



Lee Goldberg, Editor

wo of my favorite childhood memories are visiting the 1964 New York World's Fair and going trash picking on the streets of Brooklyn with my great Uncle Martin. Bright, kind, patient, and a bit more than "slightly eccentric," Martin was an inventor, teacher, and an inveterate tinkerer who did his own home and auto repairs. In addition to keeping all the appliances in his home running much longer than their manufacturers had intended, he made a sport of fixing other people's broken things, not all of whom were family or friends. If he'd lived another

The "no user serviceable components inside" business model my great uncle bemoaned 50 years ago is alive and well these days, especially with consumer electronics whose innards have become increasingly complex, compact, and delicate. But some manufacturers have gone to new and unprecedented measures to prevent unauthorized repairs or modifications to their products. Some personal electronics manufacturers, for example, deliberately make portions of their devices difficult to access, by doing things like sealing their cases with glue

Protecting the Right to Tinker

20 years, I'm sure Martin would have been an early champion of the "Right to Repair" laws being passed in some states that may change how many products are designed, manufactured, and supported.

Our adventures would usually happen when a run to the grocery store or a trip around the block with one of Martin's mildly deranged dogs happened to coincide with day people took their trash out to the curb. If an old radio, a rusty vacuum cleaner, or some other odd bit of potentially salvageable technology caught his attention, Martin's depression-era sensibilities made it nearly impossible for him to pass it by without hauling it back to his basement workshop and trying to coax it back to life.

I'd hover close to Martin as he carefully dismantled each of our finds to determine how badly broken they actually were. In many cases, the problem would turn out to be a worn out switch, a defective vacuum tube, or some other simple component that could be replaced from one of the carefully organized bins of spare parts that occupied the workshop's bulging shelves. In others, the damage was too great for us to deal with and the dead toaster, fire alarm, or electric drill would become an anatomy lesson, with my great uncle providing a running commentary on the good, bad, and truly annoying bits of the product's design.

One of his most frequent complaints was that he was encountering a growing number of products that were never intended to be repaired. Even back in the 1960s, the critical innards of quite a few of the toys, appliances, and other consumer products we'd attempt to rescue were sealed within seamless molded plastic cases or sheet metal that had been spot welded, rather than screwed shut, and offered no provisions for adjustment or replacement of worn components. Martin would sometimes find devious ways to conduct guerrilla repairs on these "modern" products, but many of them were consigned to the landfill for the want of a 10-cent component that couldn't be replaced.

rather than screws. Other companies attempt to thwart 3rd party repair shops by withholding technical information, proprietary repair tools, and spare parts. Other companies, including Apple, Cisco, and John Deere, have gone even further by claiming that they retain the ownership of the software and other intellectual property that resides in their products' innards.

Recently, these practices are being challenged by so-called "Right to Repair laws" that were passed in eight states and are under consideration in at least eight others. These laws require manufacturers to provide consumers and independent repair shops with the same service documentation and spare parts they provide to their authorized service providers. Similar pressure is building in Europe. France now has a law that makes "planned product obsolescence" punishable by hefty fines, and the European Parliament is considering regulations that will require manufacturers to make their products more easily repairable.

Although some may argue that Right to Repair laws are bad for business and stifle innovation, it's hard to ignore the success of the Open Source Software and Maker Movements, which both assert that users have the right to fix or modify any product they legally own. The fruits of these movements, including the Linux and Android operating systems, the Arduino and Raspberry Pi computing platforms, and the RepRap 3D printer project, are an integral part of many of the products and services that continue to fuel our economy's current wave of innovation and prosperity.

It's still too early to know how much Right to Repair laws will influence the way we design and manufacture products, but I know my great Uncle Martin would hope for a future where tinkering is still an option.

Do you think Right to Repair laws are helpful or harmful to our economy and society? Did you have a beloved aunt or uncle who enriched your childhood? Write me at lee.goldberg@ advanatagemedia.com.

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