening tool to peel down the rubber grip around the handle at least 1 cm.
- *(i)* The adhesive holding the rubber grip down should be strong enough to reattach when you are done. If not, you may need an adhesive to reglue it.
- Remove one 3mm JIS 000 screw from underneath the rubber grip on the right side.
- Remove one 4mm JIS 000 screw from the left side.

Step 15



(i) The last screws holding the top on can be accessed once the back of the camera is removed.

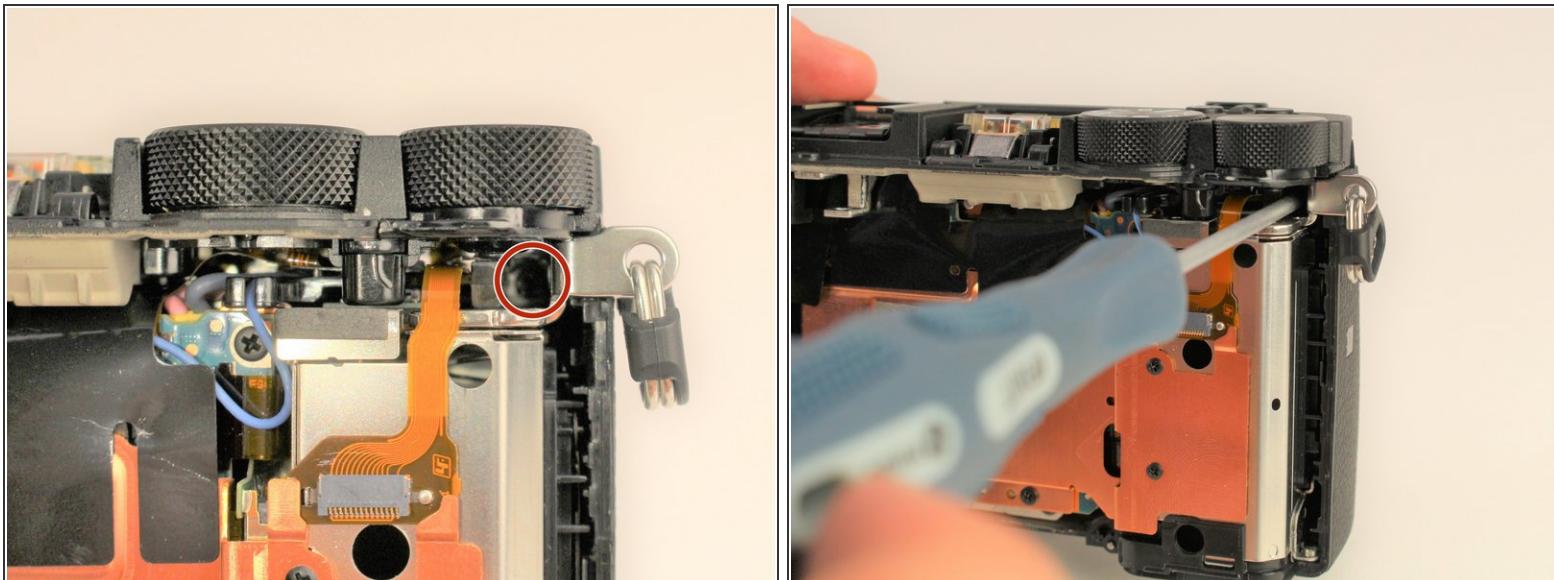
- Remove one 2.5mm JIS 00 screw from the top next to the flash mount.

Step 16



- Insert a long, thin JIS 00 screwdriver through the two holes and into the battery compartment; remove the two 5mm JIS 00 screws inside it.

Step 17



- Use the long, thin, screwdriver to remove one 5mm JIS 00 screw inside the camera accessible below the dials from the back.

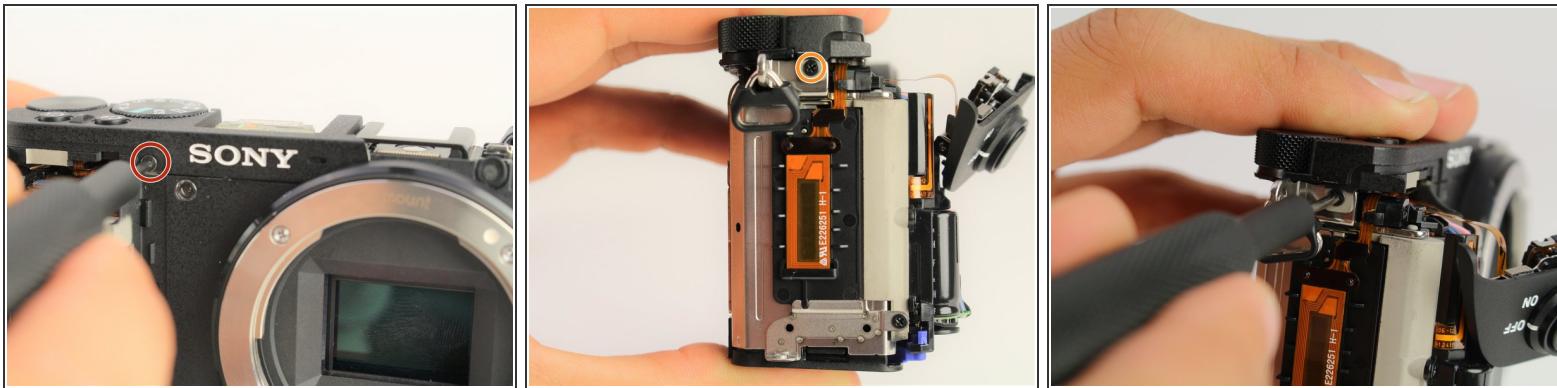
Step 18



- Use the plastic opening tool to gently lift up the shutter button assembly.
- Grasp the front grip from the top and bottom and pull it off. It should come off easily with the shutter button out of the way.

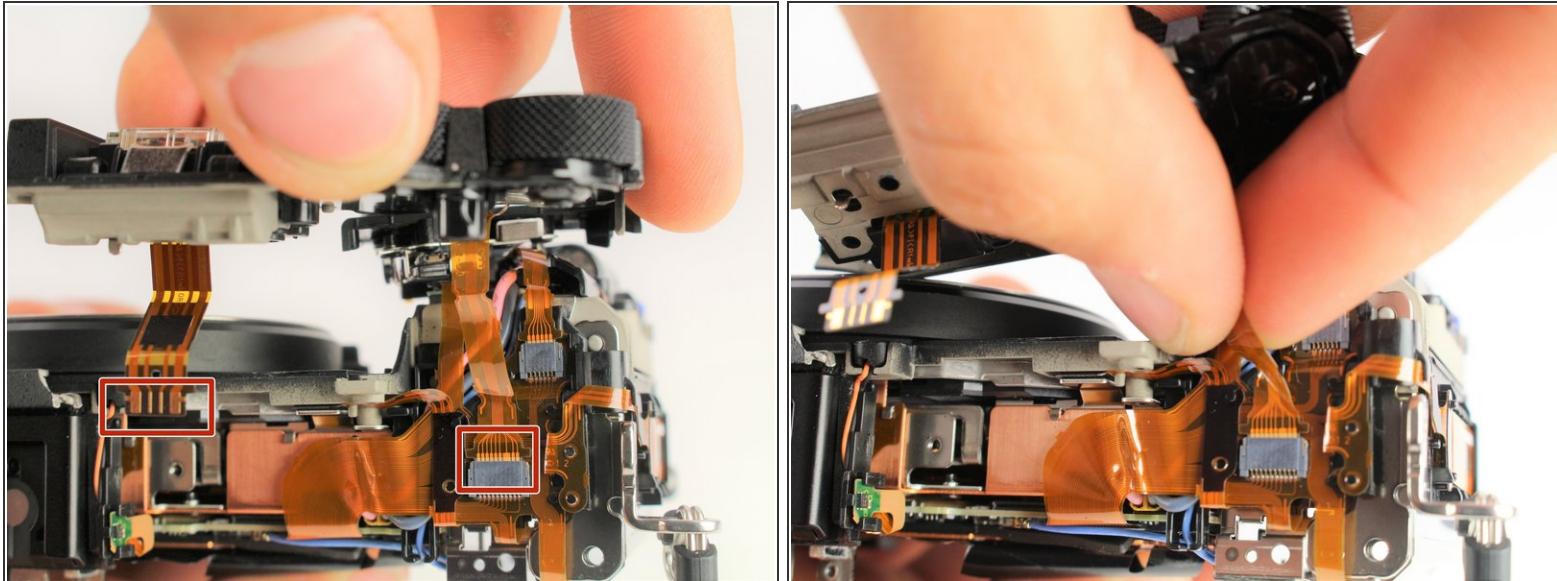
(i) The shutter button will still be attached by one ribbon cable once the front grip is removed.

Step 19



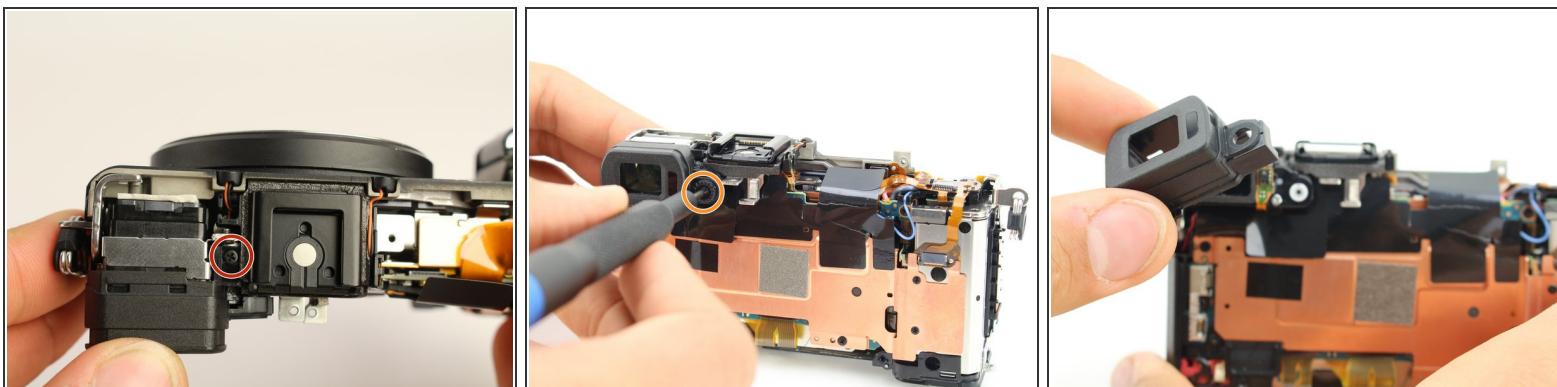
- Remove one 2.5mm JIS 00 screw from where the shutter button assembly used to be.
- Remove one 3mm JIS 00 screw from the side of the camera.

Step 20



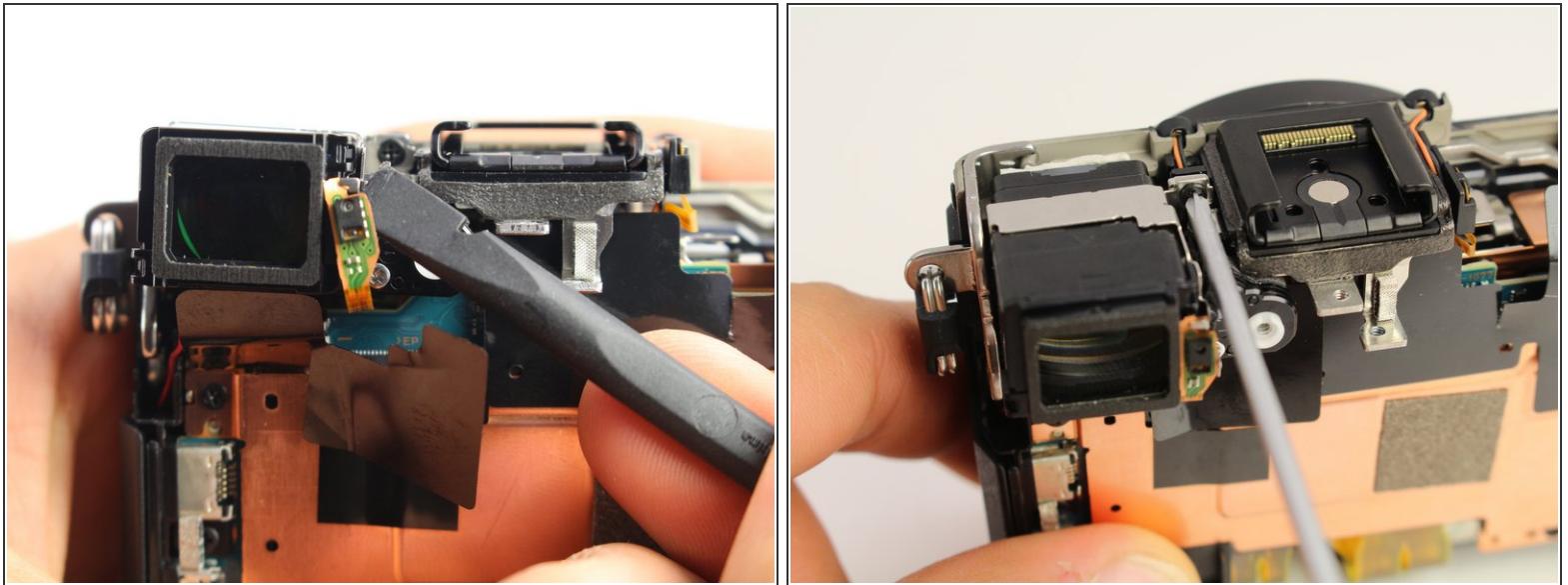
- Carefully unplug the two ribbon connectors attaching the top assembly to the rest of the camera.

Step 21 — Viewfinder Glass



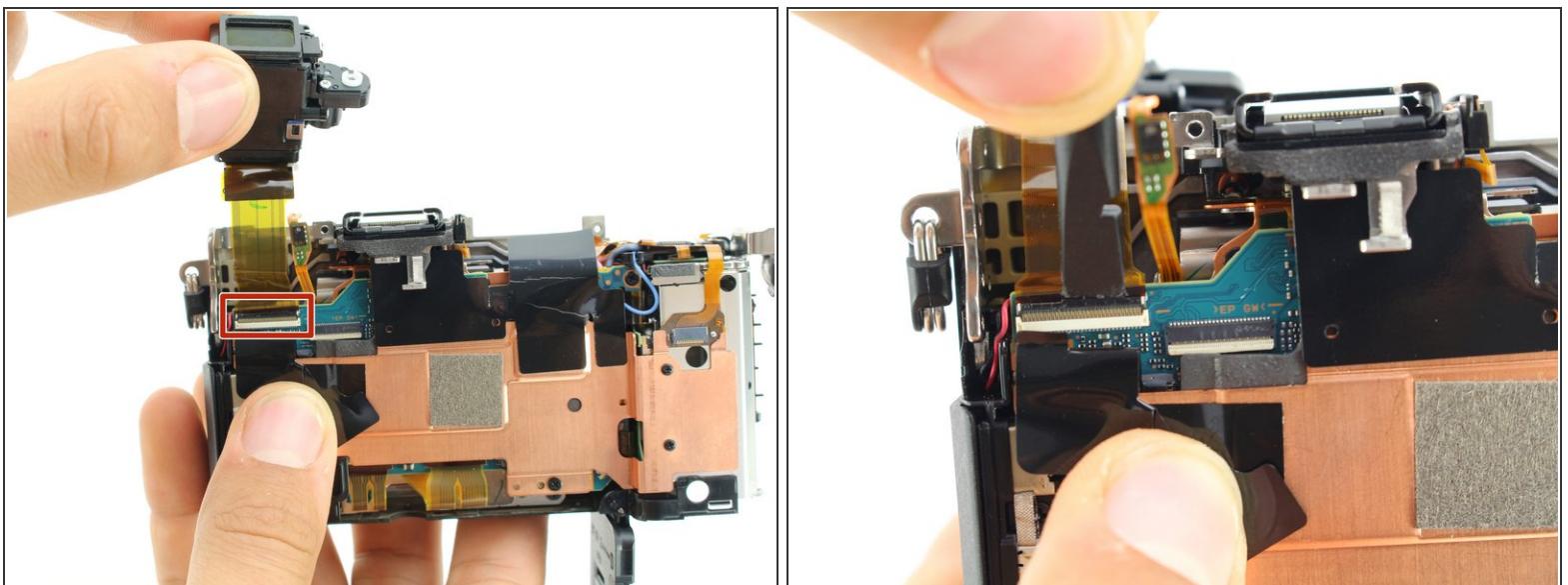
- From the top of the camera remove one 4mm JIS 00 screw.
- Remove one 5mm JIS 00 screw and the plastic bushing around it.
- Remove the viewfinder's protective cover.

Step 22



- Use the spudger to pry the light sensor off the side of the viewfinder.
(i) When prying off the sensor, bend it out from the bottom.
- Remove one 2.5mm JIS 000 screw on the side of the viewfinder to release it.

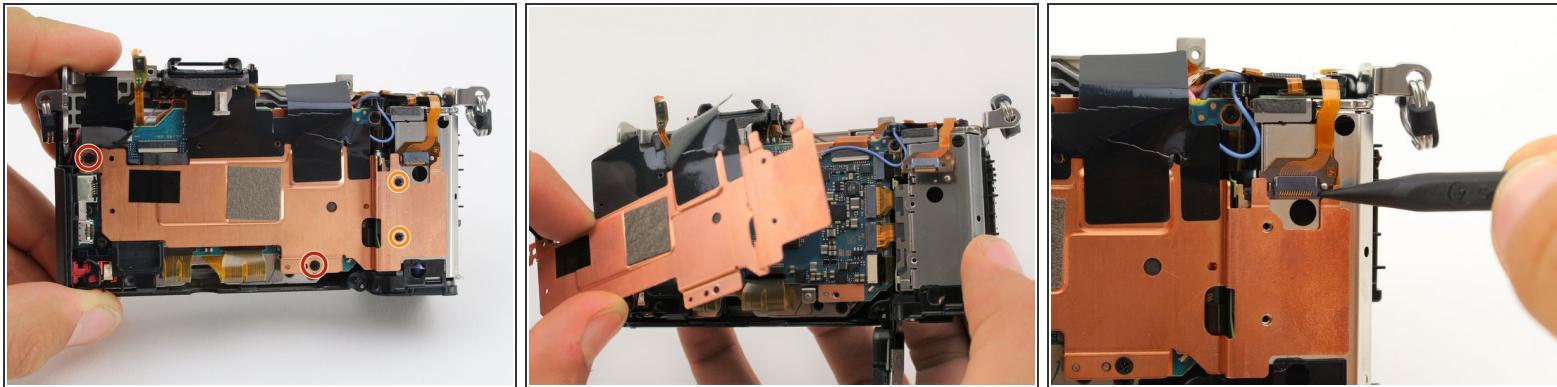
Step 23



- Lift the viewfinder out and flip up the tab to release the wire ribbon where it is connected to the motherboard.

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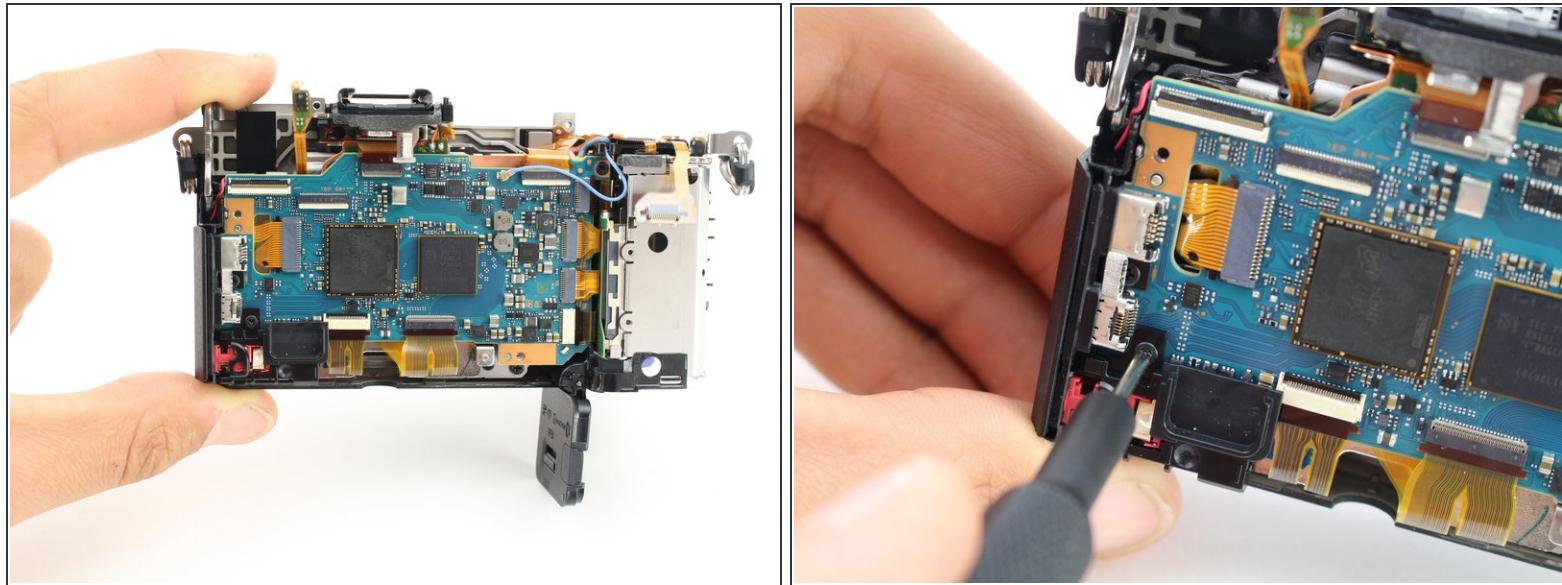
Step 24 — Motherboard



- Remove two 2.5mm JIS 00 screws from the left side and bottom of the copper shielding.
- Remove two 2mm JIS 000 screws from the right side of the copper shielding.
- Pull the entire copper shielding piece off.

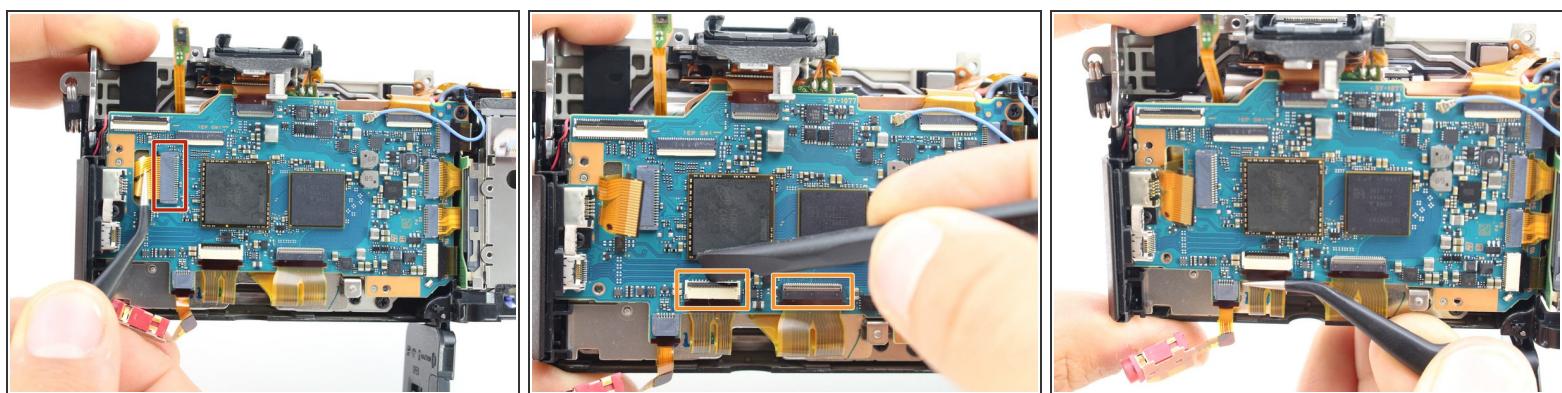
 When replacing the shielding, make sure to position the wire ribbon slot under the tabs designed to hold it down.

Step 25



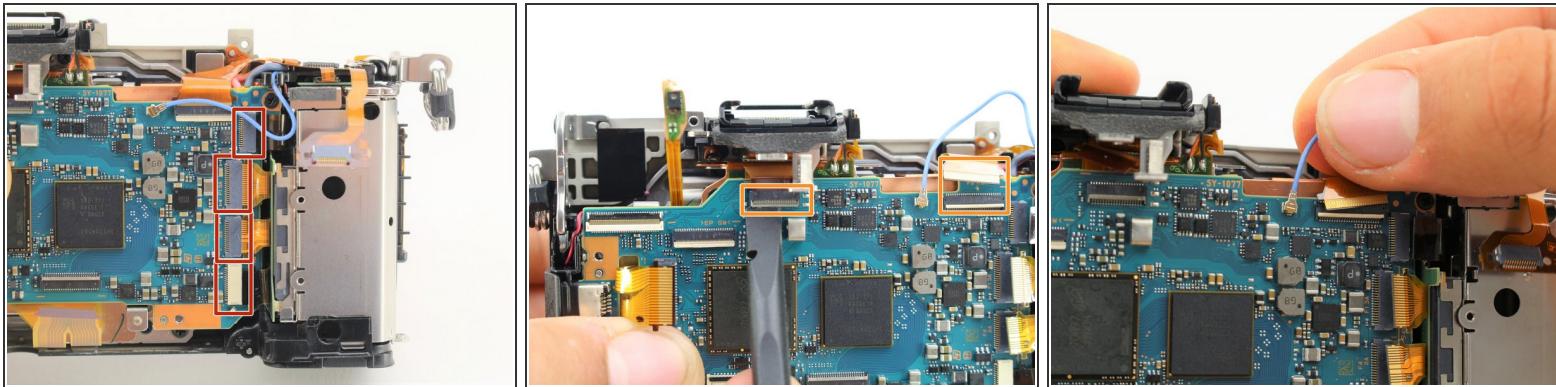
- ⓘ You have now accessed the motherboard. The next step is to remove all the wire ribbons attached to it.
- Remove one 4mm JIS 00 screw holding down a plastic spacer on the bottom left of the motherboard.

Step 26



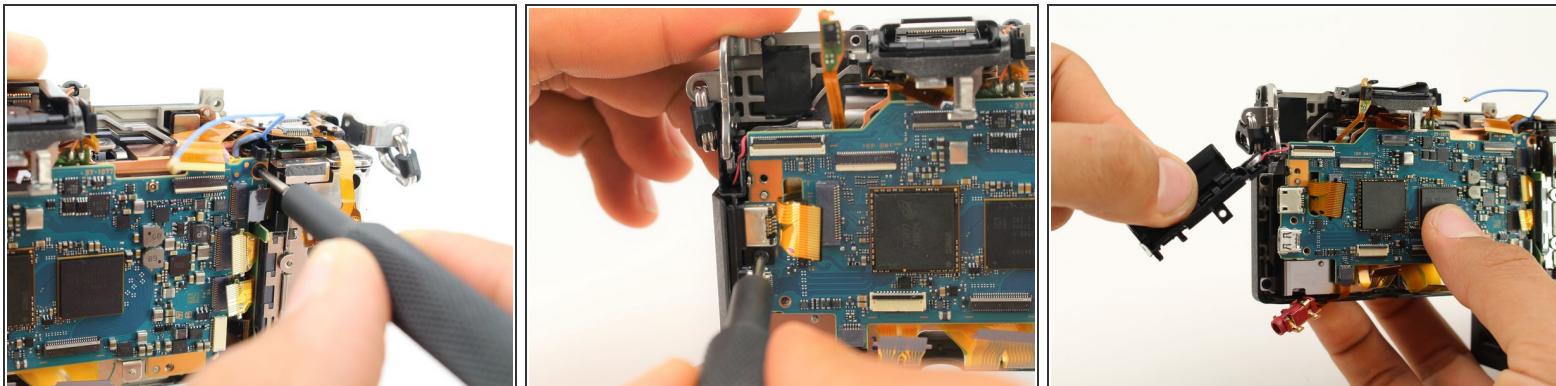
- Use tweezers to carefully pull out the first wire ribbon on the left side of the motherboard.
- Use the spudger to flip up the tab locking in the wire ribbons at the bottom of the motherboard, then pull them out with tweezers.

Step 27



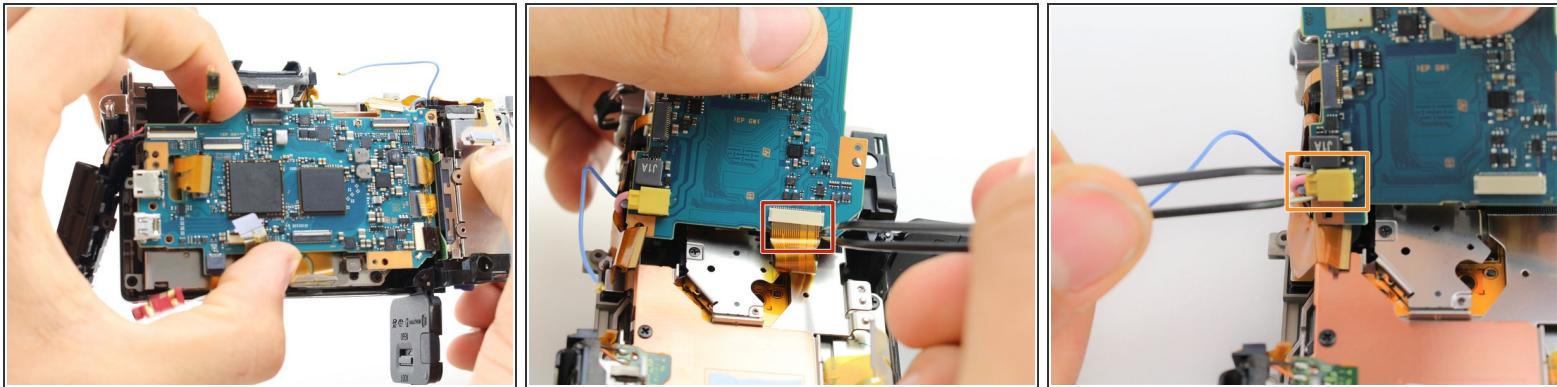
- Carefully use tweezers to remove four wire ribbons on the right side of the motherboard.
- Remove the last two wire ribbons on the top of the motherboard by flipping up the locking tab and pulling them out.
- Pull the blue coaxial cable up off the board.

Step 28



- Remove one 4mm JIS 00 screw from the upper right of the motherboard and another from the far left.
- Remove the plastic housing for the power and HDMI ports.

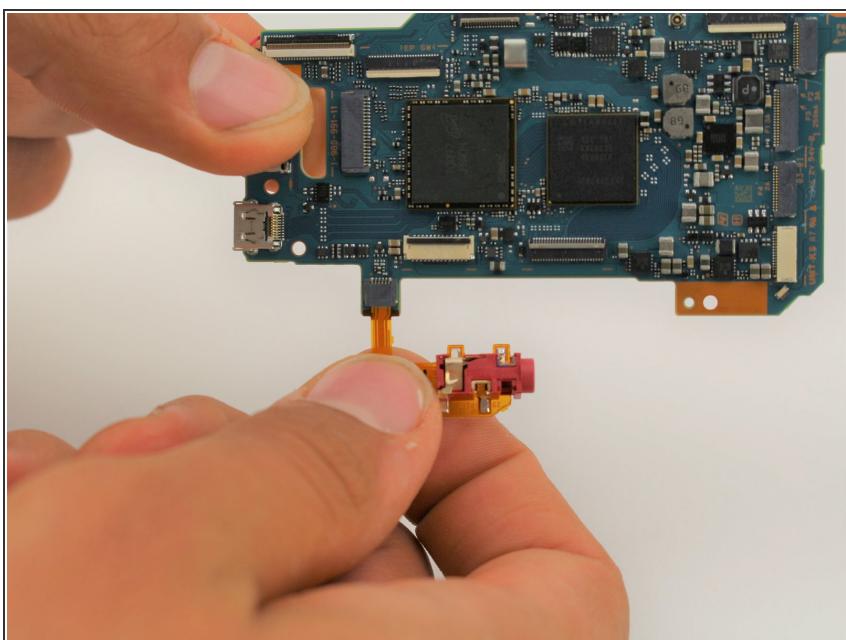
Step 29



⚠ The flash capacitors connected to the yellow wire harness have dangerous amounts of stored charge. You must safely discharge them before continuing. Use a [Capacitor Discharging Tool](#) to do so.

- Grasp the motherboard from the sides and lift it up. It is still connected by two wires on the bottom right side.
- Pull the wire ribbon on the underside off with tweezers.
- After you have discharged the capacitor, pull the yellow wire harness out using tweezers.

Step 30



- Disconnect the wire ribbon connecting the power port to the board.

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