

## **Famicom Disc Drive Belt Replacement Guide**

Thank you for your purchase of a Famicom disc drive belt replacement from Mortoff Games. We appreciate your business and look forward to serving you again in the future. This guide is intended to take you through the steps involved in the installation of your capacitor replacement kit. If you have any questions along the way please contact us at [CustomerService@MortoffGames.com](mailto:CustomerService@MortoffGames.com)

### **Thing you will need**

- Famicom disc drive belt
- Small Philips head screw driver
- Pair of needle nose pliers
- Soldering iron
- Solder
- Soldering braid
- Fume hood
- Patience
- A clean work area where small parts will not get lost
- About 1.5-2hrs of spare time

### **Safety**

This repair requires hours of extensive solder and unsoldering. Much of the old solder is composed of lead and other harmful toxins. In addition the board is covered in plastic and glue that will be melted during this repair. All of these substances should not be inhaled. Throughout this repair you should use a fume hood to protect yourself from the dangers associated with breathing these fumes in. Please do not try to do these repairs without one. We are more than happy to provide you with a full refund on this repair kit rather than have you endanger yourself because you lack the proper protection equipment.

### **Soldering Skills Needed**

This repair requires extensive soldering skills and should not be attempted by a novice. You are more likely to damage the system if you don't have the proper skills. We recommend that if you are not completely comfortable with your soldering skills you return this repair kit for a full refund at this time.

### **Patience**

This repair requires roughly one and a half to two hours of intensive work. If you start to get tired we recommend that you stop and come back to the work at a different time. Attention to detail is an absolute must during this repair.

**Index of Capacitors in Kit**

In case you are interested here is an index of all of the capacitors include in this repair kit. As you may notice the capacitors are packaged by type and labeled accordingly for ease of usage. If you ever find what you need more of a particular type of capacitor please contact us at

[CustomerService@MortoffGames.com](mailto:CustomerService@MortoffGames.com) we are more than happy to sell them individually.

Specifications	Mounting Type	Quantity
100uf 25V	Radial	2
47uf 16V	Radial	1
10uf 16V	Radial	1
100uf 6.3V	Radial	4

**Index of Part Numbers and their Associated Capacitor**

When looking at the circuit board you will notice there is a number next to each capacitor that identifies its part number. The part number will always start with the letter “C”. This is an index of those part numbers and their associated capacitors.

**Power Board**

<b>Part Number</b>	<b>Specifications</b>	<b>Mounting Type</b>
C1	100uf 25V	Radial
C2	47uf 16V	Radial
C3	100uf 25V	Radial
C6	10uf 16V	Radial

**Disc Drive**

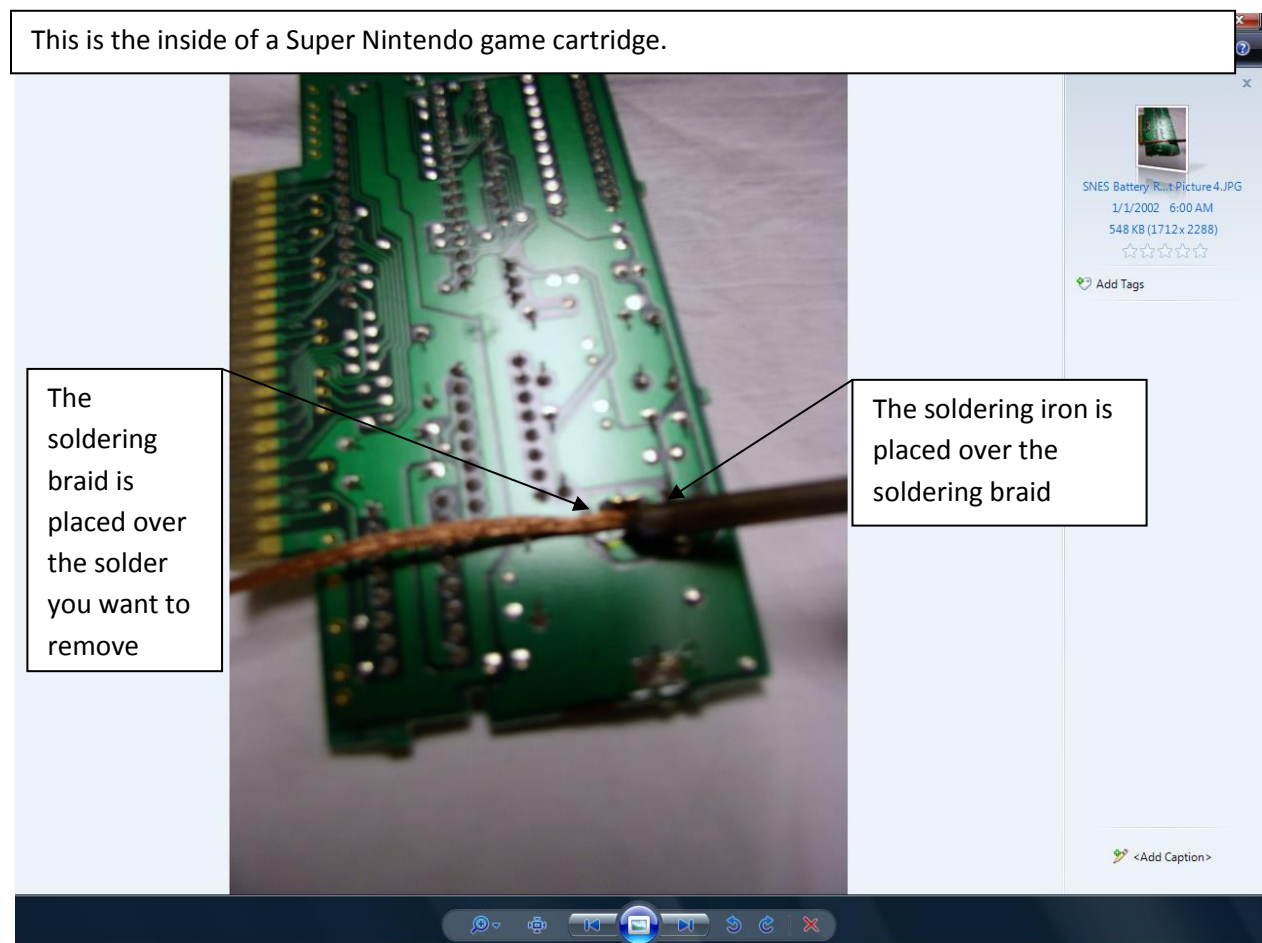
<b>Part Number</b>	<b>Specifications</b>	<b>Mounting Type</b>
C1	100uf 6.3V	Radial
C2	100uf 6.3V	Radial
C3	100uf 6.3V	Radial
C12	100uf 6.3V	Radial

**Soldering Techniques:**

In order to solder and unsolder correctly you will need a soldering iron, solder and soldering braid. Once you have these items it is safe to proceed forward. For the duration of this project it is not recommended that you use a cold heat or any other instantaneous heating soldering gun, since these guns use an electrical current to melt the solder. Passing a strong electrical current through your games or systems is not recommended and as such should be avoided. We recommend that you use a typical soldering gun, the type that you have to plug in and wait to heat up. In addition it is recommended that you set your soldering iron to 30watts for the duration of this project.

**Unsoldering:**

Correctly unsoldering a joint is rather easy once you get the hang of it. In order to unsolder a joint place soldering braid over the solder you wish to remove and then place the soldering iron over the soldering braid. The soldering iron will heat the braid and in turn the solder will liquefy, which will be sucked up by the braid. Please see the picture below.



Picture Introduction: Proper usage of solder braid

Although it might take a little while to completely remove all of the solder, patience and persistence will pay off in this case. Every 10-15 seconds remove the soldering braid and check to see if the solder have been fully removed. As soldering braid is takes up solder periodically cut off these used sections as needed.

**Soldering:**

Now that the solder has been removed you can now remove the object that the solder was holding in place and you are now ready to solder something new into place. During this project it is not safe to use excessive soldering material as bridging between joints is very easy due to their close proximity to each other.

The two most important things to keep in mind are:

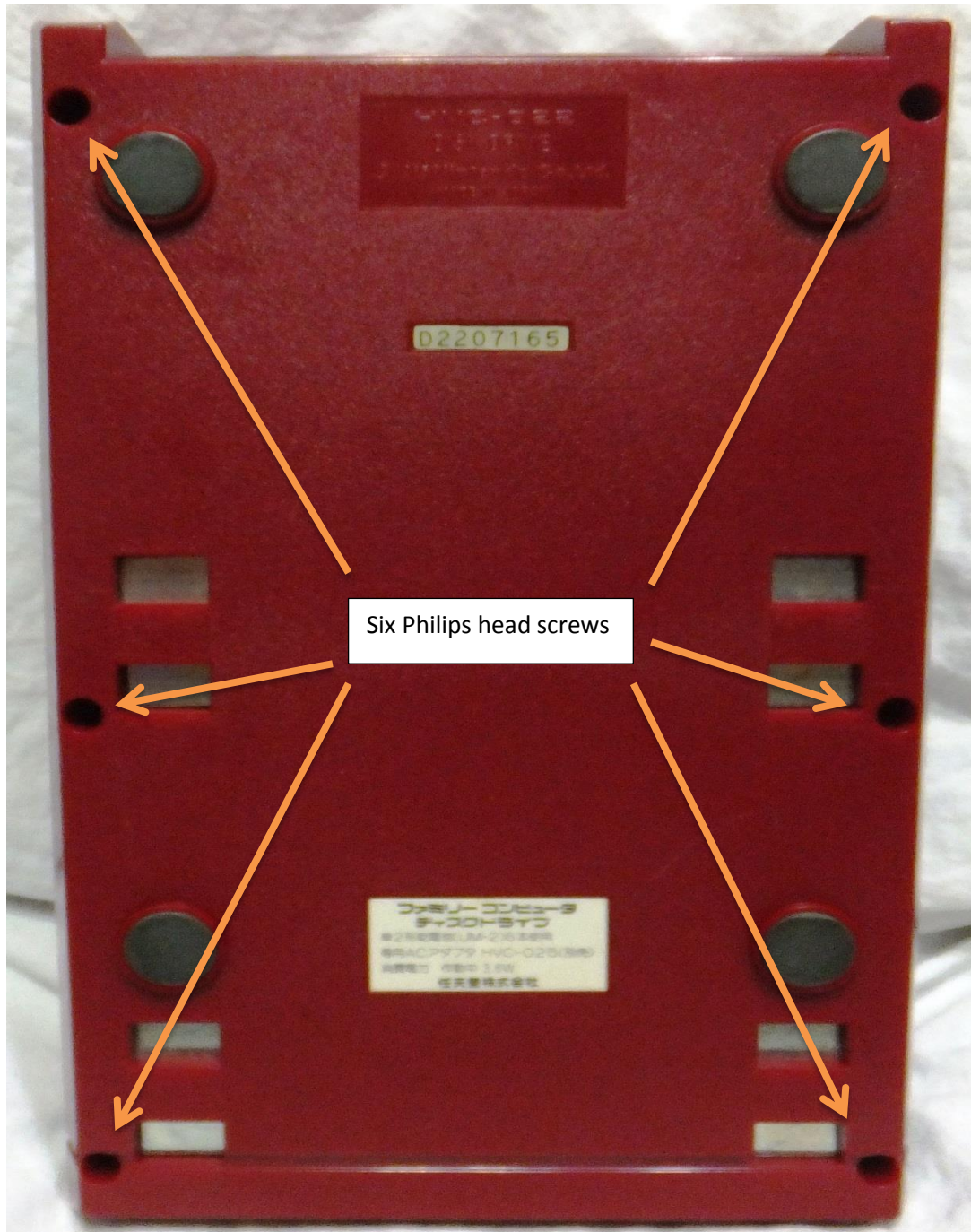
- 1) Never allow patches of solder to overlap or touch, doing so creates a short, thereby rendering the circuit inoperable.
- 2) Make sure to use enough solder to securely attach whatever it is you are soldering, do not be afraid to test the joint out.

Keeping these items in mind lets continue with our demonstration. To apply the solder take it and place it over the soldering joint and then lightly place the soldering iron over the solder. This is just like unsoldering, although this time you are soldering and not unsoldering. This part is a little tricky when you first start and is hard to describe with words alone. It is recommended that you test out melting solder first to get an idea of how it behaves.

One ideal exercise you might want to try is to attempt to solder together two pieces of wire. Take two pieces of wire, strip the ends, twist the ends together and then practice applying solder over this twisted joint. During the course of this project if you run into trouble remember you can always back track and remove the solder and try again, using the soldering braid. Soldering braid and solder are very cheap and as such are worth playing around with to get comfortable with before you go ahead and try to solder in a replacement battery. Now that we have covered the basics of soldering and unsoldering, let's get started with the replacement of those capacitors.

**Step One:**

Unfortunately in order to install your replacement parts you have to disassemble the system. While this might be a tedious task it is entirely possible; however please make sure to do so in a place where small screws will not be misplaced. To start please turn over your system and locate the six Philips head screws holding the casing together. Once they are removed please proceed to step two.

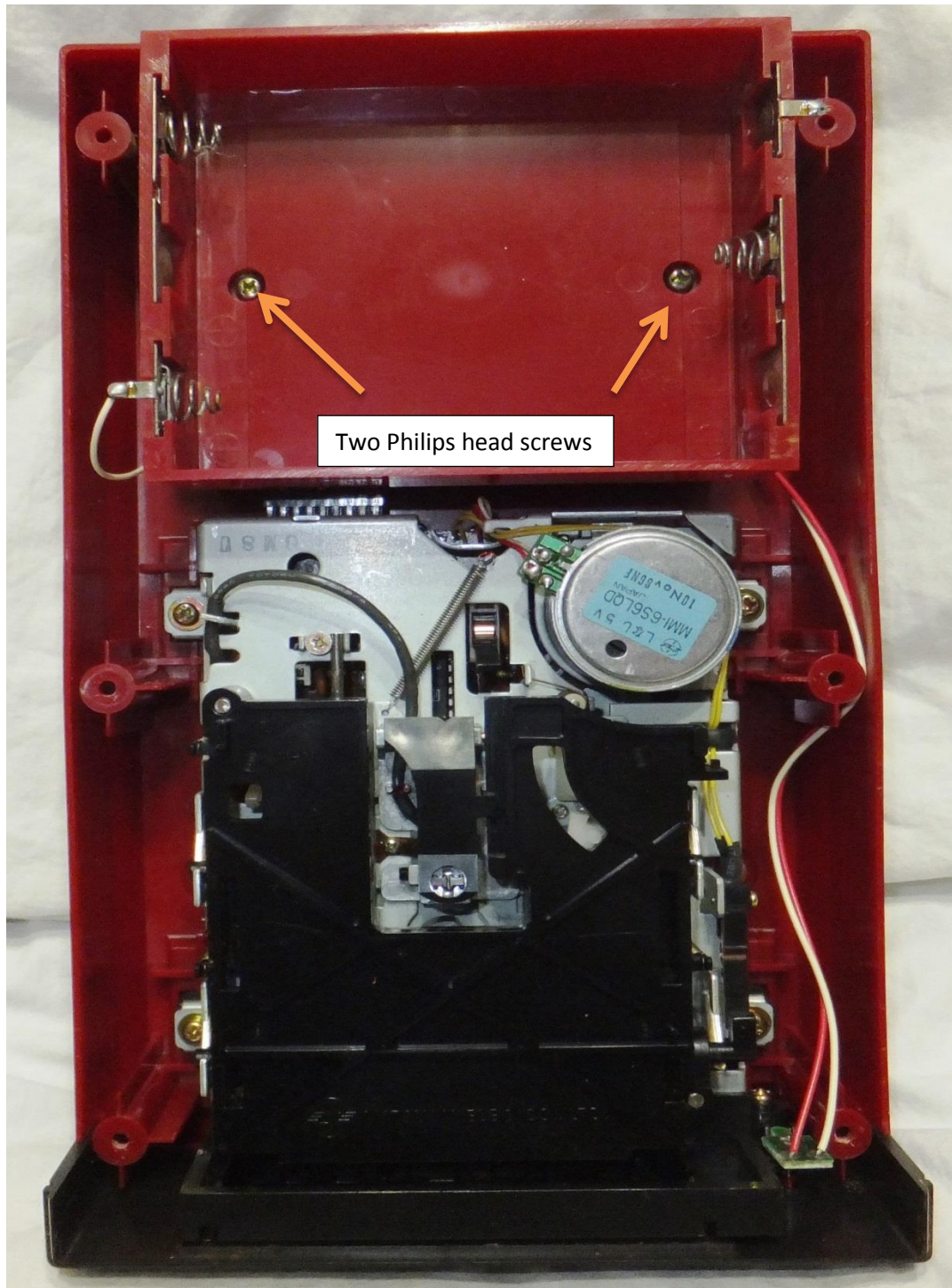


Picture One: Underside of the Famicom Disc System



**Step Two:**

Now please locate the two Philips head screws indicated in picture two below and remove them. Once they are removed please proceed to step three.

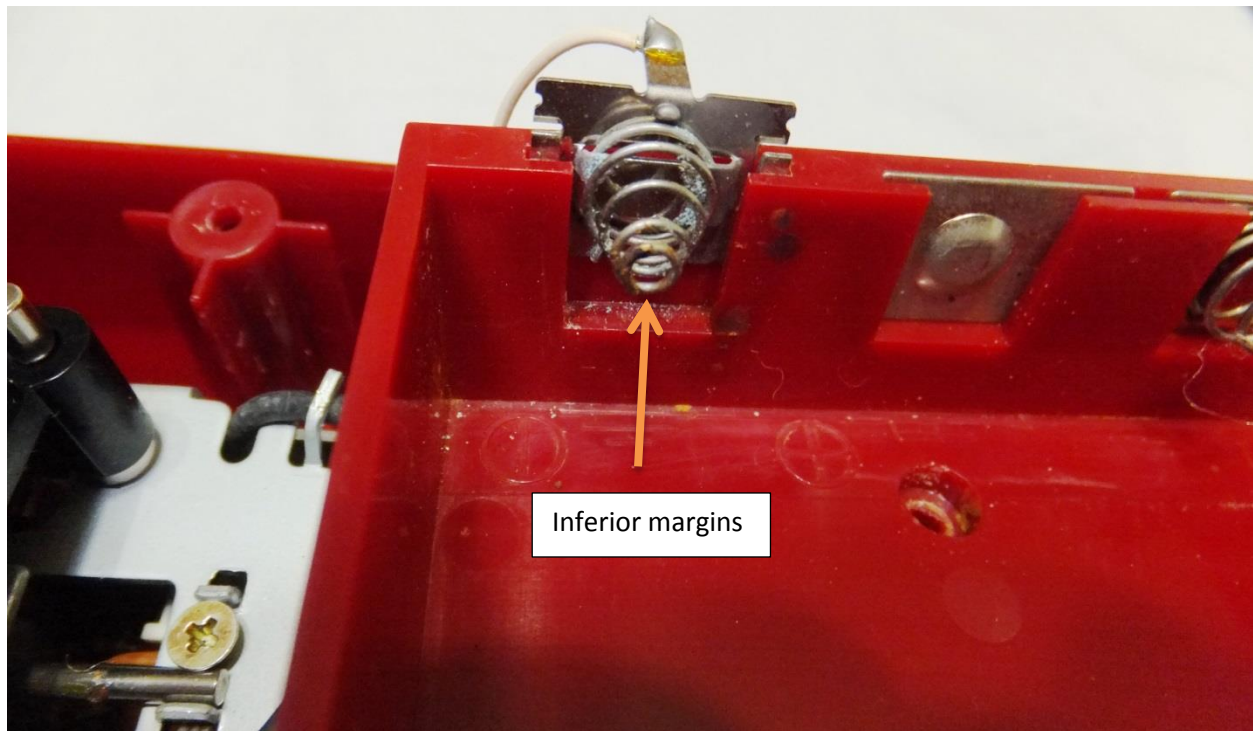


Picture Two: Removing the battery compartment.

**Step Three:**

In order to remove the battery compartment tray and to gain access to the mother board underneath you will need to remove the battery contacts that have wires attached to them. In order to remove these battery contacts use a small flat head screwdriver and pry the contact upwards from the inferior margins as indicated by the notations in picture three below.

Once you have the first contact removed please proceed to the second one and remove it. After the battery contacts are removed the battery compartment can be separated from the system. Once done please proceed to step four.

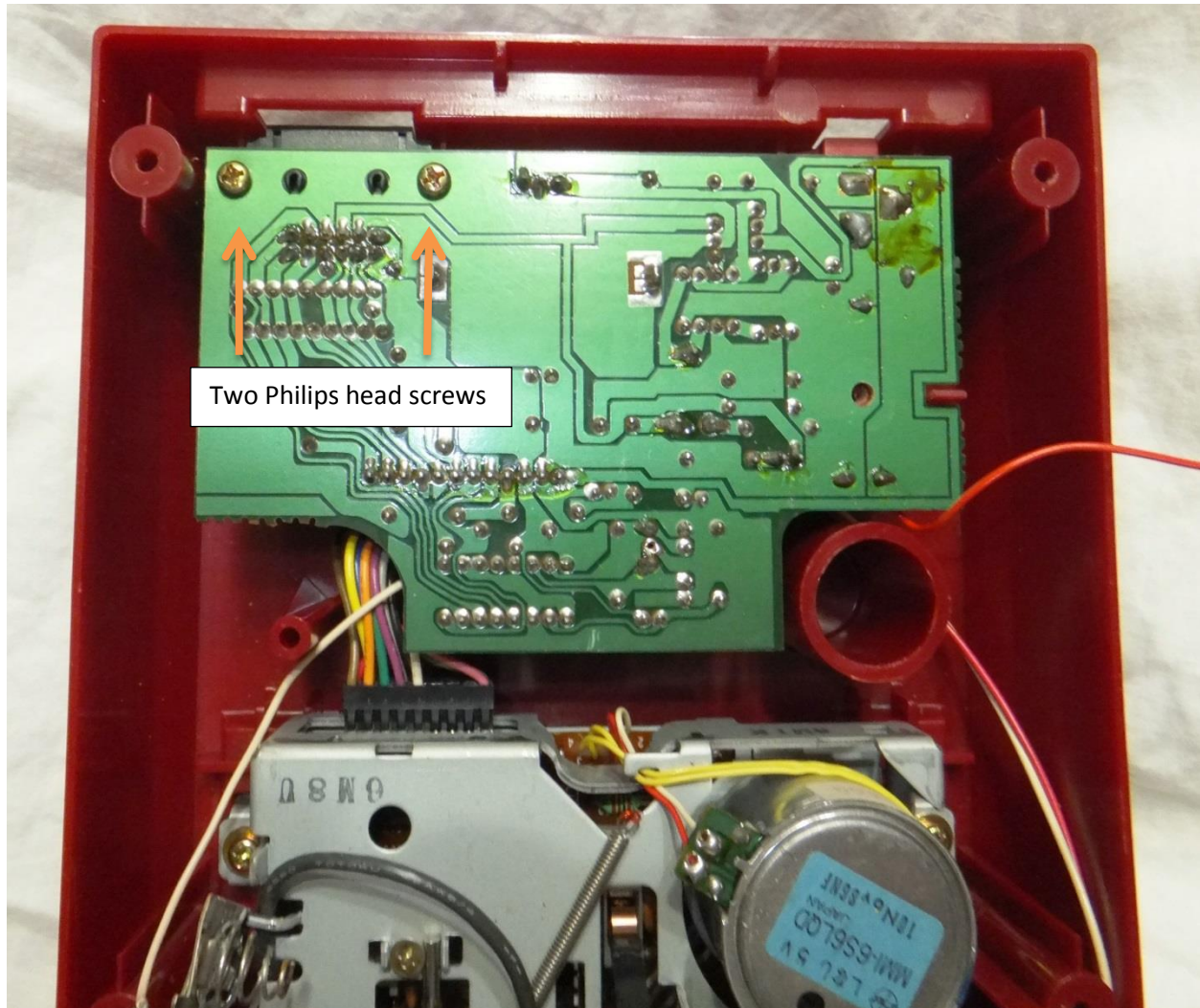


Picture Three: Removing the battery terminals



**Step Four:**

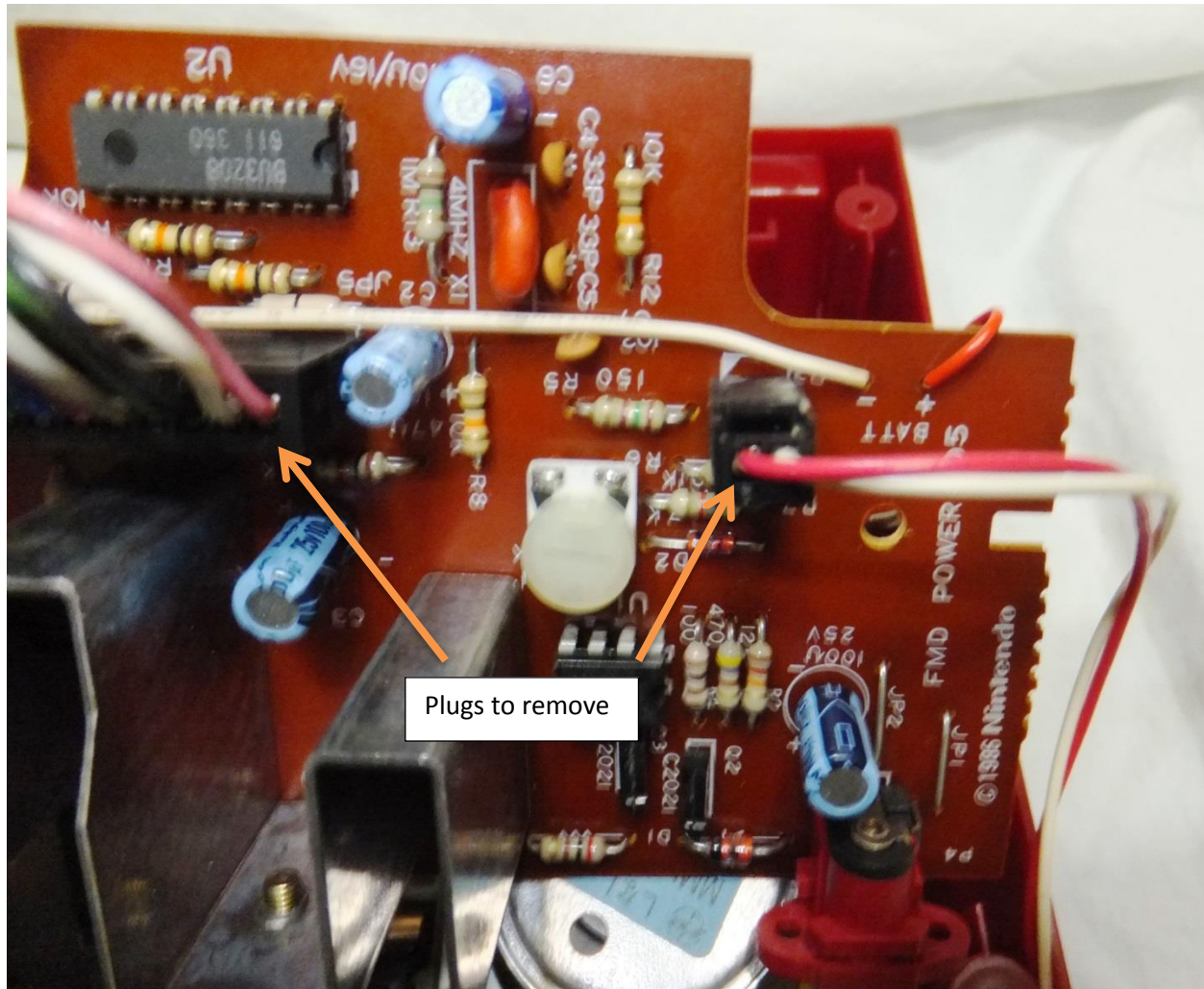
Now you are ready to remove the power board. Please locate the two Philips head screws seen in picture four below and remove them. Once they are removed please carefully and slowly lift up the power board taking great care to not rip off any of the cables soldered onto the power board. Once done please proceed to step five.



Picture Four: Power board removal

### Step Five

Next you will need to disconnect the power board from the disc board. There are two cables that need to be disconnected. Both are removed the same way. Carefully and slowly grasp the cable plug with the needle nose pliers and pull superiorly to the plug. The cable should come out of its port. Please use caution as you can tear the entire port off the mother board if you are not careful.

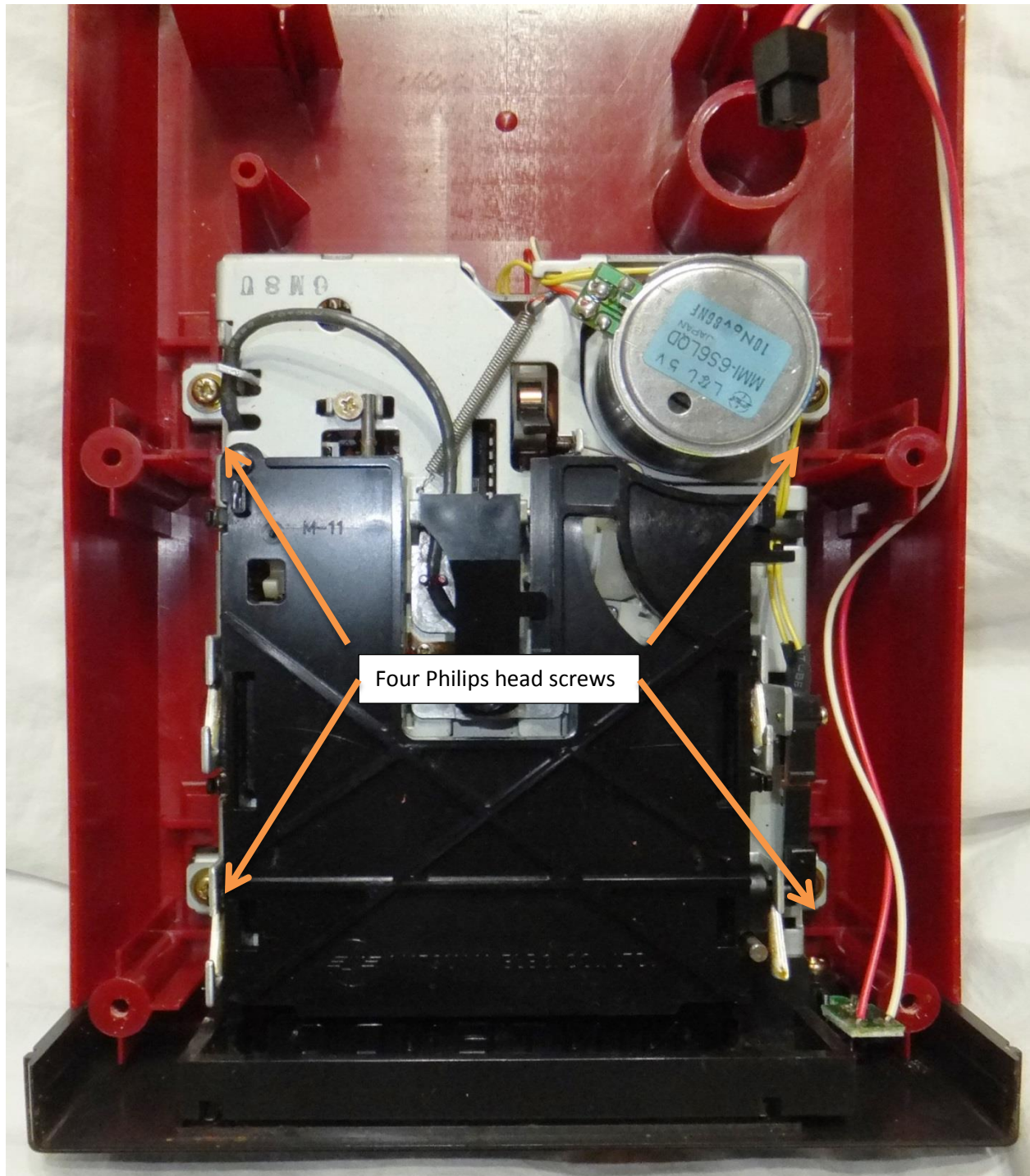


Picture Five: Power board plugs



**Step Six:**

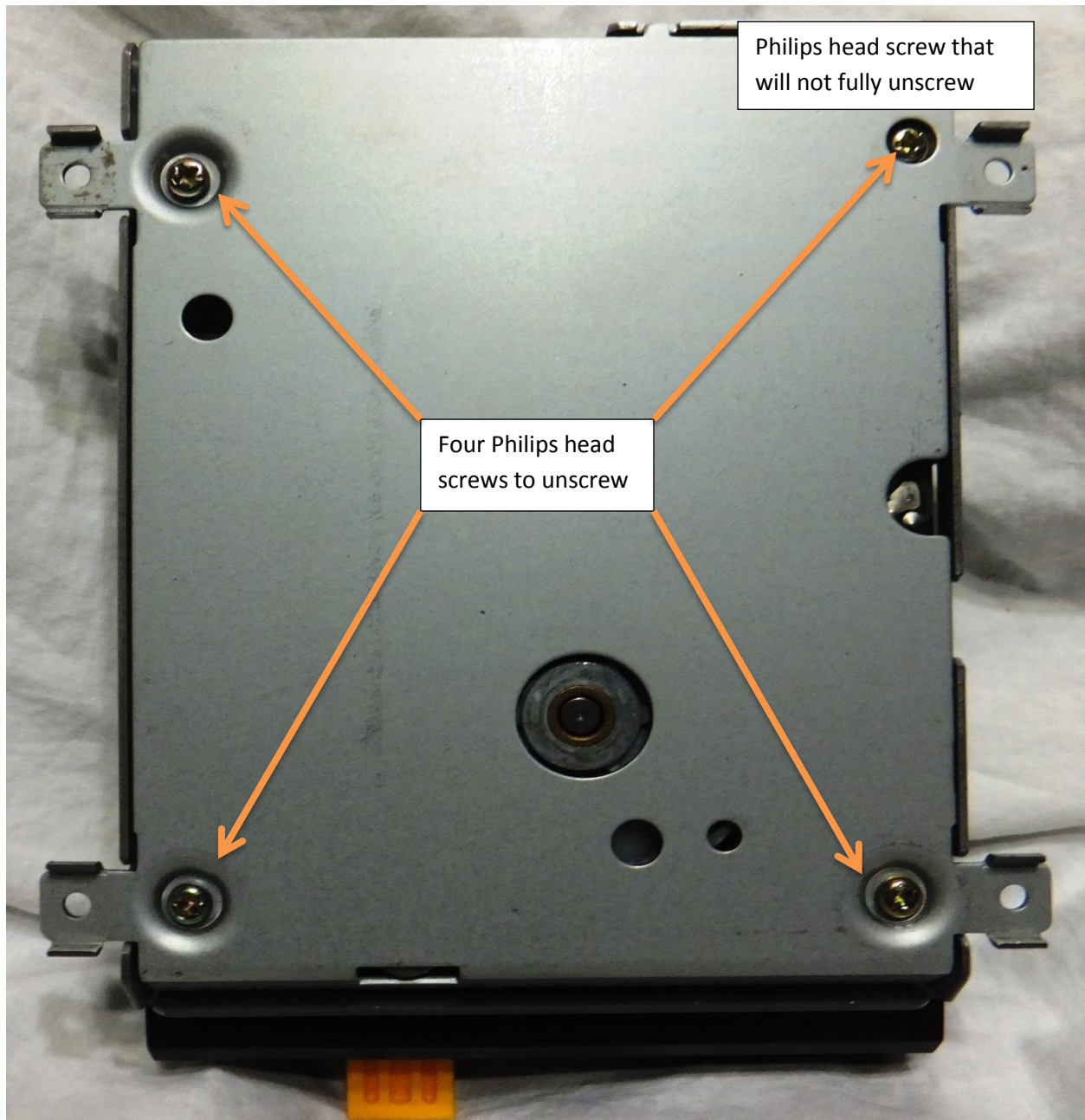
Now that the power board has been disconnected you are ready to start disassembly on the disc drive. To start please locate the four Philips head screws holding the disc drive down and remove them.



Picture Six: Disc drive removal

**Step Seven:**

Now that the disc drive has been removed from the casing please locate the four Philips head screws holding the bottom RF plate in place. Please unscrew them; however please be aware that one of the screws cannot be fully unscrewed, which is marked in picture eight below. This is normal and will not interfere with the removal of the bottom RF plate.



Picture Seven: Bottom RF plate



**Step Eight:**

Now that the bottom plate has been removed you are ready to unscrew the disc drive circuit board. Please locate the four Philips head screws holding down the circuit board and unscrew them. Fortunately one has already been unscrewed. Do not lift up the board however. Proceed to step nine first.



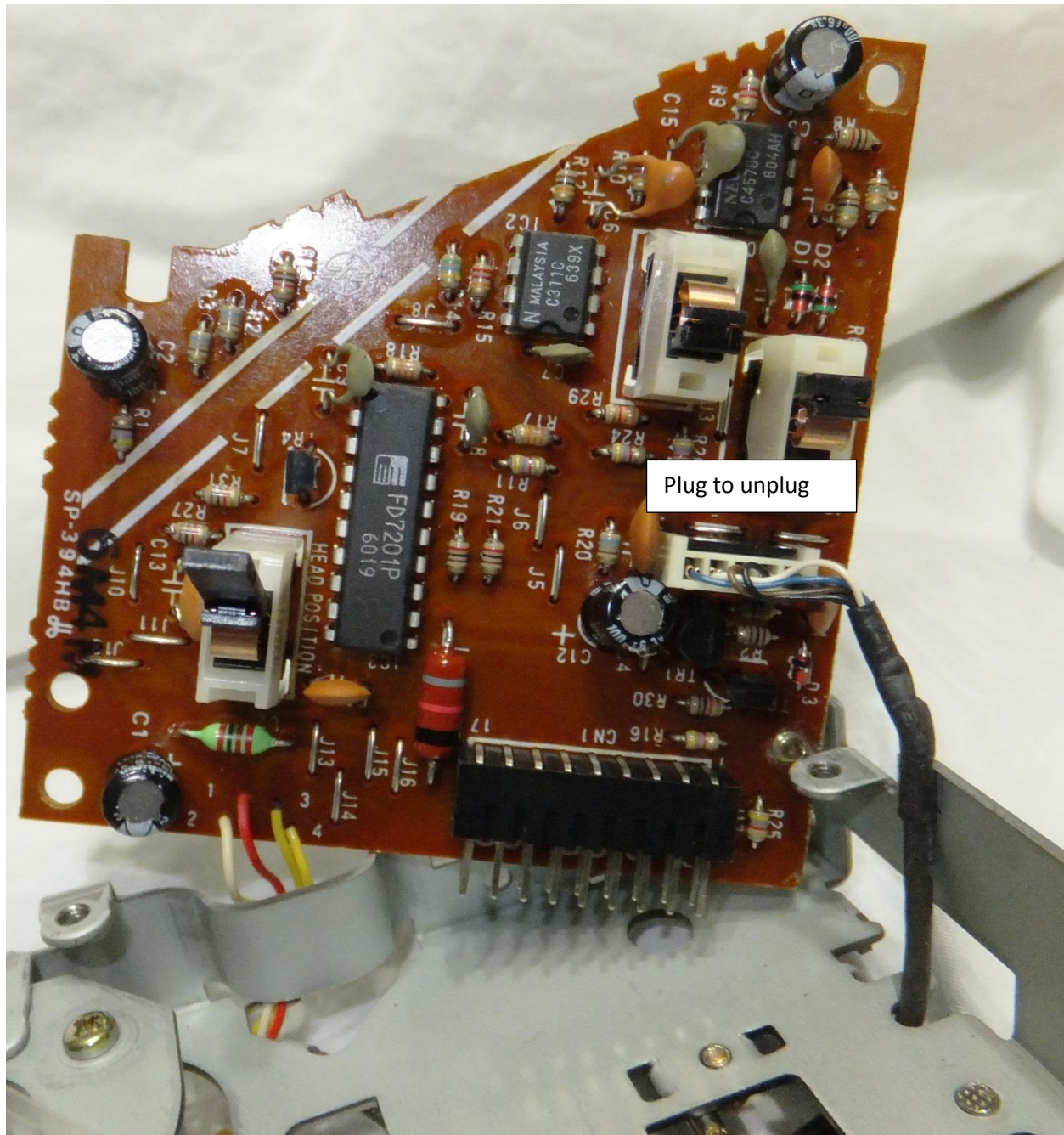
Picture Eight: Disc drive circuit board removal



**Step Nine:**

Carefully and slowly lift up the disc drive board taking great care to not rip off any of the cables soldered onto the disc drive board. To do this there is a black cable that runs from the top of the system to the bottom. Please free this cable to allow you some maneuvering room.

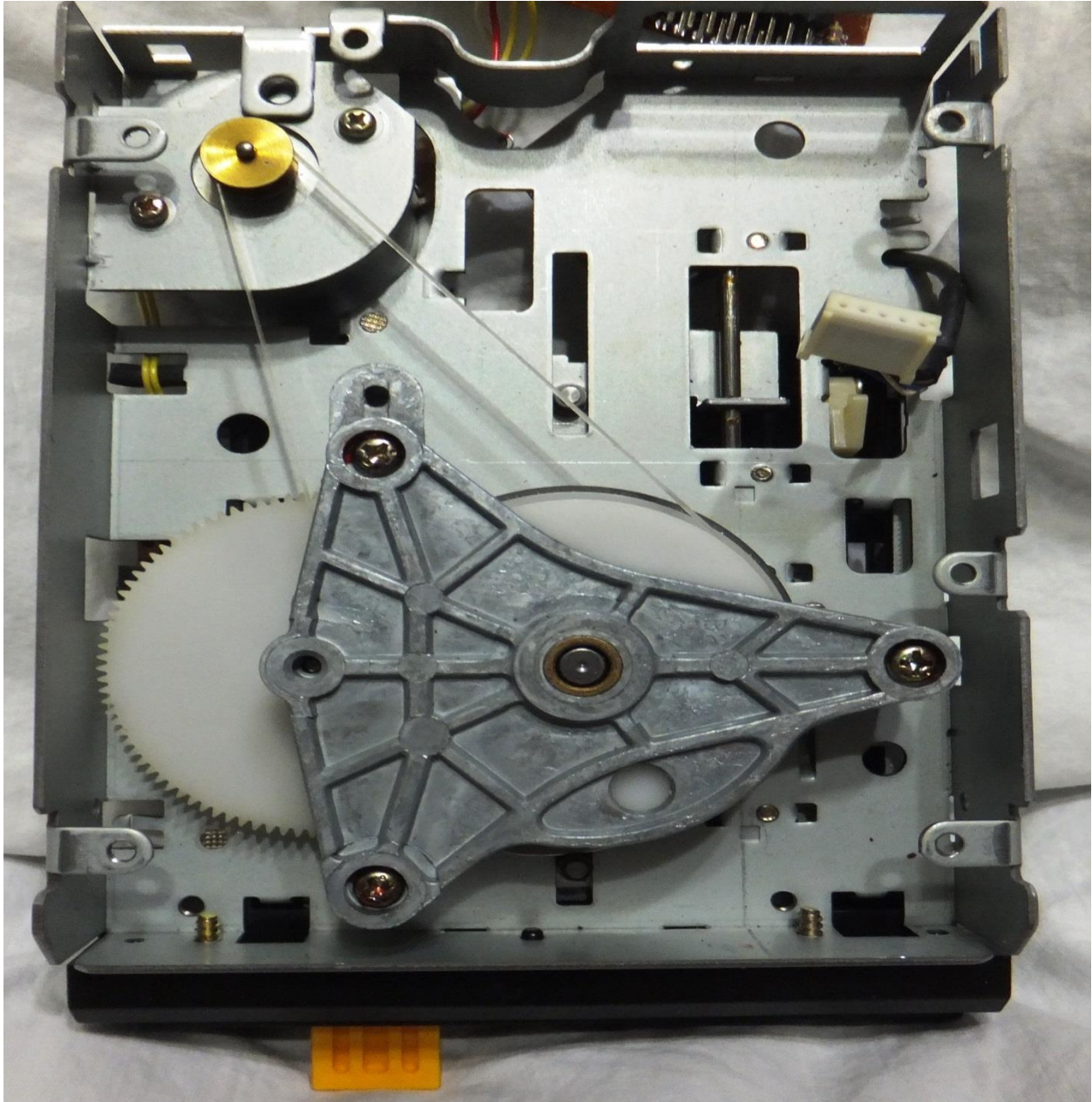
Once you have the disc drive board positioned as seen in picture nine below. Please unplug the cable marked in picture nine below using the same strategy discussed previously.



Picture Nine: Unplugging the disc drive

**Step Ten**

You have one step left before you are ready to replace the disc drive belt. Please locate the three Philips head screws seen in picture ten below and remove them. Once this plate is removed you should be able to replace the belt. Please reassemble your system and enjoy.



Picture Ten: Disc drive belt replacement

### **Troubleshooting Section**

We are sorry to hear that you are still experiencing difficulties with your system. Please contact us for further assistance at [CustomerService@MortoffGames.com](mailto:CustomerService@MortoffGames.com)