



Right to Repair & Parts Serialization Guide

Self-repair calibration instructions under EU/US legislative mandates

Position as of 11 October 2026. Laws, thresholds and manufacturer tools change; confirm against official sources before relying on any date or figure.

1. Why this matters

Repair laws now give owners and independent repairers a legal route to parts, tools and repair information. But a repaired phone often still has to be **configured and calibrated** afterwards, and some parts are **serialized**, meaning software ties each component to the specific device it came from. This guide explains what the EU and US laws require, what serialization is, and how to complete a self-repair so the device works properly.

Scope of this guide

It covers repairs using genuine or manufacturer-approved parts and the manufacturer's own calibration and configuration tools, which is the route the laws are designed to protect.

It does not cover bypassing security features or defeating serialization. Biometric and security components should be handled only through the manufacturer's process.

2. Legal snapshot

	European Union	United States
Main laws	Directive (EU) 2024/1799 on repair of goods; ecodesign rules for smartphones and tablets (apply from 20 June 2025).	No federal statute for consumer electronics. State laws: New York, Minnesota, California, Oregon, Colorado.
Key dates	Directive applies from 31 July 2026. Repair platform fully operational 1 January 2028.	CA SB 244: 1 July 2024. Oregon SB 1596: 1 January 2025 (penalties from 2027). Colorado: 1 January 2026.
Parts availability	Key spare parts within 5–10 working days, for at least 7 years after the model leaves the EU market.	California: 7 years for devices of \$100 or more; 3 years for \$50–\$99.99. Oregon sets no fixed period.
Parts serialization / pairing	Manufacturers must avoid hardware or software techniques that impede repair unless objectively justified. Professional repairers must have fair access to needed software and firmware.	Oregon bans using software to serialize components on devices made after 1 January 2025. Colorado restricts parts pairing. Other states are silent.
Software support	OS updates for at least 5 years after the last unit is sold.	No federal requirement.

3. European Union

3.1 Directive on repair of goods (2024/1799)

Adopted on 13 June 2024 and applying from **31 July 2026**. For products in its Annex II (which includes mobile phones, cordless phones and tablets), manufacturers must:

- repair products within a reasonable time and at a reasonable price;
- supply spare parts at reasonable prices;
- avoid contract terms, hardware or software techniques that impede repair, unless justified by legitimate and objective factors;
- make repair information easily accessible and publish indicative prices for typical repairs.

Separately, a consumer who chooses repair over replacement under the legal guarantee gets that guarantee **extended by one year**. Repairers may offer a standard European Repair Information Form, and its stated conditions must then stay valid for 30 days.

Transposition status. According to Right to Repair Europe, only a handful of member states had notified full transposition by the July deadline, and on 25 September 2026 the Commission opened infringement proceedings against 18 countries. Check your own country's national rules, as the details of local implementation differ.

3.2 Ecodesign rules for smartphones and tablets

Applying from **20 June 2025** to phones and tablets placed on the EU market:

- key spare parts delivered within 5–10 working days, available for at least 7 years after the model is no longer sold;
- operating system updates for at least 5 years after the last unit is sold;
- batteries rated for at least 800 charge cycles while keeping at least 80% of initial capacity;
- an A–E repairability score on the energy label;
- fair access for professional repairers to the software or firmware needed for repair.

4. United States

There is **no enacted federal right-to-repair statute for consumer electronics**. The FTC's 2021 report *Nixing the Fix* documented repair restrictions, and in July 2024 the agency sent warning letters to eight companies over warranty language such as “warranty void if removed” and OEM-only parts or service conditions. No formal FTC rule has been issued.

State	Law	Effective	Parts pairing / serialization
New York	Digital Fair Repair Act	2023	Not addressed
Minnesota	Digital Fair Repair Act (HF 1512)	2024	Not addressed
California	SB 244	1 July 2024	Not addressed
Oregon	SB 1596	1 January 2025; penalties from 2027	Bans serializing components by software on devices made after 1 January 2025
Colorado	HB 24-1121	1 January 2026	Restricts parts pairing and misleading parts alerts

Oregon's law covers phones sold in the state since July 2021, and other covered devices since July 2015, with owners and repair shops entitled to guides, parts and tools. Whether a given device is covered depends on the law of the state where it was sold, so check that state's statute.

Verify before relying on state details

The US dates above come from secondary trackers whose own pages were inconsistent (for example, two different effective dates for New York and Minnesota). Confirm against official state legislature records.

5. What is parts serialization?

Serialization (also called **parts pairing**) means a device's software records the serial number of each key component, such as the screen, battery, camera or biometric sensor, and checks it at start-up. If a replacement part is not recognised, the device may show a warning, disable a feature, or refuse to use the part.

Typical effects of an unrecognised part:

- a message that the part could not be verified, or that the battery or display is not genuine;
- loss of features such as automatic colour adjustment, battery health reporting or biometric unlock;
- in some cases, a part that works fully only after the manufacturer's configuration step has been run.

Laws like Oregon's and Colorado's aim to stop pairing from locking out legitimate repairs, while the EU focuses on fair access to the software and firmware needed. Until a device receives its post-repair configuration, however, it may not behave as expected, which is where calibration comes in.

6. Self-repair calibration procedure

These steps apply to a typical smartphone repair using genuine or manufacturer-approved parts. Always follow the manufacturer's own repair guide for your model, as sequence and tools differ.

6.1 Before the repair

1. Back up the device and note its IMEI and serial number (see the IMEI registry template).
2. Check the manufacturer's guide on whether tracking or activation lock must be turned off for the repair, and turn it back on afterwards.
3. Update the operating system to the latest version, since post-repair tools expect current firmware.
4. Obtain parts and tools through the manufacturer's official repair programme or an authorised supplier, and keep the receipt.

6.2 After fitting the part

1. Reassemble fully before configuring. Calibration tools usually run on a closed device.
2. Power on and complete start-up. Note any message about an unrecognised part and do not dismiss it without reading it.
3. Run the manufacturer's post-repair configuration tool. For Apple's Self Service Repair, this means putting the device into Diagnostics mode and following the on-screen prompts. Apple states that its System Configuration step authenticates genuine parts, updates firmware and calibrates parts, and that for Touch ID or Face ID repairs it links the biometric sensor to the Secure Enclave on the logic board.
4. Let the process finish without interrupting power or the connection, then restart.
5. Re-enrol biometrics if the manufacturer's guide says to, and re-enable tracking and security settings.

6.3 Part-specific checks

Part replaced	What to check	Notes
Display	Touch response across the full screen, brightness, colour, automatic colour adjustment.	Run the manufacturer's configuration step so display data is calibrated for the new panel.
Battery	Charges to 100%, no unrecognised-battery warning, battery health shows.	The battery gauge may take a few charge cycles to settle. Follow the manufacturer's guidance on whether a full cycle is needed.
Camera / sensors	Autofocus, stabilisation, flash, proximity and ambient light sensors.	On some devices, camera modules and sensors can be serialization points.
Biometric sensor	Enrolment and unlock work reliably.	Handle only through the manufacturer's process. On some devices these sensors are linked to the device's secure hardware.
Charge port / speakers	Charging, data, audio, microphone.	Usually no calibration, but test every function.

7. Record the repair

Keep a short record for each repair, as it supports warranty claims, resale and any dispute about parts quality:

Field	Record
Device, IMEI, serial number	Before and after the repair.
Part replaced	Part number, supplier, purchase date and receipt.
Tool or process used	Manufacturer tool name and version, date run, result.
Tests passed	Display, battery, camera, sensors, biometrics, charging, audio.
Warranty impact	Note what the manufacturer or retailer said, in writing, about warranty after a self-repair.

8. Limits and open questions

- **EU parts pairing.** Explicit EU text banning serialization was not confirmed. The directive's rule against impeding techniques, and the ecodesign requirement of fair access for professional repairers, are the provisions found. Check the full legal texts for your case.
- **Warranty.** Self-repair may affect a manufacturer's warranty depending on the terms and local law. The FTC has treated blanket "void if removed" language as problematic in the US, but terms vary.
- **Other manufacturers.** Only Apple's process is described in detail here. Check the repair portals of other manufacturers for their own tools and sequence.
- **Safety.** Lithium batteries can be dangerous if punctured or bent. Use proper tools and follow the guide.

9. Sources

- European Commission: Directive on repair of goods
https://commission.europa.eu/law/law-topic/consumer-protection-law/directive-repair-goods_en

- Right to Repair Europe: what changes on 31 July
<https://repair.eu/news/the-right-to-repair-directive/>
- European Commission: new ecodesign rules for smartphones and tablets (20 June 2025)
https://single-market-economy.ec.europa.eu/news/new-eu-rules-durable-energy-efficient-and-repairable-smartphones-and-tablets-start-applying-2025-06-20_en
- Right-to-Repair Laws: US Federal and State Tracker 2026 (Consumer Electronics Daily)
<https://consumerelectronicdaily.com/right-to-repair/right-to-repair-laws-us-tracker/>
- Reinhart Boerner Van Deuren: Oregon passes right to repair law
<https://www.reinhartlaw.com/news-insights/oregon-passes-right-to-repair-law-first-to-ban-parts-pairing>
- Apple Newsroom: Self Service Repair and system configuration (June 2023)
<https://www.apple.com/newsroom/2023/06/apple-expands-self-service-repair-and-updates-system-configuration-process/>

General information, not legal or technical advice. Follow the manufacturer's official repair instructions for your device.