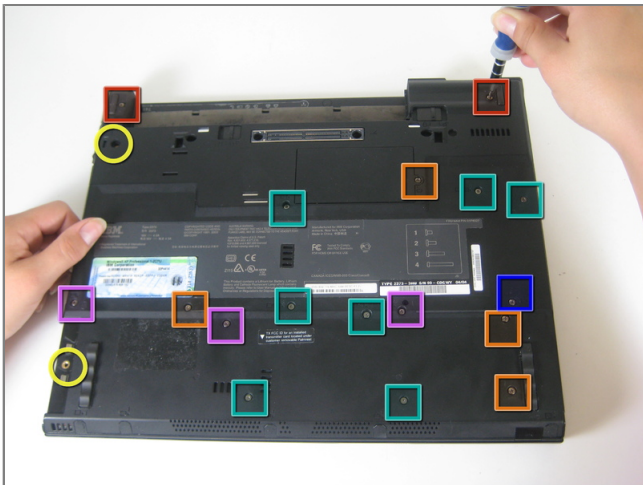




# Repairing IBM ThinkPad T41 Motherboard

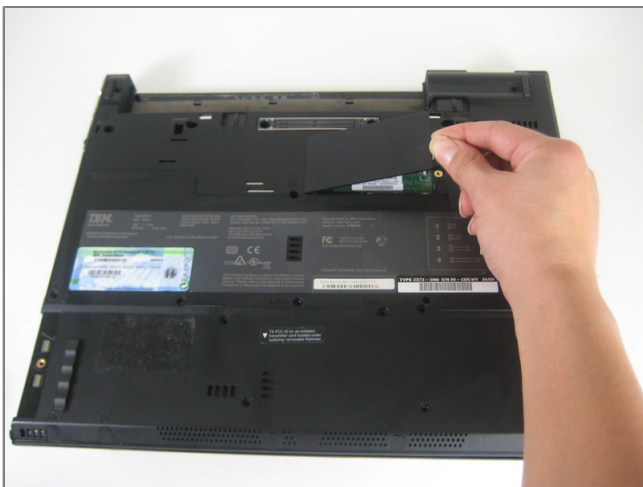
## Tools used in this guide

- [Leatherman or Needle-Nose Pliers](#)
- [Small Flathead Screwdriver](#)
- [Small Phillips Screw Driver](#)
- [Spudger](#)



## Step 1 - Keyboard

- Close the screen and turn the closed laptop over.
- Remove all 17 screws on the bottom of the computer.
- The multiple colors (turquoise, red, blue, orange, yellow, and purple) are for organizational purposes, indicating different screws.
- Your computer may have more if it still has its optical device, HDD, or battery. The yellow markers are the location of at least two extra screws that we don't have.



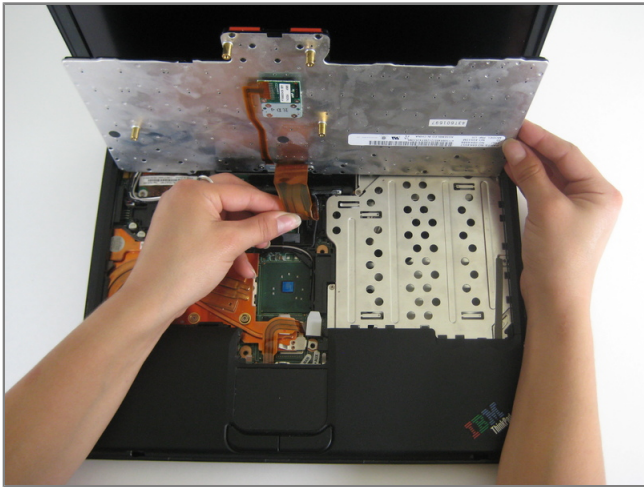
## Step 2

- Remove the extra RAM cover, by lifting where the screw was and pulling out.



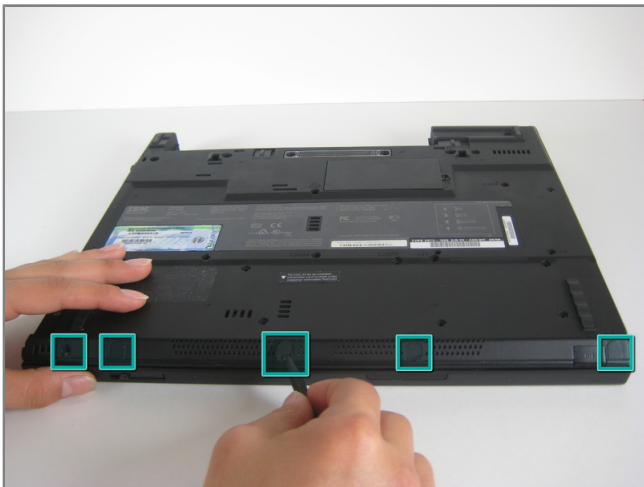
## Step 3

- Turn the laptop right side up and open the screen.
- Lift the keyboard, using a spudger at the seam between the keyboard and trackpad.
- Careful of the ribbon cable underneath, which may tear if the keyboard is lifted too vigorously.



## Step 4

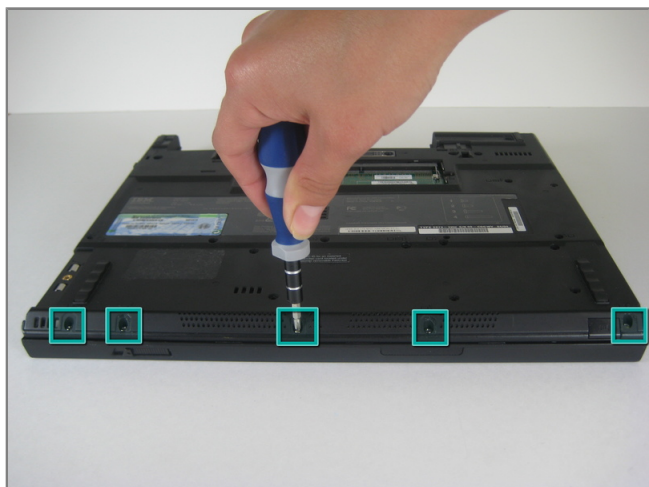
- Unplug the keyboard's ribbon cable, by lifting up the edges of the plug.



## Step 5 - Trackpad

- Close the laptop and turn it over.
- Remove the five plastic stickers covering the screws on the front edge of the case.
- In order to reuse the stickers, remove them carefully.





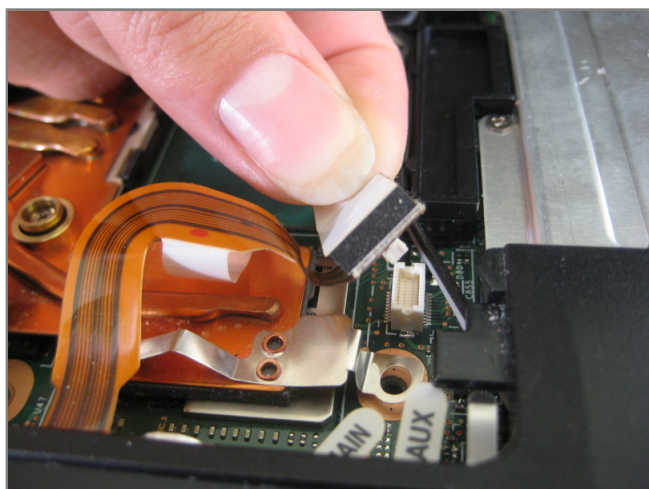
## Step 6

- Unscrew the five screws that were hidden by the stickers.



## Step 7

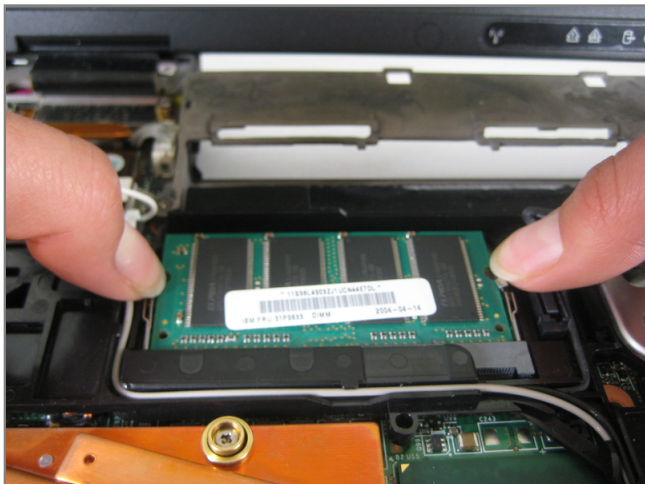
- Turn the computer right side up and open the screen.
- Lift the trackpad assembly by placing hands on both edges and then pull towards you till it is free of the case.
- Careful of the ribbon cable underneath, which may tear if trackpad is pulled too vigorously.



## Step 8

- Unplug the trackpad's ribbon cable by pulling on the white plastic tab.





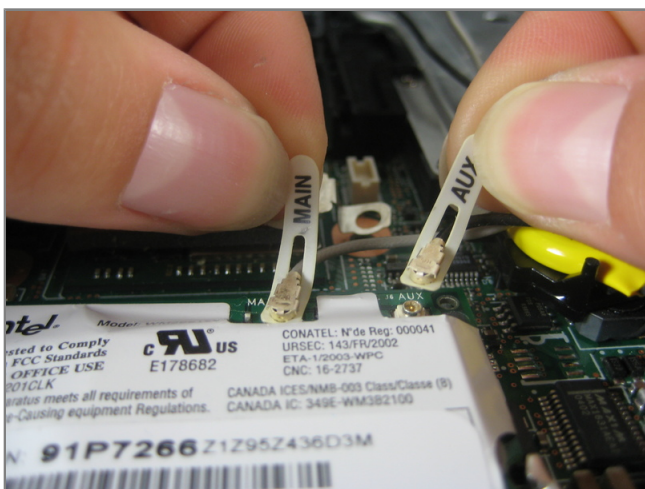
## Step 9 - RAM

- Push apart the retaining clips on the RAM.
- Note: The RAM should pop up a little bit.



## Step 10

- Lift out the RAM chip.



## Step 11 - Wireless Network Card

- Pull off the one black and one white coaxial cables by lifting the tabs labeled main and aux (for auxiliary).





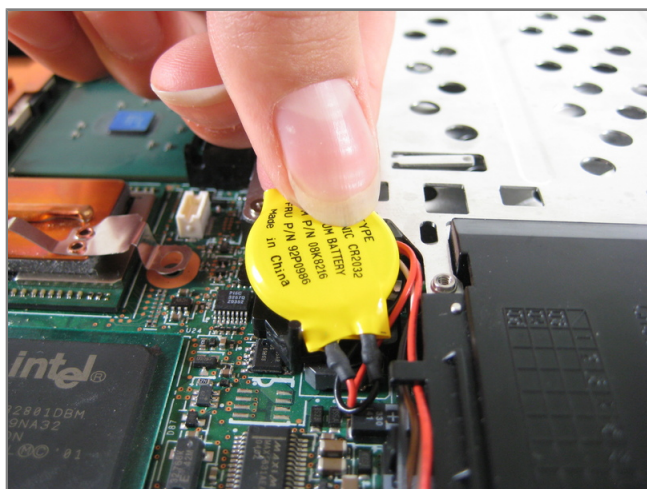
## Step 12

- Push apart the retain clips.
- Note: The card should pop up a little bit.



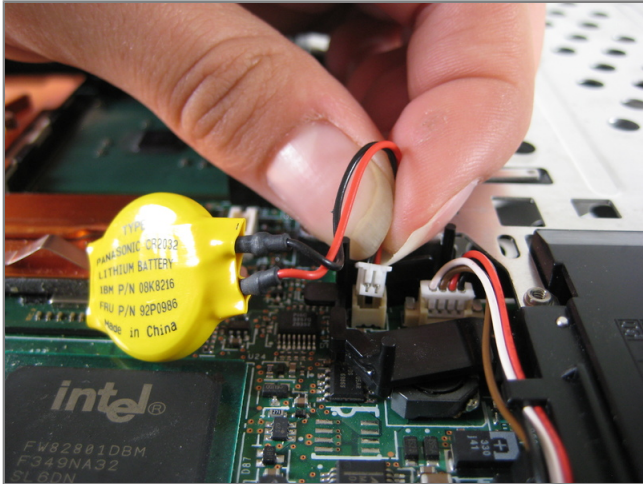
## Step 13

- Pull the wireless network card out.



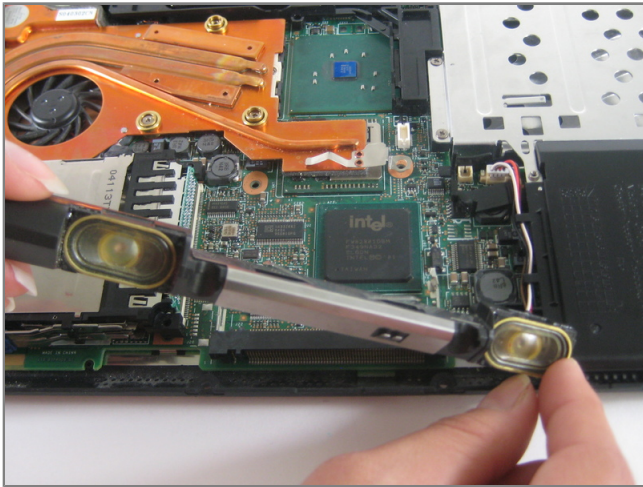
## Step 14 - BIOS Battery

- Lift the yellow plastic-covered battery up.



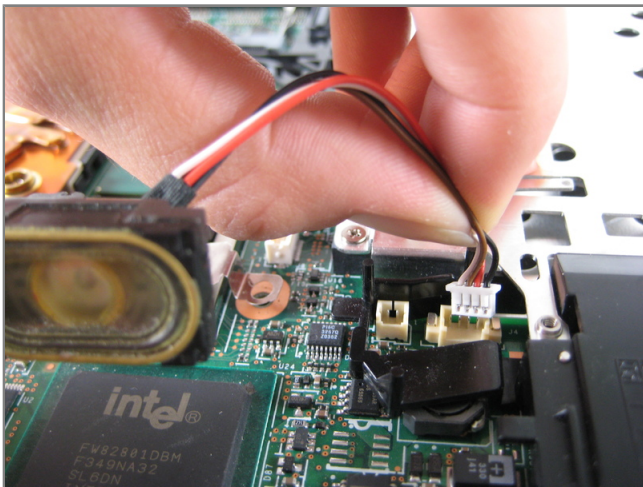
## Step 15

- Unplug the battery connector.



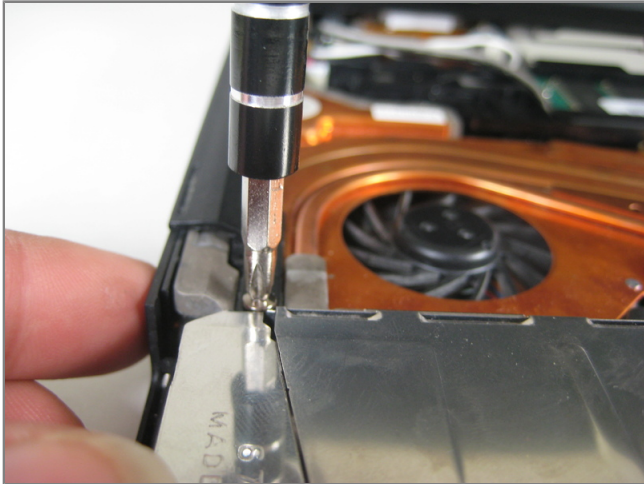
## Step 16 - Speakers

- Lift the speakers out by starting with the left end and then unsnake the wires.



## Step 17

- Unplug the wires from the motherboard.



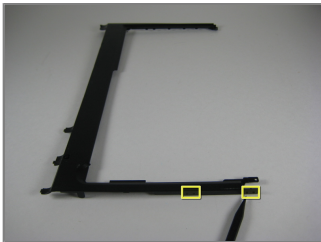
### Step 18 - Expansion Slot

- Remove the screw on the left hand side of the case, above the expansion slot.

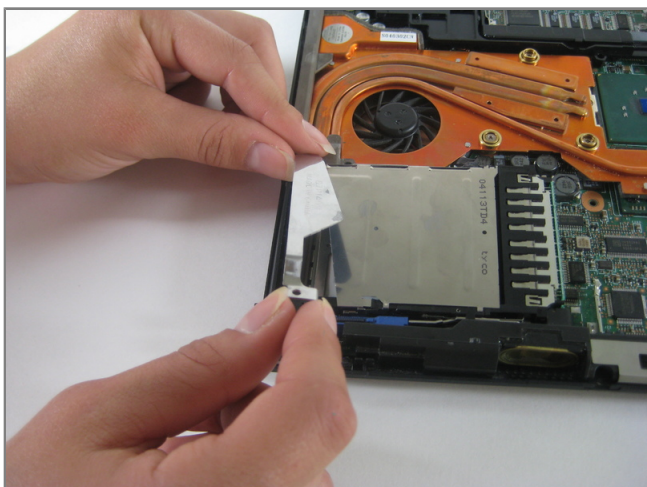


### Step 19

- Lift the black plastic border by lifting on either side.
- Once the sides are up, pull the border towards you and away from the screen.
- When lifting up, there are two pairs of plastic clips hooking into the fan grill. If you pull hard enough the border will come away, but it's better to push the clips with the spudger.

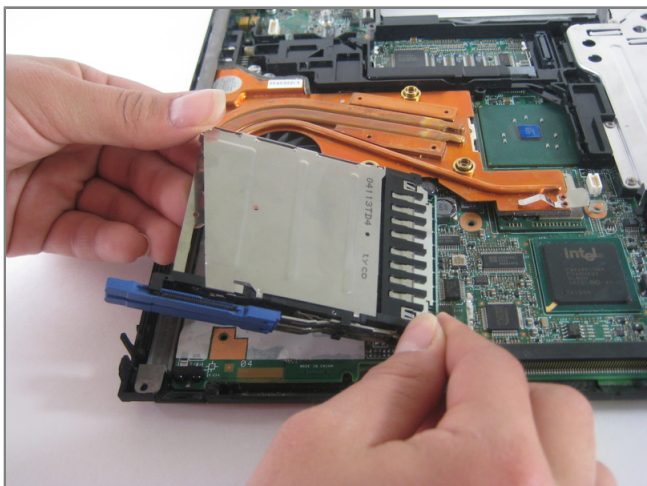






## Step 20

- Pull the sheet metal cover away from slot.



## Step 21

- Lift out the expansion slot by starting at the entrance hole and pulling upward.
- Note: Try wiggling the slot from side to side until it comes out all the way.



## Step 22 - Modem

- Remove the three screws holding down the modem in the upper left corner of the laptop.



## Step 23

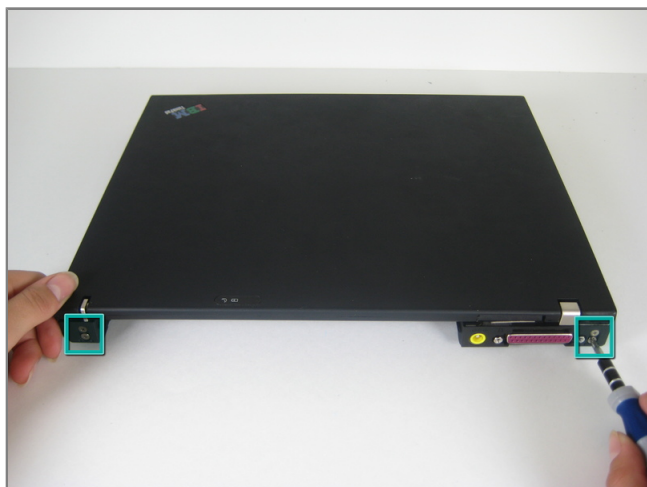
- Lift the modem up, unplugging it from the motherboard as you lift.



## Step 24

- Pull out the wire that connects the modem to the screen.
- Unplug the other cable that attaches the modem to the motherboard





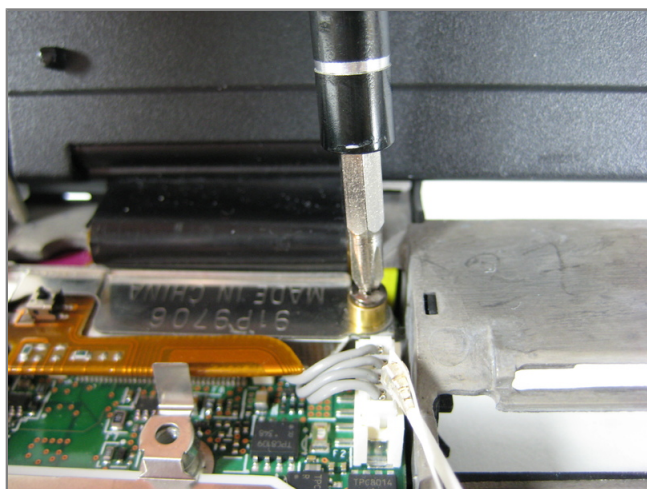
### Step 25 - Screen

- Close the computer screen.
- Turn computer around so that you are facing the back.
- Remove the two pairs of screws at the right and left hinges.



### Step 26

- Turn the computer back around so that you are facing the front of it and open the screen.
- Remove screw holding the left hinge at the top of the computer.



### Step 27

- Remove the screw on the sheet metal part that secures the screen's ribbon cable.





### Step 28

- Pull the sheet metal part away from the ribbon cable.



### Step 29

- Unplug the screen's ribbon cable.



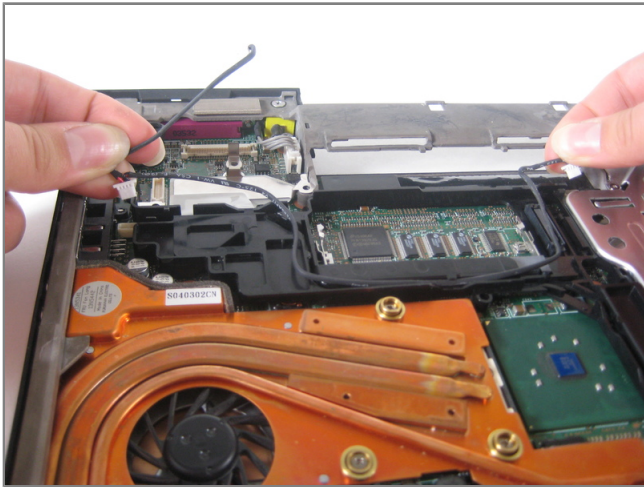
### Step 30

- Unsnake the wires that were attached to the wireless network card.



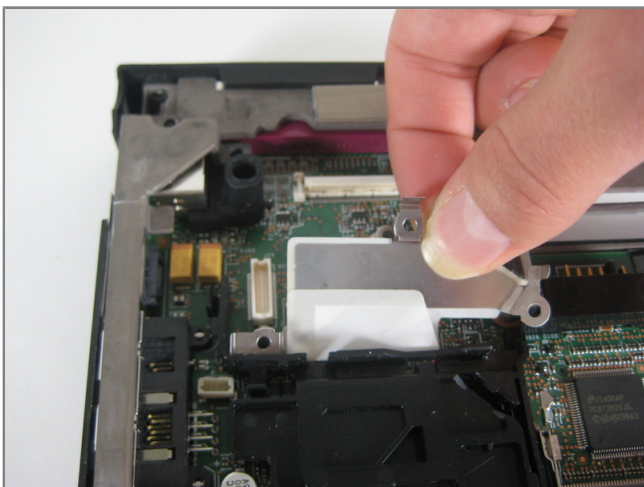
## Step 31

- Lift out the screen.



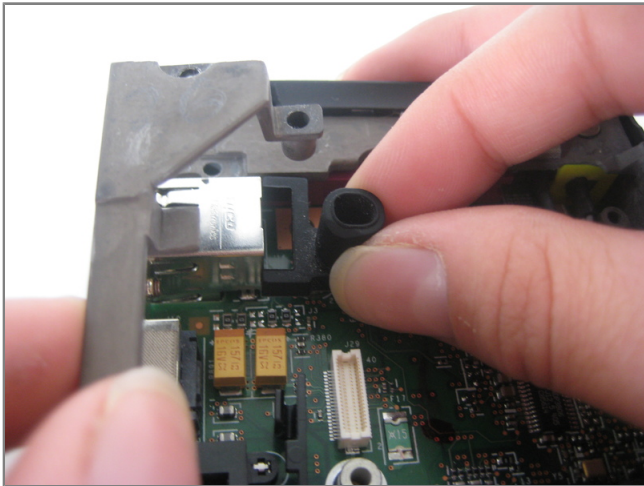
## Step 32 - Fan

- Unsnake the black cable from the black plastic frame.



## Step 33

- Remove the sheet metal piece, which was underneath the modem.



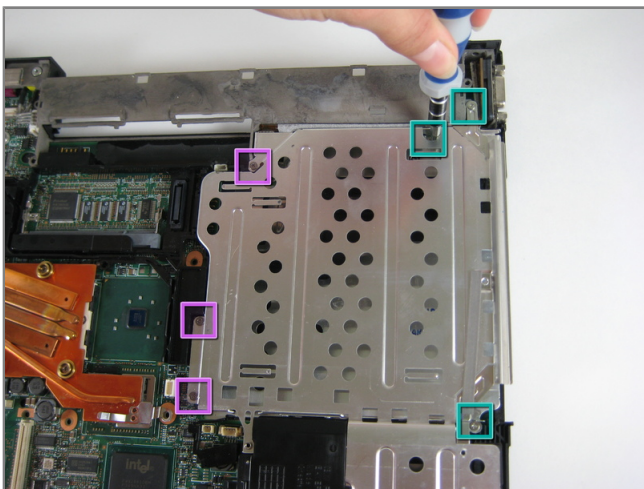
### Step 34

- Remove the rubber microphone cover in the upper left hand corner by lifting up the gray metal frame.



### Step 35

- Lift away the gray metal frame.

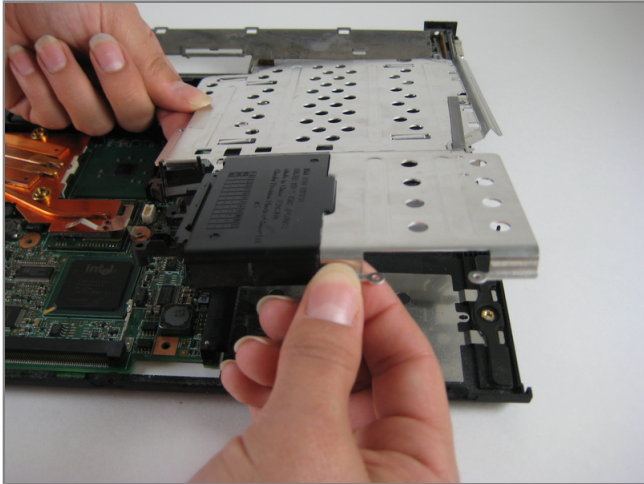


### Step 36

- Remove three screws near the edge of the computer, holding the optical bay and HDD covers.
- ☒ Remove three other screws on the other side of the covers.
- You should have six screws in total, three of one size and three of another size.

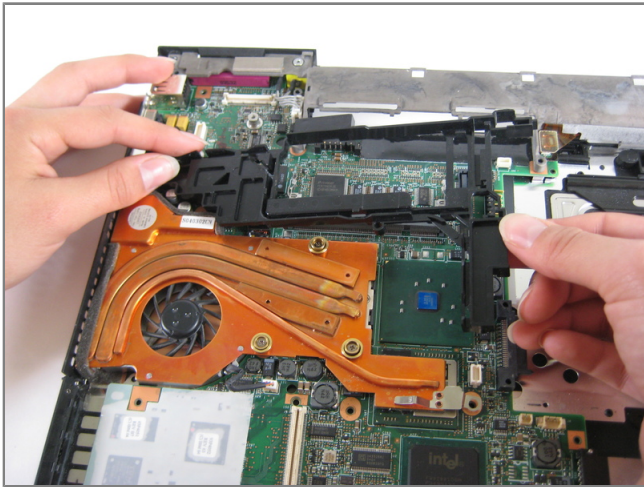






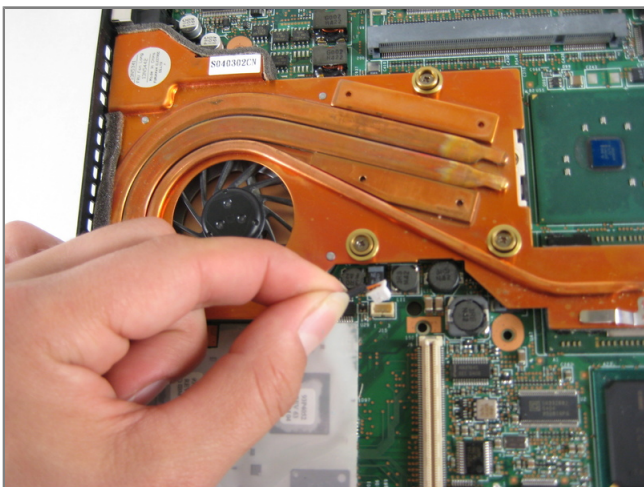
### Step 37

- Lift out the optical bay and HDD covers.



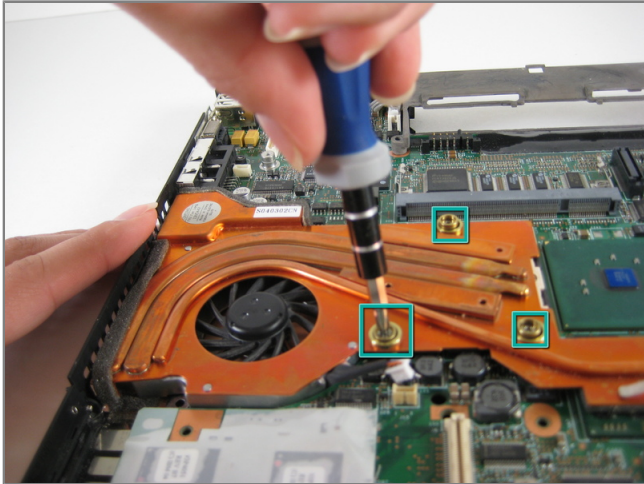
### Step 38

- Lift out the black plastic frame.



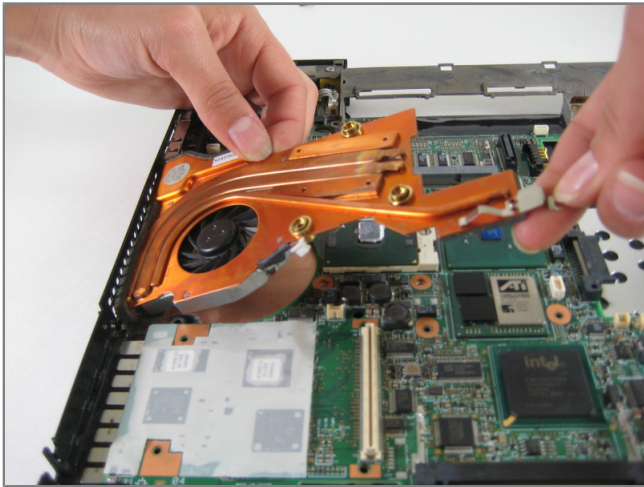
### Step 39

- Unplug the fan from the motherboard.



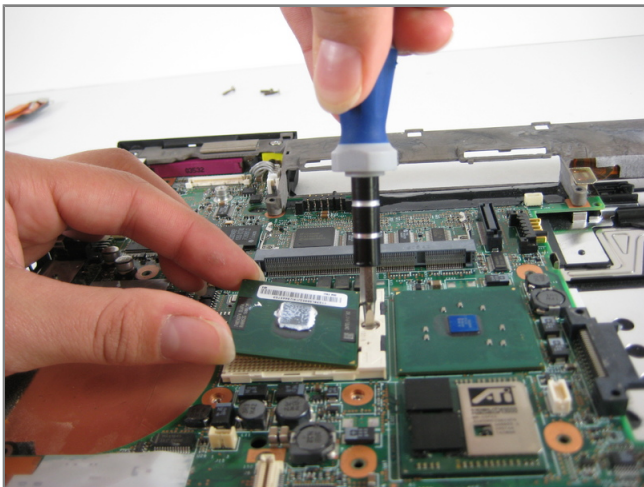
### Step 40

- Remove the three screws on the fan.



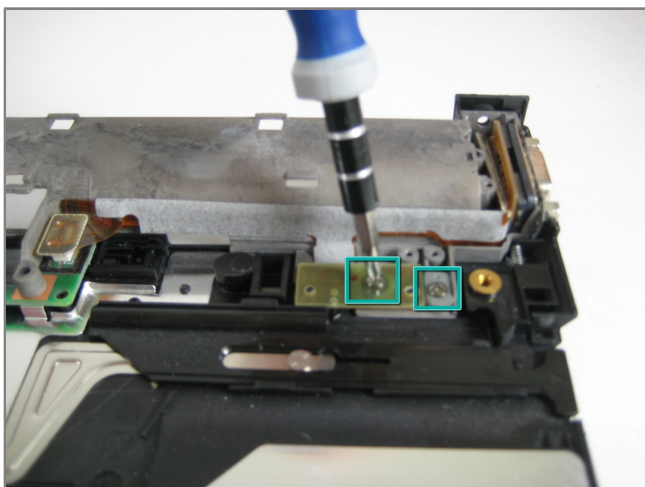
### Step 41

- Lift the fan out.



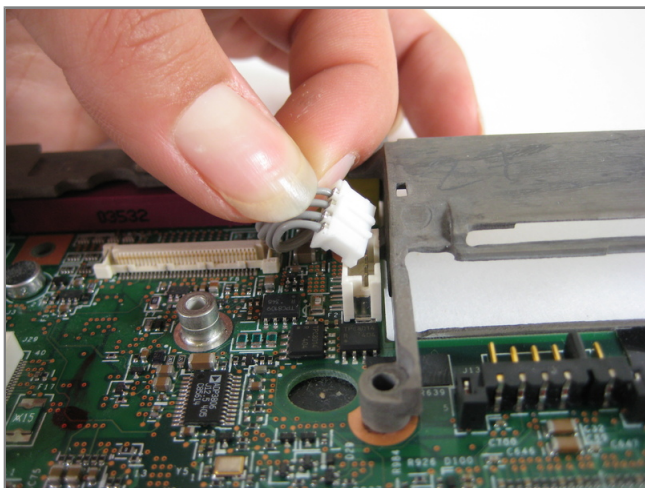
### Step 42 - CPU

- Turn the retaining screw 90 degrees counterclockwise and pull the CPU out.



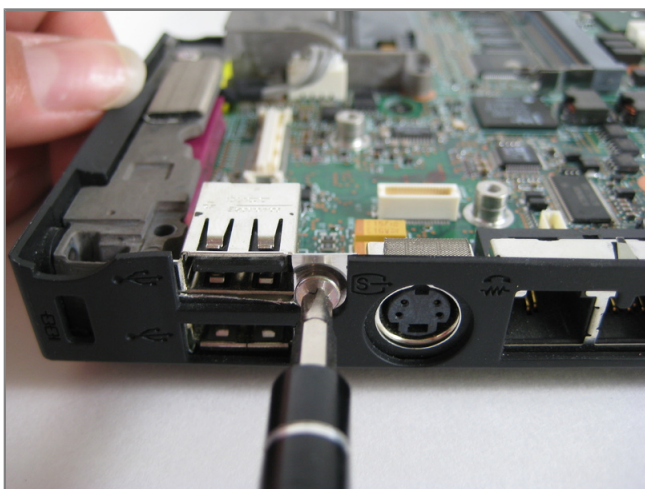
### Step 43 - Motherboard

- Remove the two screws in the upper right corner that hold the gray metal frame.



### Step 44

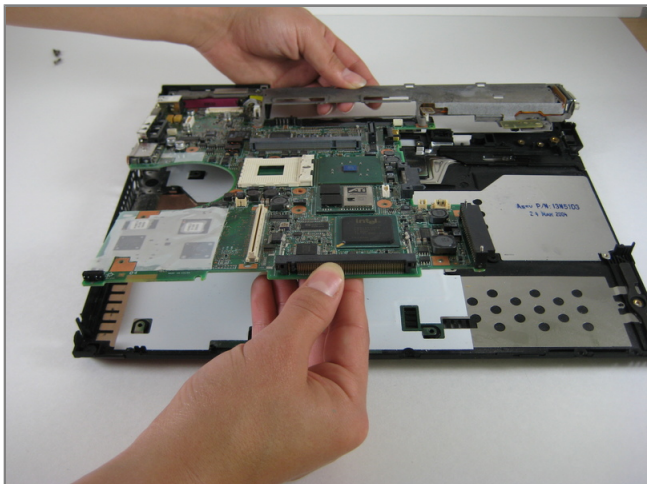
- Unplug the small ribbon cable attached to the motherboard.



### Step 45

- Turn the computer so that the left side is facing you (this is the same as rotating it 90 degrees counterclockwise).
- Remove the screw located next to the USB slots.





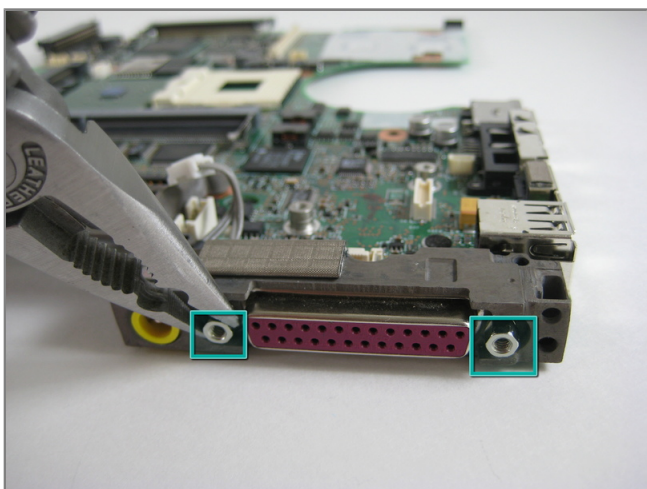
### Step 46

- Rotate the device 90 degrees clockwise (the front should now be near you).
- Lift the motherboard out of the case.



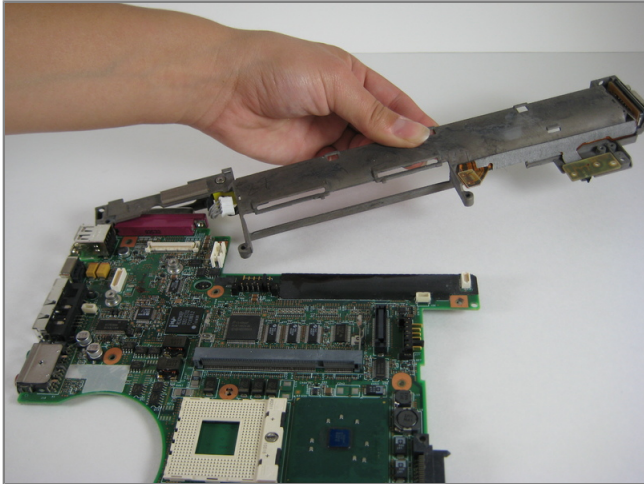
### Step 47

- Unplug the power plug's wires.



### Step 48

- Turn the computer around so that you are facing the back side.
- Remove the two stand off screws next to the pink connector on the back of the computer.



### **Step 49**

- Turn computer back around so that you are facing the front of it.
- Separate the gray metal frame from the motherboard by pulling the frame from the right end and rotating it toward the left.