



# Apple Disk II Floppy Disk Subsystem Teardown and Optical Drive Conversion

Convert your old/non-working floppy drive to accommodate an Apple SuperDrive (pulled from a Mac) and a 2.5" hard or solid state drive.

Written By: Jon



 **TOOLS:**

- Phillips #1 Screwdriver (1)
- Flathead Screwdriver (1)

 **PARTS:**

- SATA Optical Drive USB Cable (1)
- 1 TB SSD Hybrid 2.5" Hard Drive (1)

## Step 1 — The case



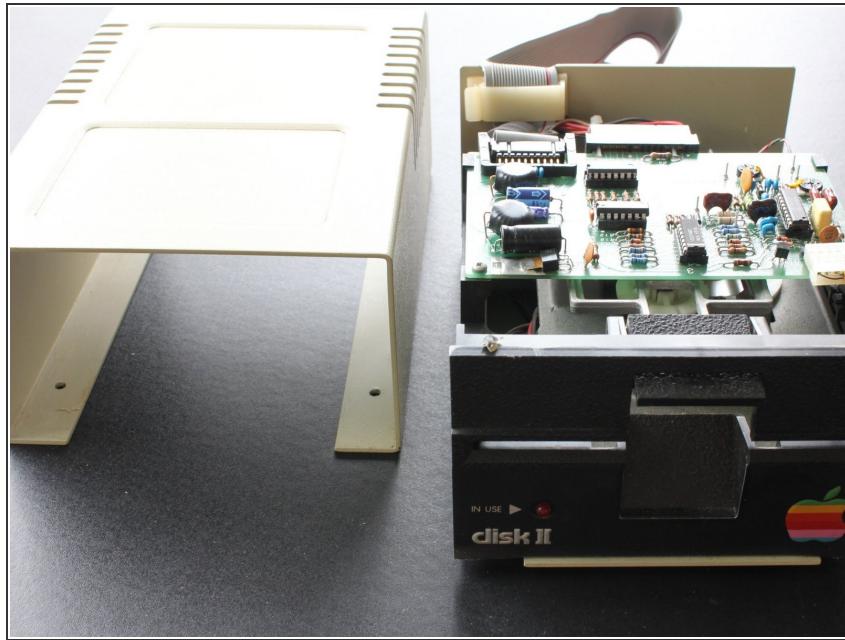
- The outside of the drive.

## Step 2 — Outside screws



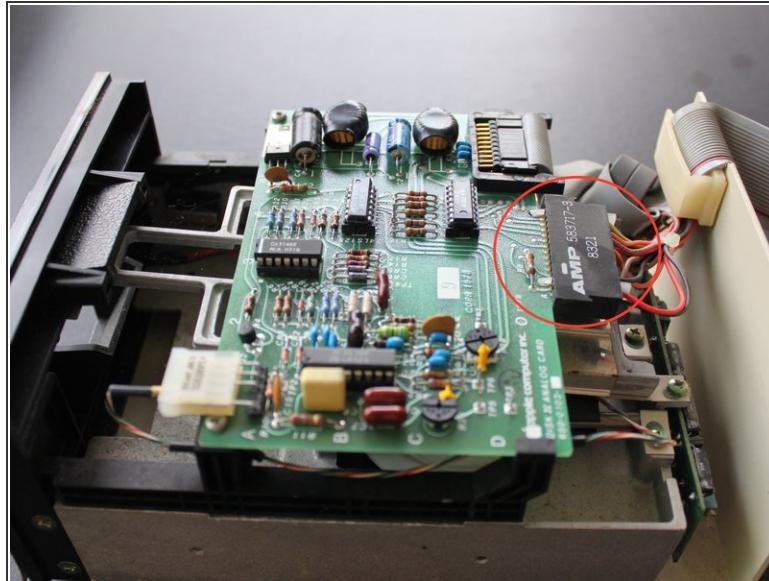
- Flip the drive over and remove the 4 Phillips screws underneath.

## Step 3 — Remove the outer case



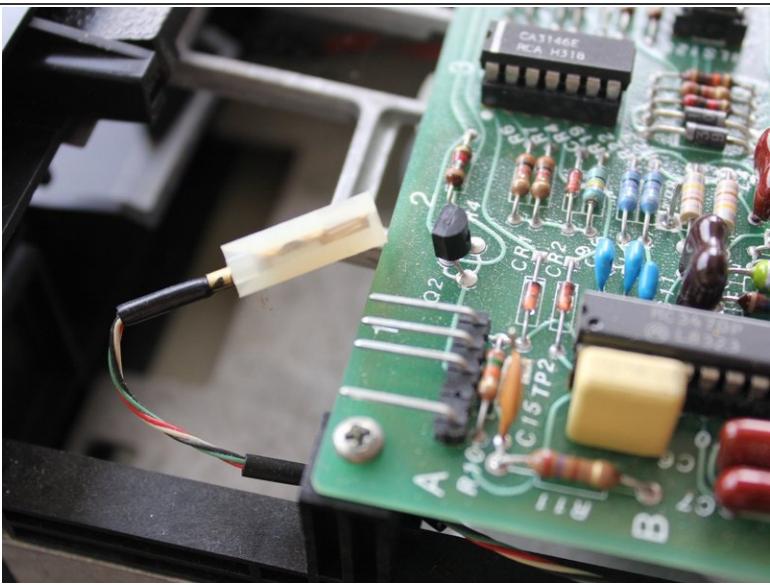
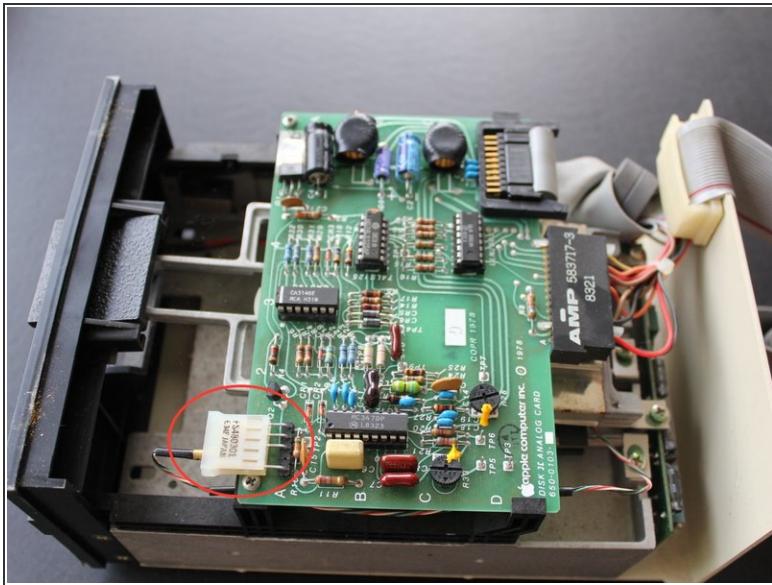
- Slide it towards the cable at back.

## Step 4 — Disconnect cables



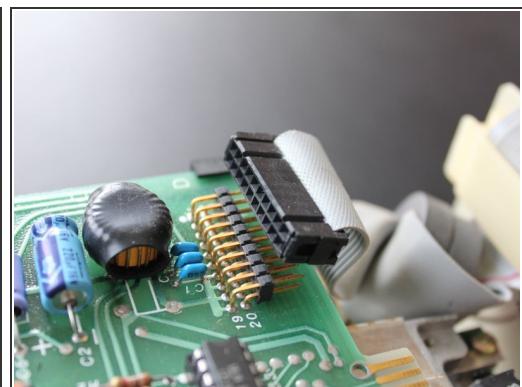
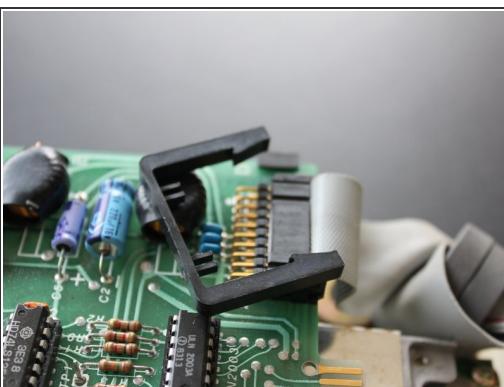
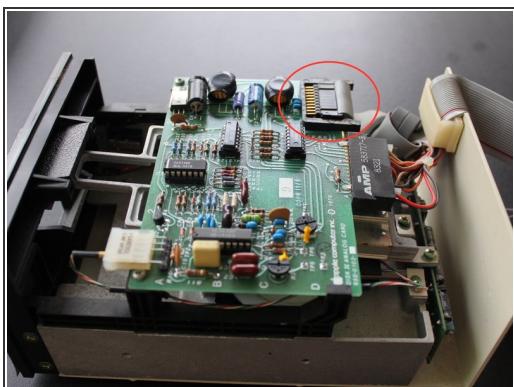
- Pull away from the board, not up

## Step 5 — Disconnect cables



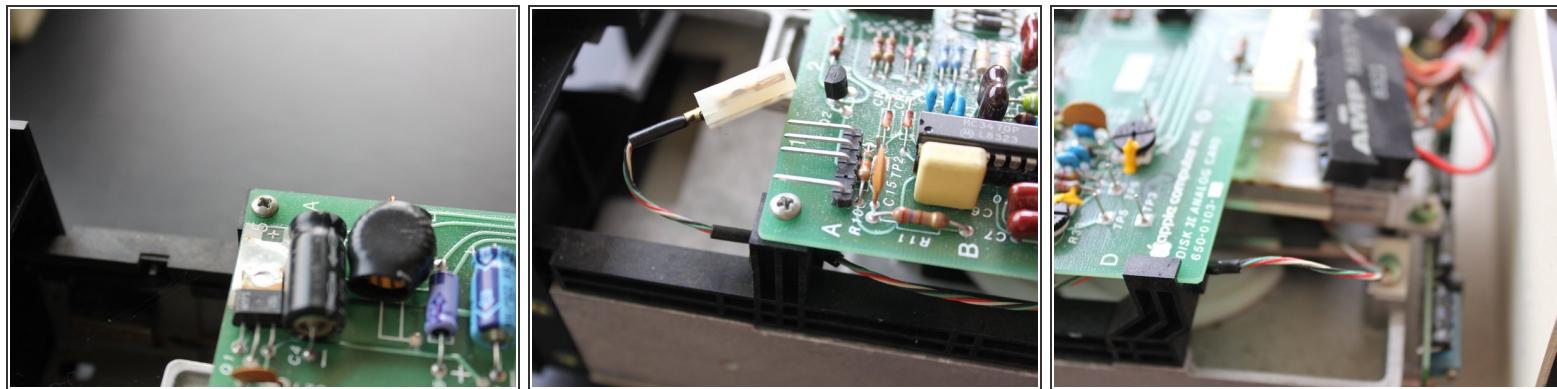
- Pull away from the board, not up

## Step 6 — Disconnect cables



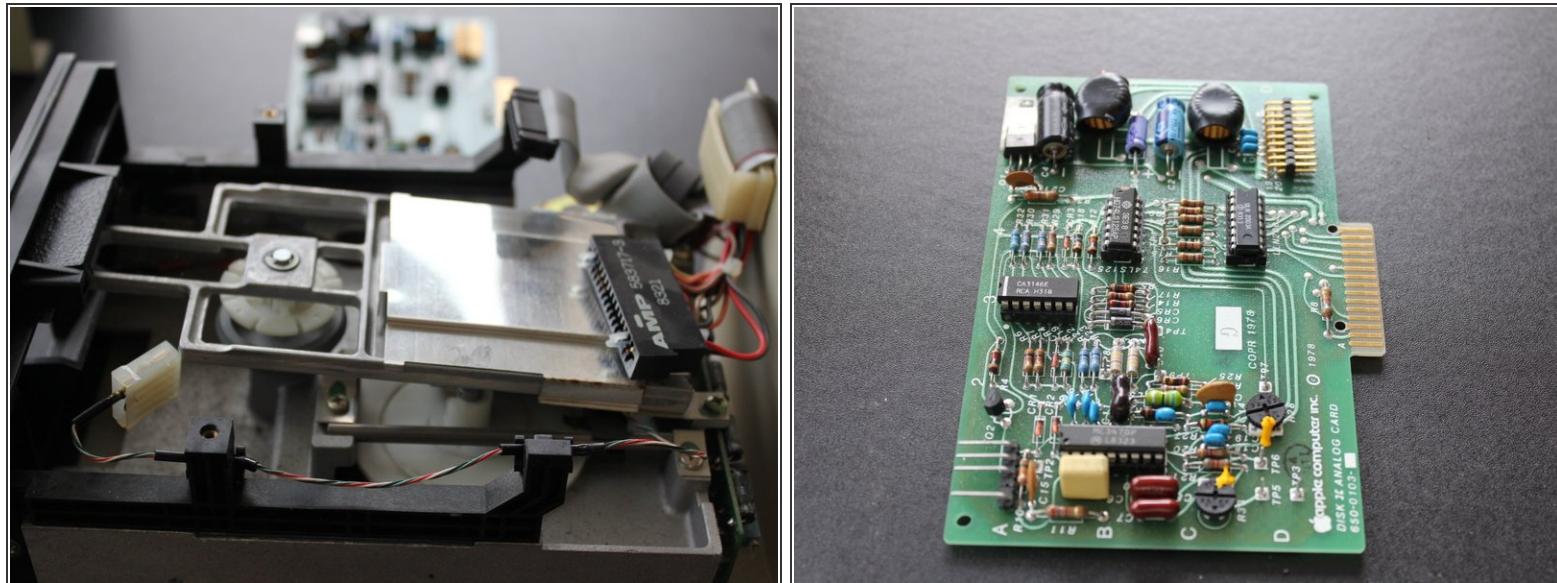
- First, remove the C retaining clip by gently pushing the sides away from the connector with your thumbs, then pull the cable away from the board, not up

## Step 7 — Circuit board removal



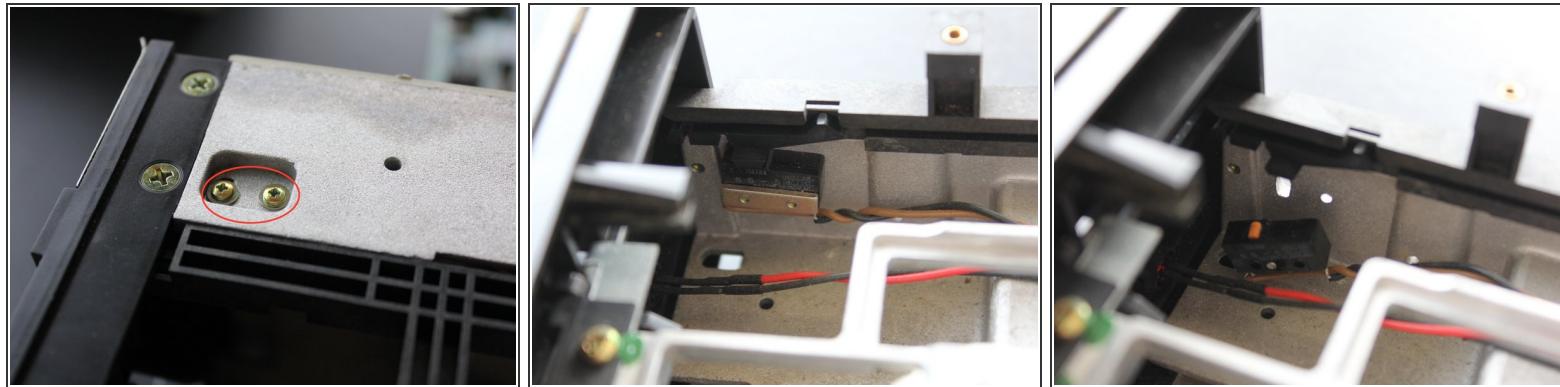
- Remove the 2 Phillips screws
- Next, gently remove the board from the drive, minding the cable running beneath

## Step 8 — View of the remaining part and removed board



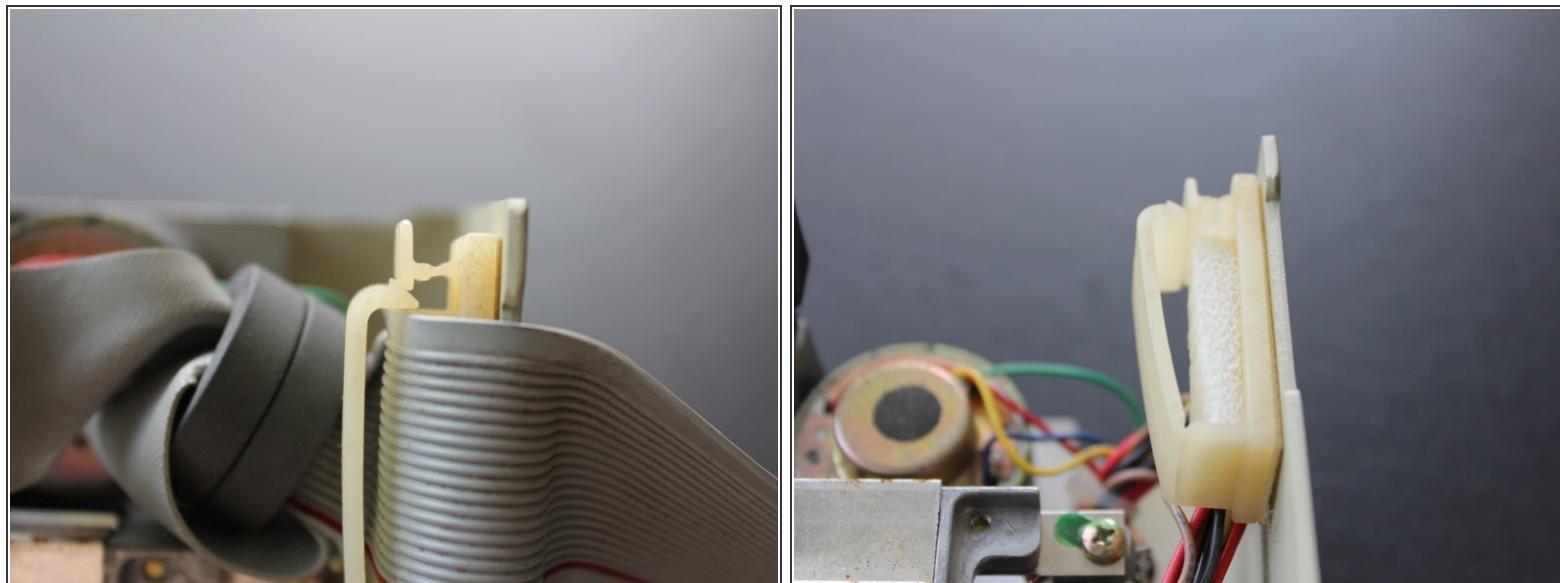
- Insert wisdom here.

## Step 9 — Sensor removal



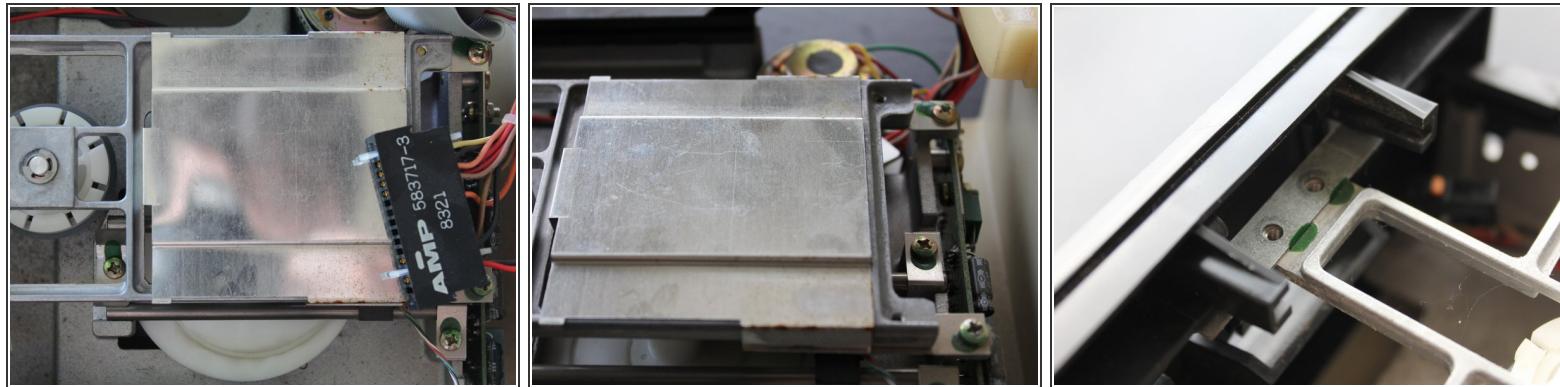
- Remove 2 Phillips screws holding in the sensor pictured

## Step 10 — Cable removal



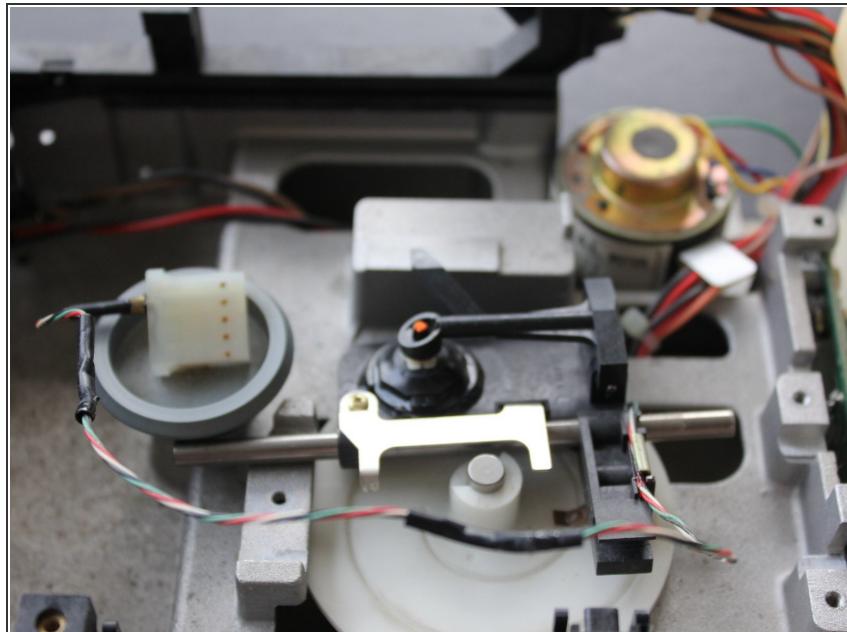
- Remove the grey cable from its retaining clip

## Step 11 — Remove screws



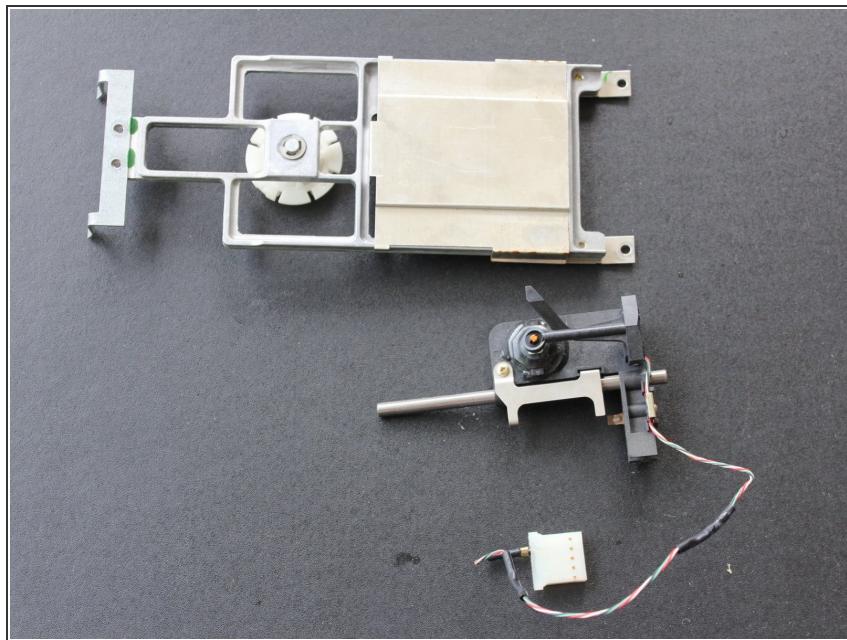
- All screws pictured

## Step 12 — Remove silver tray



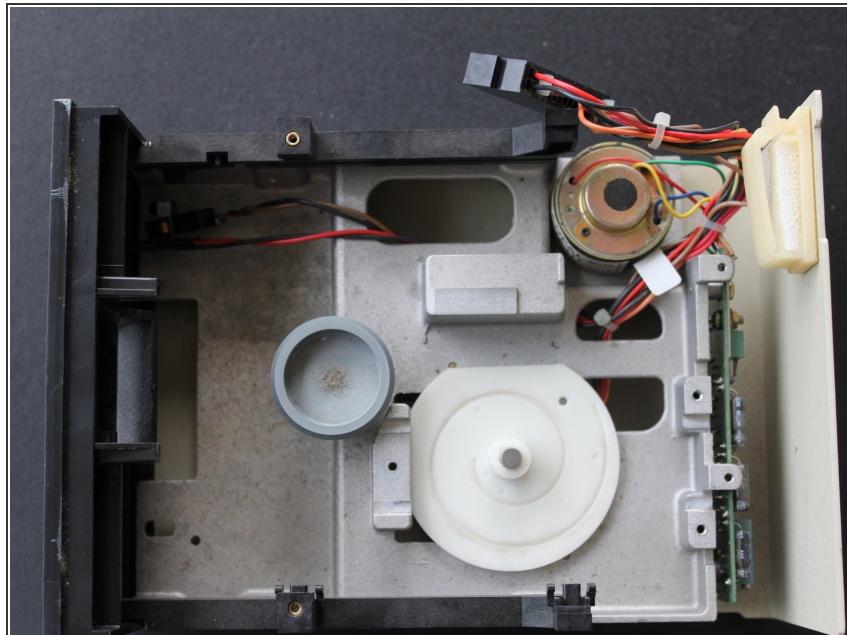
- As pictured, remove tray once screws are gone

## Step 13 — Tray and other components



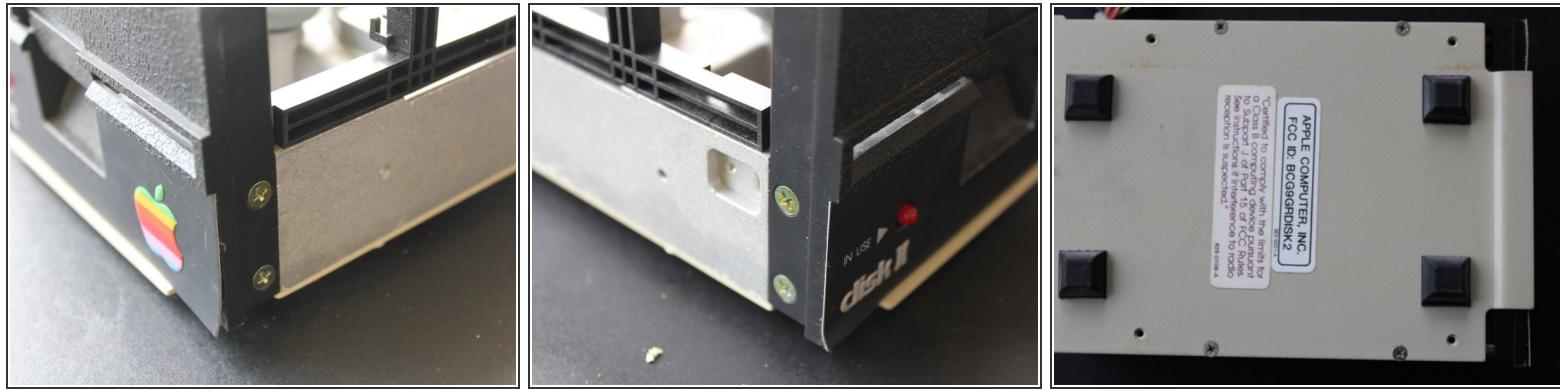
- In addition to tray, lift out other components as pictured

## Step 14 — Remaining components



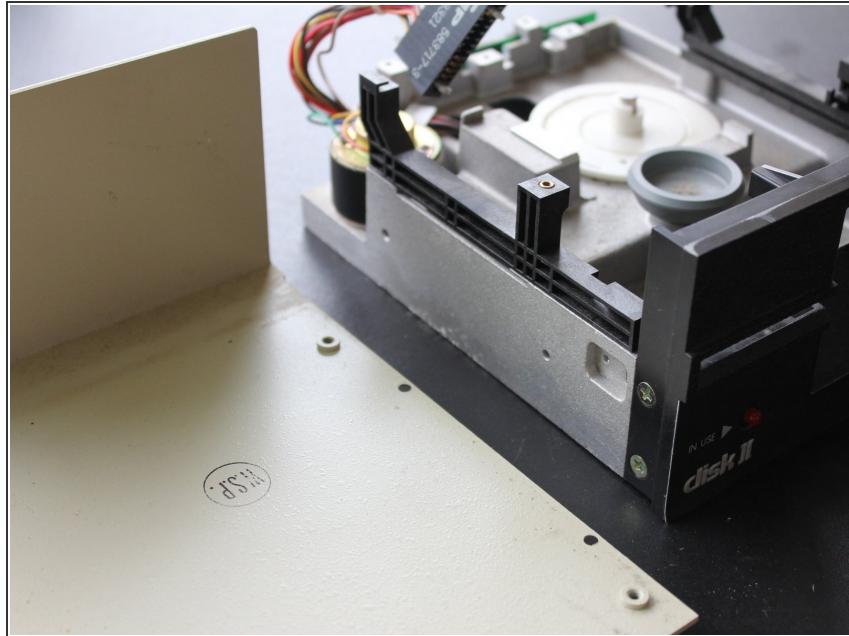
- Insert wisdom here.

## Step 15 — Remove screws



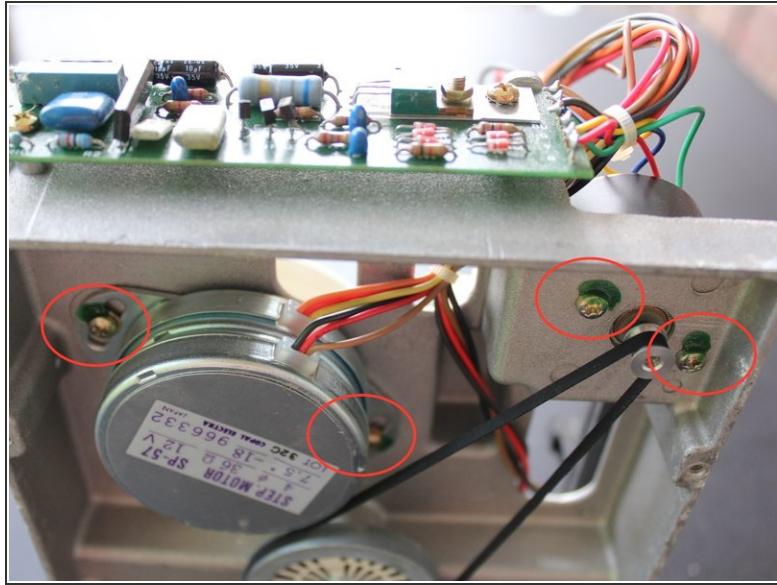
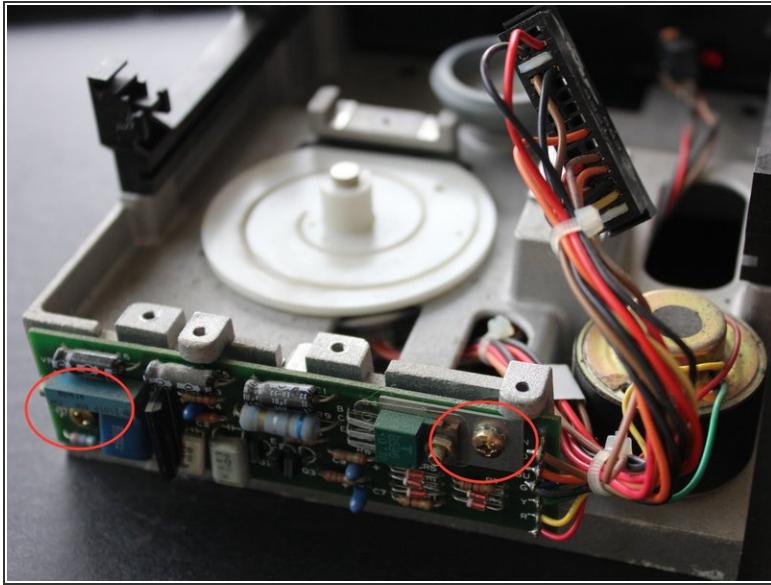
- 8 total, from sides and bottom

## Step 16 — Remove bottom of case



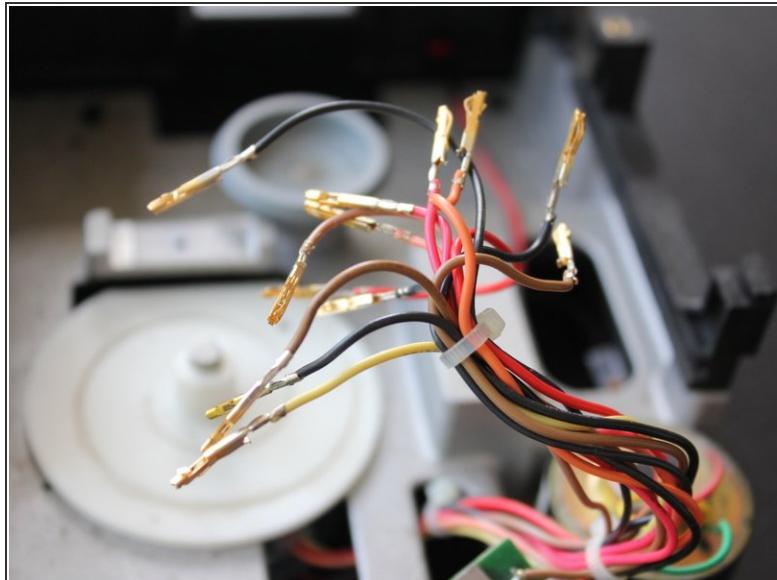
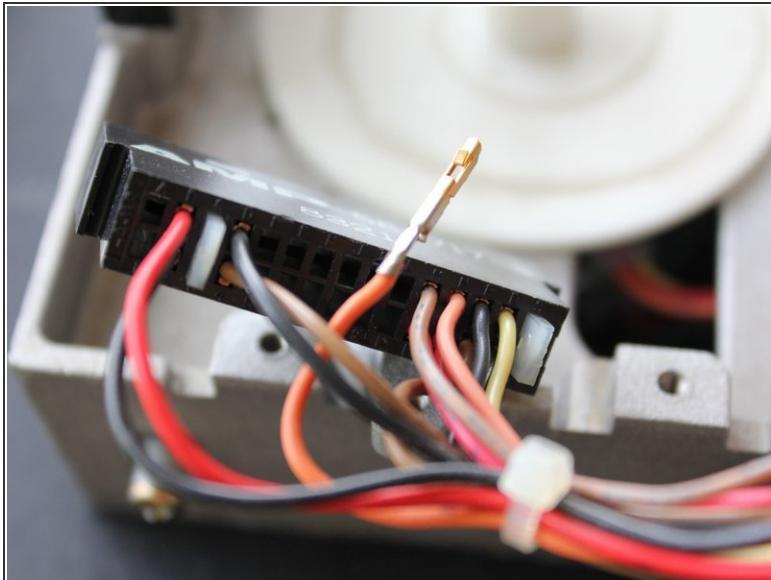
- Insert wisdom here.

## Step 17 — Remove screws



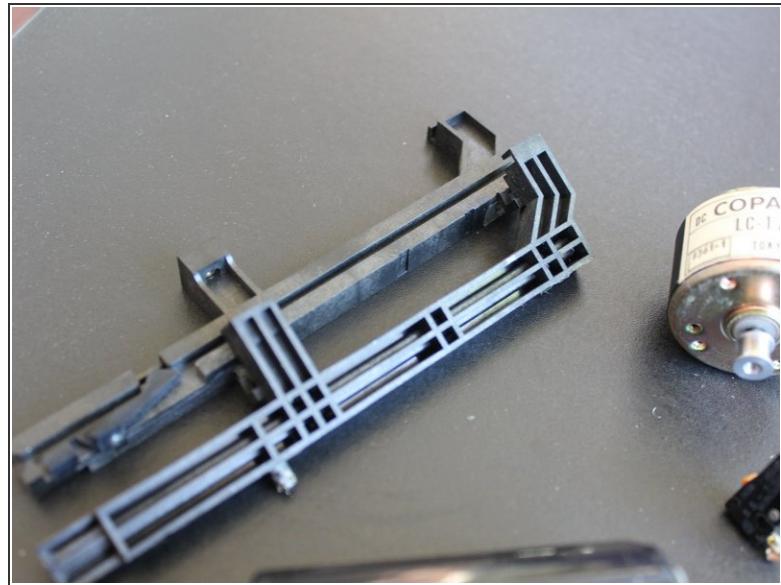
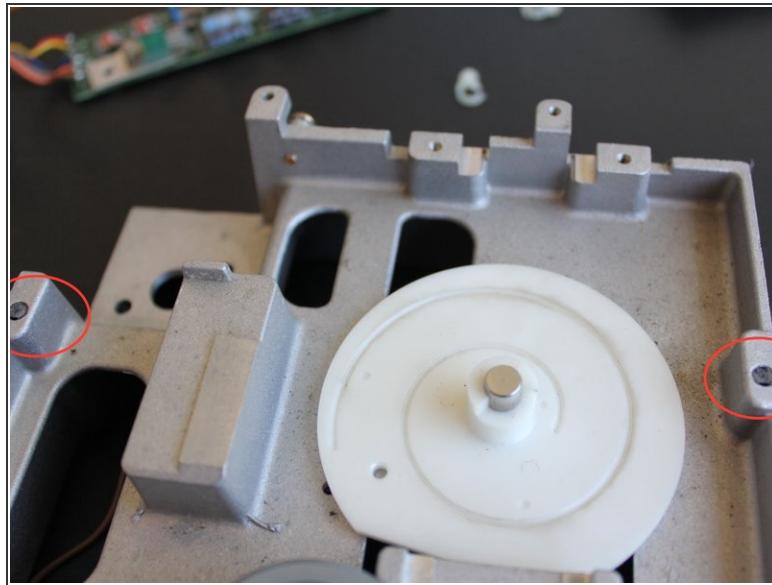
- As pictured, then remove all freed components

## Step 18 — Motor Removal



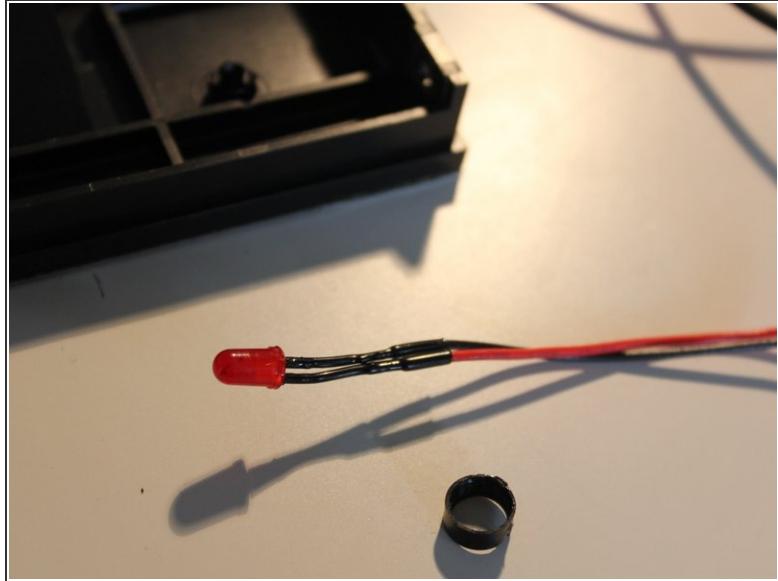
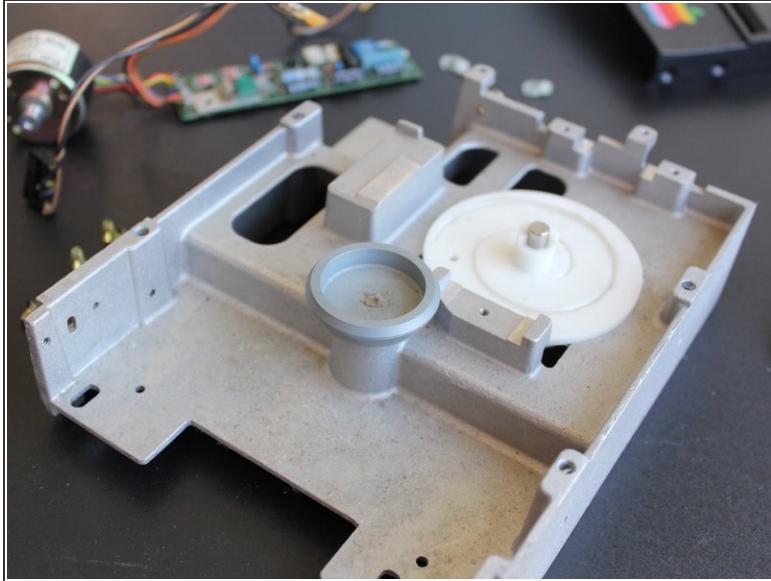
- Disconnect cables from black connector so motor and other components can be removed from chassis

## Step 19 — Side rail removal



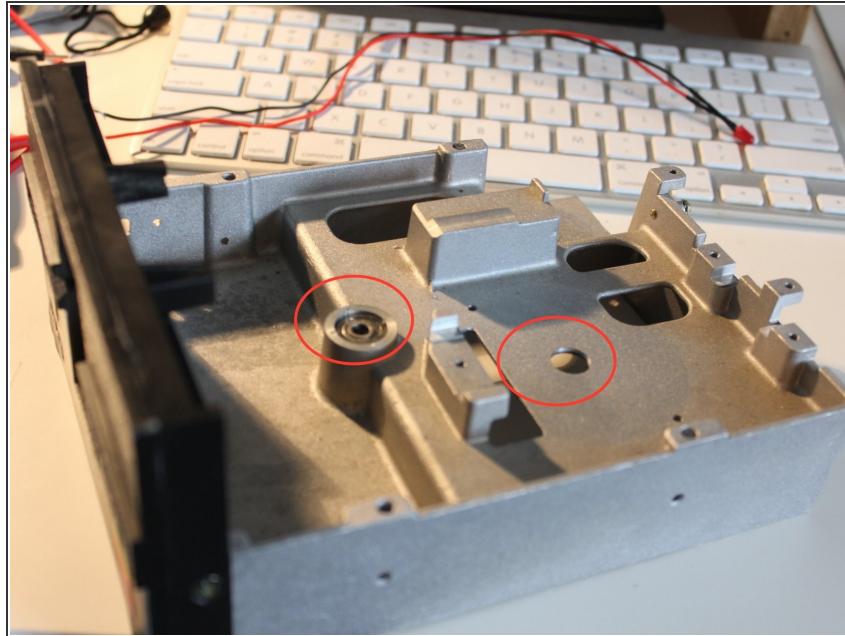
- Remove side rails by pulling up gently. Each rail has two plastic poles that sit in the body. In this attempt, each rail lost a pole that snapped off. Poles seemed to be glued down

## Step 20 — LED removal



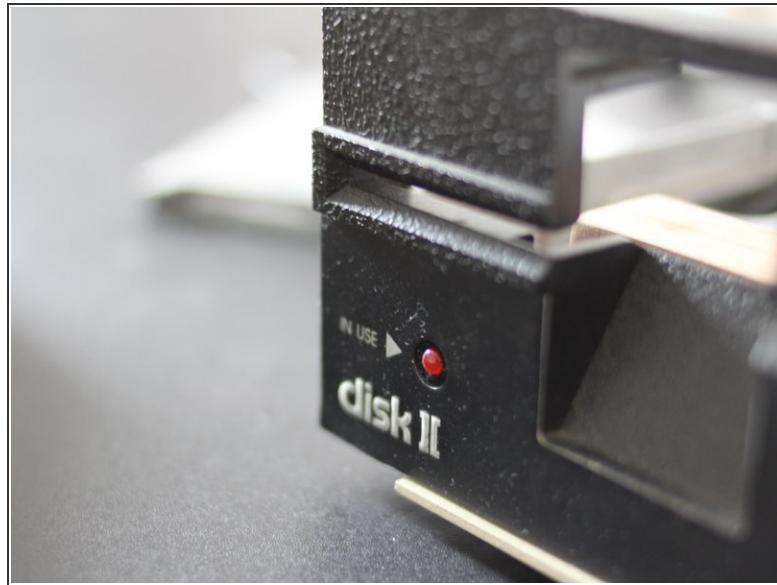
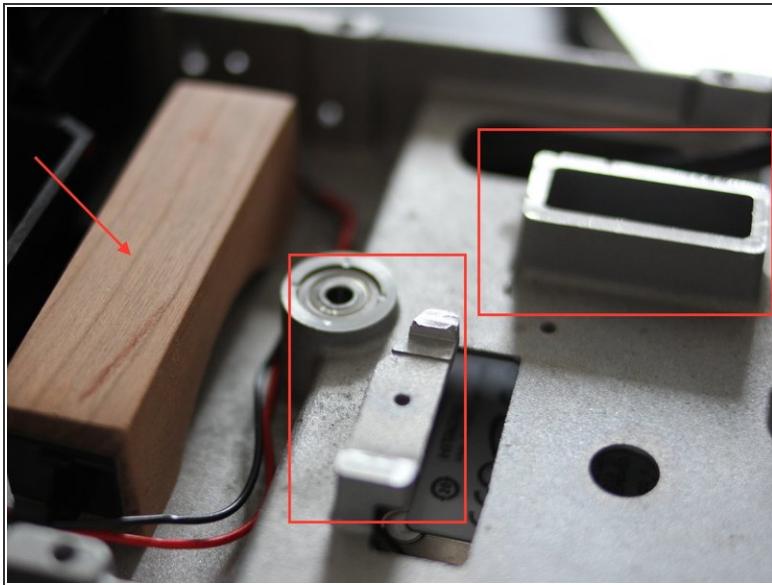
- Because the side screws were previously removed, the black front of the drive can come off. Our drive's LED was tested and worked, but was faint. Feel free to test yours first. If working, skip the next step
- Our LED was removed from the front case by removing the pictured ring with the help of a flathead screwdriver. Take your time so the front of the case isn't damaged and nothing besides the ring comes off

## Step 21 — Final removals



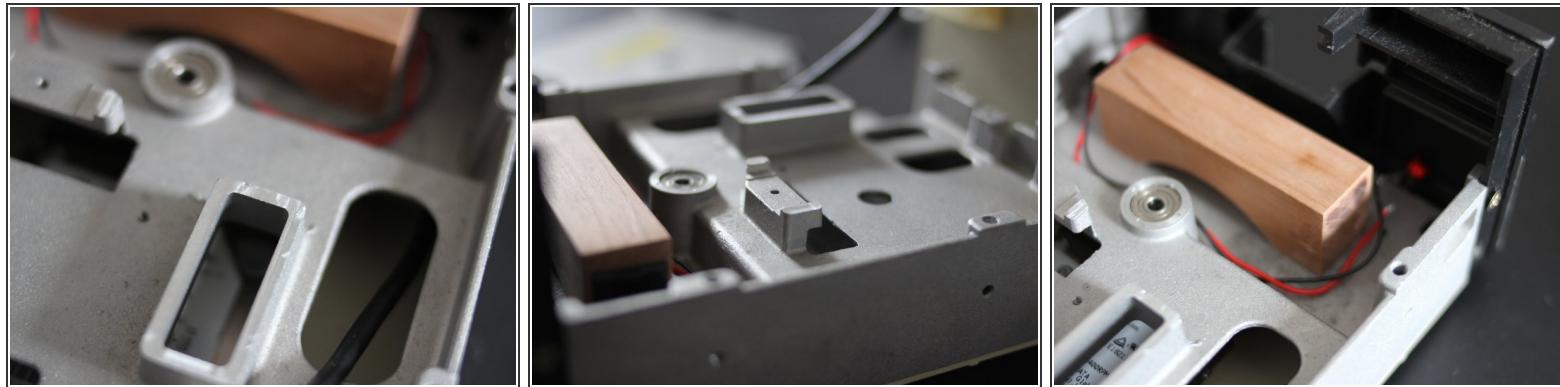
- Use pliers to remove the remaining components (see previous step)

## Step 22 — Adding new components



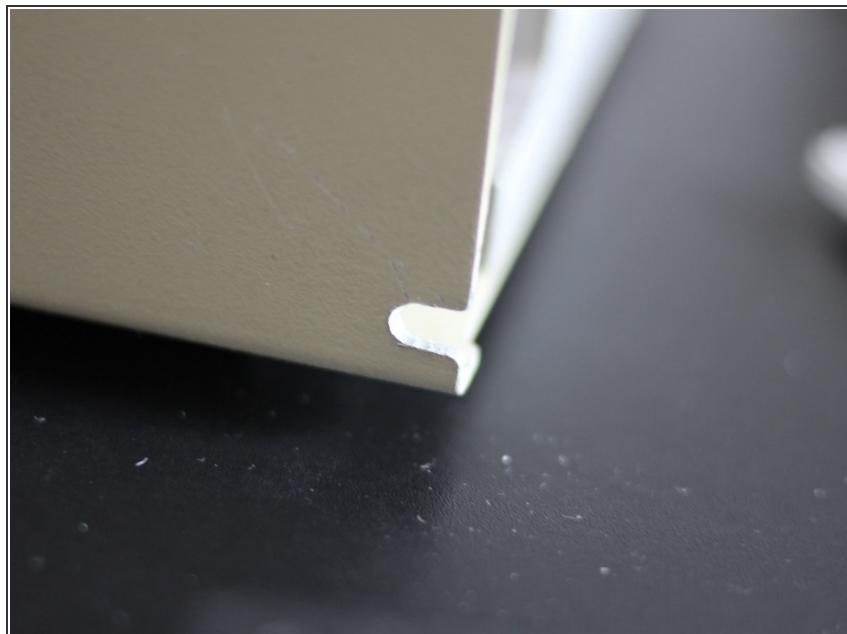
- With the case stripped and a new LED purchased, the fun begins!
- The only major changes to the case are outlined in rectangles. The metal chassis was milled down to match the height of the bottom of the disk entry area on the black front plate. This lined up well with our Apple SuperDrive (pulled from a MacBook Pro)
- The wood block was added for support underneath the SuperDrive
- The rails fit nicely around the SuperDrive when re-installed
- A new LED was purchased and soldered to the LED connector from a 2.5" USB to SATA board, and then inserted snugly into the front of the case (may not be necessary if your LED lights up well)

## Step 23 — Detail shots



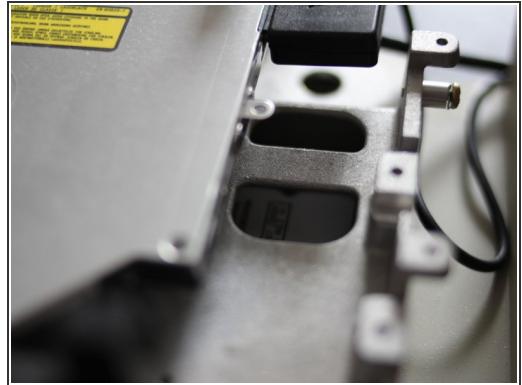
- With LED cabled routed, and 2.5" hard drive placed in cavity underneath

## Step 24 — Further case modification



- Dremoled into the back plate for USB cables to route through

## Step 25 — Installing SuperDrive



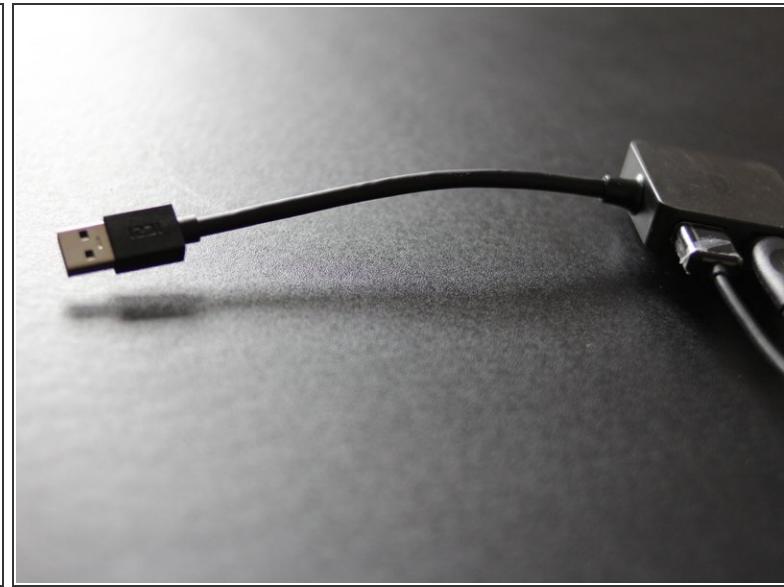
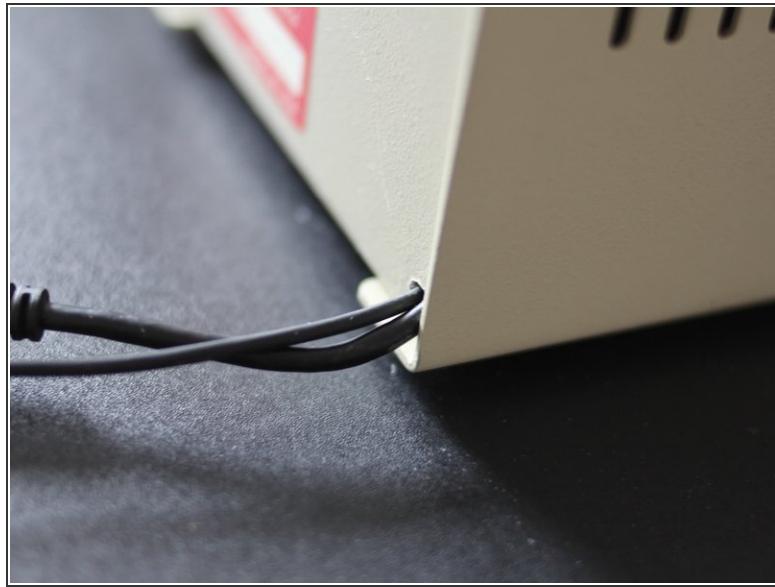
- Picture 1: optical drive installed into body
- Picture 2: SATA to USB cable for optical drive (plug and play on macOS. A right angle cable was purchased but a straight cable would be preferable due to the amount of space at the back, as pictured)
- Picture 3: hole to thread SATA to USB cable through for 2.5" hard drive

## Step 26 — New front



- The original 'latch' slides out easily without the original components, so it was left out

## Step 27 — Cables



- Run out of case to 4-port USB adaptor (possible to install inside case if a hole could be cut out)

## Step 28 — New LED



- Flashes on SATA data read from hard drive

## Step 29 — SuperDrive



- With the drive connected to a Mac over USB (hub is enough to power both OD and SATA drive over one cable) we can insert and eject DVDs with ease!

## Step 30 — Final shot



- To re-assemble, replace all body Phillips screws
- Enjoy your vintage look with up to date tech!