



Dear Members of the Oregon Senate Committee on Energy and Environment:

Consumer Reports supports Oregon Senate Bill 1596.

Right to repair is an incredibly important issue for consumers. Without consumer and independent repair shop access to parts, tools, software and info, 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 such as Apple Care or prevent repair from occurring (so that consumers are forced to buy a whole new product.)

This is something consumers care deeply about as we've found in a nationwide survey conducted roughly two years ago. We asked consumers about their experiences repairing smartphones, appliances and vehicles.

Based on those survey results¹, we all have to deal with broken devices and appliances. Eight out of ten Americans (81%) say they have, in the past five years, replaced at least one of the types of items we asked about because they broke. Finding someone to fix those devices is hard. More than half of Americans (53%) say they have replaced a broken product, in at least one of the categories we asked about, sooner than they wanted to because they couldn't find a repair professional they were happy with to fix it.

Unsurprisingly because of the challenges of finding a repair provider and the cost associated with repair, most Americans (84%) say they agree with a policy that would require manufacturers to make repair information and parts available either to independent repair professionals or to product owners.

States are already enacting these laws, but in many cases, they are only addressing the physical access to tools, parts, and documentation for purposes of diagnosis, maintenance, or repair of such equipment. Granted the tools can cover software

¹ 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/

necessary for diagnosing a problem, such as access to diagnostic codes, but the existing laws do not cover the less visible, but equally harmful practice of parts pairing.

Parts pairing refers to the many ways manufacturers can use software to prevent access to repair or confuse the consumer about a third-party repair's efficacy. As consumers increasingly purchase products with a software component and those products 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.

Consumer Reports is deeply concerned about manufacturers using this path to cause consumers harm today and in the future. Today we see two ways manufacturers are using software pairing to hurt consumers.

Parts serialization is the first. Replacing a battery in a cell phone or a specific part in a car used to require a physical swap of a broken item with a replacement. Today swapping out many parts, even for the same part from another phone or vehicle, won't fix the problem or can lead to error messages. This is because companies are tying individual parts to a specific device. So when a consumer swaps out a battery from one iPhone 14 to another iPhone 14, the functionality of the battery is limited and the phone throws up repeated warnings about the "unrecognized" battery.

Manufacturers also use this form of parts pairing to stop consumers from replacing proprietary parts with generic parts. For example, consumers who used generic water filter replacements in their GE fridge got error messages because the fridge registered a non-authorized replacement part².

Another way manufacturers use software pairing to hurt consumers drives them directly to authorized repair shops even if the non-working part isn't crucial to the operations of the original product. An example of this is John Deere's tractors going into limp mode even if a non-crucial part breaks down. When any part that interfaces with the emissions control unit in a Deere tractor goes bad, the tractor goes into limp mode, disabling most functionality and only delivering enough power for the tractor to "limp" off the field, out of the way of other equipment. A repair of such a problem can only be completed by a dealer service technician. As a result, farmers may have to wait weeks, sometimes even months, for repairs of critical equipment³.

² Thomas Claburn. "Someone got so fed up with GE fridge DRM – yes, fridge DRM – they made a whole website on how to bypass it." *The Register*. June 13, 2020
https://www.theregister.com/2020/06/13/ge_refrigerator_drm_keeps_turning/

³ Kevin O'Reilly. "Deere in the Headlights: How software that farmers can't access has become necessary to tractor repair" US PIRG. February 2021.

This is fine for dangerous problems or when not going through with a repair could damage the product or hurt the product's owner. But tractors will go into limp mode for the sake of sensors or other parts that farmers could easily replace themselves, were it not for the software repair restriction. Thus, this sort of software link can be used to push consumers to repair shops because they don't have access to software that can diagnose or fix the problem. Software is used to push a product into a degraded state, and a lack of software prevents consumers from fixing even knowing what the problem is without going to an authorized services center.

This sort of parts pairing can render a machine inoperable and force a customer to pay for costly repairs, even if the product can still function safely without intervention. It also can unnecessarily deprive a consumer of the use of their product, which can come at a high cost for farmers eager to get a harvest picked or a consumer that needs their appliance running to keep their family fed or outfitted in clean clothes.

At Consumer Reports we have supported legislative efforts to protect a consumer's right to repair their own products because doing so reduces waste, saves consumers money and offers consumers more choice when it comes to maintaining their expensive gadgets and appliances. With software becoming an essential element in today's products, Consumer Reports supports laws that prevent software from becoming a tool to enforce manufacturers' monopolies on the repair process.