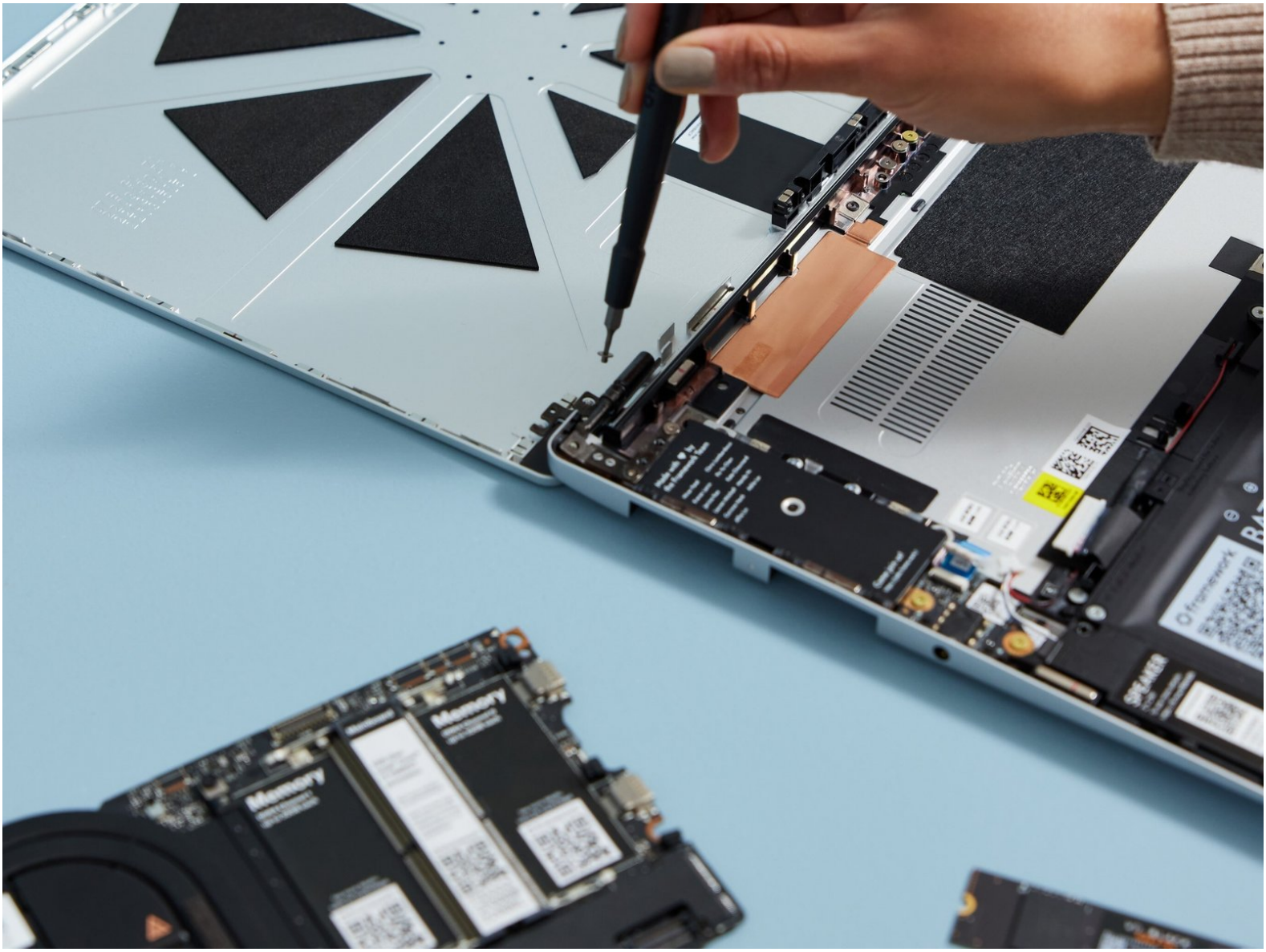
Upgrade Kit (12th Gen Intel® Core™) Guide

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INTRODUCTION

Time for an upgrade? This guide takes you through the complete set of upgrades included in the Upgrade Kit (12th Gen Intel® Core™). If you picked up a subset of the modules, you can follow those guides individually instead.

Before you get started, if you are running Windows, there are a few steps you'll need to take:

1. If you're upgrading from an 11th Gen Intel Core to 12th Gen Intel Core system, we recommend upgrading to Windows 11 before swapping the Mainboard.
2. Make sure you back up your data.
3. If you're running a Pro version of Windows, suspend BitLocker by following our directions here.
4. Find your product key or link your Windows license to a Microsoft account to make sure you can re-activate Windows after the change.

If you have any questions or run into issues, check out our Support pages.

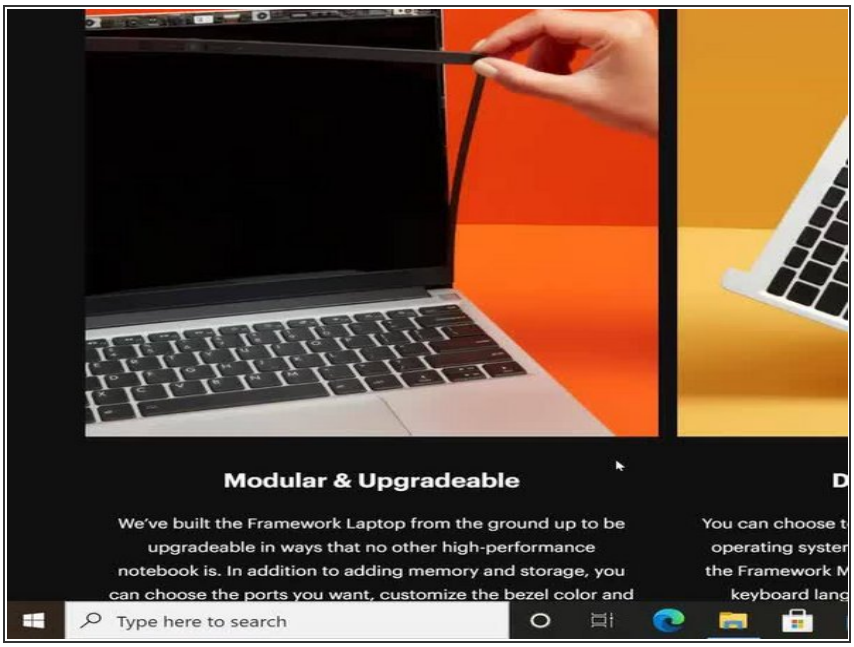
TOOLS:

- Framework Screwdriver (1)

PARTS:

- Mainboards (1)

Step 1 — Shut down the Framework Laptop



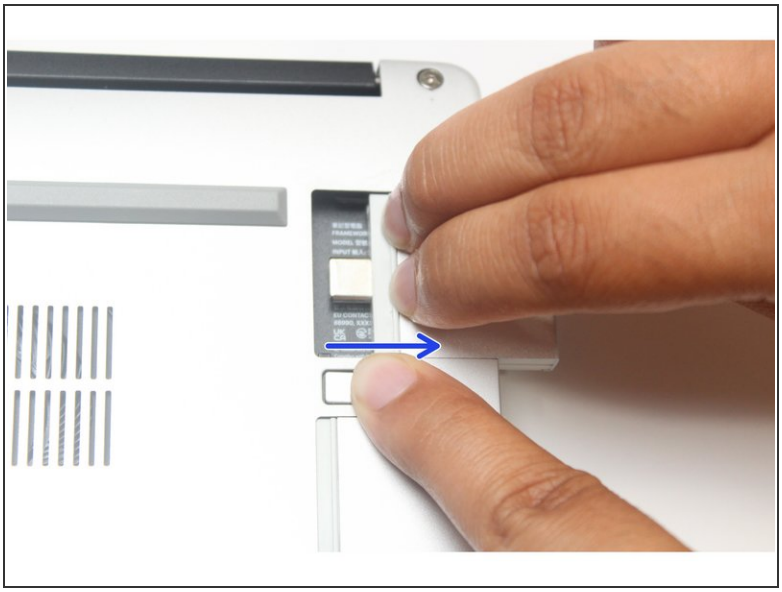
- Power off the Framework Laptop by navigating to the Windows icon on the bottom left and clicking on "Power" followed by "Shut down," or if on Linux, the equivalent action there.

Step 2 — Unplug power



- Unplug your power cable from the USB-C Expansion Card in your Framework Laptop.

Step 3 — Remove all the Expansion Cards





- Close your laptop completely and turn it over so you can access the Expansion Cards.
- While keeping the release button pressed, use your other fingers to slide the Expansion Card away from the laptop.

⚠ Important: You may have to use a little bit of force to fully disconnect the Expansion Card.

- Make sure each Expansion Card is fully removed before proceeding to the next step.

Step 4 — Unscrew the five fasteners on the Bottom Cover





- Using the T5 bit in the Framework Screwdriver, unscrew the 5 fasteners on the Bottom Cover. These fasteners will remain attached in the Bottom Cover so that you don't lose them.
  - The fastener on the bottom left (circled in orange) won't unscrew as far as the others, as it is acting as a lifter for the Input Cover. You'll hear it start clicking as you rotate when it is unscrewed far enough.

Step 5 — Lift the Input Cover off

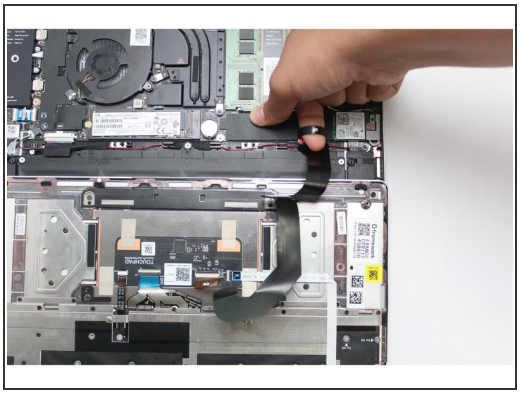


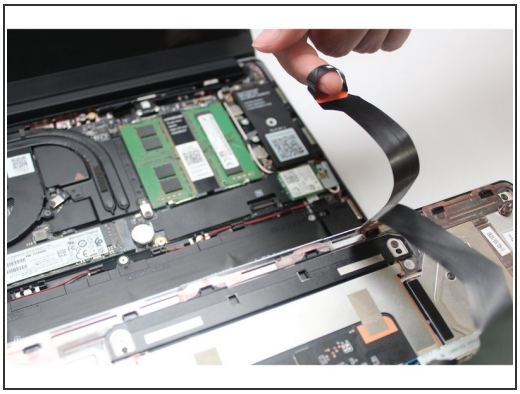


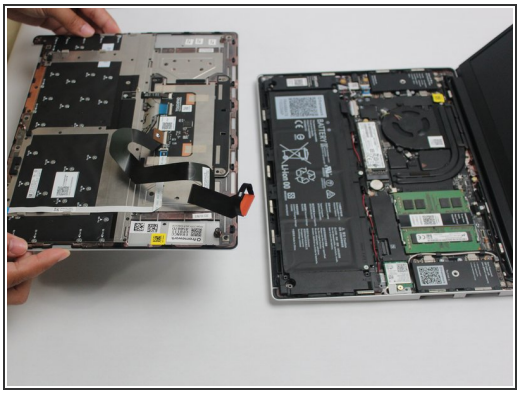
- Turn the Framework Laptop over and open it to 120 degrees.
- The bottom right corner of the Input Cover lifts up when the five fasteners are properly unscrewed from the previous step. You should not have to use any excessive force to remove the Input Cover.
- Carefully lift the cover up from the bottom right corner. If you need to, you can use the spudger end of the Framework Screwdriver to lift it as well. Lift the Input Cover off the Mainboard and flip it over (keyboard side down) and place it about halfway on the Bottom Cover.

⚠ Important: Do not pull the Input Cover fast or with too much force as it is still attached to the Mainboard via the Touchpad Cable.

Step 6 — Disconnect the Touchpad Cable

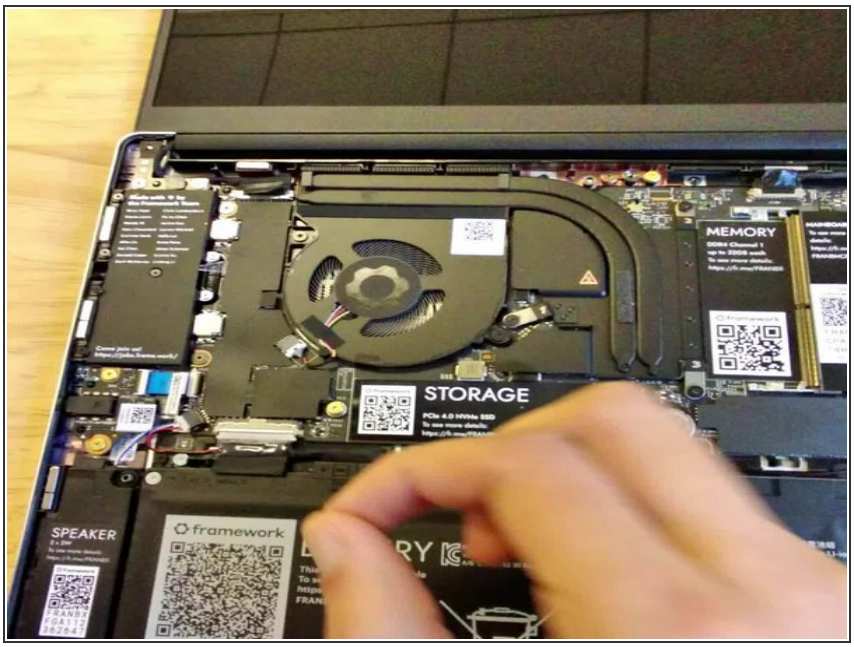






- Disconnect the Touchpad Cable from the Mainboard by inserting your finger into the loop and pull directly upward using a slight amount of force.
- Once the Touchpad Cable is disconnected, remove the Input Cover away from the Mainboard.

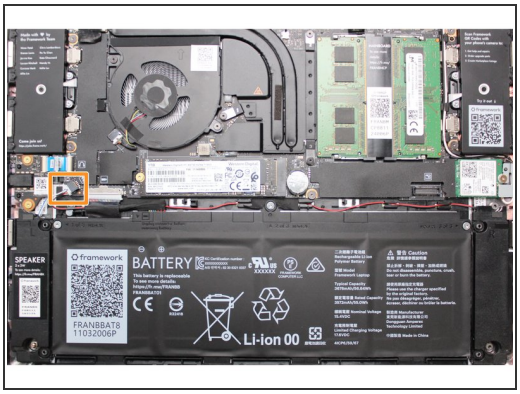
Step 7 — Unplug the Framework Laptop Battery

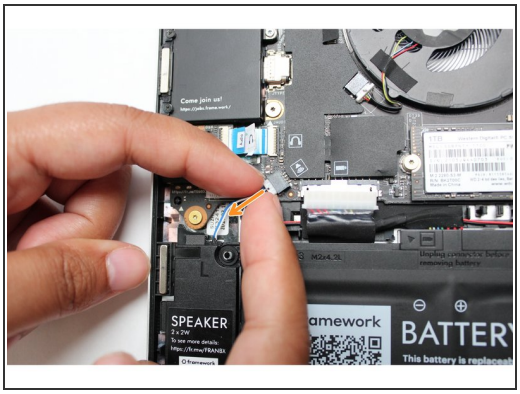


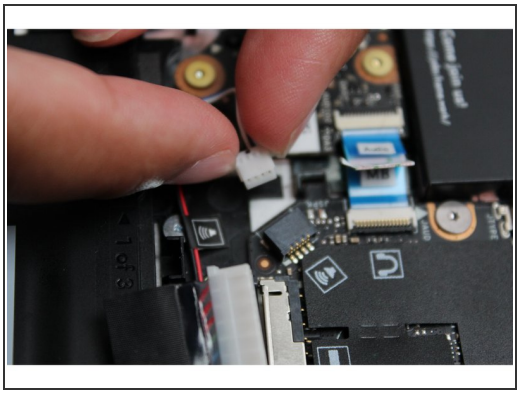
⚠ Be **extremely** careful when sliding the Battery connector out, as it is very easy to accidently bend the pins. Make sure to slide straight down, and avoid letting the connector twist or bend.

- Gently disconnect the Battery by gripping the connector edges with both fingers and slide the connector straight down from the socket.

Step 8 — Disconnect the Speaker from the Mainboard

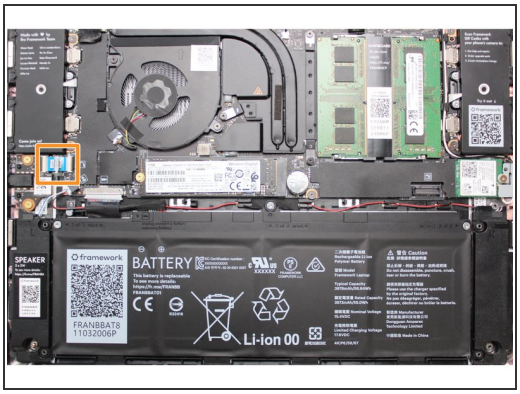


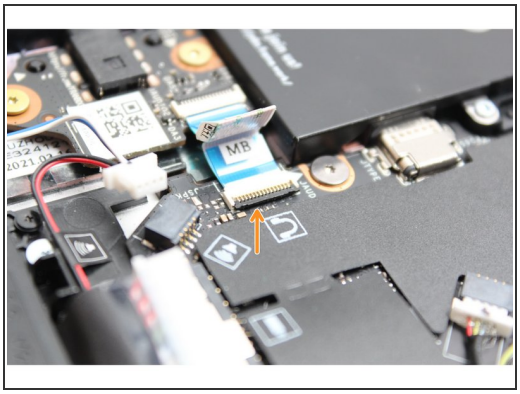


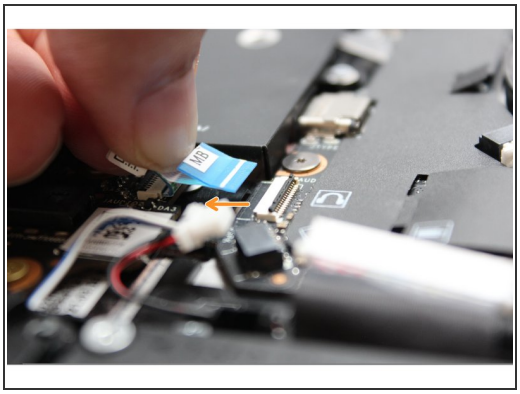


- Using both fingers and a slight amount of force, disconnect the Speaker cable from the Mainboard by pulling it straight out.

Step 9 — Disconnect the Audio Board Cable from the Mainboard



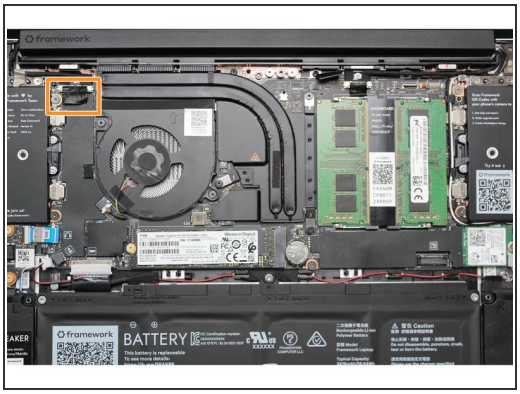


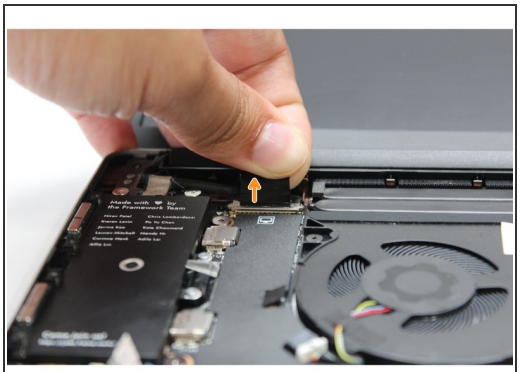
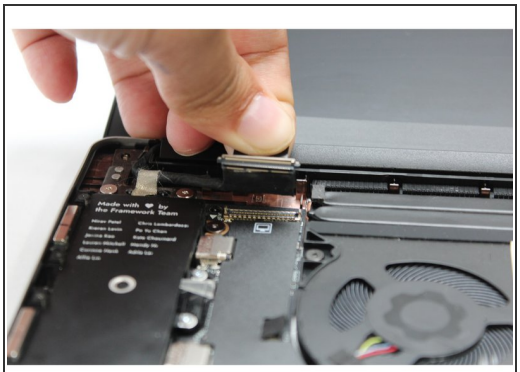


- Disconnect the Audio Flex Cable from the Mainboard. Using your fingernail or the spudger end of the Framework Screwdriver flip up the black latch on the connector and then gently slide the cable out of the connector.

ⓘ There should be no resistance when disconnecting this cable.

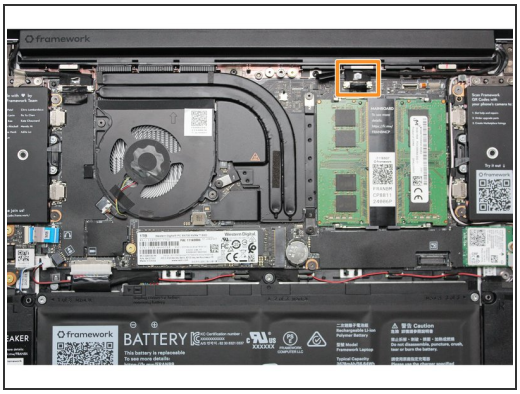
Step 10 — Disconnect the Display from the Mainboard

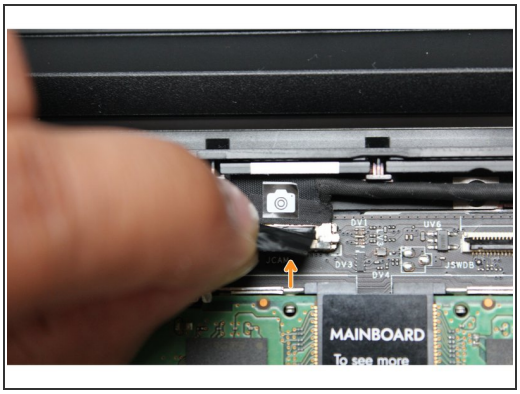


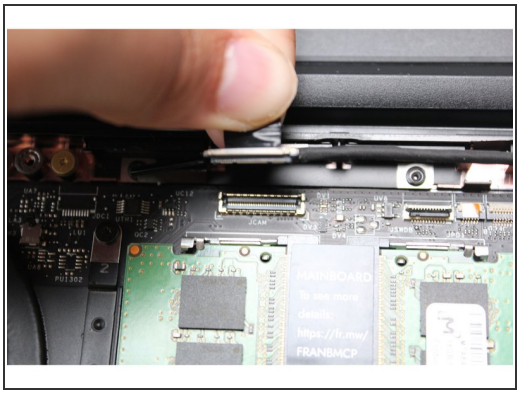



- Using your fingers, carefully disconnect the Display cable on the top, left hand side by using the pull tab to pull it upward.

Step 11 — Disconnect the Webcam from the Mainboard



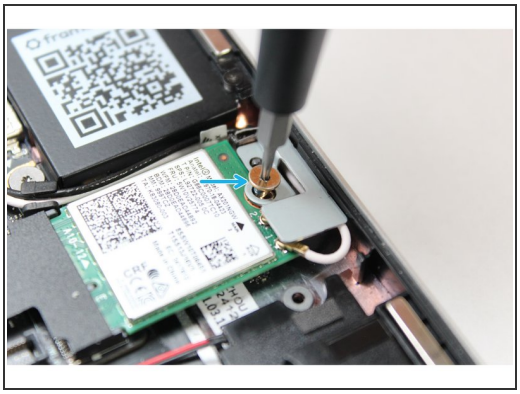


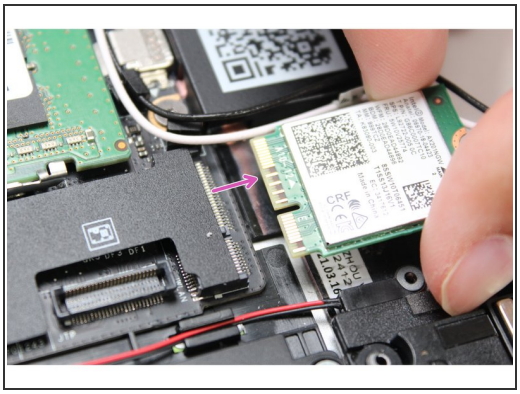


- Using your fingers, carefully disconnect the Webcam cable on the top, right hand side by using the black pull tab to pull it directly upward.

Step 12 — Remove the WiFi Module from the Mainboard

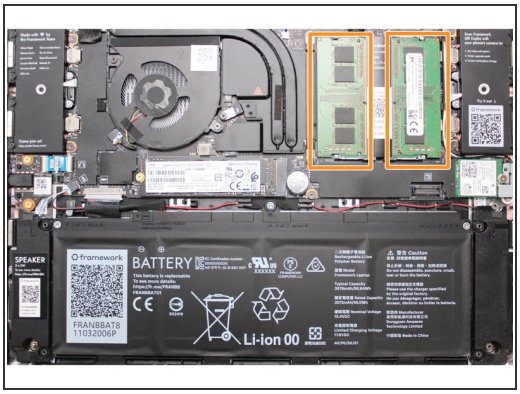


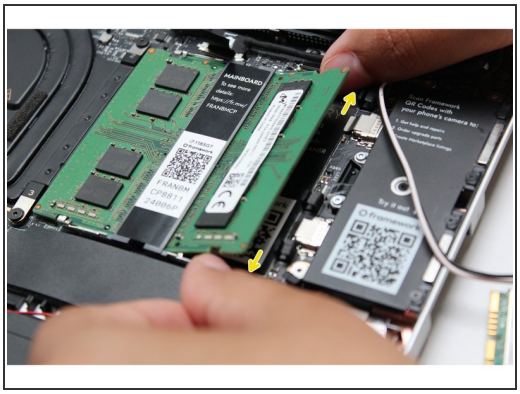




- Using the spudger end of the Framework Screwdriver, release the black and white WiFi Antenna cables by gently lifting them out from the rubber holders.
- Unscrew the fastener in the silver bracket holding down the WiFi module.
- Remove the WiFi bracket and gently pull the WiFi module out of the socket as indicated in the image.
- Carefully disconnect the antenna cables from the WiFi module.

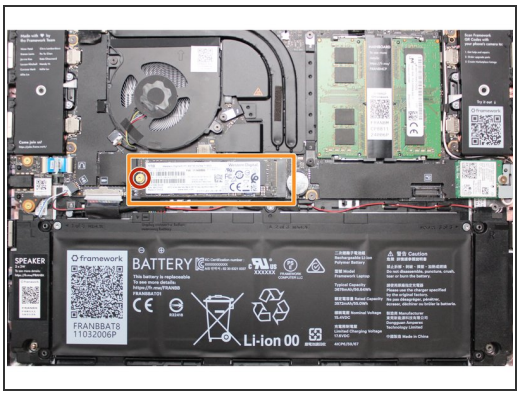
Step 13 — Remove the Memory from the Mainboard

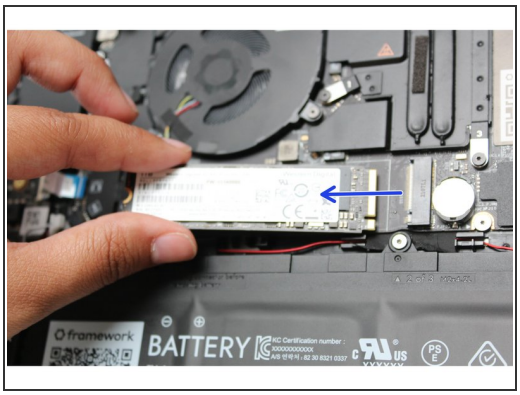





- Using both fingers, gently pull the top and bottom metal release clips away from the Memory just enough for the module to pop up.
  - ⓘ The top and bottom clips should be released simultaneously for a single Memory module.
- The Memory module will pop up at a 20 degree angle. Carefully slide it out of the socket and remove it from the Mainboard.
- If you have more than one Memory module in place, repeat the steps for the other module.

Step 14 — Remove the Storage from the Mainboard

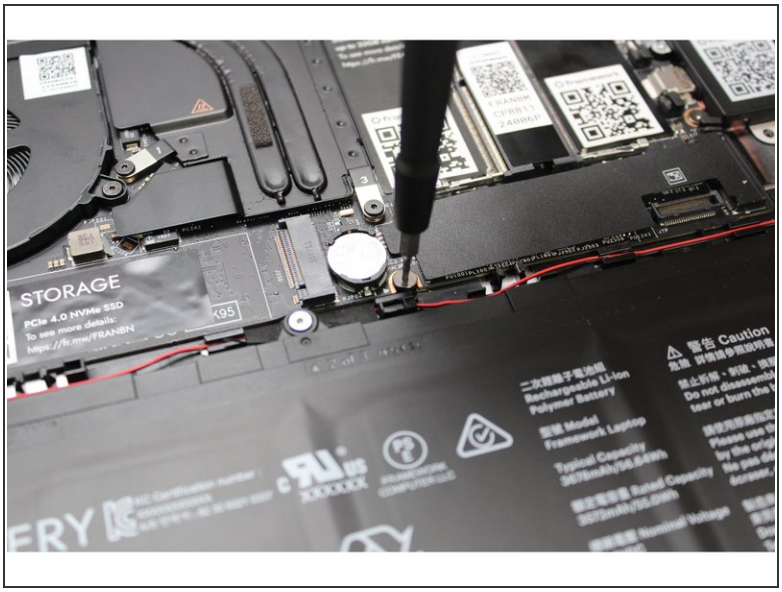


- Unscrew the fastener holding down the Storage.
- The Storage module will pop up at a 20 degree angle.
- Slide the module out of the socket using a straight motion and remove it from the Mainboard.

Step 15 — Remove the Mainboard fasteners

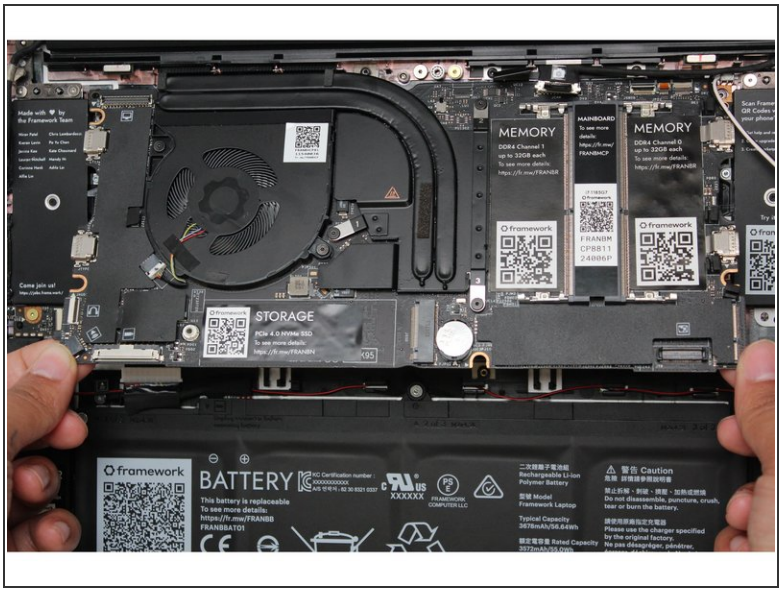




- Using the T5 bit in the Framework Screwdriver, unscrew the five fasteners holding down the Mainboard.

- These fasteners will completely come out. Be sure to keep them in a safe place during the replacement so that you do not lose them!

Step 16 — Remove the Mainboard





- In order to lift the Mainboard off the Bottom Cover, grab it from the bottom edges and lift up very gently. There should be no resistance when lifting up the Mainboard unless a previous step was missed.

⚠ The components located underneath the Mainboard are highly sensitive. Be sure to handle the board by the edges, and avoid touching any components on the board.

- The Mainboard is now fully disconnected from the Framework Laptop.

Step 17 — Remove the Bezel





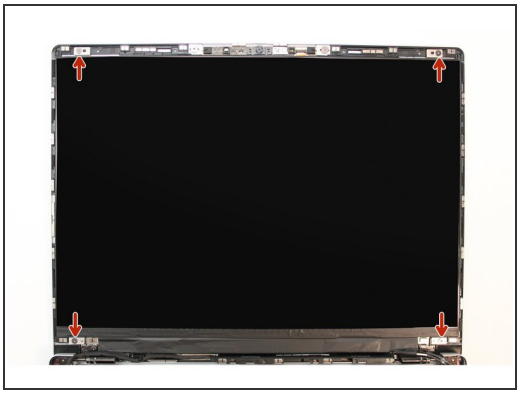
- Open the Framework Laptop lid to 180 degrees to remove the Bezel.

  ⚠ Be careful to check that the back left and right fasteners that you unscrewed earlier don't get caught on the lid as you open it to 180 degrees.

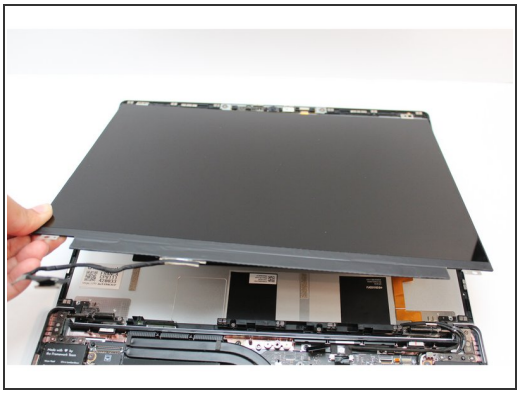
- The Framework Bezel is attached by magnets so you will not require any tools to remove it. Just use your fingernail and pry the Bezel away from the display from one of the top corners of the Framework Laptop.

- Once the Bezel starts peeling off towards the bottom of the Display, lift it up using caution. There are small patches of double-sided tape on the Bezel along the bottom edge of the Display, so take extra care when lifting that section off.

Step 18 — Remove the Display



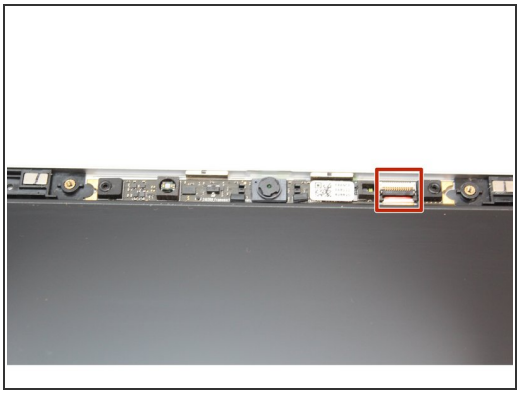
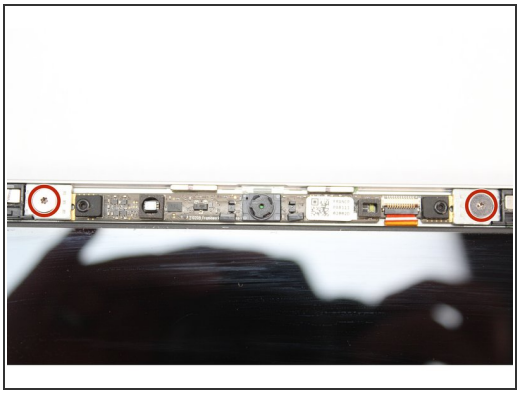
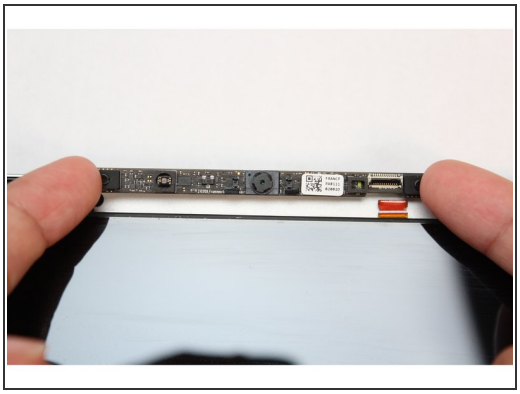




- Using the T5 bit in the Framework Screwdriver, unscrew the 4 fasteners connecting the Display to the Top Cover.
- The Display is now fully unattached to the Top Cover, you can gently lift it up from the corner using your fingernail.

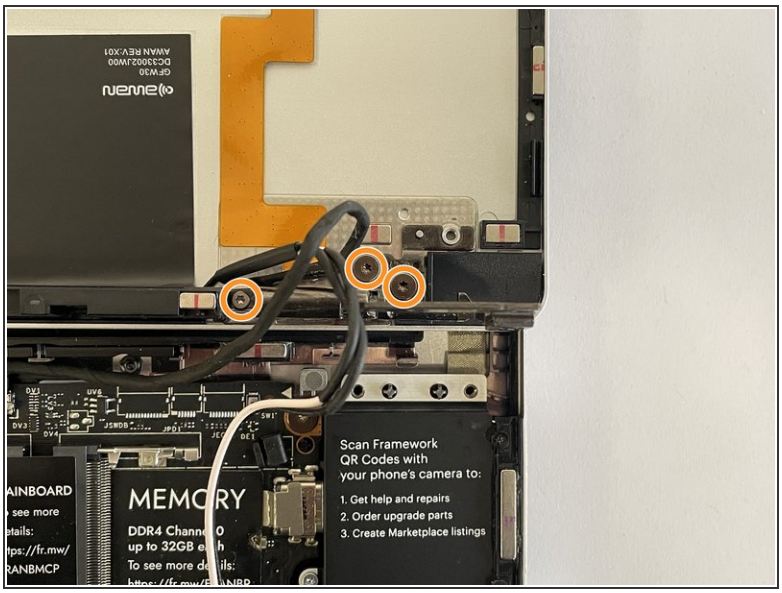
⚠ Be sure to only handle the Display by the side edges and avoid touching the bottom area.

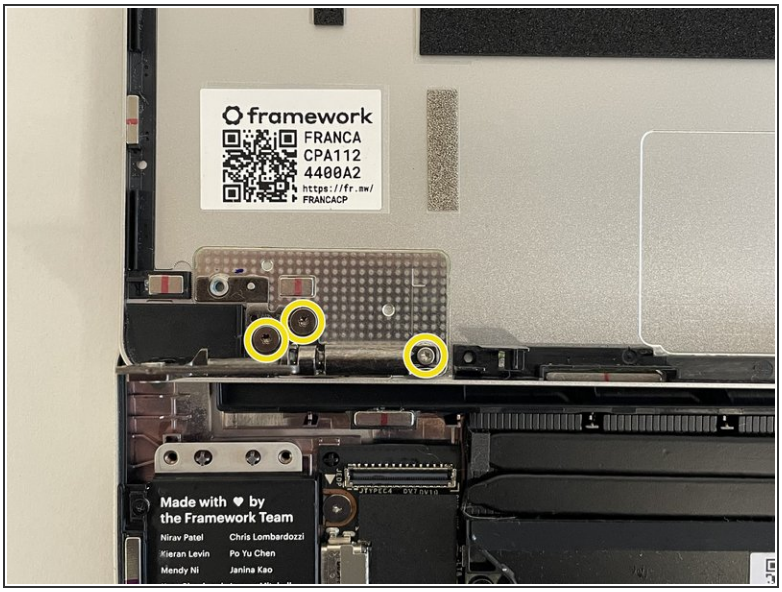
Step 19 — Remove the Webcam

- Using the T5 Bit in the Framework Screwdriver, unscrew the two fasteners connecting the Webcam Module to the Top Cover.
- Remove the magnetic washers under the screws.
- Flip up the latch on the Webcam Cable
  - Using your fingernail or the spudger side of the Framework Screwdriver, flip up the black latch on the Webcam Cable to disconnect it.
- Remove the Webcam module.
  - Lift the module out of the cover by handling the module only by the edges.
  - The Webcam Module is now fully disconnected from the Top Cover.

Step 20 — Unscrew and remove the Top Cover

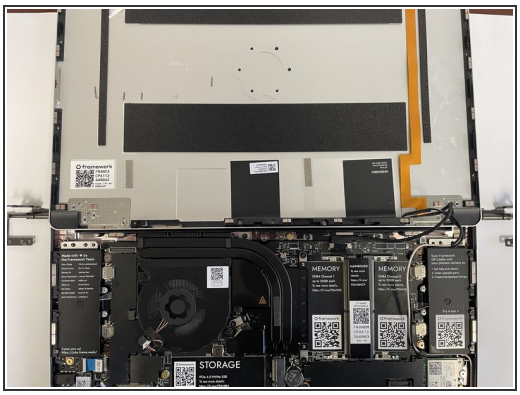


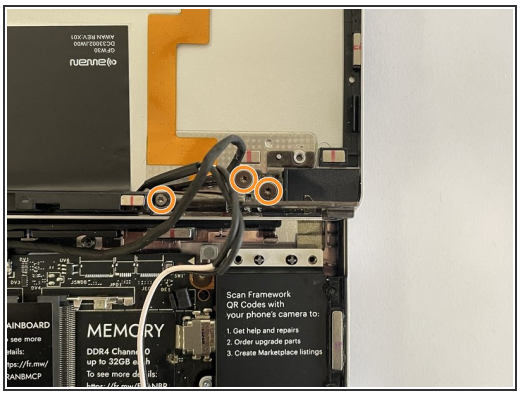


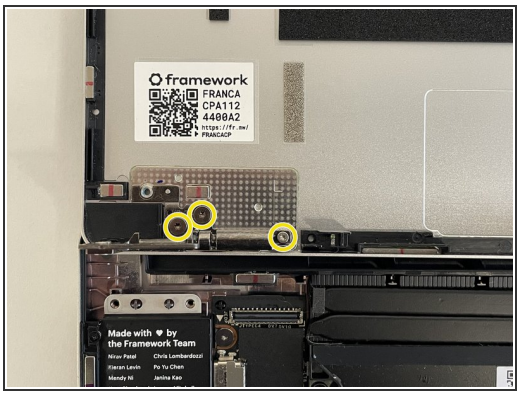
- Unscrew the three fasteners on the right Hinge using the T5 bit in your Framework Screwdriver.
- Repeat this for the three fasteners on the left Hinge.
- Lift up the Laptop slightly and remove the now disconnected Top Cover, which will have the antenna and camera cables still attached.

ⓘ If you're also switching to new Hinges too, you can swap those in now by unfastening the existing Hinges from the Bottom Cover and installing the new ones.

Step 21 — Install the Top Cover

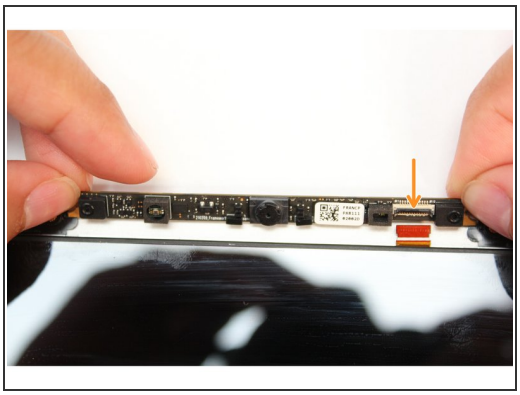


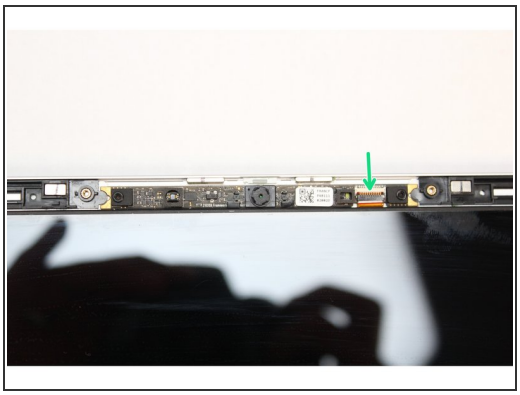


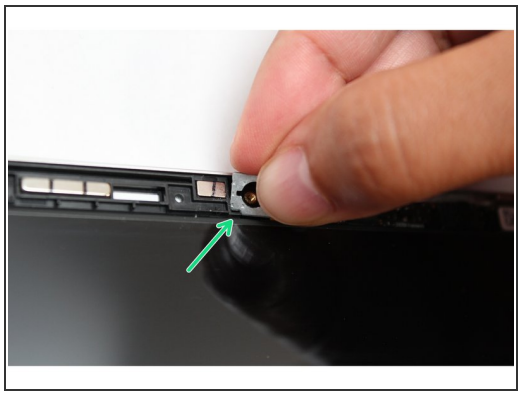


- Take the new Top Cover and place it under the Hinges.
- Fasten the three fasteners back in on the left Hinge.
- Fasten the three fasteners back in on the right Hinge.

Step 22 — Reinstall the Webcam





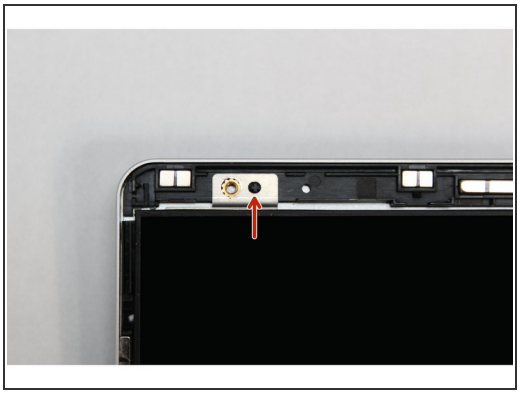


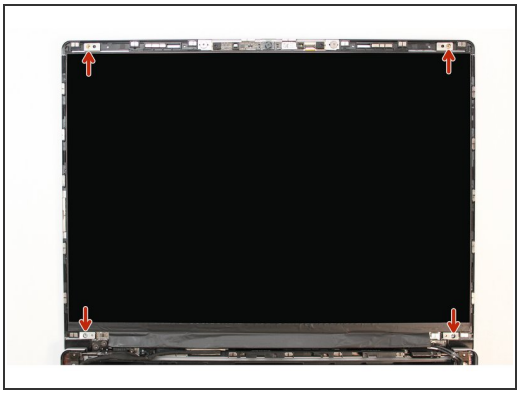
ⓘ If your new Top Cover already has a Webcam Module, you can skip this step.

- Make sure the black latch on the connector is flipped up so that you can slide the Webcam Cable into the connector. Slide the cable straight in until the white line is almost at the edge of the connector.
- Flip the black latch down to secure the cable in place.
- Find the two washers and orient them so that the notch on both washers are located at the bottom corner as indicated with the green arrow in the third image. These need to be aligned with the notch on the Top Cover.
- Using the T5 Bit in the Framework Screwdriver screw in both fasteners.

⚠ Be sure to not over-tighten the fasteners.

Step 23 — Reinstall the Display







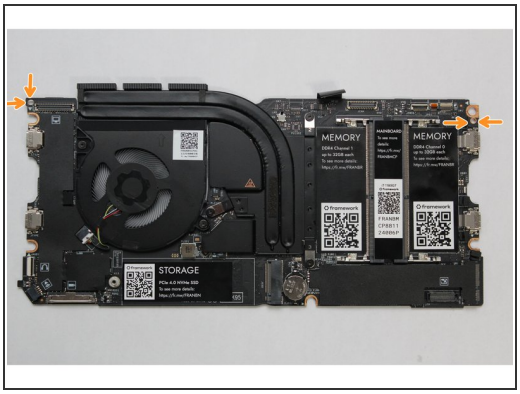
- There are four alignment pins located on the Top Cover. They are located right next to the four fastener slots. Place the silver brackets connected to Display directly over the pins.

⚠ Be sure to only handle the Display by the side edges and avoid touching the bottom area.

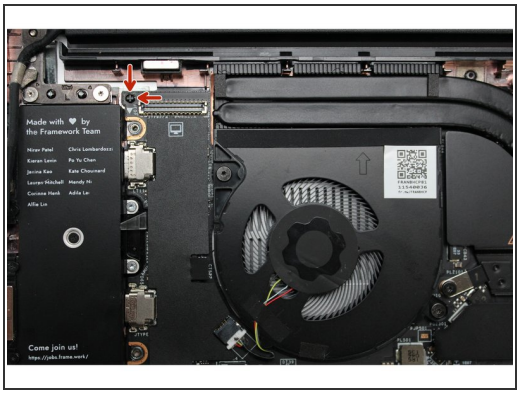
- Using the T5 bit in the Framework Screwdriver screw the four fasteners into place.

⚠ Be sure to not over tighten the fasteners.

Step 24 — Install the new Mainboard into the Framework Laptop





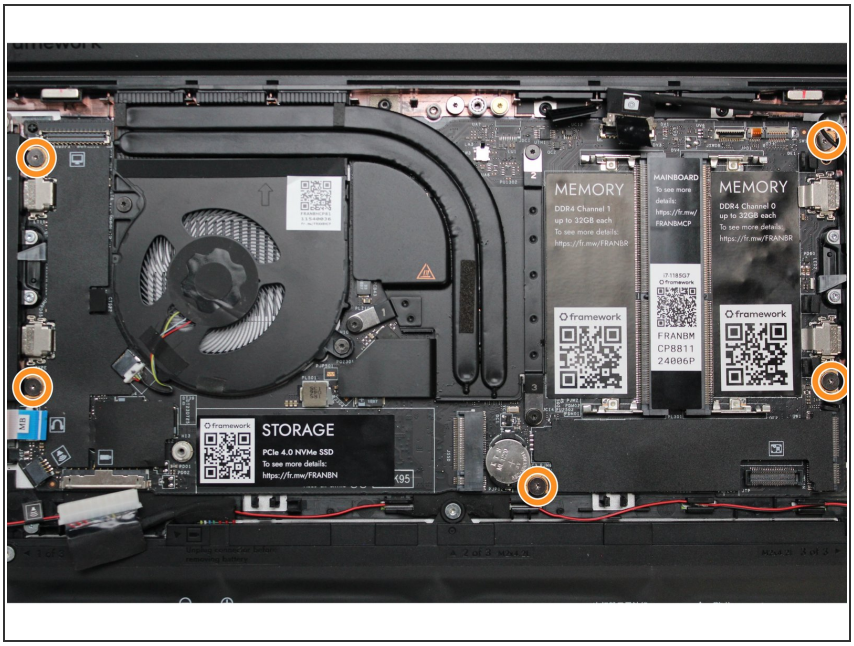


- The easiest way to properly install the Mainboard is by aligning the two alignment pins on the Bottom Cover with the two holes on the Mainboard.
- Take a close look at the Mainboard and you'll notice two small holes. You will see one hole on the top right and the other on the top left-hand side of the Mainboard as indicated in the first image with the orange arrows.
- The alignment pins are located on the Bottom Cover as indicated with the green arrows in the second image.
- Place the Mainboard on the Bottom Cover by using the alignment pins as a guide. Place the holes in the Mainboard directly over pins in the Bottom Cover. Both the left and right-hand side pins should fit into the holes perfectly.

⚠ The components located underneath the Mainboard are highly sensitive. Be sure to handle the board by the edges, and avoid touching any components on the board.

- Once you have placed the Mainboard down make sure that no cables are stuck between the Mainboard and Bottom Cover as all the cables (the Speaker cable, Display cable, Camera cable, WiFi antenna cables, Audio Board cable, and the Battery cable) will need to be reconnected into their respective sockets after the Mainboard is secured in place.

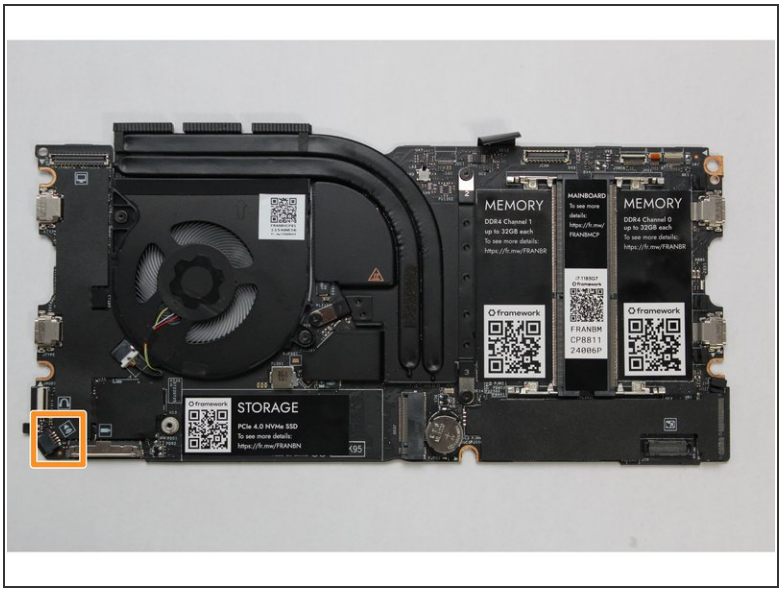
Step 25 — Screw the Mainboard into place

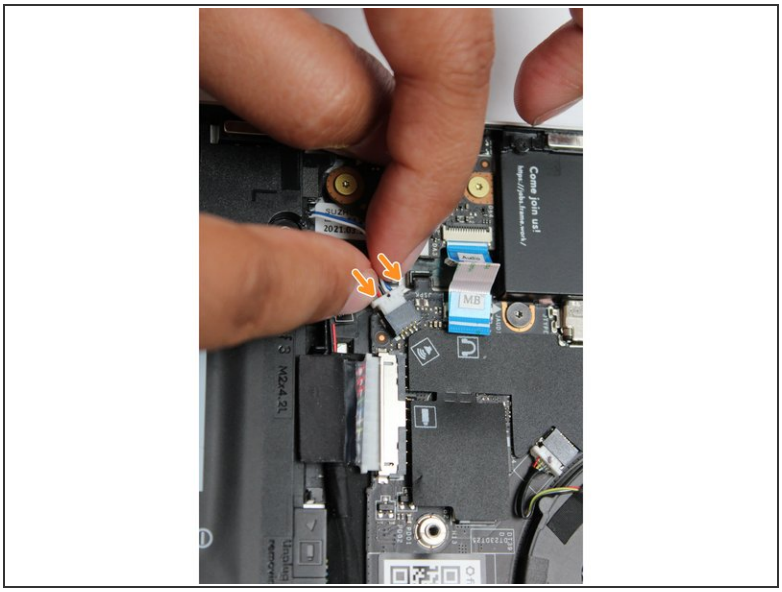


- Using the T5 bit in the Framework Screwdriver, screw the five fasteners into the Mainboard once it is properly seated.

⚠ Be sure to not over-tighten the fasteners.

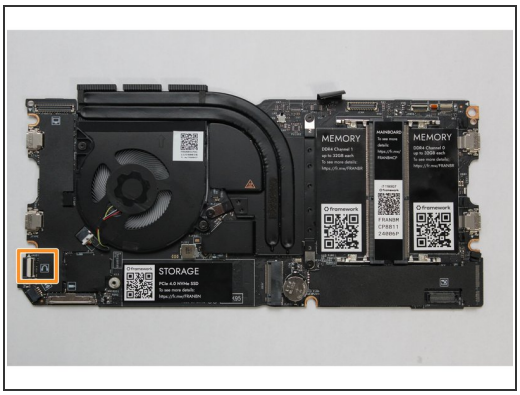
Step 26 — Connect the Speaker to the Mainboard

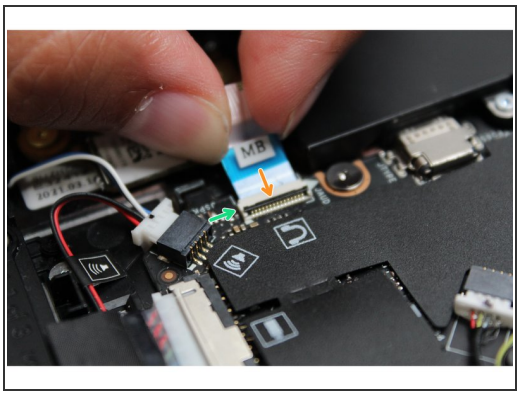


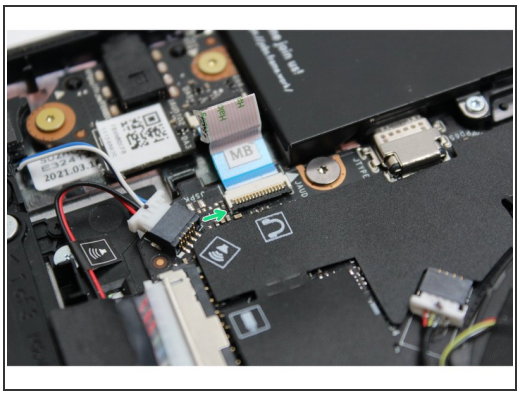


- Using two fingers, slide the Speaker cable into the Mainboard using a straight motion and a slight amount of force.

Step 27 — Connect the Audio Board to the Mainboard

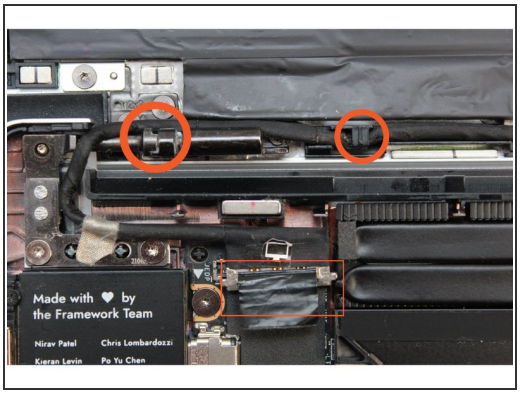


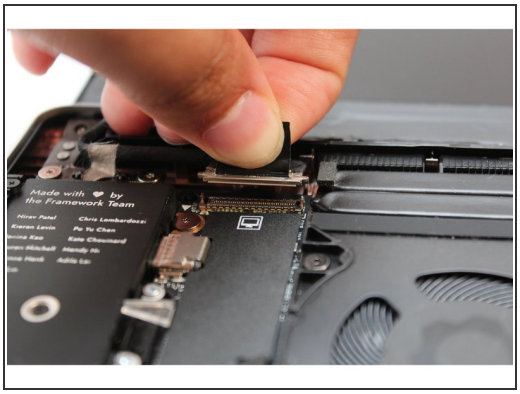


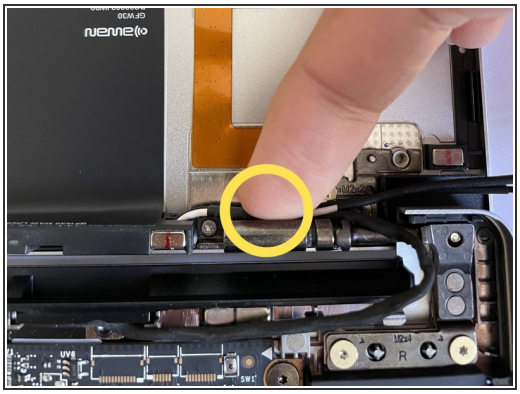


- Connect the Audio Board cable by gently sliding it into the Mainboard. Make sure the black latch on the connector is flipped up so that you can slide the Audio Board Cable into the connector. Slide the cable straight in until the white line is almost at the edge of the connector
- Using your finger or the spudger end of the Framework Screwdriver, flip the black latch down towards the Mainboard to lock the cable in place.
- Once the black latch is secure the Audio Board cable should not come loose.

Step 28 — Connect the Display and Webcam

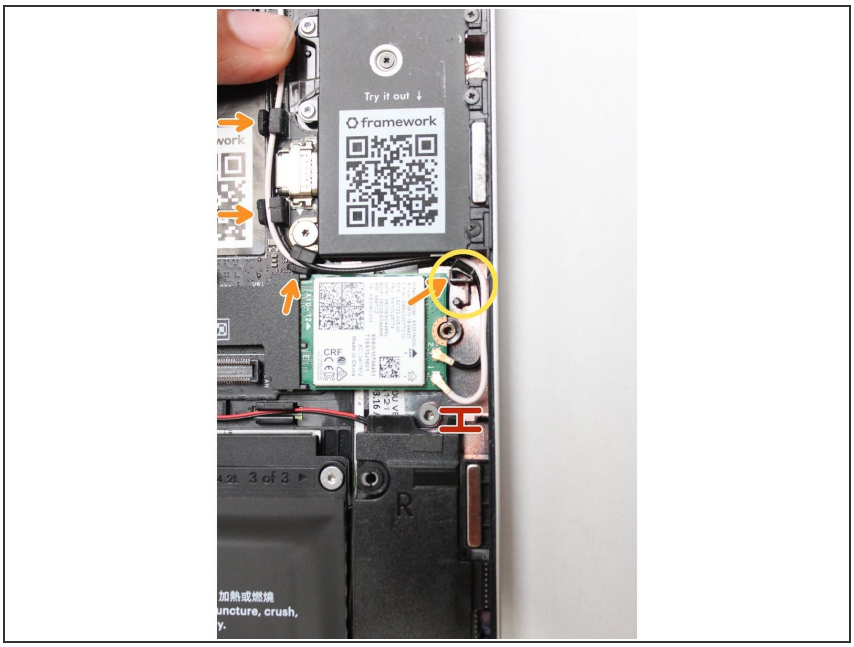






- Route the Display Cable through the channel in the Top Cover, over the left hinge, and plug it back into the Mainboard.
  - ⓘ On the Top Cover (CNC), this is a flat channel without a hook, so just make sure the cable is laying mostly flat inside it.
- Route the Antenna Cables over the right hinge, through the routing channels near the hinge, through the rubber channels on the Mainboard.
- Route the Webcam Cable over the right hinge, through the routing channels, and plug it back into the Mainboard.

Step 29 — Reinstall the WiFi module

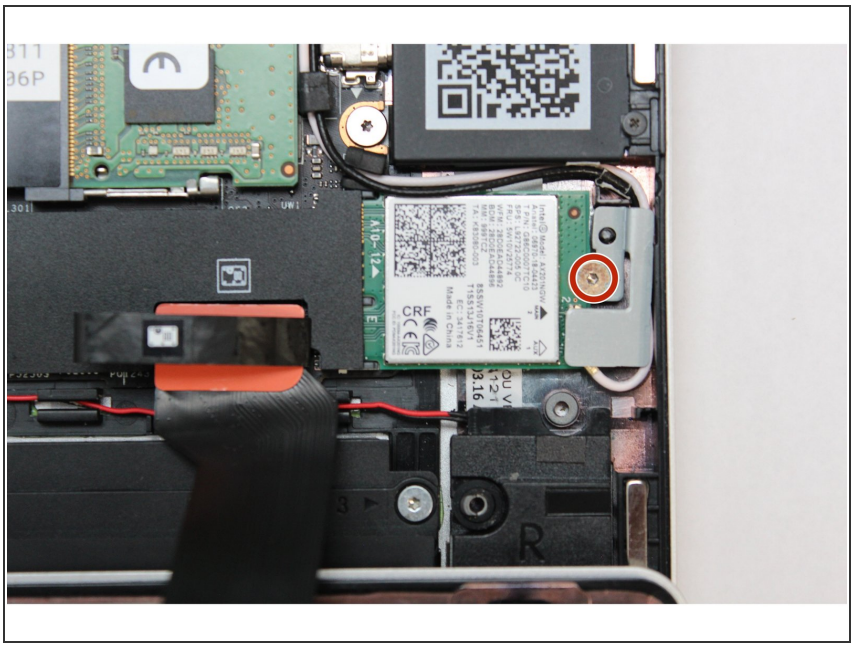


- Carefully connect the black and white WiFi antenna cables into their respective sockets on the module. Make sure to align them well before applying force to click them into place, as the connectors are small and fragile.
  - ⓘ If you need a video overview on this, check this out.

- Once both the black and white WiFi Antenna cables are connected to the module, make sure they are rotated downwards as indicated in the second picture with the blue arrows.
- While keeping a finger on top of the antennas to hold them in place, insert the WiFi module into the socket on the Mainboard.
- Once the module is properly inserted into the Mainboard, carefully route both the black and white WiFi Antenna cables into the black rubber routers as indicated in the first image.
  - Place both the cables behind the metal structure located near the top right of the WiFi module as well.

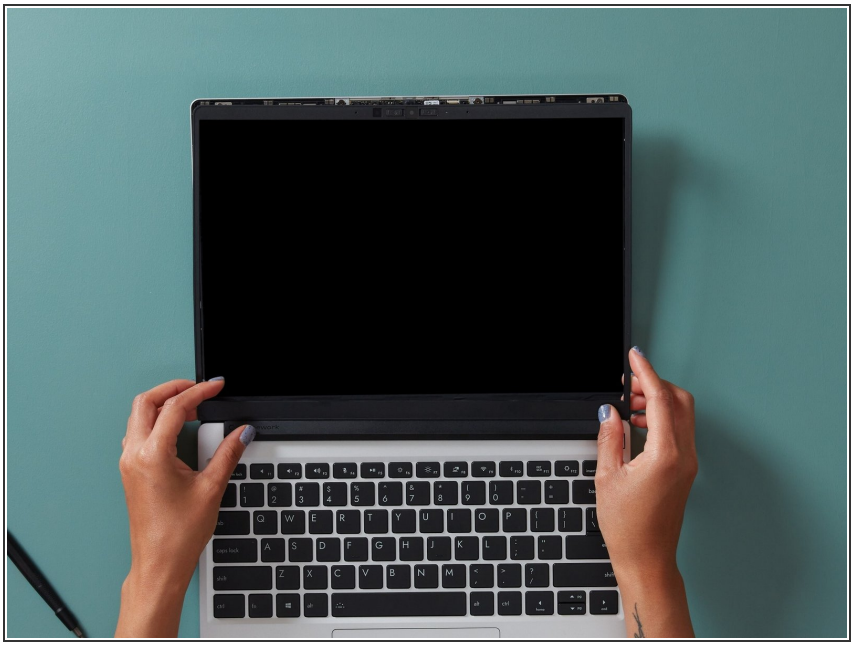
⚠ The antenna cables should not touch the Speaker located below. Use the spudger end of the Framework Screwdriver to carefully push the white cable away from the Speaker if it is touching it.

Step 30 — Reinstall the WiFi Bracket



- Place the WiFi Bracket over the WiFi module and place the fastener in the hole. Using the T5 bit in the Framework Screwdriver, screw the fastener into place.
  - ⚠ Be sure to not over-tighten the fastener.

Step 31 — Attach the Bezel



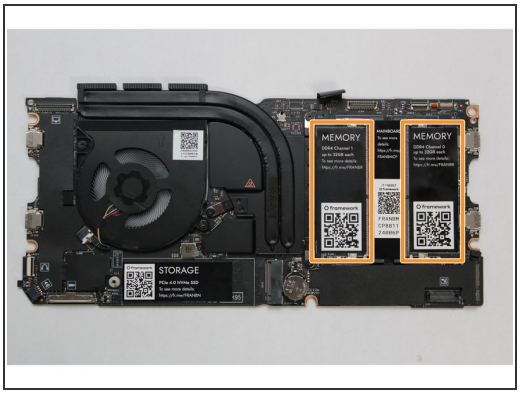
- Now that all the cables that route through the hinges are re-installed, it's time to install the Bezel. Align the corners of the Bezel to the display and place it down. The Bezel is attached by magnets and should easily click into place.

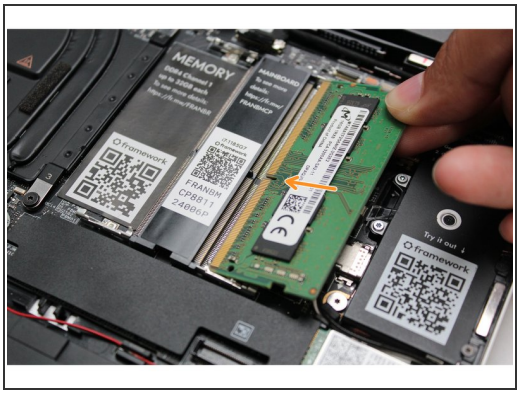
- Make sure that all of the corners and edges of the Bezel are fully connected to the Top Cover. If the

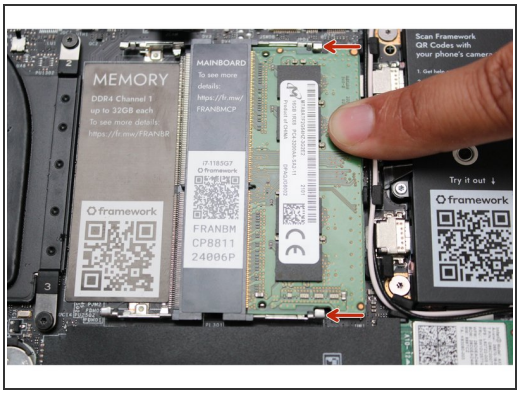
© 2025

corners are not aligned, carefully lift up the part of the Bezel and guide it into place.

Step 32 — Insert the Memory module





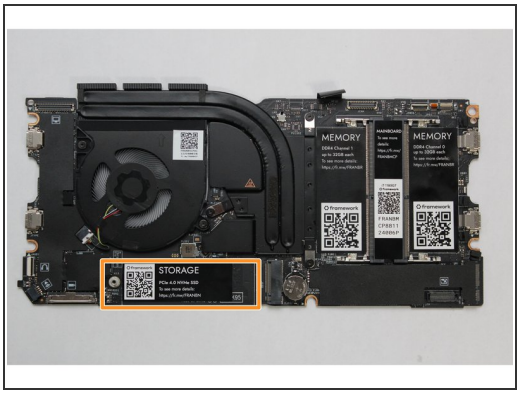


- Insert the Memory module into the Mainboard by aligning the notch on the Memory module with the notch on the socket.
- Once the module is fully inserted, it will rise up at a 20-degree angle. Gently press it down towards the Mainboard until the clips located at the top and bottom of the receptacle snap into place (see the red arrows in the third image).

ⓘ If you are using one Memory module, place it in the right socket that is labelled “Channel 0."

ⓘ The first boot after installing a new Memory module will take longer than normal, as the system prepares itself for the new module.

Step 33 — Install the Storage in the Mainboard



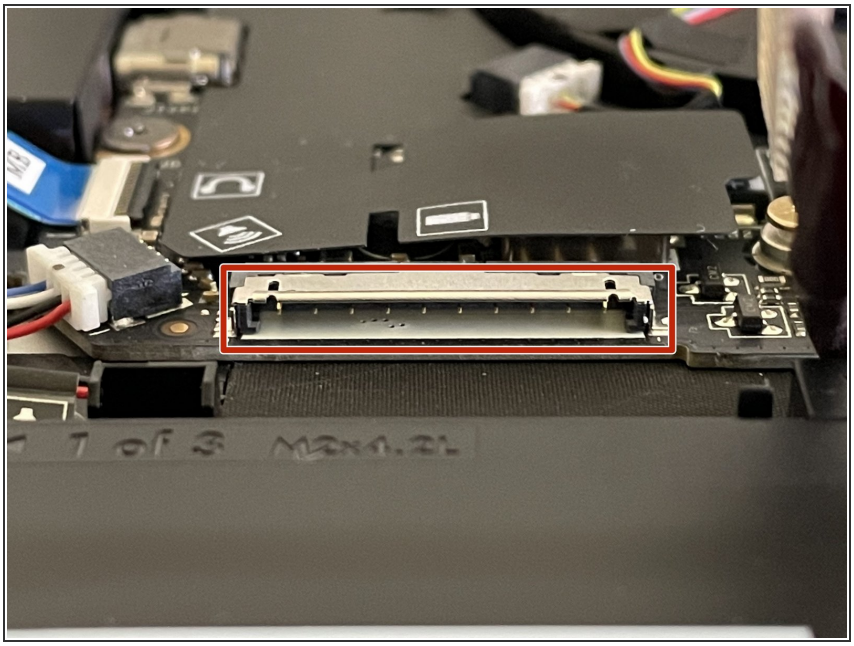




- Align the notch on the Storage module with the notch on the socket and slide the module into the Mainboard.
- Once properly inserted the module will rise up at a 20-degree angle.
- Using one finger gently hold the Storage module down to the Mainboard and use your other hand to screw in the fastener using the T5 bit in the Framework Screwdriver.

⚠ Be sure to not over-tighten the fastener.

Step 34 — Double-check that the Battery pins are straight

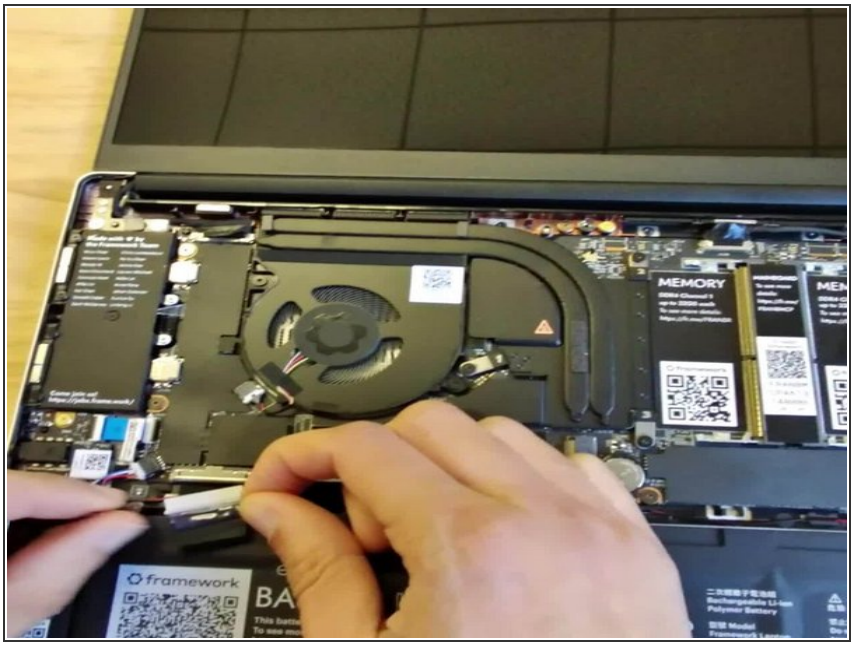


⚠ Before plugging the Battery connector back in, double check the pins on the Battery receptacle on the Mainboard, and make sure none of them look bent.

⚠ **Don't plug the Battery connector in if pins look bent, as that will bend them even further**. Reach out to Framework Support for guidance.

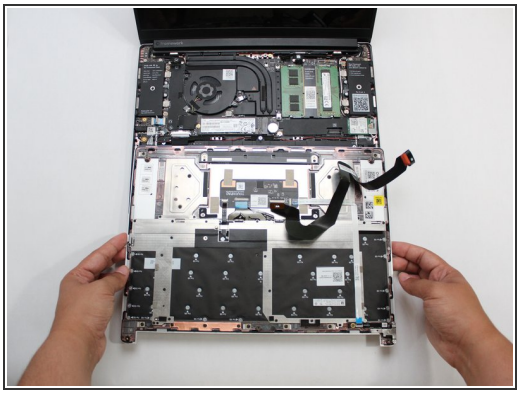
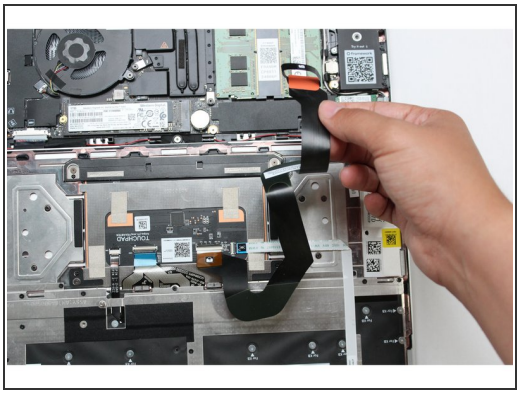
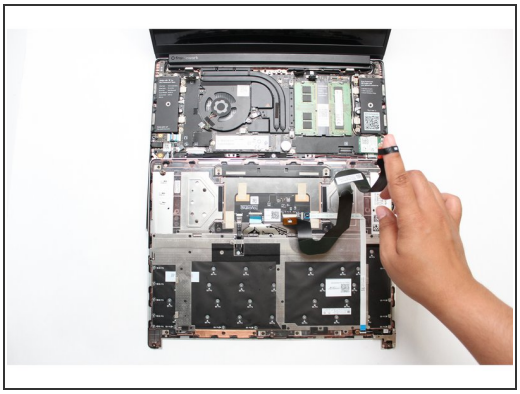
⚠ If you feel resistance when plugging in the Battery connector, stop, slide the connector back out, and make sure that no pins are being bent.

Step 35 — Re-connect the Battery Connector



- Carefully slide the Battery connector back into the mainboard, gripping both edges of the connector and sliding in straight without letting the connector twist or bend.

Step 36 — Prepare to connect the Input Cover

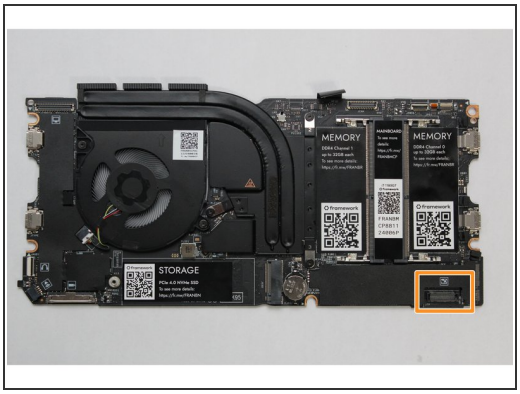




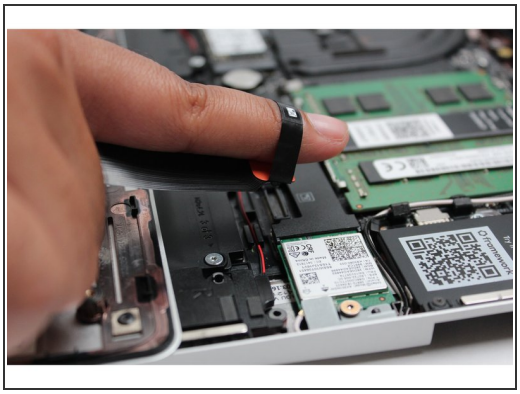
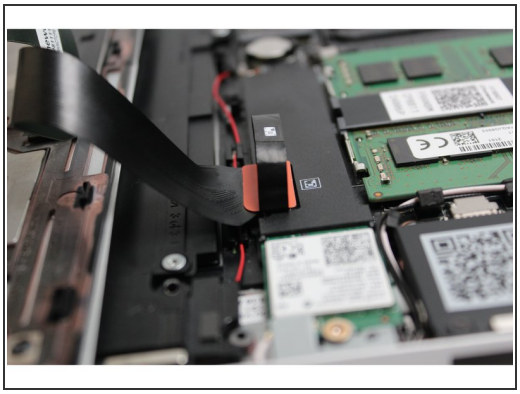
- Gently place the Input Cover keyboard side down on the Bottom Cover as indicated on the image. The cover should be about an inch and a half away from the bottom of the Mainboard so that you can comfortably install the Touchpad Cable.

ⓘ Note: The orientation of the Input Cover matters. Study the first image in this step to ensure you are properly attaching the cover.

- Locate the loop on the end of the Touchpad Cable and insert your finger into it.

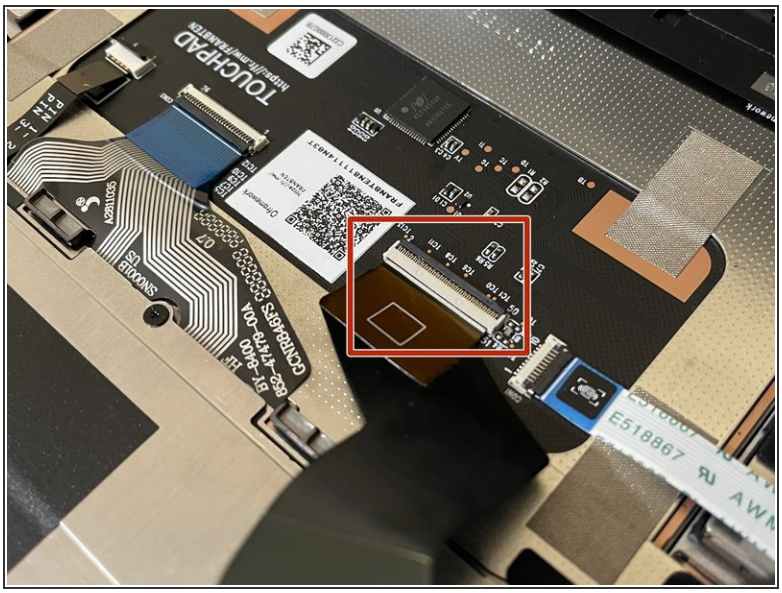
Step 37 — Connect the Touchpad Cable to the Mainboard

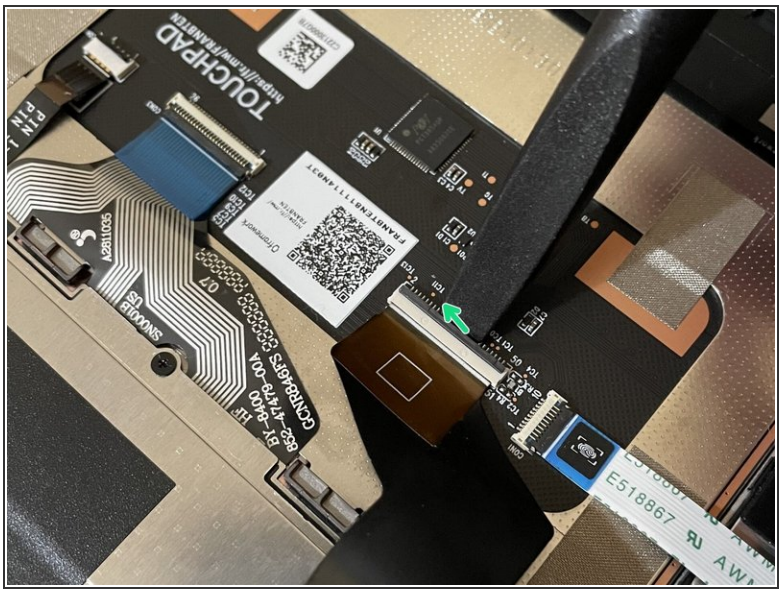


- Using slight force, connect the Touchpad Cable by aligning it to the socket on Mainboard. You should hear it click into place once properly connected.

Step 38 — Make sure the Touchpad side of the Touchpad Cable is fully inserted





⚠ Before closing up the laptop, make sure that the Touchpad end of the Touchpad Cable is fully seated in the receptacle.

- The cable should be inserted far enough that the white line almost touches the receptacle.
  - If it is not inserted far enough, you'll need to flip up the black latch on the other side of the connector, slide the cable in further, and then close the black latch again.

Step 39 — Re-install the Input Cover





- Once the Touchpad cable is secured to the Mainboard, flip the Input Cover over the Bottom Cover so that the keyboard is facing up and attach it to the Bottom Cover by aligning the top and bottom edges of both covers.

ⓘ Tip: The covers are magnetic and should fit into one another easily. If you feel any resistance simply lift the Input Cover up and try again.

Step 40 — Screw the fasteners back into the Bottom Cover





- Close the Framework Laptop and turn it upside down to reveal the empty Expansion Card bays and fasteners on the Bottom Cover.
- Using the T5 bit in the Framework Screwdriver, screw all 5 fasteners back into the Bottom Cover.

⚠ Be sure to not over-tighten the fasteners.

Step 41 — Start using the Framework Laptop!





- Insert the Expansion Cards of your choice into any of the empty bays.
- Plug the USB-C power cable into the USB-C Expansion Card.
- Turn the Framework Laptop over, open it, and press the power button. If you're using Windows, you may need to re-activate Windows after you replace the Mainboard.
  - ⓘ The first boot will take longer than normal as the system does memory training. The more memory you've installed, the longer this could take (on the order of a minute or two with 64GB!)
- If you're using Windows, you'll also need to install the latest Framework Laptop Driver Bundle for 12th Gen Intel Core.
- On either Windows or Linux, we also recommend installing the latest BIOS version for your Mainboard, downloadable from the same page.

- To purchase a Framework Laptop visit the Framework website
- Want to learn more about the Framework Laptop? Take a look at ourblog
- If you have any questions or concerns, feel free to reach out toFramework Support