

Consumers Deserve a Right to Repair Their Electronics-Enabled Devices

The importance of consumers having an effective right to repair their electronics-enabled equipment is illustrated with the following 2017 story from *Motherboard*:¹

Nebraska farmer Kyle Schwarting, who also repairs tractors and other farm equipment and resells it to other farmers, has become a “hacker by necessity.” Because he needs diagnostic software to fix computer-enabled farming equipment—and because companies like John Deere have limited the access to and use of this software—he downloaded it from a Torrent site. Mr. Schwarting told *Motherboard*, “You have a real small window to get [a harvest] done in the year, and the tractor broke down. I had to find the software to be able to repair my tractor and make my customer happy and make a living.”² With authorized repairers charging thousands of dollars for even minor fixes, Mr. Schwarting had little choice but to take matters into his own hands to make simple repairs and undertake regular maintenance.

Mr. Schwarting isn’t alone. Consumers, farmers, and others who have fixed their own cars, machinery, or appliances, or worked with a neighborhood repair shop or mechanic, know well how important it is to maintain meaningful ownership over the products that they buy, including the right to safely repair, tinker with, or resell them. Recent developments in technology have compromised consumers’ ability to exercise their full ownership rights. Now, electronic products—from smartphones and televisions to farm equipment and medical devices—are increasingly outfitted with computer software, and it has become more and more difficult for consumers to fix their own product, or even to choose where to have it fixed. Too often, manufacturers restrict access to the information and tools necessary for repair, so that only their authorized servicers get access, limiting options for repair.³

That’s why Consumer Reports⁴ supports the Right to Repair—in other words, expanding access to the information and tools necessary for repair, on the same terms as it is offered to authorized repairers. Ensuring that consumers and independent repairers have this access will not only preserve ownership rights, but it will expand consumer choice in the marketplace, save consumers money, and reduce waste as well. In recognition of the decline in repair choices, momentum for the Right to Repair is growing in the states. Right to Repair bills have been under consideration in 20 states, and in Congress.

¹ Jason Koebler, *Why American Farmers Are Hacking Their Tractors with Ukrainian Firmware*, MOTHERBOARD (Mar. 21, 2017), https://motherboard.vice.com/en_us/article/xykkkd/why-american-farmers-are-hacking-their-tractors-with-ukrainian-firmware.

² Jason Koebler, *Tractor-Hacking Farmers Are Leading a Revolt Against Big Tech’s Repair Monopolies*, MOTHERBOARD (Feb. 18, 2018), https://motherboard.vice.com/en_us/article/kzp7ny/tractor-hacking-right-to-repair.

³ Emily Matchar, *The Fight for the Right to Repair*, SMITHSONIAN (Jul. 13, 2016), <https://www.smithsonianmag.com/innovation/fight-right-repair-180959764/>.

⁴ Consumer Reports is an independent, nonprofit membership organization that works side by side with consumers to create a fairer, safer, and healthier world. For over 80 years, CR has provided evidence-based product testing and ratings, rigorous research, hard-hitting investigative journalism, public education, and steadfast policy action on behalf of consumers’ interests, including their interest in securing the right to repair.

Consumers saw some early progress in 2012, when Massachusetts voters approved a ballot initiative to guarantee the Right to Repair for automobiles.⁵ After Right to Repair legislation went into effect there, auto manufacturer associations agreed to extend these protections nationwide.⁶ Now, state legislators have the opportunity to extend similar consumer protections to other products, such as cell phones, televisions, and computers. And with legislation introduced in Congress, and interest at the Federal Trade Commission,⁷ there's also the prospect for action with a national reach.

Enacting Right to Repair legislation will expand repair choices for consumers, help them save money, and reduce waste. When manufacturers effectively have a monopoly on repair, with no competition, they can charge a consumer whatever they like for servicing. In some cases, manufacturers have made simple repairs so expensive that consumers are incentivized to just throw away the device and buy a new one.⁸ Consumers would likely save a lot of money with a competitive market for repair, as they would be better able to make more affordable repairs to their existing devices. This would also reduce waste—a significant concern, as currently consumers throw away over six million tons of electronic waste each year.⁹ Furthermore, this increase in consumer choice would also mean increased opportunities for small businesses—the independent servicers—to get more business. During the battle for Motor Vehicle Right to Repair, a survey of 1,000 auto repair shops demonstrated that they were losing more than \$5.8 billion each year in service they could have provided consumers, simply due to lack of access to repair information.¹⁰

This legislation is needed because manufacturers have actively worked to limit consumer choice in the aftermarket. For example, the revelation in late 2017 that Apple pushed out a software update in 2016 to slow down certain iPhone models to compensate for aging batteries, without adequately notifying consumers,¹¹ helped further highlight the importance of having multiple, affordable repair options, and helped spur Right to Repair activity in the states. Had iPhones been made with replaceable batteries, consumers could have easily restored their phones to full functionality by simply replacing the batteries. And if independent repair servicers had been better empowered to fix Apple devices, consumers might have had more options for

⁵ *Right to Repair*, BOSTON.COM, <http://archive.boston.com/news/special/politics/2012/general/mass-ballot-question-1-election-results-2012.html> (last visited Aug. 8, 2018).

⁶ *Memorandum of Understanding*, Automotive Aftermarket Industry Association (January 15, 2014), <https://www.autocare.org/workarea/DownloadAsset.aspx?id=1440&gmssopc=1>.

⁷ The FTC held a workshop in July 2019 entitled “Nixing the Fix,” and issued a report with the same title in May 2021, calling for stronger protections for the Right to Repair. <https://www.ftc.gov/news-events/events-calendar/nixing-fix-workshop-repair-restrictions>; <https://www.ftc.gov/news-events/audio-video/video/nixing-fix-workshop-repair-restrictions>; https://www.ftc.gov/system/files/documents/reports/nixing-fix-ftc-report-congress-repair-restrictions/nixing_the_fix_report_final_5521_630pm-508_002.pdf.

⁸ Damon Beres, *Apple's War Against You Repairing Your iPhone is Pure Corporate Greed*, MASHABLE (Feb. 16, 2017) <https://mashable.com/2017/02/16/apple-right-to-repair-lobbying/#BgGVNJxtWPqf>.

⁹ Brook Larmer, *E-Waste Offers an Economic Opportunity as Well as Toxicity*, N.Y. TIMES (Jul. 5, 2018), <https://www.nytimes.com/2018/07/05/magazine/e-waste-offers-an-economic-opportunity-as-well-as-toxicity.html>.

¹⁰ Miles Moore, *Right-to-Repair Battle Continues*, TIRE BUSINESS (Aug. 28, 2006) <http://www.tirebusiness.com/article/20060828/NEWS/308289995&template=printart>.

¹¹ Tom Warren and Nick Statt, *Apple Confirms iPhones with Older Batteries Will Take Hits in Performance*, THE VERGE (Dec. 20, 2017), <https://www.theverge.com/2017/12/20/16800058/apple-iphone-slow-fix-battery-life-capacity>.

replacing the batteries.¹² Apple has also discouraged independent repair by pushing out iOS updates that “brick” smartphones with third-party replacement screens. In early 2016, the Guardian reported that a number of iPhone 6 users who had used a third-party repairer to fix a cracked screen ended up with bricked phones after the iOS9 update. According to iFixit, the update checked for original components. If the home button or cable had been changed, the phone shut down.¹³ Ultimately, Apple apologized and rolled out updates to restart the bricked phones in February 2016.¹⁴ Apple also restricts repair information and replacement parts to authorized repairers, and uses proprietary screws, further challenging third-party repair.¹⁵

(Apple announced in November 2021 that it would begin to make some parts and tools available to consumers for repairs, beginning with newer models of iPhones.¹⁶ While an encouraging step, there continue to be restrictions and limitations, so this remains far short of a full right to repair.¹⁷)

Apple is far from alone in discouraging third-party repair. In October 2018, US PIRG surveyed fifty manufacturers, and found that 90% of them indicated in their warranty information that independent repair would void the warranty, statements that potentially violate the Magnuson-Moss Warranty Act (MMWA).¹⁸ Under the MMWA, a warranty cannot be voided by independent repair, except as to effects directly caused by the repair. In some cases, this behavior has attracted the attention of the federal authorities. In April 2018, the Federal Trade Commission had warned six electronics manufacturers against misleading consumers that they must use only manufacturer-authorized parts and services to maintain their warranty, noting that these practices could violate the MMWA, and could be considered deceptive in violation of Section 5 of the FTC Act.¹⁹

Manufacturers and their representatives have also worked to defeat Right to Repair in the state legislatures, often by using spurious arguments about safety and security.²⁰ In fact, these

¹² Jonathan Vanian, *Getting the Apple iPhone Battery Upgrade Could Take Weeks*, FORTUNE (Jan. 4, 2018), <http://fortune.com/2018/01/04/apple-iphone-battery-upgrade-wait/>.

¹³ Miles Brignall, *'Error 53' Fury Mounts as Apple Software Update Threatens to Kill Your iPhone 6*, THE GUARDIAN (Feb. 5, 2016), <https://www.theguardian.com/money/2016/feb/05/error-53-apple-iphone-software-update-handset-worthless-third-party-repair>.

¹⁴ Matthew Panzarino, *Apple Apologizes and Updates iOS to Restore iPhones Disabled by Error 53*, TECHCRUNCH (Feb. 18, 2016),

<https://techcrunch.com/2016/02/18/apple-apologizes-and-updates-ios-to-restore-iphones-disabled-by-error-53/>.

¹⁵ Damon Beres and Andy Campbell, *Apple Is Fighting a Secret War to Keep You from Repairing Your Phone* (Jun. 10, 2016), https://www.huffingtonpost.com/entry/apple-right-to-repair_us_5755a6b4e4b0ed593f14fdea.

¹⁶ Press release, *Apple Announces Self Service Repair*, APPLE (Nov. 17, 2021), <https://www.apple.com/newsroom/2021/11/apple-announces-self-service-repair/>.

¹⁷ See, e.g., Press release, *Apple changes course on right to repair; extends some rights to consumers for certain products*, CONSUMER REPORTS (Nov. 17, 2021), https://advocacy.consumerreports.org/press_release/apple-changes-course-on-right-to-repair-extends-some-rights-to-consumers-for-certain-products/.

¹⁸ *Warranties in the Void*, U.S. PIRG at 2 (Oct. 2018), <https://uspirg.org/sites/pirg/files/reports/Warranties%20in%20the%20Void%20-%20U.S.%20PIRG%20Education%20Fund%20-%20Oct2018.pdf>.

¹⁹ *FTC Staff Warns Companies that It Is Illegal to Condition Warranty Coverage on the Use of Specified Parts or Services*, FED. TRADE COMM'N (Apr. 10, 2018) <https://www.ftc.gov/news-events/press-releases/2018/04/ftc-staff-warns-companies-it-illegal-condition-warranty-coverage>.

²⁰ E.g., Mikey Campbell, *Apple Lobbies Against 'Right to Repair' Proposal in Nebraska*, APPLE INSIDER,

bills could actually *improve* the safety of products. Withholding information and tools for repair can make third-party repair *less* reliable and safe. Right to Repair legislation would ensure that independent repair technicians—who would have to meet whatever certification requirements are set by state law, just like authorized repair technicians—have access to proper instructions that are vetted for safety.

Manufacturers have claimed that consumers cannot trust independent servicers, because they are not affiliated with a recognizable brand. Again, these claims are spurious. There is no evidence that independent repairers are any less trustworthy than authorized repairs. And review sites and independent rating organizations can help consumers choose reliable servicers. Studies show that consumers are happy with third-party repair. A 2014 Consumer Reports survey found that consumers who use independent servicers consistently report higher satisfaction rates.²¹ Above all, consumers should be given the opportunity to select the repairer of their choice.

Similarly, in contrast to manufacturers' claims, it is actually their *failure* to release repair information that could compromise the cyber-security of connected devices. First, releasing information about a device's design and function does not make it less secure or more susceptible to attack. In addition, a major threat to cybersecurity is failure to update software and fix security patches, which became evident in the Mirai botnet attack of 2016, in which attackers were able to easily take over unsecured connected devices, ultimately taking down major websites such as Twitter and Netflix.²² It's particularly important that users are able to keep their software patched and updated for the full lifespan of the device. Having a robust market of third-party repairers to help do so would better enable consumers to keep their devices updated and secure.

Finally, withholding repair information and inhibiting legitimate third-party repair is, realistically, neither necessary nor effective for preventing the creation of knock-off or copycat devices—those interested in doing so could still take the device apart to figure out how it works.²³ While manufacturers may be well within their rights to copyright their repair manual, they shouldn't be able to prevent others from obtaining it on reasonable terms. In addition, the U.S. Copyright office in 2018 exempted breaking digital locks, for the purpose of repair of smartphones and software-enabled appliances, from the restrictions in the Digital Millennium Copyright Act, further demonstrating that independent repair rightly occupies a protected position with respect to copyright law restrictions.²⁴

(March 9, 2017), <http://appleinsider.com/articles/17/03/09/apple-lobbies-against-right-to-repair-proposal-in-nebraska>.

²¹ *Should You Repair or Replace that Product?* CONSUMER REPORTS (Jan. 2014)

<https://www.consumerreports.org/cro/magazine/2014/02/repair-or-replace/index.htm>.

²² Nicky Woolf, *DDos Attack that Disrupted the Internet Was the Largest of its Kind in History, Experts Say*, THE GUARDIAN (Oct. 26, 2016), <https://www.theguardian.com/technology/2016/oct/26/ddos-attack-dyn-mirai-botnet>.

²³ Kyle Wiens, *Using Copyright to Keep Repair Manuals Secret Undermines Circular Economy*, THE GUARDIAN (Dec. 20, 2013), <https://www.theguardian.com/sustainable-business/copyright-law-repair-manuals-circular-economy>.

²⁴ Chaim Gartenburg, *New Copyright Exemptions Let You Legally Repair Your Phone or Jailbreak Voice Assistants*, THE VERGE (Oct. 25, 2018), <https://www.theverge.com/circuitbreaker/2018/10/25/18024332/us-copyright-office-right-to-repair-dcma-exemptions>.

To help improve consumer choice in the aftermarket, to help consumers save money, and to help reduce waste, we urge lawmakers to take up Right to Repair legislation. Consumers are the rightful owners of the products they buy, and should be able to make informed choices about where and how those products are fixed. Right to Repair legislation is necessary to ensure that consumers have genuine choice and ownership over their devices. Attached is our template legislation that would secure this Right to Repair for consumers.