

# iPhone Battery Replacement Guide

Using No Weld Batteries To Remove Battery Message

## Overview

When replacing an iPhone battery on models from the iPhone XS onwards, if a non-genuine battery is used a warning message is displayed on the handset - unless you take the battery management board (BMS) from the original battery and spot weld it onto the after-market battery.

This solution allows you to remove the non-genuine battery warning without the need for welding.

## No Weld Battery

The battery used in this process is a special design which includes an additional connector which the old BMS board plugs into.



iPhone 12 Mini Battery with additional connector highlighted

**Important:** From iOS 17.4 onwards, Apple have made changes to the device firmware which make it more difficult to reset the battery health to 100% following a battery change. An **additional step** is required to achieve the 100% reading - **this will involve wiping all customer data from the device.** 

Please see the "iOS 17.4 Onwards - Battery Health Reset" section of this guide..

### Process

- 1. Remove the old battery from the handset Follow the usual procedure, taking care not to pierce or damage the battery.
- Remove the tape covering the BMS board on the old battery. Make sure that you **do not use any metal tools** when removing the tape - there is a risk that you could accidentally short the contacts on the battery once they are exposed.



Carefully fold back the BMS board in order to expose the terminals.



3. Take a pair of **ceramic** scissors - you **must not use metal tools** as there is a risk of short circuiting the battery and potentially causing fire/explosion/injury.



Carefully snip through the metal strips which attach the old battery to the BMS board/flex.





The BMS board/flex should now be free from the old battery.



There may be some sharp pieces of metal still attached to the contacts. Try to remove these as much as possible using the ceramic scissors.



- 4. You can now plug the BMS board and flex into the new battery. You will see that the new battery has two connectors, one is to connect to the phone motherboard in the usual way, the other is for connecting to the flex which you removed from the old battery. Look at the new battery to familiarise yourself with which connector is which. You will also need to work out which way round the flex attaches to the battery. The connector can be plugged in either way, but will only work if it is connected correctly. A list of example videos is provided at the bottom of this guide.
- 5. Plug the BMS board/flex into the new battery.



Fold and position the flex and BMS in the correct position. Use the double-sided tape strip and stickers supplied with the new battery to secure the BMS board.









6. Plug the new battery into the handset and boot it up.

On the first boot the battery charge should show as 100% and there will be a non-genuine battery message showing in the phone settings.



7. Turn the handset off and then back on again.

Once it has rebooted, the battery charge level will have changed from 100% down to the actual level in the battery. The non-genuine battery warning may have now gone. If it's still present, reboot the phone again and repeat until it does disappear (in testing we have found that sometimes this takes one reboot, but sometimes takes four or more).



8. Make the old battery safe for transport and recycling by covering the exposed contacts with electrical tape.





## iOS 17.4 Onwards - Battery Health Reset

#### Warning - the following steps will involve <u>wiping all customer data</u> from the device! Make sure that the customer has backed up their data prior to performing the steps below.

From iOS 17.4 onwards, Apple have made changes to the device firmware which make it more difficult to reset the battery health to 100% following a battery change.

The following steps will allow you to reset the battery health back to 100% by flashing the device firmware via "3uTools".

- 1. Download and install 3uTools to your PC http://www.3u.com/
- 2. Launch 3uTools
- 3. Plug the iPhone into the PC and accept any "Trust" prompt shown on the phone.
- 4. Navigate to the "Smart Flash" option in 3uTools on your PC this can be found at the top of the 3uTools window.

3 SuTools	iDevice	<b>P</b> Apps	रा & WP	Smart Flash	Toolbox	FreeGame		
iPhone ~		iPhone 🗹		iPhone 12 Pro	Max 12868	Graphite	PC Char	raina(2.3W) 🖌 93%)
🛄 Info	C			a none iz i re		y oropinte	i e ciu	
(0) Apps				iOS Version	17.4	(21E219)	Apple ID Lock	Unk Online Query

5. You should now see the window shown below:

3 SuTools	iDevice Apps	T & WP	3 Smart Flash	Toolbox	FreeGames		
📮 Flash	🔁 Open Folder	🛛 Delete 📄 📿 Rel	fresh				Flash Settings
Easy Flash	1 Firmware Version	Firmware Nan	ne	ł	Size	Status	Operation
iTunes Flash	IT.4	iPhone13,4_17	.4_21E219_Restore.i	psw	7.31GB	Un-Download	Download Import
Pro Flash Multiple Flash	<ul> <li>Select local firmware</li> </ul>						Import 2
≡ More							
Other Tools							
Firmware							
Advanced							
Normal Mode							
iPhone 12 Pro 128GB iPhone							
Auto actuation	If you have bound App	ole ID, please prepare the	Apple ID and pass	word.			×
Skip setup	<ul> <li>○ Retain User's Data</li> <li>○ Fix Flash ⑦</li> </ul>	<ul> <li>Quick Flash Mode</li> <li>Just want to erase the</li> </ul>	3 🔿 An e data?	ti-Recovery Flash	Mode 💿		Flash
Close iTunes						V3.09   Fee	dback   Check Update

You will now need to make some selections:

- 5.1. Make sure that "Easy Flash" is selected (1).
- 5.2. Download the latest version of iOS from the list (2) avoid Beta and Release Candidate (RC) versions. This may take some time, depending on your connection speed. The file will verify after it has been downloaded. Wait for this process to complete before continuing.
- 5.3. Choose "Quick Flash Mode" (3).
- 5.4. Click "**Flash**" (4).
- 6. Another window will now pop up:

Easy I	Flash Reminder	×
0	A good connection between iDevice and PC could improve the flashing success rate, so please use a genuine USB cable.If you need to keep the iDevice information, please select [Retain User's Data]	
	iDevice Type: iPhone 12 Pro Max (iPhone13,4)	
	Firmware version:17.4 to 17.4	
	Firmware: iPhone13,4_17.4_21E219_Restore.ipsw	
	Jailbroken: No	
	Back up: No Back up Now (You are suggested to do a all-data backup before the flash)	
	Flash mode: Quick Flash Mode	
	✓ Fix battery health during Flash ⑦	
	(Uniy available with Quick Flash)	
	Cancel	2

6.1. Tick the box marked "Fix battery health during Flash" (1).

This is the last chance to back-up data before the handset is wiped! If you need to back-up, cancel now and save the data!

- 6.2. Click "Flash" (2).
- 7. The flashing procedure will now begin.

3 SuTools	iDevice	<b>A</b> pps	RT & WP	Smart Flash	Toolbox	FreeGames	
Flash							⇒ Switch View
Easy Flash							
iTunes Flash							
Pro Flash					-		
Multiple Flash							
More							
Other Tools					4%		
Firmware				Extra	cting Firmware		
Advanced							
				0	101010101	D	
During the flashing				11			
process, the device may restart multiple		Quick	flash is pro	cessing (abou	ut 15 minute	es), please keej	o connected
unplug the iDevice.							
Auto-activation							H5
and arch							
Close iTunes						V	3.09   Feedback   Check Update

The flashing process will take approximately 15 to 20 minutes.

3 SuTools	iDevice	<b>Apps</b>	S RT & WP	Smart Flash	Toolbox	FreeGames	
📮 Flash							
Easy Flash							
iTunes Flash							
Pro Flash							
Multiple Flash							
⊟ More							
Other Tools					0		
Firmware							
Advanced			Cong	ratulations.	Clean Flas	h Completed.	
Not Connected					OK		
					View logs		
Please connect iDevice to PC with USB cable							
Auto-activation							
Close iTunes						V3.0	9 Feedback Check Update

Once the flash is complete you will see the following confirmation message.

If you now go through the iPhone setup procedure and then go to the **Settings>Battery>Battery Health & Charging** menu option, the battery health

"Maximum Capacity" should now show 100%



YouTube Guides

<u>iPhone 11</u> <u>iPhone 11 Pro</u> <u>iPhone 11 Pro Max</u>

<u>iPhone 12</u> <u>iPhone 12 Mini</u> <u>iPhone 12 Pro Max</u>

<u>iPhone 13</u> <u>iPhone 13 Pro</u> <u>iPhone 13 Pro Max</u> <u>iPhone 14</u> <u>iPhone 14 Plus</u> <u>iPhone 14 Pro</u> (Title on video incorrect) <u>iPhone 14 Pro Max</u>

Battery Health Fix Flash - for iOS 17.4 onwards