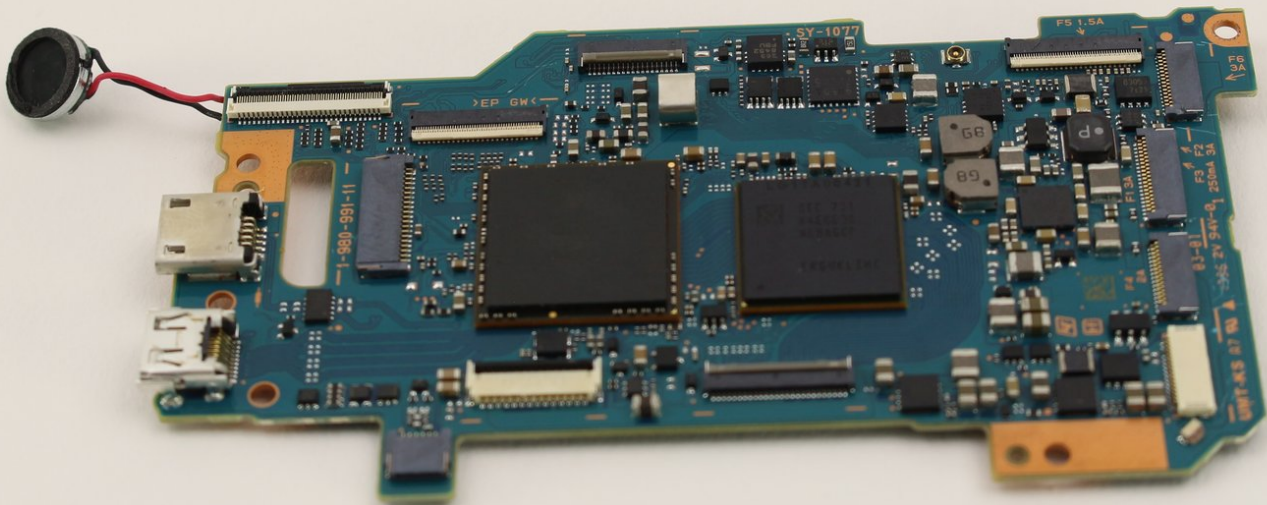




# Sony α6500 Motherboard Replacement

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

Written By: Jackson Furie



## 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.

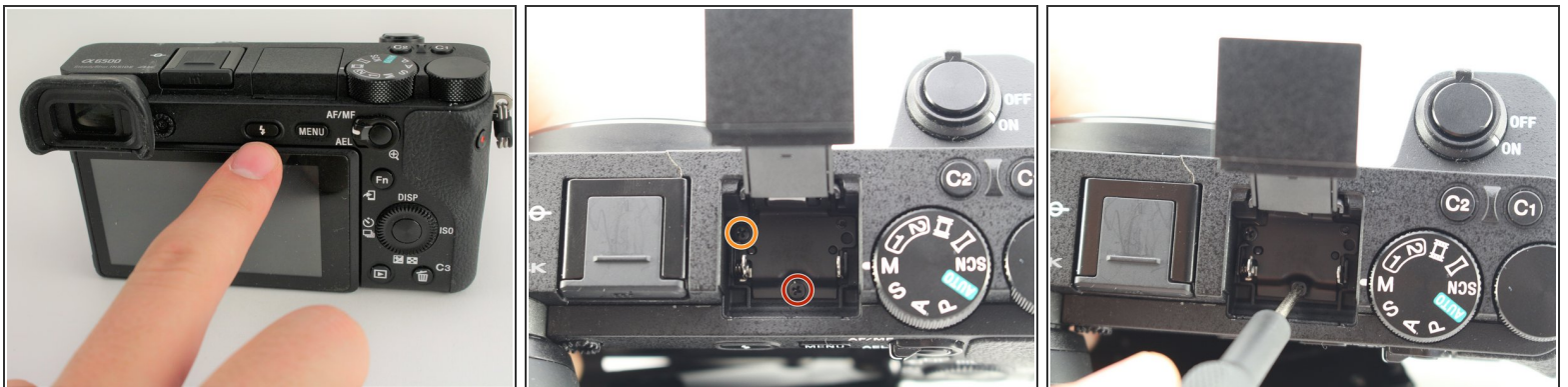


## Step 6



- 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.

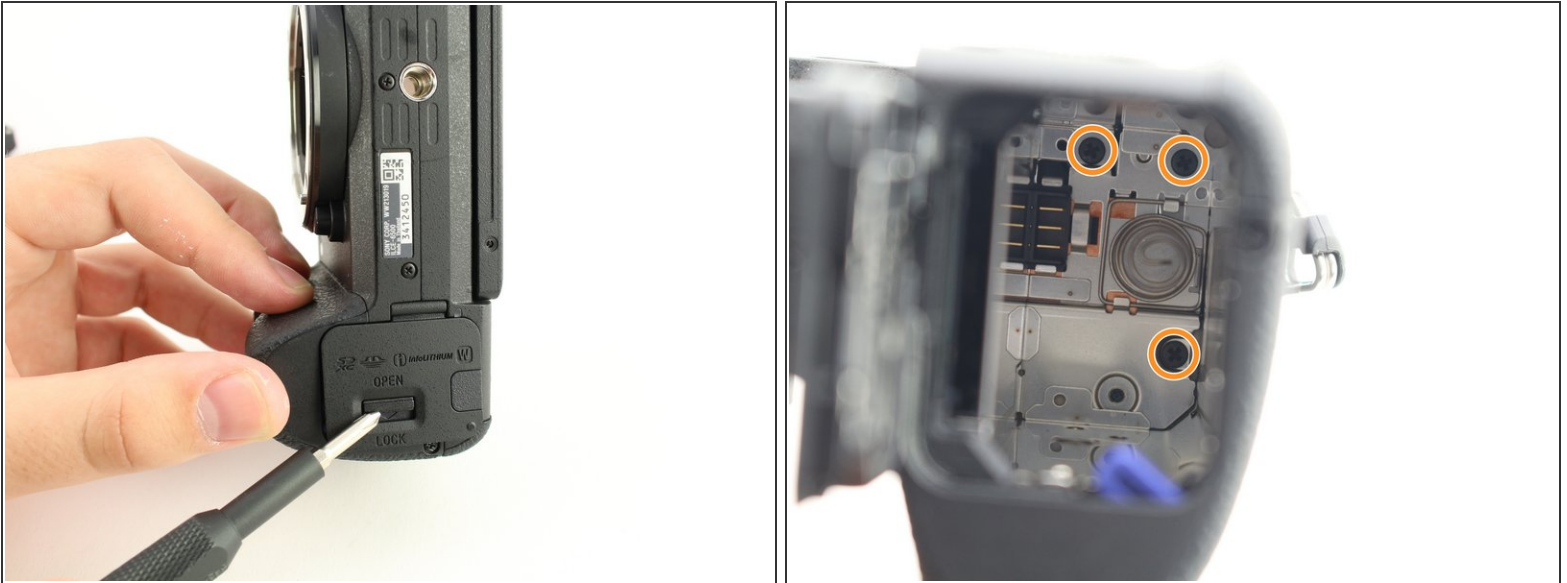
## Step 10



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

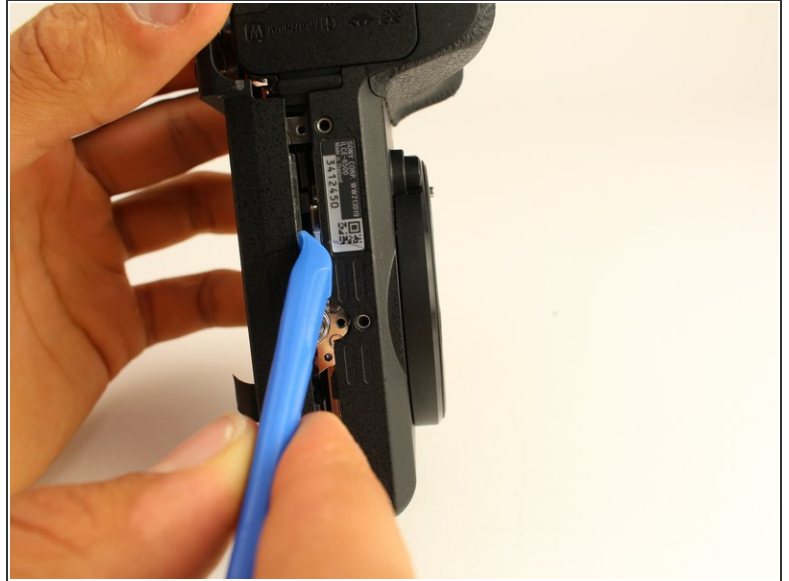
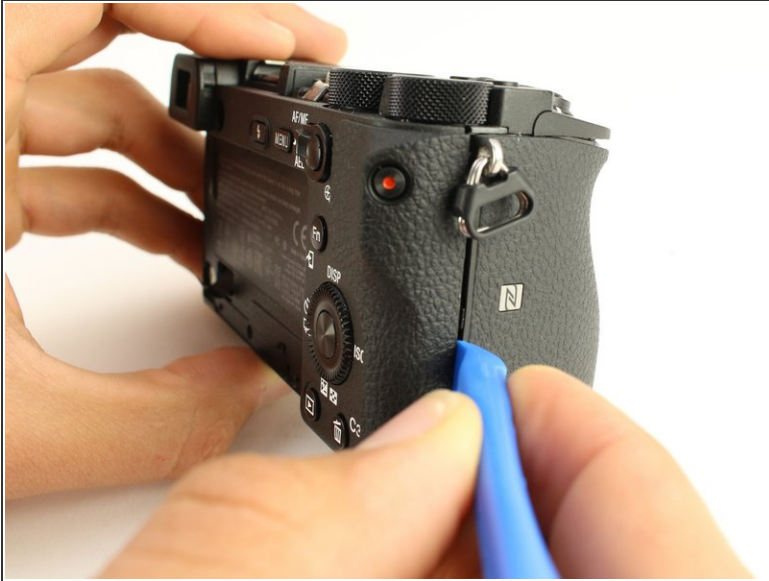


## Step 11



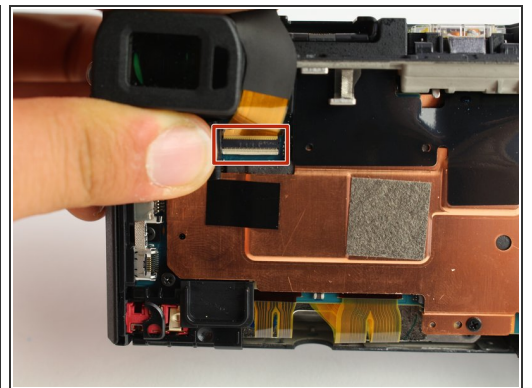
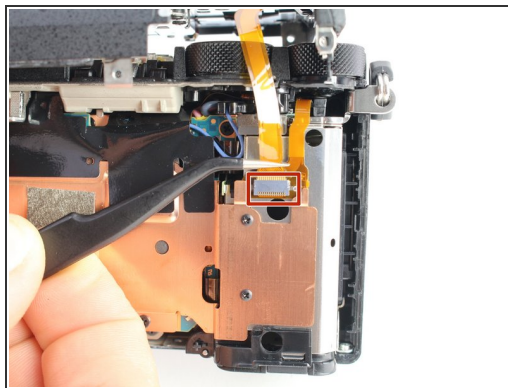
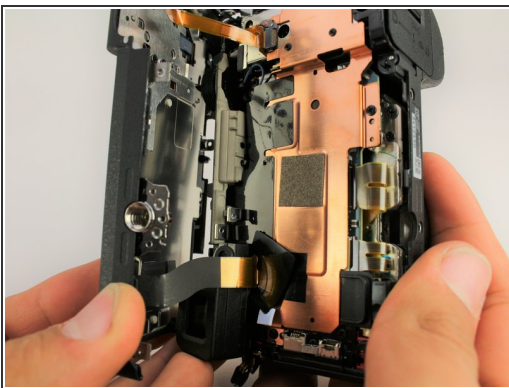
- Flip the battery lock switch to open and open the battery compartment.
- Remove three 2.5mm JIS 00 screws from the top of the battery compartment.
- ⓘ You may need a longer or thinner screwdriver to reach the screws in the battery compartment.

## 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.
  - ❗ 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.

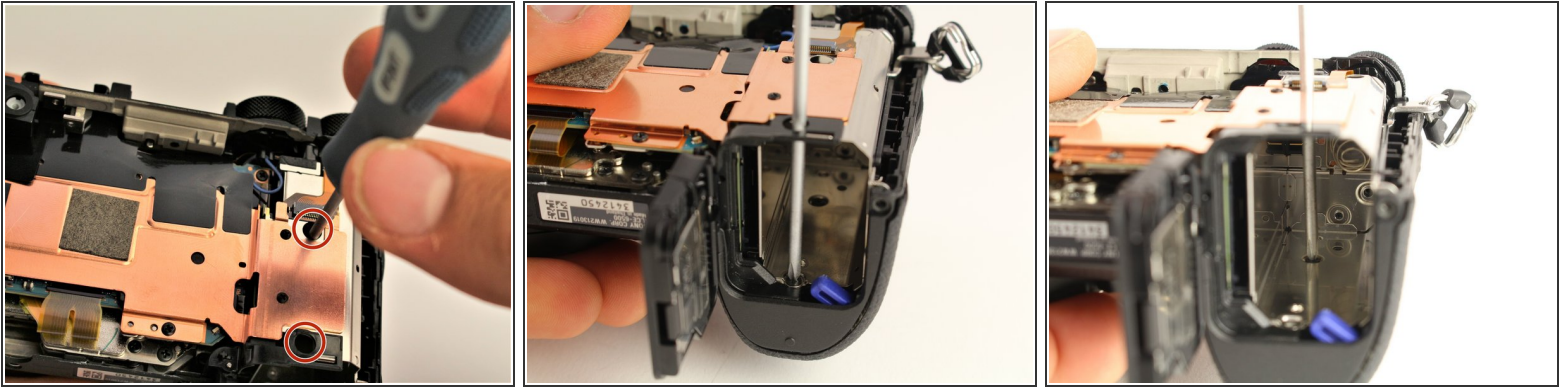
## Step 15



- ❗ 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.

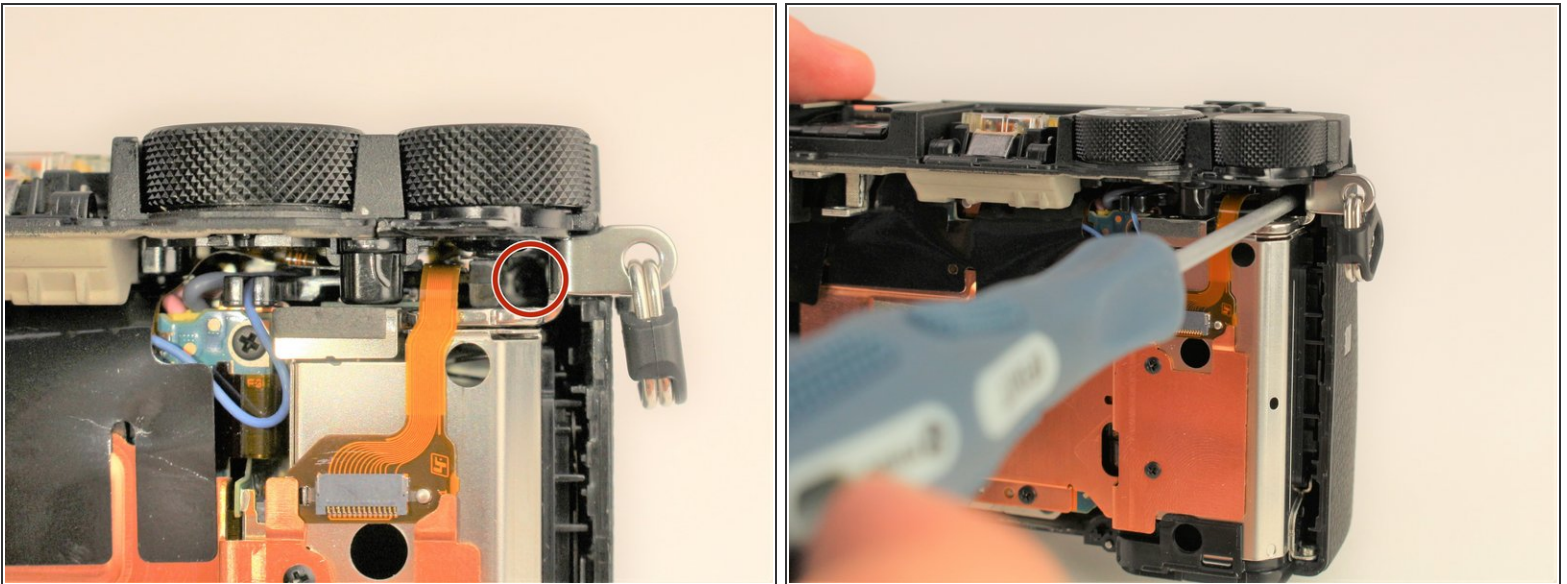


## Step 16



- 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.

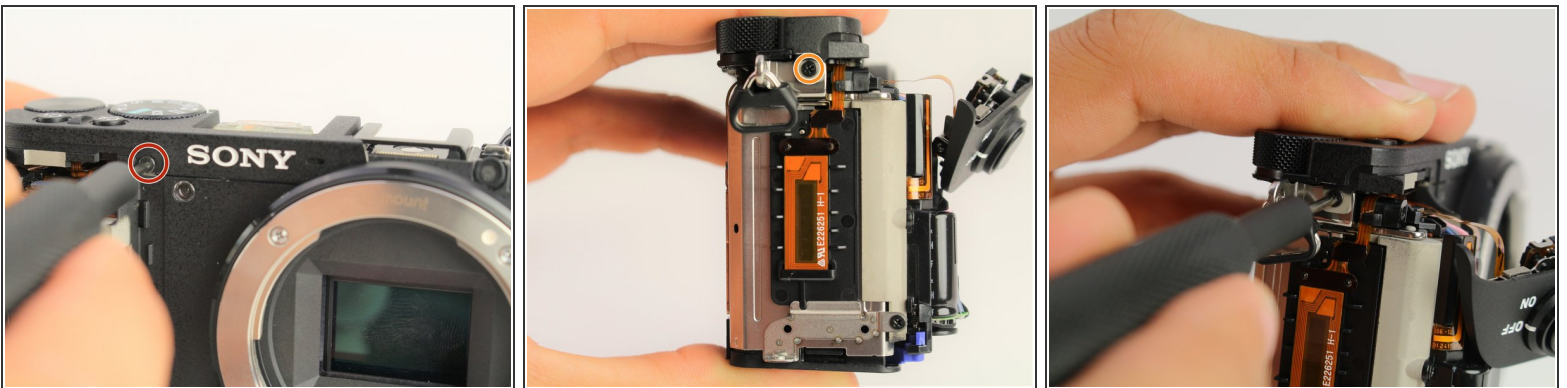


## Step 18



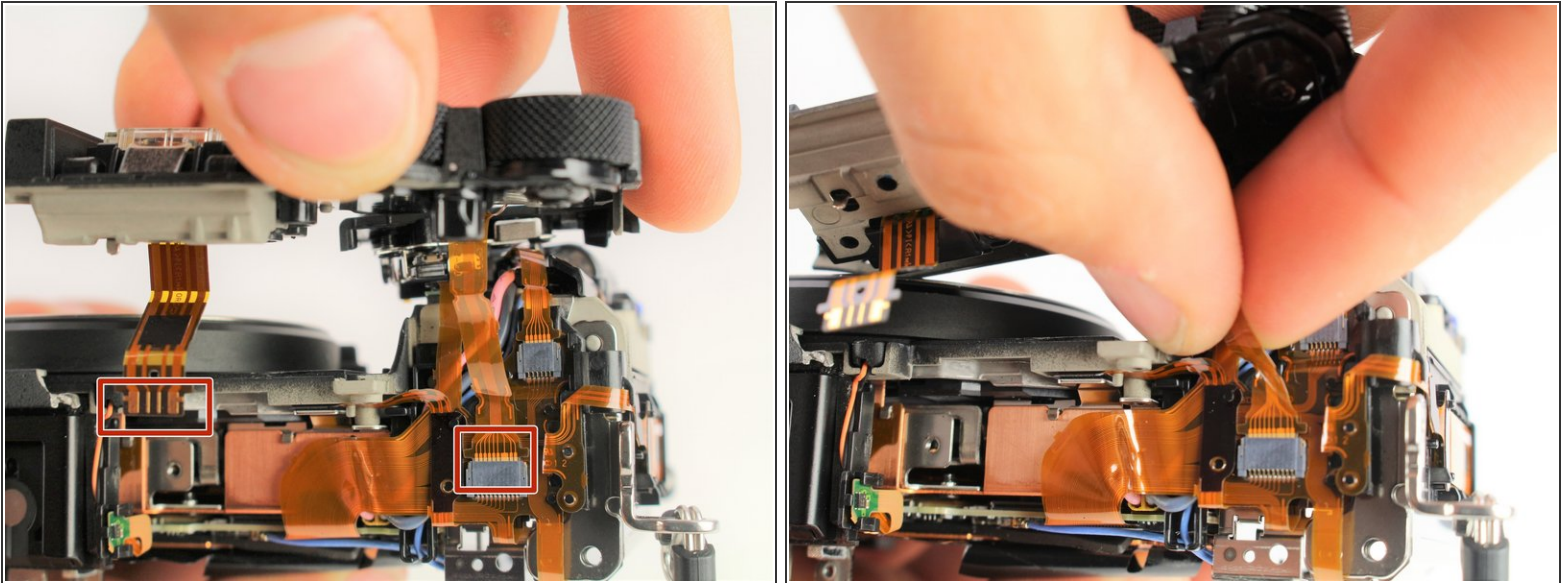
- Use the plastic opening tool to gently lift up the shutter button assembly.
  - Grasp the front grip from the top and bottom and pull it off. It should come off easily with the shutter button out of the way.
- i** The shutter button will still be attached by one ribbon cable once the front grip is removed.

## Step 19



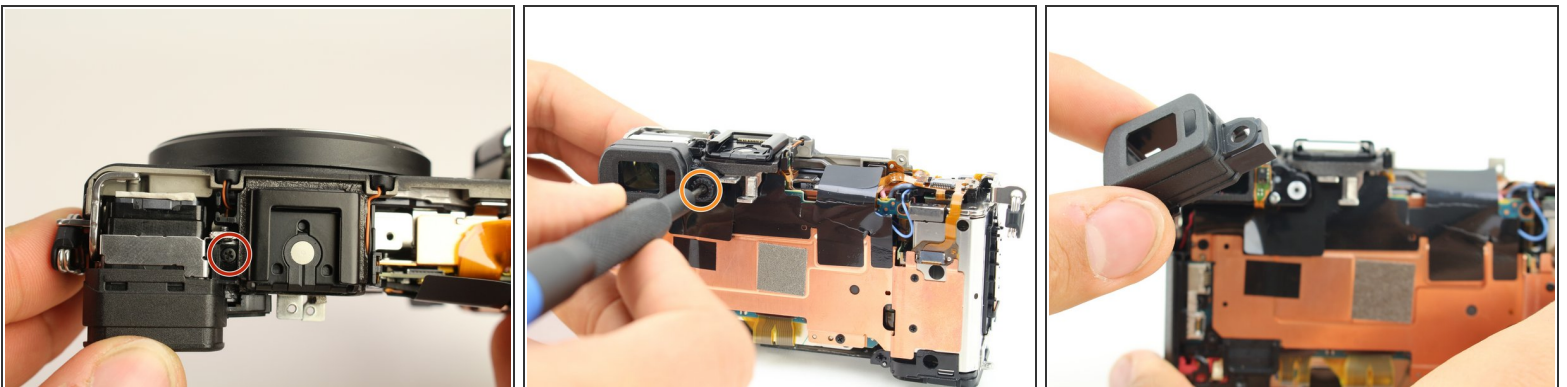
- Remove one 2.5mm JIS 00 screw from where the shutter button assembly used to be.
- Remove one 3mm JIS 00 screw from the side of the camera.

## Step 20



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

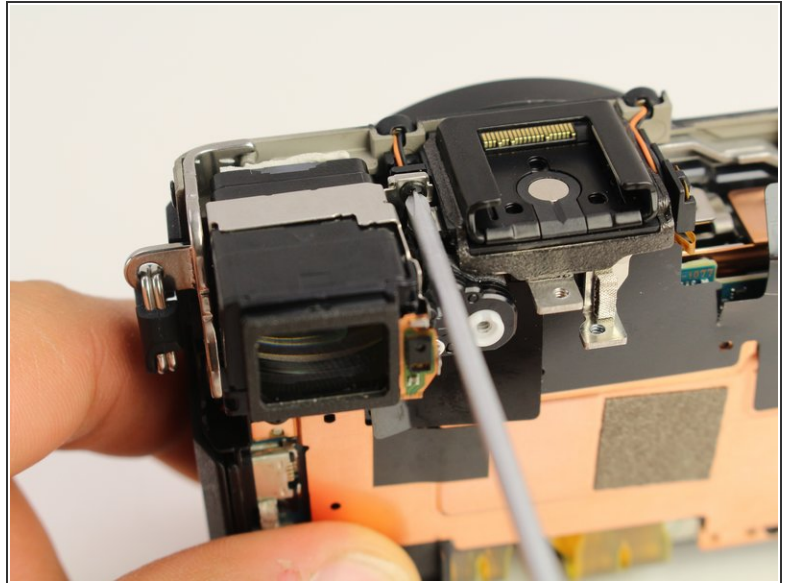
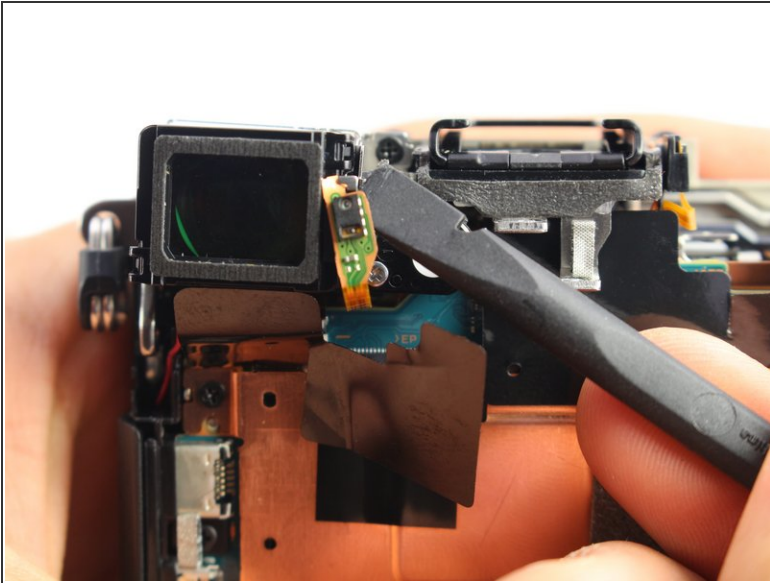
## Step 21 — Viewfinder Glass



- 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.

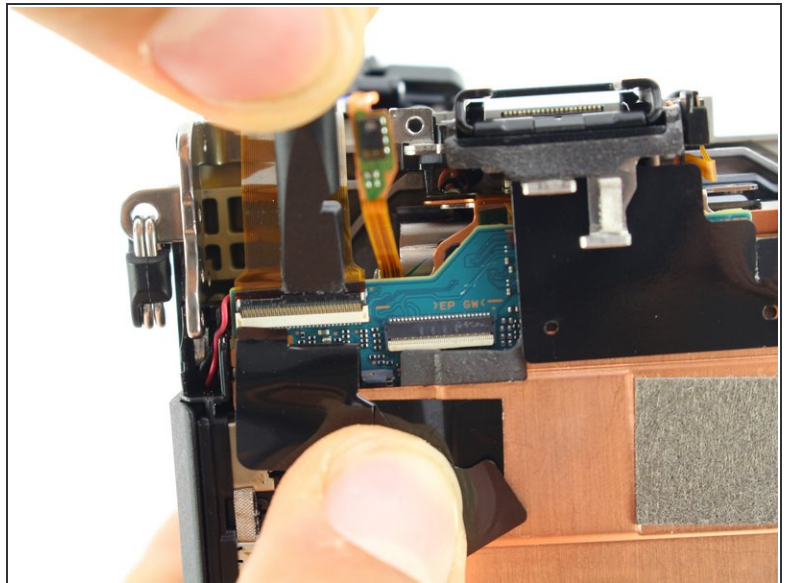
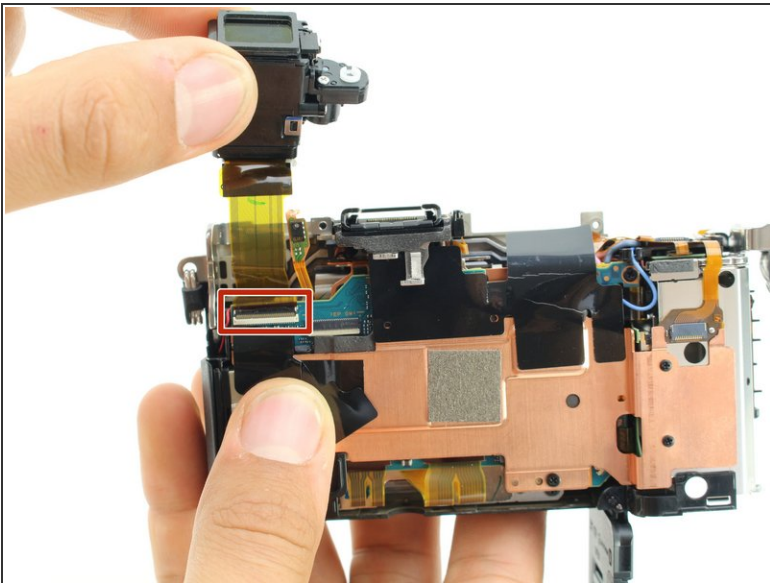


## Step 22



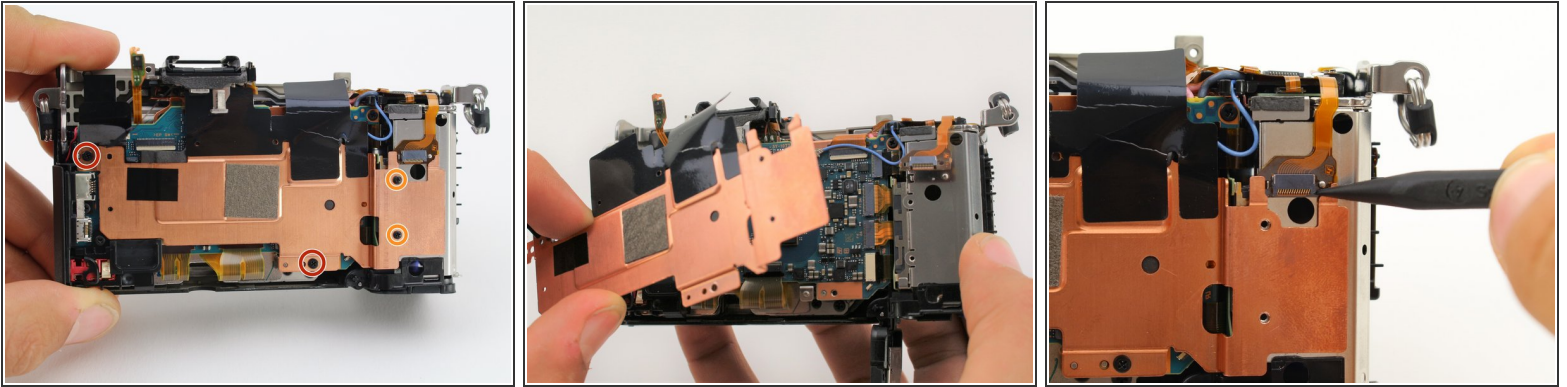
- Use the spudger to pry the light sensor off the side of the viewfinder.
  - ⓘ When prying off the sensor, bend it out from the bottom.
- Remove one 2.5mm JIS 000 screw on the side of the viewfinder to release it.

## Step 23



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

## Step 24 — Motherboard

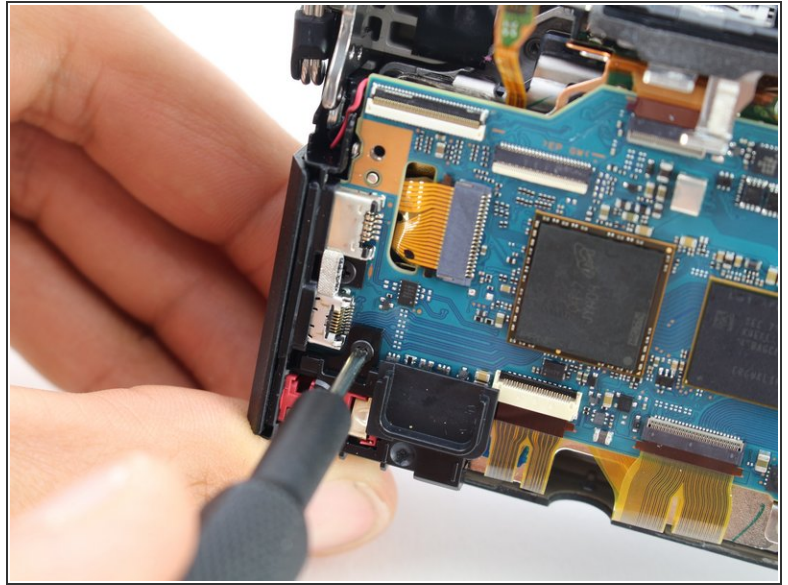
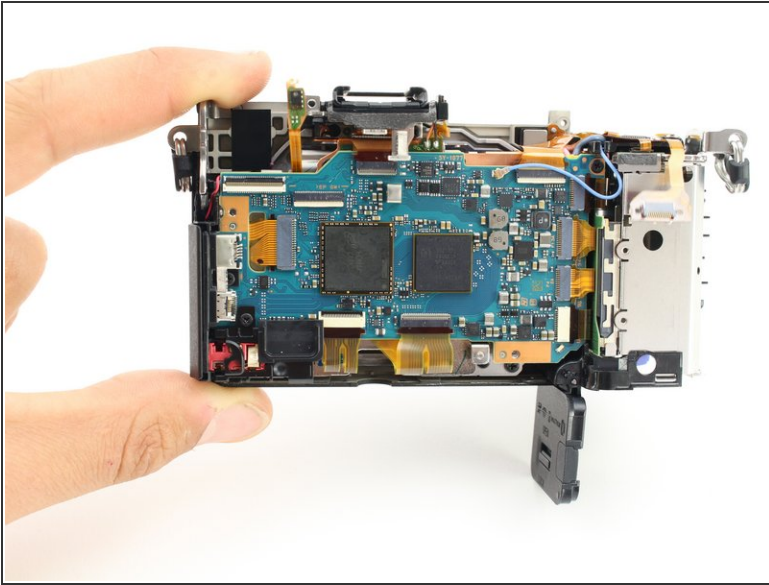


- Remove two 2.5mm JIS 00 screws from the left side and bottom of the copper shielding.
- Remove two 2mm JIS 000 screws from the right side of the copper shielding.
- Pull the entire copper shielding piece off.

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

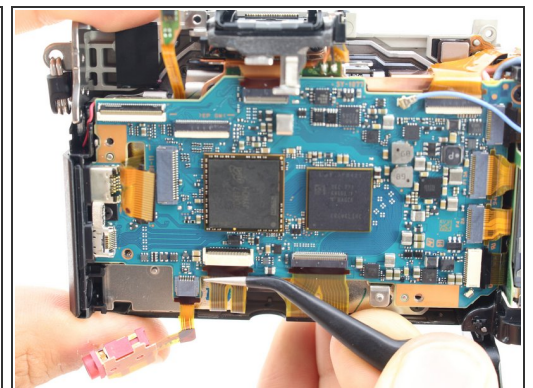
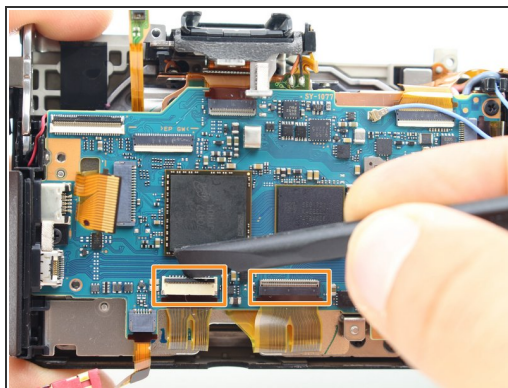
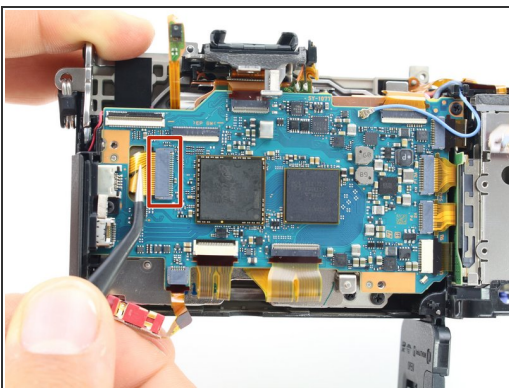


## Step 25



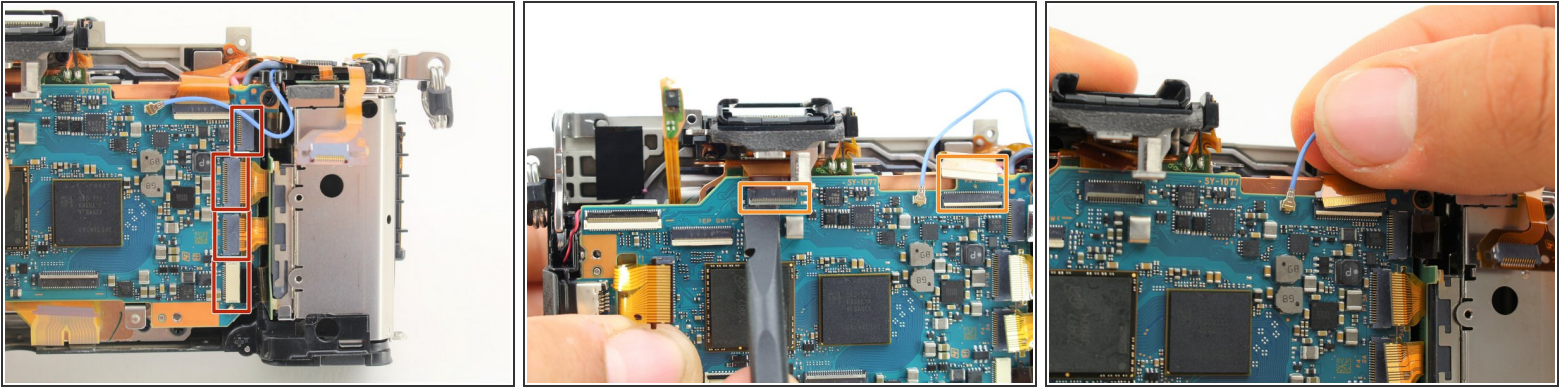
- i** You have now accessed the motherboard. The next step is to remove all the wire ribbons attached to it.
- Remove one 4mm JIS 00 screw holding down a plastic spacer on the bottom left of the motherboard.

## Step 26



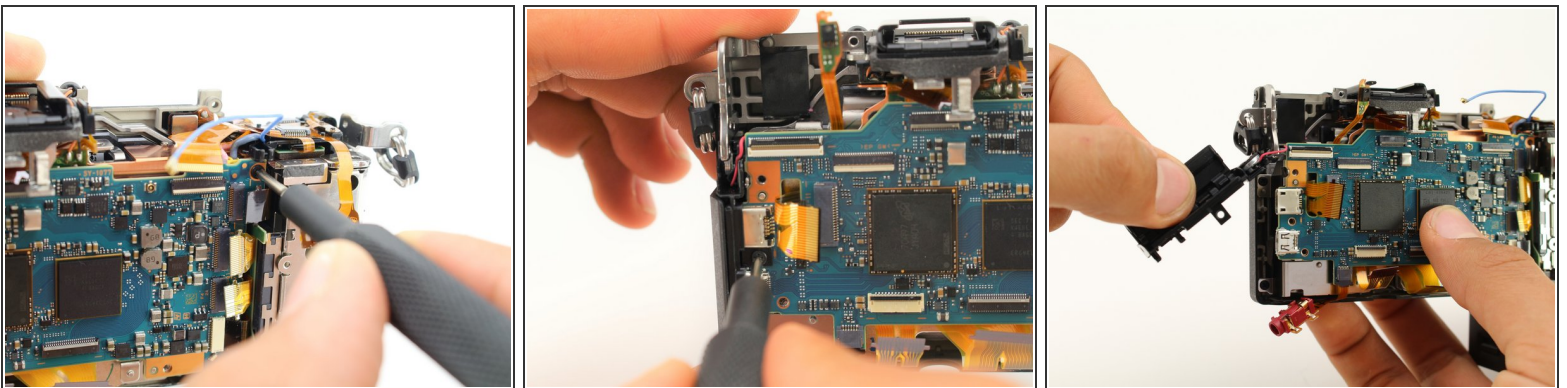
- Use tweezers to carefully pull out the first wire ribbon on the left side of the motherboard.
- Use the spudger to flip up the tab locking in the wire ribbons at the bottom of the motherboard, then pull them out with tweezers.

## 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.

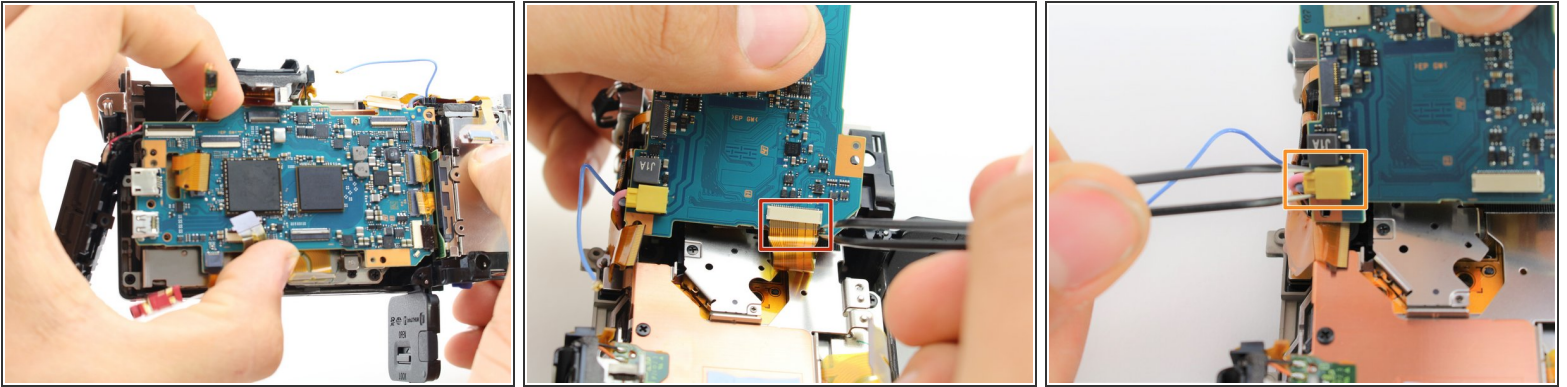
## Step 28




- 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.



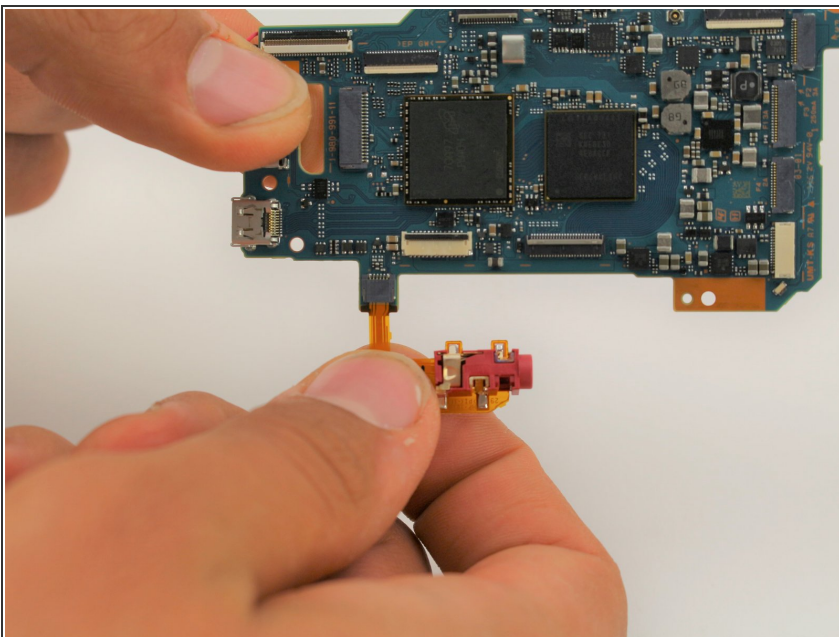
## Step 29



 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.