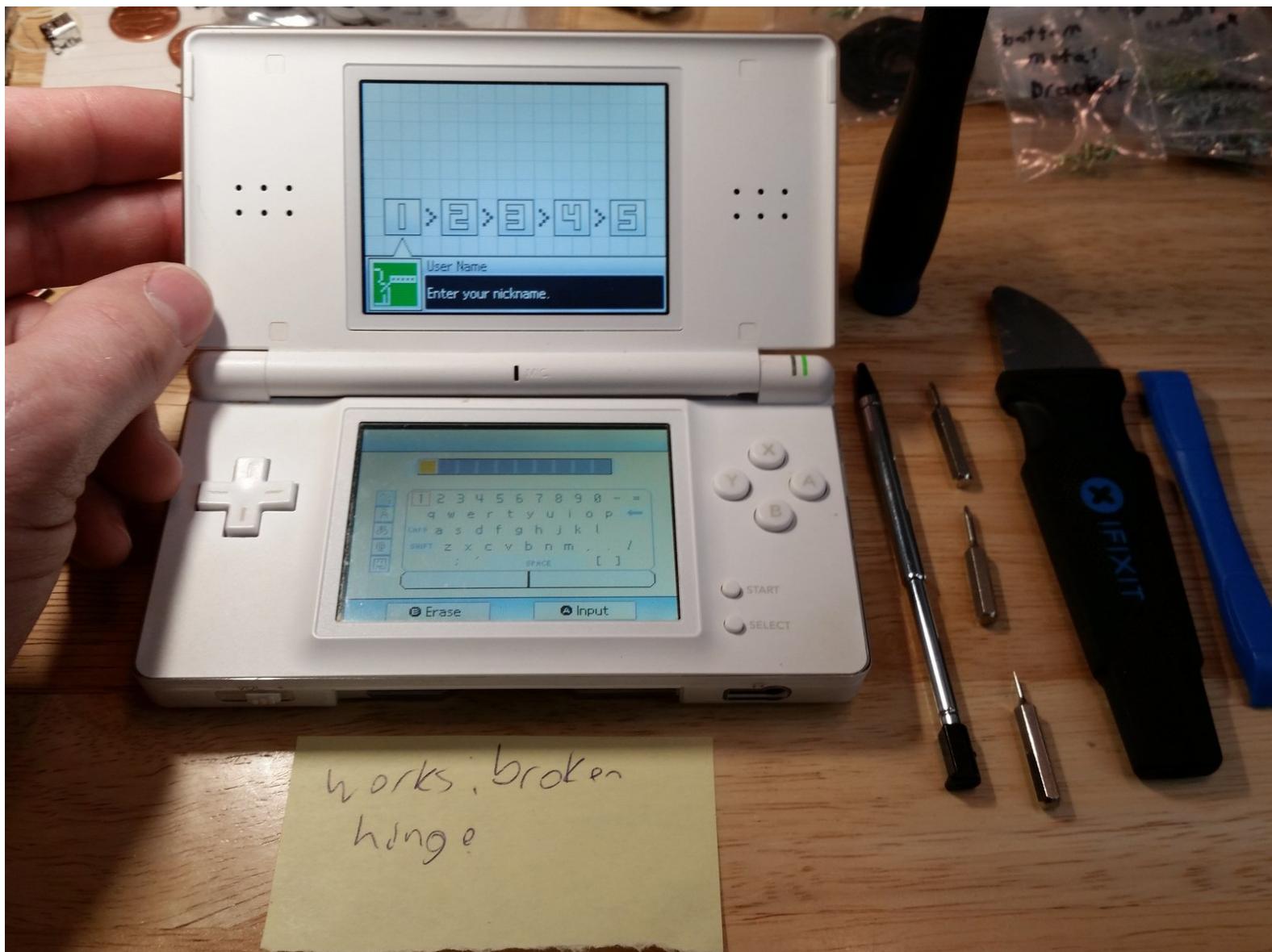




Nintendo DS Lite Disassembly

Complete disassembly for motherboard, display, digitizer, or shell replacement.

Written By: John Gotts



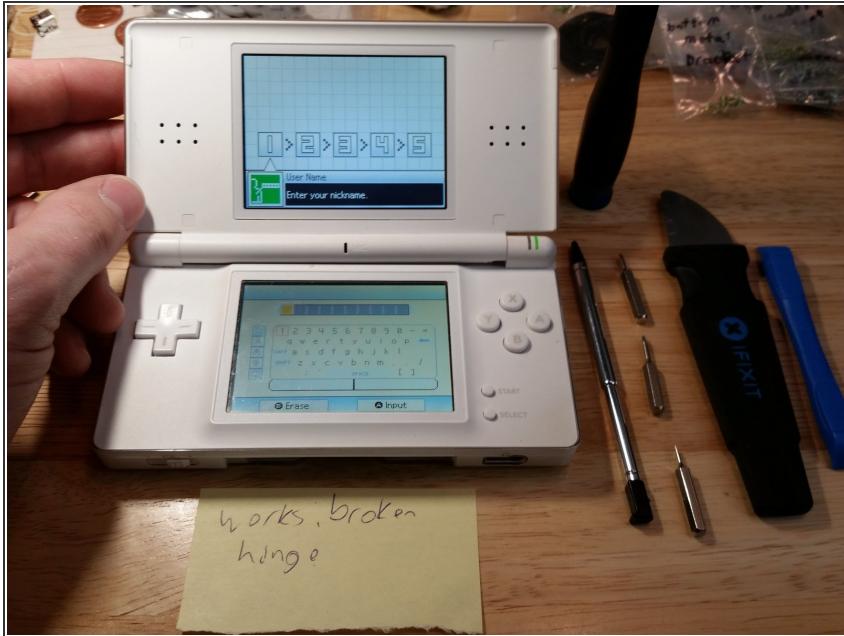
INTRODUCTION

I decided to teach myself how to repair Nintendo DS Lites, because broken units are available cheaply on eBay in 2017. After working on a few dozen units, I have seen the mistakes that people have made and I offer you this guide to make sure that you don't damage the unit that you're repairing (especially if you're fixing it for yourself). All of the problems I've seen with the DS Lite can be fixed for between \$2 if you only need a new digitizer to about \$10 if you need to obtain a used motherboard from an otherwise scrapped unit.

TOOLS:

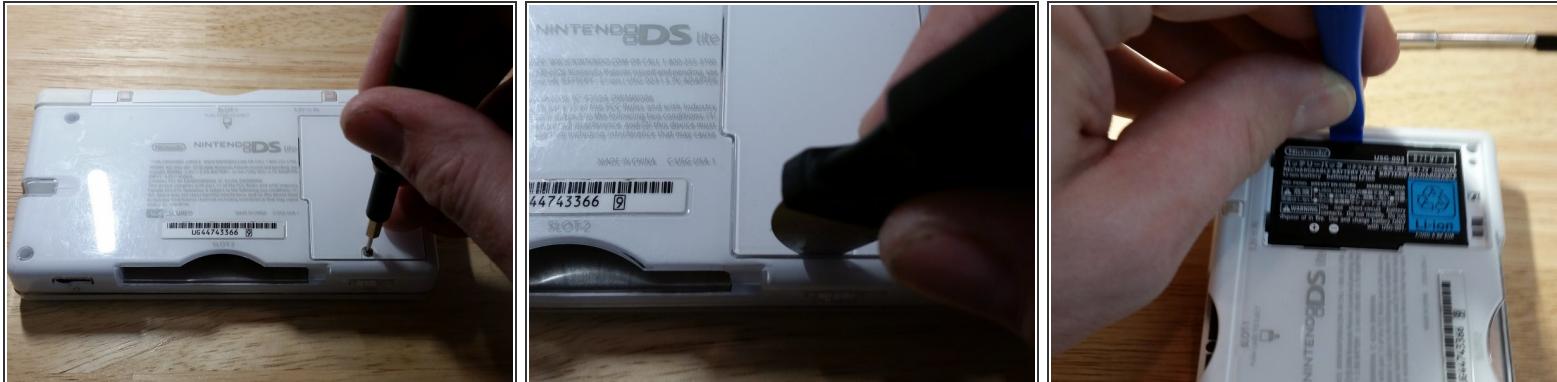
- Spudger (1)
- Metal Spudger (1)
- Flathead 3/32" or 2.5 mm Screwdriver (1)
- iFixit Precision Bit Driver (1)
- ProWick Solder Braid (1)
- Solder (1)
- Soldering Station Hakko FX-888D (1)
- Phillips PH000 Screwdriver (1)
- Tri-point Y00 Screwdriver (1)

Step 1 — Introduction



- The most common problem with the Nintendo DS Lite is a broken latch. You can buy a new shell for under \$10 directly from China.

Step 2 — Remove the battery



- Unscrew the battery case with a PH000 bit. You will probably need to pry open the battery case as the cover becomes sticky with age. The battery compartment is often quite tight so you might need to gently pry out the battery with the plastic spudger.

Step 3 — Remove the rubber feet



- Quite commonly I see this part of the DS Lite damaged. Follow these steps to remove the feet without damaging anything.

Step 4 — Remove screws



- Now remove the two gold colored screws under the rubber feet and the two silver colored screws in the battery compartment with the PH000 bit. Then remove the three silver

screws and the small black screw with the Y00 bit. Set the Y00 bit aside as you are done using it.

Step 5 — Remove the bottom cover



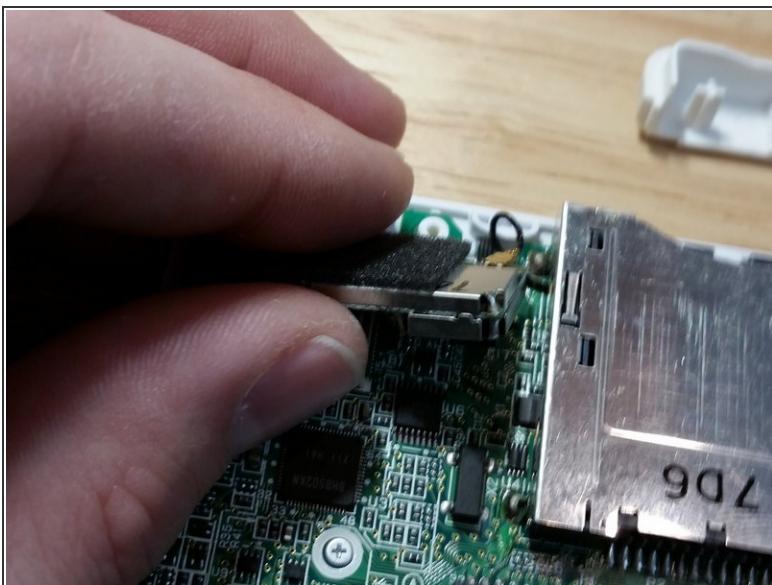
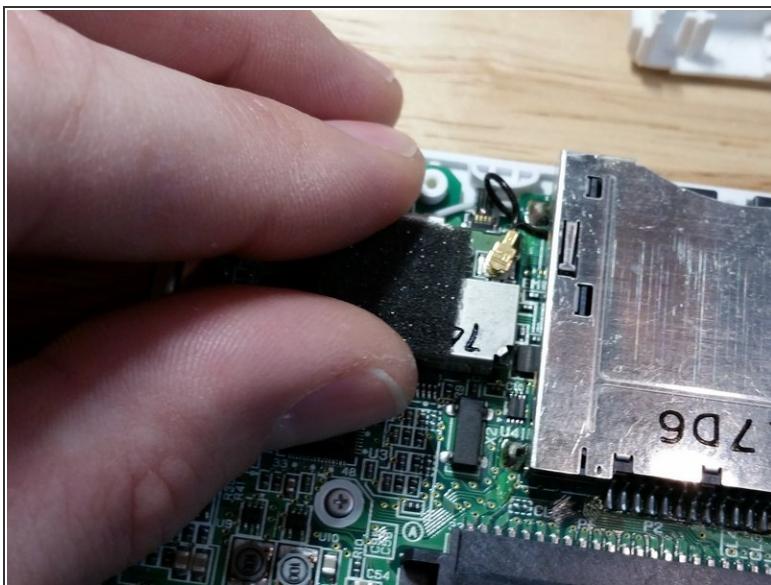
- I see a lot of damage caused by carelessly removing the bottom cover, so take your time and carefully move the plastic spudger around the perimeter. If the bottom cover seems glued on, remove the cover with the unit closed. This may help prevent scratching the digitizer.

Step 6 — Remove the shoulder buttons



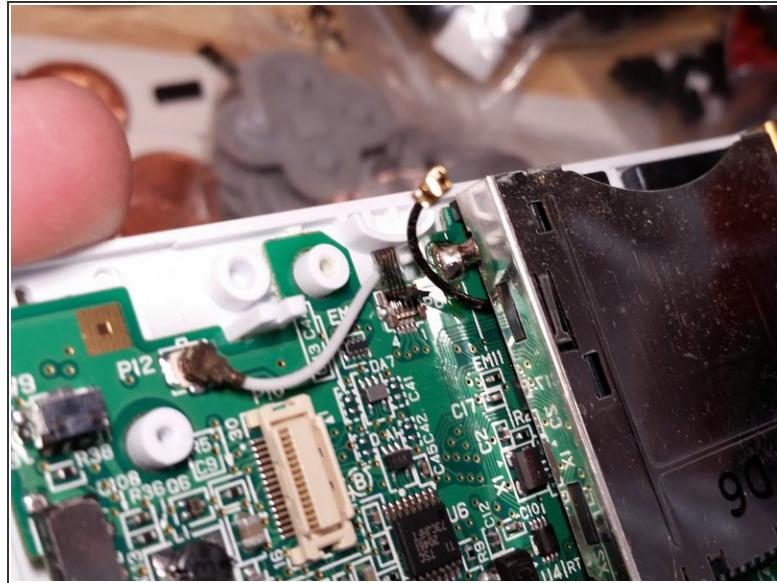
- Carefully grasp and remove the shoulder buttons. Try to hold the spring assembly together so that you don't lose any pieces. Without functional shoulder buttons the DS Lite isn't very useful.

Step 7 — Remove the Wi-Fi daughterboard



- You must remove the Wi-Fi daughterboard at this stage or you risk damaging the digitizer. I learned this the hard way. You will need to pull hard on the daughterboard as the adhesive is very strong.

Step 8 — Lift the digitizer flex connector



- Gently lift the flex connector from this side. I stress gently. I've broken three of them.

Step 9 — Remove this screw



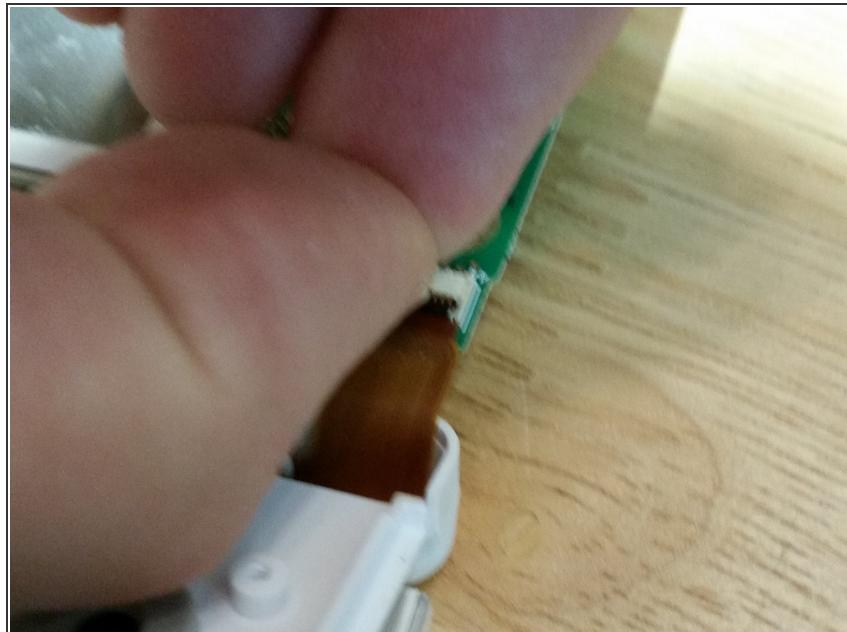
- Remove the final screw holding down the motherboard.

Step 10 — Flip the motheboard around



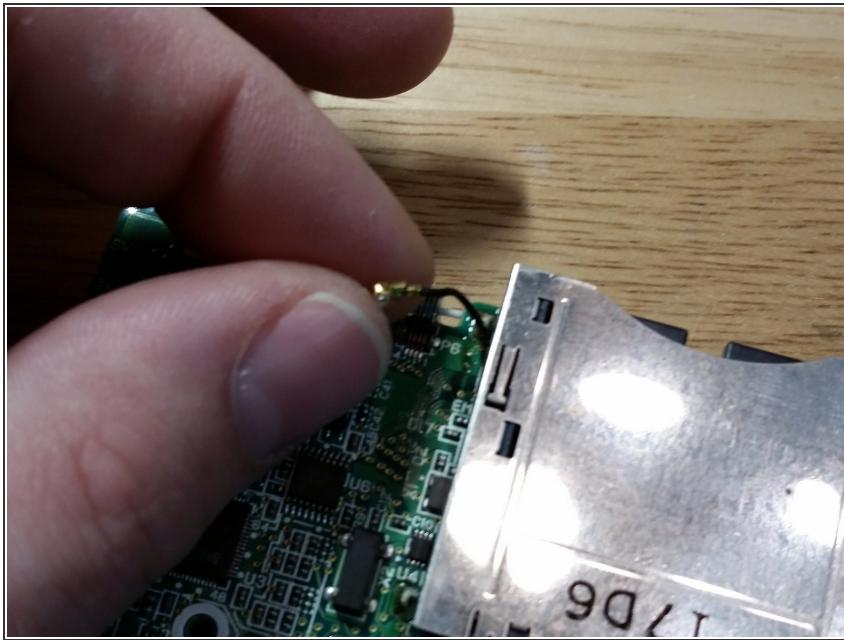
- Flip the motherboard around as shown. Be gentle as the flex cable is fragile.

Step 11 — Remove the flex cable



- Remove the flex cable with your fingernail. Do not use a flathead bit, as it may damage the connector.

Step 12 — Remove black wire



- Remove this black wire. You will have to wiggle it out. One of the stupidest design decisions on the DS Lite besides the latch problem, the black wire is even harder to put back in. Do not attempt to mess with the DS cartridge port in any way. You will damage it. The black wire will come out and it will go back in when the time comes.

Step 13 — Remove white wire, digitizer flex



- At this stage remove the white wire and the digitizer flex cable.

Step 14 — Remove the lower display



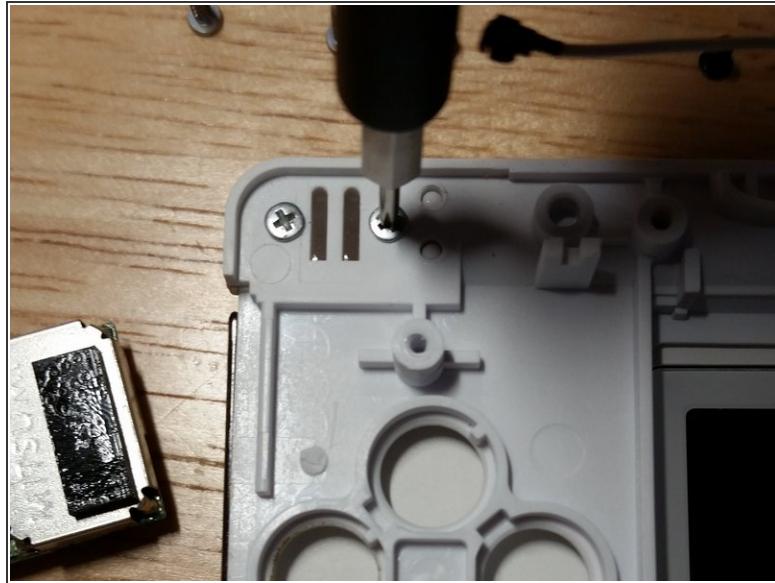
- Remove the lower display flex connector. Pry the clip up with your fingernail, as you did with the upper display.

Step 15 — Remove button assemblies



- Remove the rubber and plastic button assemblies. This step is pretty easy, but don't lose any pieces. Every plastic and rubber piece can immediately go into hot, soapy water.

Step 16 — Disassemble the latch



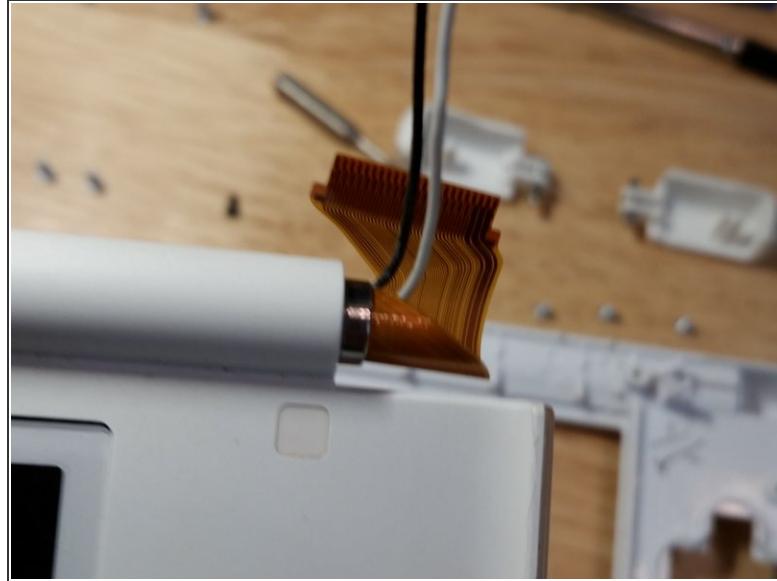
- This is the chief design flaw of the Nintendo DS Lite. The latch assembly is much too fragile. Save the screws and the metal and plastic piece if you're replacing the shell.

Step 17 — Note the white wire routing



- The most common reason why DS Lites don't go together properly is that this white wire is not routed properly. When reassembling, follow this routing scheme and the finished product will feel like it is fresh off the factory floor.

Step 18 — Carefully separate the upper section



- Make sure that both wires are routed through the center of the flex cable and carefully route the flex cable through the slit. The flex cable is incredibly fragile, and it was strengthened in later models. Take your time on this step. If it takes you ten minutes to avoid damaging the flex cable, so be it.

Step 19 — Remove upper screws



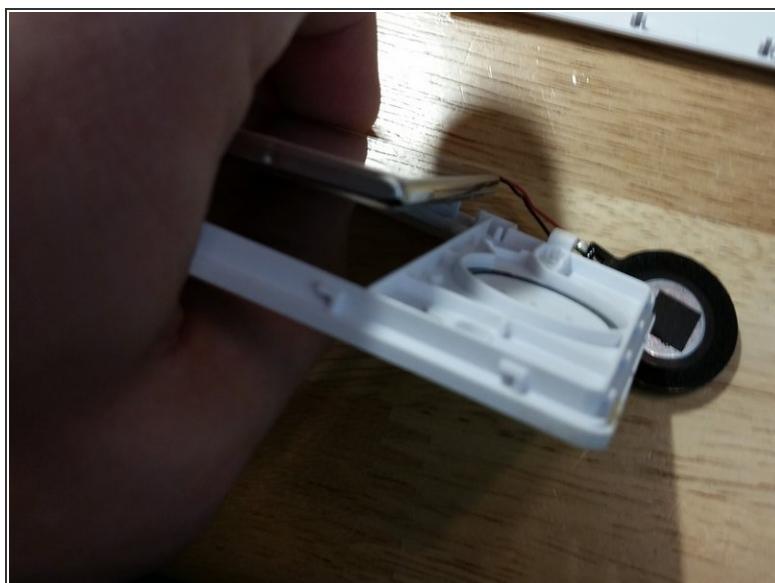
- With the smallest flathead bit you can find, work the bit under the sticker to avoid damaging the unit as much as possible. Completely avoiding damage to all components is impossible.

Step 20 — Pry the top cover loose



- With the plastic spudger, pry the top cover loose. Do not remove or otherwise mess with the rubber pieces on the side. You never need to touch those, and I've seen them unnecessarily damaged and missing countless times.

Step 21 — Remove the top screen



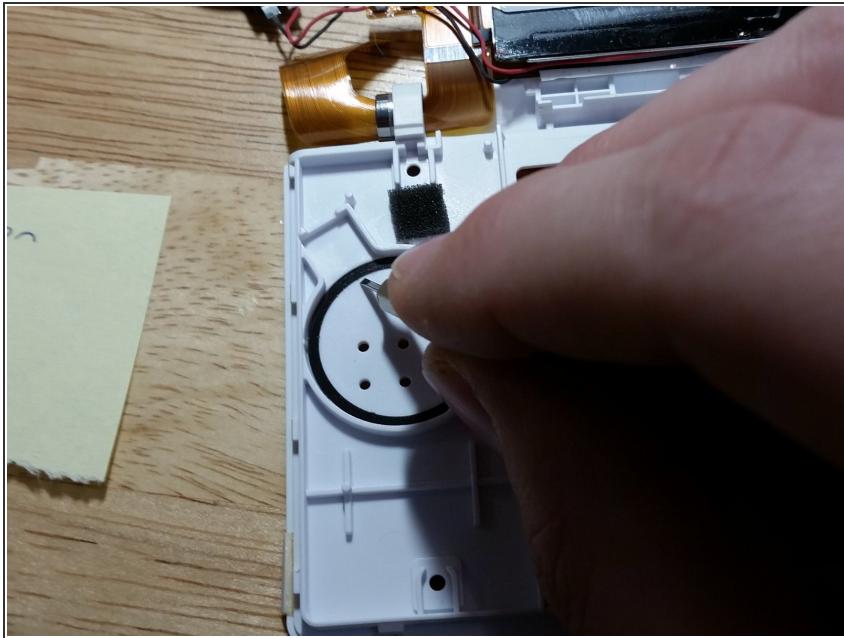
- Begin pressing on the top screen as shown here and work your way around. Be fairly gentle but note that the actual LCD is protected by a plastic shield in front and a metal shield in back.

Step 22 — Remove mic and Wi-Fi antenna



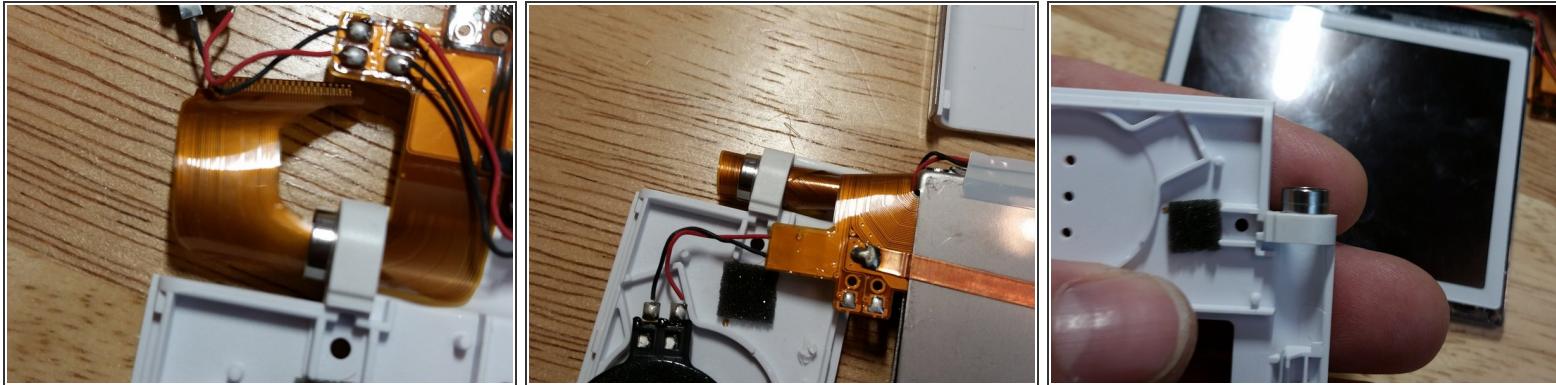
- Noting the routing of the black and white wires for later reassembly, remove the microphone and Wi-Fi antenna, carefully pulling the wires through the center of the flex cable so as not to cause any damage.

Step 23 — Speaker things



- These should be removed and replaced shiny side up. They may be attached here or attached to the speakers.

Step 24 — Carefully remove the flex cable



- If the flex cable is damaged, then you're out about \$8 as of this writing. Exercise extreme caution with this fragile piece, carefully rolling it into a tight cylinder. If the flex cable is damaged, there is no way to repair the LCD, and the entire module must be scrapped. Remove and set aside the metal piece.

Step 25 — Finish shell disassembly



- Remove three gold screws from the stylus retainer and two gold screws from the metal shield. Disassemble. You will need to gently pry loose the power switch and volume control. Wash all shell plastic pieces shown in hot, soapy water. Alcohol may be required to remove decals and other grime.

Step 26 — Remove sticker



- If you're replacing the shell with a different color, you definitely need to remove the sticker. With the iFixit metal spudger, this step is easy.

Step 27 — Remove digitizer



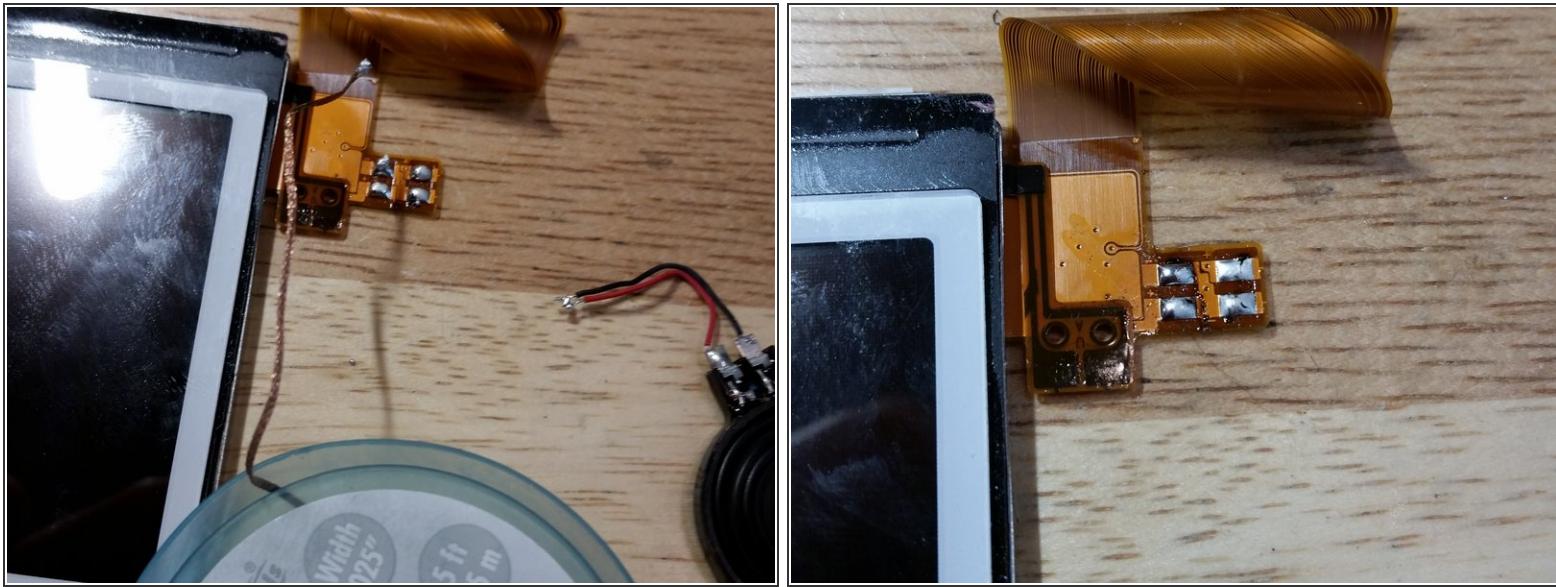
- Slide the metal spudger under the black sticker and carefully work your way around the assembly, avoiding the flex cables. This step is easier than it looks, but only perform this step if the screen or the digitizer needs to be replaced. If both are functional, this step is unnecessary. Thoroughly clean both pieces with alcohol afterwards.

Step 28 — Remove speakers



- This step is only necessary if your upper LCD is bad. Unfortunately, this is a common problem. First, wet the contacts with flux. Then, with your iron at 400 degrees C, melt the solder and remove all four wires. It might help to add fresh solder with lead. The lead-free solder used by Nintendo sucks.

Step 29 — Clean flex contacts



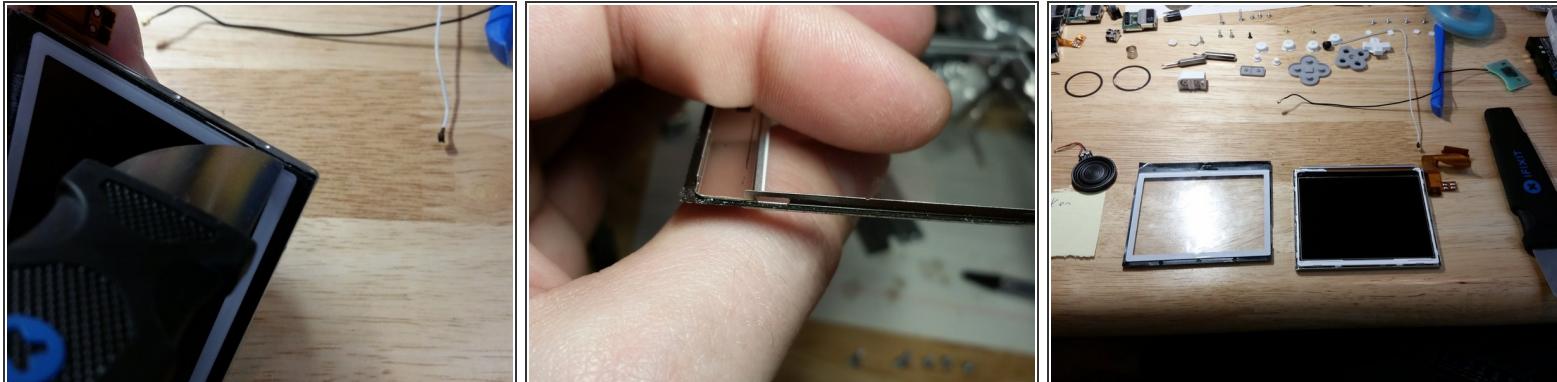
- Clean up the contacts as you prefer. I use a tiny American-made solder wick and I've applied some fresh lead-based solder.

Step 30 — Inspect flex cable



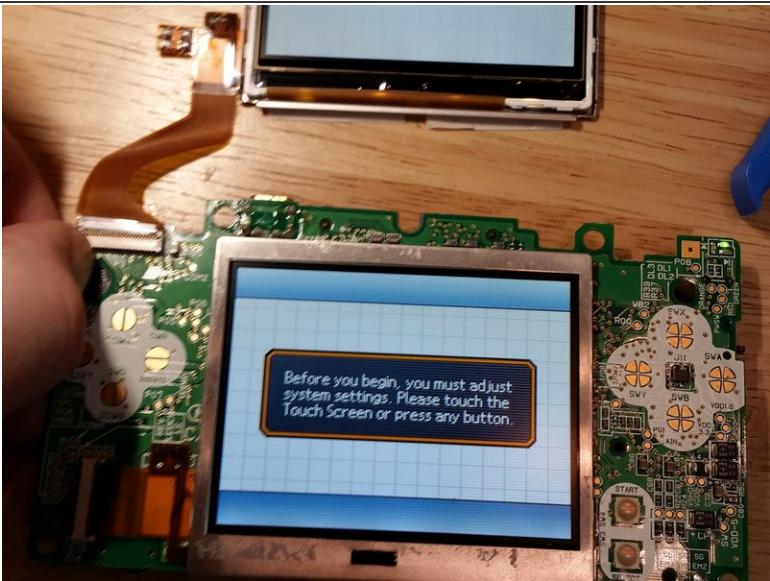
- Inspect the flex cable for damage.

Step 31 — Remove plastic cover



- The plastic cover is wedged underneath the back metal cover and is held on by a few different schemes, depending upon how old the DS Lite is. One method is two tabs on each side. Gently work the tabs loose without removing the back metal cover. This step is unnecessary unless you're changing the color of the shell.

Step 32 — Test disassembled unit



- Now test the disassembled unit. First, connect the Wi-Fi daughterboard. Then connect the two screens to the motherboard. Then, while holding the battery in place, turn on the unit. The unit should power on as shown (provided that the displays were working in the first place---replace them first if necessary).

To reassemble your device:

- 1) Insure that the white wire is properly routed before remounting the motherboard.
- 2) Carefully reassemble the shoulder buttons. This takes practice.
- 3) Insure that the alignment of the power switch and volume controls are correct before replacing the bottom case. Incorrect alignment will damage the motherboard and you won't be able to turn on the unit anymore.