



February 2, 2024

Federal Trade Commission  
600 Pennsylvania Avenue NW  
Washington, DC 20580

Docket Number FTC-2023-0077

Dear Commissioners:

We appreciate the opportunity to comment on the petition for rulemaking submitted by U.S. Public Interest Research Group Education Fund and iFixit. The right to repair is a consumer issue that four in five Americans want<sup>1</sup>. But today consumers have limited rights carved out by a few states which have passed laws protecting the right to repair with varying exceptions. Four states have already passed some right to repair laws, with almost two dozen bills already introduced for the 2024 legislative season.

Consumer Reports has worked hard to enact right to repair legislation in the states, but sees an opportunity for the Federal Trade Commission to protect consumers by establishing a formal rulemaking under Section 5.

Right to repair is an incredibly important issue for consumers. Without consumer and independent repair shop access to parts, tools, software and documentation, manufacturers can require that consumers use their own repair shops or ones they authorize — and then increase the prices consumers pay to get things repaired there, incent consumers to pay for expensive service contracts, or prevent repair from occurring (so that consumers are forced to buy a whole new product.)

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<sup>1</sup> Maureen Mahoney, George Slover “Consumer Reports Survey Finds Americans Overwhelmingly Support the Right to Repair” Consumer Reports Feb. 28, 2022  
[https://advocacy.consumerreports.org/press\\_release/consumer-reports-survey-finds-americans-overwhelmingly-support-the-right-to-repair/](https://advocacy.consumerreports.org/press_release/consumer-reports-survey-finds-americans-overwhelmingly-support-the-right-to-repair/)

And as consumers increasingly purchase products with a software component and those that are connected to the internet, a lack of clarity around repair rules can mean that these devices exist in a gray area where even after a consumer purchases a product, the manufacturer retains control and ownership of it.

The petition from US PIRG calls for the FTC to take several steps to help promote repairability including access to parts and software, the inclusion of a repair index on product labels, and minimum standards for support and documentation. Consumer Reports supports this petition and calls on the FTC to take action to protect consumers' rights to repair as well reinforce the concept of ownership in a connected product.

In 2023 Consumer Reports asked members to share their stories about repairing their products. We received over 300 submissions<sup>2</sup> from all around the U.S. documenting frustration with products that had to be trashed despite having problems that could have been repaired with a replacement battery, a sub \$100 part, or even just a willing technician.

Dozens wrote in complaining that batteries in their cell phones and laptops used to be replaceable, but now are not because they are glued in or encased in plastic that can't be opened. Others complained of washing machines, ovens or dishwashers whose gaskets or LED displays failed, and the impossibility of finding a replacement part or someone able to replace it. With the rise of connected devices we have a few complaints related to products that require a connection to a server to work. For example, a computer science professor in Oregon told us about his struggles to repair a gifted e-bike that required a connection to a server to work. When the bike's manufacturer went out of business, he struggled to get the bike working even though the physical parts were all operational.

Consumers were frustrated both by the loss of a product they needed, the shorter lifespan of modern-day appliances and electronic devices, and dismayed by sending these products to a landfill.

## Control of the repair chain is anticompetitive

Their stories are compelling, but they often miss a larger and more insidious point. By controlling the "repair chain" as it were, manufacturers are also able to charge for extended warranties and coerce consumers into buying them for lack of other repair options. A lack of competition for repair, also forces consumers to buy new devices at regular intervals to replace ones that the manufacturer deems unrepairable, even if the repair is as simple as replacing a battery.

Apple provides an excellent example of the creeping anti-competitive nature of this problem and the benefits that accrue to the manufacturer. Apple has been making its phones and computers

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<sup>2</sup> Consumer Reports. "Frustrated Trying to Repair Your Pricy Electronics? Tell Us!" Accessed Feb. 2, 2024. <https://www.consumerreports.org/stories?questionnaireId=276>

less repairable over time through hardware designs and software locks<sup>3</sup>. Batteries that were replaceable in earlier phones no longer are. Repairs such as replacing a cracked screen, which used to be something a third party could handle, are now controlled by Apple's authorized repair agents or Apple itself.

Consumers find Apple's control of the repair chain frustrating when Apple tells them that a failed battery in an older MacBook means the product can't be repaired, and when those consumers live in rural areas far from an authorized repair center. Additionally because computers and phones are such an essential tool for consumers' lives, the fact that an authorized repair might involve shipping the product back to the manufacturer and a wait of a week or more, is another source of frustration or even hardship.

Concerns over the ability to repair a device and the time that it takes for a repair can push consumers to buy into warranty services, such as AppleCare+. This service — which costs \$15 for two years of coverage for a HomePod speaker and up to \$499 for two years to cover the Apple Vision Pro — provides insurance for consumers worried about breaking or losing their Apple devices.

Notably, the service provides prioritized repair support as well as express replacement of the broken device, meaning a consumer doesn't have to wait as long for a working device that's likely essential for their communication, work, and schooling. If a consumer doesn't have AppleCare+, they can also pay a fee for expedited repair services. Apple's control over repair means that it can charge consumers \$99 or more for the privilege of speedy repair while ensuring that third-party repair shops can't even enter the market.

This is helping Apple keep its operating margins high. AppleCare is part of Apple's services business, which grew revenue 11% year over year to \$23.1 billion for the first quarter of 2024<sup>4</sup>. (Apple's fiscal year ends Sept. 30.) Apple doesn't break out different products in the services business, which includes subscriptions, warranties, licensing fees and Apple Pay. It also includes video revenue and sales of cloud services such as extra storage. Services are also incredibly important for keeping Apple's profits high, given that its services business saw gross margins of 73% compared to the hardware margins of 39%.

The *New York Times* reported that Apple earns an estimated \$9 billion annually from selling AppleCare services<sup>5</sup>. Apple's shareholders certainly benefit from the computer maker locking down its repair chain, but consumers most assuredly do not.

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<sup>3</sup> Tripp Mickle, Ella Koeze, Brian X. Chen. "You Paid \$1,000 for an iPhone, but Apple Still Controls It." *New York Times*. Nov. 12, 2023

<https://www.nytimes.com/2023/11/12/technology/iphone-repair-apple-control.html>

<sup>4</sup> Luca Maestri (2024). *Q1 2024 Form 10-Q*. Apple Inc.

<https://www.sec.gov/ixviewer/ix.html?doc=/Archives/edgar/data/0000320193/000032019324000006/aapl-20231230.htm>

<sup>5</sup> *New York Times*. *supra* Note. 3

Apple is not alone in this. Locking down the ability to diagnose or repair a product is becoming common across farming equipment<sup>6</sup>, automotive<sup>7</sup>, medical devices<sup>8</sup> and more. Where once the biggest challenge for consumers or repair shops who wanted to fix a broken device was access to replacement parts and schematics, the new repair market has many more levers to pull when it comes to keeping repair in-house.

## The FTC can play a larger role

The FTC has a few options available to help consumers retain their right to repair. The first is enforcement of the Magnuson-Moss Warranty Act to stop manufacturers from preventing consumers from using parts from third-party providers or independent repair shops to fix their equipment and products.

The FTC has already acted against companies using Magnuson-Moss as recently as 2022, when it settled with the makers of Weber grills, Harley Davidson motorcycles and Westinghouse electrical products for unlawfully saying that their warranties would be voided if a customer used third-party parts or, in the case of Harley-Davidson and Westinghouse, independent repairers.

The second is a formal rulemaking under Section 5 that preserves the consumer right to repair by requiring manufacturers to provide fair and reasonable access to repair materials and stopping software pairing. For several years now, the FTC has recognized that certain anti-repair practices are illegal under Section 5's prohibition on unfairness in that they cause significant injury, are not reasonably avoidable, and are not offset by countervailing benefits to consumers or competition.<sup>9</sup> The FTC should utilize its rulemaking processes to provide clarity to businesses and consumers by specifying which behaviors are circumscribed by the law.

## Structuring a rule to ensure the right to repair

Consumer Reports is in favor of ensuring that independent repair shops and consumers have access to schematics, manuals, tools, software and parts at fair and reasonable terms for purposes of diagnosis, maintenance, or repair of such equipment.

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<sup>6</sup> Kevin O'Reilly. "Service Obstructor: John Deere's Repair Software Prevents Farmers From Independently Fixing Their Own Tractors." US PIRG. July 2023  
<https://publicinterestnetwork.org/wp-content/uploads/2023/07/Service-Obstructor-Full-Report-1.pdf>

<sup>7</sup> Jack Monahan. "Ram's Restricting Truck Repair through Software Locks" iFixit blog. Oct. 25, 2023  
<https://www.ifixit.com/News/84923/rams-restricting-truck-repair-through-software-locks>

<sup>8</sup> Benjamin J. Louviere. "Time for a Tune Up in America's Healthcare Market: Securing the Right to Repair for Medical Devices" The Journal of Corporation Law. Vol 48.1. Fall 2022  
[https://jcl.law.uiowa.edu/sites/jcl.law.uiowa.edu/files/2023-01/Louviere\\_Online.pdf](https://jcl.law.uiowa.edu/sites/jcl.law.uiowa.edu/files/2023-01/Louviere_Online.pdf)

<sup>9</sup> Federal Trade Commission, Nixing the Fix: An FTC Report to Congress on Repair Restrictions (2021). Other treatments of repair restrictions have reached consistent conclusions. See Aaron Perzanowski, The Right to Repair: Reclaiming the Things We Own (2022).

Not only do independent repair shops and consumers need access to the material necessary to repair devices, they need permission and access to the software-controlled features on these devices for proper repair. NIST has defined a connected product as a system which consists of a device, an app, and a cloud back end<sup>10</sup>.

This is an expansive definition, but a necessary one, because many connected devices, including our phones, operate fully only when all three components are in harmony. This means that for connected products, access to full repair has to consider limits placed on the physical device by software and updates coming from the cloud.

Today manufacturers tie the parts in a specific device to that unique device to prevent repair professionals from taking a part from a discarded device for use in repairing a still-repairable device. Such parts pairing has made it challenging for independent repair shops to find parts, even when the same part might be easily available.

Manufacturers are also using their software to link parts together, so if someone replaces a broken iPhone screen outside of an Apple authorized dealer, the user may find their front-facing camera, face ID unlocking feature, and auto brightness stop working. This is because Apple has written software that links all of those systems together and when one element of that system gets replaced with a non-authorized part, they all fail. Both of these limitations on repair use software and connectivity to hobble fixes in ways that force consumers to visit authorized repair shops and purchase only approved and potentially more expensive parts.

Apple argues that a third-party repair shop or a consumer DIY repair could introduce security flaws or break systems, which is why it is so adamant about using parts pairing to tie both specific parts to specific phones, and entire systems such as the screen and fingerprint reader together.

But Apple's insistence of tying systems together is what actually causes problems for repairs. There's no security reason to tie different elements of the phone together so tightly, except as a means to prevent repair. In general, more modular, simple software is more easily secured. Apple also argues that the practice prevents unauthorized repair shops from replacing parts, but it has not made the case that unauthorized repair is a problem. Even the FTC has determined there is no proof that outside repair poses a cybersecurity problem<sup>11</sup>.

Apple argues that because phones and computers store sensitive data such as credit card, family photos and health information unauthorized repair shops shouldn't have access to the devices. Apple could simply build a "repair mode" on their devices that locks away sensitive

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<sup>10</sup> Michael Fagan,, Katerina Megas, Paul Watrobski,, Jeffrey Marron, Barbara Cuthill. "Profile of the IoT Core Baseline for Consumer IoT Products." National Institute of Standards and Technology. Sept. 2022 <https://doi.org/10.6028/NIST.IR.8425>

<sup>11</sup> Nixing the Fix *supra* note 9.

information when a user puts the phone or computer into that mode. Google has actually introduced this for its latest Pixel phones.<sup>12</sup>

Other manufacturers such as John Deere and automakers have also used safety as a reason that their machines should not be repaired by third parties, or those using unregistered parts.

In many cases including Apple's, the primary case against third-party repair shops is that the manufacturer can't control the outcome of those repairs. For example, John Deere and Apple both have argued that consumers might get lower-quality repairs from a third-party repair shop and then blame John Deere or Apple if the repair goes awry. This is ironic, since with software pairing, manufacturers are ensuring that consumers seeking third-party repairs will likely get a subpar experience.

For decades consumers have chosen third-party repairs of appliances, cars and even computers based on the fact that they may have a trusted relationship with the shop, might find those shops cheaper or may find them more convenient. This is their right, and Apple and others are trying to take it away from them, and then making money selling warranty services in the process.

Thus to prevent anticompetitive behavior around repair, the agency should prohibit manufacturers from providing physical parts only to authorized repair shops and prohibit parts pairing. The agency should promulgate rules requiring the following:

- 1) Manufacturers should make available to product owners and to independent repair providers, on fair and reasonable terms, the documentation, parts, tools, (inclusive of any updates) for purposes of diagnosis, maintenance, or repair of each product.
  - a) Manufacturers should not force independent repair shops to buy parts from pre-approved, exclusive vendors
  - b) Manufacturers should not bar their suppliers from selling parts to independent repair shops
  - c) This does not require a manufacturer to make available a part that is no longer available to the manufacturer
  
- 2) The agency should bar manufacturers from parts pairing that
  - a) prevents the installation or functioning of any otherwise-functional part, including a non-manufacturer approved replacement part or component;
  - b) inhibits or reduces the functioning of any part, such that replacement by an independent repair provider or the device owner would cause the device to operate with reduced functionality or performance;
  - c) create false, misleading, deceptive, or undismisable alerts or warnings about parts;

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<sup>12</sup> "Use repair mode for repair services" Accessed Jan 28, 2023  
<https://support.google.com/pixelphone/answer/14266732?hl=en-GB>

- d) charge additional fees or increased prices for future repairs; or
  - e) limits who can purchase parts or perform repair services.
- 3) If there are software locks associated with product security and accessing those locks are necessary for repair, manufacturers should make available to the owner and to independent repair providers, on fair and reasonable terms, any special documentation, tools, and parts needed to disable the lock or function, and to reset it when disabled through a secure release system.

## A chance to address the IoT and software updates

Rules protecting the right to repair also have the potential to help solve the problem of connected devices that stop working as advertised within what might be construed as the reasonable lifetime of the product. The FTC should tell manufacturers to support the software and cloud services for the physical life of a product absent a compelling reason. At a minimum manufacturers should tell consumers when their product is going to lose software support.

Additionally, the FTC should require manufacturers to build connected devices that retain their core function absent a connection to the internet, and an independent repair shop should be able to continue to perform repairs. So an e-bike should still function as an electric bike without a connection to a server, even if some features are disabled. A connected oven should still be able to heat food, but it might lose access to automated cooking functions provided by access to a cloud server.

Devices that are connected to the internet tend to stop working because the software fails, not because the hardware fails. Even after a decade of connected devices being available for sale, this is not something consumers tend to understand very well. Right to repair rules can help somewhat with this issue.

Connected devices tend to fail before the reasonable lifetime of the product or before the hardware breaks in the following ways:

- 1) The company making the connected device turns off the servers providing the app and services associated with the hardware. This can be a result of a company going out of business, a merger, or simply a decision to shut down the product because it was unprofitable.
- 2) The company fails to strike business deals with other companies to provide product integrations that were previously advertised as part of the product, such as an Alexa integration for a connected doorbell provider.

When these devices fail, the FTC can, and indeed, has stepped in to force companies to keep the product operational or return money to consumers who may have purchased the device. In 2016, the FTC Bureau of Consumer Protection actually wrote a blog post advising manufacturers to ask themselves a series of questions about connected devices that

manufacturers still aren't asking themselves more than seven years later<sup>13</sup>. These questions included, "Are consumers getting a fixed-term rental or subscription, or are they getting something they will own and can rely on for the life of the device?" and "Would reasonable consumers expect to be able to keep using the device – and have it be fully functional – if the company, even many years later, rides off into the sunset? Would they expect the device to have an "expiration date"?"

The FTC can require companies to answer some of these questions as part of a repair rule by requiring companies to provide a minimum supported lifetime date for connected products. Instead of thinking of it as an expiration date, a minimum supported lifetime date could be extended by the company as needed.

Any minimum supported lifetime date would include required security updates for a product as well as a list of features that will be supported through that time frame. The manufacturer should also include a place on the web site where consumers can go to find out how long the product might be supported, and the FTC should require companies to positively notify consumers when the support period has ended or if the support period changes.

Support for access to repair tools and documentation as well as a minimum supported lifetime could help consumers feel confident that when they purchase a product, even if it is connected, they know how long it should work and how to fix it if it should break. Any protections enacted today, especially around parts pairing and an explicit minimum support lifetime will only serve to help protect consumers heading into a future where more and more of their products are connected.

Thank you,



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<sup>13</sup> Jessica Rich "What happens when the sun sets on a smart product?" FTC blog. July 13, 2016. <https://www.ftc.gov/business-guidance/blog/2016/07/what-happens-when-sun-sets-smart-product>