

## Hard Drive

Restoration experts discuss the future of repairing modern electronics

*How will the electronics in modern collector cars be maintained in the future? Will repair and restoration shops be able to keep cars from the digital era fully functional?*



**MICHAEL MARIJANOVIC,**  
Owner, The Werk Shop

I believe the electronics in modern collector cars will be maintained in a similar way to how we currently service and maintain designs from 50 years ago. Take, for instance, the Kugelfischer fuel-injection pump.

The local BMW dealership can't help service or rebuild your Kugelfischer. They don't have the equipment, parts, training, staff and know-how. But there is a specialty company that has made it their job to focus on these pumps. They have either salvaged an old test bench, or had to build one on their own, to be able to test the pumps after they have been rebuilt and before they go back to the end user. Maybe the rebuilder had trained many years ago with these pumps, or has learned the art of the Kugelfischer from an old master. Regardless, this specialty company has made it their business to know all about these pumps, and are a reliable source for those seeking to have their cars of that era run properly.

This will be the same case with electronics in modern collector cars. As technology evolves and the microchip goes the way of the steam engine, there will be someone out there that has saved certain motherboards, microchips, resistors, etc., to be able to make these once-modern electronics function again. If there is a need and demand for something, a company will arise to fill it. Restoration and repair shops will be able to keep these digital-era vehicles fully functional with the help of these types of specialty shops.



**JASON WENIG,**  
Owner, The Creative Workshop

The topic of our collective ability to maintain and even restore cars from the '80s or '90s has surfaced more and more in recent years, and so this

is not the first time a question like this has crossed my desk. I think the conversation about the 2000s and onward gets a bit more complicated, but in many respects, the concepts remain similar.

After 20 years of restoring nearly every era and make of car imaginable, I think back over the unreal things we've been faced with before, things that we were charged with somehow reverse engineering, restoring or fixing to perfection.

I can't help but wonder what the first person who faced the restoration of pitted, blistered pot metal thought, or perhaps a faux-wood-painted dashboard. Or a magneto, Spica fuel injection or an acetylene generator for that matter! I remember when I was face-to-face with guilloché for the first time, or, perhaps more on point for this topic, a Cadillac "Autronic eye."

The point being, whatever cars have thrown at us as they've progressed through time and technology, we as restorers have had to rise to the occasion. On a macro level, we are "restoring cars," but as you drill into the details, we are "metallurgists," "chemical engineers," "wood experts," "mechanical engineers" and a host of other fancy things — usually not by degree, but by "front-lines learning." So why not circuit boards? Just add "electrical engineers" to the list and off we go!

In our profession, adaptability and tenacity reign supreme. These traits are inherent to a restorer/car builder, and so I can only assume we will continue to live up to these traits as we adapt, learn and ultimately do whatever it takes to acquire the knowledge and the skills to not only fix or maintain something (anything!), but to ultimately do it to such an expert level that a judge staring at it from two inches away sees only perfection.

The other, perhaps more-tangible, reality is, I've found that the craftsman and technicians that we are finding to work for us are trending younger. These younger guys are essentially brought up on new cars and technology — and so, their inherent "normal" is in the digital world — it's the equivalent of asking a mechanic to pour babbitt back in



the 1920s. In other words, what is required to understand and fix more digital cars is already inherently developing into the system.

And so there is the somewhat stoic business reality — if there is a need, someone will fill it. Workshops and specialized businesses that can and are willing to adapt will (and in many instances, are doing so already — I know we are!). But for me, it is perhaps more romantic than that. Our collective profession has been "rising to the occasion" time and again as we are faced with the next oddball car-restoration challenge. I have every confidence in our ability to acquire the knowledge, skills and techniques necessary to continue to tackle whatever cars continues to throw at us.



**JOHN SACCAMENO,**  
Proprietor, Sport and Specialty

Most shops began dealing with modern electronics when their customers began asking for aftermarket electronic ignition in the '80s. As these basic electronic ignitions and fuel injection developed, they quickly merged into ECU-based engine control modules, and the market for