# Logitech MX Vertical Left and Right Mouse Button Microswitch Replacement

My MX Vertical developed a phantom double-click...

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## INTRODUCTION

My MX Vertical developed a phantom double-click on the left mouse button after about a year of use. Out of warranty and out of patience, I tore it apart to see if I could replace the switches. To my surprise, the mouse was a relative dream to take apart and service!

The mouse shipped with OMRON D2FC-F-7N(10M) switches installed. You can find direct replacements for these on many online retailers, but I opted to replace them with OMRON D2FC-F-K(50M) switches instead. You can probably choose a different type of switch if you want, as long as it shares the D2F's form factor. That's an exercise left to the reader!

This guide does require soldering, but thankfully it's all through-hole on some relatively large parts. The hardest part of the job is holding the board steady while soldering the switches' first contact.

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**TOOLS:**

- Soldering Iron (1)
- Phillips #0 Screwdriver (1)
- Spudger (1)
- ESD Safe Blunt Nose Tweezers (1)

**PARTS:**

- D2FC-F-7N(10M) or equivalent microswitches (2)
- MX Vertical Mouse Slider (1)

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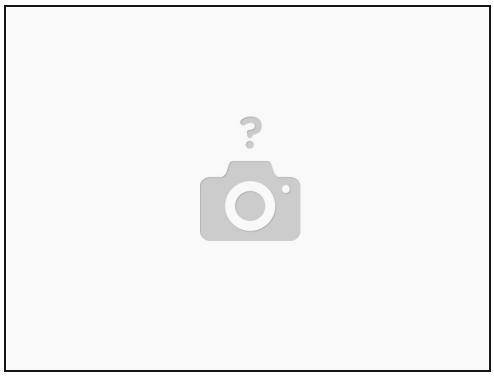
## Step 1 — Remove sliders



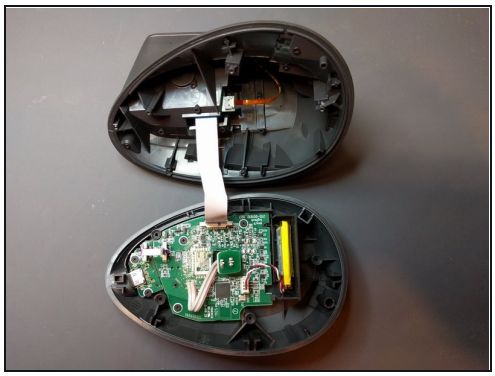
- Turn off the mouse before beginning disassembly.
- Flip the mouse over so the sensor and power switch are facing you.
- Insert a plastic spudger between each slider and the plastic mouse base. Pry the adhesive slider off of the base to reveal the screw wells.

ⓘ A careful amount of heat applied directly to the slider before removal can help ensure they are reusable.

⚠ The mouse sliders will likely be unusable after removing them, they will need to be replaced.

## Step 2 — Lift the top off the mouse

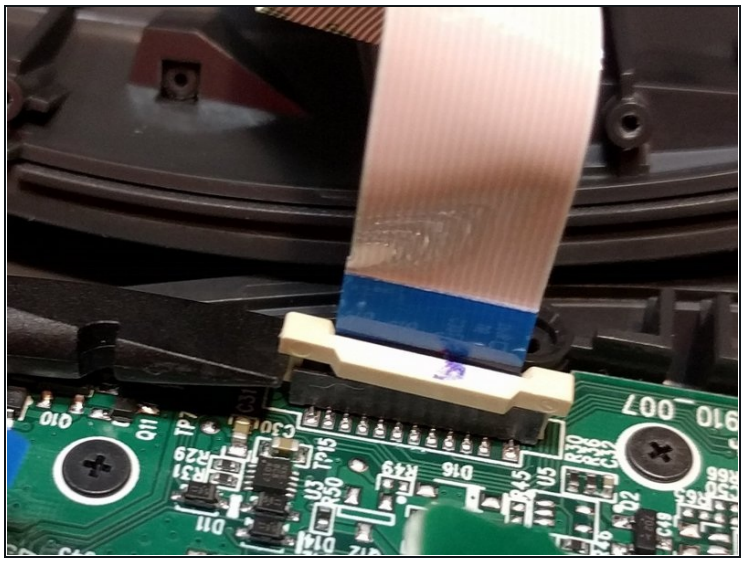
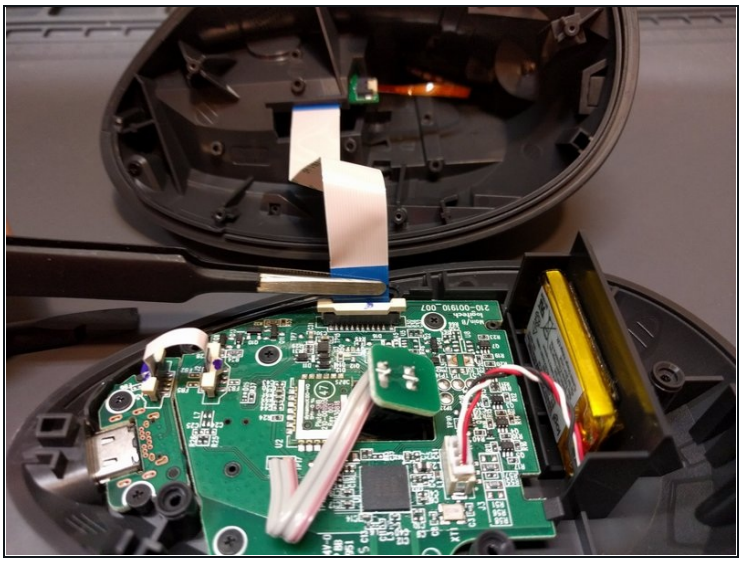




- Remove the five Phillips screws from the bottom of the mouse.
- Flip the mouse over, holding both the base and the top to avoid it falling apart.
- Lift the top of the mouse straight up and away from the base. Once it is clear from the screw wells, rotate the top to lay it on its primary button side.

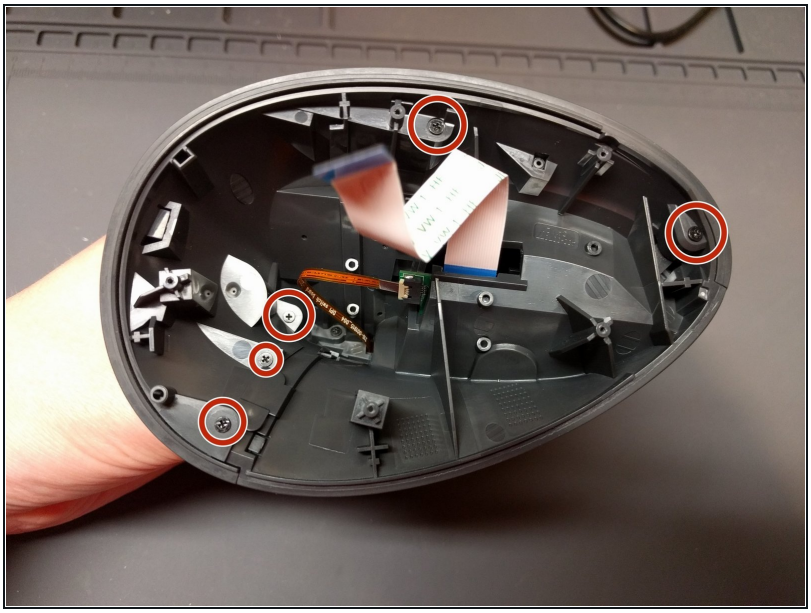
⚠ A ribbon cable holds these pieces of the mouse together -- be careful during this step to avoid damaging it!

## Step 3 — Free the top from the base

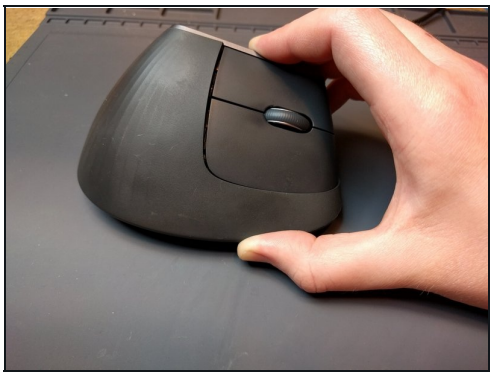
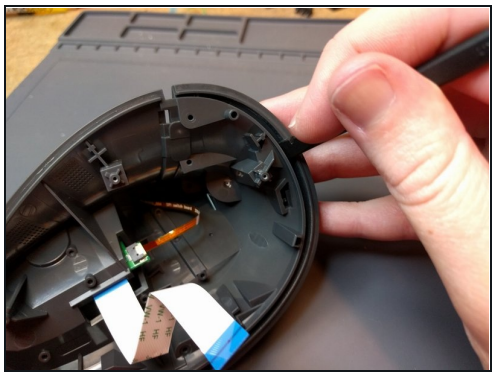
- Use a plastic spudger to lift both sides of the ribbon cable lock on the base of the mouse.
- Lift the ribbon cable straight out of its socket on the base.

## Step 4



- Flip the top of the mouse over to view its interior.
- Remove the five Philips screws holding the top grippy facade to the top. There is no need to remove the screw nearest the DPI switching button located on the top of the mouse.

## Step 5 — Loosen the grippy facade

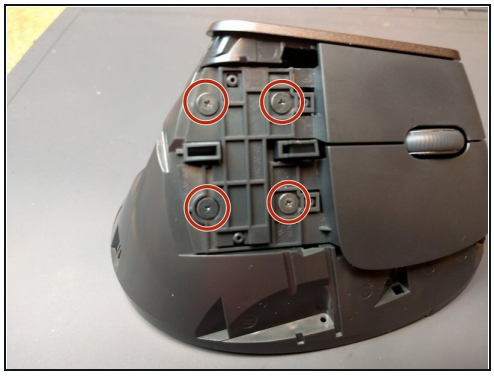




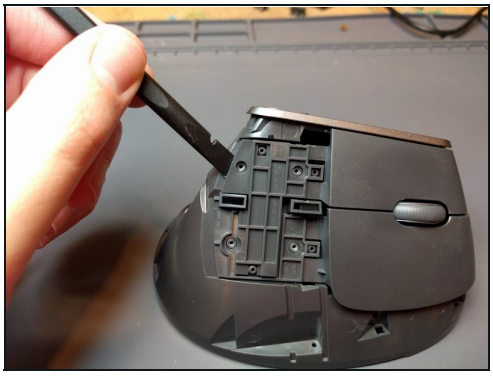
- Flip the top of the mouse over so it is in the orientation it would be during normal use. Turn the top of the mouse so the main buttons and wheel are facing you.
  - Insert a plastic spudger into the seam in the grippy facade at the front of the mouse, nearest the right side of the buttons. It should snap out of place.
  - Apply pressure to the bottom edge of the facade under the middle of the mouse buttons. It should snap further out of place.
- Flip the top of the mouse over so the main buttons and mouse wheel are facing the work surface.
  - Insert a plastic spudger into the seam between the grippy facade and the plastic base of the mouse at its right side. The facade should almost completely snap out of place.

## Step 6 — Remove grippy facade

- Flip the top of the mouse over so it is in the orientation it would be during normal operation. Turn it so the main buttons and wheel are facing away from you.
- Grab the grippy facade near the DPI switcher button and wiggle it left and right while pulling it away from the top of the mouse.

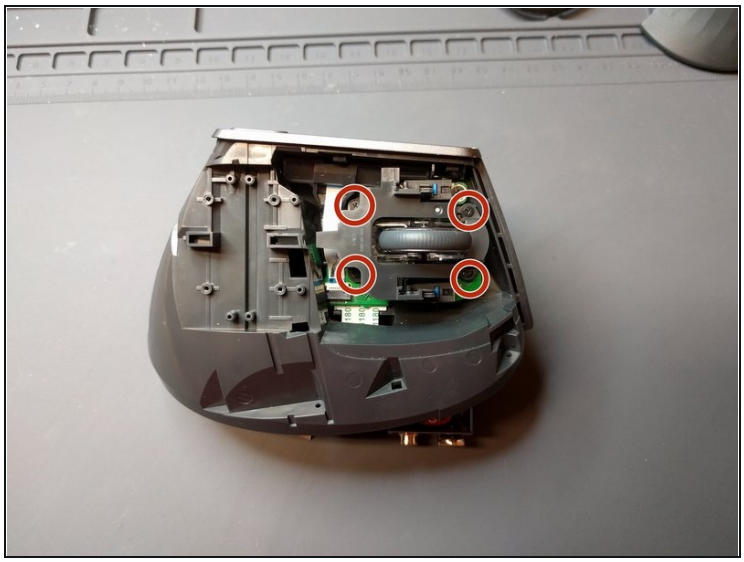
## Step 7 — Remove mouse buttons

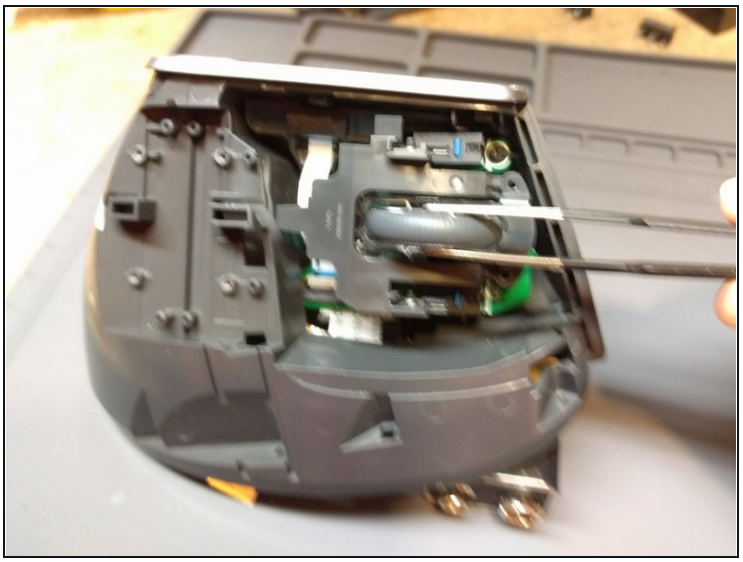




- Turn the top of the mouse so the main buttons and wheel are facing you.
- Remove the four wide Phillips screws holding the mouse buttons to the top chassis.
- Insert a plastic spudger between the left side of the left mouse button and the chassis. Gently pry the button to free it. It should pop off, but may require a light push to the right to fully separate.
- Grab the right mouse button to the left of the mouse wheel. Pull it to the left and away from the chassis.

## Step 8 — Remove wheel assembly

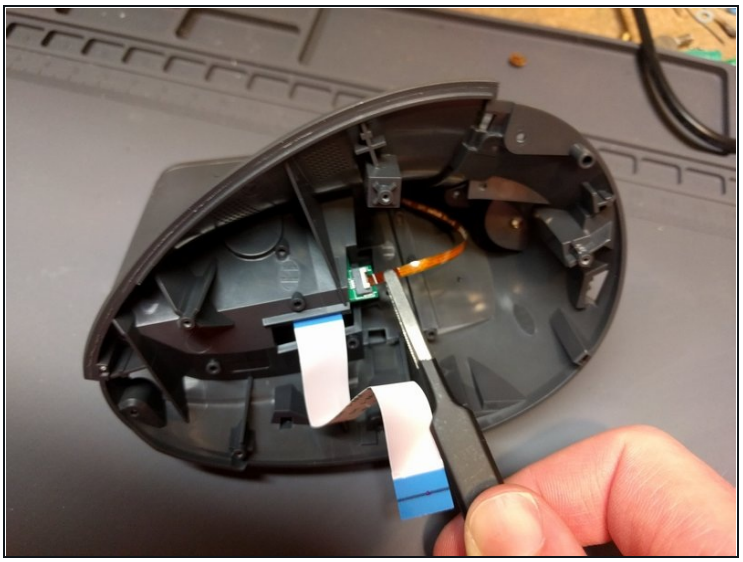




- Remove the four Phillips screws holding the mouse wheel assembly to the top chassis.
- Grab the mouse assembly by the wheel or the plastic and pull it directly away from the chassis.

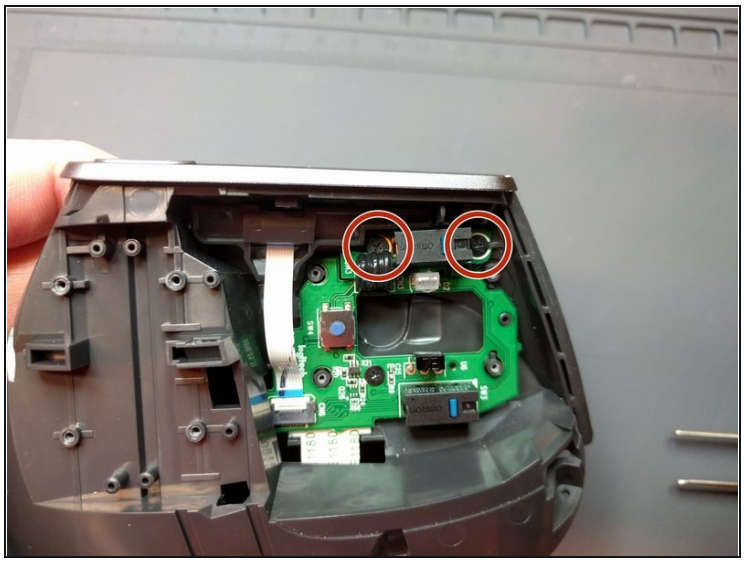
⚠ The mouse wheel is able to freely pivot 180° from its plastic assembly. Be careful to hold this assembly together as you turn it to set it down.

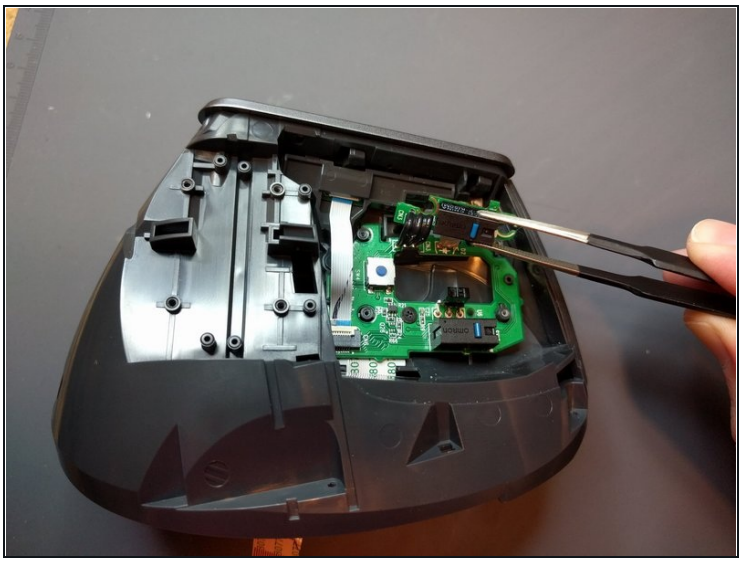
## Step 9 — Remove DPI switcher button ribbon cable

- Use a plastic spudger to pivot the lock on the ribbon cable connector for the DPI switcher button.
- Lift the ribbon cable out of its connector.

## Step 10 — Free the left click microswitch board





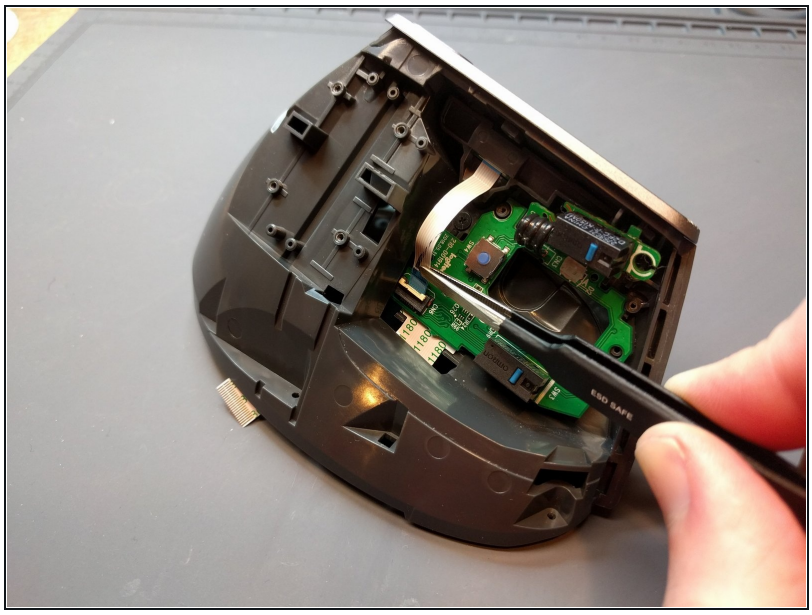
- Remove the two Phillips screws securing the left click microswitch board to the top chassis.
- Gently pull out and pivot the board so it is free from the chassis.

⚠ This small board is still attached to the main top chassis motherboard. Don't move the small board any more than is necessary to dislodge it from its plastic holders.

## Step 11 — Unscrew top chassis motherboard

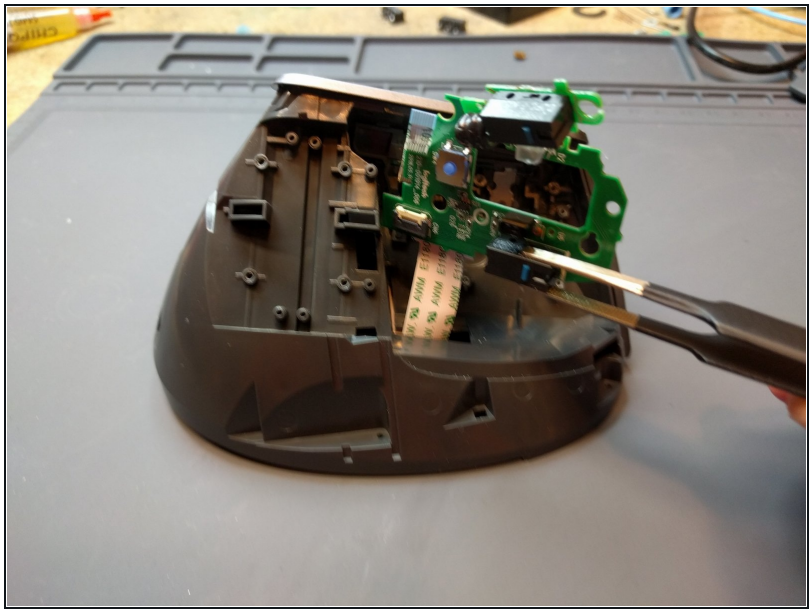
- Remove the single Phillips screw holding the top chassis motherboard to the top chassis.

## Step 12 — Remove navigation button ribbon cable



- Use a plastic spudger to pivot the lock on the ribbon cable connector for the navigation button assembly, then lift the ribbon cable out of the connector.

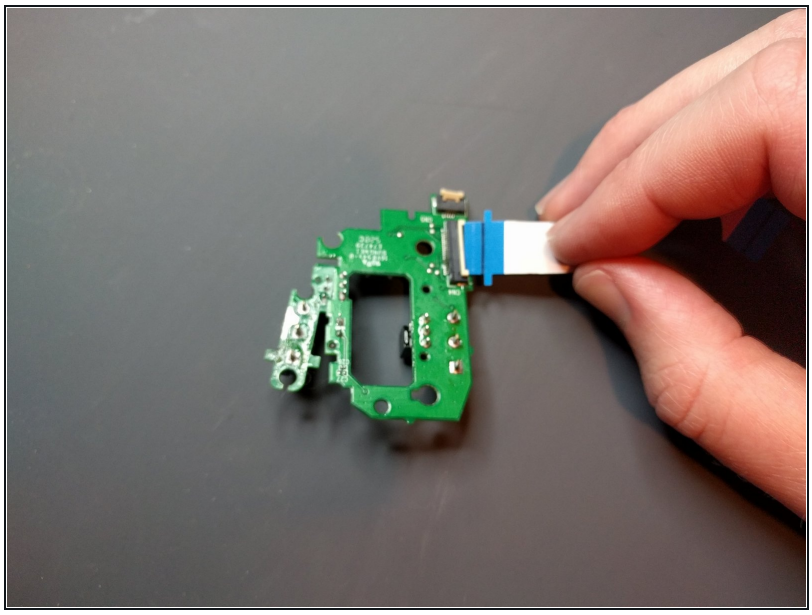
## Step 13 — Remove top chassis motherboard



- Grab the top chassis motherboard by the right click microswitch. Pull it toward you to free it from its pegs in the chassis, then lift it directly up and out of the top chassis.

⚠ The top chassis motherboard still has its main ribbon cable attached. Be careful to lift it directly out of the chassis without shearing the cable.

## Step 14 — Prepare top chassis motherboard for soldering



- Use a plastic spudger to pivot the lock on the ribbon cable connector, then remove the ribbon cable from the connector.

## Step 15 — Desolder each microswitch

ⓘ Apologies for not having more detailed images... I don't have a good setup for photography while using both hands.

- Add some new solder to each of the three terminals on one microswitch.
- While pulling the microswitch away from the board, heat its three terminals. The switch should come free.

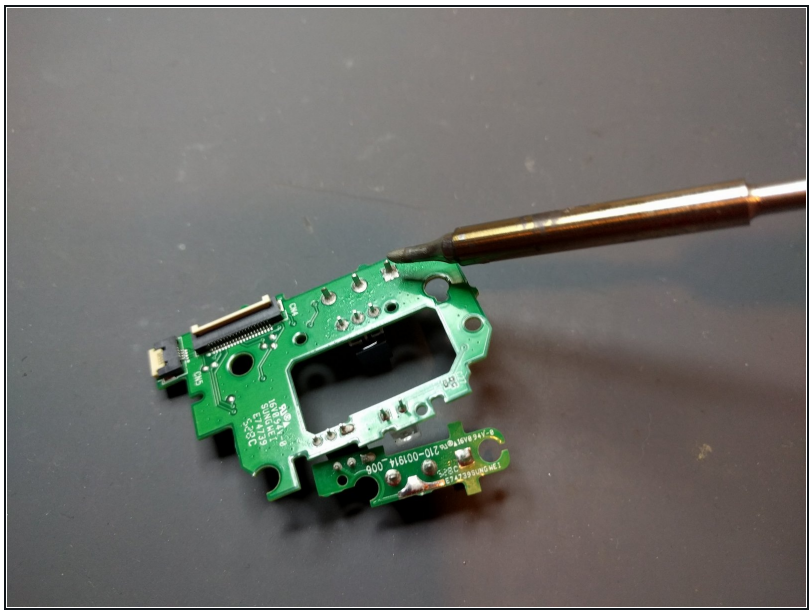
ⓘ If you have trouble with this method, you may have better luck by *removing* as much solder as possible using solder wick and a solder sucker before pulling the microswitch away. However you do it, all three terminals will need to be warm enough to melt their solder at the same time.

- Clean the terminals of any excess solder using a solder sucker and solder braid. The holes in the board should be clearly visible, it should be easy to insert your new switches.

  ⓘ Double check to make sure each solder pad on the bottom of the circuit board has continuity to the trace surrounding its corresponding hole on the top of the circuit board in case you separated them while extracting the old switch.

- Repeat these steps for the other microswitch.

## Step 16 — Insert and solder new microswitches



- Insert the switch contacts through the holes in the board.
  - ⚠ Mind the switch's orientation! The actuator will go toward the right of the motherboard in this image.
- Solder one switch contact to the board while pressing the switch into the board. Allow the switch to cool.
  - ⚠ Ensure the switch is flush with the board, otherwise the mouse buttons will not click correctly. But also do not put excessive pressure on the plastic.
- Solder the remaining contacts to the board, allowing the switch to cool each time.

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To reassemble your device, follow steps 1-14 in reverse order.