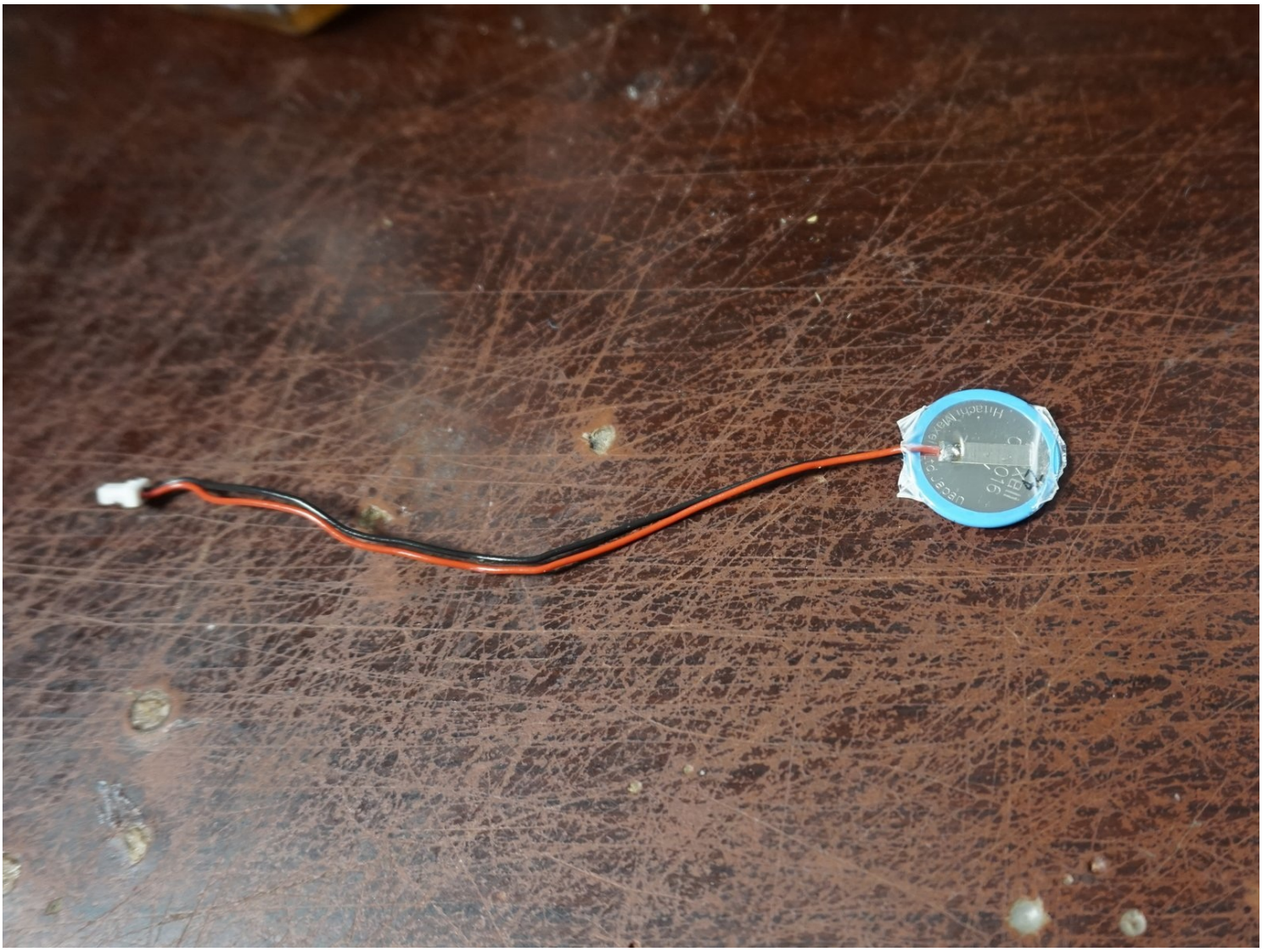
Read guide note How to rebuild a laptop CMOS battery

If your laptop has a dead CMOS battery and the...

Written By: Nick



INTRODUCTION

If your laptop has a dead CMOS battery and the OEM no longer sells new CMOS batteries (and aftermarket ones are hard to find), it is possible to take the dead battery apart and replace the cell so your laptop holds the CMOS contents again.

IMPORTANT: DUE TO THE ASSOCIATED DANGER IF THINGS GO WRONG, THIS IS ONLY RECOMMENDED FOR OLDER NOTEBOOKS WHERE THERE ARE FEW OR NO THIRD PARTY COMMERCIALLY AVAILABLE REPLACEMENTS. If a pre-built replacement can be purchased, this is (generally) better as the cost is similar to this procedure. It is also somewhat error-prone and can create the same issue as a dead battery if the tape fails.

Guide notes:

- The cell does not need to be covered 100%. Due to the risk of an explosion, you MUST cover every visible area at least to the point it is "protected". ***Liquid electrical tape is used to do this since it can be removed cleanly if something goes wrong and provides a better seal without the risks introduced by using heatshrink and a butane flame.***
- Laptop disassembly is not covered. ***Every laptop is different, so yours probably varies from the one this was pulled from. Check iFixit or the manufacturer's website for instructions. NOTE: SOME TOSHIBA LAPTOPS SOLDER THIS TO THE MOTHERBOARD.***
- ***This guide ONLY applies to coin cell rebuilds. Do not use this guide for other batteries.***
- ***When adding tape to the cell, be very careful not to create a direct short.*** To avoid this, place the tabs slightly higher than the factory and cut the tape sort but will also hold reliably.

TOOLS:

Multimeter (1)

Use DC mode to confirm cell voltage polarity.

Alumunum tape (1)

Used to hold the cell leads.

Utility Knife (1)

Used to cut the wrapping. Substitute with scissors if needed.

Liquid electrical tape (1)

Used for cell protection.

PARTS:

CR2032 Lithium Battery (1)

Can be found in many drug stores and big box retailers. Very common coin cell battery.

CR2025 coin cell (1)

Can be found in many drug stores and big box retailers. Second most common - can be used as a CR2032 substitute with less runtime.

CR 2016 3V Lithium Batteries (1)

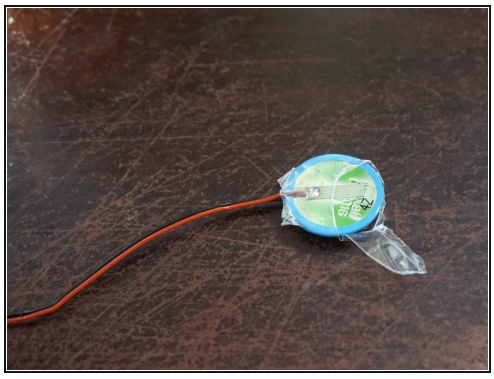
Can be found in many drug stores and big box retailers. However, this one is less common then the CR2032/2025 battery and should not be used as a substitute; only if you have to or it was used by the factory.

Step 1 — Determine what battery you need

ⓘ Most laptops use a CR2032 or 2025 cell. The CR2016 cell is uncommon.

- Take the battery apart and check out what cell you need. This may be difficult depending on the wrap used.

Step 2 — Disassemble the CMOS battery

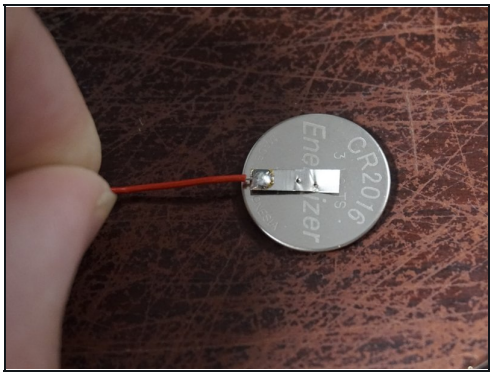


⚠ ***If you break the leads, a new battery will need to be purchased.***

- After purchasing a battery, disassemble the CMOS battery. ***Use caution not to heavily bend the tabs. Too much damage may make them unusable.***

- Break the tabs off of the old battery. ***Dispose of based on your local laws.***

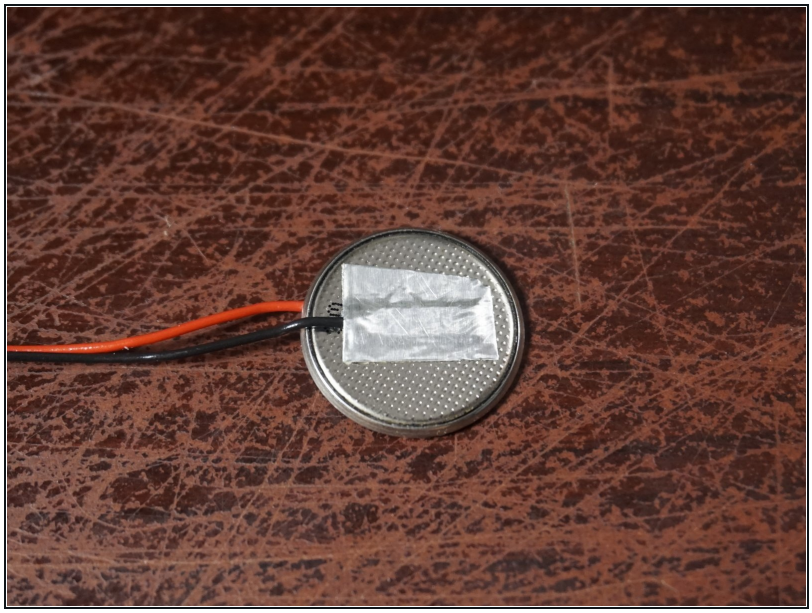
Step 3 — Verify polarity and tape the leads onto the new cell



⚠ ***ONLY USE ENOUGH TAPE FOR A FIRM HOLD. Using too much may short out the cell! In addition to using as little tape as possible, the cell must be tested before installation with a multimeter!***

- After the polarity has been matched, tape the positive lead to the new cell. ***To remove the risk of a failed rebuild, start on the + side and cut the tape to fit comfortably.***

Step 4 — Apply tape to the negative terminal

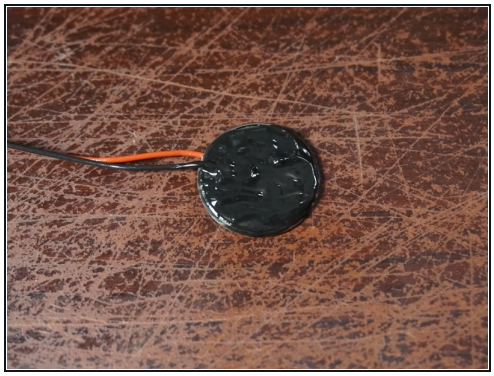
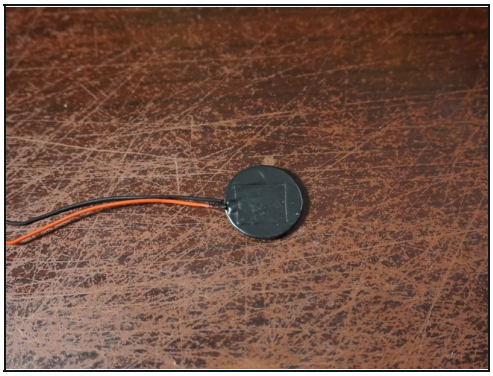
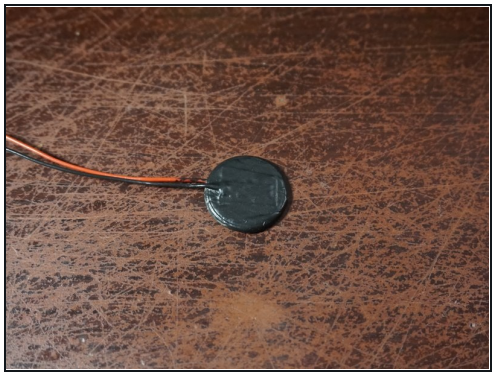


⚠ ***To place tape on the negative tab safely, try and keep the tape you cut as close as possible to the example image.***

ⓘ ***OFFSET the tape and terminal placement from the positive tab as much as possible.***

- ***After confirming the tape is not causing a short***, add tape to the negative tab and tape down the negative terminal onto the new battery.

Step 5 — Apply liquid electrical tape

Perfect coverage is not required. Focus on covering the major parts of the battery.

- After verifying both leads are securely held onto the new cell, apply liquid electrical tape to the battery. ***2-3 medium thickness coats are recommended.***

After building the replacement cell, install it in the notebook. Verify the battery works by setting the BIOS, powering it off and then removing the battery/AC adapter. ***If the CMOS memory is retained, your battery works.***