CARSIDE MANNER

I intercepted a fax the other day. An old friend who operates a very (I mean very) successful shop specializing in very (I mean VERY) expensive European cars had faxed a plea for help to an associate. His need? Technical information about the computerized climate control system used on one of these 24 carat cruisers.

He had mistakenly used the wrong fax number, and the document fell into the wrong hands—mine. Tipped at the line of scrimmage and intercepted.

I dialed him up and we indulged in a few moments of frivolous male bonding, teasing, and leg pulling. With that out of the way, the talk soon turned to the difficulties he was experiencing with this particular batch of cars.

The problem child currently darkening his door—and his life—was defying the efforts of his brightest and best techs. The car and several of its siblings, had recently sneaked out from the protection of their mother's skirt (known as warranty). Then it was off to see the world. With silver spoons in their mouths and more computers on board than the space shuttle, they had indeed proven to be a demanding group. Even a seasoned group of veterans was sent scrambling.

The cars had been the object of bitter verbal abuse from customers and technicians alike. Their complexity and a lack of information about their innermost secrets made repairs more a spin of the wheel of fortune than a scientific repair procedure. One tech was even heard mumbling, "Vanna, let me buy a vowel."

Who Pays the Freight?

Let's shift gears for a moment and discuss a letter I received from a technician in California. He was responding to a column which suggested that many repair problems were still repair possible using nothing but old fashioned back-to-the-basics techniques.

His question? When somebody starts replacing parts without knowing what it takes to fix the car, who pays for all the parts that DIDN'T fix the problem? Most places won't give their own brother a return option on electrical parts. So who pays the freight when a couple hundred dollars worth of unneeded parts shine and glitter under the hood of a car that still won't run?

Hmmm.

Which Wire Is It?

Then a technician from another part of the country called to offer his observations about our series of electrical articles. His observations were as follows: "I like most of the articles, but some of the computer stuff isn't any help at all. I need information that'll let me fix the car."

Hmmm again.

Remember when they replaced points with breakerless ignitions? Remember how the new distributors and their mysterious transistors got blamed for everything from no starts to a third quarter recession? I was as guilty as the rest, blaming the thing I understood the least for all my problems.

We grew to understand them over time. Once we got a better handle on HOW they worked, we stopped fearing them, and started fixing them, often in less time than we used to spend replacing points, condensers, and worn distributor bushings.

The same thing applies to computers. Most of us will never disassemble and repair a computer in our entire lives. But an overview, and a better understanding of how individual parts work within a system can do wonders for our ability to isolate and repair the real source of the problem.

This all brings us to this month's cover article on Logic Gates. We've already looked at analog inputs and computer switch outputs in previous articles this year. Now it's time to tie some of these separate components together. Will you ever wander up to the parts window and ask for an AND gate, or a NAND gate. Nope. Is it likely that you'll paste logic gate truth tables to the side of your tool box? Uh uh.

But the computers aren't going away. Trained technicians will need more technical information and training. And with parts prices rising, the hit and miss approach will become more and more difficult to justify.

An overall understanding of how systems work will be the final factor separating the quick from the dead in automotive repair. More and more, we'll need to understand how it all fits together—how the knee bone's connected to the thigh bone.

Then we can use basic test equipment, wiring diagrams, and our own wits to pinpoint and correct the problem, the whole problem, and most importantly, nothing but the problem.

—By Ralph Birnbaum