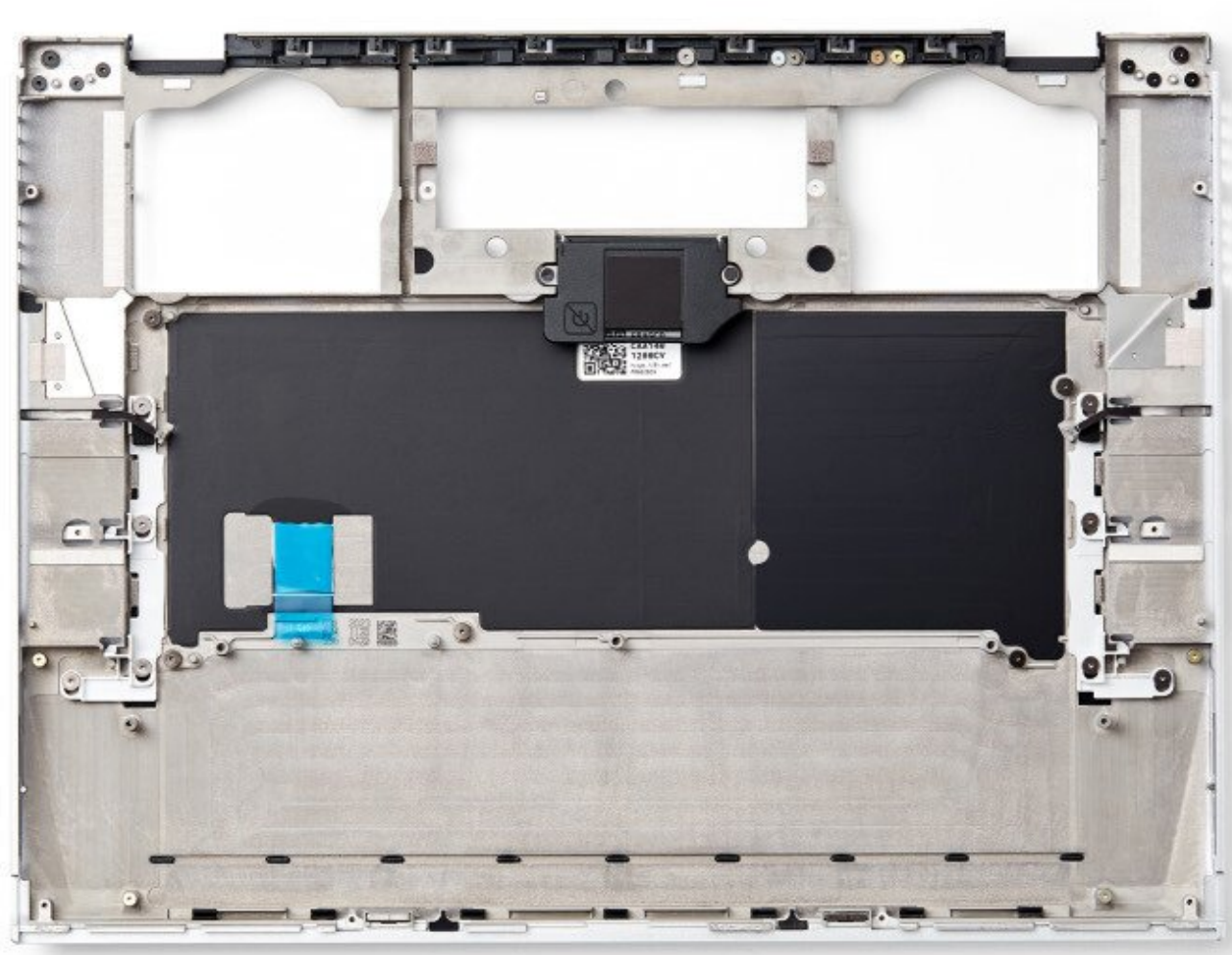
Bottom Cover

Written By: Iroh



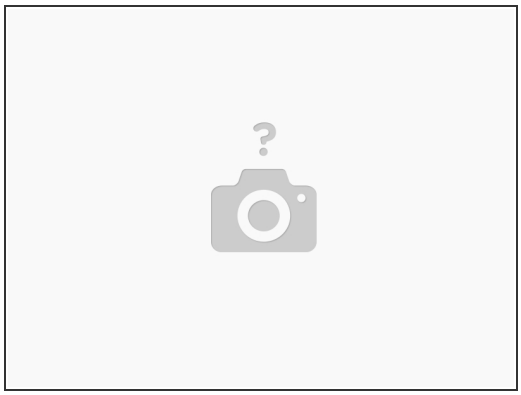
TOOLS:

- Framework Screwdriver (1)

PARTS:

- Bottom Cover Kit (Framework 16) (1)

Step 1 — Shut down your Framework Laptop 16



⚠ Before beginning, make sure to shut down your Framework Laptop.

ⓘ If the system is still powered on, you will see the chassis intrusion lights flashing red and blue when the Touchpad and Input Modules are removed.

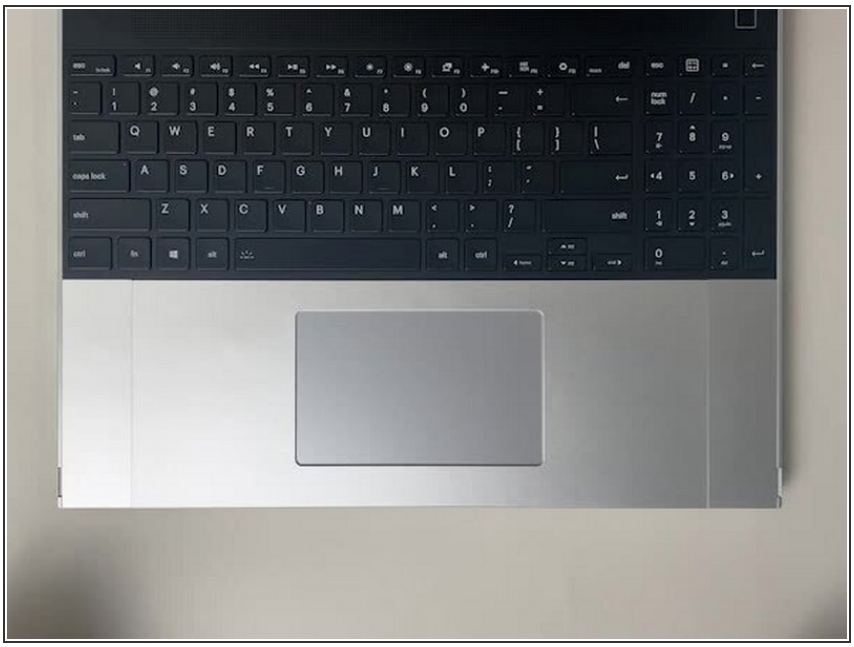
Step 2 — Remove Expansion Cards



- To remove the Expansion Cards, first turn the Framework Laptop 16 over and open the Expansion Card Latches.
- With the latches open the Expansion Cards should slide right out.

ⓘ If the latches are open and the cards feel stuck, you can use the spudger end of your Framework Screwdriver to push them out.

Step 3 — Open Input Deck Latches



- In order to remove the Input Modules from the Framework Laptop 16, begin by opening the Input Deck Latches on each side of the Laptop.

ⓘ When the latches are open you can see the red printed on the latch.

Step 4 — Remove Touchpad Spacers



- To remove the Touchpad Spacers, slide them down and then they will lift away easily.

⚠ If there is resistance, make sure that the Input Deck Latches are open (see previous step).

Step 5 — Remove Touchpad Module



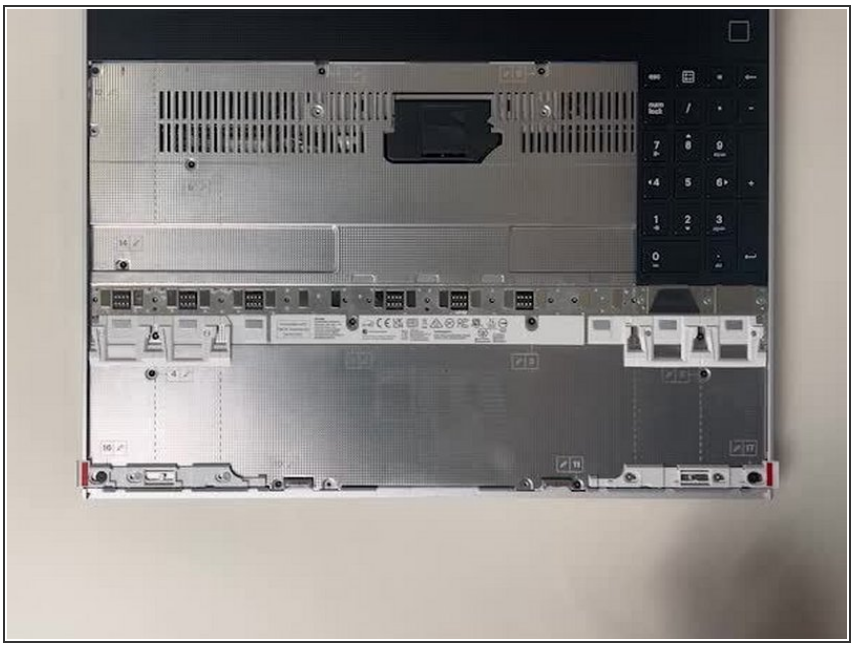
- After removing the Spacers, the Touchpad module can be removed in the same way. Gently slide it downwards from both sides and then lift away as shown.

Step 6 — Remove the Keyboard



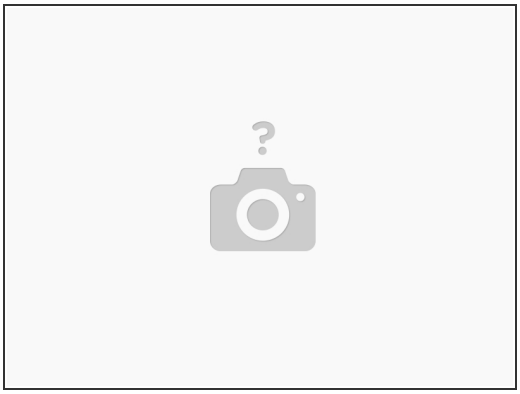
- To remove the Keyboard lift from the bottom using the pull tabs, and once lifted up the Keyboard module should lift out without resistance.
  - ⓘ If your pull tabs are no longer attached, you can carefully use the spudger side of the Framework Screwdriver to lift the module away.

Step 7 — Remove Input Modules



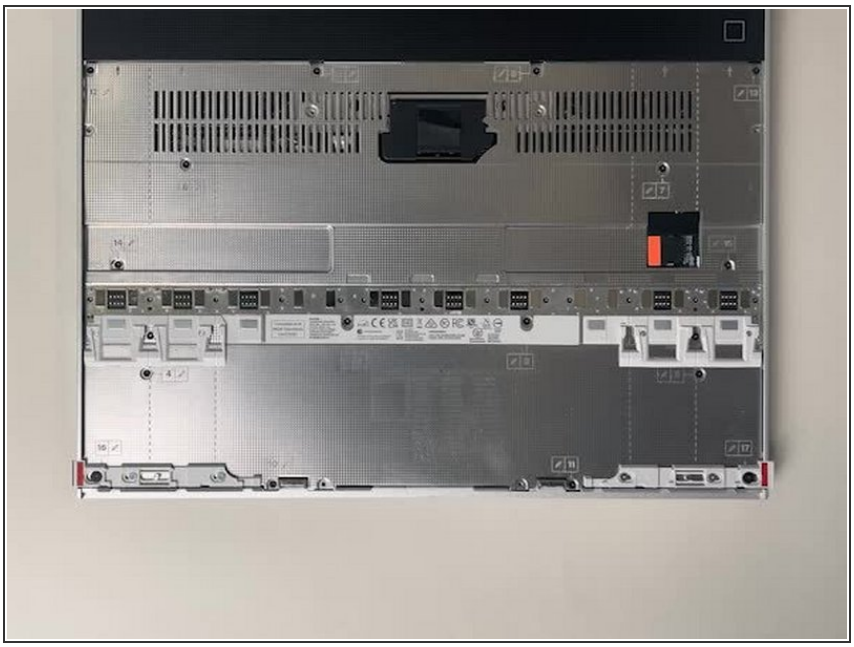
- Remove your Input Modules or Spacers in the same way as the Keyboard, lifting from the bottom using the pull tabs as shown.

Step 8 — Remove current module occupying Expansion Bay



- Depending on if you have the Expansion Bay Shell or Graphics Module installed, you will have to remove it first. Follow the guide below to remove the specific module you have installed. Once removed, come back to this guide and continue to the next step.
  - To remove the "Expansion Bay Shell" from your Framework 16, please follow this guide: Remove Expansion Bay Shell
  - To remove the "Graphics Module" from your Framework 16, please follow this guide: Remove Graphics Module

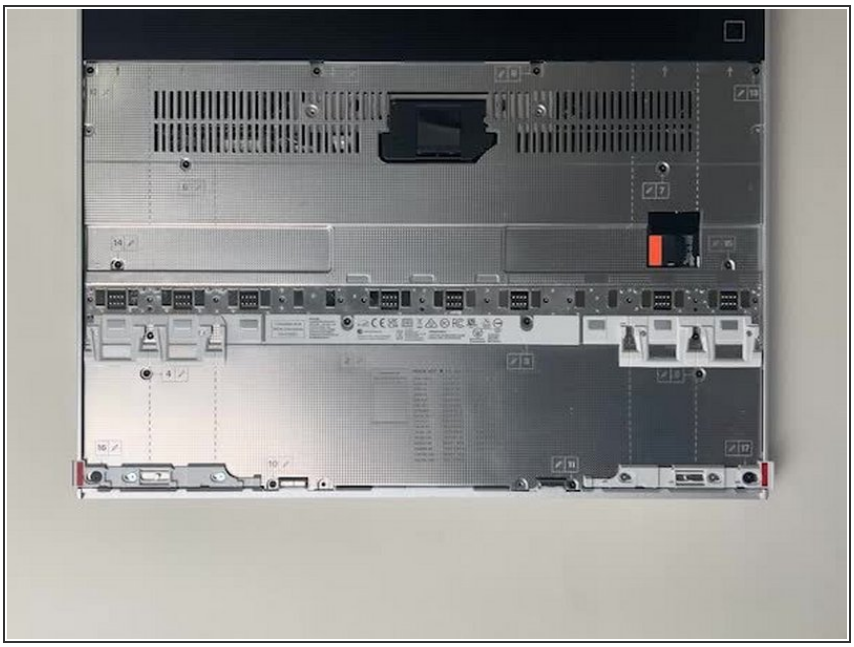
Step 9 — Disconnect Mid Plate Cable



ⓘ This cable is labeled with the Number 1 to indicate that it should be disconnected before loosening the Mid Plate Fasteners.

⚠ It is important to disconnect this cable before removing the Mid Plate as leaving it attached could damage the cable.

Step 10 — Loosen Mid Plate fasteners

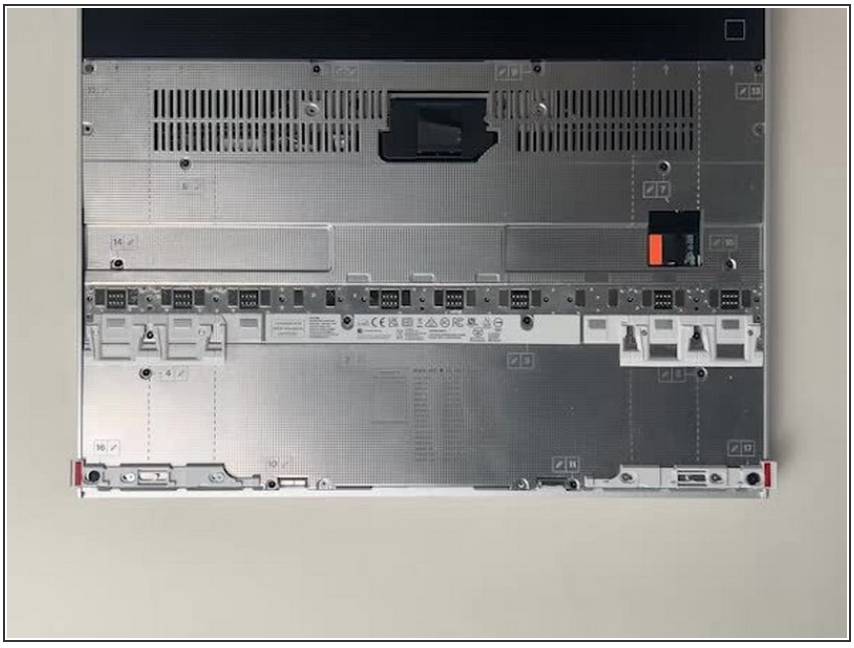


- Using the T5 bit in the Framework Screwdriver unscrew the 16 captive fasteners attaching the Mid Plate to the Bottom Cover. These are numbered from 2-17 (since the Mid Plate Cable is number 1)

ⓘ These fasteners are captive, meaning they will remain attached to the Mid Plate when fully loosened.

⚠ Do not use powered tools for this step as this risks damage to the fasteners, as with all fasteners in the Framework Laptop 16 these can be easily loosened using the included Framework Screwdriver

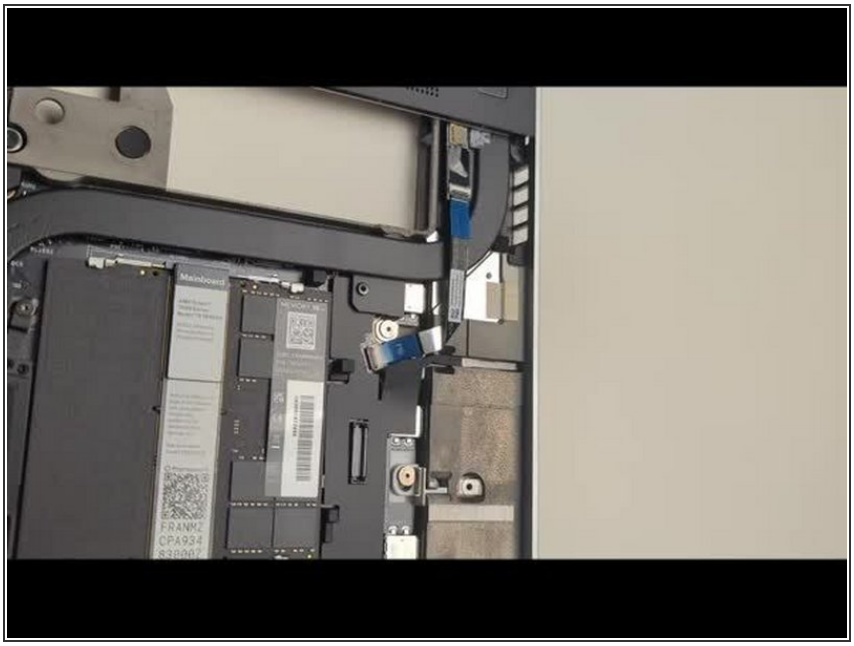
Step 11 — Remove the Mid Plate



- Carefully lift the Mid Plate away from the Bottom Cover and set it aside.

ⓘ If the Mid Plate seems stuck, check the fasteners are all loosened, there should be little resistance.

Step 12 — Disconnect Finger Print Reader



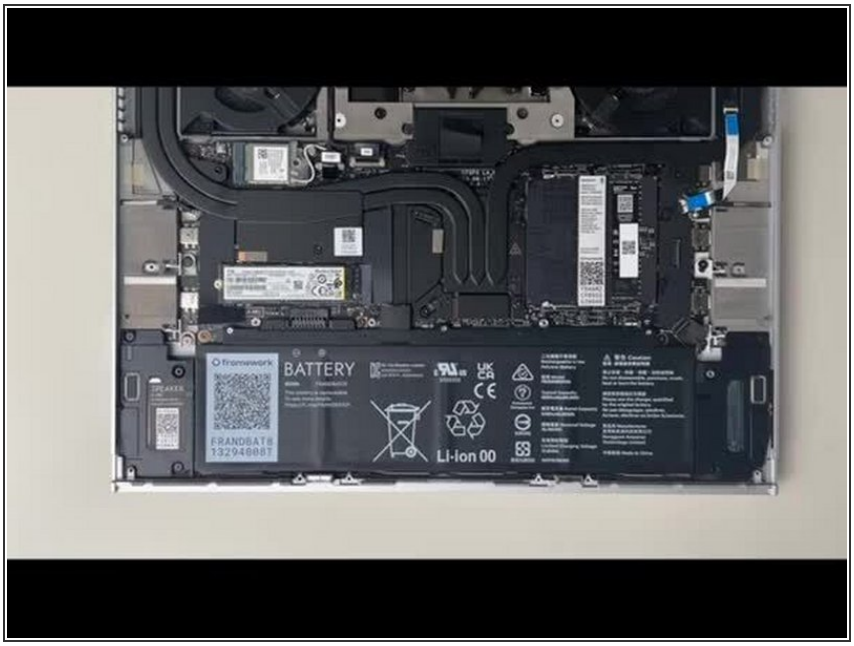
- Using the spudger side of your Framework Screwdriver, flip open the latch securing the Fingerprint Reader cable in place.
- Using the pull tab, gently pull the Fingerprint Reader cable out of the socket on the Mainboard.

Step 13 — Remove the Ventilation Plate



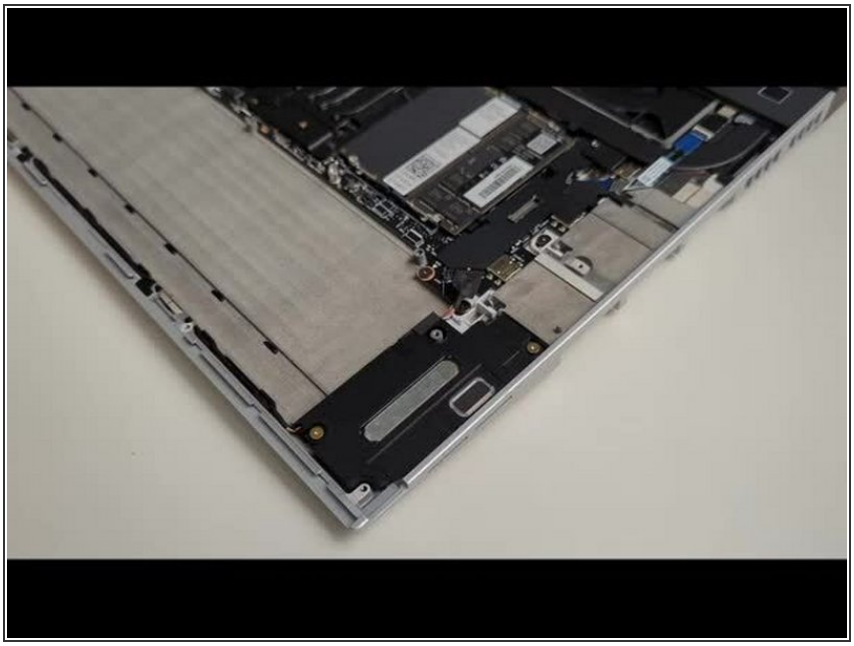
- Since the Ventilation Plate is held in place by the Mid Plate and the module installed in the Expansion Bay, with both of these removed, you can now lift it away from the Bottom Cover.
- As you lift the Ventilation Plate away, peel the light adhesive holding the Fingerprint Reader Cable onto the Bottom Cover as shown.

Step 14 — Remove the Battery



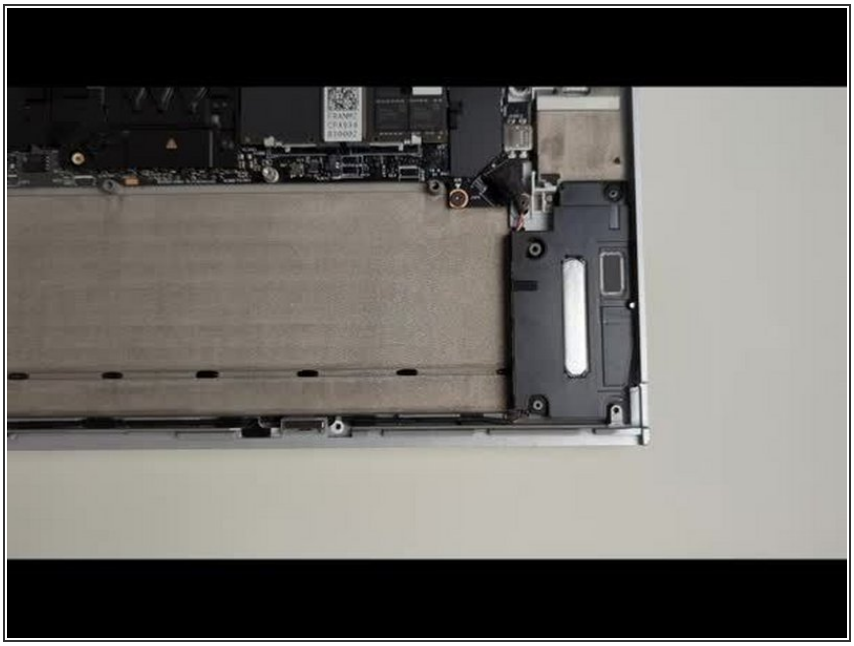
- Loosen the 3 fasteners, note that these are captive fasteners that will remain attached to the Battery.
- Lift the pull tab up to disconnect the Battery then lift it out to remove it from the Bottom Cover.

Step 15 — Remove the Speaker fasteners



- Remove the fasteners from both the left and right Speakers and set them aside.

Step 16 — Remove the Speakers



- Starting from one side, gently pull the one Speaker directly up to remove it.
- Working from one speaker to the other, unroute the cable from the Bottom Cover.
  - ⓘ The cable runs through black rubber guides as well as hooking under some metal parts of the Bottom cover. There should be little resistance when freeing the cables from the guides.
- When you reach the other side, lift the other Speaker up to remove the entire Speaker kit from the Bottom Cover.

Step 17 — Disconnect Webcam, Display, and WiFi



- At the top of the Mainboard are three connectors to remove, from right to left these are the eDP (Display) cable, the Webcam Cable and the WiFi.
- Disconnect the eDP and Webcam cables by pulling directly up on the pull tabs and unroute the cables slightly from their guides as shown to keep them out of the way of the Mainboard.
- Remove the WiFi Bracket using the Torx T5 bit on your Framework Screwdriver and remove the WiFi Card as shown.
- We recommend for this guide to keep the WiFi Module attached to the antenna cables as these can be difficult to reattach.

Step 18 — Remove Mainboard fasteners



- Using the Torx T5 bit in the Framework Screwdriver remove the six fasteners shown.

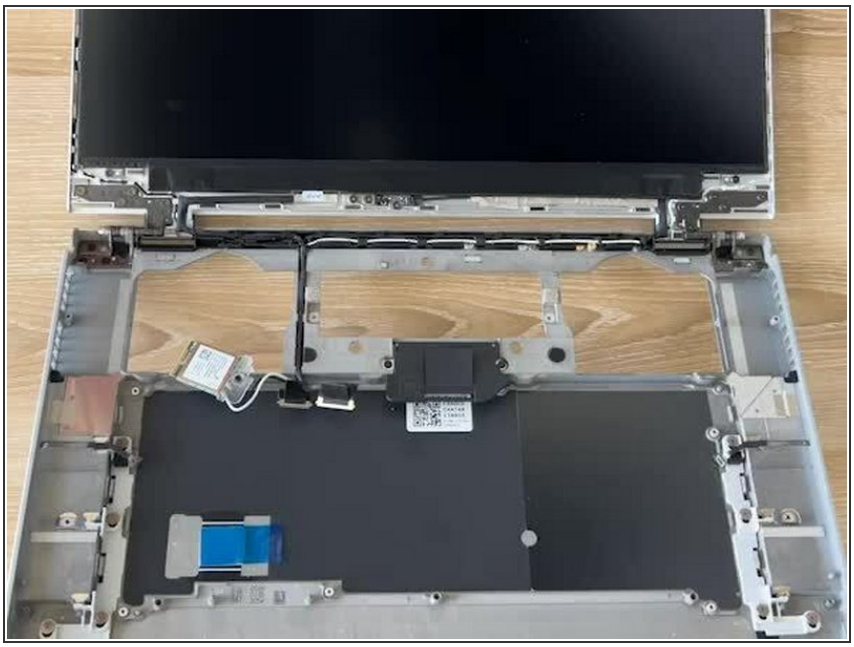
Note that one of the fasteners is under the Interposer Door.

Step 19 — Remove the Mainboard



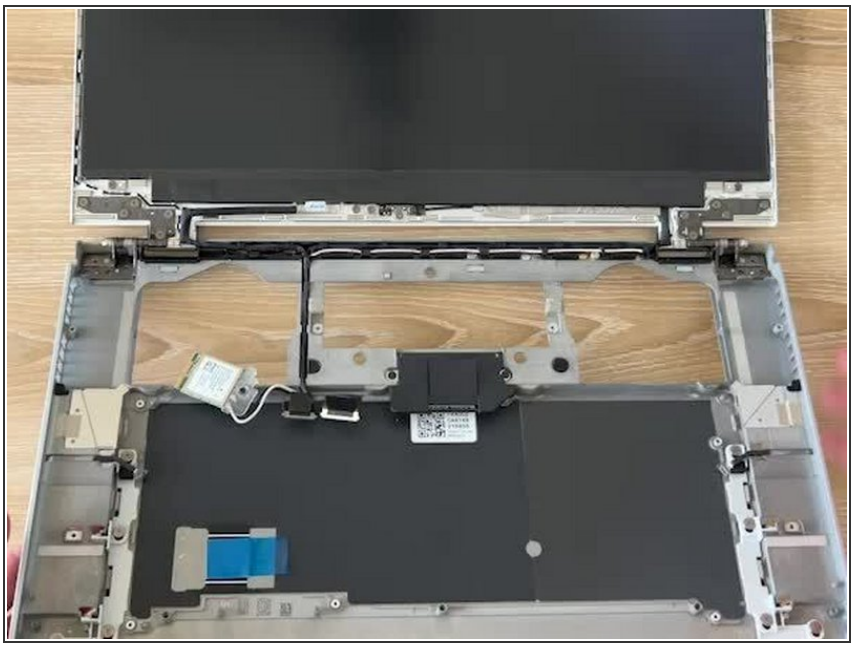
- Lifting from the edges of the board and heatpipes as shown lift the Mainboard out of the Bottom Cover as shown.
- There should be little resistance so if the Mainboard feels stuck, make sure all six fasteners were removed in the previous step.

Step 20 — Unscrew Hinge on Bottom Cover



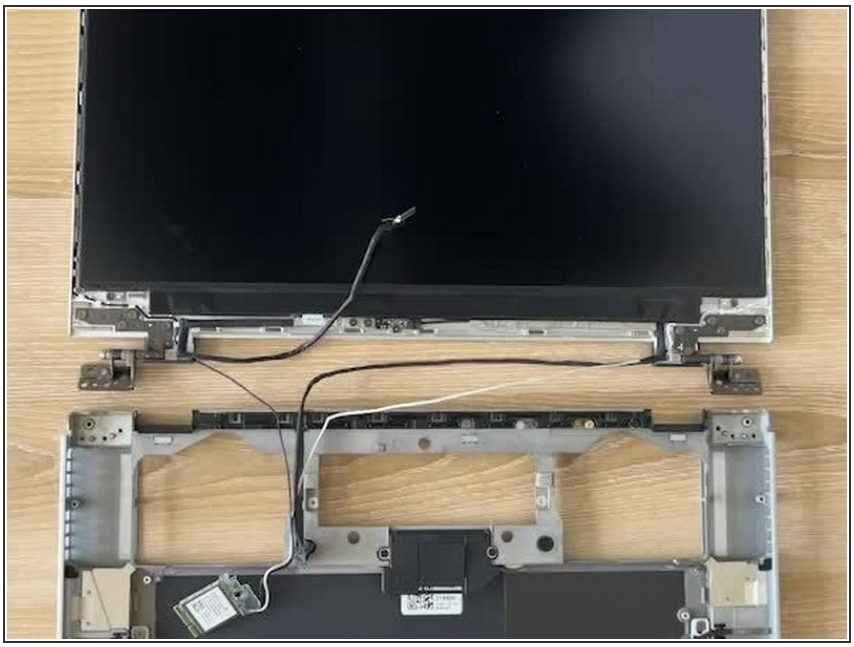
- Rest the device on the Top Cover. This way the Display/ Top Cover will not fall over and become damaged when unscrewing the Bottom Cover.
- Unscrew 3 of the 4 screws on each side (*6 total*) attaching the Hinge to the Bottom Cover.
  - ⚠ **These screws are not captive, so make sure you place them in a safe place and do not lose them.**
- With these 6 screws removed, place your hand under the Bottom Cover supporting it; and remove the final screw on each side of the Hinge.
- The Bottom Cover should now be free.

Step 21 — Unroute Webcam, Display, and WiFi cables



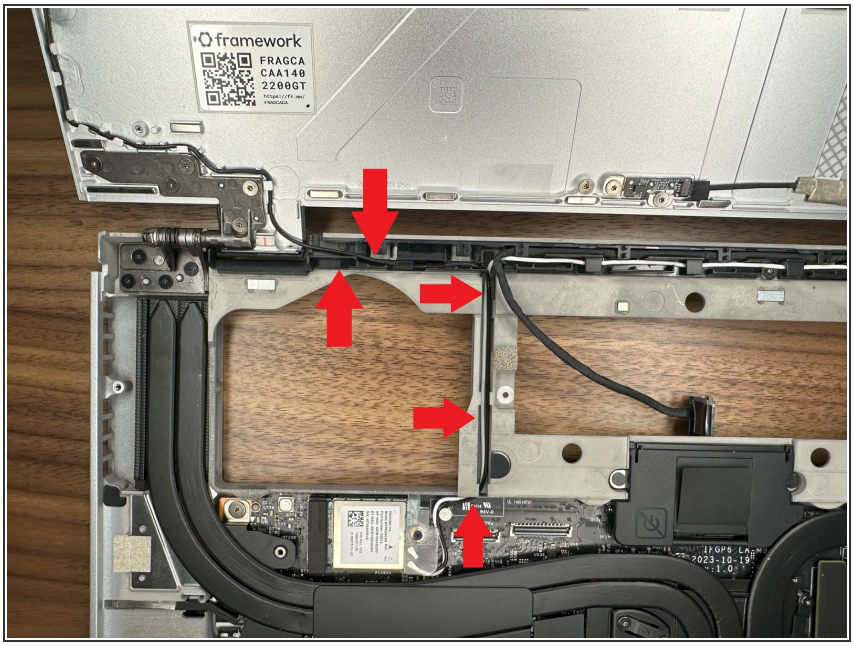
- Unroute Webcam, Display, and WiFi cables from the bottom cover.
  - ⓘ Remember how they are routed as you will route them this same way in the new Bottom Cover.

Step 22 — Screw in Hinge to Bottom Cover



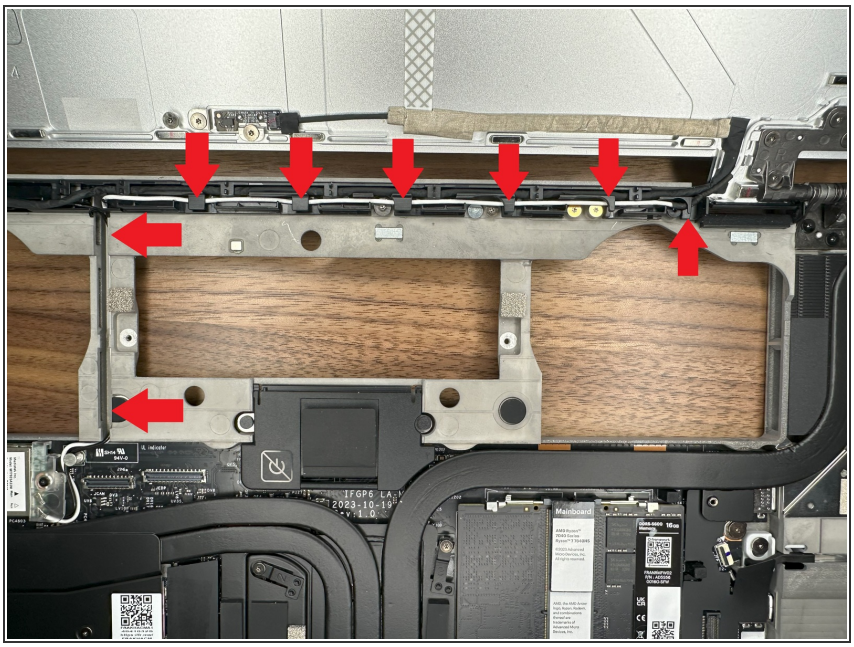
- Rest the device on the Top Cover. This way the Display/ Top Cover will not fall over and become damaged when screwing in the Bottom Cover.
- Screw in all 8 screws going back and forth between each Hinge.
  - ⓘ This makes sure the load is spread evenly between each.

Step 23 — Route Black Antenna Cable



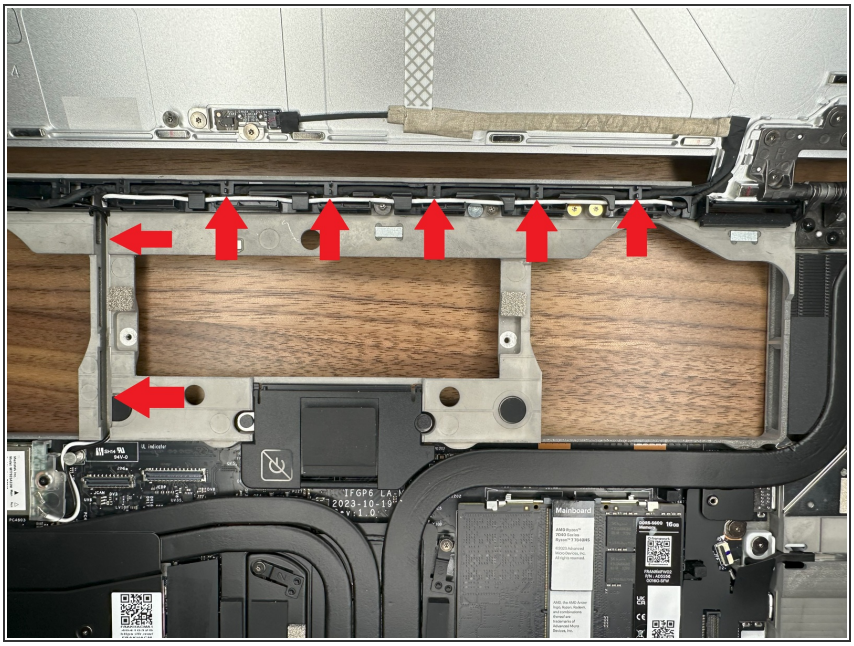
- Route the Black Antenna Cable through the left hinge; placing it in the front of the guided channel.

Step 24 — Route White Antenna Cable



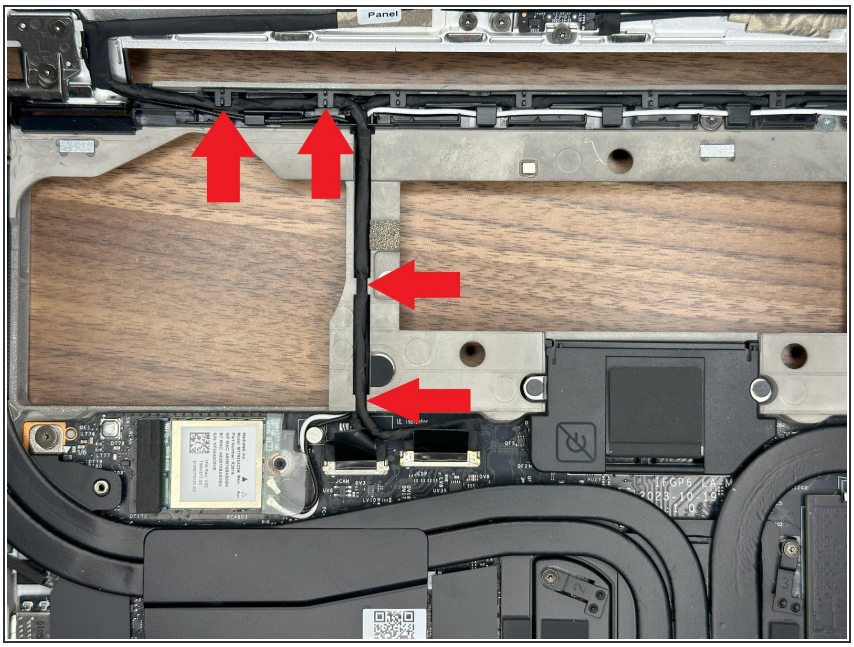
- Route the White Antenna Cable through the right hinge; placing it in the front guided channel.

Step 25 — Route Webcam Cable



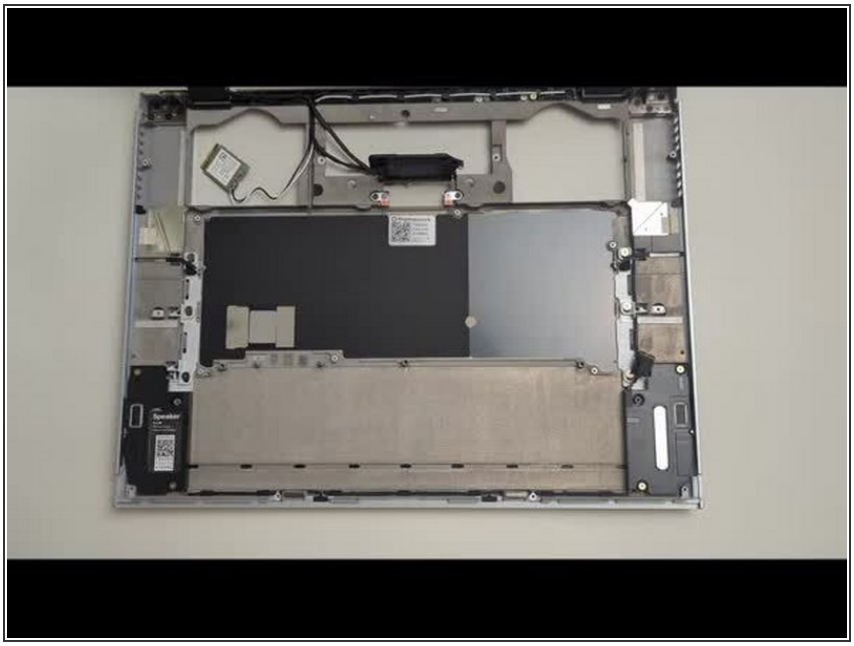
- Route the Webcam Cable through the right hinge; placing it at the back of the guided channel.

Step 26 — Route eDP Cable



- Route the eDP Cable (Display) from the Display through the left hinge placing it in the rear guided channel.

Step 27 — Install the Mainboard



- Male sure that all cables (Speaker, WiFi, eDP, Webcam) are out of the way before installing the Mainboard.
- Holding the Mainboard from the edges of the board and the heatpipes as shown, lower it into the Bottom Cover.

Step 28 — Tighten Mainboard fasteners



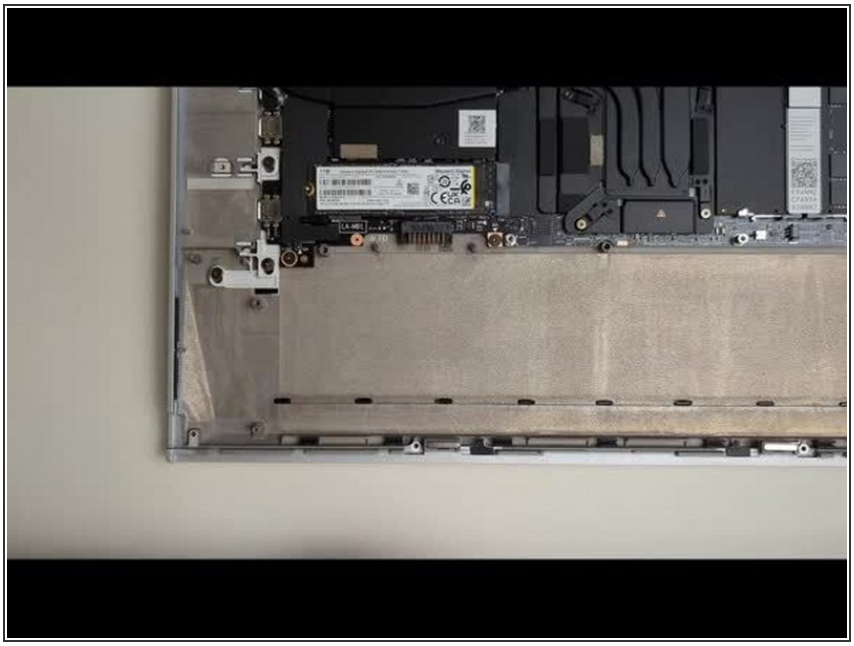
- Using the Torx T5 bit in the Framework Screwdriver install the six Mainboard fasteners, noting that one of them is under the Interposer Door.

Step 29 — Connect Webcam, Display, and WiFi



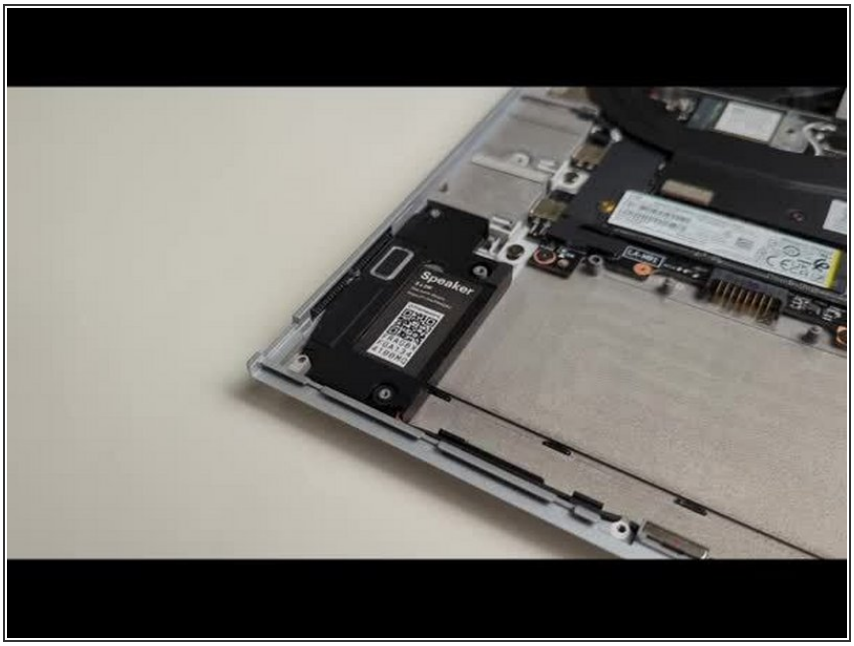
- Starting from left to right install the WiFi Module, the Webcam cable and the eDP cable.
- Plug in the WiFi Module, route the antenna cables through the channel above the Mainboard and around the metal post on the Mainboard as shown, and then secure the WiFi Bracket using the Torx T5 bit on your Framework Screwdriver.
- Connect the eDP and Webcam cables by lining them up with the socket on the Mainboard and pushing gently down.

Step 30 — Install Speakers



- Just like removing the Speakers, starting from one side, place the speaker as shown and push it down into place.
- Working from one speaker to the other, route the cable into the guides in the Bottom Cover.
- The cable runs through black rubber guides as well as hooking under some metal parts of the Bottom cover. Take your time here to make sure the cable is seated in each rubber guide and under each hook.
- When you reach the other side, place the other speaker into place and push down as shown.

Step 31 — Tighten Speaker fasteners



- Using the Torx T5 bit on the Framework Screwdriver, tighten the two fasteners on each side to secure the speakers in place

Step 32 — Install Ventilation Plate



- Place the Ventilation Plate into place as shown, the holes for fasteners will align with the bottom cover.
- Gently press down the Finger Print Reader cable to stick it to the Bottom Cover.

Step 33 — Connect Fingerprint Reader Cable

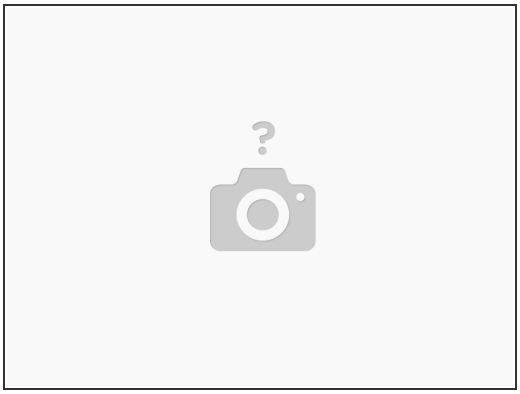


- With the latch on the Mainboard open, connect the Fingerprint Reader cable to the Mainboard as shown.

ⓘ This is quite a small connector so you may find it easiest to use the tab on the cable to push the cable into place.

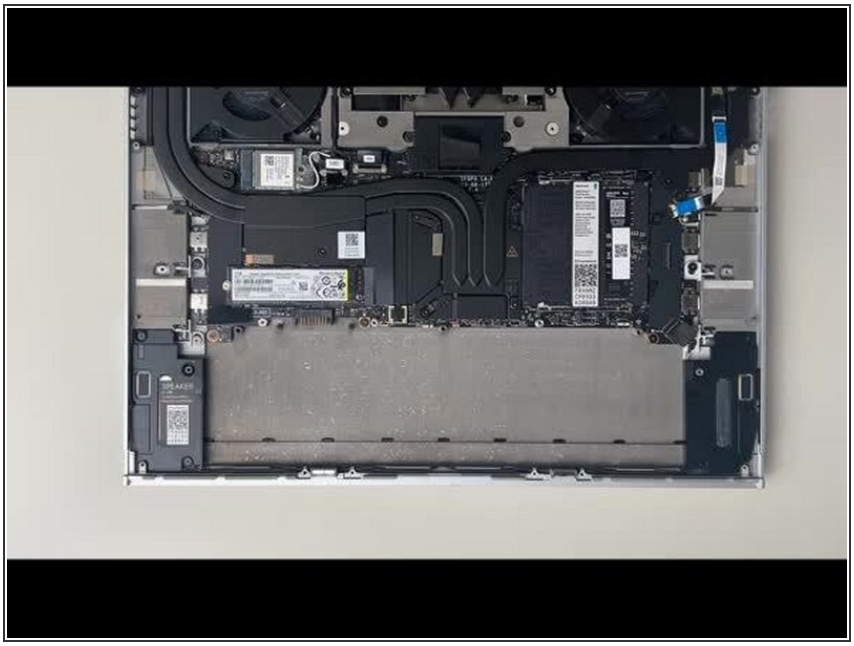
- Once fully inserted, close the latch on the Mainboard to secure the cable in place.

Step 34 — Install Module to occupy Expansion Bay



- Depending on if you have the Expansion Bay Shell or Graphics Module, you will have to install it first. Follow the guide below to install the specific module you have. Once installed, come back to this guide and continue to the next step.
  - To install the "Expansion Bay Shell" from your Framework 16, please follow this guide: Install Expansion Bay Shell
  - To install the "Graphics Module" from your Framework 16, please follow this guide: Install Graphics Module (dGPU)

Step 35 — Install the Battery



- Lower the Battery into place, first aligning the bottom of Battery in the bottom cover as shown, then push down gently to attach the connector to the Mainboard.
- Tighten the 3 captive fasteners to hold the Battery in place.

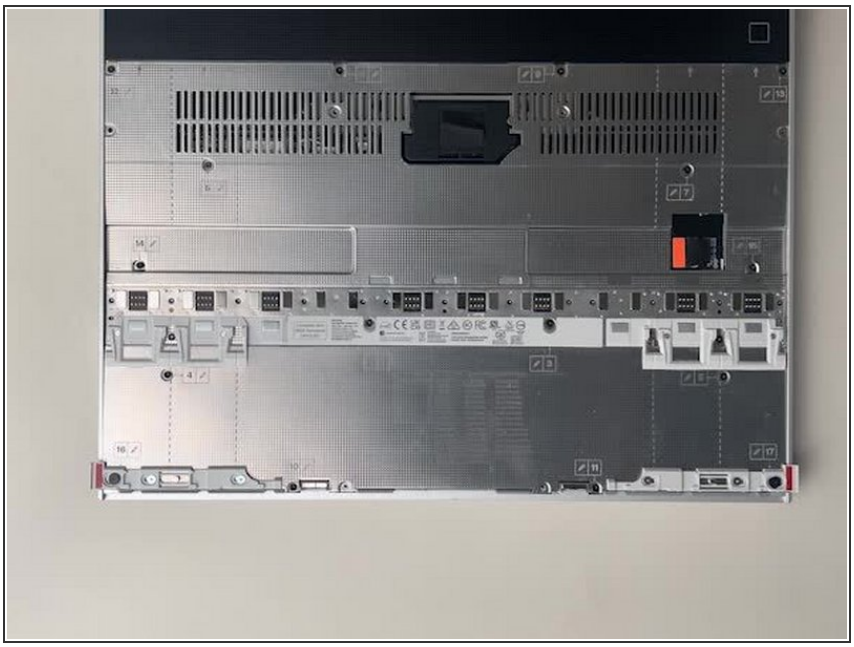
Step 36 — Install the Mid Plate



- Place the Mid Plate onto the system, aligning the holes in the Mid Plate with the two guide posts.
- These posts are on the left side and the right side, immediately above the speakers on both sides.

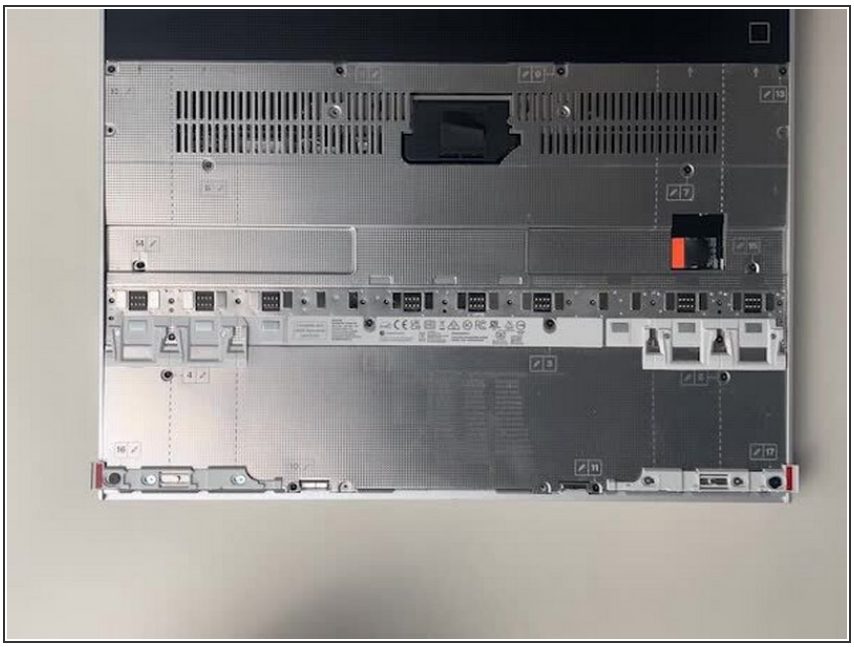
⚠ Take extra time to make sure it's sitting level/ flush.

Step 37 — Connect Mid Plate Cable



- Using the pull tab, gently press the Mid Plate connector down to connect it to the Mainboard.
- Carefully align, then firmly press in the mid plate connector cable.

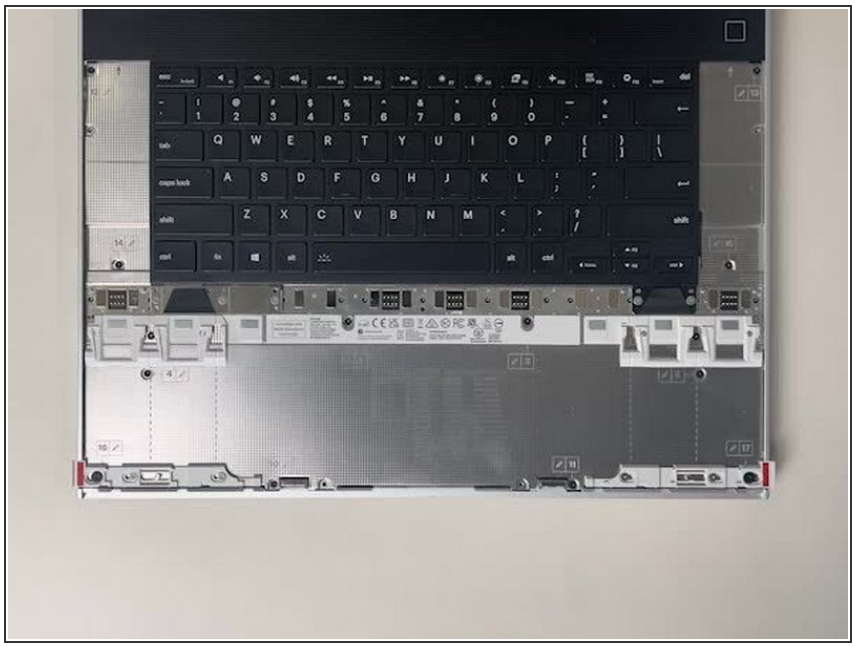
Step 38 — Tighten the Mid Plate fasteners



- Using the T5 bit in the Framework Screwdriver tighten the Mid Plate fasteners.
- Before gently tightening the screws, double check that the mid plate is aligned correctly as shown in previous step.
- These fasteners are labelled 2-17 (since the Mid Plate cable is number 1) and should be tightened in order, starting with 2 and ending with 17.

⚠ Do not overtighten these fasteners, and we recommend against the use of powered tools for these or any other fasteners on the Framework Laptop 16.

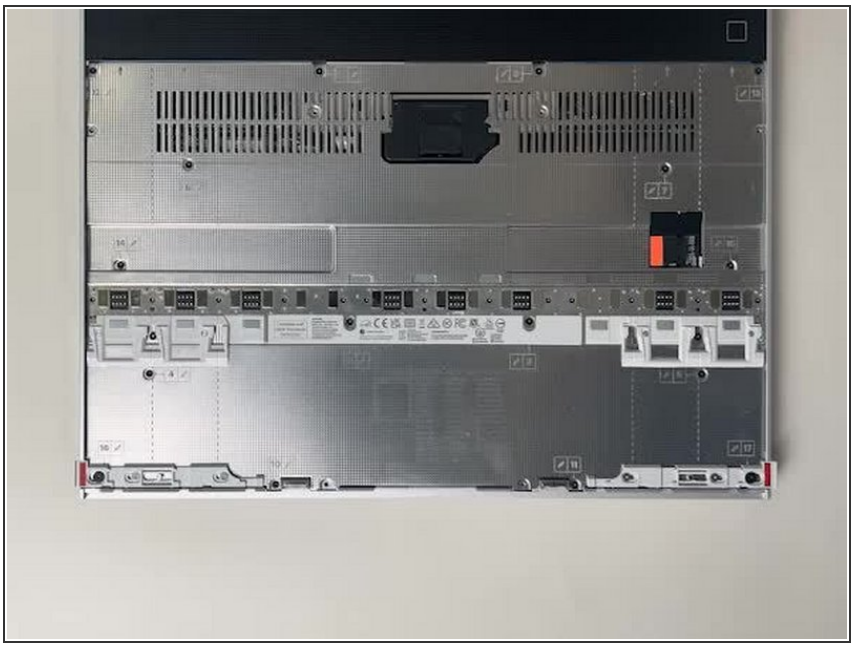
Step 39 — Install Input Modules



- Next install, two Spacer Modules, an LED Matrix, a Numpad, an RGB Macropad, or whichever other combination of two Small or one Medium sized Input Module you have.
- Slide these in at an angle and lower into place, the same way the Keyboard was installed.

ⓘ Whichever Input modules you chose to install, you should have no empty spaces in the top row before proceeding to the next step.

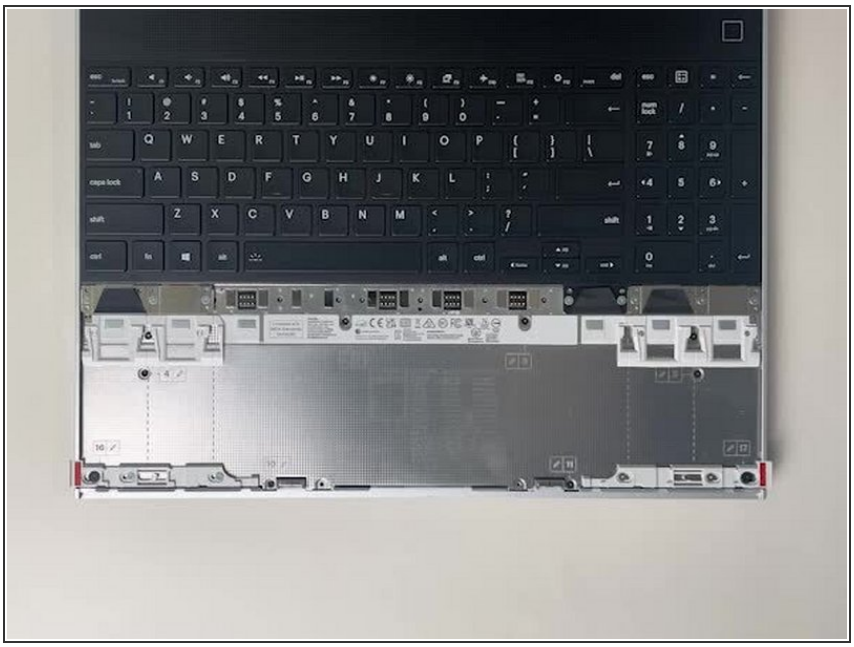
Step 40 — Install the Keyboard



ⓘ Please see our guide **here** on possible Input Module configurations.

- Holding from the pull tabs at the bottom of the Keyboard module, line it up with the dashed guide lines printed on the Mid Plate. Note that you can align a Keyboard so that it is either along the left edge, the right edge, or centered. With the Keyboard held at a 20 degree angle, slide it up into place.
- The notches along the top of the Keyboard will fit into the corresponding alignment guides under the Ventilation Plate.
- Lower the Keyboard gently into place, it should snap in place magnetically and sit flat.
  - ⓘ Ensure that the pins in the Mid Plate to the left and right of the Input Module Connector align into the corresponding holes in the Keyboard module.

Step 41 — Install Touchpad Module



- Place the Touchpad Module flat, slightly below the Keyboard as shown.
  - Like the Keyboard, you can confirm it is properly aligned by lining it up to the dashed lines on the Mid Plate.
- Applying gentle downward pressure to keep the Touchpad module flat, slide it up into place.
  - Remember that the Input Deck Latches should still be open at this point, otherwise the Touchpad Module won't slide on.

The Touchpad Module can be installed either directly below the Keyboard or offset by one space to the right. For example, the Keyboard can have the Touchpad below it, or the Keyboard can be left-aligned while the Touchpad is centered.

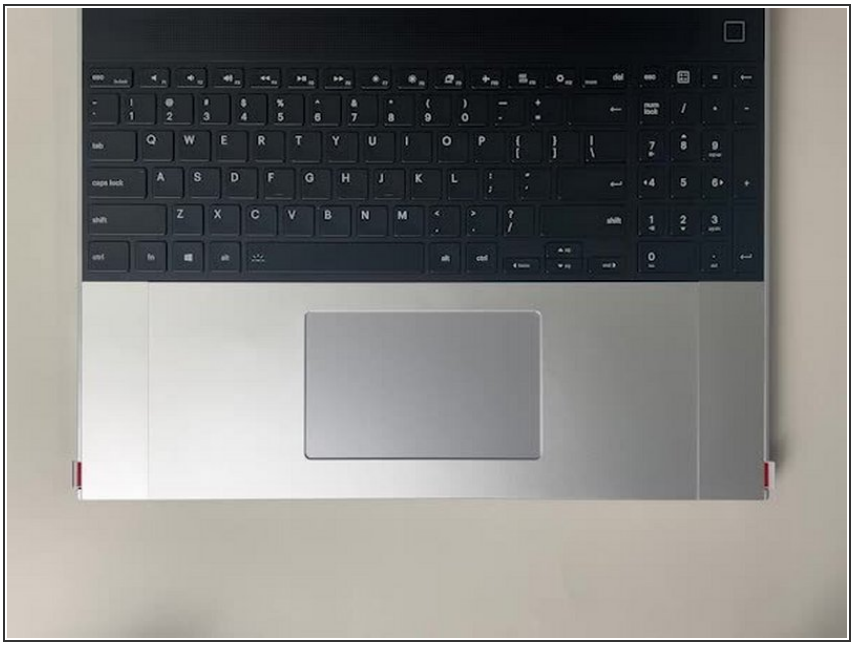
Step 42 — Install Touchpad Module Spacers



- Just like installing the Touchpad module, place the Touchpad Spacers flat on the Input Deck, slightly below the Keyboard or Spacers above.
- Applying gentle pressure, slide the Touch Module Spacers into place.

ⓘ With the Touchpad Module Spacers installed there should now be no empty spaces on the Input Deck.

Step 43 — Close Input Deck Latches



- Once all Input Modules are installed, close both Input Deck Latches to secure them in place.