

## How to disassemble an ASUS ROG gl551jw and clean the dust in the computer

Everything that you see will accumulate dust in one way or another. Most of the time we see it pile up on the top of the objects such as a refrigerator, table, chairs, books, and just about anything you can imagine; But dust also accumulate inside an object. Some of the most common object that accumulate dust inside is a computer, and dust accumulation inside the computer can cause the computer to overheat or even cause mechanical malfunction. It's easier to clean a desktop than a laptop because you can easily remove the plate on the side of a desktop to access all the hardware and clean the dust. It's not so simple for a laptop on the other hand, A laptop is more compacted and is usually designed to prevent the structure from falling apart. Cleaning a laptop is a more daunting and difficult task than cleaning a desktop. In this manual, it will cover how to disassemble the ASUS ROG gl551jw, which is a gaming laptop, and how to properly clean this laptop.

### Material:

- ASUS ROG gl551jw
- Compressed Air Duster
- A screwdriver with \*Phillips Head tip (preferably with magnetic tip)
- A sharp thin object
- A tray or container
- A tweezer (optional for hardware safety)
- A glove (optional for safety)

\* A Phillips Head look like this



### Safety and Preparation information

**Warning:** Read this before proceeding to begin the disassembly to prevent damage to the equipment, computer, and you.

To create a safe working environment, you should be full aware of the following tips. Make sure there is a clear area to work with to ensure there are no missing pieces during the procedure. Make sure to unplug the computer from the power supply so there is no electrical current except from the battery and wear a rubber glove throughout the procedure to prevent electrical shock during the procedure.

If you are under the age of 18, it is highly recommended to have a parent oversee the procedure of the disassembly. The procedure will void the warranty of your computer, so do it under the permission of your parent or careful consideration. If the procedure is done incorrectly, there might be damages done to the computer.

## Disassembly of the computer

This is the core process of this whole instruction. You will disassemble the entire computer with the use of proper tools and remove the keyboard piece, which includes all the computer part in the back from the frame of the computer. Also keep all the detached pieces next or near the computer. The disassembly of the computer consists of 5 parts, preparation, detaching the parts in the battery compartment, internal drive compartment, cd compartment, and separating the frame from the hardware plate. The hardware plate is where all of the circuit, motherboard, fan, and anything else that might accumulate dust, the parts in this section are sensitive, so one must handle with great care.

**Tips:** It is highly recommended to keep all removed screws in a container to prevent it from being missing.

**Caution:** Make sure you wear turn off your computer before you prepare for the procedure, and wear a glove throughout the procedure.

### Preparation

1. Make sure there is a clear area with no obstructing area to use as your working environment, this area should also have no hole on the surface prevent anything small part falling through the holes.
2. Make sure your computer is unplugged from all sources and the computer is isolated from all external devices such as a mouse or USB connection and the power supply.

**Warning:** failing to unplug your computer prior to the disassembly of your computer may cause the person to experience electric current flowing through their body which may result in death.



## Detaching the parts in the battery compartment

Removing the battery first is the safest thing to do when disassembling any laptop, and this laptop is no different. The idea is to prevent any electric current running through the hardware at any time.

3. Flip the computer to the back where you can see all the screws. Push the slider that is next to the battery all the way to the right to detach the battery from the computer.



4. Remove the battery that is already detached from the computer after you push the slider. To remove the battery, start by lifting the side that is already lifted and detached and then the rest of the battery.

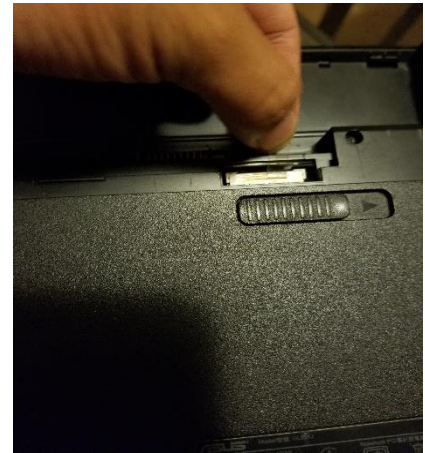


5. Remove the tab in the computer compartment that is right above the battery slot by pulling the tab from the bottom.



6. There is a white object with a clear plastic tape attached that is now visible after removing the tab. Remove the object by pulling on the tape upward with a moderate amount of force.

**Caution:** Pulling the tape at a wrong angle or too hard might damage the part or rip the plastic away making the part extremely hard to remove with tools.



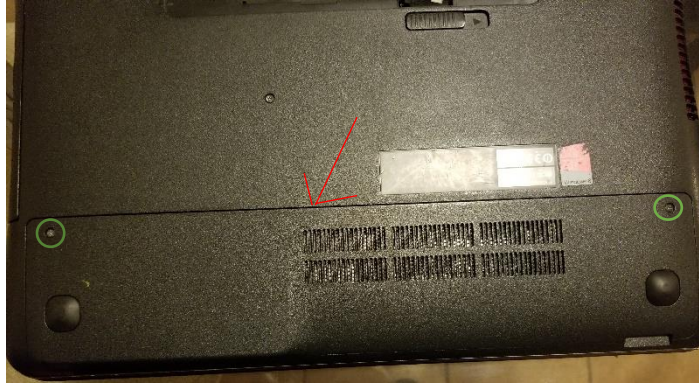
7. The battery compartment should now look like this before the screws are removed.



8. Now locate the 2 screws in the battery compartment and unscrew it and place the screws in a secure location.

## Hard drive and detachable internal drive compartment

The next part is to safely detach all drives that is in the internal drive that may be connecting the frame from the hard ware plate. The pointed area is the compartment that contains those drives.



9. First locate the two screws that secures the cover to the compartment and unscrew them to allow for the cover to be removed. The screws are circled in green in the image above.

**\*Tips:** It would be good to keep the screws in a safe place where it is secured.

10. Remove the cover from by pushing the cover away from the body of the laptop.

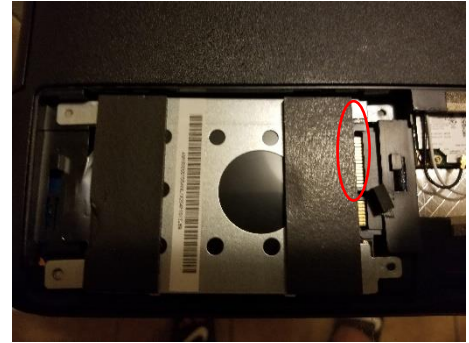


11. Identify the hard drive which is the large silver object, secured by 3 screws circled in green, on the left side (the compartment is near you) of the compartment. Unscrew the screws and store them away





12. Now push with appropriate amount of force on the hard drive to the left to detach the hard drive from the slot. It should look like the image on the right at the end where the slot on the hard drive is visible (the slot is circled in red)

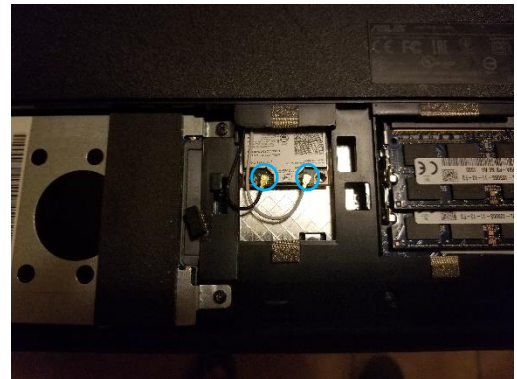


13. Now, remove the hard drive completely from the slot and place the hard drive somewhere secure. The hard drive slot should look like this.



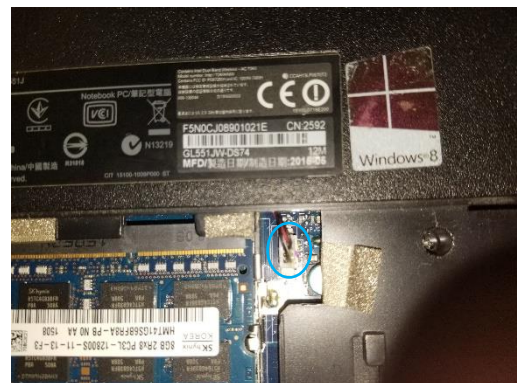
14. The next step will require you to disconnect 2 small fragile and sensitive part connected to the network adaptor (circled in blue).

**Caution:** It is highly recommended to perform this step with tweezers or similar object which allow indirect contact with it and allow for safer removal of the wire and prevent damages.



15. Next, disconnect the wire connected to the slot near the ram (circled in blue)

**Caution:** Perform this step with extreme care using a tweezers, the part is hard to remove using fingers and may cause damage to the wire itself and part on the mother board



16. Locate and unscrew all of the screws in the compartment and place them in secure place.

## CD/DVD compartment

The easiest part of the disassembly is the removal of the CD/DVD Drive from the computer. Although this part is easy, this is a mandatory step to remove the main piece from the frame.

17. Locate the screw that is in the middle of the back of the computer and unscrew it.



18. Remove the CD/DVD drive from the computer by pulling the drive out of the computer. Follow the three steps below to remove the drive from the computer.



← a.

b. →



← c.

19. There are 2 screws that is located the CD drive slot (circled in red above), unscrew it and place it in a secure place.



### Detaching the main piece from the frame

This part is the hardest part of disassembling the computer. You must detach the main piece from the frame of the computer from the main pieces which holds all the other sensitive hard ware. This main piece also contains the keyboard on the top for reference. This part requires a very sharp thin object (i.e. boxcutter blade) to perform.

**Caution:** Be careful when using a sharp object, careless usage may end in self-injury or even damages to the part.

**Warning:** Thinking carefully before performing this procedure, once you take apart your computer past this point, your warranty will be voided and any issues and damages occurred from the procedure can no longer be claimed.

20. Before the actually detachment procedure, look for all remaining screws that is in place and unscrew them and place in a secure location. Failure to do so will not let you detach the computer frame. from the main piece.

The back of the computer should look like this with all the screws removed



21. On the side of the computer, there is a visible line that divides the main piece from the frame. Cut through the line from one side of the hinge around the computer all the way to the other side of the hinge. Do this until you hear a small popping sound.



22. Using a sharp thin object and insert it into the gap, push the top piece of the line away from the bottom by moving your object in a up down motion. Until the top detaches from the bottom part all around the side (line) of the computer.

**Caution:** Too much force during the motion might break the small slot that is connecting the main piece from the frame. If all of those pieces are to break apart, there is no way to reattach the main piece to the frame.



23. At this point you will see a gap along the side of the computer, if all of the side now have a gap and the main piece (keyboard piece) no longer is attached to the frame from anywhere, lift the main piece off of the frame and the detachment process is done.

Example of proper gap:



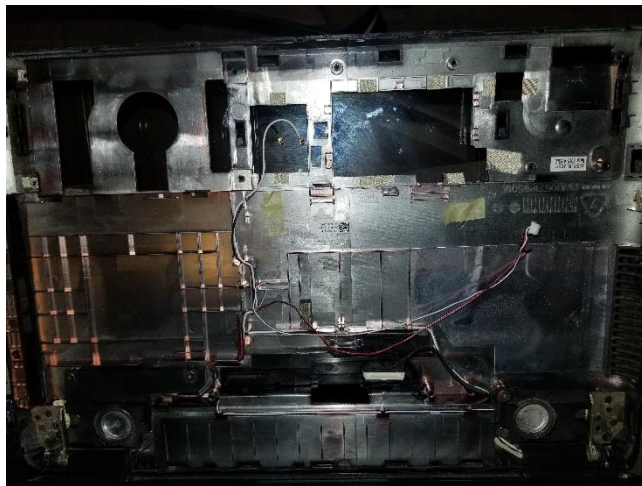
## Cleaning

Now, after the detachment procedure is done and the main piece is separated from the frame, we can proceed to the dust cleaning of the computer. There won't be many visible dust, but there might be some dust in the gaps between the plate and the circuit board on the computer.

**Note:** I have done dust clean recently on my computer, so the visual won't have any dust to show how the dust would look like in the computer.

**Caution:** Make sure to wear a glove at this point when interacting with any electrical circuit board, which are usually green or blue with a lot of pins (pointy silver/copper hard metal). The pins are the most sensitive, and physical direct contact might affect the functioning of the board.

The frame:

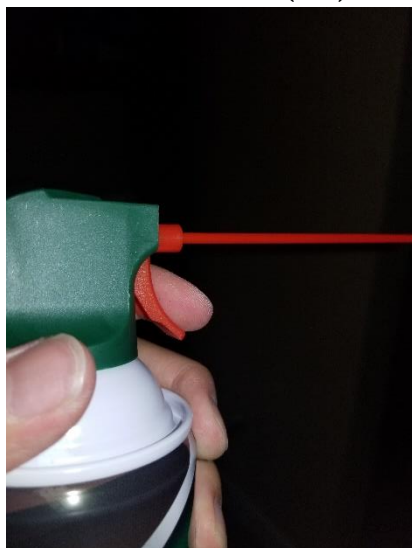


The main piece:

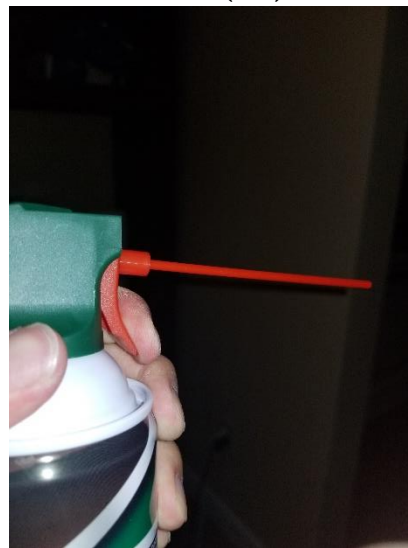


Motion to use the compressed air duster:

Not Pressed (Off)



Pressed (On)

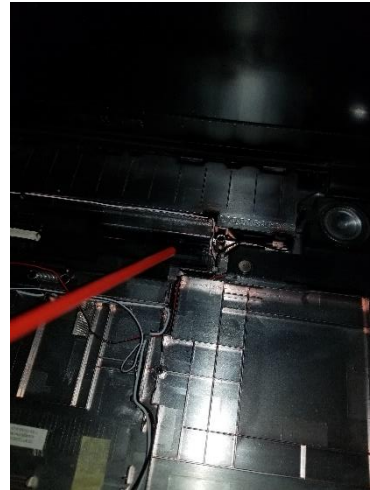




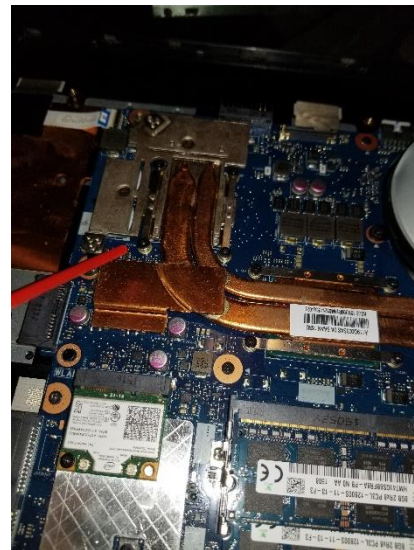
24. Appropriate use the air duster to blow the dust away from the main piece and the frame.  
The pictures below will include the recommend location to use the air duster; this does not mean other location are not applicable.

**Caution:** Make sure not to apply the air duster on a particular location more than 5 sec, the air duster is compressed air and is cold when released, this can cause freezing if used excessively on a particular location.

The Frame:



The main piece:



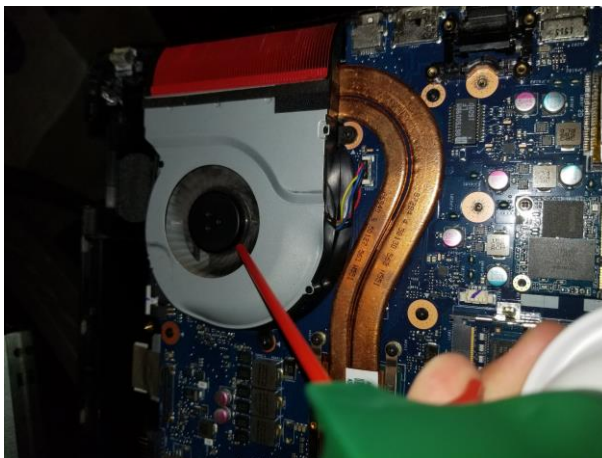
Main piece (Cont.):



25. Cleaning out the fan will be slightly different from just using the air duster on it. The fan will spin really fast due to the force from the air, so the best object is to hold the fan while you are airing the dust out.

**Tip:** Use a glove when pressing down the fan to prevent freezing on your hand or damage to the parts.

The fan parts:



26. The cleaning procedures is done and reassemble the computer by reversing the steps. Make sure that end of some of the wire in the frame are popping out so it can be reconnected.

## Troubleshoot

1. **I do not have any sharp thing object like a box cutter blade, what substitutes can I use?**

Something hard like a eating knife could also work.

2. **If I have a slightly different model of the ASUS ROG gl551, does this procedure still work?**

Yes, although there might be a very minimal difference in parts, most of the parts are identical and the process should still be the same.

3. **I have lost my screws, what should I do?**

This is quite an issue in regard to re-assemble the computer, although missing 1 or 2 screws won't do too much harm, it is best to order a replacement screw or substitute screw to secure the computer. Missing more than 2 screws will result in a very unstable reattachment of the computer

4. **I can't seem to pop the main piece from the frame off each other.**

If you can't pop the main piece from the frame, it is either you're not putting enough force or there are some screws you missed and have not been unscrewed.