

John Deere Just Swindled Farmers out of Their Right to Repair

The California Farm Bureau has given away the right of farmers to fix their equipment without going through a dealer.

The fight for our right to repair the stuff we own has suffered a huge setback.

As anyone who repairs electronics knows, keeping a device in working order often means fixing both its hardware and software. But a big California farmers' lobbying group just blithely signed away farmers' right to access or modify the source code of any farm equipment software. As an organization representing 2.5 million California agriculture jobs, the California Farm Bureau gave up the right to purchase repair parts without going through a dealer. Farmers can't change engine settings, can't retrofit old equipment with new features, and can't modify their tractors to meet new environmental standards on their own. Worse, the lobbyists are calling it a victory.

WIRED OPINION

ABOUT

Kyle Wiens is the cofounder and CEO of iFixit, an online repair community and parts retailer internationally renowned for its open source repair manuals and product teardowns. Elizabeth Chamberlain is a writer for iFixit and a professor of technical writing and rhetoric at Arkansas State University.

The ability to maintain their own equipment is a big deal to farmers. When it's harvest time and the combine goes kaput, they can't wait several days for John Deere to send out a repair technician. Plus, farmers are a pretty handy bunch. They've been fixing their own equipment forever. Why spend

thousands of dollars on an easy fix? But as agricultural equipment gets more and more sophisticated and electronic, the tools needed to repair equipment are increasingly out of reach of the people who rely on it most. That's amplified by the fact that John Deere (and the other equipment companies represented by the Far West Equipment Dealers Association) have been exploiting copyright laws to lock farmers out of their own stuff.

Repair is a huge business. And repair monopolies are profitable. Just ask Apple, which has lobbied over and over against making repair parts and information available to third-party repair shops. That's why Big Ag has been so reluctant to make any concessions to the growing right-to-repair movement.

At first blush, last week's deal between the Farm Bureau and the equipment dealers might look like a win for farmers. The press release describes how equipment dealers have agreed to provide "access to service manuals, product guides, on-board diagnostics and other information that would help a farmer or rancher to identify or repair problems with the machinery." Fair enough. These are all things fixers need.

But without access to parts and diagnostic software, it's not enough to enable farmers to fix their own equipment. "I will gladly welcome more ways to fix the equipment on my farm. Let's be clear, though, this is not right-to-repair," explained San Luis Obispo rancher Jeff Buckingham. "At the end of the day, I bought this equipment, and I want everything I need to keep it running without relying on the manufacturer or dealer."

There's also nothing new in the agreement. John Deere and friends had already made every single "concession" earlier this year, and service manuals had already been available to purchase. They must have read the writing on the wall when California's Electronics Right to Repair Act was introduced in March. Right-to-repair bills have proved overwhelmingly popular

with voters—Massachusetts passed its automobile right-to-repair bill in 2012 with 86 percent voter support.

Just after the California bill was introduced, the farm equipment manufacturers started circulating a flyer titled “Manufacturers and Dealers Support Commonsense Repair Solutions.” In that document, they promised to provide manuals, guides, and other information by model year 2021. But the flyer insisted upon a distinction between a right to repair a vehicle and a right to modify software, a distinction that gets murky when software controls all of a tractor’s operations.

As Jason Koebler of *Motherboard* reported, that flyer is strikingly similar—in some cases, identical word-for-word—to the agreement the Farm Bureau just brokered. The flyer and the agreement list the same four restrictions:

- No resetting immobilizer systems.
- No reprogramming electronic control units or engine control modules.
- No changing equipment or engine settings that might negatively affect emissions or safety.
- No downloading or accessing the source code of any proprietary embedded software.

These restrictions are enormous. If car mechanics couldn’t reprogram car computers, a good portion of modern repairs just wouldn’t be possible. When you hire a mechanic to fix the air-conditioning in a Civic, they may have to reprogram the electronic control unit. When electronics control the basic functions of all major farm equipment, a single malfunctioning sensor can bring a machine to its knees. Modifying software is a routine part of modern repair.

Prohibiting modifications to systems that might affect emissions also means that farmers can’t upgrade tractors to meet new requirements. This could

force farmers to buy new equipment when emissions standards change—an insidious move toward planned obsolescence.

That's why a national group of farmers has been fighting for their right to modify software. Together, the American Farm Bureau Federation, the National Corn Growers Association, the National Farmers Union are working with the Electronic Frontier Foundation to petition the US Copyright Office to exempt farm equipment from the anti-modification provisions of the Digital Millennium Copyright Act, which has been bafflingly stretched to cover tractors and combines (equipment manufacturers claim they're worried about piracy). The petition explains:

It is necessary to access the electronic control units to diagnose and repair a malfunctioning agricultural vehicle, as well as to lawfully modify the functions of a vehicle based on the owner's specific needs in cultivating his or her land.

There are many farmers modifying their equipment to fit their land's needs. Members of the farm equipment electronics community Farm Hack have designed custom 3-D-printed seed rollers, programmed Arduinos to consolidate greenhouse operations, and developed all kinds of sensors and warning lights. A group of university students at Cal Poly is working to reverse-engineer John Deere's software protocol. And a third-party company called Farmobile makes a device that plugs into all different kinds of large farm equipment so farmers can access their data without going through John Deere.

Where California farmers go, the rest of America follows—and in this case, that's dangerous. The state produces more food by far than any other in the nation, accounting for two-thirds of all US-grown fruit and nuts. By agreeing to the spurious distinction between “repair” and “modification,” the California Farm Bureau just made the EFF's job a lot harder. Instead of presenting a unified right-to-repair front, this milquetoast agreement muddies the conversation. More worryingly, it could cement a cultural precedent for

electronics manufacturers who want to block third-party repair technicians from accessing a device's software.

As a nation of repair advocates, we need to reject toothless deals like this. We must define right to repair in a way that supports the needs of individuals and small growers, not the bottom line of enormous corporations.

This deal is no right-to-repair victory. Don't let John Deere—or the California Farm Bureau—call it one. Real progress isn't going to come until a state passes real Right to Repair legislation. And momentum is building. Twenty states, including Iowa, Kansas, and Nebraska, considered bills this year. Although none have passed yet, John Deere is clearly feeling the heat.

Right to Repair Is Now a National Issue

Opinion: Elizabeth Warren endorsed Right to Repair for farm equipment, pushing the cause to a new level of prominence.

“Right to repair just basically says, ‘Hey guys, you got to make the information and the parts available.’” —Elizabeth Warren, on *All In With Chris Hayes*, March 27, 2019

Our work to help people fix their stuff reached a milestone last week, when US senator Elizabeth Warren (D-Massachusetts) called for Right to Repair to support farmers struggling with growing antitrust issues in agriculture.

WIRED OPINION

ABOUT

Nathan Proctor ([@nProctor](#)) is director of the Right to Repair Campaign for US PIRG, an advocacy organization.

Warren has raised Right to Repair to a new level of national prominence. It's a big moment for those of us who have been sounding the alarm on how companies have been placing obstacles in the way of repair, and the resulting hassle, cost and environmental damage.

I would like to claim that somehow our organizing efforts (led by iFixit, Repair.org and US PIRG) brought us to this moment, but the best organizing done to support Right to Repair is done by our opponents. When they put their customers through the wringer to get stuff fixed, it creates an enthusiasm beyond what even the most compelling opinion column could produce.

Frankly, if you hear the stories from people struggling to deal with the deluge of unfixable products, you understand why there have been 20 states with active Right to Repair bills so far in 2019. If you ask me, these stories are why the issue has entered the national policy debate.

Stories like what happened to Nebraska farmer Kyle Schwarting, whose John Deere combine malfunctioned and couldn't be fixed by Schwarting himself—because the equipment was designed with a software lock that only an authorized John Deere service technician could access. Schwarting could have taken the machine to an official John Deere shop, but that would mean paying thousands of dollars to load the tractor on a flatbed truck and haul it to the dealership, all while the window for harvest was closing.

So yeah, Kyle Schwarting wants a right to repair his combine. To save his livelihood, he had to hack the software, something the US Office of Copyright decided he had every right to do.

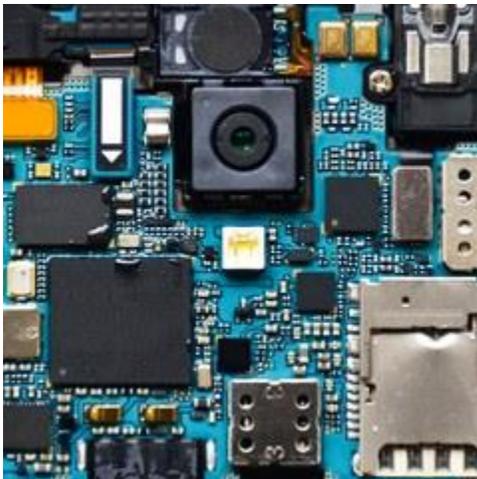
In a move that further frustrated its customers, John Deere argued to the Copyright Office against that right, claiming that people like Schwarting don't

fully own the tractors they have bought; they use the equipment under “an implied license for the life of the vehicle to operate the vehicle.”

Tom Schwarz, fifth-generation farmer and Right to Repair advocate, laughed at this suggestion, saying in an On Point radio segment where we appeared together: “We pay personal property taxes on all our equipment, so when my wife sits down ... and writes those checks out, I haven’t noticed John Deere putting *any* money into that.”

Having a company you purchased a \$500,000 piece of equipment from argue that you don’t really own the equipment has the effect of recruiting a few new Right to Repair supporters.

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WIRED OPINION

John Deere Just Cost Farmers Their Right to Repair

KYLE WIENS AND ELIZABETH CHAMBERLAIN

It's not only farmers who have repair horror stories. Many of us know the story of BatteryGate or ThrottleGate—which resulted in quite a few Right to Repair converts. In December 2017, at the height of holiday shopping season, Apple users discovered that a software update was throttling phones' processors if it detected the battery was worn down. After some public blowback, Apple offered to replace those older batteries at a reduced price at Apple stores. But with such high demand, long waiting lists formed. Some customers faced an additional obstacle: They lived hours away from the nearest Apple store.

Meanwhile, Apple does not make its original replacement batteries available to anyone but their small number of authorized locations. If you didn't want to wait a few months to get a phone that wasn't slow and buggy, you would have to swap the battery out with a replacement part not made by Apple.

Until Apple reversed its policy just a few weeks ago, replacing the battery with a third-party substitute would result in Apple refusing to service the phone entirely. Our report, "Recharge Repair," found that third-party shops *still* saw

a 37 percent increase in battery replacements in the five weeks after the scandal broke—because people just wanted their phones fixed.

After that mess, Right to Repair saw a pretty big surge in support.

Every day, I hear stories about a dishwasher that died right after the warranty ended, or people getting quoted a repair cost that's more than replacing the whole appliance or device. Device after device, hassle after hassle. (Got your own story? You can share it here.)

All that unfixable stuff doesn't disappear when we are forced to replace it. It piles up. Electronic waste is the fastest growing part of our waste stream. It is often toxic and poses grave health risks. The increase in this kind of waste is fed both by the growing number of products with electronics in them and the shrinking lifespan of those products. A 2015 study found that "the proportion of all units sold to replace a defective appliance grew from 3.5% in 2004 to 8.3% in 2012, in what [researchers] deemed a 'remarkable' increase."

I'm excited to see Right to Repair become a national issue and part of a major candidate's platform. And its resonance for consumers won't go away until companies stop selling us easily breakable stuff—and then trying to block us from fixing it.

Hey guys, just give us the parts and information so we can fix stuff. If it seems like too much to ask, we can stick to demanding it.